



**Environmental and Combustion Controls  
2nd Edition Canadian Product Catalog**

This supplement of the 24th edition of Honeywell's Tradeline catalog includes product that are only available to our Canadian distributors and wholesalers. All other Trade available products can be found in the 24th edition of 70-6910.

For more information on these and other products, the product literature, a cross-reference for obsolete products, and the latest information about new product please visit us at <https://customer.honeywell.com>

The screenshot displays the Honeywell website's user interface. At the top, there is a navigation bar with links for 'my account', 'homeowners link', and 'honeywell.com', along with 'login' and 'register' buttons. Below this is the 'Honeywell Environmental & Combustion Controls' header, featuring a search bar with options for 'Material Number', 'Content', and 'Cross-Reference'. A main navigation menu includes 'PRODUCTS', 'SUPPORT AND RESOURCES', 'TRAINING', 'NEWS', 'CONTACT US', and 'HELP'.

The main content area is divided into several sections:

- Welcome:** A dark-themed box with a 'VIDEOS' keyboard key image. It offers training videos for users, including links for 'Resetting Your Password', 'Site Registration/New User Authentication', and 'Researching price and availability'.
- Place an Order:** A white box with the text 'Find the products you want, add them to your shopping cart and proceed to checkout. It's as simple as 1, 2, 3.'
- Log In:** A white box with input fields for 'user name' and a password, and a 'go' button.
- New User?:** A white box with a 'register' button and text encouraging registration.
- \*\* FORGOT PASSWORD? \*\* Did you use the old site?:** A white box with a 'Click here to learn how.' link.
- product details:** A white box with a 'search for products' button and an image of HVAC equipment.
- my account:** A white box with a 'visit my account' button and an image of a person at a computer.
- support & resources:** A white box with a 'see more support & resources' button and an image of two people in a meeting.
- smart search:** A white box with a search input field and a 'what is smart search?' section explaining the search functionality.

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# Non-Programmable Thermostats

## Mercury Free T822 Econo Thermostats



Thermostats provide 24 Vac control of heating or cooling systems

- Vented cover for improved temperature sensing
- Setting lever and thermometer scale on thermostat face
- Mounts directly on the wall or on vertical outlet box
- Integrated thermometer and setting scale

**Dimensions, Approximate:** 121 mm high x 73 mm wide x 35 mm deep  
(4 3/4 in. high x 2 7/8 in. wide x 1 3/8 in. deep)

**Mounting:** Vertical

**Sensor Element:** Bimetal

**Switch Type:** Precision Snap Action

**Switching Action:** SPST

**Color:** Premier White®

**Accuracy:** ± 1 C (± 2 F)

**Supply Voltage:** 20 to 30 Vac

**Heating Current:** 0.02 A to 1.0 A running

Product Number	Application	Terminal Designations	Stages	Setting Temperature Range	Switch Position		Comments
					System	Fan	
T822K1026/U	Heat Only	R, W	1 Heat	7 C to 32 C	HEAT-OFF	—	with Positive Off
T822K1034/U	Heat Only	R, W	1 Heat	7 C to 32 C	—	—	—
T822K1059/U	Heat Only	R, W, G	1 Heat	7 C to 32 C	—	AUTO-ON	—

## Mercury Free T827 Econo Thermostats



Heating thermostats provides control of 750 mV or 12 Vdc heating systems

- Rated for 12 Vdc and millivoltage systems
- Coiled bimetal element operates snap-acting switch
- Temperature setting lever on bottom of thermostat
- Mounting using two screws through base to wall or vertical outlet box
- Temperature setting and thermometer scale on cover

**Dimensions, Approximate:** 121 mm high x 73 mm wide x 35 mm deep  
(4 3/4 in. high x 2 7/8 in. wide x 1 3/8 in. deep)

**Mounting:** Vertical

**Sensor Element:** Bimetal

**Switch Type:** Precision Snap Action

**Switching Action:** SPST

**Color:** Premier White®

**Accuracy:** ± 1 C (± 2 F)

**Supply Voltage:** 12 Vdc; 750 mV

Product Number	Application	Terminal Designations	Stages	Setting Temperature Range	Switch Position System	Comments
T827K1017/U	Heat Only	R, W	1 Heat	7 C to 32 C	HEAT-OFF	with Positive Off

# Non-Programmable Thermostats

## Mercury Free T834; T8034 Econo Thermostats



Meet all current and future mercury-free thermostat compliance needs with Honeywell's Mercury-Free Econostat. With a sleek, attractive appearance, the Mercury-Free Econostat is the perfect electromechanical replacement choice.

- Integrated thermometer and temperature setting scale.
- Precise Snap-action switch.
- Mount directly on wall or outlet box.
- Includes dealer logo pocket.

**Dimensions, Approximate:** 121 mm high x 73 mm wide x 35 mm deep  
(4 3/4 in. high x 2 7/8 in. wide x 1 3/8 in. deep)

**Sensor Element:** Bimetal

**Switch Type:** Precision Snap Action

**Switching Action:** SPDT

**Color:** Premier White®

**Accuracy:** ± 1 C (± 2 F)

**Supply Voltage:** 20 to 30 Vac

**Heating Current:** 0.02A to 1.0A running

**Cooling Current:** 0.02A to 1.0A running

Product Number	Application	Terminal Designations	Changeover	Stages	Setting Temperature Range	Switch Position		Mounting
						System	Fan	
T8034N1015/U	1 Heat/1 Cool Conventional Systems and Heat Pumps with No Auxiliary Heat	R, Rc, W, Y, G, O, B	Manual	1 Heat/ 1 Cool	7 C to 32 C	HEAT-OFF-COOL	AUTO-ON	Horizontal
T834N1010/U	1 Heat/1 Cool Conventional Systems and Heat Pumps with No Auxiliary Heat	R, Rc, W, Y, G, O, B	Manual	1 Heat/ 1 Cool	7 C to 32 C	HEAT-OFF-COOL	AUTO-ON	Vertical

# Non-Programmable Thermostats

## T87K,N The Round®



The Round® thermostats provide electronic control of 24Vac heating and cooling systems with the classic twist to set dial.

- Mercury Free
- Classic Styling
- Premier White®
- The T87K heat only works with 2 or 3 wire heat-only systems

**Dimensions, Approximate:** 94 mm diameter x 45 mm deep  
(3 11/16 in. diameter x 1 3/4 in. deep)

**Mounting:** Round

**Sensor Element:** Thermistor

**Switch Type:** Relay

**Color:** Premier White®

**Accuracy:** ± 1 C (± 2 F)

**Operating Humidity Range:** 5 to 90% RH (non-condensing)

**Power Method:** Battery assisted power stealing

**Supply Voltage:** 20 to 30 Vac

**Frequency:** 50 Hz; 60 Hz

**Heating Current:** 0.02A to 1.0A running

**Cooling Current (T87N only):** 0.02A to 1.0A running

**Cycles per Hour:** Adjustable 1, 3, 5, 9

Product Number	Application	Terminal Designations	Changeover	Stages	Setting Temperature Range	Switch Position	
						System	Fan
T87K1015/U	Heat Only, Single stage heating systems	R, W, Y	—	1 Heat	5 C to 30 C	—	—
T87N1018/U	1 Heat/1 Cool Conventional Systems and Heat Pumps with No Auxiliary Heat	R, Rc, W, Y, G, O, B	Manual	1 Heat/ 1 Cool	5 C to 30 C	HEAT-OFF-COOL	AUTO-ON

## T8775A,C The Digital Round® Non-Programmable Thermostats



The Digital Round® Thermostats provide 24V control of heating only or heat/cool systems.

- Attractive styling complements any decor.
- One-touch backlit display.
- Familiar twist-to-see operation. Available in Heat/Cool and Heat Only models.

**Dimensions, Approximate:** 94 mm diameter x 37 mm deep  
(3 11/16 in. diameter x 1 7/16 in. deep)

**Mounting:** Round

**Display Size:** 0.75 sq in.

**Sensor Element:** Thermistor

**Switch Type:** Electronic

**Color:** Premier White®

**Accuracy:** ± 0.5 C (± 1 F)

**Ambient Temperature Range:** 4.5 C to 43.3 C (40 F to 110 F)

**Operating Humidity Range:** 5 to 90% RH (non-condensing)

**Power Method:** Battery assisted power stealing.

Powered through system (heating/cooling) controls

**Supply Voltage:** 20 to 30 Vac

**Frequency:** 60 Hz

**Cycles per Hour:** Adjustable 1, 3, 6, 9

**Comments:** Large easy-to-see backlit display.

**Includes:** Wallplate, resistor assembly, mounting screws and wall anchors

Product Number	Application	Terminal Designations	Changeover	Stages	Setting Temperature Range	Switch Position	
						System	Fan
T8775A1017/U	Heat Only	R, W	—	1 Heat	Heat: 4 to 32	—	—
T8775C1013/U	1 Heat/1 Cool Conventional Systems and Heat Pumps with No Auxiliary Heat	R, Rc, W, Y, G, O, B	Manual	1 Heat/ 1 Cool	Heat: 4 to 32; Cool: 7 to 37	HEAT-OFF-COOL	AUTO-ON

# Bypass Humidifiers

## TrueEASE Bypass Humidifier



The TrueEASE Humidifier Line is easy to install with quick snap bypass direction adjustment. Advanced models save 30-50% of water. Easy to replace pads. Advanced models save energy by automatically closing the bypass when not in use.

- Versatile fit designed for more jobs
- Operational efficiencies to drive higher margins with values homeowners understand
- Fast installation for labor and time savings
- Un-intimidating, engaging maintenance to drive repeat business
- Operational noise reduction for humidity comfort without the ear aches
- Includes HumidiPRO Digital Humidity Control

### Basic Bypass Humidifier

Product Number	Type	Capacity		Description
		gal per day	liter per day	
HE100C1001/U	Evaporative Flow-Through Humidifier	12 gal. per day	46 L per day	TrueEASE Small Basic Bypass Humidifier with Additional Installation Hardware
HE200C1001/U	Evaporative Flow-Through Humidifier	17 gal. per day	64 L per day	TrueEASE Large Basic Bypass Humidifier with Additional Installation Hardware

### Advanced Bypass Humidifier

Product Number	Type	Capacity		Description
		gal per day	liter per day	
HE150C1014/U	Evaporative Flow-Through Humidifier	12 gal. per day	46 L per day	TrueEASE Small Advanced Bypass Humidifier with Additional Installation Hardware
HE250C1014/U	Evaporative Flow-Through Humidifier	17 gal. per day	64 L per day	TrueEASE Large Advanced Bypass Humidifier with Additional Installation Hardware

## TrueEASE Parts and Accessories

Product Number	Description
32001647-001/U	Quantity 25 Residential humidifier cone screen filter
32001652-002/U	10V transformer
50032048-002/U	Quantity 25 Residential humidifier quick connect adapter
50041861-001/U	Frame and tray assembly for small bypass models
50041861-002/U	Frame and tray assembly for large bypass models
50041883-001/U	DC Solenoid valve
50041883-002/U	AC Solenoid valve
50041886-001/U	Bottom cover for small basic bypass models
50041887-001/U	Bottom cover for Large basic bypass models
50041888-001/U	Small bypass duct with manual damper
50041888-002/U	Large bypass duct with manual damper
50041890-001/U	Small bypass duct with automatic damper
50041890-002/U	Large bypass duct with automatic damper
50041919-001/U	Frame and tray assembly for fan model
50045729-001/U	Blower and motor assembly with isolator
50050349-001/U	15V transformer
50052641-001/U	Top cover for small bypass models
50052641-002/U	Top cover for large bypass models
50052642-001/U	Bottom cover for small advanced bypass models
50052642-002/U	Bottom cover for large advanced bypass models
50052653-001/U	Wire terminal cover for fan model
50057547-002/U	Circuit board for HE150 TrueEASE small advanced bypass humidifier
50057547-003/U	Circuit board for HE250 TrueEASE large advanced bypass humidifier

# Bypass Humidifiers

## HE225; HE265 Bypass Flow-through Humidifier



Bypass Flow-through Humidifiers use the warm air furnace blower to provide whole house humidification.

- Humidifier pad is coated with AGION antimicrobial agent
- Pre-assembled for quicker installation
- Small footprint, light weight and reversible components allow for easy mounting on either warm air supply or cold air return of any forced air furnace
- Interior components designed for quick maintenance and service
- Option of automatic humidity control or standard humidistat
- Standard tested per ARI Standard 610

**Type:** Evaporative Flow-Through Humidifier

**Color:** White and Blue

**Mounting:** Duct mount

**Voltage:** 24 Vac

**Frequency:** 60 Hz

**Electrical Rating:** 0.5A

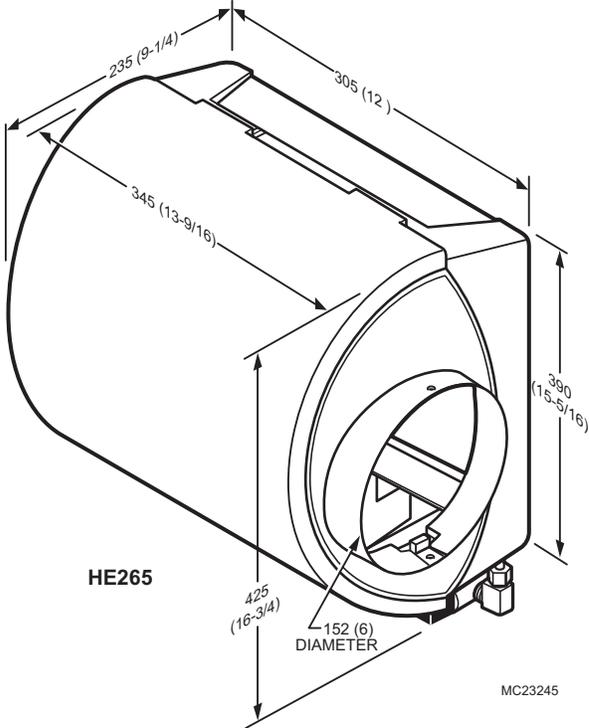
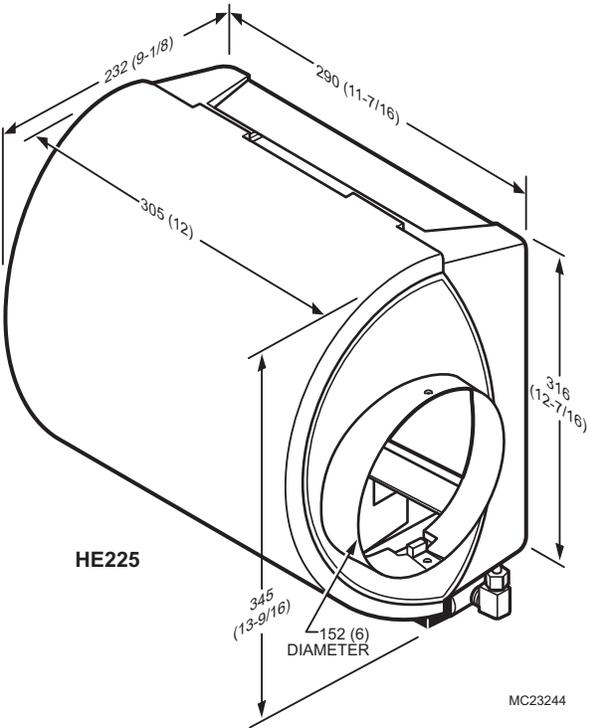
**Bypass Duct Opening Diameter:** 152 mm (6 in.)

