

MZ140-T



On/Off Thermoelectric Actuator (two position)

MZ140-T is a thermoelectric actuator designed to provide two position on/off control together with VZ*08* zone Valves.

The Actuator without power is retracted to ensure the zone valve is in a closed state. With power, the actuator stem is extended to open the valve.

The compact construction provides a small footprint.

SPECIFICATIONS

Starting current

MZ140-24T	0.17A
MZ140-230T	0.25A

Working current

MZ140-24T	75 mA
MZ140-230T.....	8 mA

Power consumption

MZ140-24T	2W
MZ140-230T	2W

Nominal Power Supply

MZ140-24T	21.8 to 26.8V ac 50/60 Hz
MZ140-230T	200 to 250V ac 50/60 Hz

Temperature

working	-2-50°C
storage	-45-60°C

Humiditymax. 95% Non condensing

Stem force140 N

Max stroke.....4 mm

Coupling ringM30x 1,5

Max. Ambient temperature..... 50 °C

Power cable2m bipolar (0,35 mm²)

Material Fire-resistant case: Class V0

Protection class.....IP 44 (for vertical mounting)

Suitable for valves.....see table on page 3

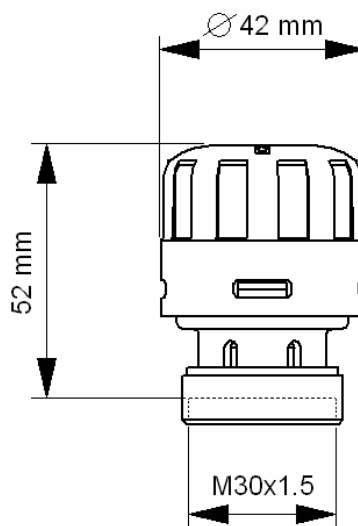
Product conforms, for CE marking, to the following directives:

- EMC 2004/108/CE according to the EN 61326-1 standard.
- LVD 2006/95/CE according to the EN 61010-1 standard for the products powered 230 V.

ORDERING TABLE

Part number	Type Designation	Description
MZ140-24T	MZ140-24T 2M44 00	24 Vac 50/60 Hz
MZ140-230T	MZ140-110/230T 2M44 00	110-230 Vac 50/60 Hz

DIMENSIONS mm



FUNCTION

The actuator operation is carried out by a built-in wax thermostatic element.

without Power the actuator is retracted for a closed valve state.

When power is applied to the actuator, after a small dead band in time the actuator stem extends to open the valve

MOUNTING

Prior to the actuator being mounted onto the valve, good practice should be followed regarding the valve installation.

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

The actuator assembly onto the valve is made by the M30 threaded ring nut. The actuator assembly must be made by hand, no tools are required, excessive tightening of the actuator from the use of tools could cause damage to 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.

Good practice it to install the valve in the return loop from the heat exchanger to reduce excessive pipe fluid temperatures.

