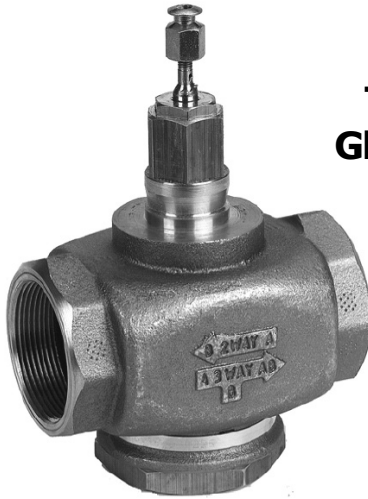
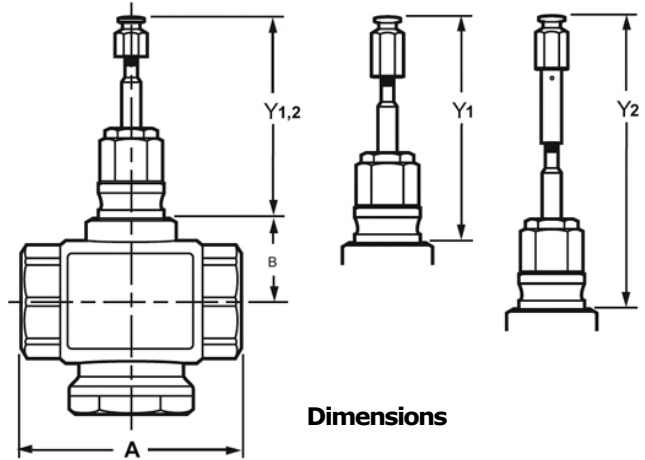


Honeywell Heating & Cooling Controls



V5011N Two-Way Globe Valves

Used for two-position or modulating control of steam and water and glycol solutions (to 50 percent concentration) in heating or cooling systems.



Dimensions

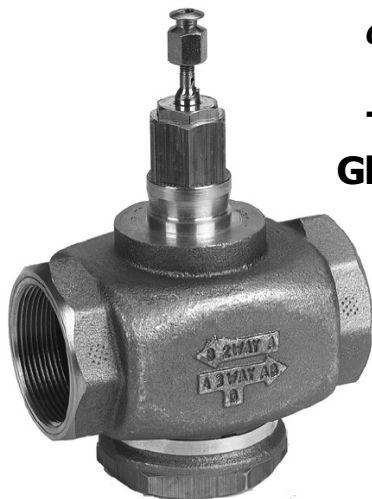
- Sizes range from 2-1/2 to 3 inches.
- Spring-loaded, self-adjusting packing.
- Stainless steel stem prevents corrosion.
- Valve designs provide equal percentage characteristics of flow for close control of water, and linear characteristic of flow for close control of steam.
- Valves utilize direct mounting valve actuators or Q5020 linkages with Direct Coupled Actuators or Pneumatic Valve Actuators to operate the valve.
- Type of Control: For both electric and pneumatic
- Body Pattern: Two-way ■ Controlled Medium: Water w/max of 50% Glycol ■ Leakage rate (%): 0.05% of Cv
- Stem Travel: 3/4 in. ■ Connection Type: Female NPT ■ Ambient Temperature Range: 36 F to 248 F water ■ Maximum Differential Pressure: 240 psi ■ Maximum Differential for Quiet Water Service: 20 psi
- Materials — (Body): Red Brass; (Stem): Stainless Steel; (Cartridge): Brass; (Packing): Teflon

Valve Size	A	B
1/2	3-1/4	1-9/16
3/4		
1	4-1/16	
1-1/4	4-3/16	1-13/16
1-1/2	4-3/4	
1-1/2	5-1/4	

Valve Model	Y1	Y2 ^a
V5011N1 or V5011N2	3-1/2	5-1/4
	stem fully down	
V5011N3	4-3/16	6
	stem fully up	

Valve Pipe Size	Valve Action	Flow Characteristic	Flow Capacity Cv	Seat Material	Max. psi Operating Pressure	Used With	Order No.
1/2	Stem down to close	Equal percentage	0.73	Stainless Steel	240 psi	ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ML7425	V5011N1008
1/2		Equal percentage	1.16			Q5020/DCA; ML6984/ ML7984; Q5001/Modutrol IV Motor; MP953; ML7420/ML7421A/ML7425; ML6420,21A,25	V5011N1016
1/2		Equal percentage	1.85			ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ML7425	V5011N1024
1/2		Equal percentage	2.9			Q5020/DCA; ML6984/ML7984; Q5001/Modutrol IV Motor; MP953; ML7420/ML7421A/ML7425; ML6420,21A,25	V5011N1032
1/2		Equal percentage	4.7			ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ML7425	V5011N1040
3/4		Equal percentage	7.3			Q5020/DCA; ML6984/ML7984; Q5001/Modutrol IV Motor; MP953; ML7420/ML7421A/ML7425; ML6420,21A,25	V5011N1057
1		Equal percentage	11.7			ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ML7425	V5011N1065
1-1/4		Equal percentage	18.7			Q5020/DCA; ML6984/ML7984; Q5001/Modutrol IV Motor; MP953; ML7420/ML7421A/ML7425; ML6420,21A,25	V5011N1073
1-1/2		Equal percentage	29.3			ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ML7425	V5011N1081
2		Equal percentage	46.8			Q5020/DCA; ML6984/ML7984; Q5001/Modutrol IV Motor; MP953; ML7420/ML7421A/ML7425; ML6420,21A,25	V5011N1099

Honeywell Heating & Cooling Controls



Continued . . .
V5011N
Two-Way
Globe Valves

Used for two-position or modulating control of steam and water and glycol solutions (to 50 percent concentration) in heating or cooling systems.

- Sizes range from 2-1/2 to 3 inches.
- Spring-loaded, self-adjusting packing.
- Stainless steel stem prevents corrosion.
- Valve designs provide equal percentage characteristics of flow for close control of water, and linear characteristic of flow for close control of steam.
- Valves utilize direct mounting valve actuators or Q5020 linkages with Direct Coupled Actuators or Pneumatic Valve Actuators to operate the valve.
- Type of Control: For both electric and pneumatic
- Body Pattern: Two-way ■ Controlled Medium: Water w/ max of 50% Glycol ■ Leakage rate (%): 0.05% of Cv
- Stem Travel: 3/4 in. ■ Connection Type: Female NPT
- Ambient Temperature Range: 36 F to 248 F water
- Maximum Differential Pressure: 240 psi
- Maximum Differential for Quiet Water Service: 20 psi
- Materials — (Body): Red Brass; (Stem): Stainless Steel; (Cartridge): Brass; (Packing): Teflon

. . . Continued

Valve Pipe Size	Valve Action	Flow Characteristic	Flow Capacity Cv	Seat Material	Max. psi Operating Pressure	Used With	Order No.
1/2	Stem down to close	Linear	2.9	Stainless Steel	100 steam	Q5020/DCA; ML6984/ML7984; Q5001/Modutrol IV Motor; MP953; ML7420/ML7421A/ML7425; ML6420,21A,25	V5011N2030
1/2		Linear	4.7		100 steam	ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ML7425	V5011N2048
3/4		Linear	7.3		100 steam	Q5020/DCA; ML6984/ML7984; Q5001/Modutrol IV Motor; MP953; ML7420/ML7421A/ML7425; ML6420,21A,25	V5011N2055
1		Linear	11.7		100 steam	ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ML7425	V5011N2063
1-1/4		Linear	18.7		100 steam	Q5020/DCA; ML6984/ML7984; Q5001/Modutrol IV Motor; MP953; ML7420/ML7421A/ML7425; ML6420,21A,25	V5011N2071
1-1/2		Linear	29.3		100 steam	ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ML7425	V5011N2089
2		Linear	46.8		100 steam	Q5020/DCA; ML6984/ML7984; Q5001/Modutrol IV Motor; MP953; ML7420/ML7421A/ML7425; ML6420,21A,25	V5011N2097
1/2	Stem up to close	Equal percentage	2.9	Integral Brass	240	MP953; ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; ML6420,21A,25; ML7420/ML7421A/ML7428	V5011N3004
1/2		Equal percentage	4.7		240	MP953; ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; ML6420,21A,25; ML7420/ML7421A/ML7428	V5011N3012
3/4		Equal percentage	7.3		240	MP953; ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; ML6420,21A,25; ML7420/ML7421A/ML7428	V5011N3020
1		Equal percentage	11.7		240	MP953; ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; ML6420,21A,25; ML7420/ML7421A/ML7428	V5011N3038
1-1/4		Equal percentage	18.7		240	MP953; ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; ML6420,21A,25; ML7420/ML7421A/ML7428	V5011N3046

Honeywell Heating & Cooling Controls

Used for two-position or modulating control of steam and water and glycol solutions (to 50 percent concentration) in heating or cooling systems.

- Sizes range from 2-1/2 to 3 inches.
- Spring-loaded, self-adjusting packing.
- Stainless steel stem prevents corrosion.
- Valve designs provide equal percentage characteristics of flow for close control of water, and linear characteristic of flow for close control of steam.
- Valves utilize direct mounting valve actuators or Q5020 linkages with Direct Coupled Actuators or Pneumatic Valve Actuators to operate the valve. ■ Body Pattern: Two-way ■ Controlled Medium: Water w/max of 50% Glycol ■ Valve Action: Stem down to close ■ Leakage rate (%): 0.05% of Cv ■ Stem Travel: 3/4 in.
- Connection Type: Female NPT ■ Ambient Temperature Range: 40 F to 337 F ■ Maximum Differential for Quiet Water Service: 20 psi ■ Materials: Body, Red Brass; Seat, Brass; Stem, Stainless Steel; Plug/Ball/Disc, Brass; Packing, Teflon and Nitrite

V5011F,G Two-Way 2 1/2 & 3" Threaded Globe Valves



Valve Pipe Size	Flow Characteristic	Flow Capacity Cv	Maximum Operating Pressure, psi	Used With	Order No.
2-1/2	Equal percentage	63	240 @ 150F water	Q5001/Modutrol IV motor; MP953; ML6420, 21A, 25; ML7420/ML7421A/ML7425; ML6984/ML7984; Q5020/DCA	V5011F1105
3	Equal percentage	100	240 @ 150F water	Q5020/DCA; ML6984/ML7984; ML7420/ML7421A/ML7425 ML6420, 21A, 25; Q5001 Modutrol IV motor, MP953	V5011F1113
2-1/2	Linear	63	100 psi steam	ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV motor; MP953; ML6420, 21A, 25; ML7420/ML7421A/ML7245	V5011G1111
3	Linear	100	100 psi steam	ML7240/ML7241A/ML7245; ML6420, 21A, 25; Q5001/Modutrol IV motor; MP953; Q5020/DCA; ML6984/ML7984	V5011G1129

V5011A,B Two-Way Flanged Globe Valves



Used for two-position or modulating control of steam and water and glycol solutions (to 50 percent concentration) in heating or cooling systems.

Used for proportional control of hot or chilled water and glycol solutions (to 50 percent concentration) and for two-position control of low pressure steam.

- Sizes range from 2-1/2 to 6 inches, flanged connection.
- Stainless steel stem with removable Teflon disc.
- Valves utilize direct mounting valve actuators or Q5020 linkages with Direct Coupled Actuators or Pneumatic Valve Actuators to operate the valve. Cast Iron Body rated to 125 psi. ■ Equal Percentage flow characteristic for water; linear flow for steam. ■ Type of Controls used: Electric; Pneumatic ■ Controlled Medium: Water w/max of 50% Glycol; Steam ■ Stem Travel: 3/4 in. ■ Ambient Temperature Range: 40 F to 250 F ■ Maximum Operating Pressure: 250 psi at 100 F water; 217 psi at 250 F water; 15 psi steam ■ Maximum Differential for Quiet Water Service: 20 psi

Valve Pipe Size	Valve Action	Flow Characteristic	Flow Capacity Cv	Seat Material	Max. Operating Pressure	Used With	Order No.
2-1/2	Stem down to close	Equal Percentage	63	Bronze	250 psi at 100° water	Q5001/Modutrol IV motor; MP953; ML6420, 21A, 25; ML7420/ML7421A/ML7425; ML6984/ML7984	V5011A1734
3			100			ML6984/ML7984; ML7420/ML7421A/ML7425; ML6420, 21, 25; Q5001/Modutrol IV Motor; MP953	V5011A1767
4			160			Q5001/Modutrol IV motor; MP953; ML7421B; ML6421B	V5011A1858
5			250			ML6421B; ML7421B; Q5001/Modutrol IV motor; MP953	V5011A1882
6			360			ML6421B; ML7421B; Q5001/Modutrol IV motor; MP953	V5011A1916
4	Stem up to close	Equal Percentage	150	Bronze	15 psi steam	ML6421B; ML7421B; Q5001/Modutrol IV motor; MP953	V5011B1013
5			250			ML6421B; ML7421B; Q5001/Modutrol IV motor; MP953	V5011B1047
6			360			ML6421B; ML7421B; Q5001/Modutrol IV motor; MP953	V5011B1070

Honeywell Heating & Cooling Controls



V5013N Three-Way Threaded Globe Valves

Used for two-position or modulating control of steam and water and glycol solutions (to 50 percent concentration) in heating or cooling systems.

The V5013N is a three-way threaded globe valve that controls hot water, cold water, and glycol solutions (up to 50% concentration) in heating or cooling HVAC applications. The valves are used for mixing service to direct flow from one or two inlets to a common outlet in two-position or modulating control systems.

- Red brass body with NPT-threaded connections. ■ Stainless steel stem and brass plug. ■ Low seat leakage rating. ■ Spring-loaded, self adjusting packing. ■ 50:1 rangeability per VDI/VDE 2173. ■ Constant total flow throughout full stem travel. ■ Accurate positioning to ensure state-of-the-art temperature control. ■ Sizes range from 1/2 inch to 2 inches. ■ Suitable for pneumatic or electric/electronic actuation. ■ Repack and rebuild kits available for field servicing. ■ Type of Control: Electric; Pneumatic ■ Body Pattern: Three-way ■ Controlled Medium: Water w/max of 50% Glycol ■ Leakage rate (%): 0.05% of Cv ■ Stem Travel: 3/4 in. ■ Connection Type: Female NPT ■ Ambient Temperature Range: 36 F to 248 F water Maximum Operating Pressure: 240 psi ■ Maximum Differential Pressure: 240 psi ■ Maximum Differential for Quiet Water Service: 20 psi ■ Materials: Body, Red Brass; Stem, Stainless Steel; Plug/Ball/Disc, Brass; Packing, Teflon/EPDM

Valve Pipe Size	Valve Action	Flow Characteristic	Flow Capacity Cv	Seat Material	Used With	Order No.
1/2	Mixing	Linear (B-AB) Equal Percentage (A-AB)	2.9	Stainless Steel	ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV motor; ML7420/ML7421A/ML7425; ML6420, 21A, 25 Q5020/DCA; ML6984/ML7984; Q5001/Modutrol IV motor; ML7420/ML7421A/ML7425 ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV motor; ML7420/ML7421A/ML7425; ML6420, 21A, 25 Q5020/DCA; ML6984/ML7984; Q5001/Modutrol IV motor; ML7420/ML7421A/ML7425 ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV motor; ML7420/ML7421A/ML7425; ML6420, 21A, 25 Q5020/DCA; ML6984/ML7984; Q5001/Modutrol IV motor; ML7420/ML7421A/ML7425 ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV motor; ML7420/ML7421A/ML7425	V5013N1030
1/2			4.7			V5013N1048
3/4			7.3	Integral Brass		V5013N1055
1			11.7			V5013N1063
1-1/4			18.7	Brass		V5013N1071
1-1/2			29.3			V5013N1089
2			46.8			V5013N1097



V5013B,C Three-Way Threaded Globe Valves

The V5013B are mixing three-way valves. The V5013C are diverting three-way valves. These valves provide proportional or two position control of hot or chilled water in heating or cooling systems. These valves are offered in sizes 2-1/2 in. through 6 in.

- Not suitable for combustible gases. ■ Valves require a Q5001 Linkage and control motor or MP953 Pneumatic Valve Actuator or ML6984/ML7984 Direct Coupled Actuator to position the valve. ■ Constant total flow through full plug travel. ■ Stainless steel stem prevents corrosion. ■ Class IV (0.01% of Cv) Leakage Rating. ■ Dimensions Diagram ■ Type of Control: Electric; pneumatic ■ Body Pattern: Three-way ■ Controlled Medium: Water w/max of 50% Glycol ■ Stem Travel: 3/4 in. ■ Connection Type: Flanged

Valve Pipe Size	Valve Action	Valve Style	Flow Capacity Cv	Maximum Operating Pressure, psi	Used With	Order No.	
2-1/2	Stem up increases B to AB flow	Mixing	63	250 @ 100F water	ML6984/ML7984; Q5001/Modutrol IV Motor; ML7420/ML6420, 21A, 25	V5013B1003	
3			100			V5013B1011	
4			160			V5013B1029	
5			250			V5013B1037	
6			360			V5013B1045	
2-1/2			Stem up increases AB to A flow			Diverting	63
3	100	V5013C1019					
4	160	V5013C1027					
5	250	V5013C1035					
6	360	V5013C1043					

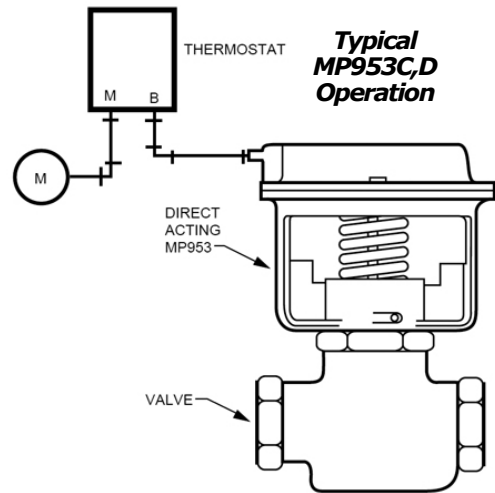
Honeywell Heating & Cooling Controls



Pneumatic Actuators for V5011/V5013 valves **MP953C,D Pneumatic Coil Valve Actuators**

Pneumatic actuators provide proportional control of steam or hot or cold liquids in HVAC systems by operating V5011 and V5013 valve assemblies. Replacement devices are available for older Honeywell actuators.