**Approvals**

**Underwriters Laboratories Inc:** UL/cUL Listed Report E185662

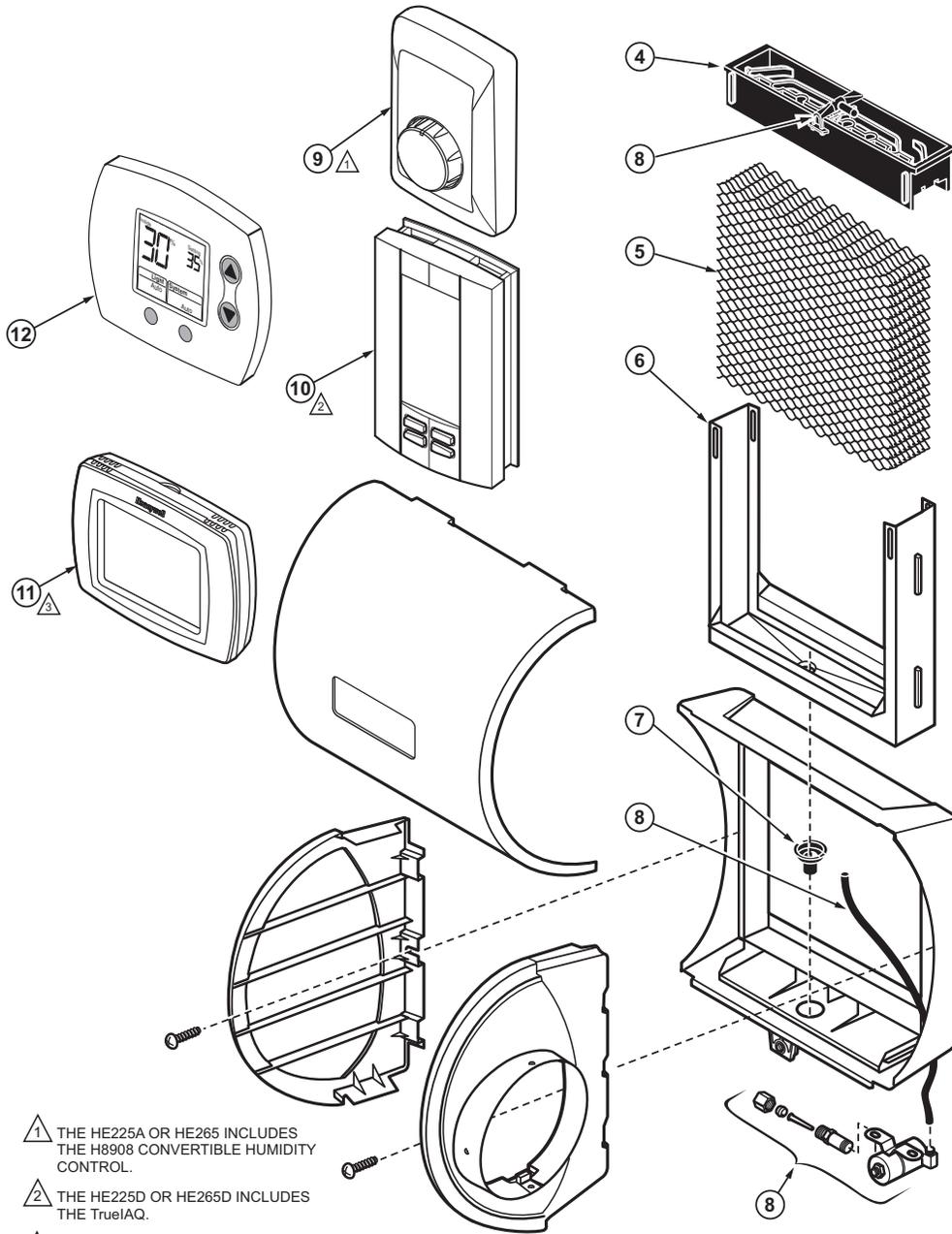
Product Number	Capacity (per day)		Plenum Opening		Descriptions	Includes
	liter	gal	mm	inch		
HE225A1014/U	46 L per day	12 gal. per day	241 mm high x 238 mm wide	9 7/16 in. high x 9 5/18 in. wide	Bypass Flow Humidifier with H8908 Control	Humidifier, summer shut-off damper humidifier pad, mounting template, self-piercing saddle valve 24 Vac transformer and wire, standard H8908 humidistat and bypass installation materials.
HE265A1234/U	64 L per day	17 gal. per day	321 mm high x 248 mm wide	12 5/8 in. high x 9 3/4 in. wide	Bypass Flow Humidifier with H8908B Humidistat	Humidifier, summer shut-off damper humidifier pad, mounting template, self-piercing saddle valve 24 Vac transformer and wire, standard H8908B humidistat, and bypass installation materials

Dimensions in millimeters (inches)



# Bypass Humidifiers

## HE225 and HE265 Exploded View

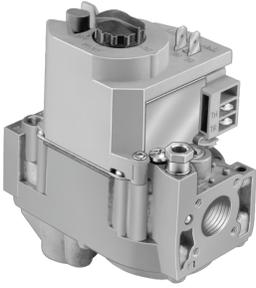


- 1 THE HE225A OR HE265 INCLUDES THE H8908 CONVERTIBLE HUMIDITY CONTROL.
- 2 THE HE225D OR HE265D INCLUDES THE TrueIAQ.
- 3 THE HE225V AND HE265V INCLUDES THE VisionPRO IAQ.

No.	Description	HE225 Part Number	HE265 Part Number
4	PerfectFlo™ water distribution tray	32001619-001	32001630-001
5	Humidifier Pad (pad has antimicrobial coating)	HC22E1003	HC26E1004
6	Humidifier Pad Frame	32001621-001	32001632-001
7	Drain fitting	32001615-001	32001615-001
8	Solenoid valve assembly (includes nozzle)	32001639-002	32001639-002
9	H8908 Humidity Control	H8908ASPST	H8908ASPST
10	TrueIAQ Digital Automatic Control with Outdoor Enthalpy Sensor	DG115EZIAQ	DG115EZIAQ
11	VisionPRO IAQ with outdoor temp sensor	YTH9421C1010	YTH9421C1010
12	HumidiPRO Digital Humidity Control	H6062A1000	H6062A1000
—	Hardware Kit for Solenoid Assembly (same as Solenoid valve assembly without the solenoid valve)	32001752-001	32001752-001
—	Current Sensing Relay	32001754-001	32001754-001

M23213C

## VR8200 Continuous Pilot Dual Automatic Valve Combination Gas Controls



**Type:** Single Stage  
**Body Pattern:** Straight-through  
**Type of Gas:** Natural  
**Capacity:** 130,000 BTU/hr 1 in. PD; 20,000 BTU/hr minimum  
 200,000 BTU/hr maximum  
**Anticipator Setting:** 0.5 A  
**Ignition Type:** Standing Pilot  
**Pressure Ratings:** 1/2 psi (3.5 kPa)  
**Pressure Tapping:** 1/8 in. NPT with plug  
**Ambient Temperature Range:** 0 F to 175 F (-18 C to +79 C)  
**Electrical Ratings:** 24 Vac  
**Frequency:** 60 Hz  
**Pilot Gas Outlet:** Compression fitting for 1/4 in. OD tubing  
**Electrical Connections:** Combination screw and 1/4 in. male quick connects.  
**Mounting:** 0 to 90 degrees in any direction from the upright position of the gas control knob, including vertically.  
**Approvals**  
**Australian Gas Association:** Design Certificate: 4214; Approved for Delta C Applications  
**CSA International:** 112395  
**Underwriters Laboratories, Inc:** UL Component Recognized MCC22.MH5323.

**Combination gas controls for use in 24 Vac, gas-fired, standing pilot appliances with capacities from 20 to 200 cfh.**

- Controls include manual valve, two automatic operators, servo pressure regulator and pilot adjustment.
- Compact size.
- Provide two automatic valves.
- Solenoid-operated first automatic valve opens on thermostat call for heat; closes when call for heat ends.
- Diaphragm-operated second automatic valve opens under control of regulator; closes if gas or power supply is interrupted.
- Meets codes requiring dual safety shutoff.
- Natural to LP and LP to Natural conversion kits available for standard and slow opening gas valves.
- LITE-RITE (OFF-PILOT-ON) lighting sequence.
- All adjustments, wiring connections and pilot outlet are accessible from top of control.
- Adjustable servo regulator effectively maintains almost constant gas output pressure under wide fluctuations in gas supply pressure.
- Compatible with ECO connector.

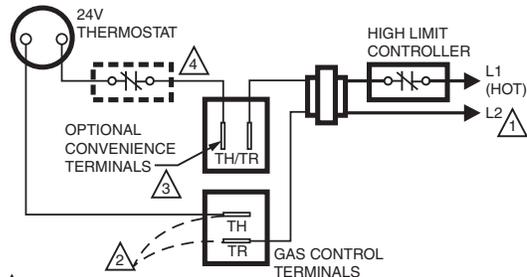
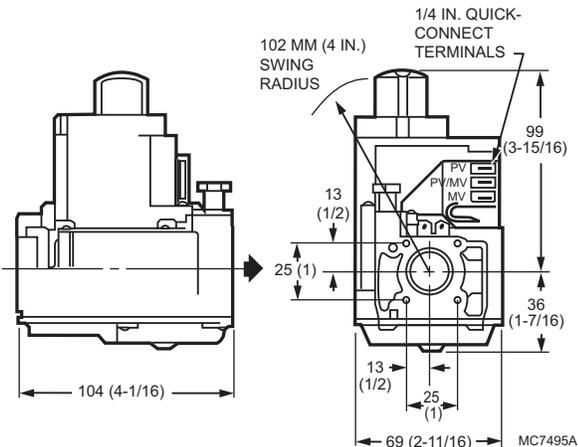
### Accessories:

- 390427A** 3/4 inch x 1/2 inch reducer bushing for valves
- 390427B** 1/2 inch x 3/8 inch reducer bushing for valves
- 390427E** Two 3/4 in. NPT x 1/2 in. NPT reducer bushings
- 392877** 1/4 inch barbed vent fitting
- 393200-1** ECO connector bag assembly, includes ECO adapter with 1/4 inch (6 mm) quick-connects
- 393690-4** Flange Kit bag assembly, includes 3/4 in. straight flange, O-ring, and hex screws.
- 393690-13** Flange Kit bag assembly, includes 1/2 inch angle flange, O-ring, 9/64 inch hex screws and 9/64 inch hex wrench
- 393690-15** Flange Kit bag assembly, includes 3/4 inch angle flange, O-ring, 9/64 inch hex screws and 9/64 inch hex wrench
- 393691** Single Stage Natural Gas to LP Conversion kit, including regulator spring, screw and cap
- 394588** Single Stage LP to Natural Gas Conversion kit, including regulator spring, screw and cap
- 395253-1** Single Stage Natural Conversion kit (5 in. wc to 7 in. wc adjustable).

Product Number	Opening Characteristics	Inlet Outlet Size (in.)	Pressure Regulator Setting		Includes
			(psi)	(kPa)	
VR8200A2322/U	Standard Opening	1/2 in. x 1/2 in.	3.5 in. wc	0.87 kPa	3/16 in. to 1/4 in. terminal adapters Natural to LP gas conversion kit.

Dimensions in inches (millimeters)

Wiring connections for 24 volt control

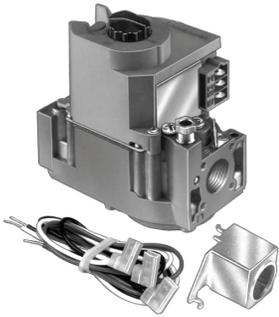


- 1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
- 2 DO NOT JUMPER THESE TERMINALS. THIS SHORTS VALVE COIL AND CAN BURN OUT ANTICIPATOR IN THERMOSTAT.
- 3 CONVENIENCE TERMINALS SERVE ONLY AS A TIE POINT. THEY ARE NOT INTERNALLY WIRED TO THE CONTROL CIRCUIT OR TO GROUND.
- 4 OPTIONAL HIGH LIMIT.

M2915C

# Combination Gas Controls

## VR8304 Low Voltage Intermittent Pilot Dual Automatic Valve Combination Gas Controls



**Type:** Single Stage  
**Body Pattern:** Straight-through  
**Type of Gas:** Natural  
**Capacity:** 300,000 BTU/hr 1 in. PD;  
 30,000 BTU/hr minimum; 415,000 BTU/hr maximum  
**Anticipator Setting:** 0.62 A  
**Ignition Type:** Intermittent Pilot  
**Pressure Ratings:** 1/2 psi (3.5 kPa)  
**Pressure Tapping:** 1/8 in. NPT with plug  
**Ambient Temperature Range:** -40 F to +175 F (-40 C to +79 C)  
**Pilot Gas Outlet:** Compression fitting for 1/4 in. OD tubing  
**Electrical Ratings:** 24 Vac  
**Frequency:** 60 Hz  
**Electrical Connections:** 1/4 in. male quick connects  
**Mounting:** 0 to 90 degrees in any direction from the upright position of the gas control knob, including vertically.  
**Approvals**  
**Australian Gas Association:** Design Certificate: 4214; Approved for Delta C Applications  
**CSA International:** 112395

**Combination gas control for use in 24 Vac, gas-fired, intermittent pilot appliances with capacities from 30 to 415 cfh.**

- Controls include safety shutoff, manual valve, two automatic operators, pressure regulator and pilot adjustment.
- Use with S86F,H; S860D; S8600F,H; S8610 and S90A,B Control Modules.
- Compact size.
- Provide two automatic valves.
- Solenoid operated first automatic valve opens on thermostat call for heat; closes when call for heat ends.
- Diaphragm-operated second automatic valve opens under control of regulator; closes if gas or power supply is interrupted.
- Meet codes requiring dual safety shutoff.
- Natural to LP and LP to Natural conversion kits available for standard and slow opening gas valves.
- All adjustments, wiring connections and pilot outlet are accessible from top of control.
- Adjustable servo regulator effectively maintains almost constant gas output pressure under wide fluctuations in gas supply pressure.
- Compatible with ECO connector.
- ON-OFF lighting sequence.

