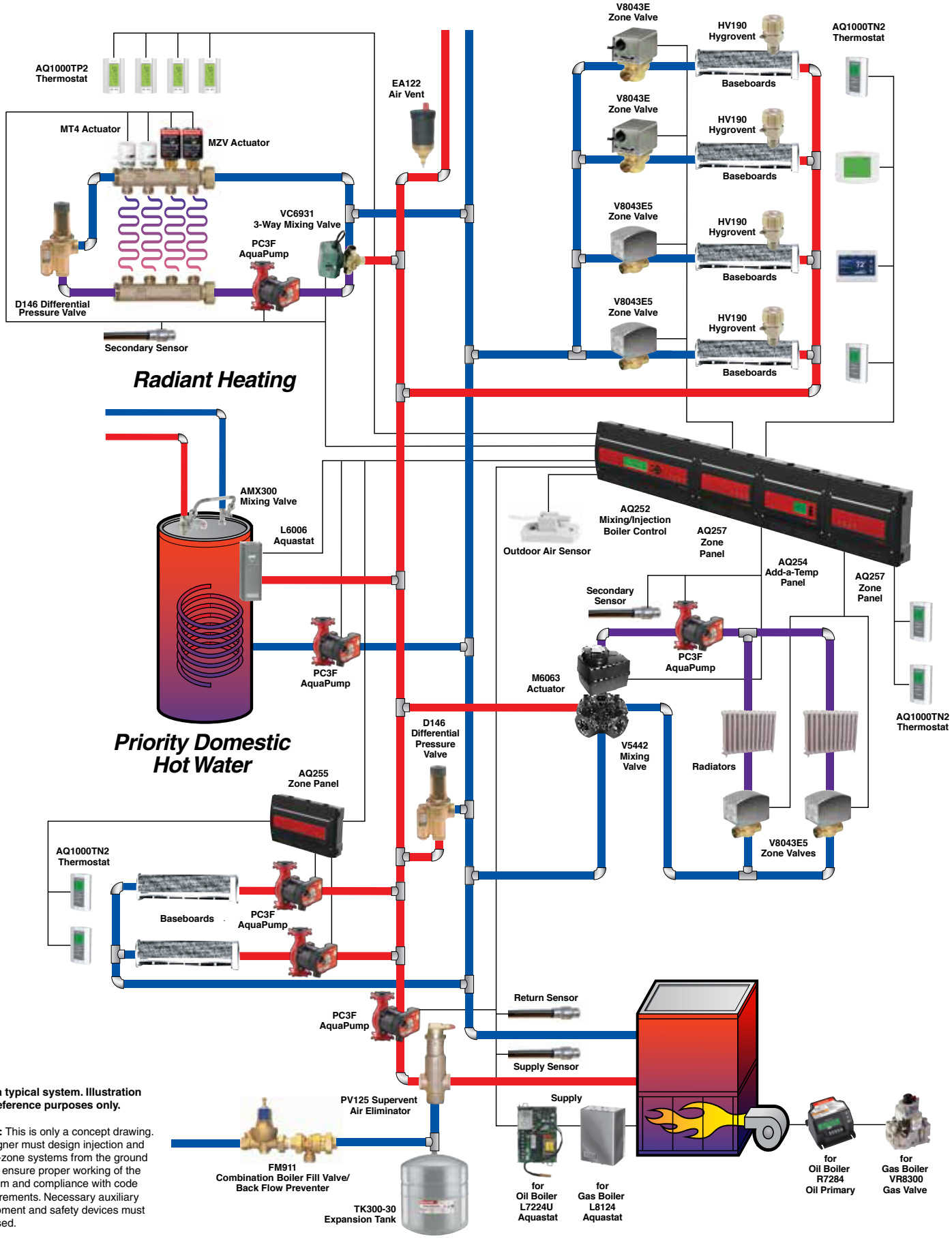
Water Products

Honeywell

Count on Our Full Line of Hydronic Heating and Potable Water Solutions

Hydronic Controls for Multi-Zone System

Honeywell makes a wide variety of controls for traditional hydronic heating systems. This concept drawing shows various components that can be used in zoned hydronic systems.



Not a typical system. Illustration for reference purposes only.

Note: This is only a concept drawing. Designer must design injection and multi-zone systems from the ground up to ensure proper working of the system and compliance with code requirements. Necessary auxiliary equipment and safety devices must be used.

*Picture courtesy Runtal North America.

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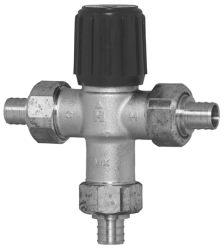
AM-1 Series Thermostatic Mixing Valve


NPT


Union Standard and C


Am-"R" Heating only

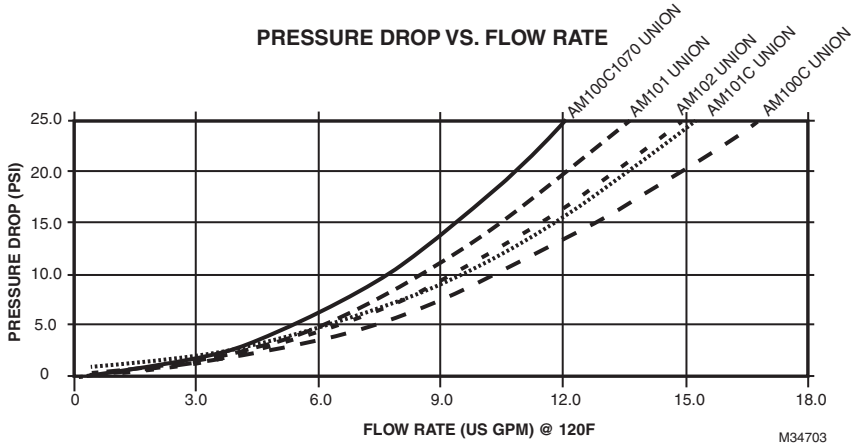

Sweat

The Honeywell AM-1 series accurately adjusts, maintains and limits the hot water temperature to a desired setting selected by the user. In domestic water applications it offers scalding protection and bacteria growth control. By installing a Honeywell AM-1 mixing valve and raising water heater storage temperature setting and limiting mixed outlet water temperature to safe temperature more usable hot water is available. In heating applications it provides comfort and protects the equipment.

- Dual purpose mixing or diverting valves
- Constant water temperature under changing operating conditions
- Reliable performance at minimum flow of 0.5 gpm
- Proportional valve (simultaneous control of hot and cold water)
- Temperature limit at any point
- Flow reduction in seconds if cold water supply is interrupted
- Nickel-plated brass construction, EPDM O-rings
- High performance thermoplastic proportioning shuttle
- Straight through design (hot and cold at the same level)
- Max. pressure 150 psi (1034 kPa)
- Max temperature 212 F (100 C)
- Designed for easy maintenance and element replacement.
- Teflon® coating of internal valve components to prevent mineral build-up and extend life.
- Tamper resistent design
- Valve trapping not required
- AM-1 Union STD & C and AM1070 Models include check valves on both hot and cold ports
- ASSE, CSA and IAPMO listed
- U.S. Patent No. 6,079,625
- Lead free part numbers end in LF

Application: Domestic water; Nursing homes; Public facilities; Automatic faucets; Radiant floor heating; Space heating; Combo systems; Solar hot water; Greenhouses; Industrial applications; Photo processing

Pressure Drop Chart



Material Number	Pipe Size (inch)	Pipe Size DN	Connection Type	Capacity (Cv)	Operating Temperature Range (F)	Operating Temperature Range (C)	ASSE	Description	Comments
AM100-1/U	1/2 in.	DN15	NPT	3.2 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. NPT Mixing Valves	—
AM100-1LF/U	1/2 in.	DN15	NPT	3.2 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. NPT Mixing Valves	Low lead Content <.25% by weighted average
AM100-UCPVC-1/U	1/2 in.	DN15	Union CPVC	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. CPVC Union Mixing Valves	—
AM100-UCPVC-1LF/U	1/2 in.	DN15	Union CPVC	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. CPVC Union Mixing Valves	Low lead Content <.25% by weighted average
AM100-UPEX-1/U	1/2 in.	DN15	Union PEX	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. Union PEX Mixing Valves	—

Mixing Valves

Material Number	Pipe Size (inch)	Pipe Size DN	Connection Type	Capacity (Cv)	Operating Temperature Range (F)	Operating Temperature Range (C)	ASSE	Description	Comments
AM100-UPEX-1LF/U	1/2 in.	DN15	Union PEX	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. Union PEX Mixing Valves	Low lead Content <.25% by weighted average
AM100-US-1/U	1/2 in.	DN15	Union Sweat	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. Sweat Union Mixing Valves	—
AM100-US-1LF/U	1/2 in.	DN15	Union Sweat	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. Sweat Union Mixing Valves	Low lead Content <.25% by weighted average
AM100-UT-1/U	1/2 in.	DN15	Union NPT	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. NPT Union Mixing Valves	—
AM100-UT-1LF/U	1/2 in.	DN15	Union NPT	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. NPT Union Mixing Valves	Low lead Content <.25% by weighted average
AM100C-1LF/U	1/2 in.	DN15	NPT	3.2 Cv	70 F to 120 F	21 C to 49 C	1017	1/2 in. NPT Mixing Valves	Low lead Content <.25% by weighted average
AM100C-UCPVC-1LF	1/2 in.	DN15	Union CPVC	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	1/2 in. CPVC Union Mixing Valves	Low lead Content <.25% by weighted average
AM100C-UPEX-1LF/U	1/2 in.	DN15	Union PEX	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	1/2 in. Sweat Union Mixing Valves	Low lead Content <.25% by weighted average
AM100C-US-1LF/U	1/2 in.	DN15	Union Sweat	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	1/2 in. Sweat Union Mixing Valves	Low lead Content <.25% by weighted average
AM100C-UT-1LF/U	1/2 in.	DN15	Union NPT	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	1/2 in. NPT Union Mixing Valves	Low lead Content <.25% by weighted average
AM100C1070-UPEX1LF/U	1/2 in.	DN15	Union PEX	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 1/2 in. Union PEX	Low lead Content <.25% by weighted average
AM100C1070-US-1LF/U	1/2 in.	DN15	Union Sweat	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 1/2 in. Union Sweat	Low lead Content <.25% by weighted average
AM100C1070-UT-1LF/U	1/2 in.	DN15	Union NPT	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 1/2 in. Union Threaded	Low lead Content <.25% by weighted average
AM100C1070UCPVC1LF/U	1/2 in.	DN15	Union CPVC	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 1/2 in. Union CPVC	Low lead Content <.25% by weighted average
AM100R-UPEX-1/U	1/2 in.	DN15	Union PEX	3.9 Cv	70 F to 180 F	21 C to 82 C	No Approval	1/2 in. Union PEX Mixing Valves HEATING ONLY	Heating Only
AM100R-US-1/U	1/2 in.	DN15	Union Sweat	3.9 Cv	70 F to 180 F	21 C to 82 C	No Approval	1/2 in. Sweat Union Mixing Valves HEATING ONLY	Heating Only
AM100R-UT-1/U	1/2 in.	DN15	Union NPT	3.9 Cv	70 F to 180 F	21 C to 82 C	No Approval	1/2 in. NPT Union Mixing Valves	Heating Only
AM101-1/U	3/4 in.	DN20	NPT	3.8 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. NPT Mixing Valves	—
AM101-1LF/U	3/4 in.	DN20	NPT	3.8 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. NPT Mixing Valves	Low lead Content <.25% by weighted average
AM101-UCPVC-1/U	3/4 in.	DN20	Union CPVC	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. CPVC Union Mixing Valves	—
AM101-UCPVC-1LF/U	3/4 in.	DN20	Union CPVC	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. CPVC Union Mixing Valves	Low lead Content <.25% by weighted average
AM101-UPEX-1LF/U	3/4 in.	DN20	Union PEX	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. Sweat Union Mixing Valves	Low lead Content <.25% by weighted average
AM101-US-1LF/U	3/4 in.	DN20	Union Sweat	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. Sweat Union Mixing Valves	Low lead Content <.25% by weighted average
AM101-UT-1/U	3/4 in.	DN20	Union NPT	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. NPT Union Mixing Valves	—
AM101-UT-1LF/U	3/4 in.	DN20	Union NPT	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. NPT Union Mixing Valves	Low lead Content <.25% by weighted average
AM101C-1LF/U	3/4 in.	DN20	NPT	3.8 Cv	70 F to 120 F	21 C to 49 C	1017	3/4 in. NPT Mixing Valves	Low lead Content <.25% by weighted average
AM101C-UCPVC-1LF/U	3/4 in.	DN20	Union CPVC	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	3/4 in. CPVC Union Mixing Valves	Low lead Content <.25% by weighted average
AM101C-UPEX-1LF/U	3/4 in.	DN20	Union PEX	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	3/4 in. Union PEX Mixing Valves	Low lead Content <.25% by weighted average
AM101C-US-1LF/U	3/4 in.	DN20	Union Sweat	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	3/4 in. Sweat Union Mixing Valves	Low lead Content <.25% by weighted average
AM101C-UT-1LF/U	3/4 in.	DN20	Union NPT	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	3/4 in. NPT Union Mixing Valves	Low lead Content <.25% by weighted average
AM101C1070-UPEX1LF	3/4 in.	DN20	Union PEX	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 3/4 in. Union PEX	Low lead Content <.25% by weighted average

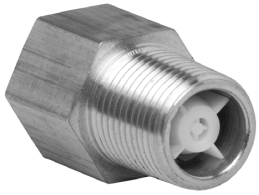
Material Number	Pipe Size (inch)	Pipe Size DN	Connection Type	Capacity (Cv)	Operating Temperature Range (F)	Operating Temperature Range (C)	ASSE	Description	Comments
AM101C1070-US-1LF	3/4 in.	DN20	Union Sweat	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 3/4 in. Union Sweat	Low lead Content <.25% by weighted average
AM101C1070-UT-1LF	3/4 in.	DN20	Union NPT	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 3/4 in. Union Threaded	Low lead Content <.25% by weighted average
AM101C1070UCPVC1LF	3/4 in.	DN20	Union CPVC	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 3/4 in. Union CPVC	Low lead Content <.25% by weighted average
AM101R-UPEX-1/U	3/4 in.	DN20	Union PEX	3.9 Cv	70 F to 180 F	21 C to 82 C	No Approval	3/4 in. Union PEX Mixing Valves HEATING OLY	Heating Only
AM101R-US-1/U	3/4 in.	DN20	Union Sweat	3.9 Cv	70 F to 180 F	21 C to 82 C	No Approval	3/4 in. Sweat Union Mixing Valves HEATING OLY	Heating Only
AM101R-UT-1/U	3/4 in.	DN20	Union NPT	3.9 Cv	70 F to 180 F	21 C to 82 C	No Approval	3/4 in. NPT Union Mixing Valves HEATING ONLY	Heating Only
AM102-1/U	1 in.	DN25	NPT	4.3 Cv	70 F to 145 F	21 C to 63 C	1017	1 in. NPT Mixing Valves	—
AM102-1LF/U	1 in.	DN25	NPT	4.3 Cv	70 F to 145 F	21 C to 63 C	1017	1 in. NPT Mixing Valves	Low lead Content <.25% by weighted average
AM102-US-1/U	1 in.	DN25	Union Sweat	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1 in. Sweat Union Mixing Valves	—
AM102-US-1LF/U	1 in.	DN25	Union Sweat	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1 in. Sweat Union Mixing Valves	Low lead Content <.25% by weighted average
AM102-UT-1/U	1 in.	DN25	Union NPT	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1 in. NPT Union Mixing Valves	—
AM102-UT-1LF/U	1 in.	DN25	Union NPT	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1 in. NPT Union Mixing Valves	Low lead Content <.25% by weighted average
AM102C-1LF/U	1 in.	DN25	NPT	4.3 Cv	70 F to 120 F	21 C to 49 C	1017	1 in. NPT Mixing Valves	Low lead Content <.25% by weighted average
AM102C-US-1LF/U	1 in.	DN25	Union Sweat	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	1 in. Sweat Union Mixing Valves	Low lead Content <.25% by weighted average
AM102C-UT-1LF/U	1 in.	DN25	Union NPT	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	1 in. NPT Union Mixing Valves	Low lead Content <.25% by weighted average
AM102C1070-US-1LF	1 in.	DN25	Union Sweat	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 1" Union Sweat	Low lead Content <.25% by weighted average
AM102C1070-UT-1LF	1 in.	DN25	Union NPT	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 1" Union Threaded	Low lead Content <.25% by weighted average
AM102R-US-1/U	1 in.	DN25	Union Sweat	3.9 Cv	70 F to 180 F	21 C to 82 C	No Approval	1 in. Sweat Union Mixing Valves HEATING ONLY	Heating Only
AM102R-UT-1/U	1 in.	DN25	Union NPT	3.9 Cv	70 F to 180 F	21 C to 82 C	No Approval	1 in. NPT Union Mixing Valves HEATING ONLY	Heating Only

Mixing Valves

Mixing Valve Tailpieces

Material Number	Pipe Size		Connection Type	Description
	inch	DN		
AM08-024LF/U	1/2 in.	DN15	Union NPT	1/2 in. NPT Union kit. Includes three 1/2 in. NPT Tailpieces. Low lead Content <.25% by weighted average
AM08-025LF/U	3/4 in.	DN20	Union NPT	3/4 in. NPT Lead-free union kit. Includes 3/4 in. NPT Union Tailpiece. Low lead Content <.25% by weighted average
AM08-026LF/U	1 in.	DN25	Union NPT	1 in. NPT Lead-free union kit. Includes 1 in. NPT Union Tailpiece. Low lead Content <.25% by weighted average
AM09-061LF/U	1/2 in.	DN15	Union Sweat	1/2 in. Lead-free Sweat Union kit. Includes 1/2 in. NPT Tailpieces. Low lead Content <.25% by weighted average
AM09-062LF/U	3/4 in.	DN20	Union Sweat	3/4 in. Lead-free Sweat union kit. Includes 3/4 in. Sweat Union Tailpiece. Low lead Content <.25% by weighted average
AM09-063LF/U	1 in.	DN25	Union Sweat	1 in. Lead-free Sweat union kit. Includes 1 in. Sweat Union Tailpiece. Low lead Content <.25% by weighted average
AM08-038/U	1/2 in.	DN15	Union Sweat	1/2 in. AM-1 Sweat Union, Single tailpiece, Nut, Gasket
AM08-039/U	3/4 in.	DN20	Union Sweat	3/4 in. Aquamix Sweat Union, Single tailpiece, Nut, Gasket
AM08-040/U	1 in.	DN25	Union Sweat	1 in. Aquamix Sweat Union, Single tailpiece, Nut, Gasket, Retainer
AM08-041/U	1/2 in.	DN15	Union NPT	1/2 in. Aquamix NPT Union, Single tailpiece, Nut, Gasket
AM08-042/U	3/4 in.	DN20	Union NPT	3/4 in. Aquamix NPT Union, Single tailpiece, Nut, Gasket, Retainer
AM08-043/U	1 in.	DN25	Union NPT	1 in. Aquamix NPT Union, Single tailpiece, Nut, Gasket, Retainer
AM09-061/U	3/4 in.	DN15	Sweat	3/4 in. Sweat Tailpiece
AM206-041/U	1/2 in.	DN20	PEX	1/2 in. PEX union kit. Includes tailpiece, union nut and gasket
AM206-042/U	3/4 in.	DN20	PEX	3/4 in. PEX union kit. Includes tailpiece, union nut and gasket

Mixing Valve Accessories

Material Number	Pipe Size		Connection Type	Operating Temperature Range		Description	Comments
	(inch)	DN		(F)	(C)		
CVT-050/U	1/2 in.	DN15	NPT	—	—	1/2 in. female NPT x 1/2 in. male NPT Check Adapter. For AM-1 NPT valves	
CVT-075/U	3/4 in.	DN20	NPT	—	—	3/4 in. female NPT x 3/4 in. Check Adapter. For AM-1 NPT valves	
TS205-064/U	Use with All Mixing Valves		Adhesive strip	110 F to 140 F	43 C to 60 C	Thermal Temperature Indicator Strip for Mixing Valve Setup and Outlet Temperature Monitoring. Included in all AM-1 Series STD and C models and AMX Series. Available as separate item	
TS206-080/U	Use with All Mixing Valves		Adhesive strip	105 F to 180 F	41 C to 82 C	Thermal Temperature Indicator Strip for Mixing Valve Setup and Outlet Temperature Monitoring. Included in all AM-1 Series R models. Available as separate item	

New Style AM-1 Series Valves Replacement Parts

Material Number	Capacity (Cv)	Operating Temperature Range (F)	Operating Temperature Range (C)	Description	
AM-1-020RP/U	—	60 F to 100 F (B Range); 80 F to 120 F (C Range)	15 C to 38 C (C Range); 27 C to 49 C (B Range)	AM-1 Series B or C Range Element, Spring, Diffuser, and plug assembly	
AM-1-025RP		70 F to 145 F	21 C to 63 C	Thermal element, spring, and plug assembly. Rebuild kit for AM-1 Standard series and AMX300 series valves	
AM-1-030RP/U	—	70 F to 120 F	21 C to 49 C	AM-1 1070 Series Element, Spring, Diffuser, and plug assembly; AM-1 1070 Series element, spring diffuser and plug assembly; Standard and R range	
AMCU-001RP/U	8 Cv	—	—	AM-1 Union model check valve kit. Contains one AMCU100 and O-ring for original AM1 and all AMX100 mixing valves. Contains one AMCU200 and two O-rings for newer AM-1 valves where the check valve fits flush with valve body.	
AMCU100/U	8 Cv	—	—	AM-1 Union check valve for original AM-1 valves where the check valve does not fit flush with valve body. Also for all AMX100 mixing valves. Contains one O-ring	
AMU200-RP/U		70 F to 160 F	21 F to 71 C	Gasket kit for 1/2 in., 3/4 in. and 1 in. AM and AM-1 Series valves; 3 gaskets per kit; Gasket Kit for AM-1 and AM series valves	

Old Style AM Series Valves (manufactured before 2001) Replacement Parts

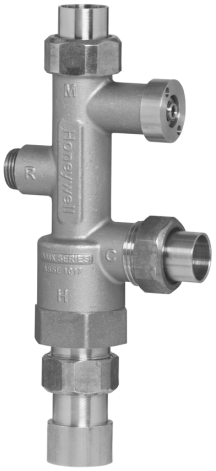
AM-1 Series replacement thermal elements
- Includes replacement thermal element, spool, spring and diffuser assembly

Application: old style AM series valve

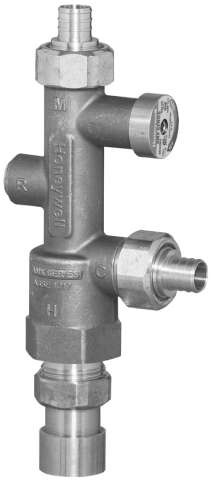
Material Number	Operating Temperature Range (F)	Operating Temperature Range (C)	Description
AM100-001RP/U	70 F to 100 F; 90 F to 120 F	21 C to 38 C; 32 C to 49 C	C element, spring, plug assembly (Does not fit AM-1 Series)
AM100-002RP/U	80 F to 180 F; 110 F to 145 F	27 C to 82 C; 43 C to 63 C	Standard element, spring, plug assembly (Does not fit AM-1 Series)

Mixing Valves

AMX Series DirectConnect™ Thermostatic Mixing Valves



Sweat or NPT



PEX

Patented DirectConnect™ design reduces installation time. Orientation of cold and hot ports eliminates need for elbows and tees on typical water heater installations. Added safety designed to prevent scalding. Increased user comfort for more available hot water. Designed to be directly installed on water heater hot outlet port.

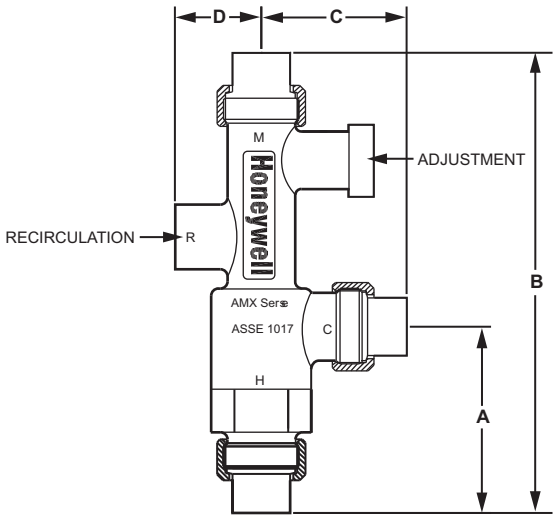
- Designed to be directly installed on water heater hot outlet port.
- Constant water temperature under different operating conditions
- Proportional valve (control of hot and cold water)
- Flow reduction in seconds if cold water supply is interrupted
- Temperature adjustable using 3/16 allen wrench (supplied)
- Union nuts/tail pieces included
- Heat trapping not required
- Recirculation port option for fast response
- Integral check valve on cold port
- Brass/stainless construction
- Teflon coated wear surfaces for extended service
- ASSE 1017 certified, CSA & IAPMO listed
- U.S. Patent pending
- Lead free part numbers end in LF

Application: Heat Pump Systems; Domestic water; Nursing homes; Public facilities; Automatic faucets; Radiant floor heating; Space heating; Combo systems; Solar hot water; Greenhouses; Industrial applications; Photo processing

Operating Temperature Range: 90 F to 130 F (32 C to 54 C)
ASSE: 1017

Material Number	Pipe Size (inch)	Pipe Size DN	Connection Type	Capacity (Cv)	Operating Temperature Range (F)	Operating Temperature Range (C)	Description	Comments
AMX100-UCPVC-1LF/U	1/2 in.	DN15	Union CPVC, 3/4 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 1/2 in. Union CPVC	Low lead Content <.25% by weighted average
AMX100-UPEX-1LF/U	1/2 in.	DN15	Union PEX, 3/4 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 1/2 in. Union Sweat	Low lead Content <.25% by weighted average
AMX100-US-1LF/U	1/2 in.	DN15	Union Sweat, 3/4 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 1/2 in. Union Sweat	Low lead Content <.25% by weighted average
AMX100-UT-1LF/U	1/2 in.	DN15	Union NPT, 3/4 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 1/2 in. Union Threaded	Low lead Content <.25% by weighted average
AMX101-UCPVC-1LF/U	3/4 in.	DN20	Union CPVC, 3/4 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 3/4 in. Union CPVC	Low lead Content <.25% by weighted average
AMX101-UPEX-1LF/U	3/4 in.	DN20	Union PEX, 3/4 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 3/4 in. Union Sweat	Low lead Content <.25% by weighted average
AMX101-US-1LF/U	3/4 in.	DN20	Union Sweat, 3/4 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 3/4 in. Union Sweat	Low lead Content <.25% by weighted average
AMX101-UT-1LF/U	3/4 in.	DN20	Union NPT, 3/4 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 3/4 in. Union Threaded	Low lead Content <.25% by weighted average
AMX102-US-1LF/U	1 in.	DN25	Union Sweat, 1 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 1" Union Sweat	Low lead Content <.25% by weighted average
AMX102-UT-1LF/U	1 in.	DN25	Union NPT, 1 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 1" Union Threaded	Low lead Content <.25% by weighted average

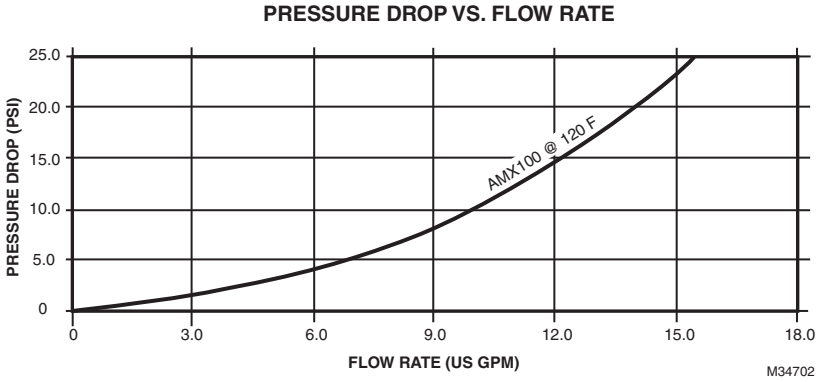
Dimensions in inches (millimeters)



PRODUCT NUMBER	DIMENSIONS (INCHES)			
	A	B	C	D
AMX100-UCPVC-1-LF	3-1/2	8-7/16	2-11/16	1-1/2
AMX100-UPEX-1-LF	3-1/2	8-5/8	2-15/16	1-1/2
AMX100-US-1-LF	3-1/2	8-3/16	2-1/2	1-1/2
AMX100-UT-1-LF	3-1/2	8-1/2	2-13/16	1-1/2
AMX101-UCPVC-1-LF	4-3/16	9	2-1/2	1-1/2
AMX101-UPEX-1-LF	4-3/16	9-3/16	2-11/16	1-1/2
AMX101-US-1-LF	4-3/16	9	2-1/2	1-1/2
AMX101-UT-1-LF	4-3/16	9-11/16	3-1/2	1-1/2
AMX102-US-1-LF	4-1/2	10	3-1/2	1-1/2
AMX102-UT-1-LF	4-1/2	10.3	3-13/16	1-1/2