- Rolling diaphragm for long life and low hysteresis.
- Easily attached to valve.
- Can be installed after piping valve.
- Slide lock feature permits simple engagement to valve stem.
- Direct- or reverse-action control.
- Does not include positive positioner.
- Typical MP953C,D Operation Application Type: Valve Actuator
- Dimensions, Approximate: 5 in. diameter x 4 5/8 in. high
- Fail Safe Mode: Spring Return
- Air: Dual barbed fitting for 5/32" O.D. and 1/4" O.D. plastic tubing
- Temperature Range: 0 F to 140 F
- Maximum Operating Pressure: 25 psi
- Humidity Range: 5 to 95% RH



Actuator Diameter	Actuator Dimensions
5"	5" diameter x 4-5/8" high
7-1/8"	7-1/8" diameter x 5-5/8" high
8"	8" diameter x 6-1/2" high
13"	13" diameter x 10" high

Actuator Force	Spring Range, psi	Diameter (inches)	Stroke (inch)	Action	Notes	Order No.
Low	2 to 7	5	3/4	Direct Acting	—	MP953C1000
Low	8 to 12	5	3/4	Direct Acting	—	MP953C1018
Low	4 to 11	5	3/4	Direct Acting	—	MP953C1026
Medium	2 to 7	8	3/4	Direct Acting	Includes 311851-062 stem extension assembly	MP953C1067
Medium	8 to 12	8	3/4	Direct Acting	Includes 311851-062 stem extension assembly	MP953C1075
Medium	4 to 11	8	3/4	Direct Acting	Includes 311851-062 stem extension assembly	MP953C1083
High	2 to 7	13	1 1/2	Direct Acting	Includes 312466-605 stem extension assembly	MP953C1471
High	4 to 11	13	1 1/2	Direct Acting	Includes 312466-605 stem extension assembly	MP953C1489
Medium	3 to 15	8	1 1/2	Direct Acting	—	MP953C1547
High	2 to 7	13	3/4	Direct Acting	Includes 312466-605 stem extension assembly	MP953C1554
High	4 to 11	13	3/4	Direct Acting	Includes 312466-605 stem extension assembly	MP953C1562
Medium	8 to 13	7 1/8	3/4	Reverse Acting	—	MP953D1107
Medium	4 to 11	7 1/8	3/4	Reverse Acting	—	MP953D1131
Medium	3 to 7	7 1/8	3/4	Reverse Acting	—	MP953D1172
Medium	4 to 11	7 1/8	3/4	Reverse Acting	—	MP953D1230

Honeywell Heating & Cooling Controls



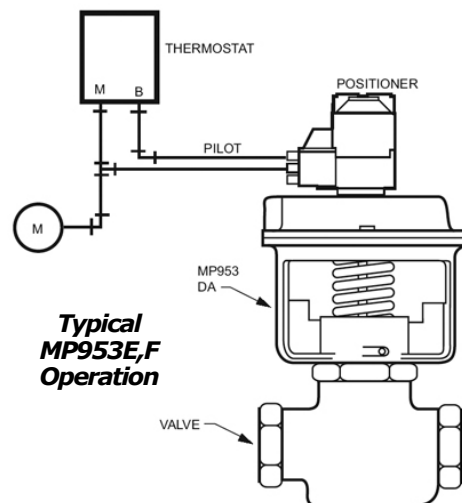
**Pneumatic Actuators for
V5011/V5013 valves**

**MP953E,F Pneumatic Coil
Valve Actuators**

With Positive Positioner Relay

Pneumatic actuators provide proportional control of steam or hot or cold liquids in HVAC systems by operating V5011 and V5013 valve assemblies. Replacement devices are available for older Honeywell actuators.

- Rolling diaphragm for long life and low hysteresis.
- Easily attached to valve.
- Can be installed after piping valve.
- Slide lock feature permits simple engagement to valve stem.
- Direct- or reverse-action control.
- Integral positive positioner relay provides positive positioning under varying load conditions.
- Type: Valve Actuator
- Dimensions, Approximate: 8" diameter x 11 1/8" high Action: Direct Acting
- Fail Safe Mode: Spring Return
- Air Connections: Pilot: Barbed fitting for 5/32 in. O.D. plastic tubing
- Main: Barbed fitting for 1/4 in. O.D. plastic tubing
- Temperature Range: 0 F to 140 F
- Maximum Operating Pressure: 25 psi
- Humidity Range: 5 to 95% RH



**Typical
MP953E,F
Operation**

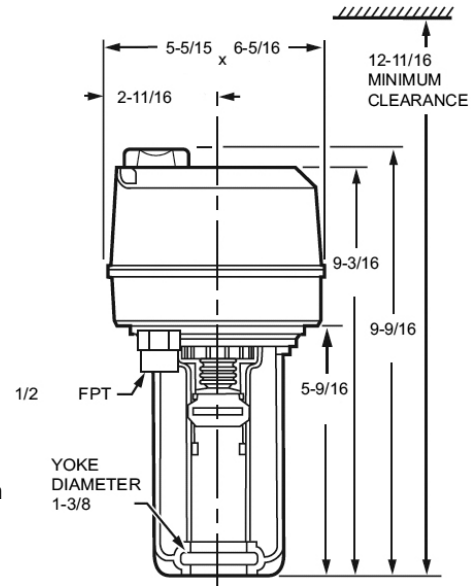
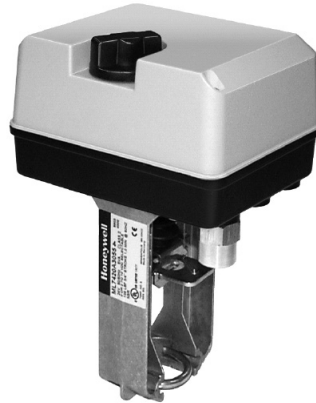
Actuator Diameter	Actuator Dimensions
5"	5" diameter x 9-1/4" high
7-1/8"	7-1/8" diameter x 10-1/2" high
8"	8" diameter x 11-1/8" high
13"	13" diameter x 18-1/8" high

Actuator Force	Spring Range, psi	Diameter (inches)	Stroke (inch)	Notes	Order No.
Low	4 to 11	8	1-1/2	Includes 311850-062 stem extension assembly & positive positioner, 5 psi range	MP953E1285
Low	4 to 11	5	3/4	Includes Positive positioner with 3 psi range	MP953E1301
Low	4 to 11	5	3/4	Includes Positive positioner with 5 psi range	MP953E1319
low	4 to 11	5	3/4	Includes Positive positioner with 10 psi range	MP953E1327
Medium	4 to 11	8	3/4	Includes 311851-062 stem extension assembly & positive positioner, 3 psi range	MP953E1368
Medium	4 to 11	8	3/4	Includes 311851-062 stem extension assembly & positive positioner, 5 psi range	MP953E1376
Medium	4 to 11	8	3/4	Includes 311851-062 stem extension assembly & positive positioner, 10 psi range	MP953E1384
High	4 to 11	13	1-1/2	Includes 312466-605 stem extension assembly & positive positioner, 5 psi range	MP953E1400
High	4 to 11	13	1-1/2	Includes 312466-605 stem extension assembly & positive positioner, 10 psi range	MP953E1418
—	4 to 11	—	—	—	MP953E1435
High	4 to 11	13	3/4	With 14004697-001 stem extension assembly & positive positioner, 10 psi range	MP953E1443
Medium	8 to 13	7-1/8	3/4	Includes Positive positioner with 3 psi range and EPDM diaphragm	MP953F1093
Medium	8 to 13	7-1/8	3/4	Includes Positive positioner with 5 psi range and EPDM diaphragm	MP953F1101
Medium	8 to 13	7-1/8	3/4	Includes Positive positioner with 10 psi range and EPDM diaphragm	MP953F1119

Honeywell Heating & Cooling Controls

24V Actuators for V5011 and V5013 Valves

ML6420, ML7420 Non-Spring Return Direct Coupled Globe Valve Actuators



Direct Coupled Globe Valve Actuators mount directly on VGF, V5011, and V5013 steam and water globe valves from 1/2" to 3"

- Easy and quick installation on valves with 1- 3/8 in. bonnet and 3/4 in. stroke.
- No separate linkage required. No adjustments required on linkage. ■ Conduit connector standard. ■ Accurate valve positioning. ■ Low power consumption. ■ High close-off ratings. ■ Force limiting end switches. ■ Manual operator. ■ Synchronous motor. ■ Maintenance free. ■ ML7420 has an internal selector plug that can be used to reverse the direction of action. ■ Fail Safe Mode: Stays in place ■ Electrical Connections: Screw terminals ■ Voltage: 24 Vac, ±15% ■ Frequency: 60 Hz ■ Mounting: Directly on V5011/V5013 Globe Valves and VGF Flanged Globe Valves (3/4") ■ Manual operation: None ■ Stroke: 3/4 in. ■ Switches: Yes ■ Ingress Protection Rating: IP54 ■ Medium Temperature: 300 F Maximum (150 C Maximum) ■ Operating Temperature Range: 14 F to 122 F ■ Materials (Housing): ABS-FR Plastic.

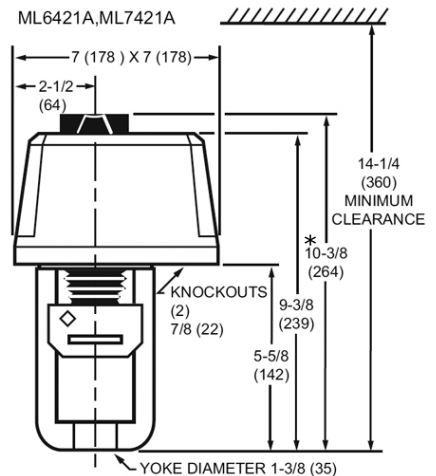
Control Signal	Feedback Signal	Input Impedance	Rated Force (lbs./in.)	Timing Driving @ 60Hz (sec.)	Power Consumption (Driving)	Used with	Order No.
Floating, SPDT, On/Off	—	—	135	60	6 VA	One knockout on case	ML6420A3049
Floating, SPDT, On/Off	—	—	135	30	6 VA	—	ML6420A3056
Modulating	2-10 Vdc	1k ohm	135	60	7 VA	One knockout on case	ML7420A3055
Modulating	2-10 Vdc	1k ohm	135	30	7 VA	One knockout on case	ML7420A3063



24V Actuators for V5011/V5013 Valves ML6421, ML7421 Non-Spring Return Direct Coupled Globe Valve Actuators

Direct Coupled Globe Valve Actuators mount directly on VGF, V5011, and V5013 globe valves without a linkage. Operate 1/2 to 6" in. valves.

- Easy, quick installation on valves with 1 3/8" bonnet and 3/4 in. stroke, or with 1 7/8" bonnet and 1 1/2" stroke. ■ Electrical Connections: Screw terminals ■ Electrical Protection: Class I Insulation (24 Vac) ■ Voltage: 24 Vac, +10/-30%, Frequency: 60 Hz ■ Mounting: Directly on V5011/V5013 Globe Valves and VGF Flanged Globe Valves (1-1/2") ■ Manual operation: None ■ Stroke: 3/4 in. ■ Switches: Yes ■ Ingress Protection Rating: IP54 ■ Operating Temperature Range: 14 F to 122 F ; Operating Humidity Range (% RH): 5 to 95% RH. Cover: ABS Plastic ■ Weight: 5.1 lb



*Models ML6421B, 7421B are 12 3/4" tall.

- ▶ For 1/2" to 6" valves
- ▶ Synchronous motor
- ▶ Maintenance Free
- ▶ Conduit connector standard
- ▶ High close-off rating
- ▶ Accurate valve positioning

Control Signal	Feedback Signal	Input Impedance	Rated Force (lbs./in.)	Drive Timing @ 60Hz (sec.)	Drive Power Consumption	Used with	Order No.
Floating, SPDT, On/Off	—	—	405	95	11 VA	—	ML6421A1017
SPST, On/Off	—	—		175	11 VA	One knockout on case	ML6421B1040
Modulating	2-10 Vdc	1k ohm		95	12 VA	2 knockout holes	ML7421A1032
Modulating	2-10 Vdc	1k ohm		175	12 VA	2 knockout holes	ML7421B1023

Honeywell Heating & Cooling Controls



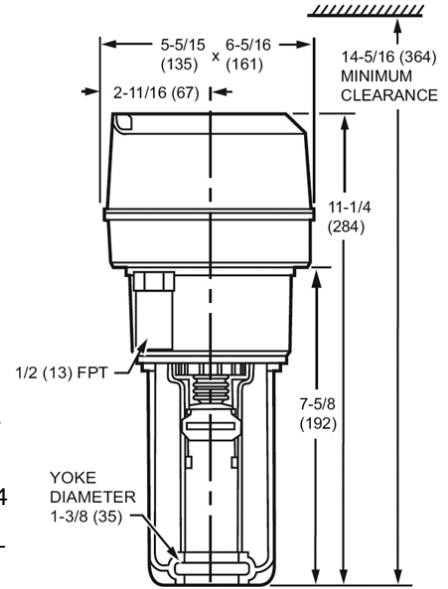
For 1/2" to 3" valves

24V Actuators for V5011/V5013 Valves

ML6425, ML7425 Spring Return Direct Coupled Globe Valve Actuators

Direct Coupled Globe Valve Actuators mount directly on VGF, V5011, and V5013 steam and water globe valves without a linkage. Operate 1/2 to 3" valves.

- Easy and quick installation on valves with 1 3/8" bonnet and 3/4" stroke. ■ No separate linkage required. ■ Conduit connector standard. ■ No adjustments required on linkage.
- Accurate valve positioning. ■ High close-off ratings. ■ Force limiting end switches. ■ Manual operator. ■ Synchronous motor. ■ Maintenance free. ■ Electrical Connections: Screw terminals ■ Electrical Protection: Class I Insulation (24 Vac) ■ Voltage: 24 Vac; Frequency: 60 Hz
- Manual operation: Manual Override Winding ■ Stroke: 3/4 in. Switches: Yes ■ Ingress Protection Rating: IP54
- Medium Temperature: 300 F ■ Maximum Operating Temperature Range: 14 F to 122 ■ Weight: 5.1 lb



Control Signal	Feedback Signal	Rated Force (lbs/in)	Fail Safe Mode @ power failure	Timing Driving @ 60Hz (sec.)	Spring Return (sec.)	Drive Power Usage	Used with	Order No.
Floating, SPDT, On/Off	—	135	stem down	90	12	11VA	One knockout on case	ML6425A3022
Floating, SPDT, On/Off	—	135	stem up	90	12	11VA	One knockout on case	ML6425B3013
Modulating	2-10 Vdc	135	stem down	90	12	12VA	One knockout on case	ML7425A3013
Modulating	2-10 Vdc	135	stem up	90	12	12VA	One knockout on case	ML7425B3012



For V5011/V5013 Valves, 24V

ML6984 Direct Coupled Linear Valve Actuator

The ML6984 is a self-contained, self-adjusting motorized linkage that mounts directly onto V5011 two-way or V5013 three-way valves and provides up to 25 mm (1") of linear travel (stem lift). For use with low voltage 3-wire SPDT Series 20

(on-off); Series 60 (floating) electromechanical (dry contacts); or electronic (triac output) controllers.

Allows the use of one common transformer power supply for multiple actuators and controllers. Self-contained, motorized valve linkage. Linkage self-adjusts to valve stroke of 1/2 to 1". Multipurpose mounting. Strong valve seat closing force 710 Newton (160 lbs.). Compact size for easy installation in confined area. One device for either 24 Vac or 28 Vdc power supply application. Electronic current sensing provides internal protection and positive full closing force. Field-addable position feedback/auxiliary switch module available. Compatible with 3-wire control systems. 6 13/16 in. high x 4 in. wide x 3 3/16 in. deep Voltage: 24 Vac or 28 Vdc; Mounting: Screws onto 1/4-28 UNF threaded valve stem.



For V5011/V5013 Valves, 24V

ML7984 Direct Coupled Linear Valve Actuator

Self-contained, self-adjusting motorized linkage that mounts directly onto V5011 two-way or V5013 three-way valves and provides up to 25 mm (1") of linear stem travel. For use with Series 70 2-10Vdc, 4-20mA; Series 90 135 ohm; and Electronic

(Super Mod) modulating signals. controllers.

Allows the use of one common transformer power supply for multiple actuators and controllers. Self-contained, motorized valve linkage. Linkage self-adjusts to valve stroke from 1/2 - 1". Multipurpose mounting. Strong valve seat closing force 710 Newton (160 lbs.). Compact size for easy installation in confined area. One device for either Vac or Vdc power supply application. Electronic current sensing provides internal protection and positive full closing force. Field-addable position feedback/auxiliary switch module available. Dimensions: 6 13/16" high x 4" wide x 3 3/16" deep. Fail Safe Mode: Stays in place. Feedback Signal: 2-10Vdc w/ 272630D. Voltage: 24 Vac or 28 Vdc. Mounting: Screws onto 1/4-28 UNF threaded valve stem. Manual operation: None. Stroke: 1/2 to 1 in. Switches: SPDT w/ 272630D.

Control Signal	Input Impedance	Rated Force (lbs./in.)	Drive Timing @ 60Hz (sec.)	Drive Power Consumption	Comments	Used with	Order No.
Floating, On-Off		160	63 @ 3/4" stroke	6 VA	3 or 5-wire	V5011/13 to 3" V5045 w/272629A	ML6984A4000
2-10 Vdc, 4-20 mA 135 ohm, SuperMod	Voltage-20Kohm Current-237ohm	160		6 VA	Direct/Reverse act. switch		ML7984A4009

Honeywell Heating & Cooling Controls

The Q5001 Valve Linkage connects a Modutrol® Motor to a 2- or 3- way valve. It is used primarily on V5011 or V5013 steam and water valves.

Linkage for V5011 and V5013 Valves
Q5001 Valve Linkage



- Q5001 Valve Linkage is applicable to 2-Way or 3-Way valves in modulating or two-position service.
- Linkage requires no adjustment when used with Honeywell valves and Modutrol IV® Motors.
- Q5001 Valve Linkage replaces Q601 and Q618 Valve Linkages.
- Linkage mounts directly to the valve bonnet; motor mounts to linkage bracket.
- Easy-to-read position indicator.
- Valve stem lift height cam selectable.
- Over-travel permits tight close-off without excessive motor strain.
- Available brackets make linkages adaptable to many valve bodies.
- Models available with 80 lb, 160 lb, and 320 lb stem force.
- Reversible cams on the Q5001 allow field selection of normally open or normally closed valve operation.
- All models have anti-spin.
- Valve Mounting: Linkage mounts directly to the valve bonnet; motor mounts on linkage bracket. Used with Actuator: Modutrol Motor
- Stem Force Rating: 80 or 160 lbs/ft.

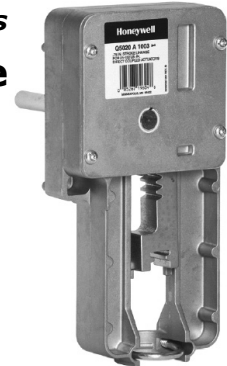
Description	Bonnet Size	Stroke	Includes	Used with	Order No.
Linkage for Mod III and Mod IV motors with 80 or 160 lbs. stem force.	1 3/8"	3/4"	1 3/8" valve bracket & anti-spin clip	V5011/V5013 Modutrol IV motors	Q5001D1000
Linkage for Mod III and Mod IV motors with 80 or 160 lbs. stem force.		3/4"	1 3/8" valve bracket & anti-spin clip		Q5001D1018
Linkage for Mod III and Mod IV motors with 80 or 160 lbs. stem force.		1 1/2"	1 7/8" valve bracket & anti-spin clip		Q5001D1026

Parts and Accessories	Order No.
Valve bracket assembly, Q5001	220828AA
Barber Colman valve adapter kit for Q5001	220829BCQ1
Johnson Controls valve adapter kit for Q5001	220829JCQ1
Q5001 cam, 1/2"	220848A
Q5001 cam, 3/4"	220862A

Parts and Accessories	Order No.
9/16" lift Q5001 linkage cam assembly	220858A
7/8" lift Q5001 linkage cam assembly	220860A
3/4" lift Q5001 linkage cam assembly	220861A
1" lift Q5001 linkage cam assembly	220863A
1 1/8" lift Q5001 linkage cam assembly	220864A

The Q5020 Globe Valve Linkages connect a Honeywell direct coupled actuator (DCA) to a steam or water globe valve. The Q5020 Linkages are compatible with two-way and three-way globe valves.

Linkage for V5011 and V5013 Valves
Q5020 Valve Linkage



- Used with two-way and three-way globe valves in modulating or two-position service.
- Used with 25, 50, and 142 lb-in. spring return and 35, 70, 150, and 300 lb-in. non-spring return DCA.
- Quick and simple installation with no disassembly required.
- Heavy-duty Steel rack and pinion construction and Aluminum Diecast housing.
- Maintenance-free construction.
- Precision roller-bearing rack construction prevents premature valve packing wear and leakage.
- Flexible actuator mounting orientation.
- Adjustable manual override lever and valve position indicator.
- Can be mounted on specific non-Honeywell valves using a 32004629 Bonnet Adapter Kit.
- Linkage Type: Valve
- Used with Actuator: Direct Coupled Actuator.