**Underwriters Laboratories, Inc:** Component Recognized  
 MCCZ2.MH5323

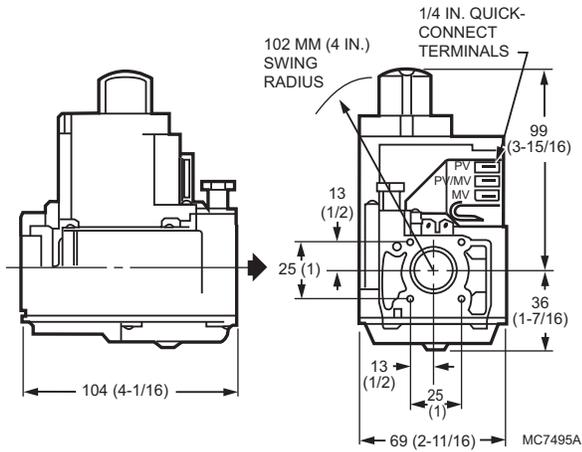
### Accessories:

- 390427A** 3/4 inch x 1/2 inch reducer bushing for valves
- 390427B** 1/2 inch x 3/8 inch reducer bushing for valves
- 390427E** Two 3/4 in. NPT x 1/2 in. NPT reducer bushings
- 392877** 1/4 inch barbed vent fitting
- 393690-4** Flange Kit bag assembly, includes 3/4 in. straight flange, O-ring, and hex screws.
- 393690-13** Flange Kit bag assembly, includes 1/2 inch angle flange, O-ring, 9/64 inch hex screws and 9/64 inch hex wrench
- 393690-15** Flange Kit bag assembly, includes 3/4 inch angle flange, O-ring, 9/64 inch hex screws and 9/64 inch hex wrench
- 393691** Single Stage Natural Gas to LP Conversion kit, including regulator spring, screw and cap
- 394588** Single Stage LP to Natural Gas Conversion kit, including regulator spring, screw and cap
- 395253-1** Single Stage Natural Conversion kit (5 in. wc to 7 in. wc adjustable).

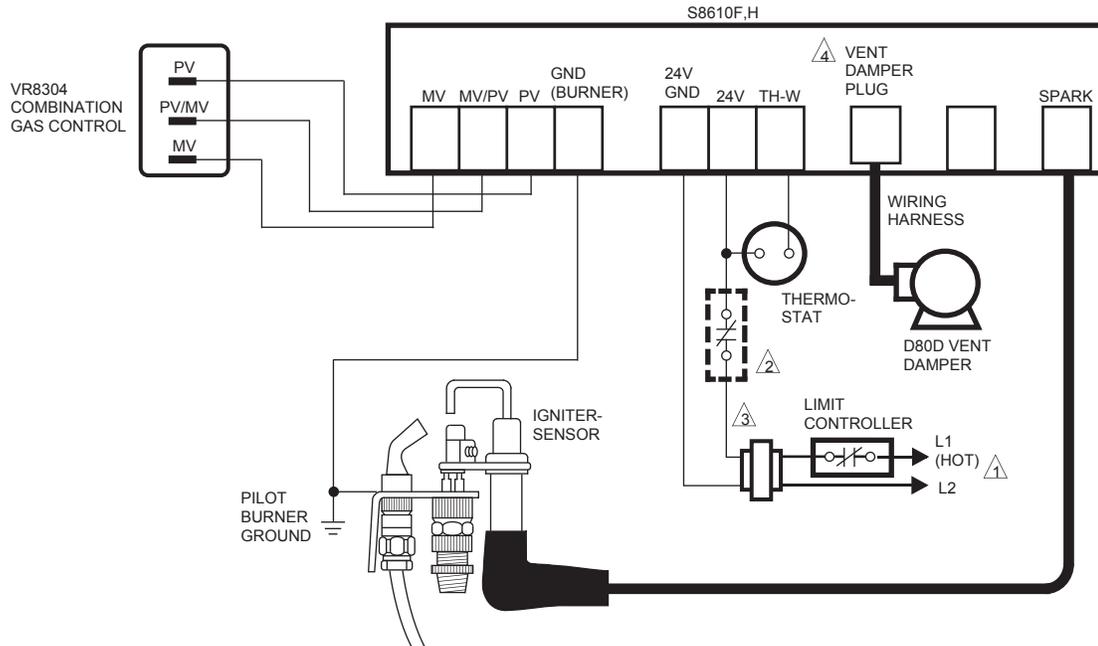
Product Number	Opening Characteristics	Inlet Outlet Size (in.)	Pressure Regulator Setting		Includes
			(psi)	(kPa)	
VR8304M4515/U	Standard Opening	3/4 in. x 3/4 in.	3.5 in. wc	0.87 kPa	Two 3/4 in. x 1/2 in. reducer bushing; Natural to LP gas conversion kit; . 1/4 in. Compression Fitting

# Combination Gas Controls

## Dimensions in millimeters (inches)



## VR4304 wiring connections in intermittent ignition system.



- ⚠️ 1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
- ⚠️ 2 ALTERNATE LIMIT CONTROLLER LOCATION.
- ⚠️ 3 CONTROLS IN 24V CIRCUIT MUST NOT BE IN GROUND LEG TO TRANSFORMER.
- ⚠️ 4 REMOVE PLUG ONLY IF USING VENT DAMPER. FUSE BLOWS ON STARTUP WHEN PLUG IS REMOVED AND VENT DAMPER WIRING HARNESS IS INSTALLED; THEN MODULE WILL OPERATE ONLY WHEN VENT DAMPER IS CONNECTED.

M1507

# Thermocouples

## Q340 Universal 30 mV Thermocouple



Thermocouples generate a thermoelectric current that senses a pilot flame on gas-fired heating systems. The pilot flame heats the tip of the thermocouple, producing a temperature differential between it and the base. This temperature difference generates a small amount of DC power, measured in millivolts.

- Push-in clip, split nut, and adapter assembly for easy pilot burner installation.
- Spade or quick-connect terminals available for millivolt gas control connections.
- Male nut connector for Pilotstat® safety control power units.
- Available in a variety of lead lengths.

**Application:** Thermocouple for Standing Pilot Applications

**Voltage:** 30 mV

**Open circuit output:** 26 mV to 32 mV

**Temperature Ratings :**

Hot Junction--1400 F; Cold Junction--780 F

Hot Junction--760 C; Cold Junction--416 C

**Used With:** Q303, Q308, Q314, Q324, Q327

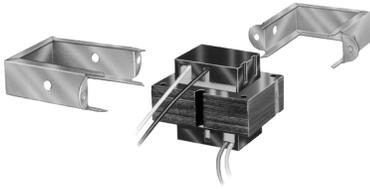
**Approvals**

**CSA International:** 112395

Product Number	Lead Length		Connection Type	Resistance	Includes
	in	mm			
• Q340A1413/U	24 in.	610 mm	11/32 32 Male Connector Nut	0.02 ohms	Adapter and Push-In Clip
• Q340A1421/U	30 in.	762 mm	11/32 32 Male Connector Nut	0.02 ohms	Adapter and Push-In Clip
• Q340A1439/U	36 in.	914 mm	11/32 32 Male Connector Nut	0.02 ohms	Adapter and Push-In Clip
• Q340A1447/U	48 in.	1219 mm	11/32 32 Male Connector Nut	0.03 ohms	Adapter and Push-In Clip

\* TRADELINE models • SUPER TRADELINE models

## AT20; AT40 NEMA Standard Universal Stripped-Down Transformer



Power a 24V control system; for direct mounting, or horizontal or vertical foot-mounting.

- Channel frame mounting feet and slots allow for three mounting positions
- Features color-coded lead wires for primary connections
- Overload protection provided
- Energy limiting, meet NEMA DC20-1992 Standard
- Meet NEC Class 2 not wet, Class 3 wet and UL 1585 requirements.

**Dimensions, Approximate:** 50.8 mm high x 57 mm wide x 47.6 mm deep (2 in. high x 2 1/4 in. wide x 1 7/8 in. deep)

**Frequency:** 50 Hz; 60 Hz

**Mounting:** Channel frame mounting allows for direct, horizontal or vertical foot mounting.

**NEMA Rating:** NEMA type B

**Temperature Range:** -29 C to +41 C (-20 F to +105 F)

**Approvals:**

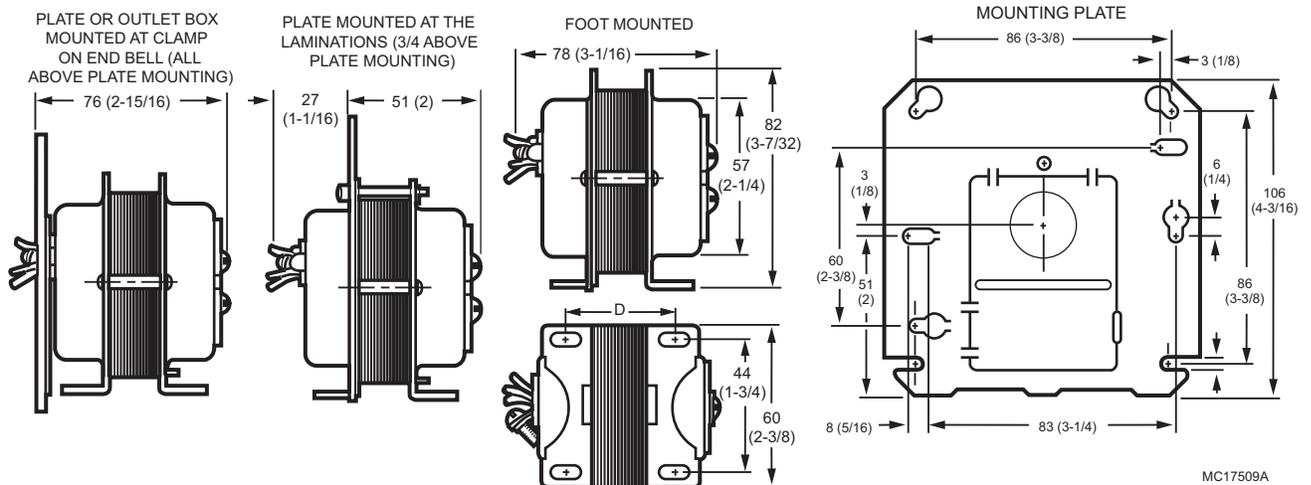
**Canadian Standards Association:** Certified

**Underwriters Laboratories, Inc.** UL Component Recognized.

Product Number	Electrical Ratings	Electrical Ratings Output	Electrical Connections - Primary		Electrical Connections - Secondary	
			inch	mm	inch	mm
* AT20B1056/U	Primary voltage--120 Vac; Secondary voltage--26.5 V.O.C.	24 Vac at 19 VA	9 in. color coded primary and secondary lead wires	229 mm color coded primary and secondary lead wires	9 in. color coded primary and secondary lead wires	229 mm color coded primary and secondary lead wires.
AT41A1012/U	Primary voltage--120 Vac; Secondary voltage--24 V.O.C.	24 Vac at 40 VA	7 in. primary lead wires	178 mm primary lead wires	Screw/quick-connect secondary	Screw/quick-connect secondary

\* TRADELINE models • SUPER TRADELINE models

### Dimensions in millimeters (inches)

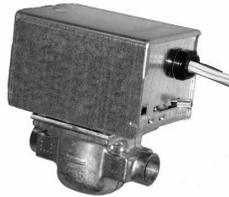


# Motorized Zone Valves

## V8043 Low Voltage Normally Closed Zone Valves



Flare Connection with Adapters



Sweat Connection



Inverted Flare Connection



NPT Connection

Two-way on-off 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.

**Application:** Hydronic Control

**Valve Type:** Zone Valve

**Body Pattern:** Two-way, Straight-through

**Valve Action:** Spring return to close

**Voltage:** 24 Vac; Power Consumption--7.7 VA

**Current Draw:** 0.32A

**Actuation:** Two position

**De-energized Position:** Normally Closed

**Electrical Connections:** 457 mm leads (18 in. leads)

**Ambient Temperature Range:** 52 C (125 F) Maximum

**Fluid Temperature Range:** 10 C to 93 C (50 F to 200 F)

**Materials**

**Body:** Brass

**Seat:** Brass

**Stem:** Stainless Steel

**Plug/Ball/Disc:** Buna-N (NBR) Rubber Ball

**Packing:** EPDM rubber

**Timing:** Nominal Open--15 sec

**Operating Humidity Range:** 5 to 95% relative humidity, non-condensing.

**Manual Opener:** Yes

**Approvals**

**Canadian Standards Association:** CSA Certified: File 1322

**Comments:** Valve designed for cycling (not constantly powered on) applications.

### Without End Switches

Maximum Differential Pressure Ratings (Close-off): 138 kPa (20 psi)

Product Number	Pipe Size		Connection Type	Frequency	Capacity		Static Pressure Rating		Includes	Additional Comments
	inch	DN			Cv	Kv	psi	kPa		
V8043C1033/U	3/8 in.	DN10	Flare	50 Hz; 60 Hz	3.5 Cv	3 Kv	125 psi	862 kPa	With 2 straight 3/4 in. sweat adapters.	—
V8043C1041/U	1/2 in.	DN15	Sweat	50 Hz; 60 Hz	3.5 Cv	3 Kv	125 psi	862 kPa	—	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.
V8043C1058/U	3/4 in.	DN20	Sweat	50 Hz; 60 Hz	3.5 Cv	3 Kv	125 psi	862 kPa	—	—
V8043C1066/U	1 in.	DN25	Sweat	50 Hz; 60 Hz	3.5 Cv	3 Kv	125 psi	862 kPa	—	—
V8043C1074/U	3/4 in.	DN20	Sweat	50 Hz; 60 Hz	3.5 Cv	3 Kv	125 psi	862 kPa	With 1/16 in. bypass hole	With 1/16 in. bypass hole in inlet fitting.
V8043C1116/U	3/8 in.	DN10	Flare	50 Hz; 60 Hz	3.5 Cv	3 Kv	125 psi	862 kPa	—	Order adapters separately - 27270A (1/2 in. sweat), - 272708B (3/4 in. sweat).
V8043C1124/U	1/2 in.	DN15	Inverted Flare	50 Hz; 60 Hz	3.5 Cv	3 Kv	125 psi	862 kPa	—	Order adapters separately - 27270A (1/2 in. sweat), - 272708B (3/4 in. sweat).
V8043C3302/U	3/8 in.	DN10	Flare	50 Hz; 60 Hz	3.5 Cv	3 Kv	300 psi	2068 kPa	With 2 straight 3/4 in. sweat adapters.	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.
V8043C3310/U	1/2 in.	DN15	Inverted Flare	60 Hz	3.5 Cv	3 Kv	300 psi	2068 kPa	—	No adapters included

# Motorized Zone Valves

## With End Switches

**Auxiliary End Switch:** N.O. SPST

**End Switch Rating:** 50 VA pilot duty @ 24 V; 4.4 A running with 26.4 A inrush @ 120 V

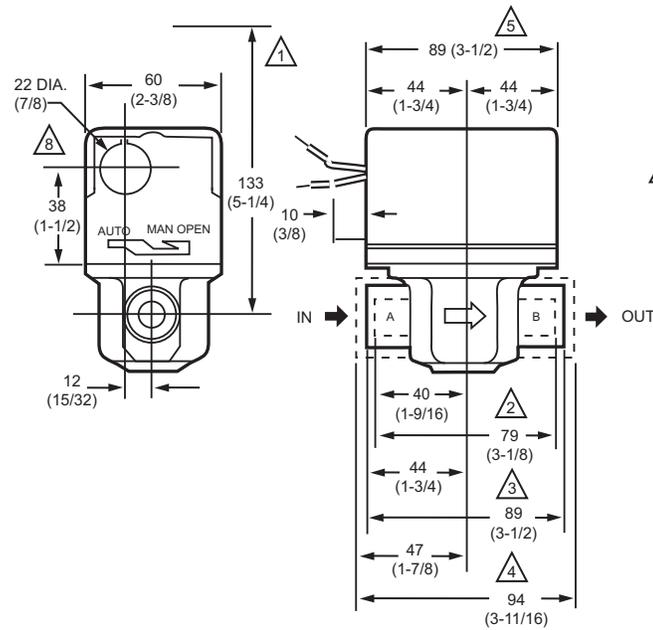
**Additional Comments:** Use this valve in closed loop hydronic systems that do not contain dissolved oxygen in system water, such as fresh water from frequent source of makeup water.