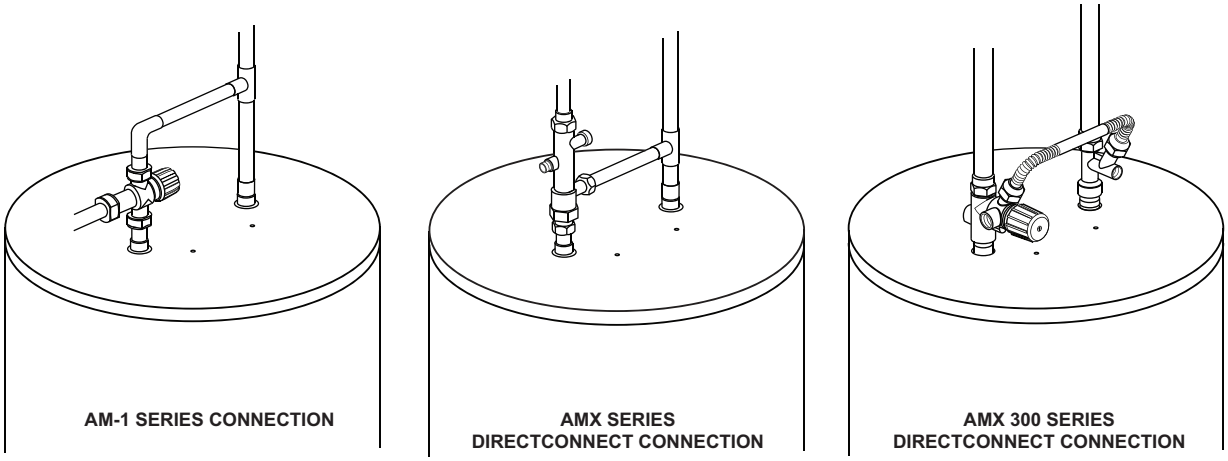
M27478B

Pressure Drop Chart



M34702

Thermostatic Replacement Mixing Valve Installation



M31168

AMX300 Series DirectConnect™ Thermostatic Mixing Valve and Kits

AMX300 kits reduce installation time to an minimum while still providing Honeywell's industry leading mixing valve technology

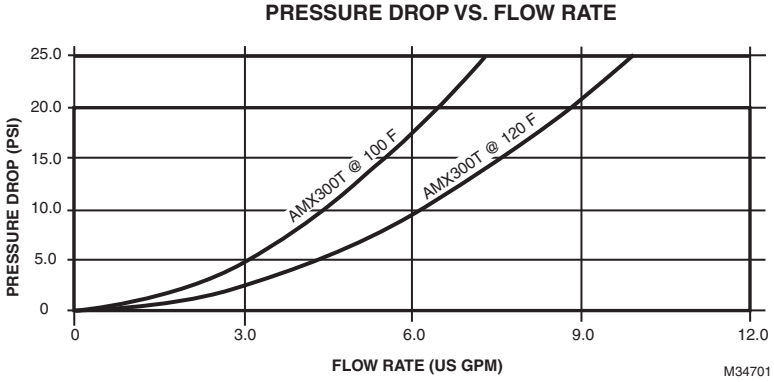
- Excellent temperature stability and control
- Effectively minimizes scalding risk to building occupants
- Kit includes mixing valve, cold water tee fitting and flexible stainless steel connector
- Mixing valve and cold water tee both connect directly to water heater; flexible stainless steel connector joins the cold water tee directly to the cold inlet port of the mixing valve
- Fits virtually all water heaters up to 1 in. (all necessary adapters included)
- Increased user comfort for more available hot water.
- Constant water temperature under different operating conditions
- Proportional valve (control of hot and cold water)
- Flow reduction in seconds if cold water supply is interrupted
- Temperature adjustable with easy “Push-Twist-Release” locking hand wheel design
- Recirculation port option for fast delivery of heated water to furthest fixtures
- Alternate hot port for bypass of hot water directly from tank to non-mixed temperature applications (dishwashers, clothes washers, etc.)
- Brass/stainless construction
- Teflon coated wear surfaces for extended service
- IAPMO listed (cUPCus)
- Complies with ASSE 1017 when used with check valve on supply (not included)
- Lead free part numbers end in LF

Application: Domestic Hot Water
Mixed Water Supply Temperature Range: 100 F to 145 F (38 C to 63 C)
Operating Temperature Range:
33 F to 80 F (cold water inlet); 100 F to 212 F (hot water inlet)
(0.5 C to 27 C (cold water inlet)); (38 C to 100 C) (hot water inlet))

Minimum Flow Rate: 0.25 gpm; Recirculation Port: 1/2 in. NPT; Alternate Hot Port: 1/2 in. NPT (0.95 lpm; Recirculation Port: 1/2 in. NPT; Alternate Hot Port: 1/2 in. NPT)
Maximum Working Pressure: 150 psi

Material Number	Pipe Size (inch)	Pipe Size DN	Connection Type	Capacity (Cv)	Description	Comments
AMX300/U	3/4 in.	DN20	Cold Inlet - 7/8 in.-14 SAE J513, 45 degree flare fitting; Mixed Outlet - Male NPT; Hot Inlet - Female NPT	2.1 Cv	3/4 in. mixing valve (Replacement valve tor AMX300T and AMX302T DirectConnect mixing valve kits.)	—
AMX300LF/U	3/4 in.	DN20	Cold Inlet - 7/8 in.-14 SAE J513, 45 degree flare fitting; Mixed Outlet - Male NPT; Hot Inlet - Female NPT	2.1 Cv	3/4 in. mixing valve (Replacement valve tor AMX300T and AMX302T DirectConnect mixing valve kits.)	Low lead Content <.25% by weighted average
AMX300T/U	3/4 in.	DN15	Mixed Outlet - Male NPT; Hot Inlet - Female NPT	2.1 Cv	DirectConnect water heater kit with 3/4 in. mixing valve, 3/4 in. cold water tee, and 8-in. SS flex connector	—
AMX300TLF/U	3/4 in.	DN15	Mixed Outlet - Male NPT; Hot Inlet - Female NPT	2.3 Cv	DirectConnect water heater kit with 3/4 in. mixing valve, 3/4 in. cold water tee, and 8-in. SS flex connector	Low lead Content <.25% by weighted average
AMX302T/U	3/4 in.	DN25	Mixed Outlet - Male NPT; Hot Inlet - Female NPT	2.1 Cv	DirectConnect water heater kit with 3/4-in. mixing valve, 3/4-in. cold water tee, and 11-in. SS flex connector	—
AMX302TLF/U	3/4 in.	DN25	Mixed Outlet - Male NPT; Hot Inlet - Female NPT	2.3 Cv	DirectConnect water heater kit with 3/4-in. mixing valve, 3/4-in. cold water tee, and 11-in. SS flex connector	Low lead Content <.25% by weighted average

Pressure Drop Chart



AMX Series DirectConnect Replacement Parts

Operating Temperature Range: 90 F to 130 F (32 C to 54 C)

Material Number	Pipe Size (inch)	Pipe Size (DN)	Connection Type	Description	
AMCU100			—	AM-1 Union check valve for original AM-1 valves where the check valve does not fit flush with valve body. Contains one O-ring. Also for all AMX100 mixing valves.	
AMX-001RP/U	—	—	—	AMX element, spring, plug assembly. For AMX100 series valves.	
AM-1-025RP/U	—	—	—	Thermal element, spring, and plug assembly. Rebuild kit for AM-1 “Standard” (70 -145F; 21-49C) series and AMX300 series valves	
AMX300/U	3/4 in.	DN20	Cold Inlet - 7/8 in.-14 SAE J513, 45 degree flare fitting; Mixed Outlet - Male NPT; Hot Inlet - Female NPT	3/4 in. mixing valve Replacement valve tor AMX300T and AMX302T DirectConnect mixing valve kits. Capacity 2.1 Cv	
AMX300LF/U	3/4 in.	DN20	Cold Inlet - 7/8 in.-14 SAE J513, 45 degree flare fitting; Mixed Outlet - Male NPT; Hot Inlet - Female NPT	3/4 in. mixing valve Replacement valve tor AMX300T and AMX302T DirectConnect mixing valve kits. Low lead Content <.25% by weighted average Capacity 2.1 Cv	
AMX300-008/U	—	—	NPT	Replacement 8" flex connector for AMX300T	
AMX300-011/U	—	—	NPT	Replacement 11" flex connector for AMX300T	
AMX300-34T/U	3/4 in.	DN20	NPT	Replacement cold water Tee for AMX300T and AMX302T	

MX Series Large Flow Proportional Mixing or Diverting Valve. Protects People and Equipment, Saves Energy

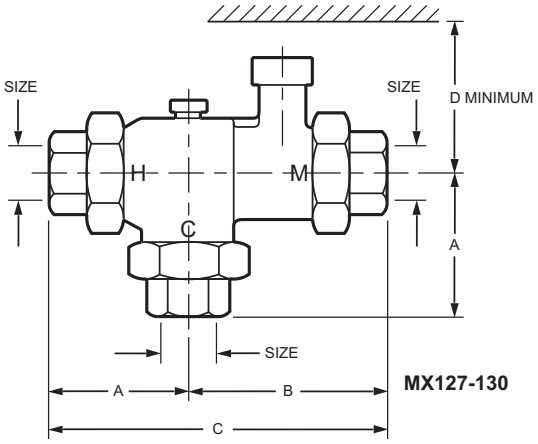
Threaded Valves

Flanged Valves

The MX Series is a state-of-the-art mixing valve with Teflon wear surfaces to prevent calcium buildup. Valve controls hot and cold supply based on control setting. If cold water is shut off, the valve will reduce the mixed flow rate in seconds (speed/residual flow rate varies by size). Accurate control of temperature provides energy savings, increased comfort and safety for the user.

- Dual purpose mixing or diverting valve.
- Constant water temperature under different operating conditions.
- Proportional valve (control of hot and cold water).
- Flow reduction in seconds if cold water supply is interrupted.
- Maintains temperature with extremely low minimum flows.
- Temperature adjustable, tamper evident.
- Install in any position, heat trapping not required.
- Recirculation connection for fast response.
- Bronze/stainless construction.
- Wear surfaces Teflon coated to prevent deposit build-up.
- Union/tailpiece connections included.
- Tapped flange connections 2-1/2 in. and 3 in.
- Allen wrench for temperature adjustment included.
- ASSE 1017 and CSA listed (Union Models)

Threaded Valves dimensions in inches (millimeters)

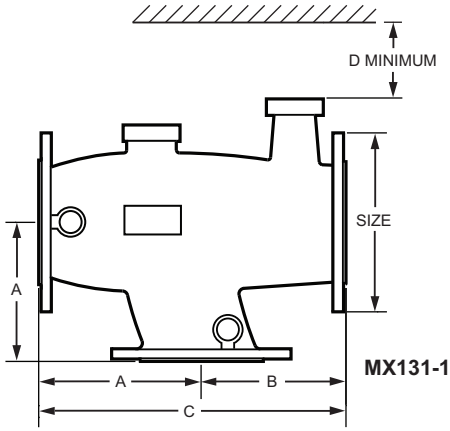


MX127-130

Product Number	Size NPT	Recir Port Size	Dimensions (Inches)			
			A	B	C	D
MX127	1"	1/2 (13)	2-51/64 (71)	3-45/64 (94)	6-1/2 (165)	6 (152)
MX128	1-1/4"	1/2 (13)	3-19/64 (84)	4-13/32 (112)	7-45/64 (196)	6-29/32 (175)
MX129	1-1/2"	1/2 (13)	3-19/32 (91)	5 (127)	8-19/32 (218)	7 (178)
MX130	2"	1/2 (13)	4-13/64 (107)	5-51/64 (147)	10 (254)	7-19/64 (211)
MX127C	1"	1/2 (13)	2-51/64 (71)	3-45/64 (94)	6-1/2 (165)	6 (152)
MX128C	1-1/4"	1/2 (13)	3-19/64 (84)	4-13/32 (112)	7-45/64 (196)	6-29/32 (175)
MX129C	1-1/2"	1/2 (13)	3-19/32 (91)	5 (127)	8-19/32 (218)	7 (178)
MX130C	2"	1/2 (13)	4-13/64 (107)	5-51/64 (147)	10 (254)	7-19/64 (211)

M23243B

Flanged Valves dimensions in inches (millimeters)



MX131-132

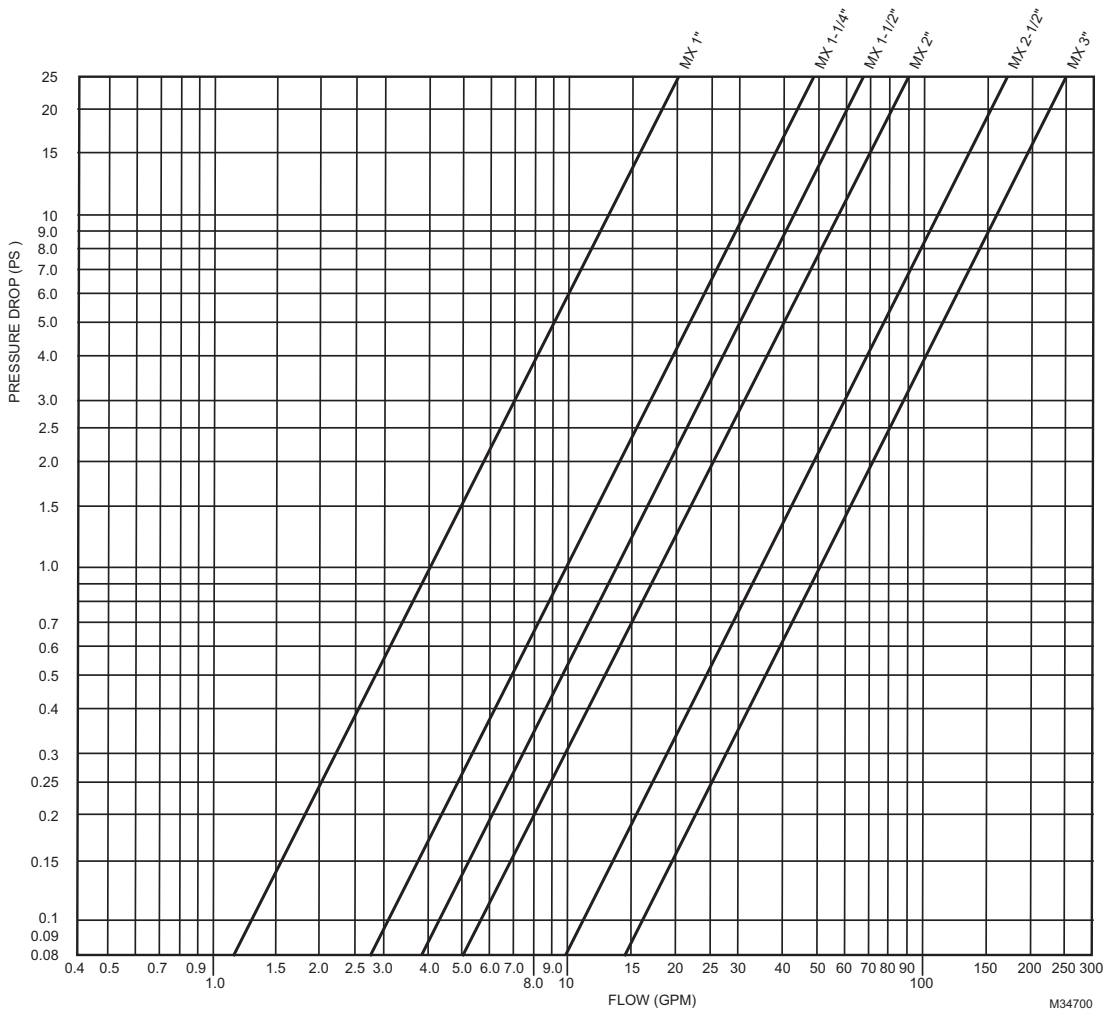
Product Number	Size NPT	Recir Port Size	Dimensions Inches (mm)			
			A	B	C	D
MX131	2-1/2" Flange	1 (25)	5-45/64 (145)	5-45/64 (145)	11-13/32 (290)	4 (102)
MX132	3" Flange	1-1/4 (32)	6-7/64 (155)	6-7/64 (155)	12-13/64 (310)	4 (102)

M27479

Application: Any application requiring accurate control of hot water temperature based on the mixing of hot and cold water, such as: domestic water for homes, apartment, hotels, schools, nursing homes, offices, public facilities, space heating, radiant floor heating,
Weight: 3.6 lb

Material Number	Pipe Size (inch)	Pipe Size DN	Connection Type	Capacity (Cv)	Operating Temperature Range (F)	Operating Temperature Range (C)	ASSE	Description
MX127/U	1 in.	DN25	NPT	4 Cv	113 F to 149 F	45 C to 65 C	1017	1 in. NPT MX Mixing Valves
MX127C/U	1 in.	DN25	NPT	4 Cv	86 F to 113 F	30 C to 45 C	1017	1 in. NPT MX Mixing Valves
MX128/U	1 1/4 in.	DN32	NPT	9.3 Cv	113 F to 149 F	45 C to 65 C	1017	1 1/4 in. MX NPT Mixing Valves
MX128C/U	1 1/4 in.	DN32	NPT	9.3 Cv	86 F to 113 F	30 C to 45 C	1017	1 1/4 in. NPT MX Mixing Valves
MX129/U	1 1/2 in.	DN40	NPT	13.5 Cv	113 F to 149 F	45 C to 65 C	1017	1 1/2 in. NPT MX Mixing Valves
MX129C/U	1 1/2 in.	DN40	NPT	13.5 Cv	86 F to 113 F	30 C to 45 C	1017	1 1/2 in. NPT MX Mixing Valves
MX130/U	2 in.	DN50	NPT	18 Cv	113 F to 149 F	45 C to 65 C	1017	2 in. NPT MX Mixing Valves
MX130C/U	2 in.	DN50	NPT	18 Cv	86 F to 113 F	30 C to 45 C	1017	2 in. NPT MX Mixing Valves
MX131/U	2 1/2 in.	DN65	Flanged	34 Cv	113 F to 149 F	45 C to 65 C	—	2 1/2 in. Flanged MX Mixing Valves
MX132/U	3 in.	DN80	Flanged	50 Cv	113 F to 149 F	45 C to 65 C	—	3 in. Flanged MX Mixing Valves

Pressure Drop Chart



MX Series Valves Replacement Parts

Material Number	Pipe Size (inch)	Pipe Size DN	Description
MX050-RP/U	1/2 in.	DN15	1/2 in. Recirculation adapter kit MX127 mixing valves. Includes 1/2 in. MNPT union nut and gasket
MX100-RP/U	1 in.	DN25	Replacement gasket kit for MX127 mixing valves. Includes 3, 1-in. gaskets
MX125-RP/U	1 1/4 in.	DN32	Replacement gasket kit for MX128 mixing valves. Includes 3, 1-1/4-in. gaskets
MX150-RP/U	1 1/2 in.	DN40	Replacement gasket kit for MX129 mixing valves. Includes 3, 1-1/2-in. gaskets
MX200-RP/U	2 in.	DN50	Replacement gasket kit for MX130 mixing valves. Includes 3, 2-in. gaskets
MX250-RP/U	2 1/2 in.	DN65	Replacement gasket kit for MX131 mixing valves. Includes 3, 2-1/2-in. gaskets
MX300-RP/U	3 in.	DN80	Replacement gasket kit for MX132 mixing valves. Includes 3, 3-in. gaskets

Pressure Regulating Valves

DS06 “DialSet” Low Lead Content Pressure Regulating Valves

Valves for new residential and light commercial construction, drip irrigation, and other applications requiring highly sensitive and accurate regulation. Easy DialSet® Adjustment (no gauge required).

- Dial is calibrated in 10 psi increments to allow quick and accurate adjustment of outlet pressure.
- Flow capacity and accuracy make the DS06 suitable for potable water service and most irrigation applications.
- High pressure (250 psi) inlet rating.
- Non-corroding unitized cartridge contains all working parts and is easily replaceable.
- Bronze body with stainless steel and engineered thermoplastic internal parts.
- Balanced single seat for accurate pressure output under varying inlet pressures.
- Inlet and outlet are internally threaded female NPT, and externally threaded for use with union assemblies.
- Built-in strainer.
- One model can be used in low, standard or high pressure applications.
- ±4 psi
- 1/4 in. gauge tap accessible on each side of body
- Low Lead NSF <.025

Calibrated Adjustment Dial: Yes
Gauge Tap: 1/4 in. NPT (two, one on each side of body)
Reducing Ratio: 10:1 maximum
Maximum Inlet Pressure Rating (psi): 250 psi
Pipe Connection: Female NPT threaded inlet and outlet. Externally threaded for unions.
Temperature Range: 140 F (60 C)

Materials: Bronze (body), Fabric reinforced diaphragm, Stainless steel and engineered thermoplastics.
Approvals
CSA (Canadian Standards Association): Certified (B356-10)
ASSE: Certified 1003-2009
IAPMO: Listed

Material Number	Pipe Size		Dimensions, Approximate		Outlet Pressure Adjustment Range (psi)	Union Fittings	Description
	inch	DN	(inch)	(mm)			
DS06-100-LF	1/2 in.	DN15	5 1/4 in. high x 3 3/8 in. long	133 mm high x 86 mm long	25-90 psi	Union body, no tailpieces	1/2 in. “DialSet” Female NPT Pressure Reducing Valve, non-union body. Low lead Content <.25% by weighted average
DS06-100-SUS-LF	1/2 in.	DN15	5 1/4 in. high x 3 7/8 in. long	133 mm high x 98 mm wide	25-90 psi	Single-union sweat	1/2 in. “DialSet” Female NPT Pressure Reducing Valve, Single union, sweat tailpiece. Low lead Content <.25% by weighted average
DS06-100-SUT-LF	1/2 in.	DN15	5 1/4 in. high x 4 1/16 in. long	133 mm high x 103 mm wide	25-90 psi	Single-union threaded	1/2 in. “DialSet” Female NPT Pressure Reducing Valve, Single union, internally threaded tailpiece. Low lead Content <.25% by weighted average
DS06-100-DUS-LF	1/2 in.	DN15	5 1/4 in. high x 5 9/16 in. long	133 mm high x 141 mm long	25-90 psi	Double-union sweat	1/2 in. “DialSet” Female NPT Pressure Reducing Valve, Double-union, sweat tailpiece. Low lead Content <.25% by weighted average
DS06-100-DUT-LF	1/2 in.	DN15	5 1/4 in. high x 5 15/16 in. long	133 mm high x 125 mm long	25-90 psi	Double-union threaded	1/2 in. “DialSet” Female NPT Pressure Reducing Valve, Double-union, internally threaded tailpiece. Low lead Content <.25% by weighted average
DS06-101-LF	3/4 in.	DN20	5 1/4 in. high x 3 3/8 in. long	133 mm high x 86 mm long	25-90 psi	Union body, no tailpieces	3/4 in. “DialSet” Female NPT Pressure Reducing Valve, non-union body. Low lead Content <.25% by weighted average
DS06-101-SUS-LF	3/4 in.	DN20	5 1/4 in. high x 4 5/16 in. long	133 mm high x 110 mm wide	25-90 psi	Single-union sweat	3/4 in. “DialSet” Female NPT Pressure Reducing Valve, Single union, sweat tailpiece. Low lead Content <.25% by weighted average
DSO6-101-SUT-LF	3/4 in.	DN20	5 1/4 in. high x 4 5/16 in. long	133 mm high x 110 mm wide	25-90 psi	Single-union threaded	3/4 in. “DialSet” Female NPT Pressure Reducing Valve, Single union, internally threaded tailpiece. Low lead Content <.25% by weighted average
DS06-101-DUS-LF	3/4 in.	DN20	5 1/4 in. high x 6 1/16 in. long	133mm high x 154 mm long	25-90 psi	Double-union sweat	3/4 in. “DialSet” Female NPT Pressure Reducing Valve, Double-union, sweat tailpiece. Low lead Content <.25% by weighted average
DS06-101-DUT-LF	3/4 in.	DN20	5 1/4 in. high x 5 3/16 in. long	133 mm high x 132 mm long	25-90 psi	Double-union threaded	3/4 in. “DialSet” Female NPT Pressure Reducing Valve, Double-union, internally threaded tailpiece. Low lead Content <.25% by weighted average
DS06-102-LF	1 in.	DN25	5 1/4 in. high x 3 15/16 in. long	133 mm high x 100 mm wide	25-90 psi	Union body, no tailpieces	1 in. “DialSet” Female NPT Pressure Reducing Valve, non-union body. Low lead Content <.25% by weighted average
DS06-102-SUS-LF	1 in.	DN25	5 1/4 in. high x 5 1/4 in. long	133 mm high x 133 mm long	25-90 psi	Single-union sweat	1 in. “DialSet” Female NPT Pressure Reducing Valve, Single union, sweat tailpiece. Low lead Content <.25% by weighted average
DS06-102-SUT-LF	1 in.	DN25	5 1/4 in. high x 5 in. long	133 mm high x 127 mm long	25-90 psi	Single-union threaded	1 in. “DialSet” Female NPT Pressure Reducing Valve, Single union, internally threaded tailpiece. Low lead Content <.25% by weighted average

Material Number	Pipe Size		Dimensions, Approximate		Outlet Pressure Adjustment Range (psi)	Union Fittings	Description
	inch	DN	(inch)	(mm)			
DS06-102-DUS-LF	1 in.	DN25	5 1/4 in. high x 6 1/2 in. long	133 mm high x 166 mm long	25-90 psi	Double-union sweat	1 in. “DialSet” Female NPT Pressure Reducing Valve, Double-union, sweat tailpiece. Low lead Content <.25% by weighted average
DS06-102-DUT-LF	1 in.	DN25	5 1/3 in. high x 5 3/16 in. long	133 mm high x 132 mm long	25-90 psi	Double-union threaded	1 in. “DialSet” Female NPT Pressure Reducing Valve, Double-union, internally threaded tailpiece. Low lead Content <.25% by weighted average
DS06-103-LF	1 1/4 in.	DN32	8 5/8 in. high x 4 11/16 in. long	218 mm high x 119 mm long	25-90 psi	Union body, no tailpieces	1 1/4 in. “DialSet” Female NPT Pressure Reducing Valve, non-union body. Low lead Content <.25% by weighted average
DS06-103-SUS-LF	1 1/4 in.	DN32	8 5/8 in. high x 6 3/16 in. long	218 mm high x 157 mm long	25-90 psi	Single-union sweat	Threaded 1 1/4 in. Pressure regulator Valve with single union, sweat tailpiece. Low lead Content <.25% by weighted average
DS06-103-SUT-LF	1 1/4 in.	DN32	8 5/8 in. high x 6 in. long	218 mm high x 152 mm long	25-90 psi	Single-union threaded	Threaded 1 1/4 in. Pressure regulator Valve with single union, threaded tailpiece. Low lead Content <.25% by weighted average
DS06-103-DUS-LF	1 1/4 in.	DN32	8 5/8 in. high x 7 11/16 in. long	218 mm high x 195 mm long	25-90 psi	Double-union sweat	1 1/4 in. “DialSet” Female NPT Pressure Reducing Valve, Double-union, sweat tailpiece. Low lead Content <.25% by weighted average
DS06-103-DUT-LF	1 1/4 in.	DN32	8 5/8 in. high x 7 5/16 in. long	218 mm high x 186 mm long	25-90 psi	Double-union threaded	1 1/4 in. “DialSet” Female NPT Pressure Reducing Valve, Double-union, internally threaded tailpiece. Low lead Content <.25% by weighted average
DS06-104-LF	1 1/2 in.	DN40	11 13/16 in. high x 6 3/8 in. long	299 mm high x 162 mm long	25-90 psi	Union body, no tailpieces	1 1/2 in. “DialSet” Female NPT Pressure Reducing Valve, non-union body. Low lead Content <.25% by weighted average
DS06-104-SUS-LF	1 1/2 in.	DN40	11 13/16 in. high x 7 7/8 in. long	299 mm high x 201 mm long	25-90 psi	Single-union sweat	1-1/2 in. “DialSet” Sweat Pressure regulator Valve. Low lead Content <.25% by weighted average
DS06-104-SUT-LF	1 1/2 in.	DN40	11 13/16 in. high x 7 13/16 in. long	299 mm high x 198 mm long	25-90 psi	Single-union threaded	1-1/2 in.”DialSet” Threaded Pressure regulator Valve. Low lead Content <.25% by weighted average
DS06-104-DUS-LF	1 1/2 in.	DN40	11 13/16 in. high x 9 3/8 in. long	299 mm high x 238 mm long	25-90 psi	Double-union sweat	1 1/2 in. “DialSet” Female NPT Pressure Reducing Valve, Double-union, sweat tailpiece. Low lead Content <.25% by weighted average
DS06-104-DUT-LF	1 1/2 in.	DN40	11 13/16 in. high x 9 3/16 in. long	299 mm high x 233 mm long	25-90 psi	Double-union threaded	1 1/2 in. “DialSet” Female NPT Pressure Reducing Valve, Double-union, internally threaded tailpiece. Low lead Content <.25% by weighted average
DS06-105-LF	2 in.	DN50	11 13/16 in. high x 6 3/8 in. long	299 mm high x 162 mm long	25-90 psi	Union body, no tailpieces	2 in. “DialSet” Female NPT Pressure Reducing Valve, non-union body. Low lead Content <.25% by weighted average
DS06-105-SUS-LF	2 in.	DN50	11 13/16 in. high x 8 5/16 in. long	299 mm high x 211 mm long	25-90 psi	Single-union sweat	2 in. “DialSet” Sweat Pressure regulator Valve. Low lead Content <.25% by weighted average
DS06-105-SUT-LF	2 in.	DN50	11 13/16 in. high x 7 7/8 in. long	299 mm high x 200 mm long	25-90 psi	Single-union threaded	2 in “DialSet” Threaded Pressure regulator Valve. Low lead Content <.25% by weighted average
DS06-105-DUS-LF	2 in.	DN50	11 13/16 in. high x 10 3/16 in. long	299 mm high x 257 mm long	25-90 psi	Double-union sweat	2 in. “DialSet” Female NPT Pressure Reducing Valve, Double-union, sweat tailpiece. Low lead Content <.25% by weighted average
DS06-105-DUT-LF	2 in.	DN50	11 13/16 in. high x 9 5/16 in. long	299 mm high x 237 mm long	25-90 psi	Double-union threaded	2 in. “DialSet” Female NPT Pressure Reducing Valve, Double-union, internally threaded tailpiece. Low lead Content <.25% by weighted average