Description	Bonnet Size	Shaft Size	Stroke	Includes	Used with	Order No.
Globe Valve Linkage	1 3/8"	1/2"	3/4"	1/2" diameter drive shaft	V5011G, F, N; V5013N	Q5020A1003
		1"	3/4"	1" diameter drive shaft	V5011G, F, N; V5013N	Q5020B1001
		1"	1 1/2"	1" diameter drive shaft	V5051	Q5020C1009
		1/2"	1/2"	1/2" diameter drive shaft	Siebe, Johnson & Siemens valves	Q5020D1007

Description	Used with	Order No.
Ball joint, 5/16"	Damper linkages	102546
Adapter, drive 2 dampers from 1 crank arm	Kit mounted & Modutrol IV motors	104643A
Damper arm, 3/8" shaft	—	26025F
Damper arm, 1/2" shaft, 3" long	—	26026B
Damper arm, 7/16" shaft	—	27174B
Bonnet adapter kit, Siemens 1/2" to 3", Q5020	Siemens valves	32004629-001
Bonnet adapter kit, Johnson Controls 1/2" to 3/4", Q5020	Johnson valves, Q5020	32004629-002
Bonnet adapter kit, Johnson Controls 1" to 2", Q5020	Johnson valves, Q5020	32004629-003
Bonnet adapter kit, Siebe 1/2" to 2", Q5020	Siebe valves	32004629-004
Bag assembly, Q605 with damper arm, motor crank arm and 2 ball joints	Q605	7617ACL

Honeywell Heating & Cooling Controls



M6184, M6194 Floating Modutrol IV Motors, Series 2

These Series 61 Modutrol IV Motors are non-spring return floating control motors. Use these motors with controllers that provide a switched spdt or floating output to operate dampers or valves.

- Replaces M644, and M944B,E,G,H,J,K,R,S Motors. ■ Integral junction box provides NEMA 3 weather protection. ■ Motor and circuitry operate from 24 Vac. Models available with factory installed transformer, or a field added internal transformer. ■ Quick-connect terminals are standard screw terminal style. ■ Adapter bracket for matching shaft height of older motors is available. ■ Motors have field adjustable stroke (90° to 160°).
- Die-cast aluminum housing. ■ Integral auxiliary switches are available factory mounted or can be field added. ■ Nominal timing standard of 30 seconds (90° stroke), and 60 seconds (180° stroke). Other timings available. ■ All models have dual shafts (square shaped, slotted and tapped on both ends). ■ All models have auxiliary switch cams. ■ Fixed torque throughout the entire voltage range. ■ Motors are designed for either normally open or normally closed

valves and dampers. ■ Application Type: Electric Fail Safe ■ Mode: Non-Spring Return ■ Control Signal: Floating ■ External Auxiliary Switches Available: Yes ■ Auxiliary Switch Ratings AFL - 120 Vac: 7.2A Auxiliary Switch Ratings ALR - 120 Vac: 43.2A ■ Auxiliary Switch Ratings AFL - 240 Vac: 3.6A Auxiliary Switch Ratings ALR - 240 Vac: 21.6A Feedback: No Electrical Connections: Quick-connect terminals ■ Frequency: 60 Hz, 50 Hz ■ Mounting: Foot mounted Motor Shafts ■ Shaft Dimensions: 0.375 in. ■ Deadweight Load on Shaft (Either End): 200 lbs. Deadweight Load (Combined on both Shafts): 300 lbs. *Tradeline models

Torque Force (lbs./in.)	Voltage	Timing (sec.)	Internal Aux. Switch	Stroke	Shaft Rotation	Notes	Order No.
150 lbs/in	24	30-60	0	Adj. 90-160°	Upon control signal increase: Dependent on wiring (normally closed)	—	M6184A1015
75 lbs/in	120	15-30	0			Transformer included	M6184A1023
75 lbs/in	24	15-30	0			—	M6184D1001
150 lbs/in	24	30-60	0			—	*M6184D1035
150 lbs/in	24	120-240	0			Contains On-Off pulsing circuitry	M6184D1068
150 lbs/in	24	30-60	2			—	M6184F1014
300 lbs/in	24	60-120	1			—	M6194B1011
300 lbs/in	24	120-240	0			—	*M6194D1017
300 lbs/in	24	120-240	1			—	M6194E1006

M6284, M6294 Floating Modutrol IV Motors, Series 2

These Series 62 Modutrol IV Motors are non-spring return floating control motors. Use these motors with controllers that provide a switched spdt or floating output to operate dampers or valves. These motors also have an internal electrically isolated feedback potentiometer that provides indication of the motor shaft position and can be used for slaving Series 90 Motors or rebalancing an external control circuit.

- Replaces M644 and M944B,E,G,H,J,K,R,S Motors. ■ Integral junction box provides NEMA 3 weather protection. ■ Motor and circuitry operate from 24 Vac. Models available with factory installed transformer, or a field added internal transformer.
- Quick-connect terminals are standard screw terminal style. ■ Adapter bracket for matching shaft height of older motors is available. ■ Motors have field adjustable stroke (90° to 160°). ■ Die-cast aluminum housing. ■ Integral auxiliary switches are available factory mounted or can be field added. ■ Nominal timing standard of 30 seconds (90° stroke), and 60 seconds (180° stroke). Other timings available. ■ All models have dual shafts (slotted and tapped on both ends). ■ All models have auxiliary switch cams. ■ Fixed torque throughout the entire voltage range. ■ Motors are designed for either normally open or normally closed valves and dampers. ■ Includes electrically isolated feedback potentiometer that provides shaft position indication.

■ TRADELINE models have linear feedback, configurable for slaving Series 90 Motors. Application Type: Electric ■ Dimensions, Approximate: 6 7/16 in. high x 5 1/2 in. wide x 7 5/16 in. deep ■ Fail Safe Mode: Non-Spring Return ■ Control Signal: Floating ■ External Auxiliary Switches Available: Yes Auxiliary Switch Ratings AFL - 120 Vac: 7.2A Auxiliary Switch Ratings ALR - 120 Vac: 43.2A Auxiliary Switch Ratings AFL - 240 Vac: 3.6A Auxiliary Switch Ratings ALR - 240 Vac: 21.6A ■ Feedback: Yes ■ Electrical Connections: Quick-connect terminals ■ Frequency: 60 Hz, 50 Hz ■ Mounting: Foot mounted ■ Motor Shafts: Dual-ended shaft, square shape ■ Shaft Dimensions: 0.375 in. ■ Deadweight Load on Shaft (Either End): 200 lbs. ■ Deadweight Load (Combined on both Shafts): 300 lbs. ■ Ambient Temperature Range: -40 F to +150 F ■ Weight: 6.5 lb *Tradeline Model

Torque Force (lbs./in.)	Voltage	Timing (sec.)	Internal Aux. Switch	Stroke	Shaft Rotation	Notes	Order No.
150 lbs/in	120	30-60	0	Adj. 90-160°	Upon control signal increase: Dependent on wiring (normally closed)	Transformer included	M6284A1055
150 lbs/in	24	30-60	0			—	M6284D1000
150 lbs/in	24	30-60	2			—	M6284F1013
300 lbs/in	24	120-240	0			—	M6294D1008

Honeywell Heating & Cooling Controls



M9164, M9174 Modutrol IV Series 2 Motors

These Series 90 Modutrol IV. Motors are non-spring return modulating proportional control motors. Use these motors with controllers that provide a Series 90 output to operate dampers or valves.

- Replaces M934A,D; M941; and M944A,C,D motors. ■ Integral junction box provides NEMA 3 weather protection. ■ Motor and circuitry operate from 24 Vac. Models available with factory installed transformer, or a field added internal transformer. ■ Quick-connect terminals are standard screw terminal adapter is available. ■ Adapter bracket for matching shaft height of older motors is available. ■ Motors have field adjustable stroke (90° to 160°). ■ Die-cast aluminum housing. ■ Integral auxiliary switches are available factory mounted, or can be field added. ■ Nominal timing standard of 30 seconds (90° stroke), and 60 seconds (180° stroke). Other timings available. ■ All models have dual shafts (slotted and tapped on both ends).
- All models have auxiliary switch cams. ■ Fixed torque throughout the entire voltage range.
- Motors are designed for either normally open or normally closed valves and dampers.

■ Field addable interface modules can be mounted in the junction box to upgrade the motor to Series 70 (electronic) control. ■ Application Type: Electric ■ Fail Safe Mode: Non-Spring Return ■ Control Signal: Proportional, 135 ohm ■ External Auxiliary Switches Available: Yes ■ Auxiliary Switch Ratings AFL - 120 Vac: 7.2A; Auxiliary Switch Ratings ALR - 120 Vac: 43.2A; Auxiliary Switch Ratings AFL - 240 Vac: 3.6A; Auxiliary Switch Ratings ALR - 240 Vac: 21.6A ■ Feedback: No ■ Quick-connect terminals ■ Frequency: 60 Hz, 50 Hz ■ Foot mounted ■ Motor Shafts: Dual-ended, square shaped shaft ■ Shaft Dimensions: 0.375 in. ■ Deadweight Load on Shaft (Either End): 200 lbs. ■ Deadweight Load (Combined on both Shafts): 300 lbs. Weight: 7.5 lb ***Tradeline Models**

Torque Force (lbs./in.)	Voltage	Timing (sec.)	Internal Aux. Switch	Stroke	Shaft Rotation	Notes	Order No.
35 lbs/in	120	30-60	0	Adj. 90-160°	Upon control signal increase: Clockwise as viewed from power end. Normally Closed.	Includes Transformer	M9164A1005
35 lbs/in	24/120/230		0			Includes Transformer	M9164A1013
35 lbs/in	24		0			—	M9164A1070
35 lbs/in	24		2			—	M9164C1001
35 lbs/in	120		2			Includes Transformer	M9164C1068
35 lbs/in	24		0			—	*M9164D1009
75 lbs/in	120		1			Includes Transformer	M9174B1027
75 lbs/in	120		2			Includes Transformer	M9174C1025
75 lbs/in	120		2			Includes Transformer	M9174C1033
75 lbs/in	24		0			—	*M9174D1007

M9184, M9194 Modutrol IV Series 2 Motors

These Series 90 Modutrol IV. Motors are non-spring return modulating proportional control motors. Use these motors with controllers that provide a Series 90 output to operate dampers or valves.

- Replaces M934A,D; M941; M944A,C,D motors. ■ Integral junction box provides NEMA 3 weather protection. ■ Motor and circuitry operate from 24 Vac. Models available with factory installed transformer, or a field added internal transformer. ■ Quick-connect terminals are standard screw terminal adapter is available. ■ Adapter bracket for matching shaft height of older motors is available. ■ Motors have field adjustable stroke (90° to 160°). ■ Die-cast aluminum housing. ■ Integral auxiliary switches are available factory mounted, or can be field added. ■ Nominal timing standard of 30 seconds (90° stroke), and 60 seconds (180° stroke). Other timings available. ■ All models have dual shafts (slotted and tapped on both ends). ■ All models have auxiliary switch cams. ■ Fixed torque throughout the entire voltage range. ■ Motors are designed for either normally open or normally closed valves and dampers. ■ Field addable interface modules can be mounted in the junction box to upgrade the motor to Series 70 (electronic) control. ■ Application Type: Electric ■ Fail Safe Mode: Non-Spring Return ■ Control Signal: Proportional, 135 ohm
- External Auxiliary Switches Available: Yes ■ Auxiliary Switch Ratings AFL - 120 Vac: 7.2A ■ Auxiliary Switch Ratings ALR - 120 Vac: 43.2A ■ Auxiliary Switch Ratings AFL - 240 Vac: 3.6A ■ Auxiliary Switch Ratings ALR - 240 Vac: 21.6A ■ Feedback: No
- Electrical Connections: Quick-connect terminals ■ Frequency: 60 Hz, 50 Hz ■ Foot mounted ■ Dual-ended, square shaft ■ Shaft Dimensions: 0.375 in. ■ Deadweight Load on Shaft (Either End): 200 lbs. ■ Deadweight Load (Combined on both Shafts): 300 lbs.
- Ambient Temperature Range: -40 F to +150 F ■ Weight: 7.5 lb ***Tradeline Models**

Torque Force (lbs./in.)	Voltage	Timing (sec.)	Internal Aux. Switch	Stroke	Shaft Rotation	Order No.
150 lbs/in.	24V	30-60	0	Adj. 90-160°	Upon control signal increase: Clockwise as viewed from power end. Normally closed.	M9184A1019
150 lbs/in.		30-60	2			M9184C1031
150 lbs/in.		15-30	0			M9184D1005
150 lbs/in.		30-60	0			*M9184D1021
150 lbs/in.		30-60	2			M9184F1034
300 lbs/in.		120-240	0			*M9194D1003
300 lbs/in.		120-240	1			M9194E1000

Honeywell Heating & Cooling Controls



M4185, M8185 2-Position Modutrol IV Motors

The Series 41 and Series 81 Modutrol IV Motors are 2-position (line- and low-voltage control, respectively) spring-return motors. They are used to operate dampers or valves in applications where it is necessary or desirable to have the controlled element return to the starting position in the event of power failure or interruption.

■ Replaces M445, M845 and M865 motors. ■ Models rated for 60 lb.-in. torque. ■ Fixed torque throughout the entire voltage range. ■ Integral spring return returns motor to normal position when power is interrupted. ■ Integral junction box provides NEMA 3 weather protection. ■ Motor and circuitry operate from 24 Vac. Models available with factory-installed transformer or a field-added internal transformer. ■ Quick-connect terminals are standard, screw terminal adapter is available. ■ Adapter bracket for matching shaft height of older motors is available. ■ Motors have field adjustable stroke (90° to 160°). ■ Die-cast aluminum housing. ■ Motors are designed for either normally open or normally closed valves and dampers. ■ All models have auxiliary switch cams. ■ Integral auxiliary switches are available factory mounted, or can be field added. ■ Motors can operate valve linkages from the power end or auxiliary end shafts for normally closed

or normally open valve applications. ■ All models have dual shafts (slotted and tapped on both ends). ■ Nominal timing standard of 30 seconds (90° stroke), and 60 seconds (160° stroke). ■ Application Type: Electric ■ Fail Safe Mode: Spring Return ■ Control Signal: Two position, SPST ■ External Auxiliary Switches Available: Yes ■ Auxiliary Switch Ratings AFL - 120 Vac: 7.2A ■ Auxiliary Switch Ratings ALR - 120 Vac: 43.2A ■ Auxiliary Switch Ratings AFL - 240 Vac: 3.6A ■ Auxiliary Switch Ratings ALR - 240 Vac: 21.6A ■ Feedback: No ■ Electrical Connections: Quick-connect terminals ■ Frequency: 60 Hz, 50 Hz ■ Mounting: Foot mounted ■ Motor Shafts: Dual-ended shaft ■ Shaft Shape: square ■ Shaft Dimensions: 0.375 in. ■ Deadweight Load on Shaft (Either End): 200 lbs. ■ Deadweight Load (Combined on both Shafts): 300 lbs. ■ Weight: 9.5 lb *Tradeline Models

Torque Force (lbs./in.)	Voltage	Timing (sec.)	Internal Aux. Switch	Stroke	Shaft Rotation	Notes	Order No.
60 lbs/in.	120V	30-60	0	Adj. 90-160°	Upon control signal increase: Clockwise as viewed from power end. Normally closed.	Includes transformer	M4185A1001
	120V		1			Includes transformer	M4185B1009
	24/120/230V		1			Includes transformer	M4185B1058
	120V		2			Includes transformer	M4185C1007
	24V		0			—	M4185D1006

M9185, M9186 Modutrol IV Motors, Series 2

These Series 90 Modutrol IV Motors are spring return modulating proportional control motors. Use these motors with controllers that provide a Series 90 output to operate dampers or valves.

■ Replaces M965 and M975 motors. ■ Integral junction box provides NEMA 3 weather protection. ■ Integral spring return returns motor to normal position when power is interrupted. ■ Motor and circuitry operate from 24 Vac. Models available with factory installed transformer or a field-added internal transformer. ■ Quick-connect terminals are standard, screw terminal adapter is available. ■ Adapter bracket for matching shaft height of older motors is available. ■ Motors have field adjustable stroke (90° to 160°). ■ Die-cast aluminum housing. ■ Integral auxiliary switches are available factory mounted or can be field added. ■ Nominal timing standard of 30 seconds (90° stroke), and 60 seconds (180° stroke). Other timings available. ■ Spring return motors can operate valve linkages from power end or auxiliary end shafts for normally closed or normally open valve applications. ■ All models have dual shafts (slotted and tapped on both ends). ■ All models have auxiliary switch cams. ■ Fixed torque throughout the entire voltage range. ■ Motors are designed for either normally open or normally closed valves and dampers. ■ Field addable interface modules can be mounted in the junction box to upgrade the motor to Series 70 (electronic) control. ■ Application Type: Electric ■ Fail Safe Mode: Spring Return ■ Control Signal: Proportional, 135 ohm ■ External Auxiliary Switches Available: Yes ■ Auxiliary Switch Ratings AFL - 120 Vac: 7.2A; Auxiliary Switch Ratings ALR - 120 Vac: 43.2A; Auxiliary Switch Ratings AFL - 240 Vac: 3.6A; Auxiliary Switch Ratings ALR - 240 Vac: 21.6A; ■ Feedback: No ■ Quick-connect terminals ■ Frequency: 60 Hz, 50 Hz ■ Foot mounted ■ Motor Shafts: Dual-ended, square shaft ■ Shaft Dimensions: 0.375 in. ■ Deadweight Load on Shaft (Either End): 200 lbs. ■ Deadweight Load (Combined on both Shafts): 300 lbs. ■ Weight: 9.8 lb *Tradeline Models

Torque Force (lbs./in.)	Voltage	Timing (sec.)	Internal Aux. Switch	Stroke	Shaft Rotation	Order No.
60 lbs/in.	24V	60	0	Adj, 90-160°	Upon signal increase: Clockwise as viewed from power end. Normally closed.	M9185A1018
		60	2	Fixed 160°		M9185C1006
		30-60	0	Adj, 90-160°		*M9185D1004
		30-60	1	Adj, 90-160°		M9185E1019
		60	0	Adj, 90-160°		M9186G1006

Honeywell Heating & Cooling Controls



L91 Proportional Pressuretrol Controllers

Modulating pressure operating control for regulation of liquid or air and other non-corrosive gases.

