

# Honeywell

SUBMITTAL  
DATA/INSTRUCTION  
SHEET SD/IS 525

EFFECTIVE  
Sept 23, 2003  
Supersedes 7/1/2001

## PowerTrack™

### Patented Motorized Zone Valve

#### SUBMITTAL DATA APPROVAL SHEET

For: \_\_\_\_\_  
Job: \_\_\_\_\_  
Date submitted: \_\_\_\_\_ by: \_\_\_\_\_  
Date approved: \_\_\_\_\_ by: \_\_\_\_\_  
Model number: \_\_\_\_\_ quantity: \_\_\_\_\_  
Model number: \_\_\_\_\_ quantity: \_\_\_\_\_  
Model number: \_\_\_\_\_ quantity: \_\_\_\_\_

#### Product Numbers:

MZV524-T	MZV525-T	MZV526-T	MZV527
MZV524E-T	MZV525E-T	MZV526E-T	MZV527E
	MZV525	MZV526	
	MZV525E	MZV526E	

#### APPLICATION:

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

#### FEATURES:

- Fast acting. Available with or without auxiliary switch
- 3 year limited warranty.
- Built in balancing plug permits pre-balancing of zone.
- High torque, constant speed synchronous motor
- Quiet operation: no water hammer.
- Patent No.'s: D-369,650; 5,529,282; 6,095,485; UK 2052382

- *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

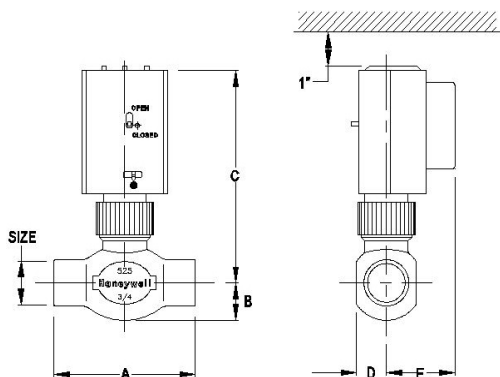
**Caution: Do not use silver solder**

#### SPECIFICATIONS:

- Connections ½" NPT, ¾" Sweat or NPT, 1" Sweat or NPT, and 1 ¼" Sweat
- Maximum working pressure 125 psi (862 kPa).
- Maximum fluid temperature 240° F (115° C)
- Fluids: Water and Water/Glycol
- Cv: ½" and ¾" 5.8, 1" and 1 ¼" 7.0
- Maximum shut-off pressure  
½" and ¾" - 20 psi, 1" and 1 ¼" - 17.5 psi
- Motor rated 24 VAC, 60 HZ, 0.25 Ampere.  
(May be safely operated between 22 and 28 VAC)
- Power to open, spring return close.
- Opening time 15 - 20 seconds
- Closing time 4 - 6 seconds.

- Maximum ambient temperature 104° F (40° C) at a water temperature of 240°F (115°C) **See Note**
- Auxiliary switch rated 24 VAC, 5A resistive, 3A inductive.
- Motor CSA recognized
- With operator installed, valve is normally closed.
- Manual operation option
- Wiring connections: 16 inch leads.
- Materials: Bronze casting, brass/stainless trim.
- Built in valve position indicator.

**Note: Maximum allowable ambient temperature increases as the water temperature drops below 240 °F. For every 7 °F drop the ambient temperature can be increased 1°F**