Pressure Regulating Valves

D05/DS05/DSO6 Pressure Regulating Valves–Accessories

Material Number	Description	Used With
272843	Union gaskets for 1 1/4 in. D05/DS05 valves (package of 2)	1-1/4 in. valves
272858/U	Union Gasket for 1 1/2 in. valves	1-1/2 in. valves
272859/U	Union gaskets for 2-in. valves	2 in. valves
K06U1037/U	Union kit for1-1/2-in. NPT valves. Includes one each union nut, NPT internally threaded tailpiece, and gasket	1-1/2 in. valves
K06U1045/U	Union kit for 2-in. NPT valves. Includes one each union nut, NPT internally threaded tailpiece, and gasket	2 in. valves
K06U1069/U	Union kit for D05 for 1/2-in. NPT valves. Includes union nut, threaded tail piece, and gasket	1/2 in. valves
K06U1077/U	Union kit for D05 for 3/4-in. NPT valves. Includes union nut, threaded tail piece, and gasket	3/4 in. valves
K06U1085/U	Union kit for D05 for 1-in. NPT valves. Includes union nut, threaded tail piece, and gasket	1 in. valves
K06U1093/U	Union kit for D05 for 1/2-in. sweat valves. Includes union nut, sweat tail piece, and gasket	1/2 in. valves
K06U1101/U	Union kit for D05 for 3/4-in. sweat valves. Includes union nut, sweat tail piece, and gasket	3/4 in. valves
K06U1119/U	Union kit for D05 for 1-in. sweat valves. Includes union nut, sweat tail piece, and gasket	1 in. valves
K06U1135/U	Union kit for D05 for 1-1/4-in. NPT valves. Includes union nut, threaded tail piece, and gasket	1-1/4 in. valves
K06U1143/U	Union kit for D05 for 1-1/4-in. sweat valves. Includes union nut, sweat tail piece, and gasket	1-1/4 in. valves
K06U5034/U	Union kit for 1-1/2-in. sweat valves. Includes one each union nut, sweat tail piece, and gasket	1-1/2 in. valves
K06U5042/U	Union kit for 2-in. sweat valves. Includes one each union nut, sweat tail piece, and gasket	3 in. valves

D05/DS05/DSO6 Pressure Regulating Valves–Repair Parts

Material Number	Description	Used With
272867	Bonnet kit for 1-1/2 in. and 2 in. valves	1 1/2 in. and 2 in. valves
0900154	Bonnet Assembly 1 1/2 in. and 2 in.	1 1/2 in. and 2 in. valves
0900153/U	Bonnet Kit For 1 and 1 1/4 in only	1 in. and 1-1/4 in. DO6 valves
0900368/U	Bonnet Assembly for 1/2 in. and 3/4 in. Valves	1/2 in. and 3/4 in. valves
K05A1009	Repair Kit for 1/2 in. and 3/4 in. valves. Includes cartridge, screen and O-rings	1/2 in. and 3/4 in. valves
K05A1017	Repair Kit for 1 in. and 1-1/4 in. valves. Includes cartridge, screen and O-rings	1 in. and 1-1/4 in. valves
K05A1025	Repair kit for 1/2 in., 3/4 in., and 1-in. valves. Includes cartridge, screen and O-ring	1/2 in., 3/4 in., and 1-in. valves
K05B1007	Repair Kit for 1/2-in. and 3/4-in. valves. Includes screen and O-rings	1/2 in. and 3/4 in. valves
K05B1015/U	Repair Kit for 1-in. valves. Includes screen and O-rings	1 in. valves
K06A1003/U	Cartridge kit for 1/2 and 3/4 in. valves. Includes cartridge, screen and O-rings	1/2 in. and 3/4 in. valves
K06A1011	Cartridge kit for 1 and 1-1/4 in. valves. Includes cartridge, screen and O-rings	1 in. and 1-1/4 in. valves
K06A1019/U	Cartridge kit for 1/2 and 3/4 in. valves. Includes screen, plug and O-rings	1 in. and 1-1/4 in. valves
K06B1002	Cartridge kit for 1 and 1-1/4 in. valves. Includes screen, plug and O-rings	1 in. and 1-1/4 in. valves
K06B1018	Cartridge kit for 1 and 1-1/4 in. valves. Includes screen, plug and O-rings	1 in. and 1-1/4 in. valves
K06B1030	Cartridge kit for 1-1/2-in. and 2-in. valves. Includes strainer, support and 2 O-rings	1 1/2 in. and 2 in. valves
K06C1036/U	Spring kit for 1 and 1-1/4 in. valves. 21-85 psi. Includes spring and adjustment knob (gray)	1 in. and 1-1/4 in. valves
K06C1044	Spring kit for 1 and 1-1/4 in. valves. 85-170 psi. Includes spring and adjustment knob (red)	1 in. and 1-1/4 in. valves
K06C1060	Spring kit for 1-1/2 and 2 in. valves. 21-85 psi. Includes spring and adjustment knob (gray)	1 1/2 in. and 2 in. valves
K06D1001/U	Cartridge kit for 1/2 and 3/4 in. valves. Includes cartridge and O-rings	1/2 in. and 3/4 in. valves
K06D1009/U	Cartridge kit for 1 and 1-1/4 in. valves. Includes cartridge and O-rings	1 in. and 1-1/4 in. valves
K06D1017	Cartridge kit for 1-1/2 and 2 in. valves. Includes cartridge and O-rings	1 1/2 in. and 2 in. valves
K06D1044	Cartridge kit for 1-1/2-in. and 2in. valves. Includes cartridge, screen and O-rings	1 1/2 in. and 2 in. valves

TX Series Tanks- Domestic Hot Water

The Honeywell Thermal Expansion Absorber is a welded, pressurized expansion tank with a butyl diaphragm to control excess pressure in potable hot water systems. The Thermal Expansion Tank controls pressure build-up in the system, eliminates relief valve spillage, protects fixtures and extends water heater life.

- Heavy duty butyl rubber diaphragm (FDA approved) isolates water from air.
- Polypropylene liner, 100% non-metallic, non-corrosive water reservoir.
- Full size range: 2-211 gals., for all water heating volumes (ASME available).
- Prevents water hammer.
- Maintenance free.
- Protects water heater from harmful pressure cycling.
- Allows storage of expanded water with no increase in system pressures.

Maximum Operating Temperature: 200 F (93 C)
Maximum Operating Pressure: 150 psi (1034 kPa)
Precharge: 40 psi

Materials:
Shell: Steel
Connection: Brass
Liner: Polypropylene
Diaphragm: Butyl

Material Number	Connection Size (inch)	Connection Type	Diameter		Height		Volume		Maximum Acceptance Volume		Weight	
			inch	mm	inch	mm	gal	L	gal	L	lb	kg
TX-5/U	3/4 in.	Male NPT	8 in.	203.2 mm	12 5/8 in.	321 mm	2.0 gal	7.6 L	0.9 gal	3.41 L	5 lb	2.27 kg
TX-12/U	3/4 in.	Male NPT	11 in.	279 mm	12 5/8 in.	321 mm	4.4 gal	16.7 L	3.2 gal	12.1 L	5 lb	2.27 kg
TX-25V/U	3/4 in.	Female NPT	15 3/8 in.	390.5 mm	19 1/4 in.	489 mm	10.3 gal	39 L	10.3 gal	39 L	23 lb	10.43 kg
TX-30V/U	3/4 in.	Female NPT	15 3/8 in.	390.5 mm	23 7/8 in.	606 mm	14.0 gal	53.1 L	11.3 gal	42.8 L	25 lb	11.34 kg
TX-42V/U	3/4 in.	Female NPT	15 3/8 in.	390.5 mm	31 5/8 in.	803 mm	20.0 gal	75.7 L	11.4 gal	43.2 L	33 lb	14.97 kg

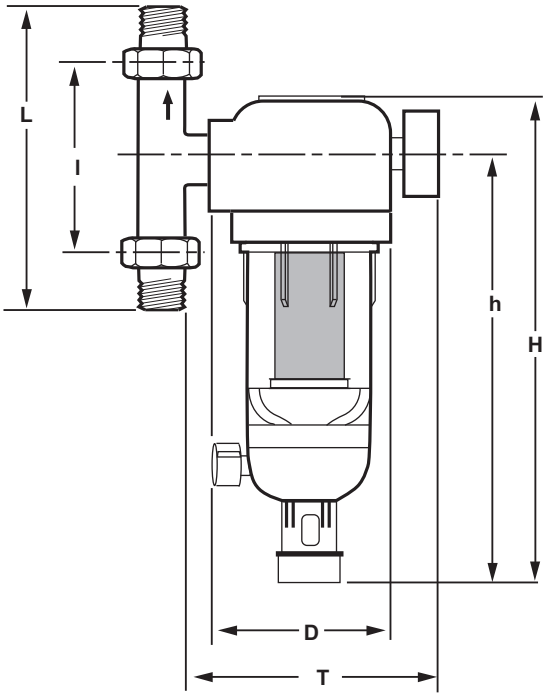
Water Sediment Filters

F74C Reversing Rinsing Filter

F74C Reverse Rinsing Filters ensure a continuous supply of filtered water. The fine filter prevents the ingress of foreign bodies, such as rust particle and grains of sand. Both horizontal and vertical installations are possible.

- Whole House Protection
- Filtered water supplied even during reverse rinsing. Patented reverse rinsing system.
- Fast and thorough cleaning of the filter with a small amount of water.
- Bayonet connection enables simple retro-fitting of reverse rinsing actuator.
- Large filter surface.
- Shock resistant, clear synthetic material filter bowl enables easy inspection of filter contamination.
- Filter insert fully interchangeable.
- Simple operation.
- Tested for reliability.

Dimensions in inches (millimeters)



DIMENSION	IN INCHES (MM)	
	F74C1015	F74C1023
H	12 13/16 (324)	12 13/16 (324)
h	11 3/16 (285)	11 3/16 (285)
L	6 3/8 (162)	7 1/4 (184)
l	3 9/16 (90)	3 15/16 (100)
D	4 1/8 (105)	4 1/8 (105)
T	5 5/16 (150)	5 5/16 (150)

M18087B

Materials (Body): Plastic with Brass Fittings
Connection Type: Sweat and threaded
Sump: Clear Plastic
Temperature Rating: 86 F Maximum (30 C Maximum)
Weight: 6 b (2.7 kg)

Material Number	Pipe Size (inch)	Pipe Size DN	Capacity (Cv)	Screen Size	Pressure Ratings (psi)	Includes
F74C1015	3/4 in.	DN20	6.4 Cv	100 micron screen	230 psi maximum	gauge and wrench
F74C1023	1 in.	DN25	7.0 Cv	100 micron screen	230 psi maximum	gauge and wrench

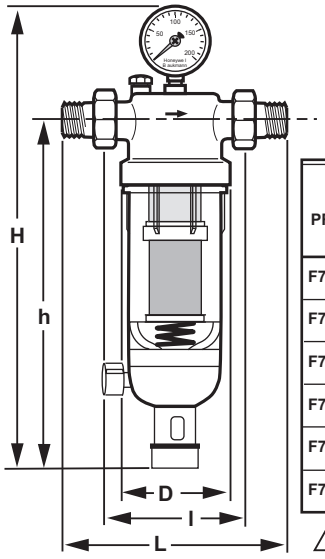
F76 Water Filters

High flow capacity water filter used to remove sediment and debris from residential or commercial water systems.

- Whole House Protection
- Ideally suited for sediment removal applications that would quickly plug and restrict the flow of normal filters.
- Used as a prefilter, the F76 protects elements of the water system, including specialized treatment devices or other common fixtures and appliances.
- The flow filtering capacity and ease of cleaning make the F76S ideal for the most demanding applications.
- Built-in secondary filter provides an uninterrupted supply of filtered water during backwashing.

Materials (Body): Brass
Connection Type: NPT External Threaded and Sweat
Sump: Clear Plastic
Temperature Rating: 104 F Maximum (40 C Maximum)
Weight: 6.4 lb (2.9 kg)

Dimensions in inches (millimeters)



PRODUCT NUMBER AND SIZE		DIMENSIONS IN INCHES (MM)					
		L	I	D	H	h	1 WEIGHT
F76S1007	1/2 IN.	6-11/16 (170)	4-5/16 (110)	3-13/16 (97)	17-11/16 (449)	13-13/16 (350)	6.4 (2.9)
F76S1015	3/4 IN.	7 (178)	4-5/16 (110)	3-13/16 (97)	17-11/16 (449)	13-13/16 (350)	6.4 (2.9)
F76S1023	1 IN.	8-1/4 (209)	5-1/8 (130)	3-13/16 (97)	17-7/8 (453)	13-13/16 (350)	6.8 (3.1)
F76S1031	1-1/4 IN.	8-3/4 (222)	5-1/8 (130)	3-13/16 (97)	17-7/8 (453)	13-13/16 (350)	7.3 (3.3)
F76S1049	1-1/2 IN.	9-11/16 (246)	5-15/16 (150)	4-3/4 (119)	20-15/16 (532)	16-7/16 (417)	8.8 (4.0)
F76F1056	2 IN.	10-1/2 (267)	5-15/16 (150)	4-3/4 (119)	20-15/16 (532)	16-7/16 (417)	10.6 (4.8)

1 WEIGHT IN POUNDS (KILOGRAMS)

M18084A

Material Number	Pipe Size (inch)	Pipe Size DN	Capacity (Cv)	Screen Size	Pressure Ratings (psi)	Includes
F76S1007	1/2 in.	DN15	5.6 Cv	100 micron screen	230 psi maximum	gauge and service wrench
F76S1015	3/4 in.	DN20	8.4 Cv	100 micron screen	230 psi maximum	gauge and service wrench
F76S1023	1 in.	DN25	11.4 Cv	100 micron screen	230 psi maximum	gauge and service wrench
F76S1031	1 1/4 in.	DN32	12.4 Cv	100 micron screen	230 psi maximum	gauge and service wrench
F76S1049	1 1/2 in.	DN40	24.4 Cv	100 micron screen	230 psi maximum	gauge and service wrench
F76S1056	2 in.	DN50	25.5 Cv	100 micron screen	230 psi maximum	gauge and service wrench

Water Filters

FF06 Rinseable Fine Filter

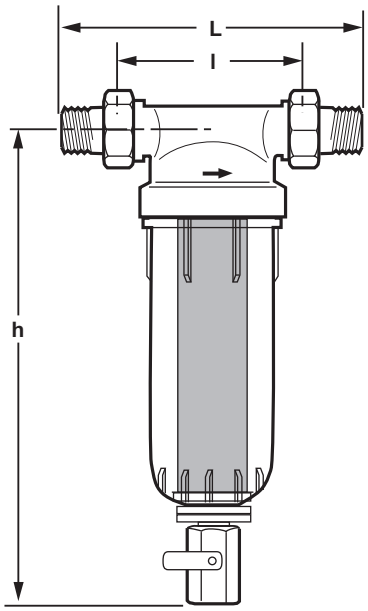
The FF06 Rinseable Fine Filter ensures a continuous supply of filtered water. The fine filter stops the flow of particulates, such as rust particles and grains of sand. Sediment collected at the bottom of the bowl can simply be removed by flushing with the turn of a knob. This compact filter was designed to fit where the space is limited.

- Easy installation.
- Same installed dimensions as F74C for easy future upgrade to a backwashable filter.
- Continuous supply of filtered water, even during rinse cycle.
- Shock resistant clear synthetic material filter bowl enables easy inspection for filter contamination.
- Stainless steel filter element.
- Filter bowl and sleeve are easily exchanged.
- Shipped with threaded and sweat union connections and service wrench.

Materials (Body): Dezincification-resistant (DZR) forged Brass
Connection Type: NPT External Threaded and Sweat
Sump: Clear Plastic

Temperature Rating: 104 F Maximum (40 C Maximum)
Weight: 2.2 lb (1.0 kg)

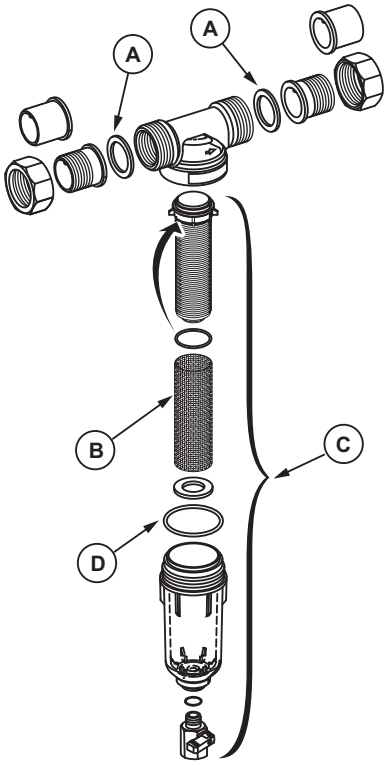
Dimensions in inches (millimeters)



DIMENSION	IN INCHES (MM)	
	FF06A1013	**FF06A1021**
L	6 1/4 (158)	7 1/16 (179)
l	3 9/16 (90)	3 15/16 (100)
h	7 1/16 (180)	7 1/16 (180)

M18086C

FF06 Exploded View



	PART NUMBER	DESCRIPTION
A	0901444	GASKET 3/4 IN. (10 PCS)
	0901445	GASKET 1 IN. (10 PCS)
B and D	AS 06 1A	FILTER MESH AND SUMP O RING (5 PCS)
C	KF 06 1A	CLEAR FILTER BOWL, COMPLETE WITH FILTER MESH AND CARRIER

M17536B

Material Number	Pipe Size (inch)	Pipe Size DN	Capacity (Cv)	Screen Size	Pressure Ratings (psi)	Includes
FF06A1013	3/4 in.	DN20	7.3 Cv	100 micron screen	230 psi maximum	service wrench
FF06A1021	1 in.	DN25	8.4 Cv	100 micron screen	230 psi maximum	service wrench

Water Sediment Filter Parts and Accessories

Material Number	Description	Used With
0900747	Sump O-ring for F76S Water Filter 1 1/2 in.	F76S
0900748	Sump O-ring for F76S water filter 1/2 in. to 1 in.	F76S
0901444	Union gasket for 1/2 in. or 3/4 in. connections	F76S; FF06; F74C
0901445	Union gasket for 1 in. connections	F76S; FF06; F74C
0901446	Union gasket for 1-1/4 in. connections	F76S
0901447	Union gasket for 1-1/2 in. connections	F76S
0901448/U	Union gasket for 2 in. connections	F76S
AF11S-1A	100 Micron Screen kit for F76S Water Filter 1/2 in. to 1-1/4 in.	F76S
AF11S-1B/U	20 Micron Screen kit for F76S Water Filter 1/2 in. to 1-1/4 in.	F76S
AF11S-1C	50 Micron Screen kit for F76S Water Filter 1/2 in. to 1-1/4 in.	F76S
AF11S-1D	200 Micron Screen kit for F76S Water Filter 1/2 in. to 1-1/4 in.	F76S
AF11S-11/2A	100 Micron Screen kit for F76S Water Filter 1 1/2 in. to 2 in.	F76S
AF11S-11/2B	20 Micron Screen kit for F76S Water Filter 1 1/2 in. to 2 in.	F76S
AF11S-11/2C	50 Micron Screen kit for F76S Water Filter 1 1/2 in. to 2 in.	F76S
AF11S-11/2D	200 Micron Screen kit for F76S Water Filter 1 1/2 in. to 2 in.	F76S
AF74-1A	Insert Filter 100 Micron Screen	F74C
AS06-1A	Filter mesh and sump O-ring (5 pcs)	FF06
FT09RS-1A	Bronze Sump for F76S Water Filter 1/2 in. to 1-1/4 in.	F76S
KF11S-1A	Clear Plastic Sump (bowl) for F76S Water Filter 1/2 in. to 1-1/4 in.	F76S
KH11S-1A	Ball Valve for F76S water filter 1/2 in. to 2 in.	F76S
KF11S-11/2A	Clear Plastic Sump (bowl) for F76S Water Filter 1 1/2 in. to 2 in.	F76S

MV876 Automatic Backwash Control

The MV876B Automatic-Backwash Control is available as an accessory. This control is fitted to the drain valve and is programmed by the user to automatically perform the backwash function according to the desired interval.

- Bayonet fitting simplifies upgrade to automatic backwash.
- 16 field-selectable backwash intervals (from every four minutes to once every three months) eliminate need for external timer.
- Connections for external control on the MV876 provide for use in automated systems and differential pressure control.
- MV876 can be manually activated to initiate backwash.
- Battery (AA) backup to insure completion of backwash cycle in spite of power loss.

Dimensions, Approximate: 6 in. high, 2-3/4 in wide, 6-5/16 in. deep (152 mm high, 70mm wide, 160 mm deep)
Electrical Ratings: 24 Vac, 10 W

Material Number	Backwash Intervals	Display	Electrical Connections	Cycle Time (sec)	Battery Back-up	Description
MV876B1018	16 Adjustable intervals from 4 min to 3 months	Digital	Remote Activation	20 sec	Yes, 4xAA	Automatic backwash control, fits 1/2 in. to 2 in. F76S models and F74C models

AQ2000 Boiler Controls

Aquatrol® Hydronic Controls

Simple. Powerful. Energy Efficient. Honeywell Aquatrol Hydronic Controls are designed to keep even the most complex systems simple.

All Aquatrol Control Panels Are Loaded With Standard Features:

- Control Pumps or Zone Valves
- Zone Synchronization
- Domestic Hot Water Priority and Priority Override
- Boiler Post Purge
- Boiler Short Cycling Protection
- Freeze Protection
- Pump/Valve Exercise
- Auto Test
- Auto Purge
- Compatible with any digital thermostat
- Intuitive color-coded wiring terminals

AQ250 Relay Control Panels

- Includes all features listed above

Material Number	Application
AQ25042B/U	For use with pumps or zone valves without end switches
AQ25044B/U	For use with zone valves with end switches

AQ25A Relay "Plus" Control Panels

Everything the AQ250 has plus…

- LCD screen, customizable control settings, ability to display outdoor temperature on thermostats, programmable auxiliary relays to add system versatility and more

Material Number	Application
AQ25A42B/U	For use with pumps or zone valves without end switches
AQ25A44B/U	For use with zone valves with end switches

Dedicated AQ1000TN2 and AQ1000TP2 Communicating Thermostats

- Indoor and outdoor temperature can be displayed
- 2-wire "polarity insensitive"
- Displays Fahrenheit or Celsius
- Zone settings for all thermostats can be programmed at the main control panel
- Programmable model controls 1 zone of cooling

AQ251 Reset Control Panels

Everything the AQ25A has plus…

- Outdoor Reset or Load Reset, 0-10Vdc output to run modulating boilers, support for 1 A/C compressor and up to 64 zones of cooling

Material Number	Application
AQ25110B/U	1 Zone Reset
AQ25142B/U	For use with pumps or zone valves without end switches
AQ25144B/U	For use with zone valves with end switches

AQ252 Mixing Injection Control Panels

Everything the AQ251 has plus…

- The ability to control 2 temperatures with injection pump or mixing valve

Material Number	Application
AQ25242B/U	For use with pumps or zone valves without end switches
AQ25244B/U	For use with zone valves with end switches

Expansion Zoning Panels

For additional zones of pumps or valves, to extend the capacity of systems up to a maximum of 64 heating zones

Material Number	Application	Number of Zones
AQ25542B/U	Expansion panel for pumps or 2 wire zone valves (line voltage)	4
AQ25582B/U	Expansion panel for pumps or 2 wire zone valves (line voltage)	8
AQ25742B/U	Expansion panel for 2 wire zone valves (24vac)	4
AQ25744B/U	Expansion panel for 4 wire zone valves (24vac)	4
AQ25400B/U	Add a temperature or expand the AQ network capacity for 16 more zones	—

AQ250 Electronic Relay Boiler Control Panel for Hydronic Zoning System

The AQ250 family of AQUATROL Boiler Controls provides simplified, energy-efficient control of single temperature, residential hydronic heating systems. The AQ250 easily converts a single zone heating system into a room-by-room comfort control system, or upgrades a basic, relay-logic zoning system to intelligent Zone of Greatest Demand control for increased energy efficiency with reduced boiler cycling. AQ250 boiler controls can ensure ample supply of hot water for both space heating and priority generation of domestic hot water for bathing, dishes and laundry.

- Controls up to 2 stages of heat from a single thermostat.
- Use with AQ1000 2-wire communicating thermostats, or most dry contact digital thermostats.
- Zoning Control for up to 4 zones as shipped; can be expanded to a total of 16 zones with AQ255 or AQ257 expansion zoning panels and up to 64 zones when used with AQ254 Add-A-Temp panels.
- Line or low-voltage output for zoning equipment (pumps or valves).
- Zone synchronization through Zone or Greatest Demand control.
- Domestic hot water priority and priority override protection.
- Boiler short cycling protection.
- Boiler post purge.
- Freeze protection.
- Pump/valve exercise.
- Boiler shock prevention from cold water returning to boiler.
- Automated test feature for quick start-up and simplified troubleshooting.
- Integral 38 VA transformer with self-resetting electronic fuse.

Application: Boiler control for zoned hydronic systems
Dimensions, Approximate: 13 in wide x 8 in. high x 3 3/8 in deep (33 cm wide x 20.3 cm high x 8.5 cm deep)
Power Supply: 120V/60Hz
User Interface (Setting, Programming): (DIP Switches)
Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals
Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)
Thermostat Compatibility: AQ1000 Series 2-wire communicating thermostats and most digital thermostats
Zone Module Thermostat input: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating with power link to AQ1000 series thermostat.
Boiler Heat Post Purge: 30 seconds (sent to DHW tank or Zone of Greatest Demand - selectable)
Boiler (T-T) Output Rating: 24 Vac, 0.5A, 12VA
DHW Pump/Valve Output Rating: 120 Vac/250 Vac 5A, 1/3HP
DHW Demand Input: External dry contacts connection only
Pump/Valve exercise: 30 seconds per 2 weeks of space heating inactivity
Auxiliary Pump Output Rating: Dry contact output, 120 Vac/250 Vac 5A, 1/3 HP
Zone Output Contact Rating: Pumps: 120 Vac/250 Vac, 5A, 1/3 HP Valves: 24 Vac, 0.5 A, 12 VA
ZR-ZC Contact Rating: 120 to 240 Vac, 1/3 HP
Sensor Temperature Rating: -58 F to +230 F (-50 C to +110 C)
Supply/Return Sensor: Lead Length: 10 ft. (3050 mm). 10 kilohm NTC thermistor at 25 C (77 F) ±0.5F (±0.3C) up to 500 ft (150 M) using 18 AWG or larger wire
Heat Demand (Thermostat R-W) Input: External dry contacts connection only
B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.
R-C Input (on Control and Zoning Modules): 24 Vac Class II
R-C Output (on transformer): 38 VA, 24 Vac Class II
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Weight: 4.9 lbs (2.3 kg)
Approvals
Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

	Material Number	Type of Zoning Devices Controlled	Number of Zones Controlled	Boiler Pump Output Rating	Replacement Parts
*	**AQ25042B/U**	Zone pumps or 2-wire valves (line voltage)	4	120 Vac/250 Vac 5A, 1/3HP	AQ15000B boiler control module; AQ12C11 supply/return/mixed loop sensor; AQ10X38 24 Vac 38 VA transformer; AQ15540B 4-zone pump expansion module
*	**AQ25044B/U**	Zone valves with end switches	4	120 Vac/250 Vac 5A, 1/3HP	AQ15000B boiler control module; AQ15740B 4-zone valve with end switch expansion module; AQ12C11 supply/return/mixed loop sensor; AQ10X38 24 Vac 38 VA transformer

** TRADELINE models • SUPER TRADELINE models*

AQ2000 Boiler Controls

AQ25A Programmable Relay Control Panel for Hydronic Zoning System

The AQ25A family of AQUATROL Programmable Relay Boiler Controls provides simplified, energy-efficient control of single-temperature, residential hydronic heating systems. The AQ25A easily converts a single zone heating system into a room-by-room comfort control system, or upgrades a basic, relay-logic zoning system to intelligent Zone of Greatest Demand control for increased energy efficiency with reduced boiler cycling. AQ25A boiler controls can ensure ample supply of hot water for both space heating and priority generation of domestic hot water for bathing, dishes and laundry.