- Use with steam, air, noncombustible gases, or other fluids non-corrosive to the brass or phosphor bronze (300 psi models) bellows.
- Do NOT use with combustible mediums or any medium chemically harmful to phosphor bronze bellows (10-300 psi models) or brass bellows (all other pressure range models). ■ 14026 Siphon Loop included with the models for 10 to 300 psi
- Dimensions, Approximate: 6-7/8" high x 4-1/2" wide x 2-7/8" deep
- Optional surface mount through back of case.
- Pipe Connections, Main or High Pressure: 1/4 in. NPT external thread
- Electrical Connections: Screw terminals
- Sensor Element: Brass bellows
- Switch Operation: Modulating
- Temperature Range: 32 F to 150 F



Operating Pressure Range, psi	Pressure Differential, psi	Modulating Output	Includes	Order No.
0 to 15	0.5	Single potentiometer, 140 ohms	—	L91A1037
5 to 150	5	Single potentiometer, 140 ohms	—	L91A1052
10 to 300	12	Single potentiometer, 140 ohms	Siphon Loop	L91A1078
10 to 300	12	Single potentiometer, 140 ohms	Siphon Loop	L91A1136
0 to 15	1.5 to 12	Single potentiometer, 140 ohms	—	L91B1035
5 to 150	5 to 23	Single potentiometer, 140 ohms	—	L91B1050
10 to 300	28 to 110	Single potentiometer, 140 ohms	Siphon Loop	L91B1068
5 to 150	5 to 23	Single potentiometer, 135 ohms	—	L91B1100
10 to 300	28 to 110	Single potentiometer, 140 ohms	Siphon Loop	L91B1118
10 to 300	12 to 48	Single potentiometer, 140 ohms	Siphon Loop	L91B1241
0 to 15	1.5 to 12	Single potentiometer, 140 ohms	—	L91B1015
5 to 150	11 to 52	Dual potentiometer, 140 ohms	—	L91B1031
10 to 300	28 to 110	Dual potentiometer, 140 ohms	Siphon Loop	L91B1049
5 to 150	5 to 23	Single potentiometer, 135 ohms	—	L91B1056
10 to 300	28 to 110	Single potentiometer, 140 ohms	Siphon Loop	L91B1072



L404T,V Oil Pressuretrol Controllers

Oil pressure sensing devices for use on oil burner systems using any type of fuel oil, including heavy pretreated oils.

- Clear plastic cover allows observation of the pressure settings and switch action.
- Siphon loop provides thermal buffer to diaphragm. ■ Adjustments are made by screws on top of case (under a protective cover). ■ Mount using 1/4 in. NPT female threads or surface mount through base of case. ■ Application: High oil pressure limit switch for heavy oil applications. ■ Mounting: 1/4 in. NPT internal thread or surface mount through back of case
- Pipe Connections, Main or High Pressure: 1/4 in. NPT internal thread ■ Electrical Connections: Screw terminals ■ Sensor Element: Stainless Steel diaphragm ■ Differential Type: Subtractive ■ Switch Operation: Auto recycle ■ Switch Contact Ratings: 120 Vac: 8.0 AFL, 48.0 ALR, 10.0 A resistive 240 Vac: 5.1 AFL, 30.6 ALR, 5.0 A resistive ■ Temperature Range: -35 F to +150 F ■ Includes: Siphon Loop

Operating Pressure Range, psi	Pressure Differential, psi	Switching Action	Order No.
5 to 50	6 to 14	SPST snap acting break on pressure rise	L404T1055
10 to 150	10 to 22	SPST snap acting break on pressure rise	L404T1063
10 to 150	10 to 22	Snap switch makes R-W on pressure rise	L404V1087
5 to 50	6 to 14	Snap switch makes R-W on pressure rise	L404V1095

Honeywell Heating & Cooling Controls



L404F Pressuretrol Controllers

Provides operating control, automatic or manual reset limit protection for pressure systems up to 300 psi.

- Use with steam, air, noncombustible gases, or other fluids non-corrosive to pressure sensing element. ■ L404F has snap-acting switching. ■ Adjustments are made by screws on top of case.
- Mounting: 1/4" NPT internal thread or surface mount through back of case ■ Pipe Connections, Main or High Pressure: 1/4 in. NPT internal thread ■ Electrical Connections: Screw terminals ■ Sensor Element: Stainless Steel diaphragm ■ Differential Type: Subtractive ■ Switch Operation: Auto recycle
- Switch Contact Ratings: 120 Vac: 8.0 AFL, 48.0 ALR, 10.0 A resistive 240 Vac: 5.1 AFL, 30.6 ALR, 5.0 A resistive ■ Temperature Range: -35 F to +150 F ■ Approvals: Canadian Standards Association: Certified: File No. LR1620, Guide No. 400-E-O. Underwriters Laboratories, Inc. Listed: File No. MP466, Guide No. MBPR



Siphon Loop

Operating Pressure Range, psi	Pressure Differential, psi	Switching Action	Includes	Order No.
2 to 15	2 to 6	SPDT: Make R-W, break R-B pressure rise	Siphon Loop	L404F1060
5 to 50	6 to 14	SPDT: Make R-W, break R-B pressure rise	Siphon Loop	L404F1078
20 to 300	20 to 50	SPDT: Make R-W, break R-B pressure rise	Siphon Loop	L404F1094
10 to 150	10 to 22	SPDT: Make R-W, break R-B pressure rise	—	L404F1102
2 to 15	2 to 6 psi	SPDT: Make R-W, break R-B pressure rise	Siphon Loop	L404F1219
5 to 50	6 to 14	Snap switch: Make R-W on pressure rise	Ground Screw	L404F1375
10 to 150	10 to 22	Snap switch: Make R-W on pressure rise	Ground Screw	L404F1383
20 to 300	20 to 50	Snap switch: Make R-W on pressure rise	Ground Screw	L404F1391
2 to 15	2 to 6	Snap switch: Make R-W on pressure rise	Ground Screw	L404F1409



L408, L608 Vaporstats for One-Pipe Steam

Provides boiler operating control and automatic high limit protection for low pressure steam vapor heating systems with pressures up to 4 psi.

- Stainless steel diaphragm for use with liquids, air, noncombustible gases, ammonia, oxygen, distilled water and similar media. ■ Provides dustproof, trouble-free mercury switching. ■ Clear plastic cover allows observation of the pressure settings, leveling indicator and switch action. ■ Includes 14026 Siphon Loop. ■ Integral plumb bob for accurate leveling at installation. ■ Mount using hexagonal fitting with 1/4 in. NPT internal threads for direct mounting to the 14026 Steam Trap (siphon loop), which is included. ■ Mounting: 1/4 in. NPT internal thread or surface mount through back of case ■ Pipe Connections, Main or High Pressure: 1/4 in. NPT internal thread ■ Electrical Connections: Screw terminals ■ Sensor Element: Stainless Steel diaphragm ■ Differential Type: Subtractive ■ Switch Operation: Auto recycle ■ Temperature Range: -35 F to +150 F ■ Includes: Siphon Loop

Great for One-Pipe Steam!

Operating Pressure Range, psi	Pressure Differential, psi	Switching Action	Order No.
0 to 16 ounces	2 to 16 ounces	SPST break on pressure rise	L408A1132
0 to 4 psi	2 to 16 ounces	SPST break on pressure rise	L408A1157
0 to 16 ounces	2 to 16 ounces	SPST break on pressure rise	L408B1131
0 to 4 psi	4 to 16 ounces	SPST break on pressure rise	L408B1149
0 to 16 ounces	4 to 16 ounces	SPDT break R-B, make R-W on pressure rise	L608A1046
0 to 4 psi	4 to 16 ounces	SPDT break R-B, make R-W on pressure rise	L608A1053

Honeywell Heating & Cooling Controls



PA404A Pressuretrol Controllers

The PA404 is a series 40 (2-wire, SPST) Pressuretrol controller for use in 24, 120, 240 or 277 volt control circuits or in self powered (millivoltage) applications.

- The PA404A is a pressure actuated high limit, safety control for steam heating boilers; it breaks an electrical circuit to shut down the burner if steam pressure rises above a safe level. ■ The PA404B is used with suspension-type unit heaters to make the fan circuit when a pressure rise indicates the presence of steam.
- Each model contains an SPST Micro-Switch snap-acting switch.
- Sensitive pressure-actuated diaphragm expands or contracts with pressure variations, moving a lever mechanism which operates the snap switch.
- A screw on top of the case allows set point adjustment without removing the cover. ■ Differential is adjusted by means of a dial located inside the case.
- Dimensions, Approximate: 4 15/32 in. high x 3 3/8 in. wide x 2 1/4 in. deep
- Differential Pressure Range: Subtractive: 1 to 5 psi
- Pressure Ratings (Set Point): Recommended minimum set point is differential setting plus 1 1/2 psi. ■ Pressure Surge (max.): 50 psi ■ Pressure Sensing Element: Stainless Steel diaphragm ■ Adjustable Scale Range: 0.5 psi to 9 psi ■ Materials (Case): Gray enamel finish ■ Pipe Connections: 1/4 in. female pipe threads ■ Operating Humidity Range (% RH): 95% RH, non-condensing ■ Maximum Ambient Temperature: 150 F

Adjustable Operating Pressure Range	Maximum Operating Pressure	Application	Switching Action and Switch	Order No.
3 to 15 psi	20 psi	Safety control for steam heating boiler	SPST snap action switch	PA404A1025
0.5 to 9.0 psi	20 psi		Breaks at set point pressure fall; SPST makes at set point plus differential on pressure rise.	PA404A1033
0.5 to 9.0 psi	20 psi	Used with suspension type unit heaters		PA404B1023



L4079 Pressuretrol Limit Controllers

High pressure limit switches. Provide limit control of steam, air, non-combustible gases or non-corrosive fluids.

- Stainless steel diaphragm for use with steam, air, noncombustible gases and fluids non-corrosive to stainless steel.
- L4079W is for Oil Applications.
- Micro Switch snap-acting switches open automatically on pressure rise; must be manually reset. ■ Includes 14026 Siphon Loop.
- Mount using 1/4 in. NPT female fitting on diaphragm assembly or surface mount through back of case
- Pipe Connections, Main or High Pressure: 1/4 in. NPT internal thread
- Electrical Connections: Screw terminals
- Sensor Element: Stainless Steel diaphragm
- Switch Operation: Manual Reset
- Switch Contact Ratings, 120 Vac: 9.8 AFL, 58.8 ALR; 240 Vac: 4.9 AFL, 29.4 ALR
- Maximum Ambient Temperature: 150 F (66 C)

Operating Pressure Range, psi	Maximum Operating Pressure, psi	Switching Action and Switch	Order No.
2 to 15	25	SPST (2) break simultaneously on pressure rise	L4079A1035
10 to 150	225	SPST (2) break simultaneously on pressure rise	L4079A1050
2 to 15	25	SPST break on pressure rise	L4079B1033
10 to 150	225	SPST break on pressure rise	L4079B1041
5 to 50	85	SPST break on pressure rise	L4079B1058
20 to 300	350	SPST break on pressure rise	L4079B1066
10 to 150	85	SPST break on pressure rise — Oil Applications	L4079W1000

Honeywell Heating & Cooling Controls



1/2" and 3/4" sweat valves



1/2" and 3/4" threaded valves



1" to 1-1/2" threaded valves

V5852 and V5862 Two-Way Cartridge Globe Valves

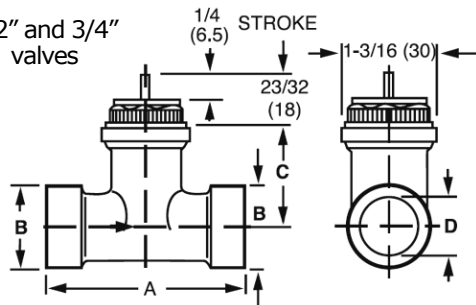
Two-way Cartridge Globe Valves control hot and/or chilled water for VAV terminal units, fan coil units, small reheaters and recoolers in electric/electronic temperature control systems. Used with the M6410 3-position floating Non-Spring Return Valve Actuator and the M7410 selectable 0 to 10 Vdc or 2 to 10 Vdc Non-Spring Return Actuator.

- The 1/2 in. and 3/4 in. valves are compatible with the M6435 floating Spring Return Actuator, the M7435 selectable 0 to 10 Vdc or 2 to 10 Vdc Spring Return Actuator, and the MP958 Pneumatic Actuator. ■ Larger valves (1 in. through 1-1/2 in.) are pressure balanced, which results in higher close-off pressures. ■ Long stroke allows wider range of control.
- Soft valve seat provides low leakage rate. ■ Inserts for 1/2 in. and 3/4 in. valves are changeable without draining valve when used with an insert replacement tool. ■ Brass body and Stainless Steel stem. ■ Threaded plastic cover/manual handle allows manual operation.
- Easily installed in areas where space is limited.
- V5852 copper sweat connections; V5866, pipe thread connections.

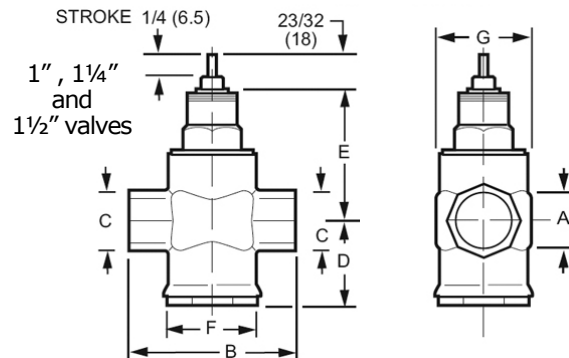
■ Body Pattern: Two-way; ■ Controlled Medium: Water w/max of 50% Glycol; ■ Leakage rate (%): less than 0.02% of Cv; ■ Maximum Operating Pressure: 235 psi; ■ Temperature Range: 36 F to 230 F; ■ Stem Travel: 1/4"; ■ Materials (Body): Brass; ■ (Stem): Stainless Steel; ■ (Seat): Brass ■ Cartridge): Brass; ■ (Plug/Ball/Disc): Brass

Dimensions

1/2" and 3/4" valves

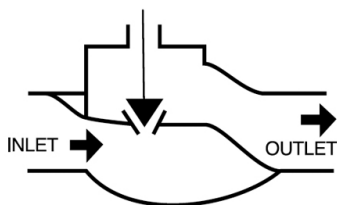


Valve Size	A	B	C	D Threaded	D Sweated
1/2"	3	3/4	1-5/16	1/2	5/8
3/4"	3-1/2	1	1-1/4	3/4	7/8

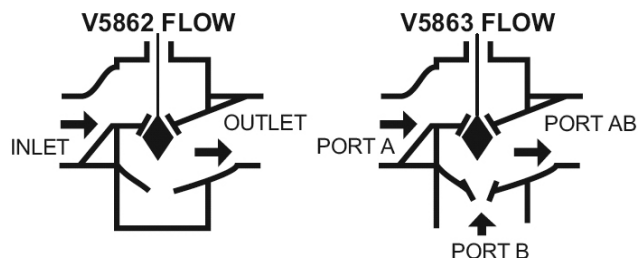


Valve Size "A"	B	C	D	E	F	G
1"	4-1/8	1-5/8	2-1/16	3-5/8	2	1-3/4
1-1/4"	4-15/16	2	2-7/16	3-5/8	2-3/16	2-1/4
1-1/2"	5-1/8	2-3/16	2-9/16	3-7/8	2-3/8	2-5/8

Equal percentage flow for 1/2" and 3/4" valves



Linear flow for 1", 1 1/4" and 1 1/2" valves

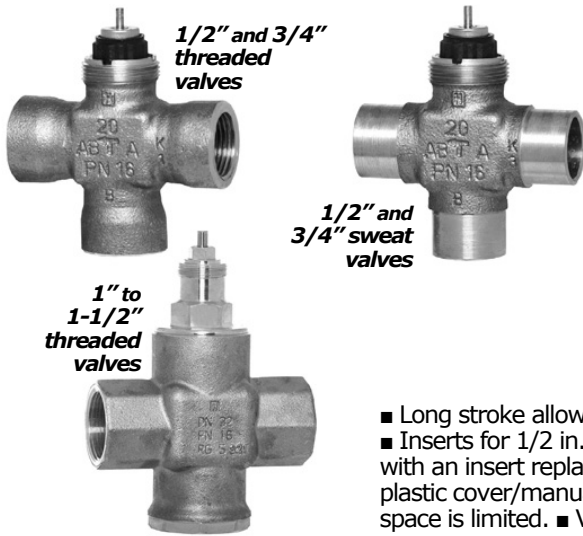


Honeywell Heating & Cooling Controls

V5852 and V5862 Two-Way Cartridge Globe Valves

Pipe Size	Valve Action	Flow	Flow Capacity	Max. Close-Off Pressure	Used with . . .	Order No.
1/2" sweat female	Stem down to close	Equal Percentage	0.19 Cv	232	M6410A,1029; M7410F1000; M6435A1004; M7435F1001; MP958	V5852A2007
1/2" sweat female	Stem down to close	Equal Percentage	0.29	232	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958	V5852A2015
1/2" sweat female	Stem down to close	Equal Percentage	0.47	232	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958	V5852A2023
1/2" sweat female	Stem down to close	Equal Percentage	0.74	232	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958	V5852A2031
1/2" sweat female	Stem down to close	Equal Percentage	1.2	174	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958	V5852A2049
1/2" sweat female	Stem down to close	Equal Percentage	1.9	174	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958	V5852A2056
3/4" sweat female	Stem down to close	Equal Percentage	2.9	58	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958	V5852A2064
3/4" sweat female	Stem down to close	Equal Percentage	4.9	58	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958	V5852A2072
1/2" threaded female	Stem down to close	Equal Percentage	0.19	232	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958	V5862A2005
1/2" threaded female	Stem down to close	Equal Percentage	0.29	232	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958	V5862A2013
1/2" threaded female	Stem down to close	Equal Percentage	0.47	232	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958	V5862A2021
1/2" threaded female	Stem down to close	Equal Percentage	0.74	232	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958	V5862A2039
1/2" threaded female	Stem down to close	Equal Percentage	1.2	174	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958	V5862A2047
1/2" threaded female	Stem down to close	Equal Percentage	1.9	174	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958	V5862A2054
3/4" threaded female	Stem down to close	Equal Percentage	2.9	58	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958	V5862A2062
3/4" threaded female	Stem down to close	Equal Percentage	4.9	58	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958	V5862A2070
1" threaded female	Stem up to close	Linear	5.5	232	M6410A3017; M7410F3006; M6435A3000; M7435F3007	V5862A3003
1" threaded female	Stem up to close	Linear	7.8	232	M6410A3017; M7410F3006; M6435A3000; M7435F3007	V5862A3011
1" threaded female	Stem up to close	Linear	11	232	M6410A3017; M7410F3006; M6435A3000; M7435F3007	V5862A3029
1 1/4" threaded female	Stem up to close	Linear	18	274	M6410A3017; M7410F3006; M6435A3000; M7435F3007	V5862A3037
1 1/2" threaded female	Stem up to close	Linear	25	145	M6410A3017; M7410F3006; M6435A3000; M7435F3007	V5862A3045

Honeywell Heating & Cooling Controls



V5853 and V5863 Three-Way Cartridge Globe Valves

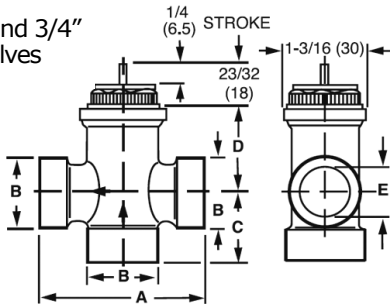
Three-way Cartridge Globe Valves control hot and/or chilled water for VAV terminal units, fan coil units, small re-heaters and re-coolers in electric/electronic temperature control systems. Used with the M6410 3-position floating Non-Spring Return Valve Actuator and the M7410 selectable 0 to 10 Vdc or 2 to 10 Vdc Non-Spring Return Actuator. The 1/2" and 3/4" valves are also compatible with the M6435 floating Spring Return Actuator, the M7435 selectable 0 to 10 Vdc or 2 to 10 Vdc Spring Return Actuator, and the MP958 Pneumatic Actuator.

- Long stroke allows wider range of control.
- Soft valve seat provides low leakage rate.
- Inserts for 1/2 in. and 3/4 in. valves are changeable without draining valve when used with an insert replacement tool.
- Brass body and stainless steel stem.
- Threaded plastic cover/manual handle allows manual operation.
- Easily installed in areas where space is limited.
- V5853, copper sweat connections; V5863, pipe thread connections.