Product Number	Pipe Size		Connection Type	Frequency	Capacity		Maximum Differential Pressure Ratings (Close-off)		Static Pressure Rating		Includes
	inch	DN			Cv	Kv	psi	kPa	psi	kPa	
V8043G1000/U	1/2 in.	DN15	Sweat	50 Hz; 60 Hz	3.5 Cv	3 Kv	20 psi	138 kPa	125 psi	862 kPa	—
V8043G1018/U	3/4 in.	DN20	Sweat	50 Hz; 60 Hz	3.5 Cv	3 Kv	20 psi	138 kPa	125 psi	862 kPa	—
V8043G1026/U	1 in.	DN25	Sweat	50 Hz; 60 Hz	3.5 Cv	3 Kv	20 psi	138 kPa	125 psi	862 kPa	—
V8043G1034/U	3/8 in.	DN10	Flare	50 Hz; 60 Hz	3.5 Cv	3 Kv	20 psi	138 kPa	125 psi	862 kPa	With 2 straight 3/4 in. sweat adapters.
V8043G1109/U	3/4 in.	DN20	NPT	50 Hz; 60 Hz	3.5 Cv	3 Kv	20 psi	138 kPa	125 psi	862 kPa	—
V8043G1125/U	1/2 in.	DN15	Inverted Flare	50 Hz; 60 Hz	3.5 Cv	3 Kv	20 psi	138 kPa	125 psi	862 kPa	—
V8043G1133/U	3/8 in.	DN10	Flare	50 Hz; 60 Hz	3.5 Cv	3 Kv	20 psi	138 kPa	125 psi	862 kPa	—
V8043G1158/U	1 in.	DN25	Sweat	50 Hz; 60 Hz	8 Cv	6.9 Kv	8 psi	55 kPa	125 psi	862 kPa	—
V8043G1174/U	3/4 in.	DN20	Sweat	50 Hz; 60 Hz	8 Cv	6.9 Kv	8 psi	55 kPa	125 psi	862 kPa	—
V8043G1182/U	1 in.	DN25	NPT	50 Hz; 60 Hz	10 Cv	8.5 Kv	6.5 psi	45 kPa	125 psi	862 kPa	—
V8043G3303/U	3/8 in.	DN10	Flare	50 Hz; 60 Hz	3.5 Cv	3 Kv	20 psi	138 kPa	300 psi	2068 kPa	With 2 straight 3/4 in. sweat adapters.
V8043G3311/U	1/2 in.	DN15	Inverted Flare	60 Hz	3.5 Cv	3 Kv	20 psi	138 kPa	300 psi	2068 kPa	—

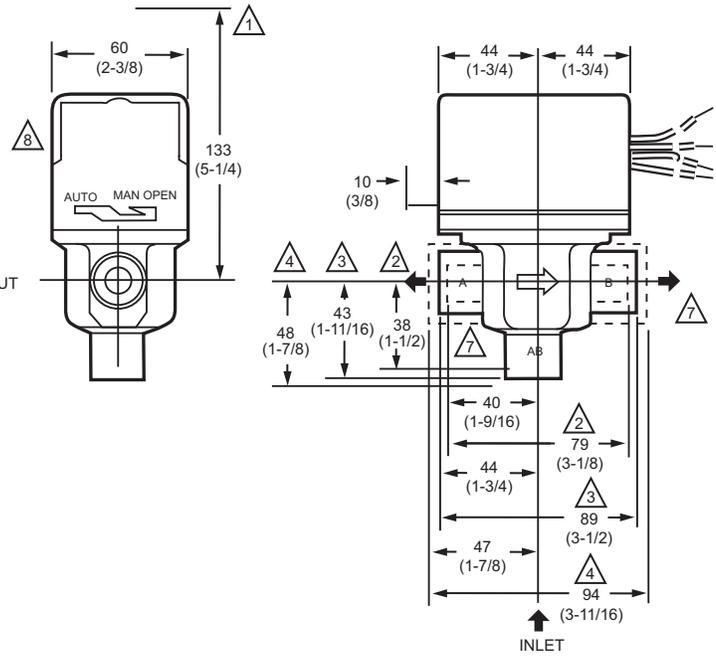
# Motorized Zone Valves

Dimensions in millimeters (inches)

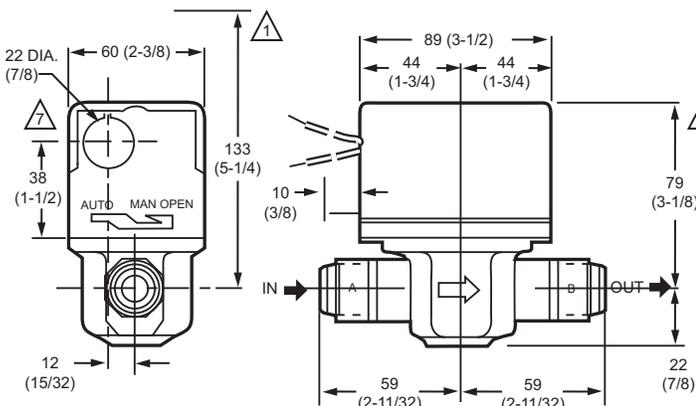
V4043, V8043 SWEAT COPPER CONNECTION MODELS <sup>6</sup>



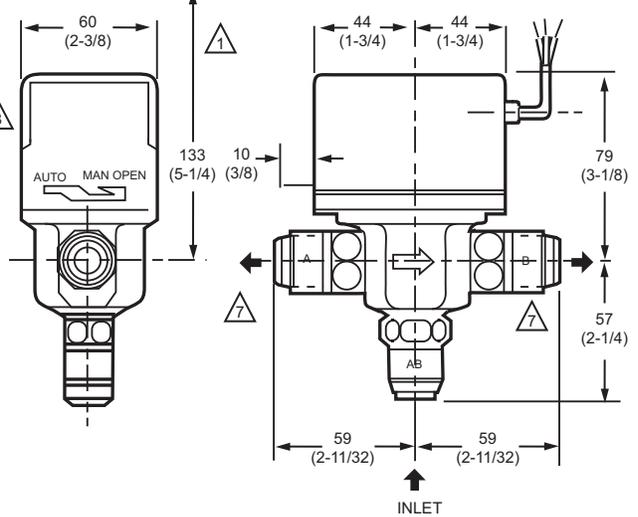
V4044, V8044 SWEAT COPPER CONNECTION MODELS



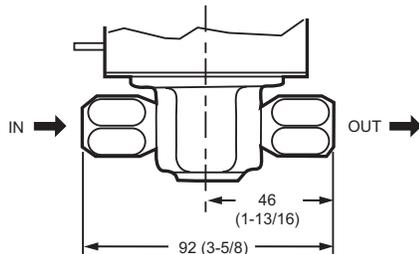
V4043, V8043 FLARE-FITTING MODELS <sup>6</sup>



V4044, V8044 FLARE-FITTING MODELS



V8043 INVERTED FLARE MODELS



- <sup>1</sup> HEIGHT NEEDED TO REMOVE COVER.
- <sup>2</sup> DIMENSIONS FOR 1/2 IN. COPPER TUBING.
- <sup>3</sup> DIMENSIONS FOR 3/4 IN COPPER TUBING.
- <sup>4</sup> DIMENSIONS FOR 1 IN. COPPER TUBING.
- <sup>5</sup> 124 MM (4-7/8 IN.) MAX ON V8034F WITH TERMINAL BOARD ENCLOSURE.
- <sup>6</sup> V4034B AND V8043B VALVES THAT ARE NORMALLY OPEN IN THE DE-ENERGIZED POSITION HAVE NO MANUAL LEVER. THE VALVES ALSO HAVE A REVERSED POWERHEAD WHERE THE LEADWIRES EXIT THE POWERHEAD ABOVE THE B (OUTLET) PORT RATHER THAN ABOVE THE A (INLET) PORT.
- <sup>7</sup> REFER TO MOUNTING INSTRUCTIONS.
- <sup>8</sup> OPENING FOR 1/2 IN. CONDUIT ON MANUAL LEVER SIDE FOR V4043, V8043; OPENING ON OPPOSITE SIDE FOR V4044, V8044.

MC10175

# Motorized Zone Valves

## V8043 Low Voltage Normally Open Zone Valves



NPT Connection



Inverted Flare Connection



Flare Connection with Adapters



Sweat Connection

Two-way on-off 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.

**Application:** Hydronic Control

**Valve Type:** Zone Valve

**Body Pattern:** Two-way, Straight-through

**Valve Action:** Spring return to close

**Voltage:** 24 Vac; Power Consumption--7.7 VA

**Current Draw:** 0.32A

**Actuation:** Two position

**Deenergized Position:** Normally Closed

**Electrical Connections:** 457 mm leads (18 in. leads)

**Ambient Temperature Range:** 52 C (125 F) Maximum

**Fluid Temperature Range:** 10 C to 93 C (50 F to 200 F)

**Maximum Differential Pressure Ratings Close-off:** 138 kPa (20 psi)

**Materials**

**Body:** Brass

**Seat:** Brass

**Stem:** Stainless Steel

### Without End Switches

Product Number	Pipe Size		Con- nection Type	Frequency	Capacity		Static Pressure Rating		Includes	Additional Comments
	inch	DN			Cv	Kv	psi	kPa		
V8043D1023/U	3/4 in.	DN20	NPT	50 Hz; 60 Hz	3.5 Cv	3 Kv	125 psi	862 kPa	1/16 in. bypass hole	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.
V8043D1031/U	3/4 in.	DN20	NPT	50 Hz; 60 Hz	3.5 Cv	3 Kv	125 psi	862 kPa	—	—
V8043D1049/U	3/4 in.	DN20	Sweat	50 Hz; 60 Hz	3.5 Cv	3 Kv	125 psi	862 kPa	1/16 in. bypass hole	—
V8043D1064/U	3/4 in.	DN20	Sweat	50 Hz; 60 Hz	3.5 Cv	3 Kv	125 psi	862 kPa	—	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.
V8043D1072/U	3/4 in.	DN20	Sweat	50 Hz; 60 Hz	1 Cv	0.9 Kv	125 psi	862 kPa	—	—
V8043D1080/U	3/8 in.	DN10	Flare	50 Hz; 60 Hz	3.5 Cv	3 Kv	125 psi	862 kPa	2 straight 3/4 in. sweat adapters.	—
V8043D1156/U	1/2 in.	DN15	Sweat	50 Hz; 60 Hz	3.5 Cv	3 Kv	125 psi	862 kPa	—	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.
V8043D1197/U	3/8 in.	DN10	Flare	50 Hz; 60 Hz	3.5 Cv	3 Kv	125 psi	862 kPa	—	Order adapters separately - 272704A (1/2 in. sweat) -272704B (3/4 in. sweat).
V8043D1205/U	1/2 in.	DN15	Inverted Flare	50 Hz; 60 Hz	3.5 Cv	3 Kv	125 psi	862 kPa	—	—
V8043D3300/U	3/8 in.	DN10	Flare	50 Hz; 60 Hz	3.5 Cv	3 Kv	300 psi	2068 kPa	2 straight 3/4 in. sweat adapters.	with (2) 3/8 in. flare to 3/4 in. sweat adapters.
V8043D3318/U	1/2 in.	DN15	Inverted Flare	60 Hz	3.5 Cv	3 Kv	300 psi	2068 kPa	—	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. Hot water use only.

### With End Switches

Auxiliary End Switch: N.C. SPST

End Switch Rating: 2.2 A @ 120Vac 60Hz

Frequency: 50 Hz; 60 Hz

Static Pressure Rating: 862 kPa (125 psi)

Product Number	Pipe Size		Connection Type	Capacity		Comments
	inch	DN		Cv	Kv	
V8043D1189/U	1 in.	DN25	Sweat	3.5 Cv	3 Kv	Aux. Switch (N.C.)=2.2 amps, with normally closed SPST auxiliary switch.
V8043D1239/U	1/2 in.	DN15	Inverted Flare	3.5 Cv	3 Kv	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.

# Motorized Zone Valves

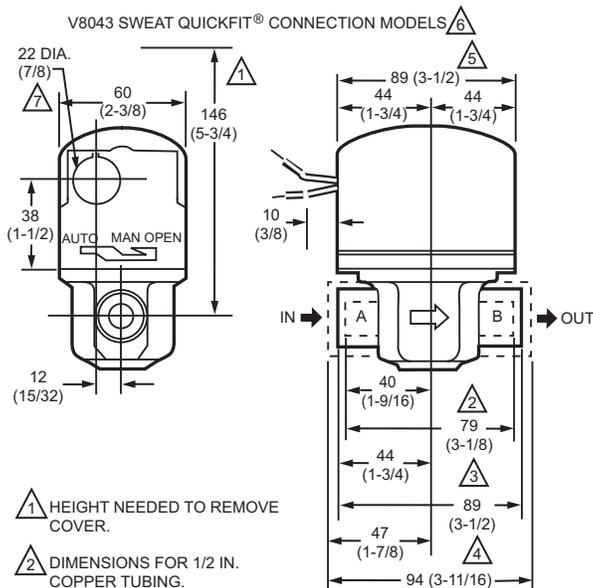
## V8043 Low Voltage Series 5000 QuickFit® Zone Valves



Two-way on-off low voltage valves consist of an actuator and valve assembly for controlling the flow of hot water.

- All models may be installed without disassembling the valve.
- Compact construction for easy installation.
- 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.
- Complete powerhead may be removed or replaced without breaking plumbing line connections or draining the system.
- “Quick Fit” pushbutton powerhead makes it easy to remove for service.
- Series 5000 replacement powerhead is backward compatible with series 1000 zone valves.
- Innovative motor technology offers silent operation, water hammer resist and longer life.

### Dimensions in millimeters (inches)



1 HEIGHT NEEDED TO REMOVE COVER.

2 DIMENSIONS FOR 1/2 IN. COPPER TUBING.

3 DIMENSIONS FOR 3/4 IN COPPER TUBING.

4 DIMENSIONS FOR 1 IN. COPPER TUBING.

5 124 MM (4-7/8 IN.) MAX ON V8034F WITH TERMINAL BOARD ENCLOSURE.

6 V8043B VALVES THAT ARE NORMALLY OPEN IN THE DE-ENERGIZED POSITION HAVE NO MANUAL LEVER. THE VALVES ALSO HAVE A REVERSED POWERHEAD WHERE THE LEADWIRES EXIT THE POWERHEAD ABOVE THE B (OUTLET) PORT RATHER THAN ABOVE THE A (INLET) PORT.