- Use with AQ1000 2-wire dry contact communicating thermostats and most digital thermostats.
- 0-10 Vdc modulating output for driving a modulating/condensing boiler.
- Displays outdoor temperature on all AQ1000 Series thermostats when used with an AQ12C10 outdoor sensor (included).
- Intuitive programming interface and armchair programming (can be programmed at your desk and taken to the job site “ready-to-install”).
- Customizable control settings and schedules allow for greater level of control and comfort.
- Controls up to 2 stages of heat from a single thermostat.
- Central programming of zone set points and setbacks
- Zoning Control for up to 4 zones as shipped; can be expanded to a total of 16 zones with AQ255 or AQ257 expansion zoning panels, and up to 64 zones when used with AQ254 Add-a-Temperature panels.
- Zone synchronization through Zone of Greatest Demand control.
- Domestic hot water priority and priority override protection.
- Line or low-voltage output for zoning equipment (pumps or valves).
- Boiler short cycling protection.
- Boiler post purge.
- Freeze protection.
- Pump/valve exercise.
- Boiler shock prevention from cold water returning to boiler.
- Automated test and purge feature for quick start-up and simplified troubleshooting.
- Integral 38 VA transformer with self resetting electronic fuse.
- 2 hour power supply (super-capacitor) to retain day and time settings during power outage.
- Non-volatile EPROM memory retains program settings during power outage.

Application: Boiler control for zoned hydronic systems
Dimensions, Approximate: 16 1/2 in wide x 8 in. high x 3 3/8 in deep (42 cm wide x 20.3 cm high x 8.5 cm deep)
Power Supply: 120V/60Hz
User Interface (Setting, Programming): (LCD Display and a 7 button Key Pad) (DIP Switches on zoning modules)
Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals
Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)
Thermostat Compatibility: AQ1000 Series 2-wire communicating thermostats and most digital thermostats
Zone Module Thermostat input: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating with power link to AQ1000 series thermostat.
Setback Program: 7 day, up to 2 setback periods/day.
Boiler Heat Post Purge: Off, 10 seconds to 30 minutes (factory default is 30 seconds)
Boiler (T-T) Output Rating: 24 Vac, 0.5A, 12VA
Boiler Differential: 2F to 41F (1C to 23C), or Auto (minimum 2 minutes on time)
DHW Pump/Valve Output Rating: 120 Vac/250 Vac 5A, 1/3HP
DHW Demand Input: External dry contacts connection only
Pump/Valve exercise: 30 seconds per 2 weeks of space heating inactivity
Auxiliary Pump Output Rating: Dry contact output, 120 Vac/250 Vac 5A, 1/3 HP
Auxiliary Low Voltage Output Rating: 24 Vac, 0.5A, 12VA
Auxiliary (Demand) Input: External dry contacts connection only
Zone Output Contact Rating: Pumps: 120 Vac/250 Vac, 5A, 1/3 HP Valves: 24 Vac, 0.5 A, 12 VA
Sensor Temperature Rating: -58 F to +230 F (-50 C to +110 C)
Supply/Return Sensor: Lead Length: 10 ft. (3050 mm). 10 kilohm NTC thermistor at 25 C (77 F) ±0.5F (±0.3C) up to 500 ft (150 M) using 18 AWG or larger wire
Heat Demand (Thermostat R-W) Input: External dry contacts connection only
B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.
R-C Input (on Control and Zoning Modules): 24 Vac Class II (input on Control and Zoning Modules)
R-C Output (on transformer): 38 VA, 24 Vac Class II
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Weight: 5.7 lbs (2.6 kg)
Approvals
Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

	Material Number	Type of Zoning Devices Controlled	Number of Zones Controlled	Boiler Pump Output Rating	Weight		Replacement Parts
					lb	kg	
*	**AQ25A42B/U**	Zone pumps or 2-wire valves (line voltage)	4	120 Vac/250 Vac 5A, 1/3HP	5.7 lbs	2.6 kg	AQ15A00B boiler control module; AQ12C11 supply/return/mixed loop sensor; AQ12C10 outdoor sensor; AQ10X38 24 Vac 38 VA transformer; AQ15540B 4-zone pump expansion module
*	**AQ25A44B/U**	Zone valves with end switches	4	120 Vac/250 Vac 5A, 1/3HP	5.7 lbs	2.6 kg	AQ15A00B boiler control module; AQ15740B 4-zone valve with end switch expansion module; AQ12C11 supply/return/mixed loop sensor; AQ12C10 outdoor sensor; AQ10X38 24 Vac 38 VA transformer

** TRADELINE models • SUPER TRADELINE models*

AQ251 Electronic Boiler Reset Control Panel for Hydronic Zoning System

The AQ251 family of AQUATROL Boiler Reset Controls provides simplified, energy-efficient outdoor temperature compensated control of single temperature, residential hydronic heating systems. The AQ251 easily converts a single zone heating system into a room-by-room comfort control system, or upgrades a basic, relay-logic zoning system to intelligent Zone of Greatest Demand control with outdoor reset for increased energy efficiency with reduced boiler cycling. AQ251 boiler controls can ensure ample supply of hot water for both space heating and priority generation of domestic hot water for bathing, dishes and laundry.

- Use with AQ1000 2-wire communicating thermostats (AQ25142B and AQ25144B) or most digital dry contact thermostats (AQ25110B, AQ25142B, and AQ25144B).
- 0-10 Vdc modulating output for driving a modulating/condensing boiler.
- Displays outdoor temperature on all AQ1000 thermostats when used with an AQ12C10 outdoor sensor (included).
- Intuitive programming interface and armchair programming (can be programmed at your desk and taken to the job site “ready-to-install”)
- Customizable control settings and schedules allow for greater level of control and comfort.
- Central programming of zone set points and setback.
- Controls up to 2 stages of heat from a single thermostat.
- Zoning Control for up to four zones as shipped; can be expanded to a total of 16 zones with AQ255 or AQ257 expansion zoning panels, and up to 64 zones by using AQ254 Add-a-Temperature expansion panels.
- Outdoor temperature compensation (reset), or Load reset based on indoor temperature feedback.
- Zone synchronization through Zone of Greatest Demand control.
- Domestic hot water priority and priority override protection.
- Line or low-voltage output for zoning equipment (pumps or valves).
- Boiler short cycling protection.
- Boiler post purge.
- Freeze protection.
- Pump/valve exercise.
- Boiler shock prevention from cold water returning to boiler.
- Automated test and purge feature for quick start-up and simplified troubleshooting.
- Integral 38 VA transformer with self resetting electronic fuse.
- 2 hour power supply (super-capacitor) to retain day and time settings during power outage.
- Non-volatile EPROM memory retains program settings during power outage.

Application: Boiler reset control for hydronic zoning system
Power Supply: 120V/60Hz
User Interface (Setting, Programming): (LCD Display and a 7 button Key Pad)
Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals
Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)
Thermostat Compatibility: AQ1000 Series 2-wire communicating thermostats and most digital thermostats
Setback Program: 7 day, up to 2 setback periods/day.
Boiler Design Temperature: 80F to 210F (26C to 99C)
Boiler (Supply) Min. Control Temperature: OFF, 59F to 180F (OFF, 15C to 82C)
Boiler (Supply) Max. Control Temperature: OFF, 120F to 225 F (OFF, 49C to 107 C)
Boiler Heat Post Purge: Off, 10 seconds to 30 minutes (factory default is 30 seconds)
Boiler (T-T) Output Rating: 24 Vac, 0.5A, 12VA
Boiler Differential: 2F to 41F (1C to 23C), or Auto (minimum 2 minutes on time)
DHW Pump/Valve Output Rating: 120 Vac/250 Vac 5A, 1/3HP
DHW Demand Input: External dry contacts connection only
Outdoor Low Design Control Temperature: -60F to 32F (-51 C to 0 C)
Return Minimum Control Temperature: 80 F to 180 F (27C to 82C)
Pump/Valve exercise: 30 seconds per 2 weeks of space heating inactivity
Auxiliary Pump Output Rating: Dry contact output, 120 Vac/250 Vac 5A, 1/3 HP
Auxiliary Low Voltage Output Rating: 24 Vac, 0.5A, 12VA
Auxiliary (Demand) Input: External dry contacts connection only
WWSD (Warm Weather Shut Down) Temperature: Off, 35 F to 100 F (Off, 1 C to 38 C)
Sensor Temperature Rating: -58 F to +230 F (-50 C to +110 C)
Supply/Return Sensor: Lead Length: 10 ft. (3050 mm). 10 kilohm NTC thermistor at 25 C (77 F) ±0.5F (±0.3C) up to 500 ft (150 M) using 18 AWG or larger wire
Heat Demand (Thermostat R-W) Input: External dry contacts connection only
B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.
R-C Input (on Control and Zoning Modules): 24 Vac Class II (input on Control and Zoning Modules)
R-C Output (on transformer): 38 VA, 24 Vac Class II
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Approvals
Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

	Material Number	Type of Zoning Devices Controlled	Number of Zones Controlled	Boiler Pump Output Rating	Dimensions, Approximate		Weight		Replacement Parts
					inch	mm	lb	kg	
*	**AQ25110B/U**	None	1 (non-communicating)	120 Vac/250 Vac 5A, 1/3HP	13 in wide x 8 in. high x 3 3/8 in deep	33 cm wide x 20.3 cm high x 8.5 cm deep	4.9 lbs	2.3 kg	AQ15100B boiler reset module; AQ12C11 supply/return/mixed loop sensor; AQ12C10 outdoor sensor; AQ10X38 24 Vac 38 VA transformer
*	**AQ25142B/U**	Pumps or 2-wire valves	4	120 Vac/250 Vac 5A, 1/3HP	16 1/2 in wide x 8 in. high x 3 3/8 in deep	42 cm wide x 20.3 cm high x 8.5 cm deep	5.7 lbs	2.6 kg	AQ15100B boiler reset module; AQ12C11 supply/return/mixed loop sensor; AQ12C10 outdoor sensor; AQ10X38 24 Vac 38 VA transformer; AQ15540B 4-zone pump expansion module
*	**AQ25144B/U**	Zone valves with end switches	4	120 Vac/250 Vac 5A, 1/3HP	16 1/2 in wide x 8 in. high x 3 3/8 in deep	42 cm wide x 20.3 cm high x 8.5 cm deep	5.7 lbs	2.6 kg	AQ15100B boiler reset module; AQ15740B 4-zone valve with end switch expansion module; AQ12C11 supply/return/mixed loop sensor; AQ12C10 outdoor sensor; AQ10X38 24 Vac 38 VA transformer

** TRADELINE models • SUPER TRADELINE models*

AQ2000 Boiler Controls

AQ252 Universal Injection/Mixing Boiler Reset Control Panel for Hydronic Zoning System

The AQ252 family of AQUATROL Universal Injection/Mixing Boiler Reset Controls provides simplified, energy-efficient outdoor temperature compensated control of single-temperature, residential hydronic heating systems. The AQ252 easily converts a single zone heating system into a room-by-room comfort control system, or upgrades a basic, relay-logic zoning system to intelligent Zone of Greatest Demand control with outdoor reset for increased energy efficiency with reduced boiler cycling. AQ252 boiler controls can ensure ample supply of hot water for both space heating and priority generation of domestic hot water for bathing, dishes and laundry.

- Use with AQ1000 2-wire communicating thermostats or most digital dry contact thermostats.
- Controls one boiler loop and one mixed temperature loop.
- Use of variable speed injection pump or motorized mixing valve for mixed temperature loop control.
- 0-10 Vdc modulating output for driving a modulating/condensing boiler or a modulating mixing valve.
- Displays of outdoor temperature on all AQ1000 thermostats when used with an AQ12C10 outdoor sensor (included).
- Intuitive programming interface and armchair programming (can be programmed at your desk and taken to the job site “ready-to-install”)
- Customizable control settings and schedules allow for greater level of control and comfort.
- Central programming of set points and setback.
- Controls up to 2 stages of heat from a single thermostat.
- Zoning Control for up to four zones as shipped; can be expanded to a total of 16 zones with AQ255 or AQ257 expansion zoning panels, and up to 64 zones by using AQ254 Add-a-Temperature expansion panels.
- Outdoor temperature compensation (reset), or Load reset based on indoor temperature feedback.
- Zone synchronization through Zone of Greatest Demand control.
- Domestic hot water priority and priority override protection.
- Line or low-voltage output for zoning equipment (pumps or valves).
- Boiler short cycling protection.
- Boiler post purge.
- Freeze protection.
- Pump/valve exercise.
- Boiler shock prevention from cold water returning to boiler.
- Automated test and purge feature for quick start-up and simplified troubleshooting.
- Integral 38 VA transformer with self resetting electronic fuse.
- 4 hours power supply (super capacitor) to retain day and time settings during power outage.
- Non-volatile EPROM memory retains program settings during power outage.

Application: Controls one boiler and one mixing (either variable speed injection or floating valve mixing) loop in a hydronic zoning system.
Dimensions, Approximate: 16 1/2 in wide x 8 in. high x 3 3/8 in deep (42 cm wide x 20.3 cm high x 8.5 cm deep)
Power Supply: 120V/60Hz
User Interface (Setting, Programming): (LCD Display and a 7 button Key Pad)
Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals
Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)
Thermostat Compatibility: AQ1000 Series 2-wire communicating thermostats and most digital thermostats
Zone Module Thermostat input: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating with power link to AQ1000 series thermostat.
Setback Program: 7 day, up to 2 setback periods/day.
Boiler Design Temperature: 80F to 210F (26C to 99C)
Boiler (Supply) Min. Control Temperature: OFF, 59F to 180F (OFF, 15C to 82C)
Boiler (Supply) Max. Control Temperature: OFF, 120F to 225 F (OFF, 49C to 107 C)
Boiler Heat Post Purge: Off, 10 seconds to 30 minutes (factory default is 30 seconds)
Boiler (T-T) Output Rating: 24 Vac, 0.5A, 12VA
Boiler Differential: 2F to 41F (1C to 23C), or Auto (minimum 2 minutes on time)
DHW Pump/Valve Output Rating: 120 Vac 5A, 1/3HP
DHW Demand Input: External dry contacts connection only
Outdoor Low Design Control Temperature: -60F to 32F (-51 C to 0 C)
Return Minimum Control Temperature: 80 F to 180 F (27C to 82C)
Variable Speed Injection Pump Output: Triac modulated; 120 Vac, 2.1A, 1/6HP
Pump/Valve exercise: 30 seconds per 2 weeks of space heating inactivity
Secondary Pump Output Rating: 120 Vac 5A, 1/3HP
Auxiliary Pump Output Rating: Dry contact output, 120 Vac/250 Vac 5A, 1/3 HP
Auxiliary Low Voltage Output Rating: 24 Vac, 0.5A, 12VA
Auxiliary (Demand) Input: External dry contacts connection only
Mixing Valve Floating Output (Com,O,C): 24Vac rated dry contacts
Mixing Valve Modulating Output: 0-10 Vdc
WWSD (Warm Weather Shut Down) Temperature: Off, 35 F to 100 F (Off, 1 C to 38 C)
Zone Output Contact Rating: Pumps: 120 Vac/250 Vac, 5A, 1/3 HP Valves: 24 Vac, 0.5 A, 12 VA
Sensor Temperature Rating: -58 F to +230 F (-50 C to +110 C)
Supply/Return Sensor: Lead Length: 10 ft. (3050 mm). 10 kilohm NTC thermistor at 25 C (77 F) ±0.5F (±0.3C) up to 500 ft (150 M) using 18 AWG or larger wire
Heat Demand (Thermostat R-W) Input: External dry contacts connection only
Secondary Loop Mixing (Supply) Design Temp Range: 70 F to 210 F (21 C to 99 C)
Secondary Loop Mixing (Supply) Max Control Temp Range: 80 F to 210 F (27 C to 99 C)
Secondary Loop Return Min Control Temp Range: 80 F to 180 F (27 C to 82 C)
Secondary Loop Mixing (Supply) Min Control Temp Range: 3 5 F to 150 F (2 C to 66 C)
B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.
R-C Input (on Control and Zoning Modules): 24 Vac Class II (input on Control and Zoning Modules)
R-C Output (on transformer): 38 VA, 24 Vac Class II
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Weight: 6.0 lbs (2.7 kg)
Approvals
Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

	Material Number	Type of Zoning Devices Controlled	Number of Zones Controlled	Boiler Pump Output Rating	Replacement Parts
*	**AQ25242B/U**	Zone pumps or 2-wire valves (line voltage)	4	120 Vac/250 Vac 5A, 1/3HP	AQ15200B universal injection/mixing boiler reset module; AQ12C11 supply/return/mixed loop sensor; AQ12C10 outdoor sensor; AQ10X38 24 Vac 38 VA transformer; AQ15540B 4-zone pump expansion module
*	**AQ25244B/U**	Zone valves with end switches	4	120 Vac/250 Vac 5A, 1/3HP	AQ15200B universal injection/mixing boiler reset module; AQ15740B 4-zone valve with end switch expansion module; AQ12C11 supply/return/mixed loop sensor; AQ12C10 outdoor sensor; AQ10X38 24 Vac 38 VA transformer

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AQ254 Add-a-Temperature Injection/Mixing Expansion Control Panel for Hydronic Zoning System

The AQ254 Add-a-Temperature Expansion Control Panel is used in conjunction with an AQ250, AQ25A, AQ251 or AQ252 Control Panel. It provides one additional loop temperature control capability for the AQ2000 control panel it is connected to and expands the total network capacity by up to 16 zones when used with AQ255 and/or AQ257 zoning panels.

- Acts as an add-on Control panel to the Main (AQ250, AQ25A, AQ251, AQ252) Control panel.
- Allows each of the 16 zones connected to it to be assigned to the system's primary or secondary loop.
- Up to 3 AQ254 panels can be added to a Main (AQ250, AQ25A, AQ251 or AQ252) Control panel.
- Mixed loop temperature is controlled by a variable speed injection pump or motorized mixing valve connected to the AQ254.
- Intuitive programming interface and armchair programming (can be programmed at your desk and taken to the job site “ready-to-install”)
- Customizable mixing control settings allow for greater level of control and comfort.
- Zone synchronization through Zone of Greatest Demand control.
- Integral 38 VA transformer with self resetting electronic fuse.

Application: Expanded zone control and mixed loop temperature control in a hydronic zoning system
Mixed loop target temperature is reset by either outdoor temperature or calculated system load based on indoor temperature feedback
Mixing is target controlled by a variable speed injection pump or motorized mixing valve
Dimensions, Approximate: 9 1/2 in wide x 8 in. high x 3 3/8 in. deep (24 cm wide x 20.3 cm high x 8.5 cm deep)
Power Supply: 120V/60Hz
User Interface (Setting, Programming): (LCD Display and a 3 button Key Pad)
Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals
Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)
Thermostat Compatibility: AQ1000 Series 2-wire communicating thermostats and most digital thermostats
Variable Speed Injection Pump Output: Triac modulated; 120 Vac, 2.1A, 1/6HP
Secondary Pump Output Rating: 120 Vac 5A, 1/3HP
Auxiliary Pump Output Rating: Dry contact output, 120 Vac/250 Vac 5A, 1/3 HP

Sensor Temperature Rating: -58 F to +230 F (-50 C to +110 C)
Secondary Loop Mixing (Supply) Design Temp Range: 70 F to 210 F (21 C to 99 C)
Secondary Loop Mixing (Supply) Max Control Temp Range: 80 F to 210 F (27 C to 99 C)
Secondary Loop Return Min Control Temp Range: 80 F to 180 F (27 C to 82 C)
Secondary Loop Mixing (Supply) Min Control Temp Range: 35 F to 150 F (2 C to 66 C)
B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.
R-C Input (on Control and Zoning Modules): 24 Vac Class II (input on Control and Zoning Modules)
R-C Output (on transformer): 38 VA, 24 Vac Class II
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Weight: 3.9 lbs (1.8 kg)
Approvals
Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

	Material Number	Mixing Valve Floating Output (Com,O,C)	Replacement Parts
*	**AQ25400B/U**	24Vac rated dry contacts	AQ15400B Add-A-Temperature expansion control module; AQ12C11 supply/return/mixed loop sensor; AQ10X38 24 Vac 38 VA transformer

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AQ2000 Boiler Controls

AQ255 and AQ257 Zoning Expansion Panel for Hydronic Zoning System

The AQ255 and AQ257 family of AQUATROL Expansion Zoning panels work with AQ2000 Boiler Control Panels and AQ1000 Communicating Thermostats to control up to 4 space heating zones (or 8, for the AQ25582B Panel). Can be combined with additional expansion zoning panels and an AQ2000 control panel for a total of 16 space heating zones.

- AQ257 for zoning with zone valves with end switches
- Auto test function to test zones at system start up. It allows for operator controlled testing of zones; includes pause/restart capability.
- LED lights for visual diagnostic of zone operation.
- Allows zoning with either “Normally Open” or “Normally Closed” zone valves.
- Adjacent zoning panels can operate different zone equipment - one panel may control 4 pumps while another may control 4 zone valves.
- Easily switch from zone valves to pumps with same zoning module - just flip one DIP switch. Ensure correct voltage is applied to all zone equipment on a panel (120 Vac for pumps, 24 Vac for valves)
- R-C transformer and B-B data bus terminal connections (network communication) for easy expansion.
- Zones can be set to energize a group pump via Aux Out dry contacts on main control panel (AQ250, AQ25A, AQ251, AQ252) or expansion control panel (AQ254).
- Zone synchronization through Zone of Greatest Demand control.
- 38 VA Transformer with self resetting electronic fuse.

Application: Zoning control for hydronic zoning system
Dimensions, Approximate: 9 1/2 in wide x 8 in. high x 3 3/8 in. deep (24 cm wide x 20.3 cm high x 8.5 cm deep)
User Interface (Setting, Programming): (DIP Switches)
Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals
Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)
Thermostat Compatibility: AQ1000 Series 2-wire communicating thermostats and most digital thermostats
Zone Module Thermostat input: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating with power link to AQ1000 series thermostat.

Zone Output Contact Rating: 120 Vac/250 Vac, 5A, 1/3 HP
B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.
R-C Input (on Control and Zoning Modules): 24 Vac Class II (input on Control and Zoning Modules)
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Approvals
Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

	Material Number	Type of Zoning Devices Controlled	Number of Zones Controlled	Weight		Replacement Parts
				lb	kg	
*	**AQ25542B/U**	Zone pumps or 2-wire valves (line voltage)	4	2.1 bs	1 kg	AQ15540B 4-zone pump expansion module
*	**AQ25582B/U**	Zone pumps or 2-wire valves (line voltage)	8	2.6 bs	1.3 kg	AQ15540B 4-zone pump expansion module
*	**AQ25742B/U**	2-wire valve (24 Vac)	4	3.9 bs	1.8 kg	AQ10X38 24 Vac 38 VA transformerAQ15540B 4-zone pump expansion module
*	**AQ25744B/U**	Zone valves with end switches (24 Vac)	4	3.9 bs	1.8 kg	AQ15740B 4-zone valve with end switch expansion moduleAQ10X38 24 Vac 38 VA transformer

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AQ2000 Series Replacement Control Modules

Replacement control modules for AQ2000 panels

Application: Replacement boiler control module for AQ250
User Interface (Setting, Programming): (DIP Switches)
Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals
Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)
Boiler Heat Post Purge: Off, 10 seconds to 30 minutes (factory default is 30 seconds)
Boiler (T-T) Output Rating: 24 Vac, 0.5A, 12VA
Boiler Differential: 2F to 41F (1C to 23C), or Auto (minimum 2 minutes on time)
DHW Demand Input: External dry contacts connection only
Pump/Valve exercise: 30 seconds per 2 weeks of space heating inactivity
Heat Demand (Thermostat R-W) Input: External dry contacts connection only
B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.
R-C Input (on Control and Zoning Modules): 24 Vac Class II (input on Control and Zoning Modules)
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Approvals
Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

Material Number	Mixing Valve Floating Output (Com,O,C)	Mixing Valve Modulating Output	User Interface (Setting, Programming)	Dimensions, Approximate		Weight	
				inch	mm	lb	kg
AQ15000B/U	—	—	DIP Switches	3 1/2 in wide x 2 1/2 in high x 4 1/4 in wide	9 cm wide x 94 cm high x 10.09 cm deep	0.5 lb	0.23 kg
AQ15100B/U	—	0-10 Vdc to boiler	LCD Display and a 7 button Key Pad	7 1/8 in wide x 2 1/2 in high x 4 1/4 in deep	18 cm wide x 94 cm high x 10.09 cm deep	1.0 lbs	0.5 kg
AQ15200B/U	24Vac rated dry contacts	0-10 Vdc to boiler or mixing valve	LCD Display and a 7 button Key Pad	7 1/8 in wide x 2 1/2 in high x 4 1/4 in deep	18 cm wide x 94 cm high x 10.09 cm deep	1.0 lbs	0.5 kg
AQ15400B/U	24Vac rated dry contacts	0-10 Vdc to mixing valve	LCD Display and a 3 button Key Pad	3 1/2 in wide x 2 1/2 in high x 4 1/4 in deep	9 cm wide x 94 cm high x 10.09 cm deep	0.7 lb	0.3 kg
AQ15A00B/U	—	0-10 Vdc to boiler	LCD Display and a 7 button Key Pad	7 1/8 in wide x 2 1/2 in high x 4 1/4 in deep	18 cm wide x 94 cm high x 10.09 cm deep	1.0 lbs	0.5 kg

AQ2000 Series Replacement Zoning Modules

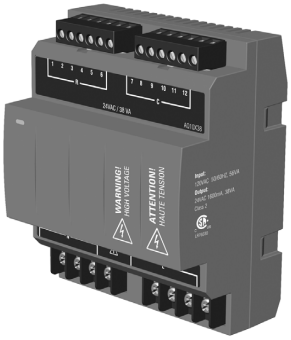
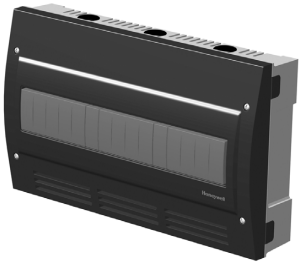
Replacement Zoning Modules for AQ2000 panels

Application: Replacement 4 zone pump expansion module for AQ25542
Dimensions, Approximate: 3 1/2 in wide x 2 1/2 in high x 4 1/4 in deep (9 cm wide x 94 cm high x 10.09 cm deep)
User Interface (Setting, Programming): (DIP Switches)
Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals
Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)
Thermostat Compatibility: AQ1000 Series 2-wire communicating thermostats and most digital thermostats
Zone Module Thermostat input: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating with power link to AQ1000 series thermostat.
Zone Output Contact Rating: 120 Vac/250 Vac, 5A, 1/3 HP
B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.
R-C Input (on Control and Zoning Modules): 24 Vac Class II (input on Control and Zoning Modules)
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Weight: 0.6 lb (0.3 kg)
Approvals
Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

Material Number	Type of Zoning Devices Controlled	Number of Zones Controlled	User Interface (Setting, Programming)
AQ15540B/U	Zone pumps or 2-wire valves (line voltage)	4	DIP Switches
AQ15740B/U	Zone valves with end switches	4	DIP Switches

AQ2000 Boiler Controls

AQ2000 Series Accessories and Replacement Parts

Material Number	Description	
AQ10X38/U	Replacement transformer module for AQ250, AQ25A, AQ251, AQ252, AQ254, AQ257 and AQ2554V2 series control and zoning panels. It can be used to add an additional 38 VA power per transformer to drive high VA devices.	
AQ11D10/U	Replacement enclosure for AQ25400B, AQ25542B, AQ25742B, AQ25582B, AQ25744B panels, Consists of case, cover, and DIN rail for mounting of transformer, control or zoning modules	
AQ11D15/U	Replacement enclosure for AQ25042B, AQ25044B, AQ25110B panels. Consists of case, cover, and DIN rail for mounting of transformer, control or zoning modules	
AQ11D20/U	Replacement enclosure for AQ25A42B, AQ25A44B, AQ25142B, AQ25144B, AQ25242B, AQ25244B panels. Consists of case, cover, and DIN rail for mounting of transformer, control or zoning modules	
AQ12C10/U	Outdoor Sensor with 10 feet (3 m) of lead wires and a plastic mounting bracket for use with AQ2000 Series Programmable Control Panels.	
AQ12C11/U	Supply/Return/Mixed Loop Pipe Sensor with 10 feet (3 m) of lead wires for use with AQ2000 Series Control Panels	
AQ12C20/U	Slab/Floor Sensor of 10 feet (3 m) lead length. It is sold separately for use with AQ1000 Series Thermostats to control floor temperatures of in-floor radiant heating applications.	