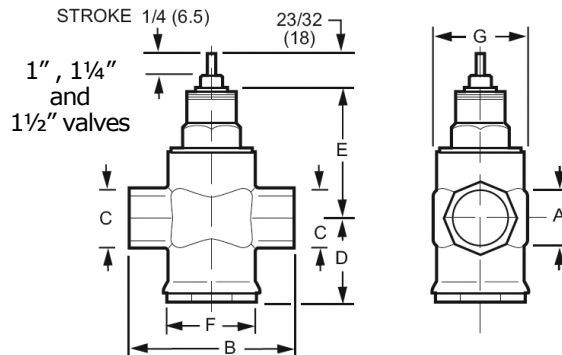
- Body Pattern: Three-way
- Controlled Medium: Water w/max of 50% Glycol Leakage rate (%): less than 0.02% of Cv
- Maximum Operating Pressure: 235 psi (1620 kPa)
- Temperature Range: 36 F to 230 F
- Stem Travel: 1/4 in.
- Materials (Body): Brass; (Stem): Stainless Steel; (Seat): Brass; (Cartridge): Brass; (Plug/Ball/Disc): Brass

Dimensions

1/2" and 3/4" valves

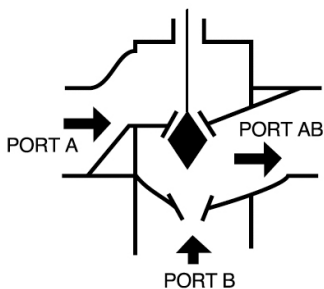


Valve Size	A	B	C	D Threaded	D Sweat
1/2"	3	3/4	1-5/16	1/2	5/8
3/4"	3-1/2	1	1-1/4	3/4	7/8

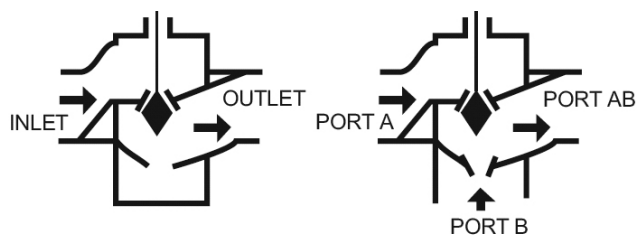


Valve Size	B	C	D	E	F	G
1"	4-1/8	1-5/8	2-1/16	3-5/8	2	1-3/4
1-1/4"	4-15/16	2	2-7/16	3-5/8	2-3/16	2-1/4
1-1/2"	5-1/8	2-3/16	2-9/16	3-7/8	2-3/8	2-5/8

Equal percentage flow for 1/2" and 3/4" valves



Linear flow for 1", 1 1/4" and 1 1/2" valves



Honeywell Heating & Cooling Controls

V5853 and V5863 Three-Way Cartridge Globe Valves

Pipe Size	Valve Action	Flow	Flow Capacity	Max. Close-Off Pressure	Used With	Order No.
3/4" sweat female	Stem up to close	Equal Percentage	2.9	34	M6410A1029; M7410F1000; M6435A1004; M7435F1001	V5853A1008
3/4" sweat female	Stem up to close	Equal Percentage	4.9	34	M6410A1029; M6435A1004; M7410F1000; M7435F1001	V5853A1016
1/2" sweat female	Stem up to close	Equal Percentage	0.29	116	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958	V5853A2006
1/2" sweat female	Stem up to close	Equal Percentage	0.47	116	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958	V5853A2014
1/2" sweat female	Stem up to close	Equal Percentage	0.74	36	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958	V5853A2022
1/2" sweat female	Stem up to close	Equal Percentage	1.2	36	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958	V5853A2030
1/2" sweat female	Stem up to close	Equal Percentage	1.9	34	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958	V5853A2048
3/4" sweat female	Stem up to close	Equal Percentage	2.9	7.25	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958	V5853A2055
3/4" sweat female	Stem up to close	Equal Percentage	4.9	7.25	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958	V5853A2063
3/4" threaded female	Stem up to close	Equal Percentage	2.9	34	M6410A1029; M6435A1004; M7410F1000; M7435F1001	V5863A1006
3/4" threaded female	Stem up to close	Equal Percentage	4.9	34	M6410A1029; M7410F1000; M6435A1004; M7435F1001	V5863A1014
1/2" threaded female	Stem up to close	Equal Percentage	0.29	116	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958	V5863A2004
1/2" threaded female	Stem up to close	Equal Percentage	0.47	116	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958	V5863A2012
1/2" threaded female	Stem up to close	Equal Percentage	0.74	36	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958	V5863A2020
1/2" threaded female	Stem up to close	Equal Percentage	1.2	36	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958	V5863A2038
1/2" threaded female	Stem up to close	Equal Percentage	1.9	34	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958	V5863A2046
3/4" threaded female	Stem up to close	Equal Percentage	2.9	7.25	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958	V5863A2053
3/4" threaded female	Stem up to close	Equal Percentage	4.9	7.25	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958	V5863A2061
1" threaded female	Stem up to close port A to AB	Linear	5.5	232	M6410A3017; M7410F3006; M6435A3000; M7435F3007	V5863A3002 DISCONTINUED
1" threaded female	Stem up to close port A to AB	Linear	7.8	232	M6410A3017; M7410F3006; M6435A3000; M7435F3007	V5863A3010
1" threaded female	Stem up to close port A to AB	Linear	11	232	M6410A3017; M7410F3006; M6435A3000; M7435F3007	V5863A3028
1 1/4" threaded female	Stem up to close port A to AB	Linear	18	174	M6410A3017; M7410F3006; M6435A3000; M7435F3007	V5863A3036
1 1/2" threaded female	Stem up to close port A to AB	Linear	25	145	M6410A3017; M7410F3006; M6435A3000; M7435F3007	V5863A3044

Honeywell Heating & Cooling Controls



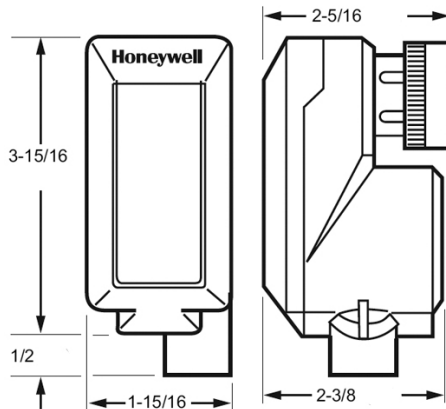
M6410/M7410 Cartridge Globe Valve Actuator

Cartridge Globe Valve Actuators are small Individual Room Control (IRC) electric actuators providing floating or modulating control of V5852, V5862 two-way or V5853, V5863 three-way valves.

- Suitable for Excel/IRC system or other controllers providing specified signals. ■ Magnetic coupling for torque limitation independent of voltage supply and self-adjustment of the close-off port. ■ No mounting tools required. ■ Small size allows installation in limited space of fan coil units, induction units, and small re-heaters or re-coolers. ■ Visual position indication (red pin). ■ Fail Safe Mode: Stays in place
- Feedback Signal: No ■ Electrical Connections: Plenum-rated cable
- Electrical Protection: Class I Insulation (24Vac)
- Voltage: 24 Vac, +10/-30% ■ Frequency: 50 Hz; 60 Hz
- Mounting: Threads onto V58XX valve bonnet ■ Manual operation: None ■ Stroke: 1/4 in. (6 mm) ■ Switches: No
- Ingress Protection Rating: IP42 ■ Medium Temperature: 266 F Maximum
- Operating Temperature Range: 32 F to 122 F; Storage Temperature Range: -40 F to +158 F; Operating Humidity Range (% RH): 5 to 95% RH
- Materials (Housing): Low Maintenance Plastic Housing ■ Weight: 0.325 lb

Change your pneumatic valve to electric operation!

Order the **14004932-001** Pneumatic Valve Adapter (M6410/M7410 linkage and a green main spring) to allow retrofit to an electric actuator.



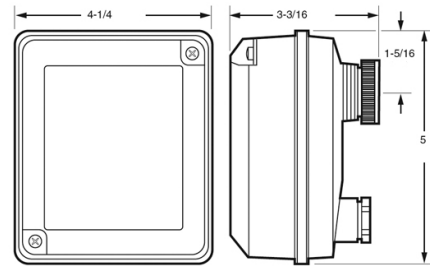
M6435/M7435 Cartridge Globe Valve Actuator

Cartridge Globe Valve Spring Return Actuators are small Individual Room Control (IRC) electric actuators providing floating or modulating control of V5852, V5862 two-way or V5853, V5863 three-way valves.

- Stem actuator retracts up on power failure. Fail safe mode depends on valve seat rest position. ■ Suitable for Excel/IRC system or other controllers providing specified signals.
- Magnetic coupling for torque limitation independent of voltage supply and self-adjustment of the close-off port. ■ No mounting tools required.
- Small size allows installation in limited space of fan coil units, induction units, and small re-heaters or re-coolers. ■ Visual position indication (red disk).
- Fail Safe Mode: Spring Return, operator retracts up ■ Feedback Signal: No
- Electrical Connections: Screw terminals ■ Electrical Protection: Class I Insulation (24Vac) ■ Voltage: 24 Vac, +20/-15% ■ Frequency: 50 Hz; 60 Hz ■ Mounting: Threads onto V58XX valve bonnet ■ Manual operation: None ■ Stroke: 1/4 in. (6 mm)
- Switches: No ■ Ingress Protection Rating: IP54 ■ Medium Temperature: 266 F Maximum ■ Operating Temperature Range: 32 F to 122 F; Storage ■ Temperature Range: -40 F to +158 F ■ Operating Humidity Range (% RH): 5 to 95% RH
- Materials (Housing): Low Maintenance Plastic Housing Weight: 1.1 lb (0.5 kg)

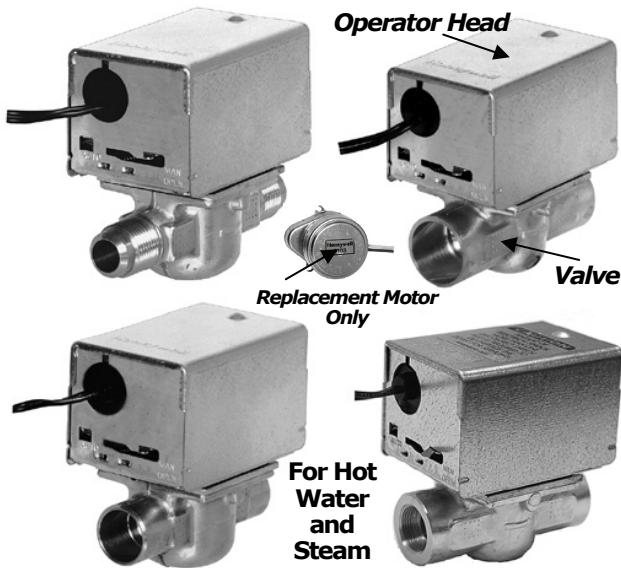
Change your pneumatic valve to electric operation!

Order the **14004932-001** Pneumatic Valve Adapter.



Control Signal	Input Impedance	Rated Force (lbs./in.)	Drive Timing 60Hz, sec.	Drive Power Consumption	Comments	Used with	Order No.
Floating, SPDT	—	40.5	125 seconds	0.7 VA	—	1/2" and 3/4" V58XX Cartridge Globe Valves	M6410A1029
Floating, SPDT	—	67.5		0.7 VA	—	1" and 1-1/2" V58XX Cartridge Globe Valves	M6410A3017
0-10 or 2-10 Vdc Modulating	100K ohm	40.5		1.4 VA	Direct/Reverse Acting Switch	1/2" and 3/4" V58XX Cartridge Globe Valves	M7410F1000
0-10 or 2-10 Vdc Modulating		67.5		1.4 VA	1" and 1-1/2" V58XX Cartridge Globe Valves	M7410F3006	
Floating, SPDT		40.5	50 seconds	10 VA		1/2" and 3/4" V58XX Cartridge Globe Valves	M6435A1004
Floating, SPDT		90		10 VA		1" and 1-1/2" V58XX Cartridge Globe Valves	M6435A3000
0-10 or 2-10 Vdc Modulating	100K ohm	40.5		5 VA	Direct/Reverse Acting Switch	1/2" and 3/4" V58XX Cartridge Globe Valves	M7435F1001
0-10 or 2-10 Vdc Modulating		90		5 VA	1" and 1-1/2" V58XX Cartridge Globe Valves	M7435F3007	

Honeywell Heating & Cooling Controls



V4043 Line Voltage Zone Valves

ON-OFF and diverting line voltage valves consist of an actuator motor and valve assembly for controlling the flow of hot or chilled water. V4043E models for Steam.

- Manual opener (on all models, except straight-through, normally open valves) for valve operation on power failure; valve returns to automatic position when power is restored.
- All models may be installed without disassembling the valve.
- Compact construction for easy installation.
- Complete powerhead may be removed or replaced without breaking plumbing line connections or draining the system.
- Motor may be replaced without removing the valve body or draining the system.
- Suitable for heating and cooling applications.
- Application: Hydronic Control, 2 position
- Valve Action: Spring return to close
- Body Pattern: Two-way, Straight-through
- Power Consumption: 9.6 VA ■ Frequency: 60 Hz
- Electrical Connections: 18 in. leads (457 mm leads)
- Static Pressure: 125 psi (862 kPa)
- V4043E models: Maximum steam pressure, 20 psi
- Fluid Temperature Range: 40 F to 200 F (5 C to 93 C)
- Maximum Ambient Temperature: 125 F (52 C)
- Materials, (Body): Brass; (Stem): Stainless Steel; (Seat): Brass; (Packing O-Ring): EPDM rubber; (Ball Plug): Buna-N (NBR) Rubber Ball.

Comments: Valves designed for cycling (not constantly powered on) applications. The Hot water valves are designed for closed-loop systems. Steam valves up to 20 psi steam.

Zone Valves for Hot Water

Pipe Size	Type	Cv Capacity	Max. Close-Off Pressure	De-energized Position	Voltage	Order No.
1/2	Flare	3.5	20	Normally Closed	120	V4043A1002
1/2	Sweat	3.5	20		120	V4043A1010
1/2	Flare	3.5	20		208	V4043A1028
1/2	Flare	3.5	20		240	V4043A1044
1/2	Sweat	3.5	20		240	V4043A1051
1/2	Sweat	1	50		120	V4043A1184
3/4	Sweat	8	8		120	V4043A1259
1	Sweat	8	8		120	V4043A1317
1/2	NPT	3.5	20		120	V4043A1689
1	NPT	10	6.5		120	V4043A1697
3/4	NPT	3.5	20		120	V4043A1705
1/2	Flare	3.5	20		120	V4043B1000
1/2	Sweat	3.5	20		120	V4043B1018
1/2	Sweat	3.5	20		240	V4043B1059

Zone Valves for Steam

1/2	Sweat	3.5	20	Normally Closed	120	V4043E1003
1/2	Sweat	3.5	20		208	V4043E1011
1/2	Sweat	3.5	20		240	V4043E1029

Replacement Operator Heads and Motors for Operator Heads

Replacement Head Application	Electrical Connection Location	Voltage and Frequency	Max. Ambient Temp., F.	Used with Valve Action	Used with Valve Style	Order No
for V4043A, 240V	Same side as manual lever	240 VAC, 50 Hz	125	Spring return to close	2-way	40003916-023
for V4043A, 120V		120 VAC, 60 Hz				40003916-024



Replacement Motors for Powerheads

Description	Voltage, Hz	Used with	Order No.
Replacement motor	120V, 60Hz	V4043 Line Voltage Electric Zone Valves	802360LA
	208V, 60Hz		802360MA
	220V, 50Hz		802360NA
	240V, 60 Hz		

Honeywell Heating & Cooling Controls

V8043 Low Voltage Normally Closed Zone Valves



ON-OFF and two-way low voltage (24 volts) valves consist of an actuator and valve assembly for controlling the flow of hot water and some models for steam.

- Manual opener (on all models, except straight-through, normally open valves) for valve operation on power failure; valve returns to automatic position when power is restored.
- All models may be installed without disassembling the valve.
- Compact construction for easy installation.
- Complete powerhead may be removed or replaced without breaking plumbing line connections or draining the system.
- Actuator motor may be replaced without removing the valve body or draining the system.
- Chilled water models available for cooling and heating applications.
- Application: Hydronic Control ■ Type: 2 position
- Body Pattern: Two-way, Straight-through ■ Valve Action: Spring Return ■ Voltage: 24V; Frequency: 50 Hz; 60 Hz; Power Consumption: 7.7 VA ■ Nominal Timing (sec, min): 15 sec ■ De-energized Position: Normally Closed ■ Static Pressure: 125 psi ■ Fluid Temperature Range: 50 F to 200 F ■ Maximum Ambient Temperature: 125 F ■ Materials, (Body): Brass; (Stem): Stainless Steel; (Seat): Brass; (Packing O-Ring): EPDM rubber; (Ball Plug): Buna-N (NBR) Rubber Ball.

Comments: Use this valve in closed loop hydronic systems that do not contain dissolved oxygen in system water, such as fresh water from frequent source of makeup water. Valve designed for cycling (not constantly powered on) applications.

Replacement Parts: — 802360JA 24V, 50/60 Hz Replacement motor for V8043, V8044 Zone Valves;
— 802360UA 24V, 50/60 Hz Replacement motor for Fan Coil and steam Zone Valves.

Zone valves for Hot Water

Pipe Size	Type	Cv Capacity	Max. Close-Off Pressure	End Switch	Electrical Connections	Order No.		
1/2	Flare	3.5	20	—	18 inch Leads	V8043A1003		
1/2	Sweat			—		V8043A1011		
3/4	Sweat			—		V8043A1029		
1	Sweat			—		V8043A1037		
1/2	Inverted Flare			—		V8043A1193		
1/2	Threaded			—		V8043A1227		
1/2	Sweat			8		8	SPST	V8043E1004
3/4	Sweat	V8043E1012						
1	Sweat	V8043E1020						
3/4	Sweat	V8043E1061						
1	Sweat	V8043E1079						
1/2	Inverted Flare	V8043E1129						
1	Threaded	10	6.5					V8043E1137
3/4	Threaded	3.5	20					V8043E1145
1/2	Sweat	3.5	20		V8043F1028			
3/4	Sweat	3.5	20		V8043F1036			
1	Sweat	3.5	20	V8043F1051				
3/4	Sweat	8	8	V8043F1093				
1	Sweat	8	8	V8043F1101				
					Terminal Block			

Zone valves for Steam

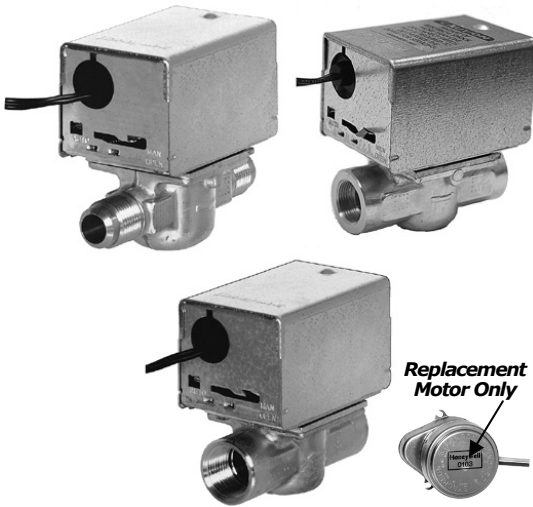
1/2	Sweat	3.5 Cv	20 psi	SPST	Note: No manual opener	V8043J1003
1/2	Threaded					V8043J1029
3/4	Threaded					V8043J1037



Replacement Motors for Powerheads

Description	Voltage, Hz	Used with	Order No.
Motor only	24V, 50/60 Hz	V8043A to F hot water valves V8043J steam valves	802360JA 802360UA

Honeywell Heating & Cooling Controls



V8043 Low Voltage Normally Open Zone Valves

ON-OFF and two-way low voltage valves consist of an actuator and valve assembly for controlling the flow of hot water and some models for steam.