7 OPENING FOR 1/2 IN. CONDUIT ON MANUAL LEVER SIDE FOR V8043  
MC23257

**Application:** Hydronic Control

**Valve Type:** Zone Valve

**Body Pattern:** Two-way, Straight-through

**Valve Action:** Spring return to close

**Voltage:** 24 Vac; Power Consumption--7.7 VA

**Current Draw:** 0.32A

**Frequency:** 50 Hz; 60 Hz

**Actuation:** Two position

**Deenergized Position:** Normally Closed

**Electrical Connections:** 457 mm leads (18 in. leads)

**Ambient Temperature Range:** 52 C (125 F) Maximum

**Fluid Temperature Range:** 10 C to 93 C (50 F to 200 F)

**Maximum Differential Pressure Ratings Close-off:** 138 kPa (20 psi)

**Static Pressure Rating:** 2068 kPa (300 psi)

### Materials

**Body:** Brass

**Seat:** Brass

**Stem:** Stainless Steel

**Plug/Ball/Disc:** Buna-N (NBR) Rubber Ball

**Packing:** EPDM rubber

**Timing:** Nominal Open--15 sec

**Operating Humidity Range:** 5 to 95% relative humidity, non-condensing.

**Manual Opener:** No

### Approvals

**Canadian Standards Association:** CSA Certified: File 1322

**Comments:** Valve designed for cycling (not constantly powered on) applications.

# Motorized Zone Valves

## Without End Switches

Fluid Temperature: 5 C to 93 C (40 F to 200 F)

Product Number	Pipe Size		Connection Type	Capacity		Deenergized Position	Manual Opener	Includes	Additional Comments
	inch	DN		Cv	Kv				
V8043C5033/U	3/8 in.	DN10	Flare	3.5 Cv	3 Kv	Normally Closed	Yes	With 2 straight 3/4 in. sweat adapters.	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.
V8043C5058/U	3/4 in.	DN20	Sweat	3.5 Cv	3 Kv	Normally Closed	Yes	—	
V8043C5124/U	1/2 in.	DN15	Inverted Flare	3.5 Cv	3 Kv	Normally Closed	Yes	—	Order adapters separately - 27270A (1/2 in. sweat) - 272708B (3/4 in. sweat)
V8043D5080/U	3/8 in.	DN10	Flare	3.5 Cv	3 Kv	Normally Open	No	With 2 straight 3/4 in. sweat adapters.	—
V8043D5197/U	3/8 in.	DN10	Flare	3.5 Cv	3 Kv	Normally Open	No	—	Order adapters separately - 27270A (1/2 in. sweat) - 272708B (3/4 in. sweat)

## With End Switches

Auxiliary End Switch: N.O. SPST

End Switch Rating: 50 VA pilot duty @ 24 V; 4.4 A running with 26.4 A inrush @ 120 V

Fluid Temperature: 10 C to 93 C (50 F to 200 F)

Manual Opener: Yes

Product Number	Pipe Size		Connection Type	Capacity		Deenergized Position	Includes	Additional Comments
	inch	DN		Cv	Kv			
V8043G5000/U	1/2 in.	DN15	Sweat	3.5 Cv	3 Kv	Normally Closed	—	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.
V8043G5018/U	3/4 in.	DN20	Sweat	3.5 Cv	3 Kv	Normally Closed	—	
V8043G5034/U	3/8 in.	DN10	Flare	3.5 Cv	3 Kv	Normally Closed	With 2 straight 3/4 in. sweat adapters.	
V8043G5125/U	1/2 in.	DN15	Inverted Flare	3.5 Cv	3 Kv	Normally Closed	—	

## Zone Valve Replacement Parts

Product Number	Description	
272708A/U	Two 1/2 in. inverted flare to 1/2 in. sweat adapters	
272708B/U	Two 1/2 in. inverted flare to 3/4 in. sweat adapters	
40003918-006/U	Adaptor kit for V8043, 2-way hydronic valves Includes adapter plate, ball and shaft assembly, large O-ring and four mounting screws.	

# Refrigeration Controllers

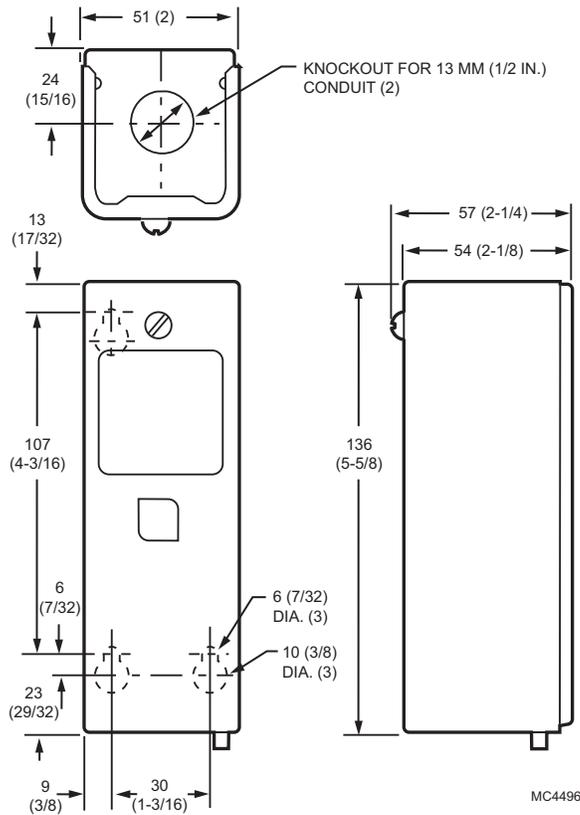
## T6031A Refrigeration Temperature Controller



Provide limit or temperature control in refrigerated areas where remote mounting of sensing element is required.

- Liquid-filled copper elements provide rapid sensing to control the compressor system.
- Control temperature in a duct, tank, freezer or cooler.
- Controller element can be directly immersed in the controlled medium.
- Adjustable control setpoint.
- Ambient temperature compensation provides good temperature control.
- Refer to T775 Electronic Remote Temperature Controller where more exact control is required and/or remote controller location is preferred.

### Dimensions in millimeters (inches)



**Application:** Provides control of cooled or refrigerated space

**Type:** Remote bulb

**Sensor Element:** Copper bulb

**Bulb Size:** 10 mm diameter x 76 mm long (3/8 in. diameter x 3 in. long)

**Maximum Operating Temperature:** 52 C (125 F)

**Voltage:** 120 Vac; 240 Vac

**Contact Ratings (120 Vac):** 8.0 AFL, 48.0 ALR

**Contact Ratings (240 Vac):** 5.1 AFL, 30.6 ALR

**Approvals:**

**Canadian Standards Association:** Certified: File No. LR95329-1

**Underwriters Laboratories, Inc.** File: SA481, Guide: SDFY

Product Number	Setting Temperature Range	Switching	Capillary Length		Comments
	(C)		(m)	(ft)	
T6031A1219	-35 C to +30 C	1 SPDT	2.4 m	8 ft.	Celsius model, Bi-lingual French literature
T6031A1227	-35 C to +30 C	1 SPDT	1.5 m	5 ft.	Celsius model, Bi-lingual French literature
T6031A1235	-35 C to +30 C	1 SPDT	6.1 m	20 ft.	Celsius model, Bi-lingual French literature

# Temperature Controllers

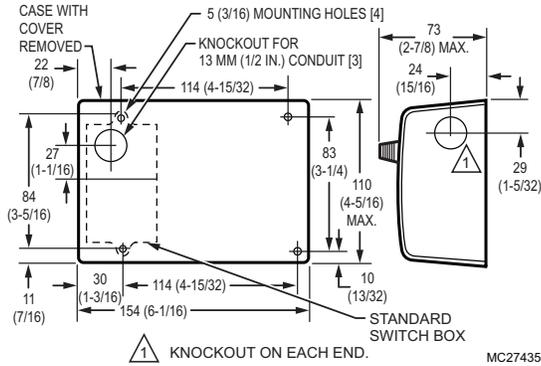
## T631A, B, C Farm Controllers



Provide line voltage control of heating, cooling and ventilating systems in farm buildings or storage areas.

- Use in barns, poultry houses, hog barns, pump houses, milk houses and crop storage houses.
- Treated to resist corrosion.
- Slots in front and bottom of case provide maximum air circulation over the coiled sensing element.
- SPDT snap switches permanently sealed against corrosion.
- Easy mounting using screws through holes in back of case.

### Dimensions in millimeters (inches)



**Type:** Agricultural Temperature Controller

**Application:** Provide line voltage control of heating, cooling and ventilating systems in farm buildings or storage areas

**Sensor Element:** Coiled Copper Tube

**Voltage:** 24 Vac or 120/240 Vac

**Temperature Differential:** 1.1 C (2 F)

**Color:** Red finish

**Approvals:**

**Canadian Standards Association:** Certified: File No. LR1620, Guide No. 400-E-O

**Underwriters Laboratories, Inc.** File No. E4436 Vol.1 Sec. UL Guide XAPX

Product Number	Temperature						Output	Contact Ratings		
	Setpoint Range		Maximum Operating		Interstage Differential			(24 Vac)	(120 Vac)	(240 Vac)
	(C)	(F)	(C)	(F)	(C)	(F)				
T631A1162	—	35 F to 100 F	49 C	120 F	—	—	1 SPDT (1 hp at 0.7 kW)	2.0A AFL	16.0 AFL, 96.0 ALR	8.0 AFL, 48.0 ALR
T631B1070	—	35 F to 100 F	49 C	120 F	0 C to 4 C adj.	0 F to 7 F adj.	2 SPDT (1 hp at 0.7 kW)	2.0A AFL	16.0 AFL, 96.0 ALR	8.0 AFL, 48.0 ALR
T631C1160	20 C to 60 C	—	67 C	150 F	—	—	1 SPDT	2.0A AFL	7.4 AFL, 44.4 ALR	3.7 AFL, 22.2 ALR

# Temperature Controllers

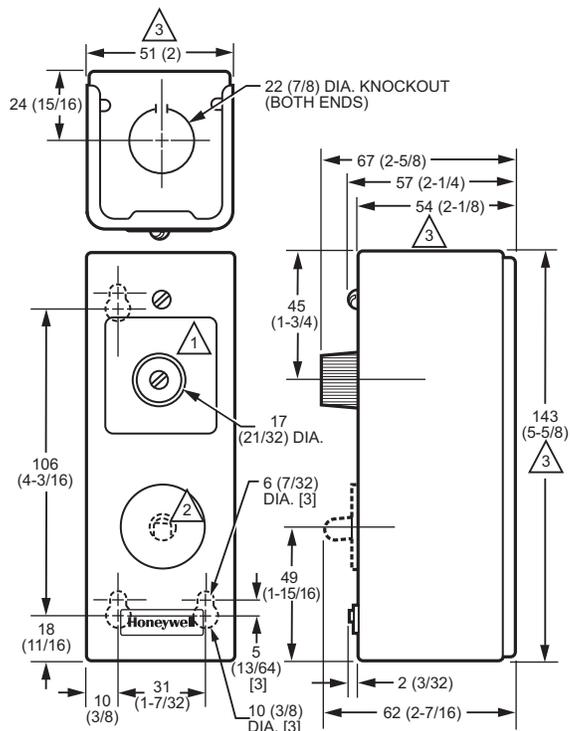
## T675A,B; T678A Remote Bulb Controllers



Remote bulb thermostats regulate temperature of air or liquids in ducts, pipes, tanks and boilers.

- Suitable for applications requiring temperature control of air or liquids where controller must be placed outside the sensing area.
- Typical uses include control of dampers and valves in heating, cooling and heating-cooling systems.
- Fast response models (available for use in return air duct) operate approximately four times faster than standard models.
- Controller can be mounted in any position. Ambient temperature compensation provides good temperature control.
- Refer to T775 Electronic Remote Temperature Controller where more exact control is required and/or remote controller location is preferred.
- T678 models have a maximum connected load of 2000 VA.

### Dimensions in millimeters (inches)



- 1 T675B DOES NOT HAVE AN ADJUSTMENT KNOB.  
 2 T675B HAS A MANUAL RESET BUTTON (INDICATED BY DASHED LINES).  
 3 TRADELINE MODELS T675A, T678A ONLY – NOREL COVER INCREASES THESE DIMENSIONS BY APPROXIMATELY 3 MM (1/8 IN.).

MC23928

**Type:** Remote bulb

**Application:** Control of dampers and valves in heating, cooling or heating-cooling systems

**Number of Sensor Inputs:** 1

**Sensor Element:** Copper bulb

**Voltage:** 120 Vac or 240/277 Vac

**Frequency:** 50 Hz; 60 Hz

**Output Type:** relay

**Approvals:**

**Canadian Standards Association:** CSA Listed: Report -1

**Underwriters Laboratories, Inc.** UL Listed: E4436, Vol. 4, Sec. 11, Guide XAPX

	Contact Ratings		
	(120 Vac)	(240 Vac)	(277 Vac)
<b>T675A with Adjustable Differential Temperature</b>	8.0 AFL, 48.0 ALR, 125 VA Pilot Duty	5.1 AFL, 30.6 ALR, 125 VA Pilot Duty	4.2 AFL, 25.2 ALR, 125 VA Pilot Duty
<b>T675A with Fixed Differential Temperature</b>	125 VA	125 VA	125 VA
<b>T678A</b>	8.0 AFL, 48.0 ALR	5.1 AFL, 30.6 ALR	4.2 AFL, 25.2 ALR

Product Number	Setpoint Temperature Range		Maximum Operating Temperature		Differential Temperature		Interstage Differential Temperature		Bulb Size		Capillary Length		Output	Comments
	(C)	(F)	(C)	(F)	(C)	(F)	(C)	(F)	(mm)	(inch)	(m)	(ft)		
<b>T675A1003</b>	—	0 F to 100 F	52 C	125 F	1.7 C to 5.6 C	3 F to 10 F	—	—	13 mm dia. x 106 mm long	1/2 in. x 4 3/16 in.	1.5 m	5 ft	1 SPDT	—
<b>T675A1029</b>	—	0 F to 100 F	52 C	125 F	1.7 C to 5.6 C	3 F to 10 F	—	—	13 mm dia. x 106 mm long	1/2 in. x 4 3/16 in.	6.1 m	20 ft.	1 SPDT	—
<b>T675A1169</b>	-15 C to +35 C	—	52 C	125 F	1.7 C to 5.6 C	3 F to 10 F	—	—	13 mm dia. x 106 mm long	1/2 in. x 4 3/16 in.	1.5 m	5 ft	1 SPDT	Celsius model