AQ1000TN2 Non-Programmable Communicating Thermostat

The AQ1000TN2 thermostat is used to control the ambient air temperature or floor temperature in hydronic heating applications. It communicates with and is powered by an AQ2000 series zoning module to provide zoning control.

- 2-wire polarity-insensitive non-programmable network communicating thermostat.
- Liquid crystal display with user buttons.
- Outdoor, indoor and floor temperature displays.
- Floor temperature sensing with minimum and maximum limits (when used with optional AQ12C20 Slab/Floor Sensor - sold separately)
- Selectable temporary and permanent backlight.

Application: Hydronic single-stage zoning heat
Network Zoning: Yes
Zones: Single or Multi-zone
Dimensions, Approximate: 2.8 in wide x 4.6 in high x 1.0 in deep (7 cm wide x 12 cm in high x 2.5 cm deep)
Electrical Connections: Wire-clamp screw terminals
Network Bus: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to AQ2000 series zoning modules.
User Interface (Programming): LCD Display
User Interface (System Configuration): DIP Switches
Thermostat Type: 2-wire Communicating Thermostat
Sensor Element: Thermistor
Sensors (Floor): AQ12C20 slab/floor sensor, lead length 10 feet (3 m) (sold separately).

Mounting: Vertical Mount
Color: Premier White®
Temperature Control Mode Selections: “A” for Ambient Air, “F” for Floor, “AF” for Ambient & Floor.
Temperatures Displayed: Indoor, Set Point, Outdoor
Temperature Display Interval: +/- 1.0 F (+/- 0.5 C)
Floor Sensor Temperature Rating: -58F to 230F (-50C to 110C)
Floor Temperature Limit Range (AF Model): 40 F to 100 F (5 C to 38 C)
Outdoor Temperature Display Range: -58 F to 149 F (-50C to 65 C)
Ambient Temperature Range: 32 F to 158 F (0 C to 70 C)
Temperature Range, Storage: -20 F to 130 F (-30 C to 55 C)
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Weight: 0.2 lb (0.1 kg)

Material Number	Setting Temperature Range (F)	Setting Temperature Range (C)	Differential Temperature (F)	Differential Temperature (C)	Terminal Designations	Type of Control Provided	LCD Icons Displayed (Mode)	Power Method
AQ1000TN2/U	40 F to 100 F	5 C to 38 C	± 1 F	±0.5 C	TH, TH, Sensor, Sensor	Proportional Integral (PI)	Vacation Mode; Set point; Keypad Lock; Comfort/Unoccupied; Heat On	Powered (24 Vdc) by AQ zoning module

AQ1000TP2 Programmable Heat/Cool Communicating Thermostat

The AQ1000TP2 thermostat is used to control the ambient air temperature or floor temperature in hydronic heating applications. It communicates with and is powered by an AQ2000 series zoning module to provide zoning control.

- 2-wire polarity-insensitive programmable network communicating thermostat
- Liquid crystal display, with 7 user buttons for programming
- Floor temperature sensing with minimum and maximum limits (when used with optional AQ12C20 Slab/Floor Sensor - sold separately)
- 7-day programmable
- Single-stage Heating and Cooling
- Outdoor, indoor, and floor temperature display
- Selectable temporary and permanent backlight

Application: Hydronic single-stage zoning, heating and cooling
Programmability: 7-day programmable
Network Zoning: Yes
Zones: Single or Multi-zone
Dimensions, Approximate: 3.0 in. wide x 4.9 in. high x 1.0 in. deep (7.8 cm wide x 12.5 cm high 2.5 cm deep)
Electrical Connections: Wire-clamp screw terminals
Network Bus: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to AQ2000 series zoning modules.
User Interface (Programming): LCD Display and 7 user programming buttons
User Interface (System Configuration): DIP Switches
Thermostat Type: 2-wire Communicating Thermostat
Sensor Element: Thermistor
Sensors (Floor): AQ12C20 slab/floor sensor, lead length 10 feet (3 m) (sold separately).

Mounting: Vertical Mount
Color: Premier White®
Temperature Control Mode Selections: “Air” for Ambient Air, “Floor” for Floor, “Air/Floor” for Ambient & Floor limits
Temperatures Displayed: Indoor, Set Point, Outdoor
Temperature Display Interval: (+/- 0.5 C)
Floor Sensor Temperature Rating: -58F to 230F (-50C to 110C)
Floor Temperature Limit Range (AF Model): 40 F to 100 F (5 C to 38 C)
Outdoor Temperature Display Range: -58 F to 149 F (-50C to 65 C)
Ambient Temperature Range: 32 F to 158 F (0 C to 70 C)
Temperature Range, Storage: -20 F to 130 F (-30 C to 55 C)
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Weight: 0.3 lb (0.5 kg)

Material Number	Setting Temperature Range		Differential Temperature		Terminal Designations	Type of Control Provided	LCD Icons Displayed (Mode)	Power Method
AQ1000TP2/U	40 F to 100 F	5 C to 38 C	± 1 F	±0.5 C	TH, TH, Sensor, Sensor	Proportional Integral (PI)	Fan On; Vacation Mode; Cool On; Set point; Keypad Lock; Comfort/Unoccupied; Heat On	Powered (24 Vdc) by AQ zoning module

LineVoltPRO® 8000 7-Day Programmable Hydronic Thermostat

The TL8100 Hydronic Thermostat offers the energy savings of a programmable control for a wide variety of applications. With the TL8100 there's no need to carry multiple thermostats for different applications. It can be used to control 2-way zone valves, 3-way zone valves or circulator pumps in both line volt and low volt applications. It also offers special protection modes to prevent system seizures and to reduce callbacks. Easy to install, the TL8100 is exactly what you need to provide your customers with cost-efficient programmable control of hydronic heating systems.

Application: Baseboards, Convectors, Fan-forced Heaters, Radiant Ceilings, Central Heating (Conventional)
Dimensions, Approximate: 3.3 in. X 3.1 in. X 0.5 in. (83 mm X 79 mm X 13 mm)
Color: White
Programmability: 7-Day Program
Electrical Connections: Screw terminals
Electrical Ratings: Maximum Load: 5 A (resistive), 2 A (inductive) @ 24 VDC, 120 Vac, 240 Vac; Compatible with millivolt systems
Voltage: Millivolt Compat ble, 240 Vac, 120 Vac, 24 Vdc
Operating Humidity Range (% RH): 0% to 95%, non-condensing
Temperature Setting Range: 40 F to 85 F (5 C to 30 C)
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Differential Temperature: 0.1 F (0.1 C)
Power Method: 2 X AA (LR6) batteries
Sensor Element: Thermistor
Switch Type: Relay
Mounting: Vertical
Approvals
Underwriters Laboratories, Inc: Approved

Material Number	Description	Stages	Accuracy	Terminal Designations	Comments	Used With
TL8100A1008/U	Multi-Application 7-Day Programmable Electronic Thermostat	1 Heat	0.5 C	R, W, (X, C, optional remote input)	Pump Protection (for hot water heating)	Aube CT240-02 Telephone Controller

Prestige® IAQ 2-Wire Comfort System

THX9421R5021SG

THX9421R5021BB

THX9421R5021WW or THX9421R5021WG

THM5421R1021

C7735A1000 Discharge and Return Air Sensors

C7089R1013

The Prestige® IAQ thermostat is a 2-wire, high-definition, color, touchscreen thermostat, 7-day programmable and selectable for residential or light commercial use. Controls up to 4-stages of heat and 2-stages of cool in a heat pump system and up to 3-stages of heat and 2-stages of cool in a conventional system. Three sets of Universal IAQ contacts to control humidification, dehumidification, and ventilation. Four sensor inputs for wired sensors or dry contact devices. Works with the Equipment Interface Module and RedLINK® accessories including the RedLINK® Internet Gateway, Portable Comfort Control, Wireless Outdoor Sensor and Wireless Indoor Sensor.

- Control heating, cooling and IAQ equipment with only 2 wires at the thermostat. Heating, cooling and IAQ equipment wires to the Equipment Interface Module.
- Smart Schedule - programs in seconds for any lifestyle.
- Patented interview based programming and installer setup.
- Increase profit per job by including RedLINK® accessories that provide comfort and convenience.
- Selectable for residential and light commercial applications. Meets commercial code and is title 24 compliant.
- Light commercial language (occupied and unoccupied), schedule holidays and custom events, remote setback, economizer and time of day.
- Delta T Alerts and Diagnostics informs customers when their system is not performing as expected.
- Keeps a history of heating and cooling performance.
- Quickly determine if the system is performing as expected and reduces service time on the job.
- Customizable Service Reminders allow dealers to remind their customers when to call for service, when their warranty is expiring and to provide customized alerts.
- USB port for transferring Installer Setup, Customizable Reminders, Custom Events and Holidays to multiple thermostats.
- 3 assignable outputs to control humidification, dehumidification, ventilation and a stage of heating or cooling.
- 4 assignable inputs on the Equipment Interface Module can be used with wired outdoor, indoor or discharge/return sensors, occupancy sensor for remote setback and dry contact devices to trip pre-packaged or custom alerts.
- Tri-lingual - English, French and Spanish - display options.

REDLINK Wireless Technology

Application: Up to 4 Heat/2 Cool Heat Pumps or Up to 3 Heat/2 Cool Conventional Systems
Dimensions, Approximate: 3 1/2 in. High, 4 1/2 in. Wide, 7/8 in. Deep (88 mm. High, 115 mm. Wide, 22 mm. Deep)
Display Size: 8.06 sq in.
Programmability: 7-Day Multiple Day Programming or Non-Programmable
Changeover: Auto or Manual
Stages: Up to 4 Heat / 2 Cool Heat Pump or Up to 3 Heat / 2 Cool Conventional
Electrical Connections: Screw terminals
Electrical Ratings: 18 to 30 Vac
Switch Positions (System): HEAT-OFF-COOL-AUTO-EM.HEAT
Switch Positions (Fan): AUTO-ON-CIRC-FOLLOW SCHEDULE
Terminal Designations: R, RC, RH, C, W-O/B, W2-AUX1, W3-AUX2, Y, Y2, G, A-L/A, U1, U1, U2, U2, U3, U3, S1, S1, S2, S2, S3, S3, S4, S4, A, B, C, D
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Humidification Setting Range: 10 to 60% RH.
Dehumidification Setting Range: 40 to 80% RH.
Operating Temperature Range: 32 F to 120 F (0 C to 48.9 C)
Temperature Setting Range: Heat: 40 F to 90 F; Cool 50 F to 99F (Heat: 4.5 C to 32.0 C; Cool: 10 C to 37.0 C)
Frequency: 50 Hz; 60 Hz

Power Method: Hardwired
Comments: Tri-Lingual Display (selectable for English, French or Spanish)
Used With: THM5421R1021 Equipment Interface Module and RedLINK® accessories

Accessories

THM6000R1002-RedLINK Internet Gateway
THM4000R1000-Wireless Adapter for use with RedLINK™ enabled thermostats and TrueZONE™ system
THM5421R1021-Equipment Interface Module
YTHM5421R1010-Equipment Interface Module Kit with 2 Duct Sensors.
REM1000R1003-Wireless Entry/Exit Remote
HVC20A1000-Wireless Vent and Filter Boost Remote
C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.
C7189R1004-Wireless Indoor Air Sensor.
THP2400A1027W-White Cover-plate assembly for use with the Prestige® IAQ 2-Wire Thermostat.
THP2400A1027G-Gray Cover-plate assembly for use with the Prestige® IAQ 2-Wire Thermostat.
THP2400A1027B-Black Cover-plate assembly for use with the Prestige® IAQ 2-Wire Thermostat.

Material Number	Color	Includes
YTHX9421R5101WW/U	Front: White, Side: White	Kit contains THX9421R5021WW Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module, C7089R1013 Wireless Outdoor Sensor and 2 Duct Sensors
YTHX9421R5101BB/U	Front: Black, Side: Black	Kit contains THX9421R5021BB Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module, C7089R1013 Wireless Outdoor Sensor and 2 Duct Sensors
YTHX9421R5101WG/U	Front: White, Side: Gray	Kit contains THX9421R5021WG Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module, C7089R1013 Wireless Outdoor Sensor and 2 Duct Sensors
YTHX9421R5101SG/U	Front: Silver, Side: Gray	Kit containsTHX9421R5021SG Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module, C7089R1013 Wireless Outdoor Sensor and 2 Duct Sensors

RedLINK Accessories

THM5421 Equipment Interface Module for Prestige® IAQ with RedLINK™

Equipment Interface Module controls up to 4-stages of heat and 2-stages of cool in a heat pump system and up to 3-stages of heat and 2-stages of cool in a conventional system. Three sets of Universal IAQ contacts to control humidification, dehumidification, and ventilation. Four sensor inputs for wired sensors or dry contact devices.

Application: Gas, oil, electric, heat pump, forced warm air, hot water, steam or gravity
Dimensions, Approximate: 9 5/16 in. High, 4 13/16 in. Wide, 1 5/8 in. Deep (237.4 mm High, 122.5 mm Wide, 40.6 mm Deep)
Color: Gray
Electrical Connections: Screw terminals
Electrical Ratings: 18 to 30 Vac
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Operating Temperature Range: -40 F to 165 F (-40 C to 73.9 C)
Currents (Cooling): 1.0 A running
Currents (Heating): 1.0 A running
Currents (Fan): 0.5A running
Frequency: 50 Hz; 60 Hz
Power Method: Hardwired
Mounting: Vertical

Material Number	Terminal Designations	Stages	Includes	Used with
THM5421R1021/U	R, RC, RH, C, W-O/B, W2-AUX1, W3-AUX2, Y, Y2, G, A-L/A, U1, U1, U2, U2, U3, U3, S1, S1, S2, S2, S3, S3, S4, S4, A, B, C, D	Up to 4 Heat / 2 Cool Heat Pump or Up to 3 Heat / 2 Cool Conventional	—	Prestige® IAQ 2-Wire Thermostat and VisionPRO® Thermostat with RedLINK™
YTHM5421R1010/U	R, RC, RH, C, W-O/B, W2-AUX1, W3-AUX2, Y, Y2, G, A-L/A, U1, U1, U2, U2, U3, U3, S1, S1, S2, S2, S3, S3, S4, S4, A, B, C, D	Up to 4 Heat / 2 Cool Heat Pump or Up to 3 Heat / 2 Cool Conventional	THM5421R1021 and 2 Duct Sensors	Prestige® IAQ 2-Wire Thermostat and VisionPRO® Thermostat with RedLINK™

RedLINK™ Internet Gateway

The RedLINK™ Internet Gateway provides remote access to any RedLINK™ enabled thermostat through the internet, smart phone or tablet.

- RedLINK™ enabled to communicate with compatible wireless devices.
- Control any RedLINK™ enabled thermostat.
- 3 foot Ethernet cable included.
- Simple installation to home or business router.
- Easily change system modes and indoor temperature through the web portal or mobile app.
- Multiple HOLD options allows modification of schedule as needed.
- High/Low temperature and humidity messaging alerts the user when the indoor conditions are too high or too low.

Application: Up to 4 Heat/2 Cool Heat Pumps, Internet control of RedLINK thermostats
Dimensions, Approximate: 5 in. high X 6 in. wide X 2 1/2 in. deep (127 mm x 152 mm x 64 mm)
Color: Black
Electrical Connections: Screw terminals, 24 Volt plug in transformer
Electrical Ratings: 20 to 30 Vac
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Operating Temperature Range: 32 F to 120 F (0 C to 48.9 C)
Power Method: Hardwired,24 Volt Plug In Transformer
Outdoor Sensor: •Yes, optional

Material Number	Description	Switch Positions	Terminal Designations	Stages	Used With	Includes
THM6000R1002/U	RedLINK Internet Gateway Prestige® IAQ Thermostat. Controls Humidification, Dehumidification and Ventilation Control	HEAT-OFF-COOL-AUTO-EM.HEAT	R, C then RedLINK to Equipment Interface Module	See Equipment Interface Module	RedLINK™ enabled thermostats and accessories	3 Foot Ethernet Cable and Plug in Power Adapter

Outdoor Reset and Domestic Hot Water Priority

Outdoor reset saves energy by optimizing a boiler's settings based on the actual outdoor temperature. We offer wired and wireless AquaReset® Outdoor Reset solutions. While both versions offer the same incredible energy savings, the Wireless AquaReset® solution installs in only 30 minutes thanks to RedLINK® wireless communication. Compatible with Outdoor Reset-Ready L7224/ L7248 Aquastat's, S93 Integrated Boiler Controls, and R7910 SOLA Controls. Domestic Hot Water Priority Kits are used with AquaReset® and available for applications when domestic hot water priority override is needed.

Mounting: Wall Mounted in any orientation
Voltage: 24 Vac
Frequency: 60 Hz
Operating Temperature Range: -30F to 150 F (-34 C to 66 C)
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing

Material Number	Dimensions	Description	Includes	Used with
W8735S1000/U	2.410 in. high x 3.385 in. wide x.920 in deep	Wired AquaReset kit saves energy based on outdoor temp. Includes reset module and wired sensor.	C7089U1006 Outdoor Sensor; Outdoor Reset Module	—
W8735S1008/U	2.410 in. high x 3.385 in. wide x.920 in deep	Domestic Hot Water Priority override when used with Honeywell AquaReset Outdoor Reset solutions.	Water Pipe Temperature Sensor; Domestic Hot Water Module	—
W8735Y1000/U	5.56 in. high x 4.56 in. wide x 1.25 in deep	Wireless AquaReset kit saves energy and installs quickly. Includes module and wireless sensor.	Wireless Outdoor Reset Module and C7089R1013 Wireless Outdoor Sensor	L7224; L7248
W8735ER1000/U	5.56 in. high x 4.56 in. wide x 1.25 in deep	Outdoor reset solution that's easy to install. Requires C7089R1013 wireless outdoor sensor.	—	L7224; L7248 series 2

W8735Y1000 Boiler Compatibility

L7224/L7248 Outdoor Reset Ready Aquastat
ECR – Starfire SW Series II, Starfire IV
Burnham – MPO IQ
Dunkirk – EW Empire II
Keystone - Oil
Slant Fin – CXL2000, Intrepid, Eutectic On/Off Cast Iron
Boyertown Furnace – some Solaia On/Off Cast Iron
Granby – Calisto
Pensotti

S9361A Integrated Boiler Controls
All ECR gas on/off boilers
Burnham – ESC, ES2 (Any IQ Series)
Dunkirk – Q90, XEB Series II
Utica – MGB, SVB, UB90
Penco – 15B Series II, FSB Series II
R7910 Integrated SOLA Controls
Burnham – Alpine, Freedom, CHG
Crown – Bimini, Maui
NTI – Trinity TI, Trinity LX, Trinity Fire Tube
Laars – Neotherm, Mascot II

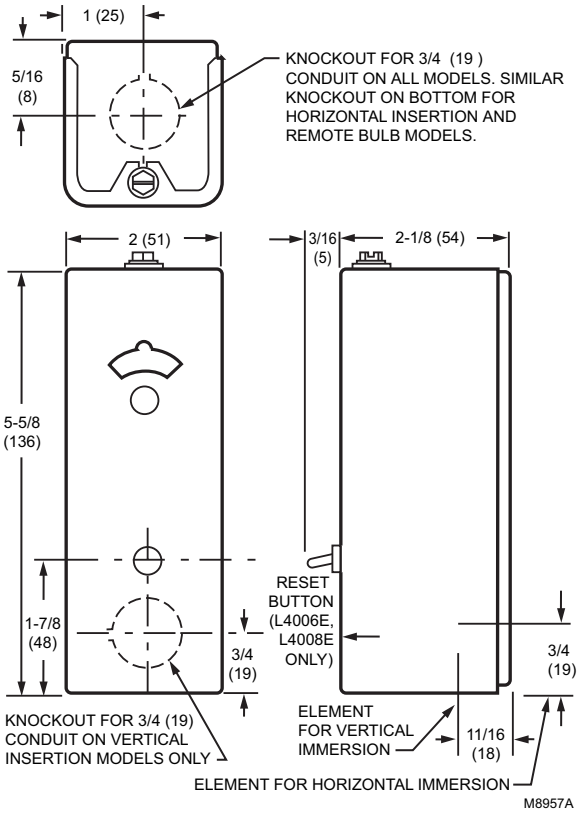
Aquastat Controllers

L4006; L6006 Aquastat® Controller

Aquastat® Controllers are immersion type devices for limiting or regulating the temperature of liquids in boilers, storage tanks, and other applications where temperature control is required.

- Totally enclosed Micro Switch™ snap-acting switches operate on temperature rise to setpoint.
- Visible control point scale and external adjustment screw permit easy setting.
- Horizontal or vertical insertion of the sensing element.
- Direct or well immersion of the sensing element.
- Models available for strap-on mounting.
- Remote bu b model may be used to sense air temperature in ducts and in outside air sensing applications.
- TRADELINE models include heat-conductive compound.
- Select models have wells.

Dimensions in inches (millimeters)



Case Dimensions: 5 5/8 in. high x 2 in. wide x 2 1/8 in. deep (143 mm high x 51 mm wide x 54 mm deep)
Maximum Ambient Temperature: 150 F (66 C)
Bulb Size: 3/8 in. x 2 7/8 in. copper (10 mm x 73 mm copper)
Approvals
American Gas Association IAS: AGA Certified
Canadian Standards Association: Certified: File No. LR95329-1
Underwriters Laboratories, Inc: UL Component Recognized: File No. MP466, Vol. 6, Sec.1, Guide No. MBPR2

Material Number	Electrical Ratings		
	(Full Load)	(Locked Rotor)	(Millivolt)
L4006A1009/U	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc
L4006A1017/U	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc
L4006A1132/U	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc
L4006A1678/U	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc
L4006A1959/U	1.3A @ 240 Vac; 2.6A @ 120 Vac	7.8A @ 240 Vac; 15.6A @ 120 Vac	—
L4006A1967/U	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc
L4006A2007/U	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc
L4006B	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc
L4006E,H	1.3A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc
L6006A,C	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc

	Material Number	Application	Differential Temperature		Well Spud Size		Capillary Length		Switching Action	Operating Temperature Range		Mounting	Includes
			(F)	(C)	(inch)	(mm)	(inch)	(mm)		(F)	(F)		
	L4006A1009/U	High or Low limit	5 F Fixed	3 C fixed	1/2 in. NPT	13 mm NPT	1 1/2 in.	38 mm	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	1/2 in. well - 123869A
	L4006A1017/U	High or Low limit	5 F to 30 F adj.	3 C to 17 C adj.	1/2 in. NPT	13 mm NPT	1 1/2 in.	38 mm	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	1/2 in. well - 123869A
	L4006A1132/U	High or Low limit	5 F Fixed	3 C fixed	3/4 in. NPT	19 mm NPT	3 in.	76 mm	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	Stop factory-set at 160 F (71 C); 3/4 in. well - 123871A
*	**L4006A1678/U**	High or Low limit	5 F to 30 F adj.	3 C to 17 C adj.	—	—	3 in.	76 mm	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	Heat-conductive compound; Stop factory-set at 240 F (116 C)

** TRADELINE models • SUPER TRADELINE models*

	Material Number	Application	Differential Temperature (F)	Differential Temperature (C)	Well Spud Size (inch)	Well Spud Size (mm)	Capillary Length (inch)	Capillary Length (mm)	Switching Action	Operating Temperature Range (F)	Operating Temperature Range (F)	Mounting	Includes
*	**L4006A1959/U**	High or Low limit	5 F Fixed	3 C fixed	—	—	3 in.	76 mm	SPST, contacts break on temperature rise.	40 F to 180 F	4 C to 82 C	Horizontal or Vertical	Heat-conductive compound
*	**L4006A1967/U**	High or Low limit	5 F to 30 F adj.	3 C to 17 C adj.	1/2 in.	13 mm	1 1/2 in.	38 mm	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	Stop factory-set at 240 F (116 C); 1/2 in. well - 123869A
	L4006A2007/U	High or Low limit	5 F to 30 F adj.	3 C to 17 C adj.	—	—	3 in.	76 mm	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal	—
	L4006B1007/U	Circulator	5 F Fixed	3 C fixed	1/2 in.	13 mm	1 1/2 in.	38 mm	SPST, contacts make on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	1/2 in. well - 123869A
*	**L4006B1155/U**	Circulator	5 F to 30 F adj.	3 C to 17 C adj.	—	—	3 in.	76 mm	SPST, contacts make on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	Heat-conductive compound; Stop factory-set at 240 F (116 C)
	L4006B1163/U	Circulator	5 F to 30 F adj.	3 C to 17 C adj.	—	—	3 in.	76 mm	SPST, contacts make on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	—
*	**L4006E1067/U**	High Limit; Manual Reset	Manual Reset	Manual Reset	—	—	3 in.	76 mm	SPST, contacts break on temperature rise.	130 F to 270 F	54 C to 132 C	Horizontal or Vertical	Well adapter; Stop factory-set at 250 F (121 C); Heat-conductive compound
	L4006E1091/U	High Limit; Manual Reset	Manual Reset	Manual Reset	—	—	3 in.	76 mm	SPST, contacts break on temperature rise.	130 F to 270 F	54 C to 132 C	Horizontal or Vertical	—
	L4006E1109/U	High Limit; Manual Reset	Manual Reset	Manual Reset	—	—	1 1/2 in. to 3 in.	38 mm to 76 mm	SPST, contacts break on temperature rise.	130 F to 270 F	54 C to 132 C	Horizontal or Vertical	—
	L4006E1117/U	High Limit; Manual Reset	Manual Reset	Manual Reset	3/4 in. - 14 NPT	19 mm - 14 NPT	1 1/2 in.	38 mm	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	3/4 in. well - 123870A
	L4006E1125/U	High Limit; Manual Reset	Manual Reset	Manual Reset	—	—	3 in.	76 mm	SPST, contacts break on temperature rise.	100 F to 200 F	38 C to 93 C	Horizontal or Vertical	—
*	**L4006H1004/U**	High Limit; strap-on mounting on well mount.	Manual Reset	Manual Reset	—	—	1 1/2 in.	38 mm	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	Bracket for strap-on mounting; Heat-conductive compound; Stop factory-set at 240 F (116 C)
	L6006A1004/U	Circulator Control and High Limit or Low Limit	5 F	3 C	1/2 in.	13 mm	1 1/2 in.	38 mm	SPDT	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	1/2 in. well - 123869A
	L6006A1012/U	Circulator Control and High Limit or Low Limit	5 F to 30 F adj.	3 C to 17 C adj.	1/2 in.	13 mm	1 1/2 in.	38 mm	SPDT	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	1/2 in. well - 123869A
	L6006A1145/U	Circulator Control and High Limit or Low Limit	5 F to 30 F adj.	3 C to 17 C adj.	—	—	3 in.	76 mm	SPDT	100 F to 240 F	38 C to 116 C	Horizontal	Heat-conductive compound; Stop factory-set at 240 F (116 C)
	L6006A1244/U	Circulator Control and High Limit or Low Limit	5 F to 30 F adj.	3 C to 17 C adj.	—	—	3 in.	76 mm	SPDT	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	—
*	**L6006C1018/U**	Circulator Control and High Limit or Low Limit	5 F to 30 F adj.	3 C to 17 C adj.	—	—	—	—	SPDT	65 F to 200 F	18 C to 93 C	Horizontal or Vertical or Strap-on-mounting	Stop factory-set at 200 F (93 C)

** TRADELINE models • SUPER TRADELINE models*

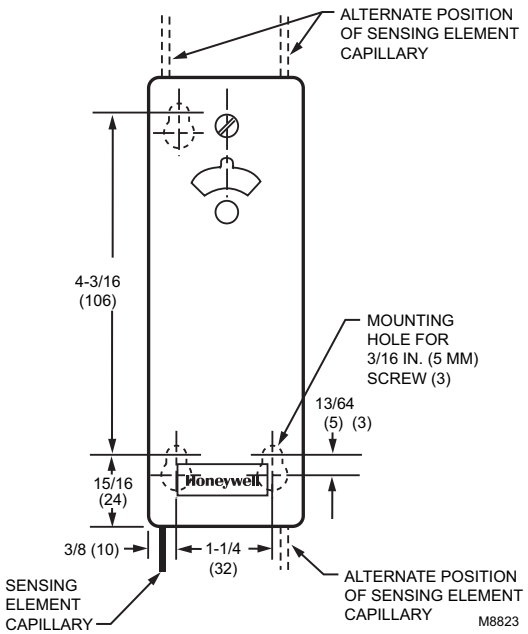
Aquastat Controllers

L4008; L6008 Remote Bulb Controller

Aquastat® Controllers are immersion type devices for limiting or regulating the temperature of liquids in boilers, storage tanks, and other applications where temperature control is required.