- Manual opener (on all models, except straight-through, normally open valves) for valve operation on power failure; valve returns to automatic position when power is restored.
- All models may be installed without disassembling the valve.
- Compact construction for easy installation.
- Complete powerhead may be removed or replaced without breaking plumbing line connections or draining the system.
- Actuator motor may be replaced without removing the valve body or draining the system.
- Body Pattern: Two-way, Straight-through valve, normally open with Spring Return
- Power Consumption: 7.7 VA
- Electrical Connections: 18 in. leads
- Static Pressure: 125 psi
- Fluid Temperature Range: 40 F to 200 F
- Maximum Ambient Temperature: 125 F
- Materials (Body): Stainless Steel; (Seat): Brass; (Packing O-Ring): EPDM rubber; (Ball Plug): Buna-N (NBR) Rubber Ball.

Replacement Parts: ■ 802360JA 24V, 50/60 Hz Replacement motor for V8043, V8044 Zone Valves; ■ 802360UA 24V, 50/60 Hz Replacement motor for Fan Coil and steam zone valves.

Comments: Use this valve in closed loop hydronic systems that do not contain dissolved oxygen in system water, such as fresh water from frequent source of makeup water. Valve designed for cycling (not constantly powered on) applications.

Pipe Size	Connection	Capacity, Cv	Voltage	Maximum Close-Off Pressure	Manual Opener	Complete Valve Order No.	Replacement Motor Only for Operator Head
1/2	Sweat	3.5 Cv	24V, 60 Hz	20 psi	No	V8043J1019	802360JA 24V, 50/60 Hz
3/4	Sweat		24V, 60 Hz			V8043J1027	
3/4	Threaded		24V, 50/60 Hz			V8043J1076	

V8044 Low Voltage Diverting Zone Valves

ON-OFF and diverting low voltage valves consist of an actuator and valve assembly for controlling the flow of hot water.

- Manual opener (on all models, except straight-through, normally open valves) for valve operation on power failure; valve returns to automatic position when power is restored.
- All models may be installed without disassembling the valve.
- Compact construction for easy installation.
- Complete powerhead may be removed or replaced without breaking plumbing line connections or draining the system.
- Actuator motor may be replaced without removing the valve body or draining the system.
- Chilled water models available for cooling and heating applications. Type: 2 position, 3-way diverting valve with Spring Return
- Voltage: 24V, 50 Hz; 60 Hz
- Power Consumption: 7.7 VA
- Nominal Timing (sec, min): 30 sec
- De-energized Position: Port A Normally Closed
- Electrical Connections: 18 in. leads
- Static Pressure: 125 psi
- Fluid Temperature Range: 40 F to 200 F
- Maximum Ambient Temperature: 125 F
- Materials (Body): Brass; (Stem): Stainless Steel; (Seat): Brass (Packing O-Ring): EPDM rubber; (Ball Plug): Buna-N (NBR) Rubber Ball.



Pipe Size	Type	Cv Capacity	Max. Close-Off Pressure	End Switch	Includes	Order No.	Replacement Motor Only for Operator Head
1/2	Flare	4 Cv	20 psi	—	—	V8044A1002	For Hot Water 802360JA 24V, 50/60 Hz
1/2	Sweat	4 Cv	20 psi	—	—	V8044A1010	
3/4	Sweat	7 Cv	20 psi	—	—	V8044A1044	
1/2	Sweat	4 Cv	20 psi	—	Restricted 2.5 Cv bypass port	V8044A1051	
1/2	Threaded	4 Cv	20 psi	—	—	V8044A1135	
3/4	Threaded	4 Cv	20 psi	—	—	V8044A1143	
1/2	Sweat	4 Cv	20 psi	—	Integral SPDT changeover Aquastat controller	V8044B1018	For Steam 802360UA 24V, 50/60 Hz
1/2	Sweat	4 Cv	20 psi	SPST	—	V8044E1003	
3/4	Sweat	7 Cv	10 psi	SPST	—	V8044E1011	

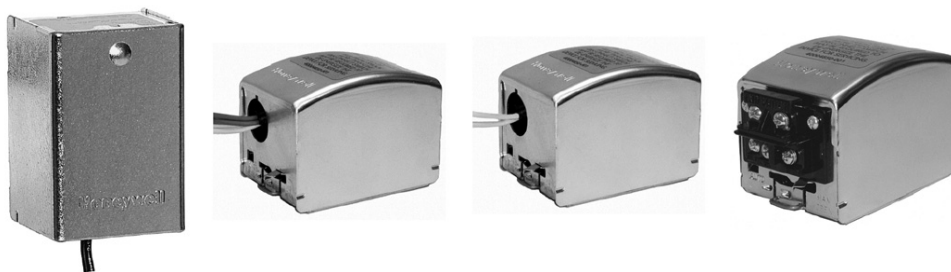
Honeywell Heating & Cooling Controls

Fittings & Replacement Motors for Electric Zone Valve Operator Heads



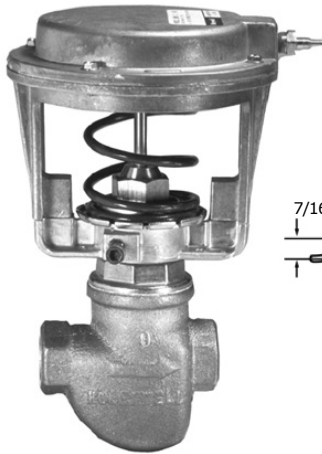
Fittings and Powerhead Replacement Motor Description	Used with Valve	Includes	Order No.
1/2 in. inverted flare to 1/2 in. sweat adapter (fitting)	—	—	272708A
1/2 in. inverted flare to 3/4 in. sweat adapter (fitting)	—	—	272708B
24V, 50/60 Hz motor for V8043, V8044 Zone Valves	V8043, V8044	Motor mounting screw and lead connectors	802360JA
120V, 60 Hz motor for V4043, V4044 Zone Valves	V4043, V4044		802360LA
208V, 60 Hz motor for V4043, V4044 Zone Valves	V4043, V4044		802360MA
220V/50 Hz; 240V/60 Hz motor for V4043, V4044 Zone Valves	V4043, V4044		802360NA
277V, 50/60 Hz for V4043, V4044 Zone Valves	V4043, V4044		802360QA
Motor for Fan Coil, steam, and Zone Valves	V8034; V8044		802360UA
Conduit cover for line voltage use of end switch on V8043F	V8043F		—

Replacement Operator Heads for Electric Zone Valves



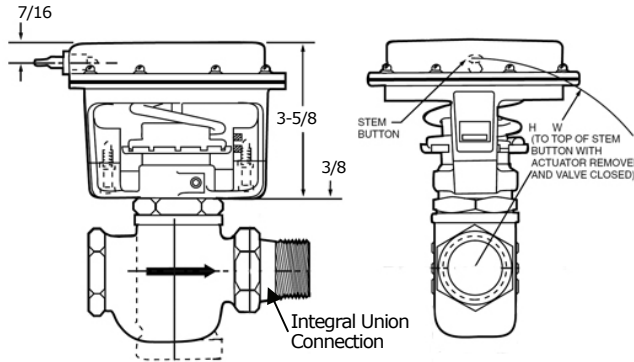
Powerhead description <i>For Hot water 2-way and diverting, and steam valves</i>	Electrical Connection Location	Maximum Ambient Temp. (F)	Valve Action	Order No.		
24V, 50/60Hz normally closed for V8043A (2-way)	Same side as Manual Lever	125	Spring return to close (normally closed)	40003916-021		
240V, 50Hz normally closed for V4043A (2-way)				40003916-023		
120V, 60Hz normally closed for V4043A (2-way)				40003916-024		
24V, 50/60Hz with End Switch for V8044E (diverting valve)			On opposite side of Manual Lever	125	Spring return to close port "A"	40003916-025
24V, 50/60Hz normally closed with End Switch for V8044E (2-way)						40003916-026
24V, 50/60Hz normally <u>open</u> for V8043B (2-way)					Spring return to open (normally open)	40003916-027
240V, 50/60Hz normally <u>open</u> for V8043B (2-way)						40003916-030
120V, 60Hz normally open for V4043B (2-way)						40003916-031
24V, 50/60Hz for V8044A (diverting valve)					Same side as Manual Lever	125
220/240V, 50/60Hz (diverting valve)	40003916-035					
120V, 60Hz for V4044 (diverting valve)	40003916-036					
24V, 50/60Hz for V8044B with Aquastat Switch (diverting valve)	40003916-037					
120V, 60Hz for V8044B with Aquastat Switch (diverting valve)	Same side as Manual Lever	125	Spring return, close	40003916-040		
120V, 60Hz for V4043E (steam valve)				40003916-041		
24V, 50/60Hz with end switch for V8044E (diverting valve)			Spring return to close port "A"	40003916-043		
24V, 50/60Hz for V8044B with Aquastat (diverting valve)				40003916-044		
120V, 60Hz for V4044B with Aquastat (diverting valve)				40003916-045		
24V, 50/60Hz for V8044A (diverting valve)				40003916-046		
120V, 60Hz for V4044A with 96" leads (diverting valve)				40003916-047		
24V, 50/60Hz for V8043F with end switch (2-way)				Spring return to open (normally open)	40003916-048	
24V, 50/60Hz for V8043A, 5000 series (2-way)					40003916-521	
24V, 50/60Hz for V8043A with end switch, 5000 series (2-way)					40003916-526	
24V, 50/60Hz for V8043E with end switch, 5000 series (2-way)		40003916-548				

Honeywell Heating & Cooling Controls



Model VP512 Unit Vent Pneumatic Control Valve

A normally open, single seated, straight-through or angle globe valve used for proportional control of steam or hot water in unit ventilator applications. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.



- Equal percentage, high lift throttling guide provides accurate control over wide load variations.
- Molded replaceable composition disc for tight shut-off.
- Replaceable brass seat.
- Self-adjusting, spring-loaded Teflon packing.
- Back-seating allows repacking without shutting down or draining system.
- Rotatable actuator for aligning air connection with control air piping.
- Integral union connection.

- Valve Type: Globe ■ Body Pattern: 2-way, Straight-through ■ Dimensions, Approximate: 5 1/8 in. diameter x 7 15/32 high
- Body Pressure: 150 psi ■ Air Connections: Dual barbed for 5/32 in. or 1/4 in. plastic tubing ■ Valve Action: 2 Position
- Controlled Medium: Steam, Water ■ Humidity Ratings: 5 to 95% RH ■ Temperature Range: For Steam: 212 F to 337 F
- Temperature range for Water: 40 F to 240 F ■ Maximum Temperature Differential: For Water: 140 F ■ Max. Diap. Press: 25 psi

Accessories: ■ 312817AA Actuator Assembly, 3 to 8 psi; ■ 14003294-002 Valve Repack Kit, Steam or water application

Replacement Parts: ■ 14002863-001 Valve Rebuild Kit for 3/4 to 1 1/4 in valves with CV of 6.3 or 10

Pipe Size	Type of End Connection	Capacity Cv	Close-off ratings at Main Pressure	Spring Range, psi	Order No.
1"	Straight body, Union x Female Pipe	10	70 psi @ 13 psi	3 to 8 psi	VP512A1726
1"	Angle body, Union x Female Pipe				VP512A1742
1 1/4", 1" port	Straight body, Union x Female Pipe		35 psi @ 13 psi		VP512A1767
1 1/4", 1" port	Angle body, Union x Female Pipe				VP512A1783



VP513 Pneumatic Water Valve

Single-seated, straight-through, pneumatic valves used for proportional control of unit air conditioners using hot and/or chilled water. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Normally-open (A models) or normally-closed models (B models).
- Straight-through pattern. ■ Small physical size.
- Rotating actuator for aligning air connection with control air piping.
- Molded replaceable composition disc for tight shut-off.
- Flare tube connections.
- Body Pressure: 250 psi ■ Air Connections: 1/8" NPT
- Valve Action: Proportional Normally Open
- Controlled Medium: Water ■ Humidity Ratings: 5 to 95% RH
- Temperature Range: 35 F to 250 F
- Maximum Actuator Temperature: 160 F

Flare Pipe Size	Capacity Cv	Close-off ratings at Main Pressure	Spring Range, psi	Order No.
7/8	2.5	79 psi @ 13 psi	3 to 10 psi	VP513A1048
7/8	4	79 psi @ 13 psi	3 to 10 psi	VP513A1055
5/8	2.5	79 psi @ 13 psi	3 to 10 psi	VP513A1188
5/8	2.5	79 psi @ 13 psi	3 to 10 psi	VP513A1204
5/8	1.0	50 psi @ 7 psi	9 to 13 psi	VP513A1012
5/8	1.6	50 psi @ 7 psi	9 to 13 psi	VP513A1038
5/8	2.5	50 psi @ 7 psi	9 to 13 psi	VP513A1053

- Maximum Diaphragm Pressure: 30 psi
- Valve Type: Unitary
- Body Pattern: 2-way, Straight-through
- Dimensions, Approximate: 5 3/4" high x 5 1/8" diameter

Accessories:

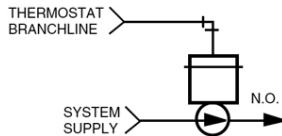
- 312817T Actuator assembly, 3 to 10 psi,
- 312817U Actuator Assembly, 3 to 7 psi,
- 312817V Actuator Assembly, 8 to 12 psi,

Replacement Parts:

- 310135 Packing Spring, 2 Required
- 310143 Packing, 3 Required
- 312760 Neoprene Diaphragm - New Style
- 14002734-002 Lubricant, packing, AMOCO H-100

Honeywell Heating & Cooling Controls

Model VP525C Pneumatic Radiator Valve

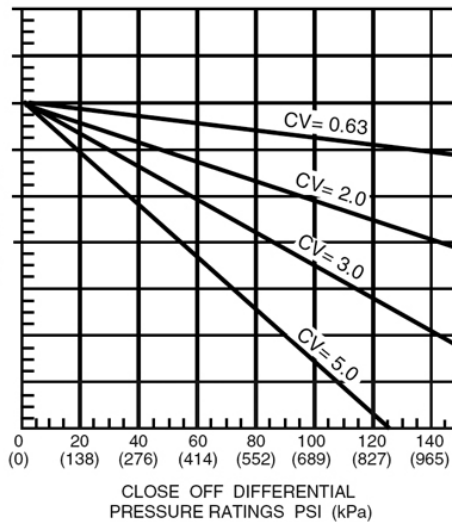


ACTUATOR
SPRING RANGE
PSI (kPa)

2-5 3-10

5 — 10
(34) (69)
7 — 12
(48) (83)
9 — 14
(62) (97)
11 — 16
(76) (110)
13 — 18
(90) (124)
15 — 20
(103) (138)
17 —
(117)
19 —
(131)
21 —
(145)

VP525C CLOSE-OFF
AT MAXIMUM SYSTEM PRESSURE



Normally-open, single-seated pneumatic radiator valve with straight through or angle body construction provides proportional control of two-pipe, hot water or steam systems. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

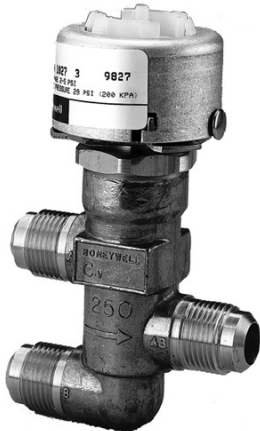
- Available in several capacities and spring ranges for various application requirements.
- Easily replaceable actuator assembly for convenience of service.
- Compact size for installation where space is limited.
- Can be repacked without shutting down system.
- Valve Type: Unitary
- Body Pattern: 2-Way
- Dimensions, Approximate: 4-7/8" high x 3-3/4" wide

- Body Pressure: 150 psi ■ Air Connections: Push on for 1/4 in. O.D. plastic tubing ■ Valve Action: Proportional Normally Open
- Controlled Medium: Steam, Water ■ Humidity Ratings: 5 to 95% RH ■ Temperature Range: 40 F to 240 F ■ Maximum Safe Actuator Diaphragm Temperature: 230 F ■ Maximum Diaphragm Pressure: 30 psi ■ 2-5 psi spring included in box

Pipe Size	Type of End Connection	Capacity Cv	Close-off ratings at Main Pressure	Spring Range, psi	Notes	Order No.
1/2	Straight, union x female pipe	0.63	150 psid @ 18 psi	3 to 10 psi	Replaces VP525A1408	VP525C1008
1/2		2.0	95 psid @ 18 psi		Replaces VP525A1077 and 1416	VP525C1016
3/4		3.0	55 psid @ 18 psi		Replaces VP525A1150	VP525C1024
3/4		5.0	38 psid @ 18 psi		Replaces VP525A1192 and 1200	VP525C1032
1/2	Angle, union x female pipe	2.0	95 psid @ 18 psi		Replaces VP525A1085	VP525C1040
3/4		3.0	55 psid @ 18 psi		Replaces VP525A1168	VP525C1057
3/4		5.0	38 psid @ 18 psi		Replaces VP525A1218 and 1226	VP525C1065
1/2	Straight, union x female pipe	3.0	95 psid @ 18 psi		Replaces VP525A1101 and 1119	VP525C1073
1/2	Angle, union x female pipe	3.0	95 psid @ 18 psi		Replaces VP525A1127 and 1135	VP525C1081

Replacement Parts	Order No.
Repair stem assembly for 1/2 inch, 2.0 Cv VP525C or to Upgrade, 2.0 Cv VP525A	14002560-007
Repair stem assembly for 3/4 inch, 3.0 Cv VP525C or to Upgrade, 3.0 Cv	14002560-008
Repair stem assembly for 3/4 inch, 5.0 Cv VP525C or to Upgrade, 5.0 Cv VP525A	14002560-009
Repair stem assembly for 1/2 inch, 0.63 Cv VP525C or to Upgrade, 0.63 Cv VP525A	14002560-013
Valve Rebuild Kit for 7/8 in O.D. Solder Body Valves	14003300-001
Replacement Actuator & Insert for VP525C or Upgrade for VP525A, 1/2 in. NPT Valve 0.63 Cv	14004897-001
Replacement Actuator & Insert for VP525C or Upgrade for VP525A, 1/2 in. Valve 2.0 Cv	14004897-002
Replacement Actuator & Insert for VP525C or Upgrade for VP525A, 3/4 in. Valve 3.0 Cv	14004897-003
Replacement Actuator & Insert for VP525C or Upgrade for VP525A, 3/4 in. Valve 5.0 Cv	14004897-004
Packing	310208
Spring 3-10 LB (Orange) for VP525, VP526, VP527, VP531	315913/0041
Spring 2-5 LB (Green)	316027/0042
Accessories	Order No.
Vandalism Resistant Assembly, cover assembly with 1/8 in NPT air connection and push-in retainer to replace standard cover	14003648-001
Pneumatic Valve Adapter (M6410/M7410 linkage and a green main spring to allow to retrofit an electric actuator)	14004932-001

Honeywell Heating & Cooling Controls

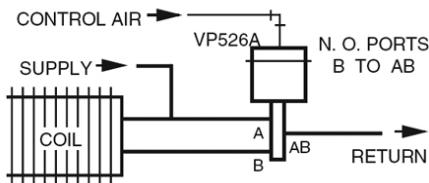


VP526, Three-Way Mixing Pneumatic Water Valve

Three-way pneumatic mixing valve provides proportional control of hot and/or cold water in unit air conditioners and fan coil systems. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Small size permits installation where space is limited. ■ Direct-acting, rolling diaphragm actuator with integral high temperature plastic air connector for 1/4 in. (6-mm) O.D. plastic tubing.
- Spring loaded, self-adjusting Buna-N .V.-ring packing replaceable. ■ Brass seats (integral lower, removable upper) and contoured plug provide metal-to-metal seating. ■ Stainless steel stem.
- Linear and constant total flow throughout full plug travel. ■ Valve Type: Unitary
- Body Pattern: 3-way Mixing ■ Dimensions, Approximate: 4 7/8 in. high x 3 1/8 in. wide
- Body Pressure: 250 psi
- Air Connections: Push on for 1/4 in. O.D. plastic tubing ■ Valve Action: Proportional Normally Open
- Controlled Medium: Water ■ Humidity Ratings: 5 to 95% RH
- Temperature Range: 35 F to 250 F ■ Maximum Safe Actuator Diaphragm Temperature: 230 F
- Maximum Diaphragm Pressure: 29 psi

VP526 Typical Piping Diagram



Accessories: ■ **14003648-001** Vandalism Resistant Assembly, cover assembly with 1/8 in NPT air connection and push-in retainer to replace standard cover
 ■ **CCT3833** Valve Seat Removal Wrench for 1/2 in. VP526 Valves;
Replacement Parts: ■ **14003297-001** Valve repack kit for VP526A, VP527A, or VP531A valves with 3/16 inch stem **14003102-001** Replacement Top Assembly; ■ **315917** Diaphragm ■ **CCT3833** Valve Seat Removal Wrench for 1/2 in. VP526 Valves.