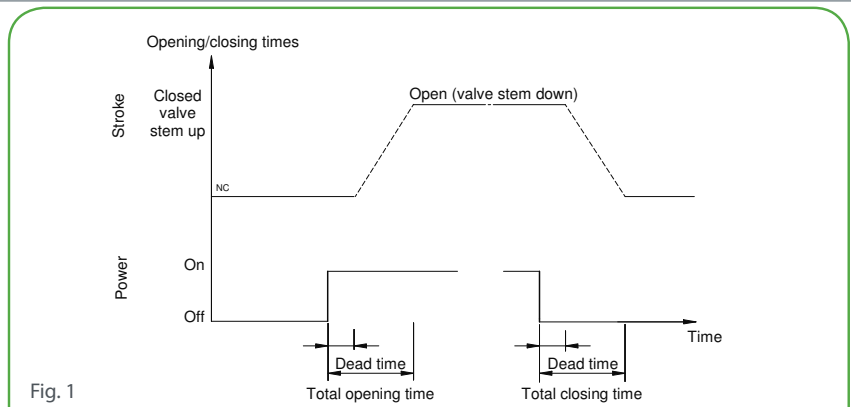


Fig. 1

Actuator timing details (approx.)							
Actuator	Supply voltage	Valve opening		Valve closing (after 5' power on)		Valve closing (after 30' power on)	
		Dead time	Total time	Dead time	Total time	Dead time	Total time
MZ140-24T	24	2 min 30 sec	5 min 50 sec	2 min 20 sec	6 min 30 sec	2 min 30 sec	6 min 40 sec
MZ140-230T	230	1 min 20 sec	3 min 50 sec	2 min 20 sec	6 min 30 sec	2 min 30 sec	6 min 40 sec
	110	1 min 40 sec	6 min 20 sec	1 min 20 sec	5 min 30 sec	1 min 20 sec	5 min 30 sec

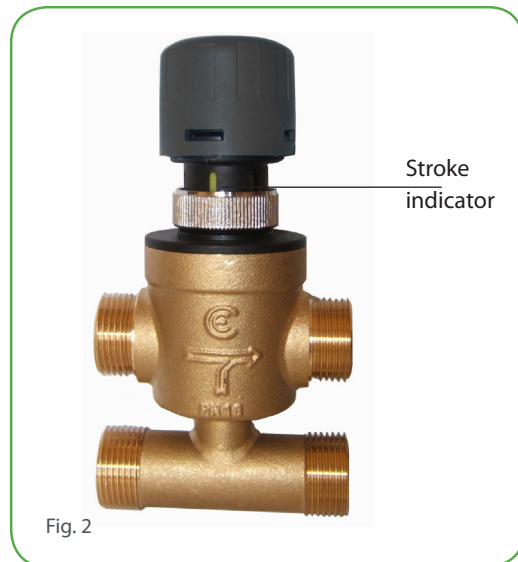
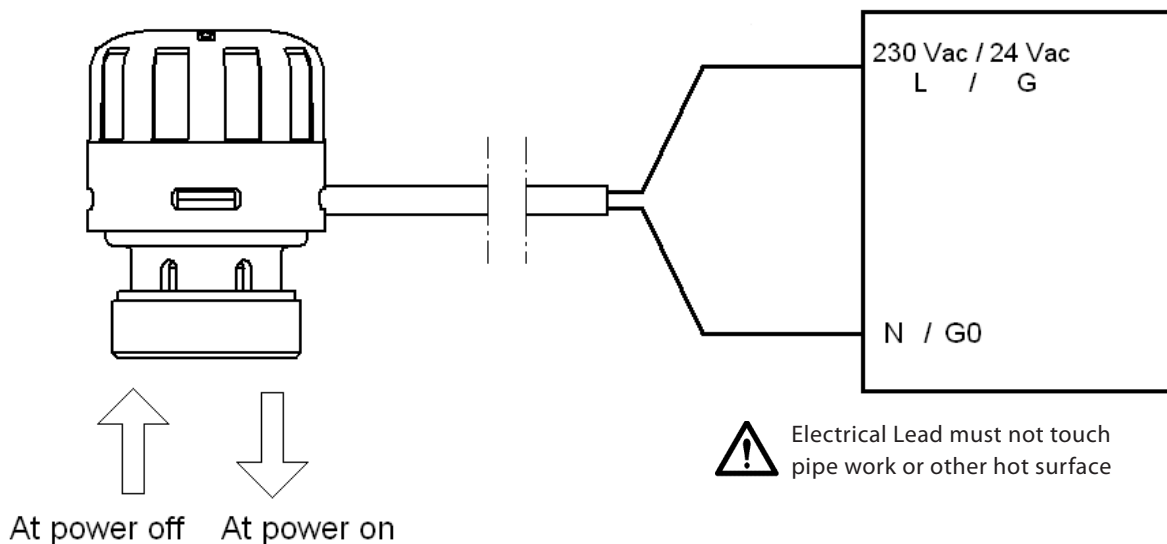
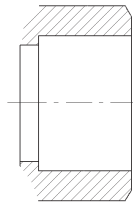