- Remote temperature sensing element detects and responds rapidly to temperature changes.
- Totally enclosed Micro Switch™ snap-acting switch.
- Visible control point scale and external adjustment screw permit easy setting.
- Horizontal or vertical mounting of the remote element into boiler, tank, or other container.
- Case mounts to a vertical surface.

Dimensions in inches (millimeters)



Case Dimensions: 5 5/8 in. high x 2 in. wide x 2 1/8 in. deep (143 mm high x 51 mm wide x 54 mm deep)
Maximum Ambient Temperature: 150 F (66 C)
Bulb Size: 3/8 in. x 2 7/8 in. copper (10 mm x 73 mm copper)
Approvals
Canadian Standards Association: Certified: File No. LR95329-1
Underwriters Laboratories, Inc: UL Component Recognized: File No. MP466, Vol. 6, Sec.1, Guide No. MBPR2

Material Number	Electrical Ratings		
	(Full Load)	(Locked Rotor)	(Millivolt)
L4008A,B,E L6008A	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc

	Material Number	Application	Differential Temperature (F)	Differential Temperature (C)	Capillary Length (inch)	Switching Action	Operating Temperature Range (F)	Operating Temperature Range (F)	Mounting	Includes
	L4008A1015/U	High or Low limit	5 F to 30 F adj.	3 C to 17 C adj.	66 in.	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	5 1/2 ft (1.7 m) capillary
	L4008A1130/U	High or Low limit	5 F to 30 F adj.	3 C to 17 C adj.	120 in.	SPST, contacts break on temperature rise.	130 F to 270 F	54 C to 132 C	Horizontal or Vertical	Stop factory-set at 200 F (93 C)10 ft (3.04 m) capillary
	L4008B1013/U	Circulator	5 F to 30 F adj.	3 C to 17 C adj.	66 in.	SPST, contacts make on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	5 1/2 ft (1.7 m) capillary
*	**L4008E1156/U**	High Limit; Manual Reset	Manual Reset	Manual Reset	66 in.	SPST, contacts break on temperature rise.	130 F to 270 F	54 C to 132 C	Horizontal or Vertical	5 1/2 ft (1.7 m) capillary; Stop factory-set at 250 F (121 C); Heat-conductive compound
*	**L4008E1305/U**	High Limit; Manual Reset	Manual Reset	Manual Reset	66 in.	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	Stop factory-set at 240 F (116 C)
	L4008E1313/U	High Limit; Manual Reset	Manual Reset	Manual Reset	66 in.	SPST, contacts break on temperature rise.	100 F to 200 F	38 C to 116 C	Horizontal or Vertical	—
*	**L6008A1192/U**	Circulator Control and Low Limit	5 F to 30 F adj.	3 C to 17 C adj.	—	SPDT	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	Stop factory-set at 240 F (116 C)66 in. capillary
	L6008A1242/U	Circulator Control and Low Limit	5 F to 30 F adj.	3 C to 17 C adj.	—	SPDT	100 F to 200 F	38 C to 93 C	Horizontal or Vertical	66 in. capillary

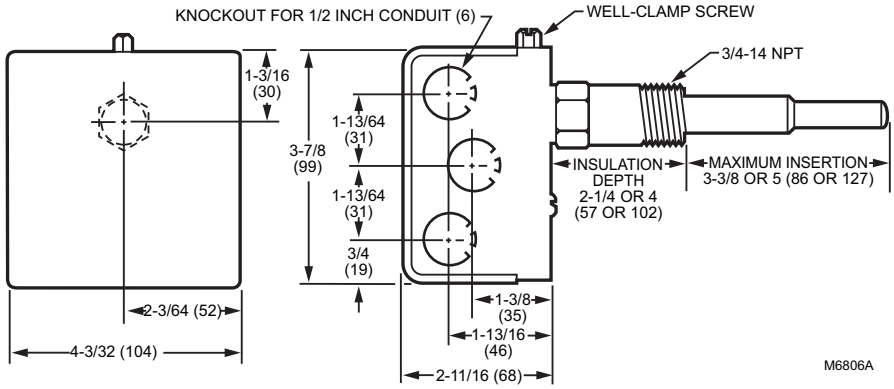
** TRADELINE models • SUPER TRADELINE models*

L4103 Combination Aquastat® and High Limit Controller

The L4103A,B is an immersion-type controller for oil-fired water heaters. The Aquastat® Controller senses water temperature and cycles the burner through the oil primary. The high-limit controller breaks the circuit to the burner on a temperature rise past the factory-set setpoint. The L4103C is an immersion-type controller for gas systems that provides water temperature regulation. The high-limit controller breaks the circuit to the burner on a temperature rise past the factory-set setpoint.

- L4103A,B,C have a sensing element and a high limit sensor with automatic reset.
- Mounts on a horizontal immersion well in water heater wall.
- Adjustable temperature setting scale.
- Fluid-filled element operates SPST, Micro Switch™ snap-acting switch.
- Integral, nonadjustable high limit. L4103C is an immersion controller for gas systems.
- L4103A,B is an immersion controller for oil systems.

Dimensions in inches (millimeters)



Case Dimensions: 4 3/32 in. wide x 3 7/8 in. high x 2 11/16 in. deep (104 mm wide x 99 mm high x 68 mm deep.)

Electrical Ratings
Full Load: 5A @ 240 Vac; 8A @ 120 Vac
Locked Rotor: 30A @ 240 Vac; 48A @ 120 Vac

Operating Temperature Range: 100 F to 240 F stop set at 150 F (Scale marked- Hot-Normal-Warm) (38 C to 116 C stop set at 66 C (scale marked- Hot-Normal-Warm))

Approvals
Underwriters Laboratories, Inc: UL Component Recognized: File No. MP466, Guide No. MBPR2.

Material Number	Application	Differential Temperature (F)	Differential Temperature (C)	Well Spud Size (inch)	Well Spud Size (mm)	Insulation Depth (inch)	Insulation Depth (mm)	Switching Action	Mounting
L4103A1019/U	High Limit	7 F ± 4 F	3.9 C ± 2 C	3/4 in. NPT	19 mm NPT	4 in.	102 mm	SPST, contacts break on temperature rise.	Mounts on a horizontal immersion well in water heater wall.
L4103A1100/U	High Limit	7 F ± 4 F	3.9 C ± 2 C	3/4 in. NPT	19 mm NPT	2 1/4 in.	57 mm	SPST, contacts break on temperature rise.	Mounts on a horizontal immersion well in water heater wall.

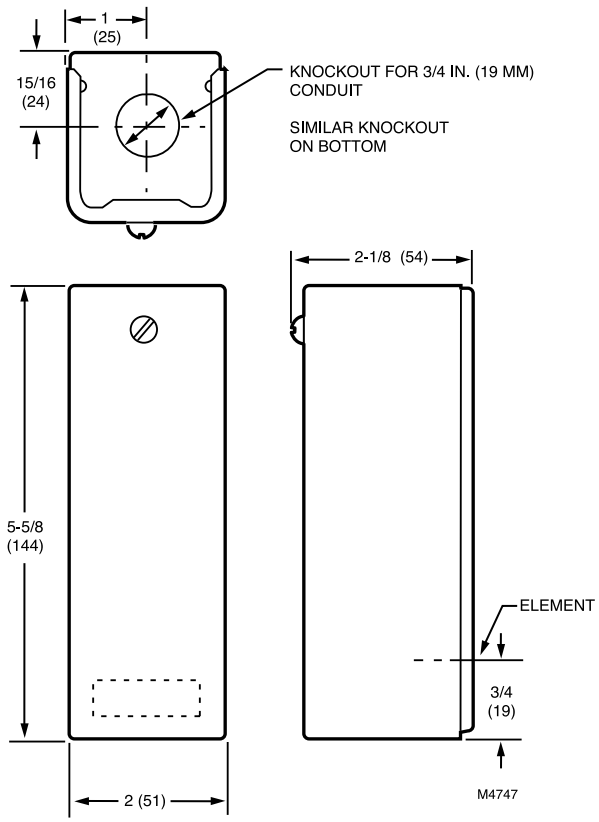
Aquastat Controllers

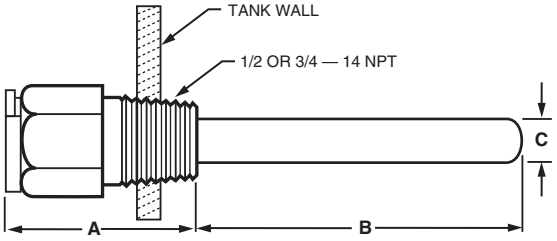
L8100 Aquastat® Controller

L8100A,B, and C are immersion type controllers for regulating and limiting the tank temperature in water heaters. As the water temperature rises past the setpoint, the controller switches off the gas valve.

- Regulates temperature and provides energy cutoff (ECO) action on a temperature rise past the setpoint.
- Includes a second sensing element that senses average water temperature to minimize stacking.
- Fluid-filled element operates Micro Switch™ SPST snap-acting switch.
- ECO switch interrupts the thermocouple circuit or main valve before tank reaches 210 F (99 C) maximum temperature.
- Includes factory-installed immersion well on controller.
- Internal adjustment screw.
- Special switch terminal provides three-wire hookup from Aquastat® controller to gas valve.

Dimensions in inches (millimeters)





	CONTROLLER WELL		REMOTE WELL	
	IN.	MM	IN.	MM
A INSULATION DEPTH	2-1/4	57	1-1/2 OR 2-1/2	38 OR 64
B INSERTION DEPTH	5	127	3	76
C WELL DIAMETER	7/16	11	7/16	11

M4746

Case Dimensions: 5 5/8 in. high x 2 in. wide x 2 1/8 in. deep (136 mm high x 51 mm wide x 54 mm deep)
Temperature Rating (ECO) Energy Cutoff: 190 F
Electrical Ratings
Millivolt: 2A maximum at 24 Vac.
Maximum Ambient Temperature: Maximum Tank: 210 F (Maximum Tank: 99 C)
Operating Temperature Range: 100 F to 180 F (38 C to 82 C)
Differential Temperature: Controller: 5 F, fixed. Energy Cutoff Switch: 20 F, fixed (Controller: 3 C fixed; Energy Cutoff Switch: 11 C fixed.)
Approvals
American Gas Association IAS: Design Certified: Report Number 23-11B
Underwriters Laboratories, Inc: UL Component Recognized: File No. MP466, Guide No. MBPR2

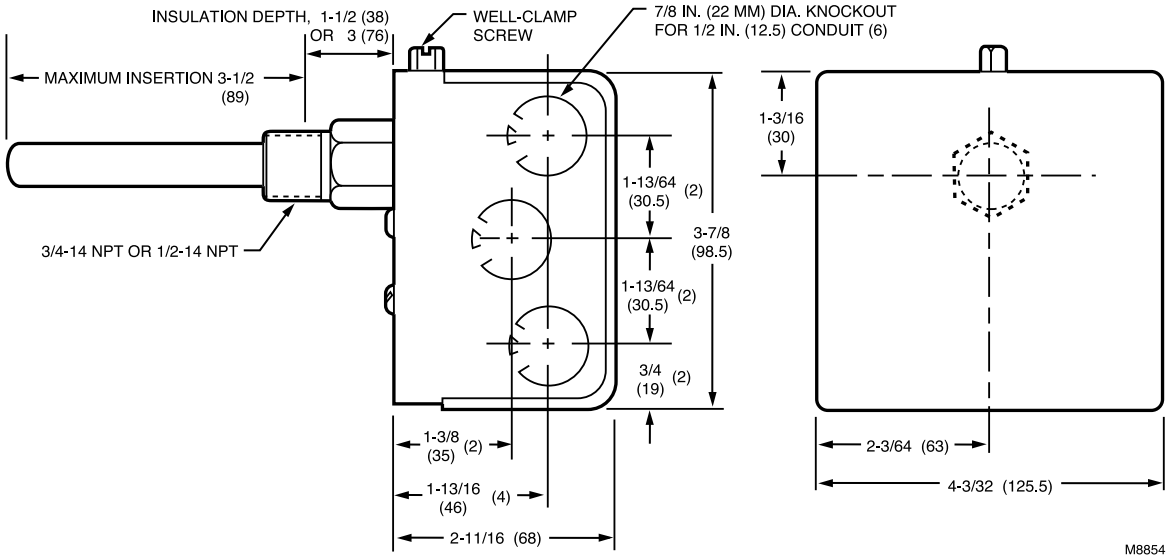
Material Number	Application	Bulb Size (inch)	Bulb Size (mm)	Capillary Length (inch)	Insulation Depth (inch)	Insulation Depth (mm)	Switching Action	Mounting	Includes
L8100B1037/U	High Limit	3/8 in.	10 mm	42 in.	controller well: 2 1/4 in. remote well: 1 1/2 or 2 1/2 in.	controller well: 57 mm, remote well: 38 mm or 64 mm	SPST, contacts break on temperature rise.	Immersion Well	—
L8100B1094/U	High Limit	3/8 in.	10 mm	54 in.	controller well: 2 1/4 in. remote well: 1 1/2 or 2 1/2 in.	controller well: 57 mm, remote well: 38 mm or 64 mm	SPST, contacts break on temperature rise.	Immersion Well	Two zinc plated wells and one well clamp for remote well.
L8100B1128/U	High Limit	3/8 in.	10 mm	39 in.	1 1/2 in.	38 mm	SPST, contacts break on temperature rise.	Immersion Well	—

L4081; L6081 Multiple Aquastat® Controllers

High limit, low limit and/or circulator controllers used to regulate boiler water temperature in gas- or oil-fired hydronic heating systems.

- An immersion type liquid-filled sensing element actuates two snap switches.
- One switch operates as a high limit control.
- The other switch operates as a low limit and/or circulator control, depending on the model.
- Controller may be mounted in any positioning and needs no leveling.
- Separate, easy-to-read, calibrated dial and setpoint adjustments for each switch.
- Differential adjustment on low limit or circulator switch.
- All adjustments accessible inside front cover.
- Push-in terminals for quick connecting.
- Single sensing element for easy installation.
- One SPST and one SPDT snap switches act independently at respective temperature settings.

Dimensions in inches (millimeters)



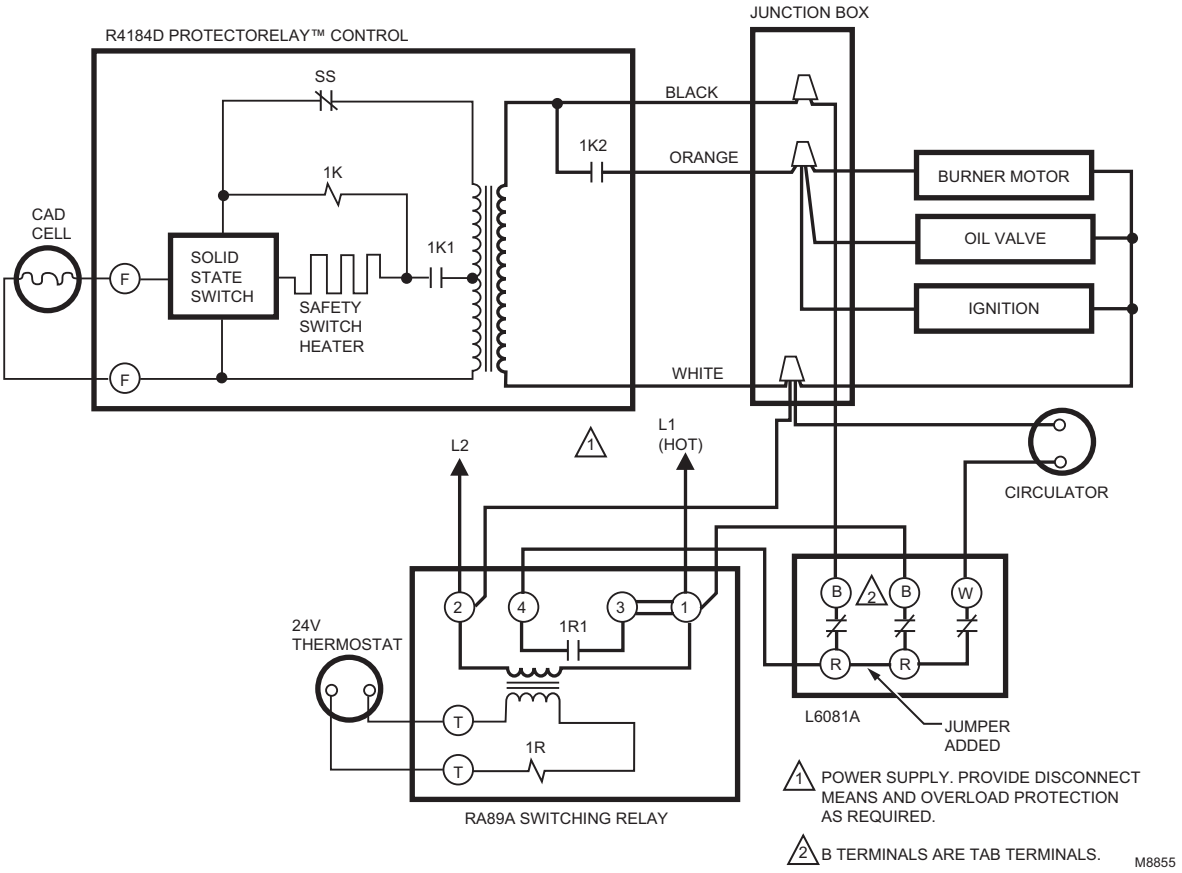
Electrical Ratings (ignition): Transformer Load: 360 VA
Maximum Ambient Temperature: 150 F at switches; 265 F at sensing element (66 C at switches; 129 C at sensing element)
Operating Range, High Limit: 130 F to 240 F (54 C to 116 C)
Operating Range, Low Limit: 110 F to 220 F (43 C to 104 C)
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing
Approvals
Canadian Standards Association: Certified: File No. LR95329-1
Underwriters Laboratories, Inc: UL Listed: File No. MP466, Vol. 12, Sec. 4, Guide No. MBPR2

Material Number	Electrical Ratings		
		(AFL)	(AFL)
L4081A,B	0.25 A @ 0.25 to 12 Vdc	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac
L6081A	0.25 A @ 0.25 to 12 Vdc	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac

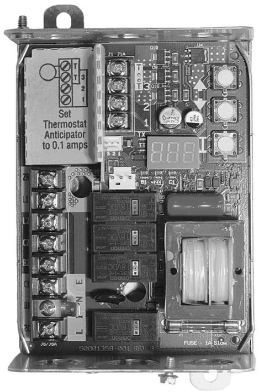
	Material Number	Application	Differential Temperature (F)	Insulation Depth (inch)	Insulation Depth (mm)	Spud Size (inch)	Switching Action	Mounting	
	L4081A1023/U	High and Low limit	High limit: 10 F fixed; low limit: 10-25 F adj.	1 1/2 in.	38 mm		SPST: High & Low Limit	Horizontal	—
	L4081B1047/U	High Limit and Circulator	High limit: 10 F fixed; low limit: 10-25 F adj.	1 1/2 in.	38 mm		SPST: High Limit & Circulator	Horizontal	—
	L4081B1096/U	High Limit and Circulator	10 F fixed	3 in.	76 mm	—	SPST: High Limit & Circulator	Horizontal	—
*	**L6081A1036/U**	High and Low limit	High limit: 10 F fixed; low limit: 10-25 F adj.	1 1/2 in. to 4 in.	38 mm		—	Horizontal	—

** TRADELINE models • SUPER TRADELINE models*

Aquastat Controllers



L7224U Oil Electronic Aquastat® Controller



The L7224U Oil Electronic Aquastat® Controller provides electronic temperature sensing in a UL limit-rated controller with a single sensing probe. The L7224U controls the circulator, oil burner and boiler temperature. The L7224U replaces the L8124A, L8124C, L7124U, L7148A, L7248A,C, L7224A,C, and L8148A Controllers. The Aquastat Controller is intended for use in residential-type applications. The L7224U provides status and diagnostic information through an LED display combined with EnviraCOM communication and LED lights to enhance the diagnostic process.

- 2012 DOE Compliance and operation

Dimensions, Approximate: 7 1/8 in. high x 4 1/4 in. wide x 2 5/8 in. deep (181 mm high x 109 mm wide x 67 mm deep)
Maximum Power Consumption: 2000 VA
Voltage: 120 Vac
Frequency: 60 Hz
Maximum Ambient Temperature: 150 F (66 C)
Minimum Ambient Temperature: -30 F (-9 C)
Operating Range, High Limit: 130 F to 240 F (54 C to 116 C)
Operating Range, Low Limit: 110 F to 220 F (43 C to 104 C)
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing
Approvals
Underwriters Laboratories, Inc: Recognized

	Electrical Ratings			
	Burner		Circulator	
	(AFL)	(ALR)	(AFL)	(ALR)
L7224R	7.4 A @ 120 Vac	44.4 A inrush	7.4 A @ 120 Vac	44.4 A inrush

Material Number	Application	Differential Temperature (F)	Mounting	Includes
L7224R1000/U	Oil Aquastat Controller with Outdoor Reset Module	High limit: 5-20 F adj.; low limit: 10-25 F adj.	Well mount, horizontal or vertical position, or flush mounted remote from the well.	W8735S1000
L7224U1002/U	Oil Aquastat Controller	High limit: 5-20 F adj.; low limit: 10-25 F adj.	Well mount, horizontal or vertical position, or flush mounted remote from the well.	—

L8124 Triple Aquastat® Relay

Immersion-type controllers that combine high limit protection with low limit and circulator control in forced hydronic heating systems, including domestic hot water service.

- Immersion-type controllers that combine high limit protection with low limit and circulator control in forced hydronic heating systems.
- Provide multi-zone control by using a separate circulator and R845 Relay for each zone.
- Include diaphragm powerhead and Micro Switch® assembly that respond to temperature changes in boiler water.
- Mount directly to boiler.
- Select models include large transformers and extra terminals for supplying power to low voltage zone valves.
- Require 24 Vac thermostat with heat anticipator set at 0.2 A (plus current draw of gas valve on L8124E).
- TRADELINE models include tube of heat conductive compound and range stops.

Voltage: 120 Vac
Maximum Ambient Temperature: 150 F at switches; 265 F at sensing element (66 C at switches, 129 C at sensing element.)
Operating Range, High Limit: 130 F to 240 F adj. (54 C to 116 C adj.)
Operating Range, Low Limit: 110 F to 220 F adj. (43 C to 104 C adj.)
Maximum Operating Pressure: 200 psi on outside of immersion well, 100 psi on capsule if inserted directly. (1378 kPa on outside of immersion well, 690 kPa on capsule if inserted directly.)
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing
Approvals
Canadian Standards Association: Certified: File No. LR1620, Guide No. 400-E-O

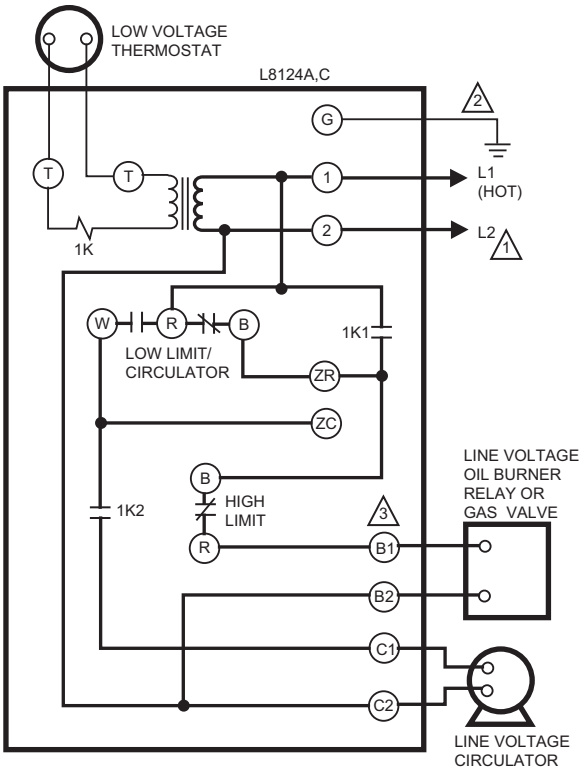
Underwriters Laboratories, Inc: UL Listed (models with well): File No. MP466, Guide No. MBPR; UL Component Recognized (models without well): File No. MP466, Guide No. MBPR2

Burner		Circulator	
(AFL)	**(ALR)**	**(AFL)**	**(ALR)**
3.7 A @ 240 Vac; 7.4 A @ 120 Vac	22.2 A @ 240 Vac; 44.4 A @ 120 Vac	3.7 A @ 240 Vac; 7.4 A @ 120 Vac	22.2 A @ 240 Vac; 44.4 A @ 120 Vac

Replacement Parts:
L7224U1002-120 Vac Oil Electronic Aquastat® Controller with EnviraCOM communication and troubleshooting LEDs

	Material Number	Application	Differential Temperature (F)	Insulation Depth (inch)	Insulation Depth (mm)	Switching Action	Mounting	Includes
	L8124A1007/U	High Limit Protection, Low Limit and Circulation Control	High limit: 10 F fixed; low limit: 10-25 F adj.	1 1/2 in.	38 mm	—	Vertical Mount	3 in. insertion well.
	L8124A1015/U	High Limit Protection, Low Limit and Circulation Control	High limit: 10 F fixed; low limit: 10-25 F adj.	3 in.	76 mm	—	Vertical Mount	3 in. insertion well and ground screw.
	L8124C1003/U	Triple Aquastat Relay with High limit	High limit: 10 F fixed; low limit: 10-25 F adj.	—	—	SPST: High & Low Limit	Horizontal	—
*	**L8124E1016/U**	Triple Aquastat Relay with High limit	High limit: 10 F fixed; low limit: 10-25 F adj.	—	—	SPST: High & Low Limit	Vertical Mount	—
	L8124G1020/U	Triple Aquastat Relay with High limit	High limit: 10 F fixed; low limit: 10-25 F adj.	—	—	SPST: High & Low Limit	Vertical Mount	—
	L8124L1011/U	Triple Aquastat Relay with High limit	High limit: 10 F fixed; low limit: 10-25 F adj.	—	—	SPST: High & Low Limit	Horizontal	—

** TRADELINE models • SUPER TRADELINE models*

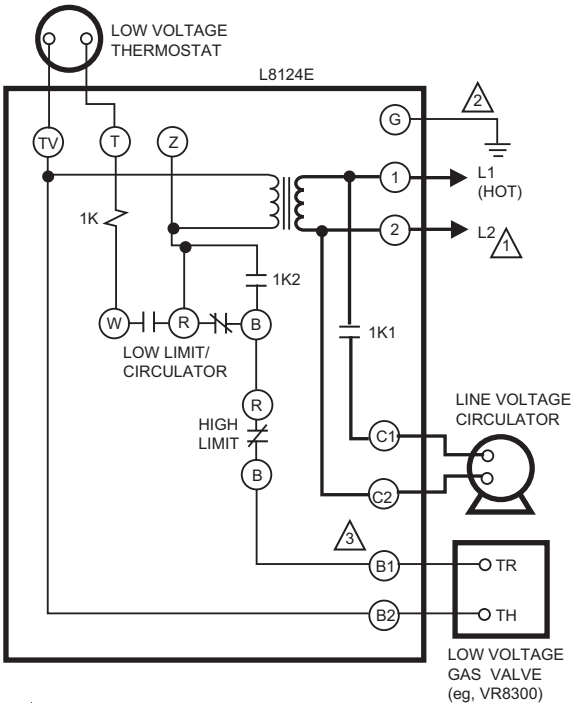


1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 CONTROL CASE MUST BE CONNECTED TO EARTH GROUND. USE GROUNDING SCREW PROVIDED.

3 B1 IS 1/4 IN. TAB TERMINAL.

M8802



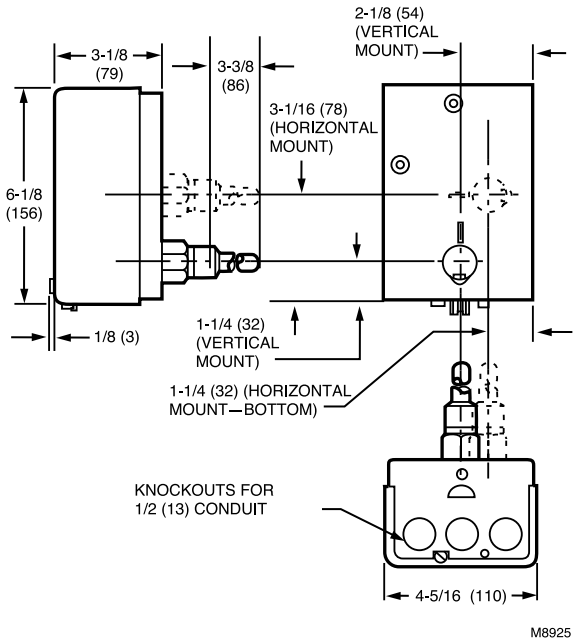
1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 CONTROL CASE MUST BE CONNECTED TO EARTH GROUND. USE GROUNDING SCREW PROVIDED.