\* TRADELINE models • SUPER TRADELINE models

# Temperature Controllers

Product Number	Setpoint Temperature Range		Maximum Operating Temperature		Differential Temperature		Interstage Differential Temperature		Bulb Size		Capillary Length		Output	Comments
	(C)	(F)	(C)	(F)	(C)	(F)	(C)	(F)	(mm)	(inch)	(m)	(ft)		
T675A1466	15 C to 75 C	—	93 C	200 F	2 C to 6.6 C	3.6 F to 12 F	—	—	13 mm x 90 mm	1/2 in. x 3 9/16 in.	1.5 m	5 ft	1 SPDT	Celsius model
T675A1474	15 C to 75 C	—	93 C	200 F	2 C to 6.6 C	3.6 F to 12 F	—	—	13 mm x 90 mm	1/2 in. x 3 9/16 in.	6.1 m	20 ft.	1 SPDT	Celsius model
* T675A2068	-15 C to +35 C	—	52 C	125 F	1.7 C to 5.6 C	3 F to 10 F	—	—	13 mm dia. x 106 mm long	1/2 in. x 4 3/16 in.	1.5 m	5 ft	1 SPDT	Celsius model
* T675A2076	-15 C to +35 C	—	52 C	125 F	0.6 C fixed	1 F fixed	—	—	13 mm dia. x 106 mm long	1/2 in. x 4 3/16 in.	1.5 m	5 ft	1 SPDT	Celsius model
* T675A2084	-15 C to +35 C	—	93 C	200 F	1.7 C to 5.6 C	3 F to 10 F	—	—	13 mm dia. x 106 mm long	1/2 in. x 4 3/16 in.	6.1 m	20 ft.	1 SPDT	Celsius model
* T675A2100	15 C to 75 C	—	93 C	200 F	2 C to 6.6 C	3.6 F to 12 F	—	—	13 mm dia. x 106 mm long	1/2 in. x 4 3/16 in.	1.5 m	5 ft	1 SPDT	Celsius model
* T675A2118	75 C to 125 C	—	52 C	125 F	1.7 C to 5.6 C	3 F to 10 F	—	—	13 mm dia. x 106 mm long	1/2 in. x 4 3/16 in.	1.5 m	5 ft	1 SPDT	Celsius model
T678A1155	-15 C to +35 C	—	52 C	125 F	1.7 C	3 F	1.7 C to 5.6 C adj.	3 F to 10 F adj.	13 mm dia. x 106 mm long	1/2 in. x 4 3/16 in.	1.5 m	5 ft	2 SPDT switch contacts	maximum connected load = 2000VA; Bilingual French; Celsius Model

\* TRADELINE models • SUPER TRADELINE models

## T915 Proportional Temperature Controller



**Proportional remote bulb controllers for ducts, tanks, boilers, pipes and other heat exchangers.**

- Provide proportioning control of three-wire, low-voltage valve or damper motors.
- Used to regulate temperatures of either air or liquids.
- All models ambient compensated. Ambient temperature compensation provides good temperature control. Refer to T775 Electronic Remote Temperature Controller where more exact control is required and/or remote controller location is preferred.
- Temperature setting scale markings in both Fahrenheit and Celsius. Steel case has a clear plastic cover to make setting readily visible.
- Surface mount using two screws through back of case.

**Type:** Remote bulb

**Application:** Used with Series 90 Modutrol Motors for proportional control of valves and dampers

**Dimensions, Approximate:** 140 mm high x 114 mm wide x 70 mm deep (5 1/2 in. high x 4 1/2 in. wide x 2 3/4 in. deep)

**Number of Sensor Inputs:** 1

**Color:** Gray

**Output Type:** analog

Product Number	Setpoint Temperature Range		Maximum Operating Temperature		Throttling Range		Bulb Size		Capillary Length		Analog Output	Sensor Element
	(C)	(F)	(C)	(F)	(C)	(F)	(mm)	(inch)	(m)	(ft)		
* T915D1091	-10 C to +32 C	15 F to 90 F	54 C	130 F	3.9 C to 21.1 C	7 F to 38 F	17 mm diameter x 368 mm long	11/16 in. diameter x 14 1/2 in. long	6.1 m	20 ft.	Two 135 Ohm Potentiometers	Copper bulb, cross ambient fill

\* TRADELINE models • SUPER TRADELINE models

# Temperature Controllers

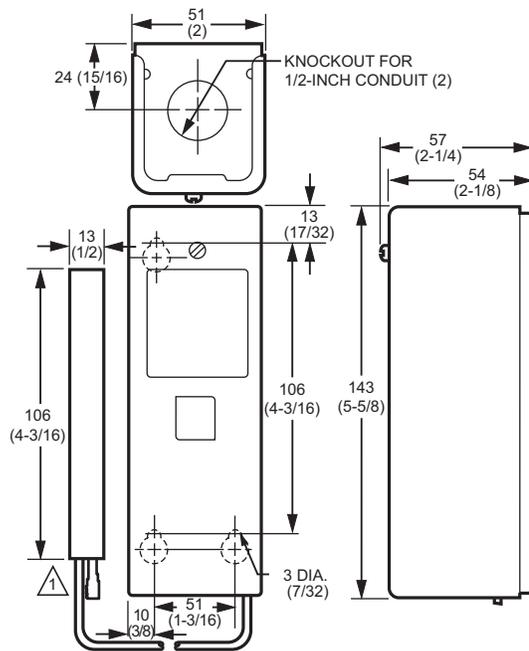
## T991A Proportional Temperature Controller



**For modulating control of water or air temperature in ducts, tanks and similar applications.**

- Fast response models (for duct mounting) have coiled sensing element giving at least four times faster response than standard models.
- Ambient temperature compensated for the case and tubing.
- Sensing element capillary tubing allows remote mounting of sensing element.
- Setpoint may be read and adjusted through cover.
- Throttling dial inside case adjusts proportional throttling range.

### Dimensions in millimeters (inches)



▲ BULB LENGTH IS 91 (3-9/16) ON 15 TO 75 C AND 55 TO 175 F RANGE  
MC2388

**Type:** Modulating Remote bulb

**Application:** Provide modulating control of water or air temperature in ducts or tanks

**Number of Sensor Inputs:** 1

**Throttling Range:** 1.7 C to 16.7 C (3 F to 30 F)

**Output Type:** analog

**Analog Output:** One 135 Ohm Potentiometer

**Sensor Element:** Copper bulb

**Bulb Size:** 13 mm dia. x 107 mm long (1/2 in. dia. x 4 3/16 in. long)

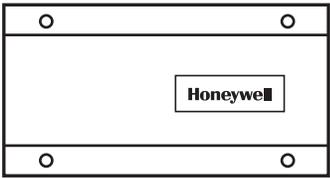
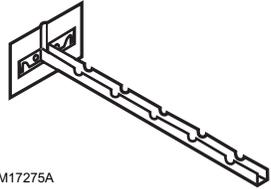
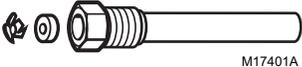
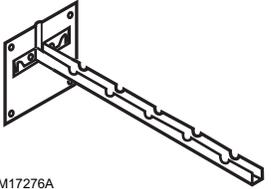
**Color:** Gray

**Voltage:** 24 Vac to 30 Vac

**Frequency:** 50 Hz; 60 Hz

Product Number	Setpoint Temperature Range		Maximum Operating Temperature		Capillary Length		Comments
	(C)	(F)	(C)	(F)	(m)	(ft)	
T991A1103	-15 C to +35 C	—	52 C	125 F	6.1 m	20 ft.	Celsius scale
T991A1152	-15 C to +35 C	—	138 C	280 F	1.5 m	5 ft	Celsius scale
T991A2218	—	160 F to 260 F	138 C	280 F	2 m	6.5 ft.	—

## Remote Bulb Controller Accessories

Product Number	Description	
107323A/U	Remote Bulb Shield Assembly, 3/8 in. diameter bulbs, < 5 in. long	
107324A/U	Capillary Holder Assembly for duct insertion, 8 3/8 in. long	 M17275A
107408/U	Heat Conductive Compound, 4 ounces	
112620AA/U	Well Assembly., 3 3/4 in. (95 mm) insertion, 3/8 in. (10 mm) diameter, copper	 M17401A
112620BB/U	Well Assembly., 5 1/2 in. (140 mm) insertion, 3/8 in. (10 mm) diameter, copper	
112622AA/U	Well Assembly., 4 in. (102 mm) insertion, 1/2 in. (13 mm) diameter, copper	
112624AA/U	Well Assembly., 4 3/4 in. (121 mm) insertion, 1/2 in. (13 mm) diameter, stainless steel	
112628AA/U	Well Assembly., 4 3/4 in. (121 mm) insertion, 1/2 in. (13 mm) diameter, stainless steel	
112630AA/U	Well Assembly., 4 1/4 in. (108 mm) insertion, 1/2 in. (13 mm) diameter, copper	
112632AA/U	Well Assembly., 4 1/4 in. (108 mm) insertion, 1/2 in. (13 mm) diameter, stainless steel	
112634AA/U	Well Assembly., 4 1/4 in. (108 mm) insertion, 1/2 in. (13 mm) diameter, copper	
131524A/U	Capillary Holder Assembly., 8 3/8 in. long, duct insertion	 M17276A
7617M/U	Compression Fitting, brass 1/2 in. NPT plug	
Q615A1004/U	Splash proof enclosure	

## Remote Temperature Controller Parts and Accessories

Product Number	Description
112719/U	Packing Ring, Remote Bulb Well
34886A/U	Sun shield for remote bulb controllers, T475, T991B, T678B, T675A
7617ABY/U	Compression Fitting, brass 1/2 in. NPT plug
801737A/U	140 ohms Potentiometer and Bracket Assembly for use with T991A
801534/0638/U	Calibration wrench for T991, T631, T675, T678, T6031, T475, T4031, T4054, T6054, T6064

# Foot Mounted Motors

## M4185 Line Volt Two-Position Modutrol IV™ Series 2 Motors



Series 41 and Series 81 Modutrol IV motors are 2-position (line- and low-voltage per motor control) 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.

- Fixed torque throughout the entire voltage range.
- Integral spring return returns motor to normal position in the event of power failure.
- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position.
- Motor and circuitry operate from 24 Vac.
- 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 degrees).
- Motors are designed for either normally open or normally closed valves and dampers.
- 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).

**Application Type:** Electric  
**Fail Safe Mode:** Spring Return  
**Control Signal:** Two position, SPST  
**Feedback:** No  
**Frequency:** 50 Hz; 60 Hz

**External Auxiliary Switches Available:** Yes  
**Auxiliary Switch Ratings AFL - 120 Vac:** 7.2 A  
**Auxiliary Switch Ratings ALR - 120 Vac:** 43.2A  
**Auxiliary Switch Ratings AFL - 240 Vac:** 3.6 A  
**Auxiliary Switch Ratings ALR - 240 Vac:** 21.6 A

**Mounting:** Foot-mounted  
**Motor Shafts:** Dual-ended shaft  
**Shaft Shape:** square  
**Shaft Dimensions:** 10 mm (0.375 in.)  
**Shaft Rotation (upon control signal increase):** Clockwise (as viewed from power end) (normally closed)  
**Stroke:** Adjustable; 90 to 160 degrees, Asymmetrical  
**Deadweight Load on Shaft (Either End):** 200 lbs.  
**Deadweight Load (Combined on both Shafts):** 300 lbs.  
**Ambient Temperature Range:** -40 C to +60 C (-40 F to +150 F)

**Weight:** 9.5 lb

**Approvals:**

**CE:** EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)  
**Underwriters Laboratories, Inc.** Listed: File No. E4436, Guide No. XAPX for USA and Canada

**Accessories:**

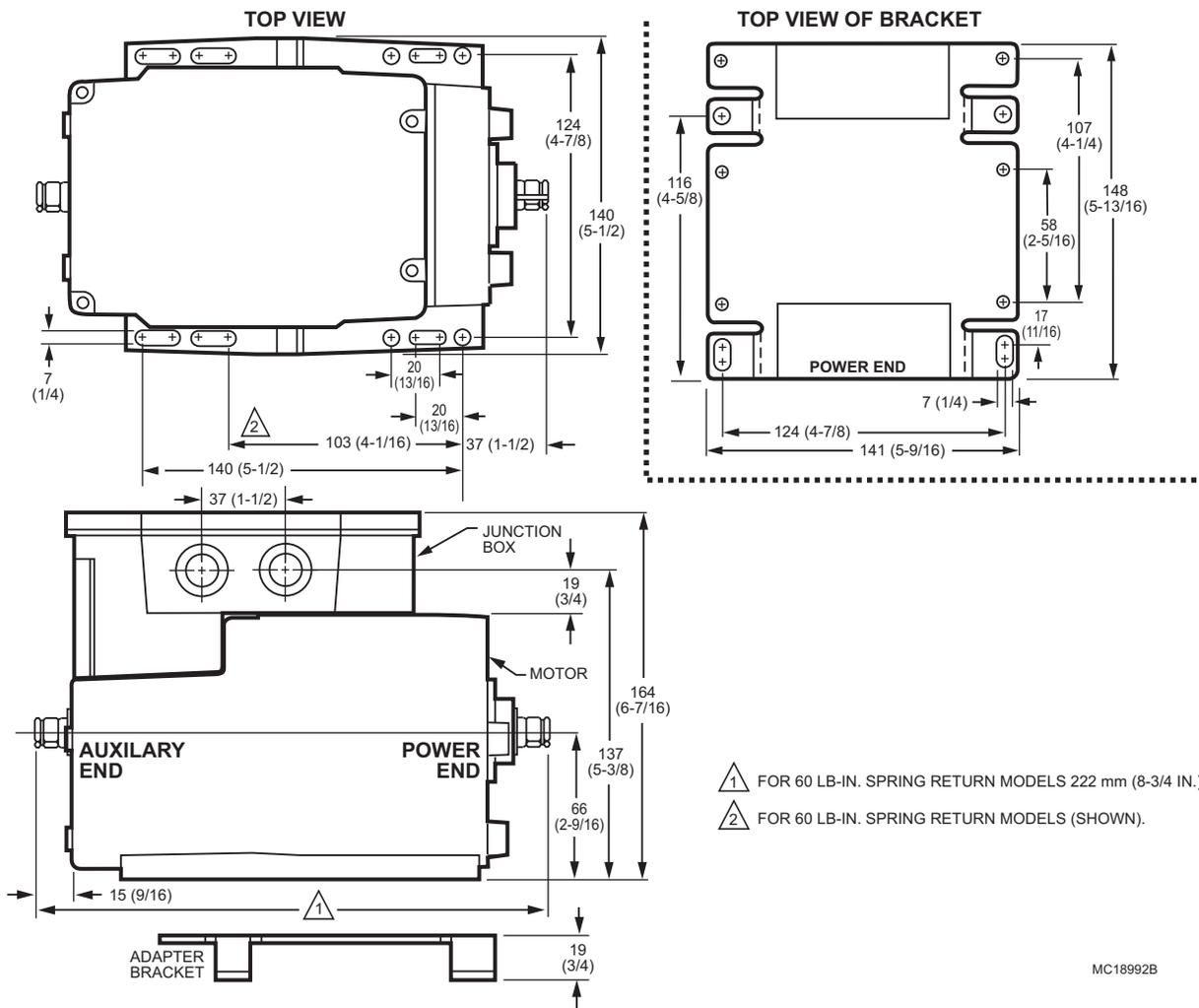
- Q7230A1005** Interface module, provides adjustable zero & span, voltage or current control
- 220736A** Internal Auxiliary Switch Assembly - 1 Switch
- 220736B** Internal Auxiliary Switch Assembly - 2 Switches
- 220741A2-TP** Screw Terminal Adapter Kit for 2 position Modutrol IV Series 2 motors - Converts quick-connect terminals to screw terminals
- 221455A** Infinitely adjustable Motor Crank Arm
- 50017460-001** 24/120/230 Vac Internal Transformers for Series 2 Motors
- 50017460-003** 120 Vac Internal Transformers for Series 2 Motors
- 4074ERU** Weatherproofing kit. Protects motor from driving rain when mounted in any position

Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Electrical Connections	Internal Auxiliary Switch	Includes
	(Nm, N)	(lb-in., lb)					
* M4185E4006/U	6.8 Nm	60 lb-in.	24/120/230V	30-60 sec	Quick-connect terminals	1	Transformer
* M4185E4014/U	6.8 Nm	60 lb-in.	120V	30-60 sec	Quick-connect terminals	1	Transformer

\* TRADELINE models • SUPER TRADELINE models

# Foot Mounted Motors

Dimensions in millimeters (inches)



# Foot Mounted Motors

## M6194 Floating Modutrol IV™ Series 2 Motors



**Series 61 Modutrol IV™ Motors non-spring return floating control motors used with controllers that provide a switched spdt or floating output to operate dampers or valves.**

- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position.
- Motor and circuitry operate from 24 Vac.
- 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 degrees).
- Integral auxiliary switches are available factory mounted, or can be field added.
- 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.

