

Heat Motor Zone Valves

Engineered for reliability, Taco Heat Motor Zone Valves provide a time proven method for system zoning and control. The exclusive heat motor design operates silently, while the twist off head allows for serviceability without disturbing system connections. Available in a variety of sizes and styles to meet the broad demands of today's systems.



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and the heat motor of the zone valve power head (terminals 1 and 2). 24 VAC now flows through the wires wrapped around the heater section of the element inside the zone valve heat.

The expandable wax substance inside the element is heated. It expands and pushes the piston inside the element down against the valve stem. Since the valve is an upside down globe valve, this downward push on its stem moves the valve disc away from its seat, opening the valve.

As the piston continues to move down, further opening the valve, the contacts inside the enclosed end switch close as the actuator tab attached to the piston moves away from the end switch. This dry contact end switch closure completes the circuit through terminals 2 and 3 of the power head to the boiler control (TT) and separate system transformer. The relay in the boiler (or zone control box) starts the circulator. The piston continues to move down until the valve is fully open.

An interruption of current to the power unit heater occurs in the fully open mode because the outer blade of the heater switch is deflected causing the heater element to open, interrupting the 24 VAC power from flowing through the heater wires. As the piston retracts slightly, the contacts on the heater switch meet again, resuming power to the heater wires wrapped around the wax filled element. This slight back and forth motion is repeated as long as the thermostat contact is closed.

When the thermostat is satisfied, its contacts open and cut off the 24 VAC power to the power head. The wax inside the element cools and contracts. The force of the valves spring moves the valve disc up against the valve seat. Hence the valve stem also moves up, pushing the piston back into the element. Now that the heater switch is closed, the snap-acting end switch between terminals 2 and 3 is open.

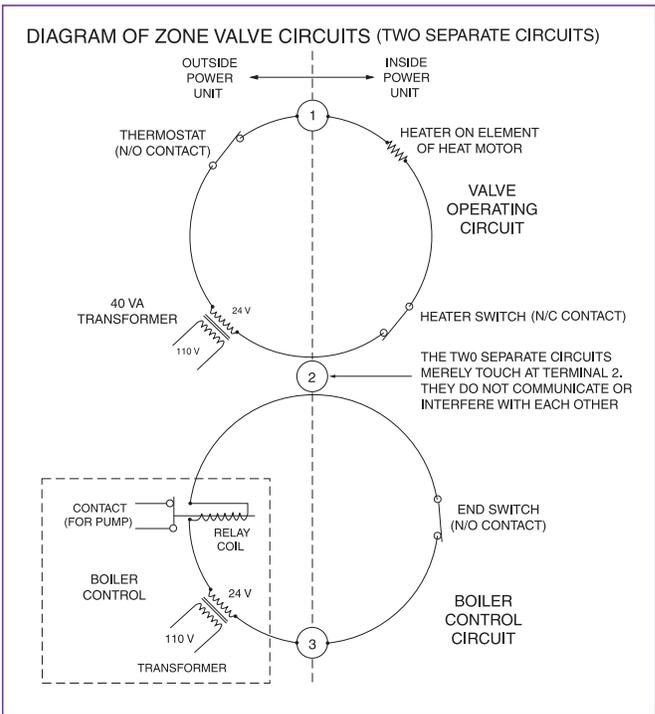


Figure B: Zone Valve Circuits.

Wiring Note

While two circuits, each with its own transformer, touch at terminal #2, they do not communicate or interfere with each other in any way (see figure B). Each circuit flows only in that circuit. This occurs because the transformer in either circuit cannot cause a voltage or current driving force to be realized in the other circuit when joined only at one point to that circuit.