Fig. 2

ELECTRICAL CONNECTIONS



PART NUMBER ORDERING - EXTERNALLY THREADED VALVES



Two-way valves, VZ208E

Size	Connection	Kvs		External threads, Flat face sealing		Max. Close-off MZ140 actuator
		A-AB	B-AB	Part Number	Type Designation	
DN 15	G1/2A	0.25		VZ208E-15BP01	VZ208E-15BP 0.25E SU 00	250 kPa
		0.4		VZ208E-15BP02	VZ208E-15BP 0.4E SU 00	
		0.6		VZ208E-15BP03	VZ208E-15BP 0.6E SU 00	
		1		VZ208E-15BP04	VZ208E-15BP 1.0E SU 00	
		1.6		VZ208E-15BP05	VZ208E-15BP 1.6E SU 00	
DN20	G3/4A	2.5		VZ208E-20BP07	VZ208E-20BP 2.5E SU 00	150 kPa
		4		VZ208E-20BP08	VZ208E-20BP 4.0E SU 00	
		6		VZ208E-20BP09	VZ208E-20BP 6.0E SU 00	

Three-way valves, VZ308E

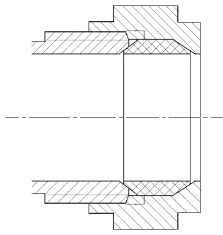
Size	Connection	Kvs		External threads, Flat face sealing		Max. Close-off MZ140 actuator
		A-AB	B-AB	Part Number	Type Designation	
DN 15	G1/2A	0.25	0.25	VZ308E-15BP01	VZ308E-15BP 0.25E SU 00	250 kPa
		0.4	0.25	VZ308E-15BP02	VZ308E-15BP 0.4E SU 00	
		0.6	0.4	VZ308E-15BP03	VZ308E-15BP 0.6E SU 00	
		1	0.6	VZ308E-15BP04	VZ308E-15BP 1.0E SU 00	
		1.6	1	VZ308E-15BP05	VZ308E-15BP 1.6E SU 00	
DN20	G3/4A	2.5	1.6	VZ308E-20BP07	VZ308E-20BP 2.5E SU 00	150 kPa
		4	2.5	VZ308E-20BP08	VZ308E-20BP 4.0E SU 00	100 kPa A-AB
		6	4	VZ308E-20BP09	VZ308E-20BP 6.0E SU 00	40 kPa B-AB

Three-way valves with integral by-pass (4 ports), VZ408E

Size	Connection	Kvs		External threads, Flat face sealing		Max. Close-off MZ140 actuator
		A-AB	B-AB	Part Number	Type Designation	
DN 15	G1/2A	0.25	0.25	VZ408E-15BP01	VZ408E-15BP 0.25E SU 00	250 kPa
		0.4	0.25	VZ408E-15BP02	VZ408E-15BP 0.4E SU 00	
		0.6	0.4	VZ408E-15BP03	VZ408E-15BP 0.6E SU 00	
		1	0.6	VZ408E-15BP04	VZ408E-15BP 1.0E SU 00	
		1.6	1	VZ408E-15BP05	VZ408E-15BP 1.6E SU 00	
DN20	G3/4A	2,5	1.6	VZ408E-20BP07	VZ408E-20BP 2.5E SU 00	150 kPa
		4	2.5	VZ408E-20BP08	VZ408E-20BP 4.0E SU 00	100 kPa A-AB
		6	4	VZ408E-20BP09	VZ408E-20BP 6.0E SU 00	40 kPa B-AB