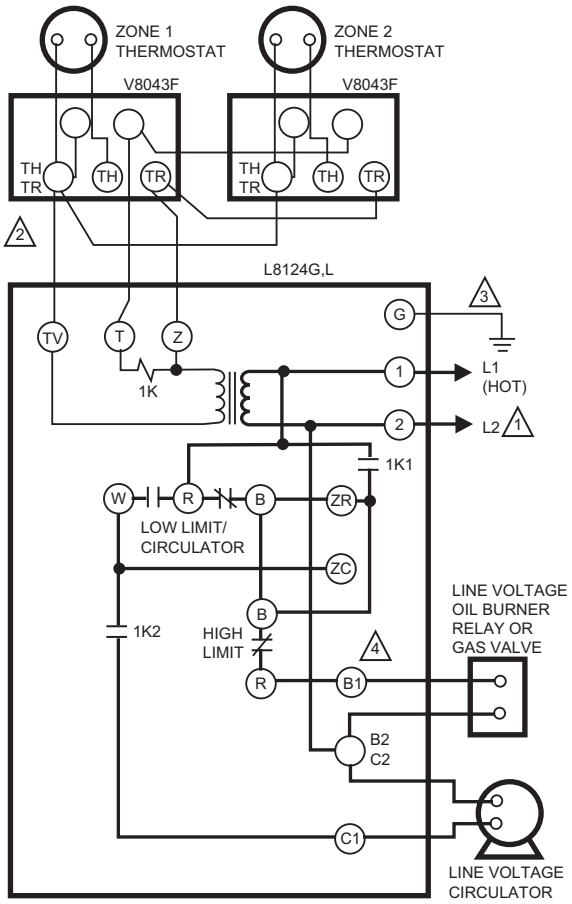
3 B1 IS 1/4 IN. TAB TERMINAL.

M8803

Dimensions in inches (millimeters)



M8925



1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

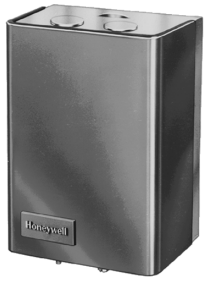
2 UP TO TWO V8043F ZONE VALVES CAN BE POWERED WITH L8124G,L. ADD ADDITIONAL TRANSFORMER FOR EVERY TWO OR LESS VALVES.

3 CONTROL CASE MUST BE CONNECTED TO EARTH GROUND. USE GROUNDING SCREW PROVIDED.

4 B1 IS 1/4 IN. TAB TERMINAL.

M1795B

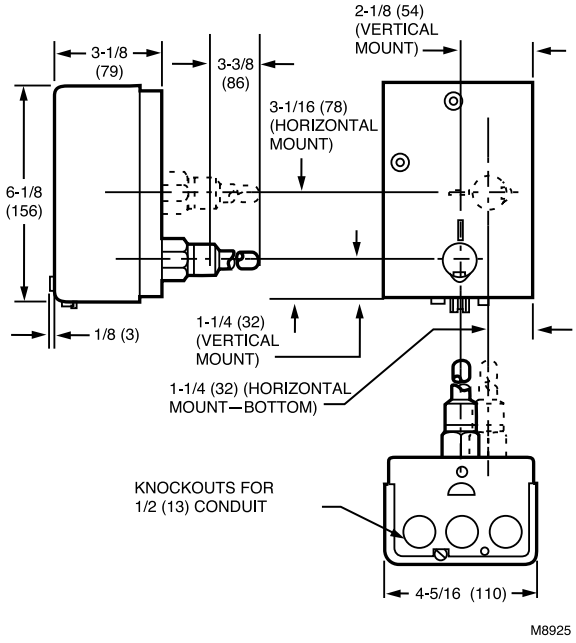
L8148 Aquastat® Relay



Immersion-type controllers that combine high limit protection with switching relay control of burner and circulator motors.

- High limit opens burner circuit only.
- Include transformer and accessory terminals for adding a remote low limit controller.
- Case available for horizontal or vertical mounting.
- Requires a 24 Vac thermostat with heat anticipator set at 0.2A.
- TRADELINE models include well adapter, tube of heat conductive compound and range stops.

Dimensions in inches (millimeters)



Anticipator Setting: 0.2 A
Voltage: 120 Vac
Frequency: 60 Hz
Electrical Connections: Quick-Connect / Screw

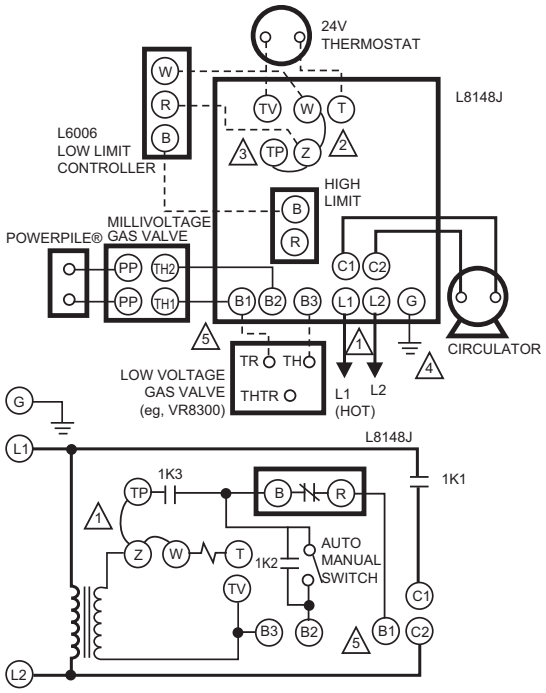
Maximum Ambient Temperature: 150 F with 1.2 A 24 V load; 77 F with 1.4 A 24 V load (66 C with 1.2 A 24 V load; 25 C with 1.4 A 24 V load)
Setpoint Temperature Range: 240 F (116 C)
Operating Range, High Limit: 120 F to 240 F (54 C to 116 C)
Maximum Operating Pressure: Immersion Well: 255 psi (Immersion Well: 1757 kPa)
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing
Capillary Length: 4 1/2 in. (114 mm)
Switching Action: SPST: High Limit & Circulator
Approvals
Canadian Standards Association: Certified: File No. LR1620, Guide No. 400-E-O
Underwriters Laboratories, Inc: UL Listed: File No. MP466, Vol. 13, Sec. 2, Guide No. MBPR2.
Electrical Ratings:
(burner millivolt): 0.25 A @ 1/4 to 12 Vdc
(circulator AFL): 3.7 A @ 240 Vac; 7.4 A @ 120 Vac
(circulator ALR): 22.2 A @ 240 Vac; 44.4 A @ 120 Vac

Material Number	Electrical Ratings			
		(AFL)	(burner AFL)	(burner ALR)
L8148A	—	—	Line Voltage: 7.4 A @ 120 Vac; 3.7 A @ 240 Vac	Line Voltage: 44.4 A @ 120 Vac; 22.7 A @ 240 Vac
L8148E	0 25 A @ 0 25 to 12 Vdc	22.2A @ 240 Vac; 44.4A @ 120 Vac	Low Voltage: 0.8 A max. @ 24 Vac; Line Voltage: 7.4 A @ 120 Vac; 3.7 A @ 240 Vac	Line Voltage: 44.4 A @ 120 Vac; 22.7 A @ 240 Vac
L8148J	—	—	3.7 A @ 240 Vac; 7.4 A @ 120 Vac	22 2 A @ 240 Vac; 44.4 A @ 120 Vac

	Material Number	Application	Differential Temperature (F)	Insulation Depth (inch)	Insulation Depth (mm)	Mounting	Includes
*	**L8148A1017/U**	High Limit	8 F fixed	1 1/2 in. to 3 in. less well	38 mm to 76 mm less well	Horizontal	—
*	**L8148E1265/U**	High Limit	15 F fixed	1 1/2 in. to 3 in. less well	38 mm to 76 mm less well	Vertical Mount	Molex® plug for use with vent damper, includes heat-conductive compound.Molex® plug for use with vent damper, includes heat-conductive compound.
	L8148E1299/U	High Limit	15 F fixed	1 1/2 in. to 3 in. less well	38 mm to 76 mm less well	Vertical Mount	50 VA transformer and heat conductive compound.
*	**L8148J1009/U**	Aquastat Relay	8 F fixed	1 1/2 in. to 3 in. less well.	38 mm to 76 mm less well	Horizontal or Vertical	—

** TRADELINE models • SUPER TRADELINE models*

Aquastat Controllers



1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

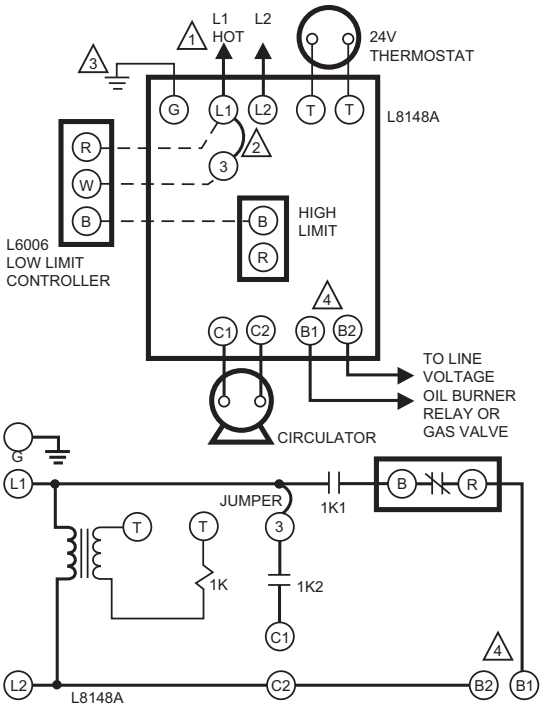
2 REMOVE Z-W JUMPER IF SERIES 60 LOW LIMIT IS USED. WIRE LOW LIMIT CONTROLLER OR ZONE VALVES AS SHOWN. USE WITH 24V (B1-B3) CIRCUIT ONLY.

3 FOR 24V BURNER, WIRE B1-B3 AND USE JUMPER Z-W AND TP-Z. FOR POWERPILE® (MILLIVOLTAGE) GAS VALVES, REMOVE JUMPER TP-Z AND WIRE BURNER B1-B2. JUMPER Z-W REMAINS IN POSITION.

4 CONTROL CASE MUST BE CONNECTED TO EARTH GROUND. USE GROUNDING SCREW PROVIDED.

5 B1 IS 1/4 IN. TAB TERMINAL.

M1793B



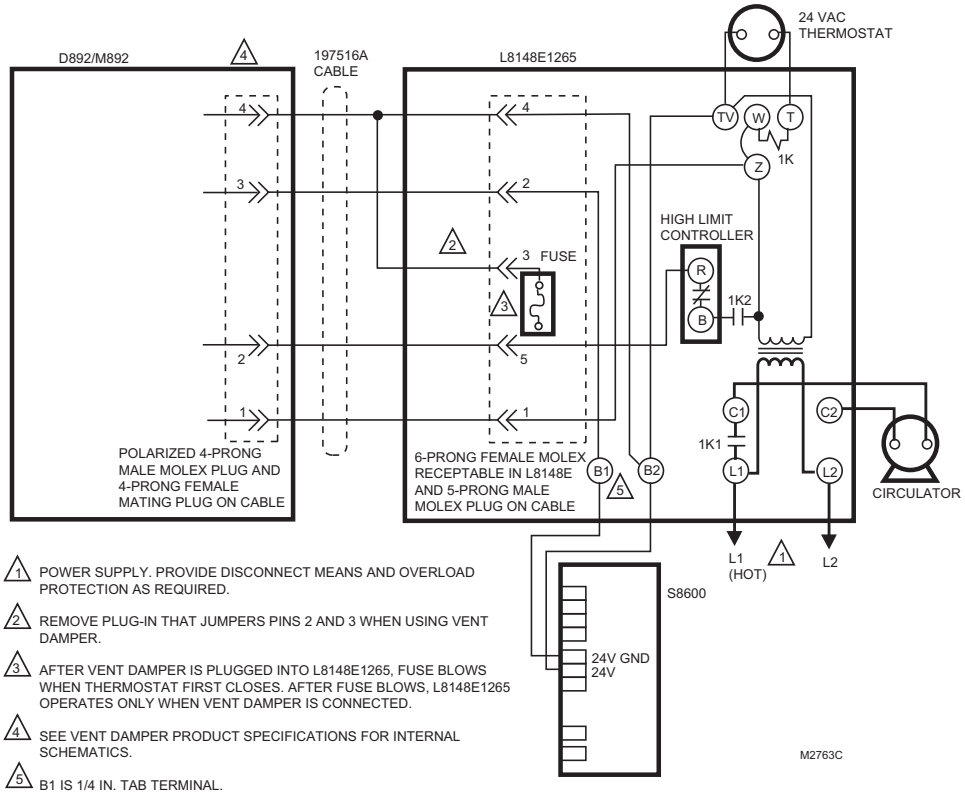
1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 REMOVE JUMPER WHEN ADDING L6006 LOW LIMIT CONTROLLER.

3 CONTROL CASE MUST BE CONNECTED TO EARTH GROUND. USE GROUNDING SCREW PROVIDED.

4 B1 IS 1/4 IN. TAB TERMINAL.

M2842A



1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 REMOVE PLUG-IN THAT JUMPERS PINS 2 AND 3 WHEN USING VENT DAMPER.

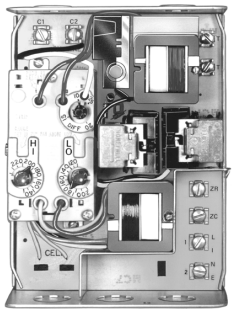
3 AFTER VENT DAMPER IS PLUGGED INTO L8148E1265, FUSE BLOWS WHEN THERMOSTAT FIRST CLOSES. AFTER FUSE BLOWS, L8148E1265 OPERATES ONLY WHEN VENT DAMPER IS CONNECTED.

4 SEE VENT DAMPER PRODUCT SPECIFICATIONS FOR INTERNAL SCHEMATICS.

5 B1 IS 1/4 IN. TAB TERMINAL.

M2763C

R8182 Combination Protectorelay® and Hydronic Heating Controllers



Immersion type Aquastat controller and oil burner primary control provides high limit and low limit/circulator control for oil-fired hydronic heating systems.

- Use in intermittent ignition applications.
- Capable of zone control with zone valves.
- Circulator zone control with ZC and ZR terminals on R8182D,E,H,J. 8*Flame failure during the running cycle results in a 45 second attempt to restart.
- If unsuccessful, safety shutoff occurs, requiring manual reset before burner can be restarted.
- R8182D,E,F mount directly on burner; R8182H,J mount on 4 x 4 in. junction box and include 5 ft (1.5 m) armored capillary with remote sensor.
- C554A Cadmium Sulfide Flame Detector and a 24 Vac thermostat required.

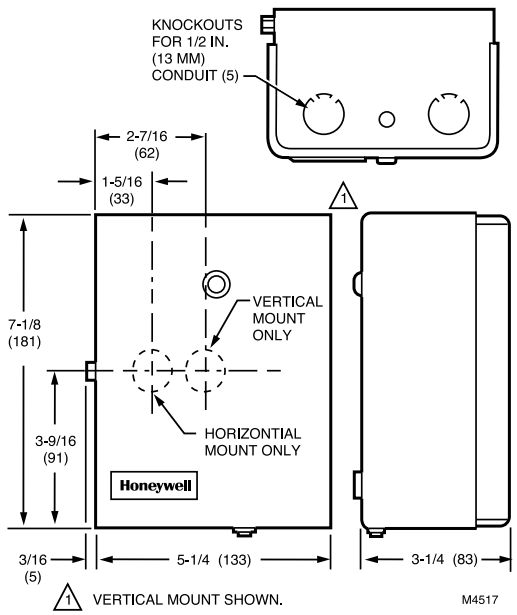
Anticipator Setting: 0.2 A
Electrical Ratings (ignition): 360 VA
Maximum Power Consumption: 9 W
Voltage: 120 Vac
Frequency: 60 Hz
Timing Safety Switch: 45 sec
Maximum Ambient Temperature: 250 F at element (121 C at element)
Operating Range, High Limit: 130 F to 240 F (54 C to 116 C)
Operating Range, Low Limit: 110 F to 220 F (43 C to 104 C)

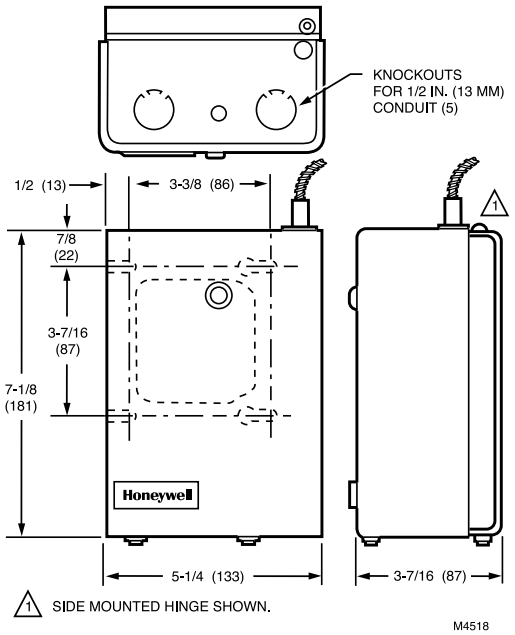
Maximum Operating Pressure: 200 psi on immersion well; 100 psi direct immersion. (1378 kPa on immersion well; 90 kPa direct immersion.)
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing
Approvals
Canadian Standards Association: Certified: File No. LR95329-1
Underwriters Laboratories, Inc: UL Listed: File No. listed: MP268, Vol. 3,4 (R8182D,E,F), Vol. 37 (R8182H,J), Sec. 1.

	Material Number	Differential Temperature (F)	Insulation Depth (inch)	Insulation Depth (mm)	Mounting	Electrical Ratings (burner) (AFL)	Electrical Ratings (burner) (ALR)	Includes
*	**R8182D1079/U**	High limit: 10 F fixed; Low limit/circulator: 10 F to 25 F adj.	1 1/2 in.	38 mm	Vertical Mount	4.4 A @ 120 Vac	26.4 A @ 120 Vac	Auxiliary ZC and ZR terminals may be used to provide circulator zone control through an R845A Switching Relay. Heat-conductive compound and vertical case.
*	**R8182D1111/U**	High limit: 10 F fixed; Low limit/circulator: 10 F to 25 F adj.	1 1/2 in.	38 mm	Horizontal	4.4 A @ 120 Vac	26.4 A @ 120 Vac	Auxiliary ZC and ZR terminals may be used to provide circulator zone control through an R845A Switching Relay. Heat-conductive compound and vertical case.
*	**R8182H1070/U**	High limit: 10 F fixed; Low limit/circulator: 10 F to 25 F adj.	1 1/2 in.	38 mm	Junction box mount	4.4 A @ 120 Vac	26.4 A @ 120 Vac	Auxiliary ZC and ZR terminals may be used to provide circulator zone control through an R845A Switching Relay. Heat-conductive compound and horizontal case.

** TRADELINE models • SUPER TRADELINE models*

Dimensions in inches (millimeters





Well Assemblies

Material Number	Description	Materials	Capillary Diameter	Insertion Length	Shell (internal diameter)	Spud Thread Size	Includes	
121371A/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size: 3 in. (76 mm) insertion, 1 1/2 in. NPT. Includes mounting clamp.	Copper	5/64 in.	3 in.; 1 1/2 in.	3/8 in.	1/2 in. x 14 NPT	121371 Mounting Clamp	
121371AA/U	Well clamp assembly with clamp capillary 21371 (1) screws 804644 and nuts 60156	—	—	—	—	—	121371 Mounting Clamp, Spud Set screw for armored capillary, Plug, and Nut.	
121371B/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size:3 in. (76 mm) insertion, 1 1/2 in. (38 mm) insulation, 3/4 in. NPT. Includes mounting clamp.	Copper	5/64 in.	3 in.; 1 1/2 in.	3/8 in.	3/4 in. x 14 NPT	121371 Mounting Clamp	
121371E/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size:3 in. (76 mm) insertion, 1 1/2 in. (38 mm) insulation, 1/2 in. (13 mm) NPT. Includes mounting clamp.	Stainless Steel	5/64 in.	3 in. 1 1/2 in.	3/8 in.	1/2 in. x 14 NPT	121371 Mounting Clamp	
121371L/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size:3 in. (76 mm) insertion, 3 in. (76 mm) insulation, 1/2 in. NPT. Includes mounting clamp.	Copper	5/64 in.	3 in. 3 in.	3/8 in.	1/2 in. x 14 NPT	121371 Mounting Clamp	
121371M/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size:3 in. (76 mm) insertion, 1 1/2 in. (38 mm) insulation, 3/4 in. NPT. Includes mounting clamp.	Copper	5/64 in.	3 in. 3 in.	3/8 in.	3/4 in. x 14 NPT	121371 Mounting Clamp	
123869A/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size: 3 in. (76 mm) insertion, 1 1/2 in. (38 mm) insulation, 1/2 in. NPT.	Copper	—	3 in. 1 1/2 in.	3/8 in.	1/2 in. x 14 NPT	—	
123870A/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size: 3 in. (76 mm) insertion, 1 1/2 in. (38 mm) insulation, 3/4 in. NPT.	Copper	—	3 in. 1 1/2 in.	3/8 in.	3/4 in. x 14 NPT	—	
123871A/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size: 3 in. (76 mm) insertion, 3 in. (76 mm) insulation, 3/4 in. NPT.	Copper	—	3 in. 3 in.	3/8 in.	3/4 in. x 14 NPT	—	
123872A/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size: 3 in. (76 mm) insertion, 3 in. (76 mm) insulation, 1/2 in. NPT	Copper	—	3 in. 3 in.	3/8 in.	1/2 in. NPT	—	
124299AA/U	Bulb size: 3/8 in. (10 mm). Well size: 3 in. (76 mm) insertion, 1 1/2 in. (38 mm) insulation, 3/4 in. NPT. Includes set screw with spud for armored capillary with plug.	Copper	—	3 in. 1 1/2 in.	3/8 in.	3/4 in. x 14 NPT	Set screw in spud for armored capillary with plug	
138134B/0021/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size:3 in. (76 mm) insertion, 3/4 in. NPT	Zinc plated	—	3 1/2 in. 4 1/2 in.	—	3/4 in. x 14 NPT	—	

T775 Series 2000 Stand-Alone Controllers

The T775 electronic remote temperature controllers are the next generation of commercial and agricultural controls capable of remote sensing of temperature and providing switched and/or proportional outputs to various types of loads.Save time on installations with the easy-to-use graphical Interface, large display, and the intuitive programming

- Use the time clock scheduler or digital input to control the setback and disable output options to help save energy
- Protect equipment from freezing or overheating on models with the modulating high or low limit control option
- Get pinpoint control on modulating outputs by setting the integral and derivative times (PI or PID)
- Configure models with reset in a few easy steps
- Control floating actuators with floating outputs on select models
- Eliminate the need for a separate time delay device and protect equipment with the minimum off time option
- Sensor 50021579-001 included with non-NEMA 4X models
- Sensor T775-SENS-WR included with NEMA-4X models

Type: Standard-NEMA 1
Application: On/off or analog controller for applications where electronic accuracy and remote sensing of temperature is required.
Bulb Size: 1/4 in. diameter x 2 in. long (6.35 mm diameter x 50.8 mm)
Accuracy: ±1 F at 77 F (±1 C at 25 C)
Sensor Element: 1097 ohms PTC at 77 F (25 C)
Maximum distance to sensor: Up to 1,000 ft (up to 304 m)

Relay Contact Ratings
(24 Vac): 10.0A resistive
(120 Vac): 1/2 hp; 9.8 AFL, 58.8 ALR, 125 VA Pilot Duty
(240 Vac): 1/2 hp; 4.9 AFL, 29.4 ALR, 125 VA Pilot Duty
Voltage: 24 Vac or 120/240 Vac
Frequency: 50 Hz; 60 Hz
Operating Ambient Temperature Range:
-40 F to 125 F @ 50 Hz; -40 F to 140 F @ 60 Hz
(-40 C to 52 C @ 50 Hz; -40 C to 60 C @ 60 Hz)

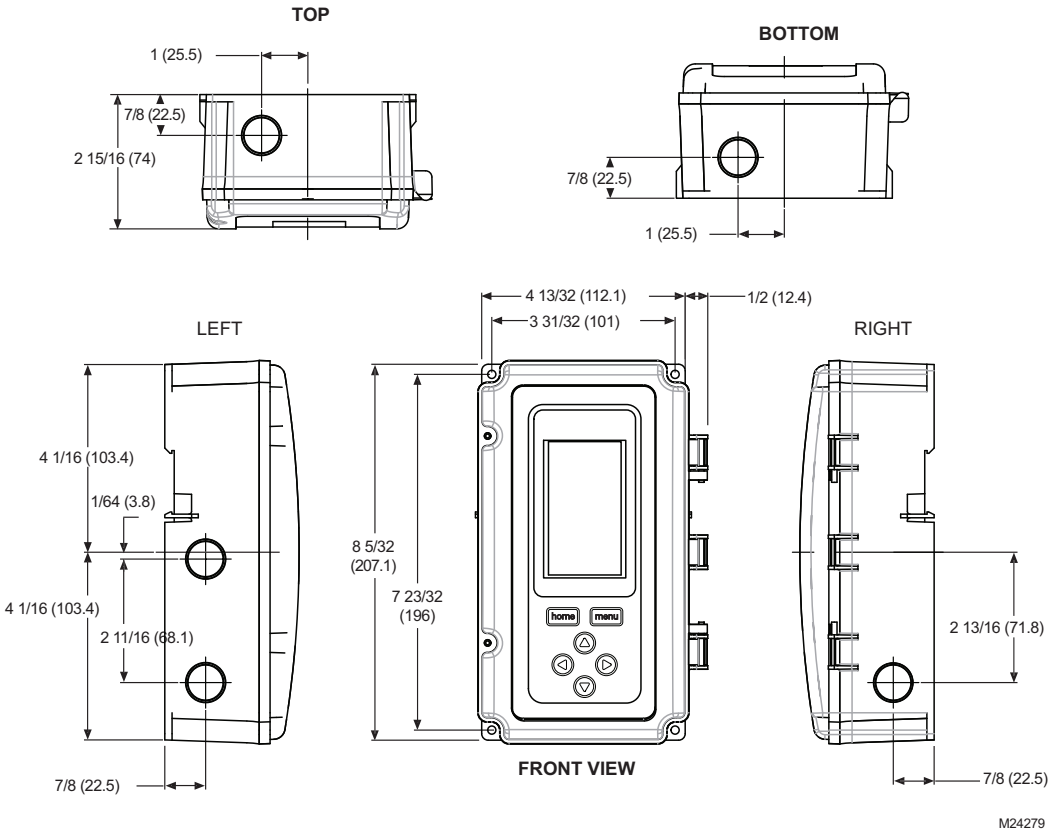
Setpoint Temperature Range: -40 F to 248 F (-40 C to 120 C)
Throttling Range: 1 F to 150 F (0.5 C to 66 C)
Differential Temperature: 1 F to 150 F (0.5 C to 66 C)
Approvals
C-Tick: Approved
Underwriters Laboratories, Inc: Approved
CE: Approved
Canadian Underwriters Laboratories, Inc: Approved

Accessories:
107324A-Capillary Holder Assembly for duct insertion, 8 3/8 in. long
C7031D2003-5 inch immersion sensor with well
C7031J2009-1097 ohm Electronic Temperature Sensor
C7100D1001-12 inch Duct Averaging Temperature Sensor
C7130B1009-Wall mount Room Sensor
C7130B1009-Wall mount Room Sensor

Material Number	Relay Output	Sensor Inputs	Floating Output	Description	Analog Output Type	Output Reset	Replaces	Number of Sensor Inputs	Sensors Included
T775A2009/U	1 SPDT	1	—	Standard	—	—	T775A1001	1	50021579-001 (1)
T775B2016/U	2 SPDT	2	1	Standard-NEMA 4X	—	—	—	2	T775-SENS-WR (1)
T775B2024/U	4 SPDT	2	2	Standard-NEMA 4X	—	—	T775D1008;T775C1009	2	T775-SENS-WR (1)
T775B2032/U	2 SPDT	2	1	Standard	—	—	T775B1000; T775A1019	2	50021579-001 (1)
T775B2040/U	4 SPDT	2	2	Standard	—	—	T775B1042; T775B1026; T775B1018; T775A1035; T775A1027	2	50021579-001 (1)
T775M2006/U	None	2	—	Modulating	2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90	—	—	—	50021579-001 (1)
T775M2014/U	4 SPDT	2	—	Modulating-NEMA 4X	2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90	—	T775G1039; T775G1021; T775G1013; T775G1005	—	T775-SENS-WR (1)
T775M2022/U	2 SPDT	2	—	Modulating-NEMA 4X	2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90	—	—	—	T775-SENS-WR (1)
T775M2030/U	4 SPDT	2	—	Modulating	2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90	—	T775F1089; T775F1055; T775F1022; T775E1114	—	50021579-001 (1)
T775M2048/U	2 SPDT	2	—	Modulating	2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90	—	T775E1098; T775E1064; T775E1056; T775E1023; T775E1015	—	50021579-001 (1)
T775R2001/U	4 SPDT	2	2	Reset Option	—	Yes	—	—	50021579-001 (2)
T775R2019/U	4 SPDT	2	—	Reset Option	2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90	Yes	—	—	50021579-001 (2)
T775R2027/U	2 SPDT	2	—	Reset Option	2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90	Yes	T775J1068; T775J1050; T775J1043	—	50021579-001 (2)
T775R2035/U	2 SPDT	2	1	Reset Option	—	Yes	T775J1076; T775J1001	—	50021579-001 (2)
T775R2043/U	—	2	—	Reset Option	2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90	Yes	T775J1035; T775J1027; T775J1019	—	50021579-001 (2)

Temperature Controllers

Dimensions in inches (millimeters)



T775 Series 2000 Special Stand-Alone Controllers

The T775 electronic remote temperature controllers are the next generation of commercial and agricultural controls capable of remote sensing of temperature, humidity, pressure, etc., and providing switched and/or proportional outputs to various types of loads.