**Application Type:** Electric  
**Fail Safe Mode:** Non-Spring Return  
**Control Signal:** Floating  
**Feedback:** No

**Frequency:** 50 Hz; 60 Hz  
**External Auxiliary Switches Available:** Yes  
**Auxiliary Switch Ratings AFL - 120 Vac:** 7.2 A  
**Auxiliary Switch Ratings ALR - 120 Vac:** 43.2A  
**Auxiliary Switch Ratings AFL - 240 Vac:** 3.6 A  
**Auxiliary Switch Ratings ALR - 240 Vac:** 21.6 A

**Internal Auxiliary Switch:** 0

**Mounting:** Foot-mounted

**Motor Shafts:** Dual-ended shaft

**Shaft Shape:** square

**Shaft Dimensions:** 10 mm (0.375 in.)

**Shaft Rotation (upon control signal increase):** Dependent on wiring (normally closed)

**Stroke:** Adjustable; 90 to 160 degrees, Symmetrical

**Deadweight Load on Shaft (Either End):** 200 lbs.

**Deadweight Load (Combined on both Shafts):** 300 lbs.

**Ambient Temperature Range:** -40 C to +60 C (-40 F to +150 F)

**Weight:** 6.5 lb

**Approvals:**

**CE:** EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)  
**Underwriters Laboratories, Inc.** Listed: File No. E4436, Guide No. XAPX for USA and Canada

**Accessories:**

**Q7230A1005** Interface module, provides adjustable zero & span, voltage or current control

**220736A** Internal Auxiliary Switch Assembly - 1 Switch

**220736B** Internal Auxiliary Switch Assembly - 2 Switches

**220738A** Adapter Bracket. Adjusts shaft height to match Modutrol III motors

**221455A** Infinitely adjustable Motor Crank Arm

**50017460-001** 24/120/230 Vac Internal Transformers for Series 2 Motors

**50017460-003** 120 Vac Internal Transformers for Series 2 Motors

**4074ERU** Weatherproofing kit. Protects motor from driving rain when mounted in any position

Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Electrical Connections	Internal Auxiliary Switch
	(Nm, N)	(lb-in., lb)				
* M6194D4003/U	34 Nm	300 lb-in.	24V	120-240 sec	Quick-connect terminals	0
* TRADELINE models • SUPER TRADELINE models						

## M6285 Floating Modutrol IV™ Series 2 Motors, for Slaving Applications only



Series 62 Modutrol IV™ Motors are spring return floating control motors used with controllers that provide a switched spdt or floating output to operate dampers or valves. These motors also

**Application Type:** Electric  
**Dimensions, Approximate:** See diagram page 25  
**Fail Safe Mode:** Spring Return  
**Control Signal:** Floating  
**Feedback:** Yes  
**Frequency:** 50 Hz; 60 Hz  
**External Auxiliary Switches Available:** Yes  
**Auxiliary Switch Ratings AFL - 120 Vac:** 7.2 A  
**Auxiliary Switch Ratings ALR - 120 Vac:** 43.2A  
**Auxiliary Switch Ratings AFL - 240 Vac:** 3.6 A  
**Auxiliary Switch Ratings ALR - 240 Vac:** 21.6 A  
**Internal Auxiliary Switch:** 0  
**Mounting:** Foot-mounted  
**Motor Shafts:** Dual-ended shaft  
**Shaft Shape:** square  
**Shaft Dimensions:** 10 mm (0.375 in.)  
**Shaft Rotation (upon control signal increase):** Dependent on wiring (normally closed)  
**Deadweight Load on Shaft (Either End):** 200 lbs.  
**Deadweight Load (Combined on both Shafts):** 300 lbs.  
**Ambient Temperature Range:** -40 C to +60 C (-40 F to +150 F)  
**Weight:** 8.5 lb

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.

- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position.
- Integral spring return returns motor to normal position in the event of power failure.
- Motor and circuitry operate from 24 Vac.
- 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 degrees).
- Integral auxiliary switches are available factory mounted, or can be field added.
- 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.
- Include electrically isolated feedback potentiometer that provides shaft position indication.

### Approvals:

**CE:** EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)  
**Underwriters Laboratories, Inc.** Listed: File No. E4436, Guide No. XAPX for USA and Canada

### Accessories:

**Q7230A1005** Interface module, provides adjustable zero & span, voltage or current control  
**220736A** Internal Auxiliary Switch Assembly - 1 Switch  
**220736B** Internal Auxiliary Switch Assembly - 2 Switches  
**220738A** Adapter Bracket. Adjusts shaft height to match Modutrol III motors  
**220741A2-62** Screw Terminal Adapter Kit for Series 62 Series Modutrol IV Series 2 motors- Converts quick-connect terminals to screw terminals  
**221455A** Infinitely adjustable Motor Crank Arm  
**50017460-001** 24/120/230 Vac Internal Transformers for Series 2 Motors  
**50017460-003** 120 Vac Internal Transformers for Series 2 Motors  
**4074ERU** Weatherproofing kit. Protects motor from driving rain when mounted in any position

Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Electrical Connections	Stroke	Internal Auxiliary Switch	Comments
	(Nm, N)	(lb-in., lb)						
* M6285A4009-S/U	6.8 Nm	60 lb-in.	24V	30-60 sec	Quick-connect terminals	Adjustable; 90 to 160 degrees	0	non-linear feedback, for slaving applications only

\* TRADELINE models • SUPER TRADELINE models

# Foot Mounted Motors

## M9174; M9184; M9194 Modutrol IV™ Series 3 Motors



**Series 90 Modutrol™ IV Motors non-spring return modulating proportional control motors used with controllers that provide a Series 90 output to operate dampers or valves.**

- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position.
- Motor and circuitry operate from 24 Vac.
- 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 degrees).
- Integral auxiliary switches are available factory mounted, or can be field added.
- All models have dual shafts (slotted and tapped on both ends).
- All models have auxiliary switch cams.
- Fixed torque throughout the entire voltage range.

**Application Type:** Electric

**Dimensions, Approximate:** See diagram page 25

**Fail Safe Mode:** Non-Spring Return

**Control Signal:** Proportional, 135 ohm

**Feedback:** No

**Frequency:** 50 Hz; 60 Hz

**External Auxiliary Switches Available:** Yes

**Auxiliary Switch Ratings AFL - 120 Vac:** 7.2 A

**Auxiliary Switch Ratings ALR - 120 Vac:** 43.2A

**Auxiliary Switch Ratings AFL - 240 Vac:** 3.6 A

**Auxiliary Switch Ratings ALR - 240 Vac:** 21.6 A

**Internal Auxiliary Switch:** 0

**Mounting:** Foot-mounted

**Motor Shafts:** Dual-ended shaft

**Shaft Shape:** square

**Shaft Dimensions:** 10 mm; (0.375 in.)

**Stroke:** Adjustable; 90 to 160 degrees, Asymmetrical

**Deadweight Load on Shaft (Either End):** 200 lbs.

**Deadweight Load (Combined on both Shafts):** 300 lbs.

**Ambient Temperature Range:** -40 C to +60 C (-40 F to +150 F)

**Weight:** 7.5 lb

### Approvals:

**CE:** EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)  
**Underwriters Laboratories, Inc.** Listed: File No. E4436, Guide No. XAPX for USA and Canada

### Accessories:

**Q7230A1005** Interface module, provides adjustable zero & span, voltage or current control

**220736A** Internal Auxiliary Switch Assembly - 1 Switch

**220736B** Internal Auxiliary Switch Assembly - 2 Switches

**220738A** Adapter Bracket. Adjusts shaft height to match Modutrol III motors

**220741A2-90** Screw Terminal Adapter Kit for Series 90 Modutrol IV Series 2 and Series 3 motors - Converts quick-connect terminals to screw terminals

**221455A** Infinitely adjustable Motor Crank Arm

**50017460-001** 24/120/230 Vac Internal Transformers for Series 2 Motors

**50017460-003** 120 Vac Internal Transformers for Series 2 Motors

**4074ERU** Weatherproofing kit. Protects motor from driving rain when mounted in any position

Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Electrical Connections	Stroke	Shaft Rotation (upon control signal increase)	Internal Auxiliary Switch	Includes
	(Nm, N)	(lb-in., lb)							
M9174C1041/U	8.5 Nm	75 lb-in.	120V	30-60 sec	Quick-connect terminals	Adjustable; 90 to 160 degrees, Asymmetrical	Clockwise (as viewed from power end) (normally closed)	2	Transformer
M9184B1025/U	17 Nm	150 lb-in.	120V	30-60 sec	Quick-connect terminals	Adjustable; 90 to 160 degrees, Symmetrical	Clockwise (as viewed from power end) (normally closed)	1	Transformer
M9184C1049/U	17 Nm	150 lb-in.	120V	30-60 sec	Quick-connect terminals	Adjustable; 90 to 160 degrees, Symmetrical	Clockwise (as viewed from power end) (normally closed)	2	Transformer
* M9184D4009/U	17 Nm	150 lb-in.	24V	30-60 sec	Quick-connect terminals	Adjustable; 90 to 160 degrees, Symmetrical	Clockwise (as viewed from power end) (normally closed)	0	—
* M9184E4006/U	17 Nm	150 lb-in.	24V	30-60 sec	Quick-connect terminals	Adjustable; 90 to 160 degrees, Symmetrical	Clockwise (as viewed from power end) (normally closed)	1	—
M9194C1005/U	34 Nm	300 lb-in.	120V	60-120 sec	Quick-connect terminals	Adjustable; 90 to 160 degrees, Symmetrical	Clockwise (as viewed from power end) (normally closed)	2	Transformer

\* TRADELINE models • SUPER TRADELINE models

## M9182 Modutrol IV™ Series 3 Motors



**Application Type:** Electric  
**Dimensions, Approximate:** See diagram page 25  
**Fail Safe Mode:** Spring Return  
**Control Signal:** Proportional, 135 ohm  
**Feedback:** No  
**Frequency:** 50 Hz; 60 Hz  
**External Auxiliary Switches Available:** Yes  
**Auxiliary Switch Ratings AFL - 120 Vac:** 7.2 A  
**Auxiliary Switch Ratings ALR - 120 Vac:** 43.2A  
**Auxiliary Switch Ratings AFL - 240 Vac:** 3.6 A  
**Auxiliary Switch Ratings ALR - 240 Vac:** 21.6 A  
**Internal Auxiliary Switch:** 0  
**Mounting:** Foot-mounted  
**Motor Shafts:** Dual-ended shaft  
**Shaft Shape:** square  
**Shaft Dimensions:** 10 mm (0.375 in.)  
**Shaft Rotation (upon control signal increase):** Clockwise (as viewed from power end) (normally closed)  
**Stroke:** Adjustable; 90 to 160 degrees, Asymmetrical  
**Deadweight Load on Shaft (Either End):** 200 lbs.  
**Deadweight Load (Combined on both Shafts):** 300 lbs.  
**Ambient Temperature Range:** -40 C to +60 C (-40 F to +150 F)

**Series 90 Modutrol™ IV Motors spring return modulating proportional control motors used with controllers that provide a Series 90 output to operate dampers or valves.**

- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position.
- Integral spring return returns motor to normal position in the event of power failure.
- Motor and circuitry operate from 24 Vac.
- 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 degrees).
- Integral auxiliary switches are available factory mounted, or can be field added.
- 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.

**Weight:** 8.5 lb

**Approvals:**

**Underwriters Laboratories, Inc.** Listed: File No. E4436, Guide No. XAPX for USA and Canada

**Accessories:**

- Q7230A1005** Interface module, provides adjustable zero & span, voltage or current control
- 220736A** Internal Auxiliary Switch Assembly - 1 Switch
- 220736B** Internal Auxiliary Switch Assembly - 2 Switches
- 220738A** Adapter Bracket. Adjusts shaft height to match Modutrol III motors
- 220741A2-90** Screw Terminal Adapter Kit for Series 90 Modutrol IV Series 2 and Series 3 motors - Converts quick-connect terminals to screw terminals
- 221455A** Infinitely adjustable Motor Crank Arm
- 50017460-001** 24/120/230 Vac Internal Transformers for Series 2 Motors
- 50017460-003** 120 Vac Internal Transformers for Series 2 Motors
- 4074ERU** Weatherproofing kit. Protects motor from driving rain when mounted in any position

Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Electrical Connections	Internal Auxiliary Switch
	(Nm, N)	(lb-in., lb)				
M9182A1011/U	6.8 Nm	60 lb-in.	24V	30-60 sec	Quick-connect terminals	0

# Foot Mounted Motors

## M9185 Modutrol IV™ Series 3 Motors



**Series 90 Modutrol™ Motors are spring return modulating proportional control motors used with controllers that provide a Series 90 output to operate dampers or valves.**

- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position.
- Integral spring return in the event of power failure.
- Motor and circuitry operate from 24 Vac.
- 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 degrees).
- Integral auxiliary switches are available factory mounted, or can be field added.
- Spring return motors can operate valve linkages from power end 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.