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

PART NUMBER ORDERING - COMPRESSION VALVES



Two-way valves VZ208C

Size	End Connection	Kvs		Single Pack - with nuts olives and adj. Caps		5 Multipacks - no nuts olives and adj. Caps		Max. Close-off
		A-AB	B-AB	Part Number	Type Designation	Part number	Type Designation	
DN 15	15 mm O/D	0.25		VZ208C-15BP01	VZ208C-15BP 0.25E SU 00	VZ208C-15BP51	VZ208C-15BP 0.25E SU M5	250 kPa
		0.4		VZ208C-15BP02	VZ208C-15BP 0.4E SU 00	VZ208C-15BP52	VZ208C-15BP 0.4E SU M5	
		0.6		VZ208C-15BP03	VZ208C-15BP 0.6E SU 00	VZ208C-15BP53	VZ208C-15BP 0.6E SU M5	
		1		VZ208C-15BP04	VZ208C-15BP 1.0E SU 00	VZ208C-15BP54	VZ208C-15BP 1.0E SU M5	
		1.6		VZ208C-15BP05	VZ208C-15BP 1.6E SU 00	VZ208C-15BP55	VZ208C-15BP 1.6E SU M5	
DN20	22 mm O/D	2.5		VZ208C-20BP07	VZ208C-20BP 2.5E SU 00	VZ208C-20BP57	VZ208C-20BP 2.5E SU M5	150 kPa

Three-way valves, VZ308C

Size	End Connection	Kvs		Single Pack - with nuts olives and adj. Caps		5 Multipacks - no nuts olives and adj. Caps		Max. Close-off
		A-AB	B-AB	Part Number	Type Designation	Part number	Type Designation	
DN 15	15 mm O/D	0.25	0.25	VZ308C-15BP01	VZ308C-15BP 0.25E SU 00	VZ308C-15BP51	VZ308C-15BP 0.25E SU M5	250 kPa
		0.4	0.25	VZ308C-15BP02	VZ308C-15BP 0.4E SU 00	VZ308C-15BP52	VZ308C-15BP 0.4E SU M5	
		0.6	0.4	VZ308C-15BP03	VZ308C-15BP 0.6E SU 00	VZ308C-15BP53	VZ308C-15BP 0.6E SU M5	
		1	0.6	VZ308C-15BP04	VZ308C-15BP 1.0E SU 00	VZ308C-15BP54	VZ308C-15BP 1.0E SU M5	
		1.6	1	VZ308C-15BP05	VZ308C-15BP 1.6E SU 00	VZ308C-15BP55	VZ308C-15BP 1.6E SU M5	
DN20	22 mm O/D	2.5	1.6	VZ308C-20BP07	VZ308C-20BP 2.5E SU 00	VZ308C-20BP57	VZ308C-20BP 2.5E SU M5	150 kPa

Three-way valves with integral by-pass (4 ports), VZ408C

Size	End Connection	Kvs		Single Pack - with nuts olives and adj. Caps		5 Multipacks - no nuts olives and adj. Caps		Max. Close-off
		A-AB	B-AB	Part Number	Type Designation	Part Number	Type Designation	
DN 15	15 mm O/D	0.25	0.25	VZ408C-15BP01	VZ408C-15BP 0.25E SU 00	VZ408C-15BP51	VZ408C-15BP 0.25E SU M5	250 kPa
		0.4	0.25	VZ408C-15BP02	VZ408C-15BP 0.4E SU 00	VZ408C-15BP52	VZ408C-15BP 0.4E SU M5	
		0.6	0.4	VZ408C-15BP03	VZ408C-15BP 0.6E SU 00	VZ408C-15BP53	VZ408C-15BP 0.6E SU M5	
		1	0.6	VZ408C-15BP04	VZ408C-15BP 1.0E SU 00	VZ408C-15BP54	VZ408C-15BP 1.0E SU M5	
		1.6	1	VZ408C-15BP05	VZ408C-15BP 1.6E SU 00	VZ408C-15BP55	VZ408C-15BP 1.6E SU M5	
DN20	22 mm O/D	2.5	1.6	VZ408C-20BP07	VZ408C-20BP 2.5E SU 00	VZ408C-20BP57	VZ408C-20BP 2.5E SU M5	150 kPa

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