

MZV Series PowerTrack™ Motorized Zone Valve

PRODUCT DATA



APPLICATION

Residential or commercial zoning of hot water heating or chilled water air conditioning systems, fan coil units or indirect water heater service.



CAUTION

DO NOT USE SILVER SOLDER

FEATURES

- Fast acting. Available with or without auxiliary switch.
- Built in balancing plug permits pre-balancing of zone.
- High torque, constant speed synchronous motor.
- Quiet operation: no water hammer.
- PowerTrack™ operator can be replaced without draining system.
- Cooler running, longer motor life.
- Low power consumption, up to 8 valves per 40 VA transformer.
- Replaceable valve cartridge.

SPECIFICATIONS

Maximum Fluid Temperature: 240° F (115° C).

Maximum Working Pressure: 125 psi (862 kPa).

Dimensions: Connections: ½ in. NPT ¾ in. Sweat or NPT, 1.0 in. Sweat or NPT, and 1 ¼ in. Sweat.

Fluids: Water and Water/Glycol.

Cv: 0.5 in. (13 mm) and 0.75 in. (19 mm) - 5.8, 1.0 in. (25 mm) or 1.25 in. (32 mm) - 7.0.

Maximum Shut-off Pressure: 0.5 in. (13 mm) and 0.75 in. (19 mm) - 20 psi (138 kPa), 1 in. (25 mm) and 1.25 in. (32 mm) - 17.5 psi (121 kPa).

Motor Rated: 24 VAC, 60 HZ, 0.25 Ampere. (May be safely operated between 22 and 28 VAC)
Power to open, spring return close.

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Opening Time: 10 - 20 seconds.

Closing Time: 3 - 6 seconds.

Maximum Ambient Temperature: 104 °F (40 °C) at a water temperature of 240 °F (115 °C) **See note.**

NOTE: Maximum allowable ambient temperature increases as the water temperature drops below 240 °F (116 °C). For every 7 °F (4 °C) drop the ambient temperature can be increased 1 °F (0.5 °C).

Auxiliary Switch Rated: 24 VAC, 5A resistive, 3A inductive.

Agency Recognized: Motor CSA.

With Operator Installed: Valve is normally closed.

Manual Operation: Option.

Wiring Connections: 18 in. (457 mm) leads.

Materials: Bronze casting, brass/stainless trim.

Position Indicator: External Open/Closed

Table 1. MZV Series PowerTrack OS Models

Product Number	Size	Aux. Switch	Weight Lbs. (kg)	Dimension In Inches (mm)				
				A	B	C	D	E
MZV524-T	½ in. NPT	No	1.9 (0.86)	3.3 (84)	1.0 (25)	4.8 (122)	0.7 (18)	1.6 (41)
MZV524E-T	½ in. NPT	Yes	1.9 (0.86)	3.3 (84)	1.0 (25)	4.8 (122)	0.7 (18)	1.6 (41)
MZV525	¾ in. Sweat	No	1.7 (0.77)	3.3 (84)	0.8 (20)	4.8 (122)	0.7 (18)	1.6 (41)
MZV525E	¾ in. Sweat	Yes	1.7 (0.77)	3.3 (84)	0.8 (20)	4.8 (122)	0.7 (18)	1.6 (41)
MZV525-T	¾ in. NPT	No	2.0 (0.91)	3.3 (84)	1.0 (25)	4.8 (122)	0.7 (18)	1.6 (41)
MZV525E-T	¾ in. NPT	Yes	2.0 (0.91)	3.3 (84)	1.0 (25)	4.8 (122)	0.7 (18)	1.6 (41)
MZV526	1 in. Sweat	No	2.0 (0.91)	3.8 (96)	1.0 (25)	4.8 (122)	0.8 (20)	1.6 (41)
MZV526E	1 in. Sweat	Yes	2.0 (0.91)	3.8 (96)	1.0 (25)	4.8 (122)	0.8 (20)	1.6 (41)
MZV526-T	1 in. NPT	No	2.5 (1.13)	3.6 (91)	1.0 (25)	4.8 (122)	0.8 (20)	1.6 (41)
MZV526E-T	1 in. NPT	Yes	2.5 (1.13)	3.6 (91)	1.0 (25)	4.8 (122)	0.8 (20)	1.6 (41)
MZV527	1 ¼ in. Sweat	No	2.2 (1.00)	3.8 (96)	1.0 (25)	4.8 (122)	0.8 (20)	1.6 (41)
MZV527E	1 ¼ in. Sweat	Yes	2.2 (1.00)	3.8 (96)	1.0 (25)	4.8 (122)	0.8 (20)	1.6 (41)
MZV520 RP	All	Yes	Replacement Operator for MZV, RM and SZ Series Manifolds					
MZV521 RP	All	No	Replacement Operator for MZV					
MZV525 RP	½ in. & ¾ in.	---	Replacement Valve Cartridge for ½ in. (13) & ¾ in. (19) MZV					
MZV526 RP	1 in. & 1 ¼ in.	---	Replacement Valve Cartridge for 1 in. (25) & 1 ¼ in. (32) MZV					

ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number.

If you have additional questions, need further information, or would like to comment on our products or services, please write or phone:

1. Your local Honeywell Automation and Control Products Sales Office (check white pages of your phone directory).
2. Honeywell Customer Care
1985 Douglas Drive North
Minneapolis, Minnesota 55422-4386

In Canada—Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Toronto, Ontario M1V 4Z9.

International Sales and Service Offices in all principal cities of the world. Manufacturing in Australia, Canada, Finland, France, Germany, Japan, Mexico, Netherlands, Spain, Taiwan, United Kingdom, U.S.A.

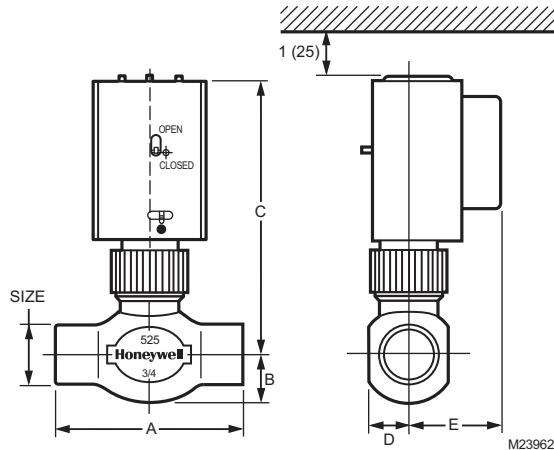


Fig. 1. Dimensions Diagram from SD-IS-525.

Thermostat

Should be rated not less than 30 V. Use of Honeywell thermostat is recommended. Directly compatible with most microprocessor based thermostats.



CAUTION

Disconnect power supply before connecting wiring. Never jump the motor terminals even temporarily. This may burn out the heat anticipator or otherwise damage the thermostat.

INSTALLATION

Can be installed in horizontal or vertical pipe runs. Operator can be in any position between horizontal and vertical.

To Install the PowerTrack Operator Follow these Steps:

1. Place the brass nut of the operator on top of the valve so that the square shaft of the operator and the round stem of the valve are roughly aligned.
2. Push down on the operator and screw the brass nut to the thread on the valve or manifold.
3. Continue to turn the nut until the pointer is centered over the dot. The operator is now properly installed (See Fig. 2).

NOTE: Brass nut must be tightened 2 to 3 turns before pointer starts to move.

4. Connect electrical leads per wiring diagram (Refer to Figures. 3, 4, 5 and 6).

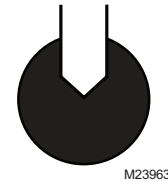


Fig. 2. Indicator Pointer Centered.

Pre-Balancing

Each valve has a built in plug, which will permits pre-balancing the zone. To balance, remove PowerTrack operator and locate the plastic plug on top of the valve. To turn plug, engage a screwdriver in slot on top of plug. Turn the plastic plug clockwise until it bottoms out (2 to 3 turns), then back off counterclockwise until the desired flow rate is established. The table below gives approximate flow rates. It is based on commonly used residential circulators and piping practices. For other conditions, different settings may apply. (See INSTALLATION for removing and replacing operator).