Flare Pipe Size	Capacity Cv	Close-off ratings at Main Pressure	Spring Range, psi	Order No.
5/8	1.6	15 psid @ 13 psi	3 to 10 psi	VP526A1001
5/8	2.5	15 psid @ 13 psi	3 to 10 psi	VP526A1019
5/8	1.6	58 psid @ 13 psi	2 to 5 psi	VP526A1027
5/8	2.5	58 psid @ 13 psi	2 to 5 psi	VP526A1035
5/8	1.6	50 psid @ 13 psi	8 to 11 psi	VP526A1043
5/8	2.5	50 psid @ 13 psi	8 to 11 psi	VP526A1050
1/2	1.0	15 psid @ 13 psi	3 to 10 psi	VP526A1068
1/2	1.6	15 psid @ 13 psi	3 to 10 psi	VP526A1076
1/2	1.0	58 psid @ 13 psi	2 to 5 psi	VP526A1084
1/2	1.6	58 psid @ 13 psi	2 to 5 psi	VP526A1092
1/2	1.0	50 psid @ 13 psi	8 to 11 psi	VP526A1100
1/2	1.6	50 psid @ 13 psi	8 to 11 psi	VP526A1118

Model VP527, Pneumatic Water Valve

Normally open, single-seated, high pressure valve provides proportional control of hot and/or cold water in unit air conditioners and fan coil units. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, & older Honeywell devices.

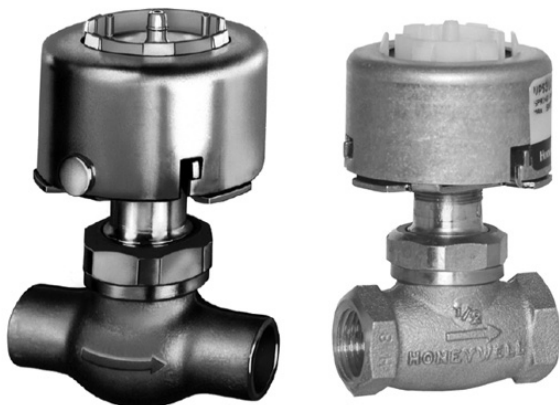
- Small size permits installation where space is limited.
- Forged brass, straight-through body with end connections threaded for 45 degrees SAE flare fitting nuts. ■ Spring-loaded, self-adjusting, Buna-N .V.-ring packing is replaceable without shutting system down. ■ High-temperature rolling diaphragm actuator (aluminum cover) and high-temperature plastic diaphragm retaining cup with integral air connection for 1/4 in. (6 mm) O.D. plastic tubing. ■ Integral seat and brass plug with removable composition disc provides equal percentage flow. ■ Stainless steel stem, 3/16 in. diameter. ■ Body Type: 2-Way, normally open
- Dimensions, Approximate: 4 1/8 in. high x 3 1/8 in. wide ■ Body Pressure: 250 psi ■ Air Connections: Push on for 1/4 in. O.D. plastic tubing ■ Valve Action: Proportional Normally Open ■ Controlled Medium: Water ■ Humidity Ratings: 5 to 95% RH ■ Temperature Range: 35 F to 250 F ■ Maximum Safe Actuator Diaphragm Temperature: 230 F ■ Maximum Diaphragm Pressure: 30 psi



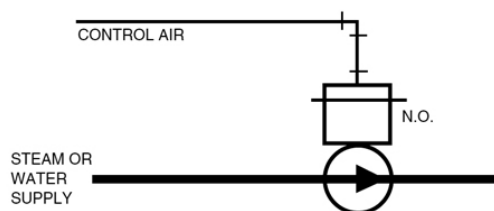
Flare Pipe Size	Capacity Cv	Close-off ratings at Main Pressure	Spring Range, psi	Order No.
1/2	0.63	130 psid @ 13 psi	3 to 10 psi	VP527A1018
	1.0	45 psid @ 13 psi	3 to 10 psi	VP527A1026
	1.6	45 psid @ 13 psi	3 to 10 psi	VP527A1034
	0.63	130 psid @ 13 psi	2 to 5 psi	VP527A1059
	1.0	45 psid @ 13 psi	2 to 5 psi	VP527A1067
	1.6	45 psid @ 13 psi	2 to 5 psi	VP527A1075

Accessories:
 ■ **14003648-001** Vandalism Resistant Assembly, cover assembly with 1/8 in NPT air connection and push-in retainer to replace standard cover
Replacement Parts:
 ■ **14003102-001** Replacement Top Assembly
 ■ **14003297-001** Valve repack kit for VP526A, VP527A, or VP531A valves with 3/16 inch stem
 ■ **14003475-001** VP527 Repair Kit
 ■ **14003476-001** VP527A Repair Kit
 ■ **315917** Diaphragm

Honeywell Heating & Cooling Controls



VP531C Typical Piping Diagram



VP531C Pneumatic Terminal Unit Valve

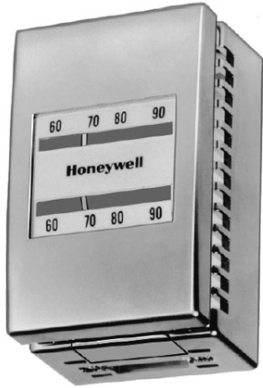
Normally-open, single-seated valve provides proportional control of steam or hot or cold water in terminal units. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Available in several capacities and spring ranges for various application requirements.
- Easily replaceable actuator assembly for convenience of service.
- Compact size for use inside most unit enclosures.
- Valve Type: Unitary
- Body Pattern: 2-Way, straight-through pattern
- Dimensions, Approximate: Pipe centerline to top of actuator: 3-1/2"
- Face-to-face: 2-9/32"
- Body Pressure: 250 psi
- Air Connections: Push on for 1/4" O.D. plastic tubing
- Valve Action: Proportional Normally Open
- Controlled Medium: Steam, Water
- Humidity Ratings: 5 to 95% RH
- Temperature Range: 40 to 240 F (140 F max difference, alternating hot and cold water service)
- Maximum Safe Actuator Diaphragm Temperature: 230 F
- Maximum Diaphragm Pressure: 30 psi

Pipe Size	End Connection	Capacity Cv	Close-off ratings at Main Pressure	Spring Range, psi	Notes	Order No.
1/2	Threaded pipe	1.6	62 psid @ 18 psi	2 to 5 psi installed in valve.	Replacement for VP531A1004 and 1012	VP531C1000
3/4	Threaded pipe	2.6			Replacement for VP531A1046 and 1053	VP531C1018
3/4	Threaded pipe	3.3			Replacement for VP531A1061 and 1079	VP531C1026
1/2	Sweat	1.6			Replacement for VP531A1087 and 1095	VP531C1034
3/4	Sweat	2.6		3 to 10 psi included in box.	Replacement for VP531A1103 and 1111	VP531C1042
3/4	Sweat	3.3			Replacement for VP531A1129 and 1137	VP531C1059
1/2	Threaded pipe	2.3			Replacement for VP531A1020 and 1038	VP531C1067

Accessories and Repair Parts		Order No.
Accessories		
Vandalism Resistant Assembly: Cover assembly with 1/8" NPT air connection & push-in retainer replaces std. cover		14003648-001
Repair Parts		
Repair stem assembly, 1.6 Cv VP531C or to Upgrade, 1.6 Cv VP531A		14002560-010
Repair stem assembly for 2.6 Cv VP531C or to Upgrade 2.6 Cv VP531A		14002560-011
Repair stem assembly for 3.3 Cv VP531C or to Upgrade 3.3 Cv VP531A		14002560-012
Replacement Top Assembly		14003102-001
Valve repack kit for VP526A, VP527A, or VP531A valves with 3/16 inch stem		14003297-001
Repair Top & Insert for VP531C or Upgrade for VP531A, 1/2 in. & 3/4 in. Valve 2.6 Cv.		14004898-002
Repair Top & Insert for VP531C or Upgrade for VP531A, 1/2 in. Valve 1.6 Cv.		14004898-001
Repair Top & Insert for VP531C or Upgrade for VP531A, 3/4 in. Valve 3.3 Cv		14004898-003
Spring replacement, 3-10 LB (Orange) for VP525, VP526, VP527, VP531		315913-0041
Spring replacement, 8-11 psi, Yellow-colored		316026
Spring replacement, 2-5 psi, Green-colored		316027-0042

Honeywell Heating & Cooling Controls



TP970 Pneumatic Thermostats

Two-pipe, single setpoint, pneumatic thermostat used to provide proportional control of pneumatic valves and damper actuators in heating and air conditioning systems. Replacement kits are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell two-pipe pneumatic thermostats.

■ Honeywell's best pneumatic thermostat-TP970 series. ■ Shock-resistant, suspension-mounted thermostats provide dependable performance ■ Pilot operated for high capacity. ■ Direct Acting (DA) and Reverse Acting (RA) models are available. ■ Wide throttling range models for Zero Energy Band (ZEB) operation are available. ■ Adapter plate in Convertastat and Modernization kits covers existing thermostat wallmark. ■ Backplate has molded air connections-no separate fittings needed. ■ Universal locking cover with satin chrome finish and horizontal, vertical, or blank window options. ■ Typical Wide Throttling Range Application. ■ Application Type:

Heating ■ Dimensions, Approximate: 3-1/4" high x 2" wide x 1-5/8" deep ■ Airflow Usage: 0.011 scfm ■ Mounting: Wall ■ Operating Temperature: 100 F max. ■ Storage Temperature: 150 F max. ■ Remote Bulb Sensor Element: Bimetal ■ Max. Operating Press: 25 psi

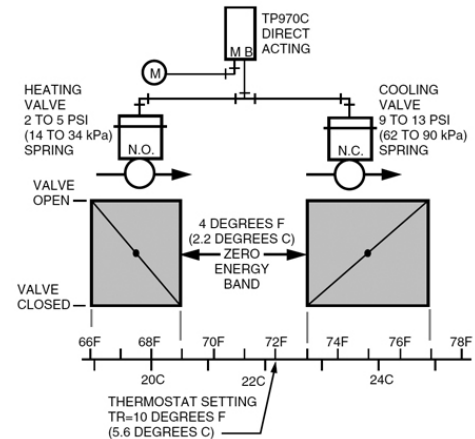
Accessories:

- **14002374-004** Restrictor Block Assembly, .005, For 2-Pipe TP970 Series
- **14002430-001** Thermostat Guard
- **14004447-001** Setpoint Cam Assembly for direct acting thermostat TP970A
- **14004459-001** Scaleplate Bag Assembly, 60 to 90 F
- **AK3863** Honeywell Thermostat Tool Kit, TP970/TP900

Replacement Parts:

- **14001865-001** Filter Cartridge Assembly
- **14002374-004** Restrictor Block Assembly, .005, For 2-Pipe TP970 Series Thermostats.
- **14004459-001** Scaleplate Bag Assembly, 60 to 90 F

Typical Wide Throttling Range Piping



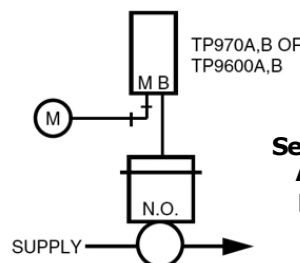
Action	No. of Pipes	Setpoint	Setpoint Temp, F.	Throttling Range, F.	Comments	Order No.
Direct Acting	2	Single	60-90	2-10 Factory set at 4° F.	Order cover separately.	TP970A2004
					Order cover separately.	TP970A2012
					Order cover separately.	TP970A2020
					Includes large wall plate and satin chrome cover. Also used as modernization kit to convert older Honeywell thermostats.	TP970A2038
					Convertastat Kit. Includes small wall plate and satin chrome cover.	TP970A2145
					Convertastat Kit. Includes small wall plate and beige cover.	TP970A2234
					Tradeline Kit. Includes satin chrome cover.	TP970A2242
					Tradeline Kit. Includes beige cover.	TP970A2259
					Order cover separately.	TP970A2283
					Order cover separately.	TP970B2002
Reverse Acting	2	Single	60-90	2-10 Factory set at 4° F.	Order cover separately.	TP970B2010
					Order cover separately.	TP970B2077
					Convertastat Kit. Includes small wall plate and satin chrome cover.	TP970B2150
					Convertastat Kit. Includes small wall plate and beige cover.	TP970B2166
					Tradeline Kit. Includes satin chrome cover.	TP970B2182
					Tradeline Kit. Includes beige cover.	TP970B2216
					Order cover separately.	TP970C2000
					Order cover separately.	TP970C2000
			5-25 F.		Order cover separately.	TP970C2000

A **Tradeline Kit** includes a TP970 Series thermostat with either a Satin Chrome or Beige Universal Cover, Windows (horizontal, vertical and blank) for new installations or to convert newer, small size Honeywell or competitor thermostat, not requiring a wall plate adapter.

A **Convertastat Kit** includes a TP970 Series thermostat with either a Satin Chrome or Beige Universal Cover, Windows (horizontal, vertical and blank) and a small Universal Wall Plate Adapter to convert newer, small size Honeywell or competitor thermostats.

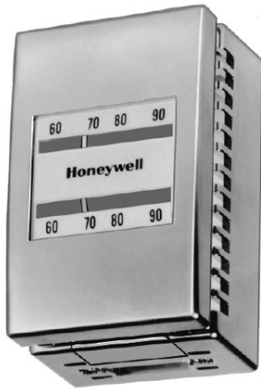
A **Modernization Kit** includes a TP970 Series thermostat with Satin Chrome Universal Cover, Windows (horizontal, vertical and blank) and a large Universal Wall Plate Adapter to convert older thermostats.

Typical Standard Throttling Range Piping



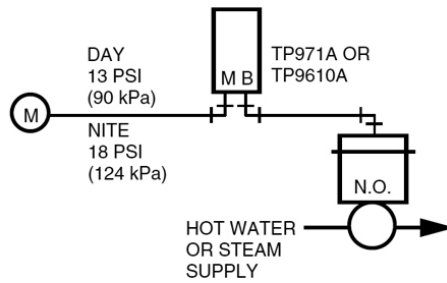
See Thermostat Cover Assemblies on the pages that follow.

Honeywell Heating & Cooling Controls



TP971 Pneumatic Day/Night Operation Thermostats

TP971 Typical Piping



Pneumatic thermostat with night setback used to provide proportional control of pneumatic valves and damper actuators in heating and air conditioning systems. Replacement kits are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell two-pipe pneumatic thermostats.

■ Durable TP970 series thermostat Pilot operated for high capacity. ■ Direct Acting (DA) and Reverse Acting (RA) models are available. ■ Three-pipe thermostats are available for unit ventilator applications where the outdoor damper must operate when the thermostat is manually set to day operation.

■ Adapter plate in thermostat kits covers existing thermostat watermark. ■ Backplate has molded air connections-no separate fittings needed. ■ Universal Locking cover with satin chrome finish and horizontal, vertical, or blank window options-other covers available. ■ Application Type: Wall Thermostat, Day/Night operation ■ Dimensions, Approximate: 3 1/4" high x 2" wide x 1 5/8" deep ■ Airflow Usage: 0.011 scfm ■ Mounting: Wall ■ Operating Temperature: 100 F maximum ■ Storage Temperature: 150 F maximum ■ Remote Bulb: Sensor Element: Bimetal ■ Max. Operating Pressure: 25 psi

Action	No. of Pipes	Setpoint	Setpoint & Throttling Temp, F.	Changeover, psi	Comments	Order No.
Direct Acting Heating, Two Temp.	2	Day/Night	Setpoint Day: 60-90F Night: 50-80F	Day 13; Night 18	Thermostat only. Order cover separately.	TP971A2003
				Day 13; Night 18	Thermostat only. Order cover separately.	TP971A2011
				Day 16; Night 21	Thermostat only. Order cover separately.	TP971A2029
				Day 16; Night 21	Thermostat only. Order cover separately.	TP971A2052
				Day 20; Night 25	Thermostat only. Order cover separately.	TP971A2086
Reverse Acting Heating, Two Temp.	2	Day/Night	Setpoint Day: 60-90F Night: 50-80F	Day 13; Night 18 or 16-20	Convertastat Kit. Thermostat with small wall plate and satin chrome cover.	TP971A2102
				Day 13; Night 18 or 16-20	Convertastat Kit: Thermostat with small wall plate and beige cover.	TP971A2183
				Day 13; Night 18 or 16-21	Tradeline Kit: Thermostat with satin chrome cover.	TP971A2191
				Day 13; Night 18	Thermostat only. Order cover separately.	TP971B2001
				Day 16; Night 21	Thermostat only. Order cover separately.	TP971B2019
Direct Acting Heating, Two Temp.	3	Day/Night	Throttling 2-10F	Day 20; Night 25	Thermostat only. Order cover separately.	TP971B2043
				Day 13; Night 18 or 16-21	Tradeline Kit: Thermostat with satin chrome cover.	TP971B2068
				Day 13; Night 18	Order cover separately. Has secondary branch line.	TP971C2009
				Day 13; Night 18	Order cover separately. Has secondary branch line.	TP971C2017
				Day 16; Night 21	Order cover separately. Has secondary branch line.	TP971C2025
				Day 13; Night 18 or 16-21	Tradeline Kit: Thermostat with secondary branch line and satin chrome cover.	TP971C2058

A **Tradeline Kit** includes a TP970 Series thermostat with either a Satin Chrome or Beige Universal Cover, Windows (horizontal, vertical and blank) for new installations or to convert newer, small size Honeywell or competitor thermostat, not requiring a wall plate adapter.

A **Convertastat Kit** includes a TP970 Series thermostat with either a Satin Chrome or Beige Universal Cover, Windows (horizontal, vertical and blank) and a small Universal Wall Plate Adapter to convert newer, small size Honeywell or competitor thermostats.

Accessories:

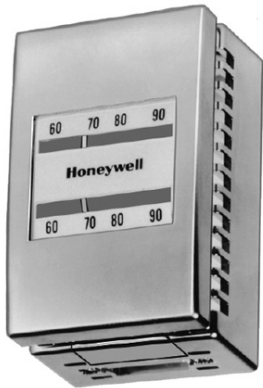
- **14002374-004** Restrictor Block Assembly, .005, For 2-Pipe TP970 Series Thermostats.
- **14002430-001** Thermostat Guard.
- **14004447-003** Cam Assembly.
- **14004460-002** Nozzle, Throttling plate and Bimetal Assembly, reverse acting, left side.
- **AK3863** Honeywell Thermostat Tool Kit, TP970/TP900.