**Application Type:** Electric

**Dimensions, Approximate:** See diagram page 25

**Fail Safe Mode:** Spring Return

**Control Signal:** Proportional, 135 ohm

**Feedback:** No

**Frequency:** 50 Hz; 60 Hz

**External Auxiliary Switches Available:** Yes

**Auxiliary Switch Ratings AFL - 120 Vac:** 7.2 A

**Auxiliary Switch Ratings ALR - 120 Vac:** 43.2A

**Auxiliary Switch Ratings AFL - 240 Vac:** 3.6 A

**Auxiliary Switch Ratings ALR - 240 Vac:** 21.6 A

**Internal Auxiliary Switch:** 0

**Mounting:** Foot-mounted

**Motor Shafts:** Dual-ended shaft

**Shaft Shape:** square

**Shaft Dimensions:** 10 mm (0.375 in.)

**Shaft Rotation (upon control signal increase):** Clockwise (as viewed from power end) (normally closed)

**Stroke:** Adjustable; 90 to 160 degrees, Asymmetrical

**Deadweight Load on Shaft (Either End):** 200 lbs.

**Deadweight Load (Combined on both Shafts):** 300 lbs.

**Ambient Temperature Range:** -40 C to +60 C (-40 F to +150 F)

**Weight:** 8.5 lb

**Approvals:**

**CE:** EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)

**Underwriters Laboratories, Inc. Listed:** File No. E4436, Guide No. XAPX for USA and Canada

**Accessories:**

**Q7230A1005** Interface module, provides adjustable zero & span, voltage or current control

**220736A** Internal Auxiliary Switch Assembly - 1 Switch

**220736B** Internal Auxiliary Switch Assembly - 2 Switches

**220738A** Adapter Bracket. Adjusts shaft height to match Modutrol III motors

**220741A2-90** Screw Terminal Adapter Kit for Series 90 Modutrol IV Series 2 and Series 3 motors - Converts quick-connect terminals to screw terminals

**221455A** Infinitely adjustable Motor Crank Arm

**50017460-001** 24/120/230 Vac Internal Transformers for Series 2 Motors

**50017460-003** 120 Vac Internal Transformers for Series 2 Motors

**4074ERU** Weatherproofing kit. Protects motor from driving rain when mounted in any position

Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Electrical Connections	Internal Auxiliary Switch
	(Nm, N)	(lb-in., lb)				
* M9185D4008/U	6.8 Nm	60 lb-in.	24V	30-60 sec	Quick-connect terminals	0
* TRADELINE models • SUPER TRADELINE models						

## Q607 Auxiliary Switches for Modutrol Motors



For control of auxiliary equipment as a function of motor shaft position.

- Compatible with Modutrol III and Modutrol IV™ Motors. (Requires 220738A adapter bracket for use with Modutrol IV™ Motors).
- Micro Switch precision switches, adjustable.
- Indicate motor position by use of a scale plate anchored to a common shaft, which allows Q607 to be adjusted for operational sequence before mounting.
- Adjustable plate allows universal mounting on either end of motor.
- Wrap-around cover for easy access to switch adjustments and wiring.
- Maintenance-free protection of the switches and cams.

**Application Type:** Electro-mechanical

**Dimensions, Approximate:** 164 mm high x 132 mm wide x 54 mm deep (6 7/16 in. high x 5 3/16 in. wide x 2 1/8 in. deep)

**Control Signal:** SPDT, On/Off switch

**Electrical Connections:** Screw terminals

**Auxiliary Switch Ratings AFL - 120 Vac:** 9.8 A

**Auxiliary Switch Ratings ALR - 120 Vac:** 58.8A

**Auxiliary Switch Ratings AFL - 240 Vac:** 4.90A

**Auxiliary Switch Ratings ALR - 240 Vac:** 29.4A

**Mounting:** Cover or gear end

**Weight:** 2.5 lb

**Approvals:**

**Canadian Standards Association:** Certified: File No. LR1620

**Underwriters Laboratories, Inc.** Listed File: E4436, Guide: XAPX2

Product Number	Internal Auxiliary Switch	Includes
Q607A1068/U	1	With adapter for cover end spring return motor and revised mounting bracket
Q607B1075/U	2	With adapter for cover end spring return motor and revised mounting bracket

\* TRADELINE models • SUPER TRADELINE models

# Kit Mounted Motors

## M436; M836 Damper Motors



**Dimensions, Approximate:** 114 mm high x 118 mm wide x 95 mm deep (4 1/2 in. high x 4 5/8 in. wide x 3 3/4 in. deep)

**Fail Safe Mode:** Spring Return

**Spring Return Timing (Maximum seconds):** 25 sec

**Control Signal:** Two position, SPST

**Internal Auxiliary Switch:** 1

**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

**Torque Rating, Breakaway:** 30 lb-in.

**Electrical Connections:** Screw terminals

**Spring return motors for two-position back draft, outdoor air changeover, zone, or minimum position damper control.**

- Operate outdoor air dampers for combustion or makeup air in residential and light commercial applications.
- Operate changeover dampers for heating and cooling systems.
- Operate minimum position dampers for ventilation and similar applications.
- Include internal SPDT switch for controlling auxiliary equipment, additional motors, or to provide a burner interlock switch.
- Spring returns motor to start position on power failure.
- Drive shafts located on both sides of motor.
- Adjustable auxiliary switch for cascading motors or operating auxiliary equipment.
- Thermal breaker for overload protection during lifting stroke or if motor stalls.

**Frequency:** 60 Hz

**Mounting:** Any position where the output shaft is horizontal

**Motor Shafts:** 2

**Shaft Shape:** Hexagonal

**Angle of Rotation (Stroke Max (deg)):** 75

**Operating Temperature Range:** 0 C to 52 C (32 F to 125 F)

**Operating Humidity Range (% RH):** 5 to 95% RH

**Weight:** 2.1 kg (4 lb 10 oz)

**Approvals:**

**Canadian Standards Association:** Certified: File No. LR95329-6

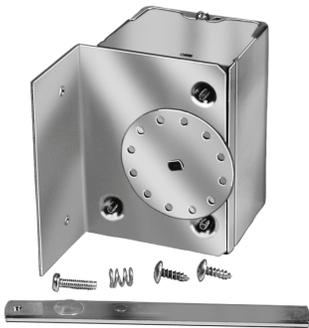
**CE:** Report: S5535

**Underwriters Laboratories, Inc.** Listed File: E4436, Guide: XAPX

Product Number	Torque Rating		Voltage	Run Time (Maximum (seconds))	Timing Opening, Nominal (seconds)	Nominal Current Draw (amps)		Nominal Power (watts)		Comments	Used With
	(Nm)	(lb-in.)				Opening	Holding	Opening	Holding		
M436A1090/U	2.3 Nm	20 lb-in.	120 Vac	55 sec	Open: 30 sec, Close: 25 sec	0.37 A	0.12 A	27 W	8.5 W	Flame Safeguard Model	Series 40, 80 circuits
M836A1034/U	2.3 Nm	20 lb-in.	24 Vac	55 sec	Open: 30 sec, Close: 25 sec	1.85 A	0.6 A	39 W	8.5 W	—	Series 40, 80 circuits

\* TRADELINE models • SUPER TRADELINE models

## M847 Two-Position Draft Damper Actuator



**Dimensions, Approximate:** 89 mm high x 119 mm wide x 75 mm deep (3 1/2 in. high x 2 5/8 in. wide x 3 5/16 in. deep)

**Fail Safe Mode:** Spring Return

**Control Signal:** Two position, SPST

**External Auxiliary Switches Available:** No

**Frequency:** 60 Hz

**Mounting:** Foot mounted. Direct Coupled

**Two-Position Draft Damper Actuators. Use with two-wire 24V room thermostats or other low voltage controllers to operate the draft damper on solid fuel furnaces or boilers and other similar light duty applications.**

- Low voltage, spring-return damper actuator.
- Equipped with mounting bracket for wall, duct or direct appliance mounting to control draft damper through an actuator arm or chain linkage arrangement.
- Actuator wheel rotates in a clockwise direction (when facing the wheel) when energized.

**Motor Shafts:** 1

**Shaft Shape:** Round

**Angle of Rotation (Stroke Max (deg)):** 45

**Operating Temperature Range:** 5 C to 50 C (40 F to 125 F)

**Operating Humidity Range (% RH):** 5 to 95% RH

**Weight:** (1.8 lb)

Product Number	Torque Rating		Voltage	Run Time (Maximum (seconds))	Includes
	(Nm)	(lb-in.)			
M847A1031/U	0.21 Nm	1.9 lb-in.	24 Vac	20 sec	38 in. linkage chain
M847A1049/U	0.21 Nm	1.9 lb-in.	24 Vac	20 sec	3.8 in. linkage arm
M847A1098/U	0.21 Nm	1.9 lb-in.	24 Vac	20 sec	3.8 in. linkage arm



# Notes

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# Honeywell

## ENVIRONMENTAL AND COMBUSTION CONTROL WARRANTY POLICY

Honeywell warrants the products in this catalog (except those parts designated on Honeywell's price lists as not covered by this warranty) to be free from defects due to workmanship or materials, under normal use and service, for the following warranty periods.

### Sixty (60) months from date of installation

- Prestige®, Prestige® IAQ, VisionPRO®, Commercial VisionPRO®, FocusPRO®, Wireless FocusPRO®, PRO 4000, PRO 3000, LineVoltPRO™, Digital Round™, and Modern Round™ (T87K, N) Series Thermostats with a date code of 0501 or later
- Air Cleaners, Humidifiers, Ventilators, Ultraviolet Treatment and Zoning products with a date code of 0501 or later, excluding replacement maintenance parts
- Indoor air quality products F50, F52, F300, F200, F150, UV100E, HE225, HE265, HE365, with date codes of 0452 or earlier, excluding replacement maintenance parts
- MS, MN and fast acting 2-position Direct Coupled Actuators
- JADE economizer when used with Honeywell sensors and actuators
- AquaPUMP circulating pump
- C7189 wireless indoor sensor

If a product is defective due to workmanship or materials, is removed within the applicable warranty period, and is returned to Honeywell in accordance with the procedure described below, Honeywell will, at its option, either repair, replace or credit the customer for the purchase price of the product, in accordance with the procedure described below. This warranty extends only to persons or organizations who purchase products in this catalog for resale.

The expressed warranty above constitutes the entire warranty of Honeywell with respect to the products in this catalog and IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL HONEYWELL BE RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER.

### Sixty (60) months from date of manufacture

- Access and Video Systems power supplies

### Thirty-six (36) months from date of shipment

- Variable frequency drive devices (VFD) and accessories

### Thirty-six (36) months from date of installation

- AUBE branded thermostats, timers, and switches

### Twenty-four (24) months from date of installation

- CommercialPRO, PRO 2000 and PRO 1000 thermostats
- Other Honeywell indoor air quality and zoning products with a date code of 0452 or earlier, unless otherwise specified
- AQ2000 Aquatrol panels and AQ1000 thermostats

### Twenty-four (24) months from date of manufacture

- Pan-Tilt-Zoom Domes for Access and Video Systems

### Eighteen (18) months from date of shipment,

- All WEBS building automation and security parts, unless specified otherwise.

### Twelve (12) months from date of installation

- Water Solutions products
- Other Honeywell thermostats and thermostats with a date code of 0452 or earlier, unless specified otherwise

### Twelve (12) months from date of shipment

- Building automation security accessories.

### Twelve (12) months from date of manufacture

- Keyboards, Controllers and other Access and Video System accessories

### Ninety (90) days from date of manufacture

- IR Halogen bulbs for Access and Video Systems

**The warranty period for all other products is twelve (12) months from date of installation.**

## INSTRUCTIONS—INSTALLING OR SERVICING CONTRACTOR OR DEALER

When replacing a Honeywell product under warranty, including those products furnished on original heating and/or cooling equipment, you should rely on your local Honeywell Wholesaler or Distributor for prompt and efficient product replacement service.

No warranty claim for product replacement or credit will be honored by Honeywell without a completed return authorization form or manual return authorization form issued by Honeywell Customer Care

## INSTRUCTIONS—WHOLESALE OR DISTRIBUTOR

The following will apply to the return of any product to Honeywell under this warranty, except any products which are not variable frequency drives or WEBS and are:

- identified with a Honeywell Return Goods Authorization Form (obtained from the B2B website at Customer.Honeywell.com)
- display the Return Authorization Form number and return address label on the outside of the return carton. Make sure a copy of the form is enclosed in the return carton
- packed separately from other returns and protected from shipping damage;
- have certification by the installer or servicing dealer that the product was removed, due to failure, within the applicable warranty period;

- are received transportation pre-paid at:  
Honeywell Intl Inc. Returned Goods  
705, Avenue Monrichard  
Saint-Jean-Sur-Richelieu, QC J2X 5K8
- and are found by Honeywell's inspection to be defective in workmanship or materials under normal use and service

will be handled in accordance with one of the two following procedures, as specified by the customer making the return.

- CREDIT PROCEDURE.** Honeywell will issue credit, at Honeywell's lowest wholesaler net price in effect at the time of the return (as set forth on Honeywell's then current price sheet) or at the actual invoice amount if a copy of that invoice is attached to the packing list. (TRADELINE Replacement Exchange Products will be at Honeywell's lowest replacement exchange net price in effect at the time of such return, as shown on Honeywell's then current price sheet.) Honeywell reserves the right to disallow this credit option in cases of warranty abuse.
- REPLACEMENT PROCEDURE.** Warranty replacement procedure must be used for in-warranty emergency replacement orders. Customer will not be credited for items not meeting warranty criteria as outlined by policy. Please return the defective item to the address listed on the return authorization form.

List Water Solutions products on a separate Return Goods Order form, marked "Water Solutions".

All new and unused VBN control ball valves MUST be approved by your Honeywell sales representative before returned.

WEBS return products must be processed through WEBS Customer Care. Defective hardware products under warranty have to be returned to Tridium in Richmond, VA. Security Access and Video products must have prior authorization.

All VFD warranty return products must be coordinated through the Commercial Components Hotline (1-888-516-9347 option 4) staff and VFD Warranty and Repair Program Coordinator (ECC-VFD Coordinator). All VFD warranty returns must have prior authorization and must be returned to the specified Honeywell VFD Service Center.

The warranty will not be honored if:

- product is damaged or missing parts or accessory items including batteries.
- product exhibits evidence of field misapplications.

Final disposition of any warranty claim will be determined solely by Honeywell. If inspection by Honeywell does not disclose any defect covered by the warranty, the product will be returned or scrapped as instructed by the customer and Honeywell's regular service charges will apply. Products returned to the customer may be sent shipping charges collect.

If you have any questions relative to product returns to Honeywell, contact your Customer Care Representative:

Honeywell International Inc.  
Customer Care MN10-131A  
1985 Douglas Drive  
Golden Valley, MN 55422  
1-800-565-6282

## SPECIAL MESSAGE TO INDUSTRIAL USERS AND BUILDING OWNERS

Thank you for using Honeywell products.

As a user, when you purchase a Honeywell product from this catalog you should expect performance from the product and, if it fails, replacement of the product by the installing dealer.

Typically, you will have purchased a Honeywell product under the following circumstances:

- To modernize or refurbish your existing commercial and/or process control system.

- You have purchased new commercial and/or process heating, cooling, air cleaning or humidification equipment that is furnished with Honeywell controls or components (refer to your owner's manual furnished with the equipment).
- A control has failed on your existing commercial and/or process heating and/or cooling equipment and is replaced by a Honeywell TRADELINE product.

With few exceptions, you utilize the services of a competent plumbing, heating and/or cooling dealer/contractor for new or replacement work performed.

Although our warranty does not extend to you, Honeywell does extend a warranty to your supplier.

Your supplier can rely on its local Honeywell Wholesaler/Distributor or Honeywell for prompt replacement. If you have any questions, need additional information or would like to comment on Honeywell's products or services, please write or phone:

Honeywell International Inc.  
Customer Care MN10-131A  
1985 Douglas Drive North  
Golden Valley, MN 55422-4386  
1-800-565-6282

or check your telephone directory (white pages) for one of many Honeywell field sales offices.

**Automation and Control Solutions**

Honeywell International Inc.

1985 Douglas Drive North

Golden Valley, MN 55422

[customer.honeywell.com](http://customer.honeywell.com)

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