Turns from fully closed	1/4	1/2	1	1 1/2	2
Flow rate in GPM, 1/2 in. & 3/4 in. valve	1 1/2	3	4 1/2	6	7 1/2
Flow rate in GPM, 1.0 in. & 1 1/4 in. valve	2	4	6	8	10

Manual Opening of Zone Valve

To open, hold PowerTrack operator with one hand and loosen the knurled brass nut 1 to 1 1/2 turns counterclockwise. This opens the valve. To close the valve, follow instructions for installation steps 1, 2, and 3.

Replacement of PowerTrack Operator:

SHUT OFF POWER. To remove and replace operator, refer to section INSTALLATION. Replacement part numbers are: Operator with switch MZV520, without switch MZV521.

Replacement of Valve Cartridge:

SHUT OFF POWER and **DRAIN SYSTEM**, then follow instructions in section INSTALLATION. Part numbers are: Cartridge for 1/2 in. and 3/4 in. valve MZV525 RP, cartridge for 1 in. and 1 1/4 in. valve: MZV526 RP

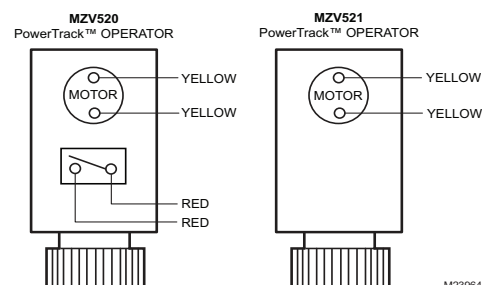


Fig. 3. Wiring Diagram (No Switch or Switch not used).

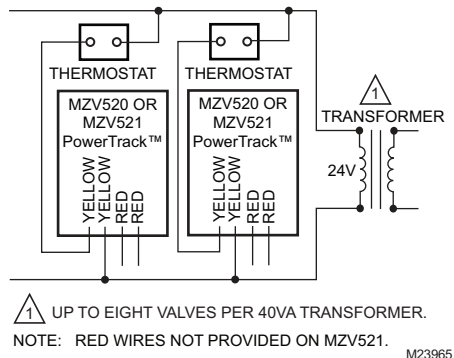


Fig. 4. 2 Wire Wiring (No Switch or Switch not used).

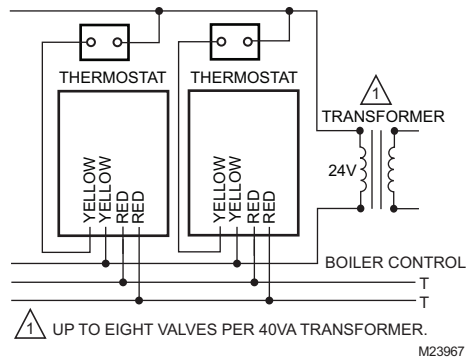


Fig. 6. 4 Wire Wiring from SD-IS-525.

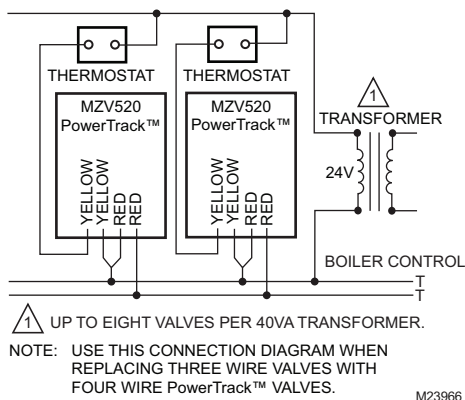


Fig. 5. 3 Wire Wiring (with Auxiliary Switch).

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TROUBLESHOOTING

Troubleshooting Guide

1. If valve does not open when thermostat closes:
 - Check voltage between yellow wires. Should be 22 to 28 V.
2. Boiler and/or circulator continues to run after valve has closed:
 - Turn brass nut counterclockwise ¼ turn.
3. Valve leaks across seal:
 - Make sure maximum allowable shut off pressure has not been exceeded. (See SPECIFICATIONS)
 - If allowable shut off pressures have not been exceeded, turn brass nut ¼ turn clockwise.
4. Valve chatters when closing:
 - Check for proper flow direction.

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