See Thermostat Cover Assemblies on Next Page

Replacement Parts:

- **14001865-001** Filter Cartridge Assembly.
- **14002374-004** Restrictor Block Assembly, .005, For 2-Pipe TP970 Series Thermostats.
- **14004460-002** Nozzle, Throttling plate and Bimetal Assembly, reverse acting, left side.

Honeywell Heating & Cooling Controls



TP972 Heating and Cooling Pneumatic Thermostats

Two-pipe, one- or two-temperature, pneumatic thermostat used to provide proportional control of pneumatic valves and damper actuators in heating and air conditioning systems. Replacement kits are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell two-pipe pneumatic thermostats.

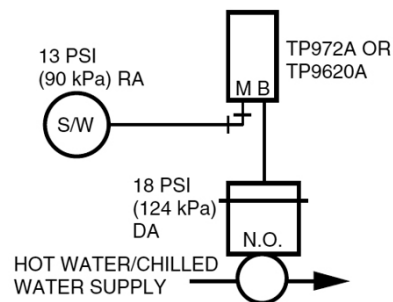
- Durable TP970 Series Thermostat: Pilot operated for high capacity. ■ Two-temperature energy conservation model available. ■ Adapter plate in Convertastat kits covers existing thermostat wallmark.
- Backplate has molded air connections-no separate fittings needed. ■ Universal locking cover with satin chrome finish and horizontal, vertical, or blank window options with Tradeline model-other covers available. ■ Application Type: Wall Thermostat for Heat/Cool Operation ■ Dimensions, Approximate: 3-1/4" high x 2" wide x 1-5/8" deep ■ Airflow Usage: 0.011 scfm ■ Mounting: Wall
- Operating Temperature: 100 F maximum ■ Storage Temperature: 150 F maximum
- Remote Bulb: Sensor Element: Bimetal ■ Maximum Operating Pressure: 25 psi

Action	No. of Pipes	Setpoint	Setpoint & Throttling Temp., F.	Changeover, psi	Comments	Order No.
Direct Acting Heating, Reverse Acting Cooling	2	Single	60-90	Heat 18 psi, Cool 13 psi	Thermostat only. Order cover separately.	TP972A2002
				Heat 18 psi, Cool 13 psi	Thermostat only. Order cover separately.	TP972A2010
		Single	60-90	Heat 14 psi, Cool 19 psi	Thermostat only. Order cover separately.	TP972A2143
				Heat 18 psi, Cool 13 psi	Convertastat Kit: Thermostat, small wall plate and satin chrome cover.	TP972A2192
				Heat 14 psi, Cool 19 psi	Tradeline Kit: Thermostat and satin chrome cover.	TP972A2226
				Heat 18 psi, Cool 13 psi	Tradeline Kit: Thermostat and satin chrome cover.	TP972A2242

A **Tradeline Kit** includes a TP970 Series thermostat with either a Satin Chrome or Beige Universal Cover, Windows (horizontal, vertical and blank) for new installations or to convert newer, small size Honeywell or competitor thermostat, not requiring a wall plate adapter.

A **Convertastat Kit** includes a TP970 Series thermostat with either a Satin Chrome or Beige Universal Cover, Windows (horizontal, vertical and blank) and a small Universal Wall Plate Adapter to convert newer, small size Honeywell or competitor thermostats.

TP972 Typical Piping



Accessories:

- 14002374-004** Restrictor Block Assembly, .005, For 2-Pipe TP970 Series Thermostats.
- 14002430-001** Thermostat Guard
- 14003923-001** 20 to 25 psi spring
- 14004447-002** Setpoint Cam Assembly
- 14004460-001** Nozzle, Throttling Plate and Bimetal Assembly, DA, Left side
- 14004460-002** Nozzle, Throttling plate and Bimetal Assembly, reverse acting, left side
- AK3863** Honeywell Thermostat Tool Kit, TP970/TP900

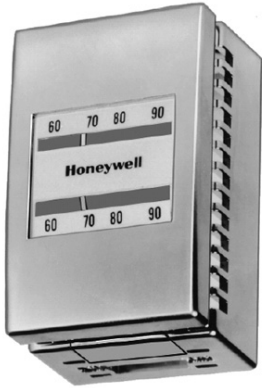
Replacement Parts:

- 14001865-001** Filter Cartridge Assembly
- 14002374-004** Restrictor Block Assembly, .005, For 2-Pipe TP970 Series Thermostats.
- 14004460-001** Nozzle, Throttling Plate and Bimetal Assembly, DA, Left side
- 14004460-002** Nozzle, Throttling plate and Bimetal Assembly, reverse acting, left side

Thermostat Covers for all TP970 series

- 14004406-210** Thermostat Cover assembly **satin chrome**, with satin chrome cover [14004402-001], cover insert, day-auto (14004437-001), window thermostat (14004405-016) Horizontal Mount, setpoint display 15-30 C, thermometer display 15-30. For all TP970 series.
- 14004406-901** Thermostat Cover Assembly **satin chrome** with assembly cover (14004402-001), window thermostat (14004405-020). For TP970 series.
- 14004407-124** Thermostat cover assembly, **beige** plastic with assembly cover (14004402-002), window thermostat (14004405-107) vertical mount with day/auto slot open, setpoint open, setpoint display only, range 15-75% RH. For TP970 series.
- 14004407-210** Thermostat cover assembly, **beige** plastic with cover, cover insert, day-auto, window thermostat, horizontal mount, day/auto slot open, setpoint slot open, Honeywell signature, setpoint display and thermometer. For TP970 series.

Honeywell Heating & Cooling Controls



TP973 Pneumatic Thermostats

One- or two-pipe, single temperature, low capacity, pneumatic thermostat used to provide proportional control of pneumatic valves and damper actuators in heating and air conditioning systems. Replacement kits are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell pneumatic thermostats.

- Durable TP970 Series Thermostat. Direct Acting (DA) and Reverse Acting (RA) models are available.
- Backplate has molded air connections-no separate fittings needed.
- Universal locking cover with satin chrome finish and horizontal, vertical, or blank window options available.
- Other Covers Available.
- Low capacity thermostat.
- Built in restrictor for two-pipe applications.
- Application Type: Wall Thermostat, Single Temperature ■ Dimensions, Approximate: 3-1/4" high x 2 in. wide x 1-5/8" deep ■ Airflow Usage: 0.011 scfm ■ Mounting: Wall
- Operating Temperature: 100 F ■ Storage Temperature: 150 F
- Remote Bulb: Sensor Element: Bimetal ■ Maximum Operating Pressure: 25 psi

Action	No. of Pipes	Setpoint	Setpoint & Throttling Temp., F.	Throttling Range, F.	Comments	Order No.
Direct Acting	1 or 2	Single	60-90F	2-10F	Thermostat only. Order cover separately. For one-pipe please order an external .005 inch restriction.	TP973A2076
					Thermostat and cover No. 14004407-121. For one-pipe please order an external .005 inch restriction.	TP973A2167
					Tradeline Kit: Thermostat and satin chrome cover. For one-pipe please order an external .005 inch restriction.	TP973A2209
Reverse Acting	1 or 2	Single	60-90F	2-10F	Tradeline Kit: Thermostat and beige cover. For one-pipe please order an external .005 inch restriction: #14002913-004	TP973A2223
					Thermostat only. Order cover separately. For one-pipe please order an external .005 inch restriction.	TP973B2066
					Thermostat and cover No. 14004407-121. For one-pipe please order an external .005 inch restriction.	TP973B2074
					Tradeline Kit: Thermostat and satin chrome cover. For one-pipe please order an external .005 inch restriction: #14002913-004	TP973B2132
					Tradeline Kit: Thermostat and satin chrome cover. For one-pipe please order an external .005 inch restriction: #14002913-004	TP973B2171

A **Tradeline Kit** includes a TP970 Series thermostat with either a Satin Chrome or Beige Universal Cover, Windows (horizontal, vertical and blank) for new installations or to convert newer, small size Honeywell or competitor thermostat, not requiring a wall plate adapter.

Accessories:

14002374-004 Restrictor Block Assembly, .005, For 2-Pipe TP970 Series Thermostats.

14002430-001 Thermostat Guard.

14002913-001 .005 IN. Blue Filter Restriction Assembly; Inlet: 1/4 in., Outlets: 1/4 in. and 5/32 in.; Order in Quantities of 10.

14002913-004 Pneumatic External Restrictor, 0.005", Blue, Inlet: 1/4., Outlets: 5/32. and 5/32.

14003923-001 20 to 25 psi spring.

14004459-001 Scaleplate Bag Assembly, 60 to 90 F.

14004460-001 Nozzle, Throttling Plate and Bimetal Assembly, DA, left side.

14004460-002 Nozzle, Throttling plate and Bimetal Assembly, reverse acting, left side.

AK3863 Honeywell Thermostat Tool Kit, TP970/TP900.

Replacement Parts:

14001865-001 Filter Cartridge Assembly.

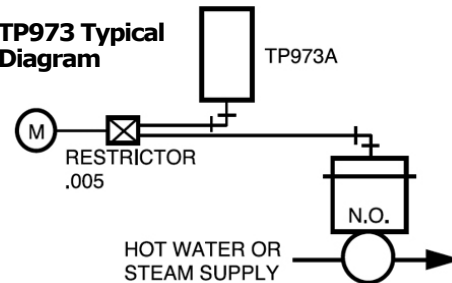
14002374-004 Restrictor Block Assembly, .005, for 2-Pipe TP970 Series Thermostats.

14004459-001 Scaleplate Bag Assembly, 60 to 90 F.

14004460-001 Nozzle, Throttling Plate and Bimetal Assembly, DA, left side.

14004460-002 Nozzle, Throttling plate and Bimetal Assembly, reverse acting, left side.

TP973 Typical Diagram



Thermostat Covers for all TP970 series

14004406-210 Thermostat Cover assembly *satin chrome*, with satin chrome cover [14004402-001], cover insert, day-auto (14004437-001), window thermostat (14004405-016) Horizontal Mount, setpoint display 15-30 C, thermometer display 15-30. For TP970 series.

14004406-901 Thermostat Cover Assembly *satin chrome* with assembly cover (14004402-001), window thermostat (14004405-020). For TP970 series.

14004407-124 Thermostat cover assembly, *beige* plastic with assembly cover (14004402-002), window thermostat (14004405-107) vertical mount with day/auto slot open, setpoint open, setpoint display only, range 15-75% RH. For TP970 series.

14004407-210 Thermostat cover assembly, *beige* plastic with cover, cover insert, day-auto, window thermostat, horizontal mount, day/auto slot open, setpoint slot open, Honeywell signature, setpoint display and thermometer. For TP970 series.

Honeywell Heating & Cooling Controls



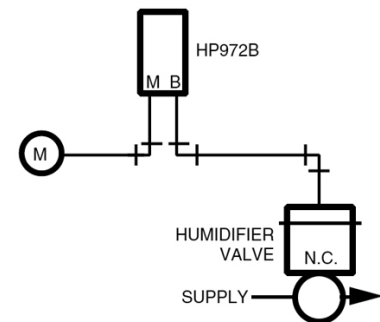
HP970 Pneumatic Humidistat

Two-pipe, single setpoint, pneumatic humidistat used to provide proportional control of pneumatic valves on humidification or dehumidification systems.

- Durable HP970 series humidistat. ■ Pilot operated for high capacity.
- Direct Acting (DA) and Reverse Acting (RA) models are available.
- Vertical or horizontal mounting. ■ Backplate has molded air connections; no separate fittings needed. ■ Variety of cover finishes and display styles available.
- Application: Humidity ■ Dimensions, Approximate: 3-1/4" high x 2" wide x 1-5/8" deep
- Airflow Usage: 0.011 scfm ■ Maximum Operating Temperature: 45 F to 125 F
- Maximum Storage Temperature: -30 to +150 F ■ Maximum Operating Pressure: 25 psi

Action	No. of Pipes	Scale Range % RH	Throttling Range % RH	Setpoint	Comments	Order No.
Direct	2	15-75%	3-15%	Single	Order cover separately	HP970A1009
Reverse						HP970B1007
Reverse		65-95%				HP970B1015

HP970 Typical Piping



Accessories:

- 14004406-124** Humidistat Cover Kit - Satin Chrome
- 14002362-001** Duct Sampling Chamber
- 14002430-001** Thermostat Guard
- AK3863** Honeywell Thermostat Tool Kit, TP970/TP900
- CCT729A** Gage Adapter for Calibration. Add 305965 0 to 30 psi Gage for Complete Tool.
- CCT735A** Thermostat Calibration Tool includes Allen wrench for cover installation.

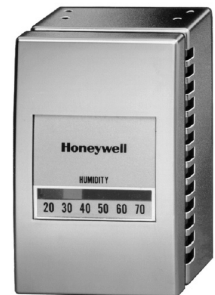
Replacement Parts:

- 14001865-001** Filter Cartridge Assembly
- 14002374-004** Restrictor Block Assembly, .005, For 2-Pipe TP970 Series Thermostats.
- 14004419-001** Restrictor Block Gasket
- 14002496-003** Nylon element assembly, with Spring

HP972 Pneumatic Humidistat

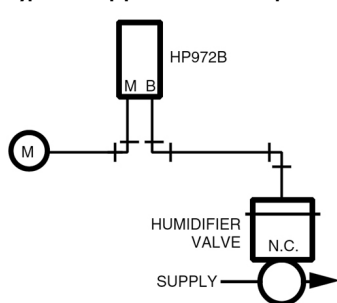
A proportioning pneumatic humidistat used on one- or two-pipe installations for controlling actuators on valves and dampers in air conditioning systems for humidification or dehumidification control.

- Durable HP970 series humidistat. ■ Snap-on mounting to backplate. ■ Vertical or horizontal mounting.
- Backplate has molded air connections; no separate fittings needed. ■ Variety of cover finishes and display styles available. ■ Wide throttling range. ■ Application: Humidity ■ Dimensions, Approximate: 3 1/4 in. high x 2 in. wide x 1 5/8 in. deep
- Airflow Usage: 0.011 scfm ■ Maximum Operating Temperature: 45 F to 125 F ■ Maximum Storage Temperature: -30 to +150 F ■ Maximum Operating Pressure: 25 psi ■ Humidity Ratings: 3 to 75% RH

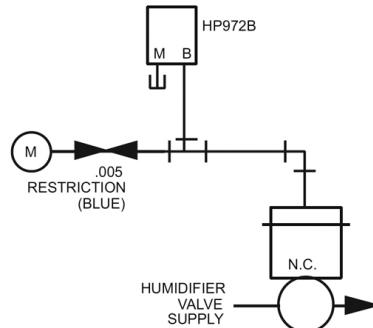


Action	No. of Pipes	Scale Range % RH	Throttling Range % RH	Setpoint	Comments	Order No.
Reverse	1 or 2	15-75%	7-35%	Single	Order cover separately	HP972B1005

Typical Two-pipe HP972B Hook-up



Typical One-pipe HP972B Hook-up



Accessories:

- 14004406-124** Humidistat Cover Kit - Satin Chrome
- 14002362-001** Duct Sampling Chamber
- 14002430-001** Thermostat Guard
- AK3863** Honeywell Thermostat Tool Kit, TP970/TP900
- CCT729A** Gage Adapter for Calibration. Add 305965 0 to 30 psi Gage for Complete Tool.
- CCT735A** Thermostat Calibration Tool includes Allen wrench for cover installation.

Replacement Parts:

- 14001865-001** Filter Cartridge Assembly
- 14002374-004** Restrictor Block Assembly, .005, For 2-Pipe TP970 Series Thermostats.
- 14004419-001** Restrictor Block Gasket
- 14002496-003** Nylon element assembly, with Spring

Honeywell Heating & Cooling Controls

Accessories and Repair Parts for Pneumatic Thermostats

Accessories

- 14002373-001** Switchover Springs 16 To 21 Psi, for TP972
- 14002430-001** Thermostat Guard TP9600, for TP970, TP971, TP972, TP973
- 14002573-001** TP970 1 & 2 Pipe Modernization Kit for TP9600
- 14002573-002** TP970 1 & 3 Pipe Modernization Kit
- 14004401-004** Adaptor plate for Conversastat, beige-colored, for TP970
- 14004447-001** Setpoint Cam Assembly for direct acting thermostat for TP970A, TP970A; TP970C; TP972A2143; TP979A
- 14004447-002** Setpoint Cam Assembly TP972A2002; TP972A2010; TP973B2108
- 14004447-003** Cam Assembly TP971A; TP971C; TP971D
- 14004459-001** Scaleplate Bag Assembly, 60 to 90 F TP970, TP973, TP979
- 14004460-001** Nozzle, Throttling Plate and Bimetal Assembly, DA, left side for TP970A, TP971A, C, D, TP972 DA, left side, TP973A, TP979A
- 14004558-001** Six inch main red Tube-Spring Assembly, for TP970
- 14004787-910** Thermostat Cover Kit; Bright Chrome Finish, for TP970
- 14004789-111** Thermostat Cover Kit - Bright Brass, for TP970
- 14004878-700** Thermostat Cover Kit - Premier White, for TP970



Repair Parts

- 14000742-002** Two-pipe straight red connector, for TP970
- 14001527-001** Three-pipe straight white connector, for TP970
- 14001865-001** Filter Cartridge Assembly, for TP9600, TP970, TP971, TP972, TP973, TP979
- 14001957-001** Plug, BLP Tap, for TP970
- 14002374-005** Package assembly-repair kit includes 4 machine screws - (14002281-001); plate assembly - (14003479-008), and 2 gaskets - (14004419-001), for TP970 and TP971
- 14002420-001** Mounting. Plate assembly, with mounting plate (14002421-001), 4 clips (14002422-001), 4 rivets (305835), for TP970
- 14003194-001** TP910 black base plate, for TP910
- 14003923-001** 20 to 25 psi spring, for TP970
- 14004405-005** Window thermostat with scale indicator of 60 to 90 F, two clear windows, gray background, Honeywell logo in middle, for TP970
- 14004406-210** Thermostat Cover Assembly satin chrome, with cover (chrome) [14004402-001], cover insert, day-auto (14004437-001), window thermostat (14004405-016) Horizontal Mount, set-point display 15-30 C, thermometer display 15-30 C TP970
- 14004406-901** Thermostat Cover Assembly satin chrome with assembly-cover [chrome] (14004402-001), window thermostat (14004405-020), for TP970
- 14004407-124** Thermostat Cover Assembly, beige plastic with assembly-cover [beige] (14004402-002), window thermostat (14004405-107) vertical mount with day/auto slot open, set-point open, set-point display only, range 15-75% RH. For TP970
- 14004407-210** Thermostat Cover Assembly, beige plastic with cover, cover insert, day-auto, window thermostat, horizontal mount, day/auto slot open, set-point slot open, Honeywell signature, set-point display and thermometer. For TP970
- 14004447-007** Assembly Cam with cam (14004429-002), Bushing (14002025-001), Screw (14004444-001). For TP970
- 14004459-003** Repair plate package assembly includes: thermostat assembly - (14004440-001), pointer - (144002124)- 001, scale plate - (14004434-003), post, thermostat assembly - (14004436-001), box, plastic - (14004645-002). For TP970
- 14004460-003** Package assembly-repair (Bracket) with Bracket assembly (14002387-004), Box, Plastic (14004645-002). For TP970
- 14004609-001** Steel Stiffener plate, for TP970
- 14004610-001** Zinc plate metal stud Adapter, for TP970