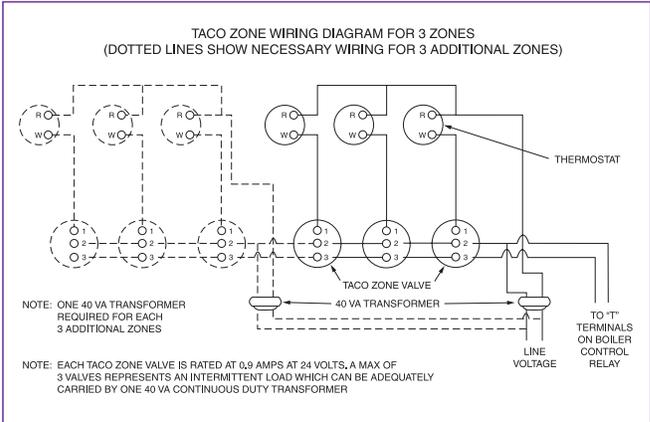


Figure C: Wiring Additional Zones

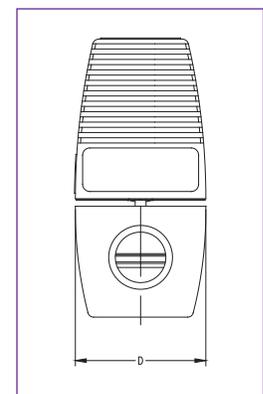
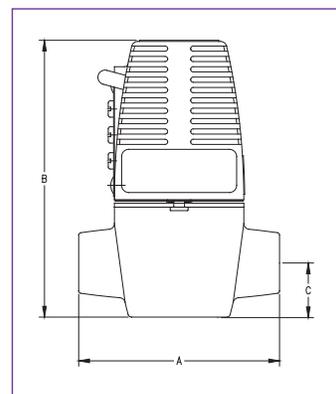
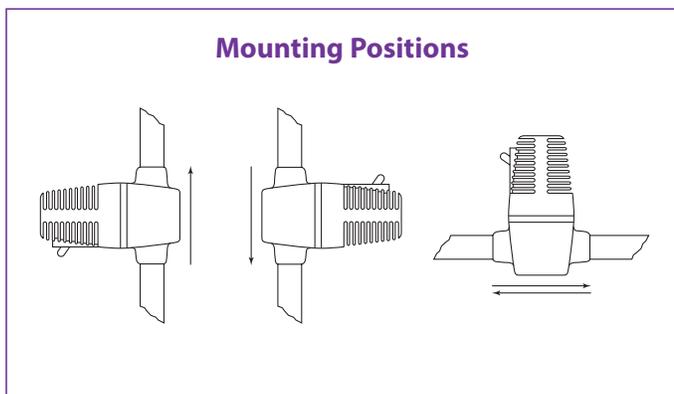
Submittal Data Information Heat Motor Zone Valves

Submittal Data # 100-3.2
Supersedes: 09/30/19

Effective: 03/01/23

Models	Connection	Style	Dimensions & Weights									
			A		B		C		D		Ship Wt.	
			in.	mm	in.	mm	in.	mm	in.	mm	Lbs.	Kg.
570	1/2" Sweat	2-Way	3-1/16"	78	4-13/16"	122	15/16"	24	2"	51	2-1/4	1.0
571	3/4" Sweat	2-Way	3-3/8"	86	4-13/16"	122	15/16"	24	2"	51	2-1/4	1.0
572	1" Sweat	2-Way	3-5/8"	92	4-13/16"	122	15/16"	24	2"	51	2-1/4	1.0
573	1-1/4" Sweat	2-Way	3-7/8"	98	4-13/16"	122	15/16"	24	2"	51	2-1/4	1.0

Models	Electrical			Performance							Materials of Construction		
	Volts	Hz	Amps	Normal Flow Ranges (GPM)	Cv	Equiv. Ft. of Pipe	Min. Fluid Temp. (°F)	Max. Fluid Temp. (°F)	Max. Working Pressure (psi)	Pump Head Ft. of Water	Body	Stem / Seal	Seat Assy.
570	24	60	0.9	1 - 4 1/2	4.2	10	40°	240°	125	65	Bronze	Bellows	Brass
571	24	60	0.9	4 1/2 - 6	6.1	20	40°	240°	125	65	Bronze	Bellows	Brass
572	24	60	0.9	6 - 10	7.0	60	40°	240°	125	65	Bronze	Bellows	Brass
573	24	60	0.9	10 - 16	7.2	130	40°	240°	125	65	Bronze	Bellows	Brass



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