#### THERMOSTAT

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

#### CAUTION

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

Product Number	Size	Aux. Switch	Weight Lbs.	Dimension In Inches				
A	B	C	D	E				
MZV524-T	½" NPT	No	1.9	3.3	1.0	4.8	.7	1.6
MZV524E-T	½" NPT	Yes	1.9	3.3	1.0	4.8	.7	1.6
MZV525	¾" Sweat	No	1.7	3.3	.8	4.8	.7	1.6
MZV525E	¾" Sweat	Yes	1.7	3.3	.8	4.8	.7	1.6
MZV525-T	¾" NPT	No	2	3.3	1.0	4.8	.7	1.6
MZV525E-T	¾" NPT	Yes	2	3.3	1.0	4.8	.7	1.6
MZV526	1" Sweat	No	2.0	3.8	1.0	4.8	.8	1.6
MZV526E	1" Sweat	Yes	2.0	3.8	1.0	4.8	.8	1.6
MZV526-T	1" NPT	No	2.5	3.6	1.0	4.8	.8	1.6
MZV526E-T	1" NPT	Yes	2.5	3.6	1.0	4.8	.8	1.6
MZV527	1 ¼" Sweat	No	2.2	3.8	1.0	4.8	.8	1.6
MZV527E	1 ¼" Sweat	Yes	2.2	3.8	1.0	4.8	.8	1.6
MZV520 RP	All	Yes	Replacement Operator for MZV & Sparcozone					
MZV521 RP	All	No	Replacement Operator for MZV					
MZV525 RP	½" & ¾"	----	Replacement Valve Cartridge for ½" & ¾" MZV					
MZV526 RP	1" & 1 ¼"	----	Replacement Valve Cartridge for 1" & 1 ¼" MZV					

## 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 gold dot. The operator is now properly installed. (Figure A)
- Note: Brass nut must be tightened 2 to 3 turns before pointer starts to move.**
4. Connect electrical leads per wiring diagram below.

Fig. A



## PRE-BALANCING:

Each valve has a built in plug, which 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. (Refer to section 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 " & 3/4 " valve	1 1/2	3	4 1/2	6	7 1/2
Flow rate in GPM, 1" & 1 1/4 " 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:

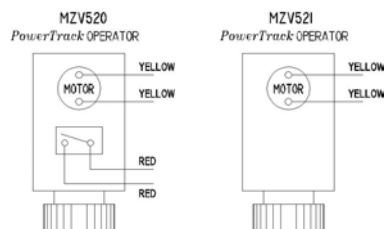
**SHUT OFF POWER.** To remove and replace operator, refer to section INSTALLATION. Replacement part numbers are: Operator with switch MZV 520, without switch MZV 521.

## REPLACEMENT OF VALVE CARTRIDGE:

**SHUT OFF POWER** and **DRAIN SYSTEM**, then follow instruction in section INSTALLATION. Part numbers are: Cartridge for 1/2 " and 3/4 " valve MZV 525 RP, cartridge for 1" and 1 1/4 " valve: MZV 526 RP.

## WIRING DIAGRAMS

### PowerTrack Internal Wiring

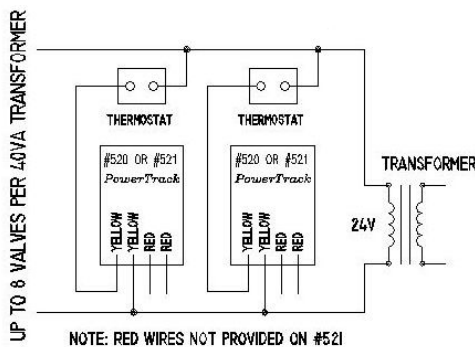


## TROUBLE SHOOTING GUIDE

1. If valve does not open when thermostat closes:
  - Check voltage between yellow wires. Should be 22 to 28 volts.
2. Boiler and/or circulator continues to run after valve has closed:
  - Turn brass nut counterclockwise 1/4 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 1/4 turn clockwise.
4. Valve chatters when closing:
  - Check for proper flow direction.

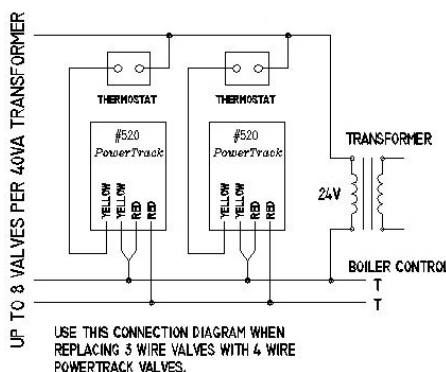
### 2 WIRE WIRING

(NO SWITCH OR SWITCH NOT USED)



### 3 WIRE WIRING

(WITH AUXILIARY SWITCH)



### 4 WIRE WIRING

(WITH AUXILIARY SWITCH)