- Universal model (T775U) can control pressure, humidity, or any variable analog input
- Special boiler model (T775P) for boiler control
- Special Staged Sequencing Model (T775L) for sequence staging of relays with one or two setpoints
- Special Expansion Model (T775S) for staging up to 12 relays with two setpoints (each T775S provides 4 relays)
- Save time on installations with the easy-to-use graphical Interface, large display, and the intuitive programming
- Use the time clock scheduler or digital input to control the setback and disable output options to help save energy
- Provide very fast or very fast response times on modulating outputs by adjusting the integral and derivative times (PI or PID)
- Configure models with reset in a few easy steps
- Eliminate the need for a separate time delay device and protect equipment with the minimum off time option
- Use the T775L and T775P to stage up to 12 relays (with optional T775S) from two independent heat or cool setpoints
- Support for digital output alarm on the T775P configurable based on minimum, maximum, or differential temperature

Type: Stage Sequencer with Reset Option-NEMA 1
Application: Staging controller for applications where electronic accuracy and remote sensing of temperature is required.
Bulb Size (T775L, T775P): 1/4 in. diameter x 2 in. long (6.35 mm diameter x 50.8 mm)
Accuracy: ±1 F at 77 F (±1 C at 25 C)
Sensor Element: 1097 ohms PTC at 77 F (25 C)
Maximum distance to sensor: Up to 1,000 ft (up to 304 m)

Relay Contact Ratings
(24 Vac): 10.0A resistive
(120 Vac): 1/2 hp; 9.8 AFL, 58.8 ALR, 125 VA Pilot Duty
(240 Vac): 1/2 hp; 4.9 AFL, 29.4 ALR, 125 VA Pilot Duty
Voltage: 24 Vac or 120/240 Vac
Analog Output Type: 2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90
Frequency: 50 Hz; 60 Hz
Operating Ambient Temperature Range:
-40 F to 125 F @ 50 Hz; -40 F to 140 F @ 60 Hz
(-40 C to 52 C @ 50 Hz; -40 C to 60 C @ 60 Hz)
Setpoint Temperature Range: -40 F to 248 F (-40 C to 120 C)
Throttling Range: 1 F to 150 F (0.5 C to 66 C)
Differential Temperature: 1 F to 150 F (0.5 C to 66 C)

Approvals
C-Tick: Approved
Underwriters Laboratories, Inc: Approved
CE: Approved
Canadian Underwriters Laboratories, Inc: Approved
Other: IP65: Approved

Accessories:
107324A-Capillary Holder Assembly for duct insertion, 8 3/8 in. long
H7655A1001-Humidity Transmitter, 5% RH accuracy, wall mount, without temp output
H7655B1009-Humidity Transmitter, 5% RH accuracy, duct mount, with optional 20K ohm temp output
P7640A1000-Differential Pressure Transmitter, 0-1.0, 0-0.5, 0-0.25, or 0-0.1 in. w.c., uni- or bi-directional, panel mount, with display
P7640A1018-Differential Pressure Transmitter, 0-1.0, 0-0.5, 0-0.25, or 0-0.1 in. w.c., uni- or bi-directional, panel mount, without display
P7640A1026-Differential Pressure Transmitter, 0-10, 0-5, 0-2.5, 0-1.0 in. w.c., uni- or bi-directional, panel mount, with display
P7640A1034-Differential Pressure Transmitter, 0-10, 0-5, 0-2.5, 0-1.0 in. w.c., uni- or bi-directional, panel mount, without display
P7640B1008-Differential Pressure Transmitter, 0-1.0, 0-0.5, 0-0.25, or 0-0.1 in. w.c., uni- or bi-directional, duct mount, with display
P7640B1016-Differential Pressure Transmitter, 0-1.0, 0-0.5, 0-0.25, or 0-0.1 in. w.c., uni- or bi-directional, duct mount, without display
P7640B1024-Differential Pressure Transmitter, 0-10, 0-5, 0-2.5, 0-1.0 in. w.c., uni- or bi-directional, duct mount, with display
P7640B1032-Differential Pressure Transmitter, 0-10, 0-5, 0-2.5, 0-1.0 in. w.c., uni- or bi-directional, duct mount, without display

Material Number	Relay Output	Sensor Inputs	Description	Expandable	Digital Output	Output Reset	Replaces	Sensors Included	Stages Loop Control
T775L2007/U	4 SPDT	2	Stage sequencer with reset option	Add 1 or 2 T775Ss (4 relays ea)		Yes	—	50021579-001 (1)	Yes
T775P2003/U	4 SPDT	3	Special boiler with reset option	Add 1 or 2 T775Ss (4 relays ea)	1	Yes	—	50021579-001 (3)	Yes
T775S2008/U	4 SPDT	—	Relay Expansion Module	—		—	—	None	—
T775U2006/U	2 SPDT	2 (Sensor B used for reset only)	Universal - humidity, pressure, etc.	—		Yes	H775E1002; H775D1003; H775C1004; H775B1005; H775A1063; H775A1048; H775A1022; H775A1006	None	—
T775U2016/U	2 SPDT	2	Universal-Control to sensor A (universal input) and Sensor B (temp) independently	—		Yes	—	None	—

Hydronic Switching Relays

R182 Hydronic Switching Relay

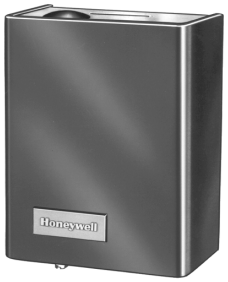
Enclosed intermediate relays for 24 volt thermostat control of line voltage devices.

Application: Enclosed intermediate Dpdt switching relay for 24 volt 2 or 3 wire thermostat control of line voltage devices. 120 volt primary power supply.
Dimensions, Approximate: 5 1/4 in. long x 4 1/4 in. wide x 3 in. deep (133 mm long x 108 mm wide x 77 mm deep)
Electrical Connections (Control Circuit): 2 or 3-wire
Coil Ratings: Voltage: 24 Vac, 50 Hz; 60 Hz; Current: 0.35A
Contact Electrical Ratings: 120 Vac AFL: 7.4A; 120 Vac ALR: 44.4A; 240 Vac AFL: 3.7A; 240 Vac ALR: 22.2A
Thermostat Compatibility: Low voltage 2 or 3-wire
Approvals
Canadian Standards Association: Certified
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX

	Material Number	Application	Electrical Ratings: Primary Voltage	Switching Action	Description	Includes
*	**R182C1051/U**	Enclosed intermediate Dpdt switching relay for 24 volt 2 or 3 wire thermostat control of line voltage devices. 120 volt primary power supply.	120V, 50 Hz; 60 Hz	DPDT	Switching relay with internal transformer, two line voltage SPDT relays	Integral transformer, enclosure

** TRADELINE models • SUPER TRADELINE models*

R847 Heavy Duty Relay

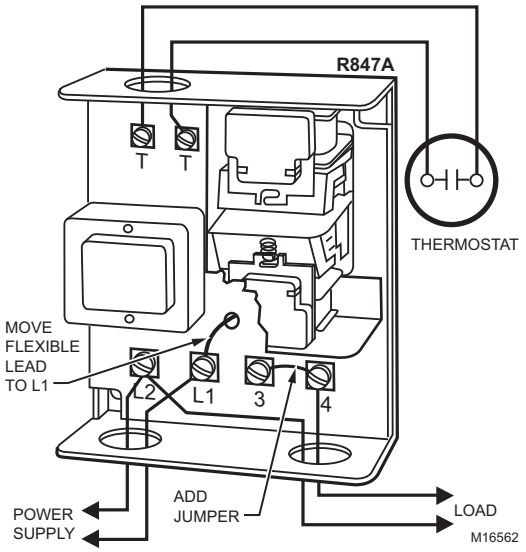


Designed for control of relatively heavy duty 120 or 240 Vac electrical loads such as cooling compressors.

- Internal, flexible leads permit SPST or DPST switching.

Application: Enclosed heavy duty Dpst or Spst switching relay for 24 volt 2-wire thermostat control of high-current loads such as cooling compressors. 120 volt primary power supply.
Dimensions, Approximate: 5 1/4 in. high x 4 1/4 in. wide x 2 3/4 in. deep (133 mm high x 108 mm wide x 70 mm deep)
Electrical Connections (main): 2-Wire
Electrical Connections (Control Circuit): 2-Wire
Coil Ratings: Voltage: 24 Vac, 50 Hz; 60 Hz; Current: 0.4A; Inrush: 21.4 VA; Sealed: 8.4 VA; Maximum Pull-in Voltage: 20
Contact Electrical Ratings: 120 Vac AFL: 22A; 120 Vac ALR: 100A; 240 Vac AFL: 10A; 240 Vac ALR: 50A
Approvals
Canadian Standards Association: Certified: File No. LR1620
Underwriters Laboratories, Inc: Listed: File No. SA481, Guide No. SDF4

R847A wired to break one side of the circuit with SPST switching.



	Material Number	Electrical Ratings: Primary Voltage	Switching Action	Description	Includes
*	**R847A1085/U**	120V, 50 Hz; 60 Hz	DPST or SPST	120V, 50 Hz; 60 Hz Heavy Duty Switching Relay with integral transform, Dpst or Spst line voltage relays	Integral transformer, enclosure

** TRADELINE models • SUPER TRADELINE models*

R856 Control Center

Provides 24 volt control of line voltage motors, fans, blowers, or pumps up to 1 hp.

- Integral 45 VA transformer to supply low voltage power for the system.
- Low voltage terminal strip for easy thermostat and panel connections.

Application: Enclosed fan center for 24 volt control of a line voltage motor, evaporator fan, or pump up to 1 horse-power. Includes wiring terminal board and 45 VA transformer.
Dimensions, Approximate: 7 1/8 in. high x 4 1/2 in. wide x 3 5/16 in. deep (181 mm high x 114 mm wide x 84 mm deep)
Coil Ratings: Voltage: 24 Vac; Current: 0.22A; Inrush: 11 VA; Sealed: 6 VA
Contact Electrical Ratings: 120 Vac AFL: 14.0A N.O., 10.0A N.C.; 120 Vac ALR: 84.0A N.C., 80.0A N.C.
Approvals
Canadian Standards Association: Certified: File No. LR95329-1
Underwriters Laboratories, Inc: Listed: File No. E4436, Vol. 6 Sec. 9

Material Number	Electrical Ratings: Primary Voltage	Switching Action	Description	Includes
R856B1002	120V, 60 Hz	SPST	120V, 60 Hz Fan Relay with Spst switching	External transformer, enclosure

RA89; RA832; R845 Hydronic Switching Relay

Provide intermediate switching of a line voltage device from a low voltage controller.

- Integral transformer provides low voltage power for control circuit.

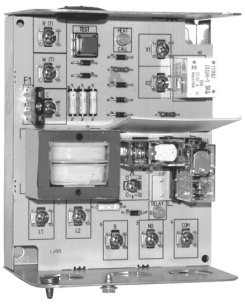
Dimensions, Approximate: 5 1/4 in. high x 4 1/4 in. wide x 2 5/16 in. deep (133 mm high x 108 mm wide x 59 mm deep)
Electrical Connections (Control Circuit): 2-Wire
Electrical Rating: Maximum Input: 5.0 W
Electrical Ratings: Primary Voltage: 120V, 50 Hz; 60 Hz
Coil Ratings: Voltage: 24 Vac; Current: 0.4A
Thermostat Compatibility: Low voltage (Class 2) 2-wire
Temperature Range: 115 F maximum ambient for 60 Hz. 105 F Max. Ambient for 50 Hz. (46 C maximum ambient for 60 Hz. 41 C maximum ambient for 50 Hz.)
Approvals
Canadian Standards Association: Certified: File No. LR1620
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX

	Material Number	Application	Switching Action	Description	Includes
*	**R845A1030/U**	Enclosed intermediate Dpst switching relay for 24 volt 2 wire thermostat control of one line voltage and one line or low voltage devices. 120 volt primary power supply.	DPST; one pole line voltage, the other line or low voltage	Switching relay with internal transformer, provides Dpst switching for hot water zone control systems, or spst control of two separate loads.	Integral transformer, enclosure
*	**RA832A1066/U**	Provide intermediate Dpst switching of a line voltage device from a low voltage controller.	DPST; one pole line voltage, the other low voltage or millivolt	Switching Relay with internal transformer, for switching two line voltage loads having a common power source.	Integral transformer, enclosure
*	**RA832A1074/U**	Provide intermediate Dpst switching of a line voltage device from a low voltage controller.	DPST; one pole line voltage, the other low voltage or millivolt	Switching Relay with internal transformer, for switching two line voltage loads having a common power source.	Integral transformer, enclosure
*	**RA89A1074/U**	Provide intermediate Spst switching of a line voltage device from a low voltage controller.	SPST	Switching Relay with internal transformer, for switching one line voltage load.	Integral transformer, enclosure

** TRADELINE models • SUPER TRADELINE models*

Hydronic Switching Relays

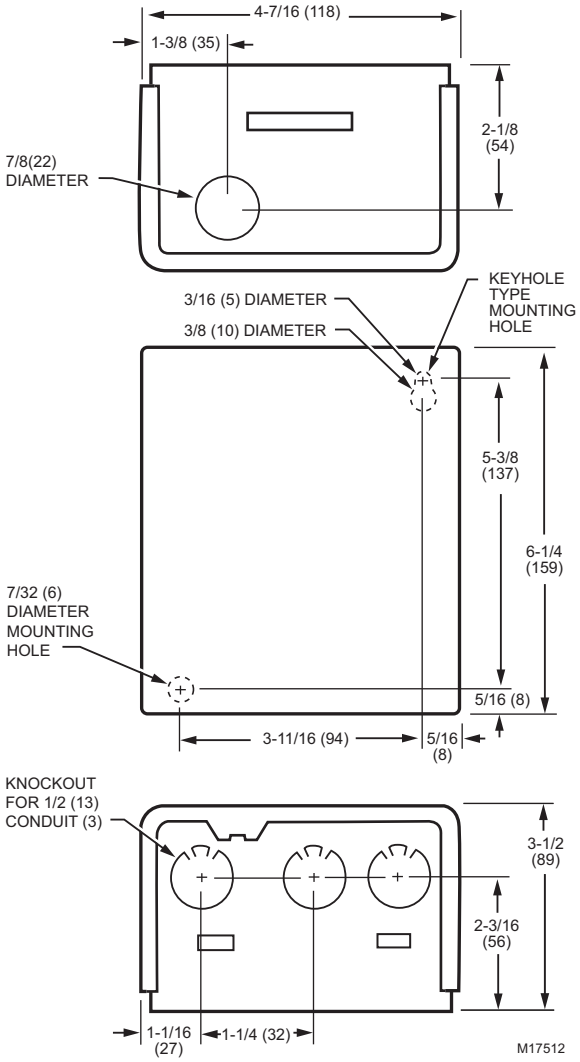
R8845U Universal Switching Relay



The R8845U Universal Switching Relay with 24 V transformer provides intermediate switching of line-and low-voltage devices from a line- or low-voltage controller and is typically applied in Hydronic heating systems.

- Replaceable socketed relays.
- Two troubleshooting LED.
- Push-to-test button.
- Replaceable transformer fuse.
- Low-voltage contact rating for Powerpile applications.
- Long-life DC relay drive control technology.
- Relay for use with external 24 Vac or 24 Vdc supply, with line-voltage control, or with internal 24 V transformer supply.
- One model replaces many competitor models.
- One model may replace many Honeywell models:R182A,B,C,J; R482A,B,C,J; R845; R882A,B,C,J and RA832.

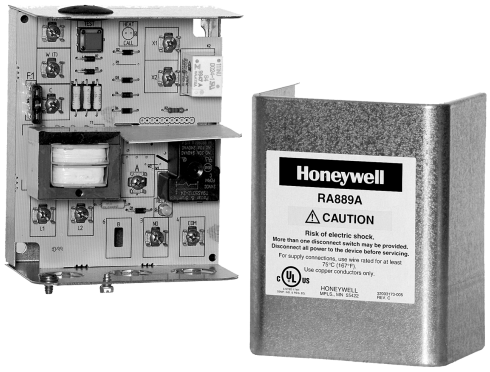
Dimensions in inches (millimeters)



Application: Enclosed Universal switching relay with internal transformer for 24 volt 2 or 3 wire thermostat control of line voltage devices. Two line voltage SPST relays and one low voltage SPST relay with PowerPile rating.
Dimensions, Approximate: 6 1/4 in. high x 4 7/16 in. wide x 3 1/2 in. deep (159 mm high x 118 mm wide x 89 mm deep)
Coil Ratings: Voltage: 24 Vac; Current: 0.4A
Contact Electrical Ratings: 120 Vac AFL: 7.4A AFL, 44.4A ALR on each set of line-voltage contacts. Maximum connected load is 2000 VA.
Electrical Connections (Control Circuit): 2 or 3-wire
Transformer Secondary Rating: 24 Vac, 12 VA max., 9 VA available for external load. Secondary protected by replaceable 1A automotive fuse.
Thermostat Compatibility: Honeywell electromechanical and electronic 2- or 3-wire
Thermostat Heat Anticipator Setting: 0.12A
Temperature Range: (Ambient) -20 F to +120 F ((Ambient) -29 C to +49 C)
Operating Humidity Range (% RH): 0 to 90% RH, non-condensing
Approvals
Canadian Underwriters Laboratories, Inc: Listed: Guide No. XAPX7.
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX

Material Number	Electrical Ratings: Primary Voltage	Switching Action	Description	Includes
R8845U1003/U	120V, 60 Hz	Two SPST, plus PowerPile® rated low voltage SPST relay. (If normally closed contacts are needed, use RA889A).	Provides intermediate switching of line and low voltage devices from a line or low voltage controller	Integral transformer, enclosure

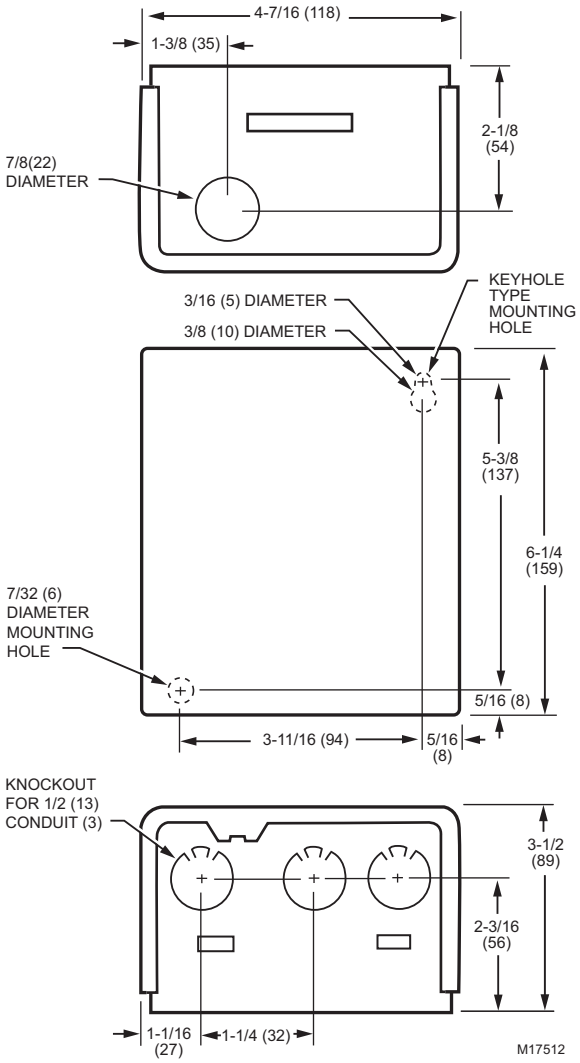
RA889A Switching Relay



The RA889A Switching Relay with 24 V controller provides intermediate switching of line- and low-voltage devices from a line- or low-voltage controller and is typically applied in Hydronic heating systems.

- High load switching capability.
- Troubleshooting LED.
- Push-to-test button.
- Replaceable transformer fuse.
- Long-life DC relay drive control technology.
- Relay for use with external 24 Vac or 24 Vdc supply, with line-voltage control, or with internal 24 V transformer supply.
- One model replaces many Honeywell models.
- Secondary of transformer protected by replaceable 1A automotive fuse.

Dimensions in inches (millimeters)



Application: Provide intermediate Spdt and Spst switching of line- and low-voltage devices from a line- or low-voltage controller.
Transformer Secondary Rating: 24 Vac, 12 VA max., 9 VA available for external load. Secondary protected by replaceable 1A automotive fuse.
Thermostat Compatibility: Honeywell electromechanical and electronic 2- or 3-wire
Thermostat Heat Anticipator Setting: 0.12A
Temperature Range: (Ambient) -20 F to +120 F ((Ambient) -29 C to +49 C)
Operating Humidity Range (% RH): 0 to 90% RH, non-condensing
Contact Electrical Ratings: 120 Vac AFL: 15A; 120 Vac ALR: 30A.
Approvals
Canadian Underwriters Laboratories, Inc: Listed: Guide No. XAPX7.
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX

Material Number	Electrical Ratings: Primary Voltage	Switching Action	Description	Includes
RA889A1001/U	120V, 60 Hz	SPDT, plus PowerPile® rated low voltage SPST relay	Enclosed switching relay with internal transformer, Spdt line voltage relay, plus Spst low voltage relay with Powerpile rating. 120V/60Hz 15 AFL/30 ALR ratings one line voltage contacts.	Integral transformer, enclosure

Transformers for Hydronic Controls

AT140 General Purpose Transformer for Hydronic Heating Controls

Provide power to 24 Vac circuits in heating/cooling control systems. Intended for use in systems with predictable, uniform loads. Can be used in any application that does not exceed the listed ratings.

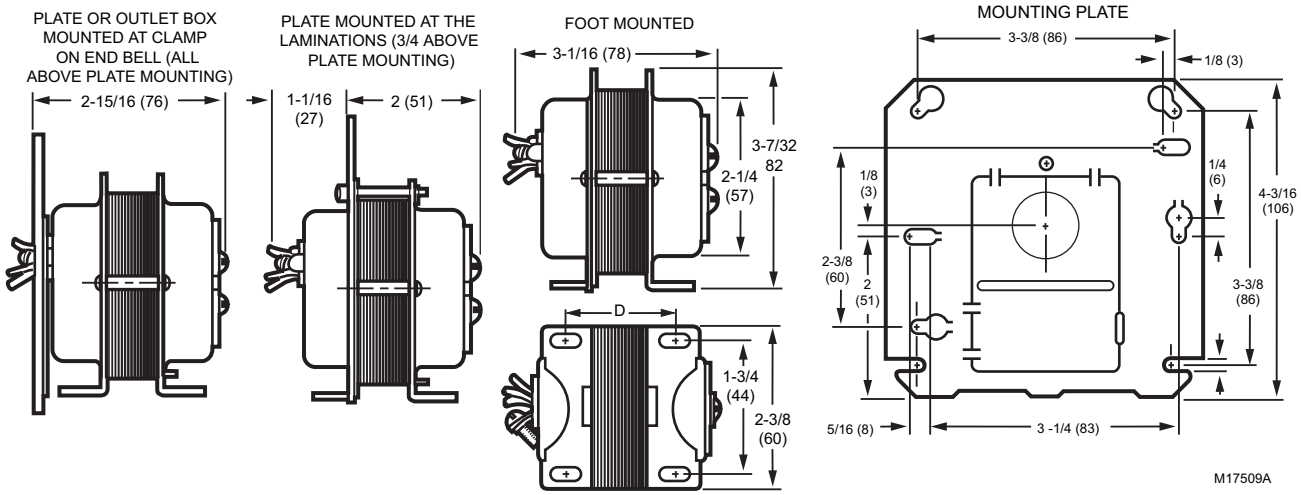
- Color-coded lead wires for primary connections and screw terminals for secondary connections, fixed 1/4 inch (6 mm) male quick-connects or color-coded lead wires for both primary and secondary, are standard.
- Meet NEC Class 2 requirements.
- Meet Underwriters Laboratories Inc. Standard UL 1585 and are identified. Class 2 not wet, Class 3 wet.

Temperature Rating: -20 F to +105 F (-29 C to +41 C)
Frequency: 60 Hz
Mounting: Foot mounted, plate mounted on 2x4 in. or 4x4 in. outlet box, clamp mounted using outlet box knockout, or panel mounted

Approvals
Canadian Standards Association: CSA Certified: A & B models.
Underwriters Laboratories, Inc: UL Listed: A,C,F models. File # E14881

	Dimensions, Approximate		Electrical Ratings			Electrical Connections (main)	
Material Number	inch	mm	Primary Voltage	Secondary Voltage	Output	Primary (inch)	Secondary
AT140A1034/U	3 3/16 in. high x 2 3/8 in. wide x 3 1/8 in. deep	81 mm high x 60 mm wide x 79 mm deep	120 Vac	27 V.O.C.	24 Vac at 20 VA	9 in. lead wires (229 mm lead wires)	(2) screw terminals

Dimensions in inches (millimeters)



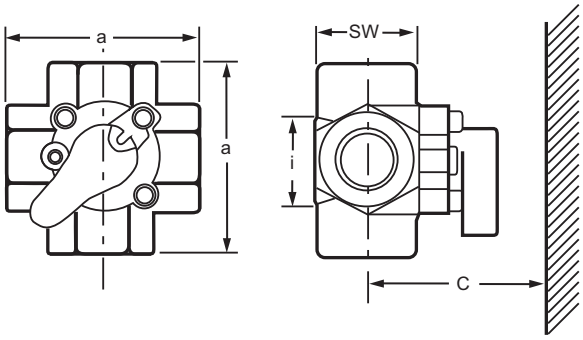
V5442N Rotary 4-way Valve

The Corona series of Compact Rotary Valves and Actuators provide integrated mixing of boiler supply, boiler return, loop supply, and loop return water in hydronic heating systems. The V5442 valve can mix both loop supply water and boiler return water simultaneously to control loop supply temperature and boiler shock or flue gas condensation protection. They may be plumbed in either a direct mixing or injection configuration. The effective Cv of the valves is increased when piped in an injection configuration.

NOTE: Valve cannot be used in open systems such as Combo heating where fresh water is present. Valve will corrode.

- Valves can be automated with M6063 actuator.
- 4-way mixing action for closed hydronic heating systems.
- Mixes loop supply with boiler supply and loop return.
- Mixes boiler return with boiler supply and loop return.
- Optimized mixing characteristics for most accurate control.
- Cast iron body; chrome plated plug.
- NPT threads.
- Suitable for manual or automatic control.
- Universal body orients either to the left or right to match piping.
- Functional replacement for Centra ZRK-series of compact 4-way mixing valves.

Dimensions in inches (millimeters)



Size [i]	[a]	[SW]	[C]	[C] with actuator
3/4”	3 3/8” (85 mm)	1 5/8” (41 mm)	13 3/8” (304 mm)	13 3/4” (350 mm)
1”				
1 1/4”	4 1/8” (105 mm)	1 13/16” (46 mm)	13 9/16” (345 mm)	

M23253

Coupling Controller: M6063A
Inlet Size: 1 1/2 in. (DN40)
Differential (close-off) Pressure Rating: 15 psi (1Bar)
Static Pressure Rating: 90 psi (6 Bar)
Median Temperature Range: 36 F to 230 F (2 C to 110 C)
Shipping Temperature Range: -40 F to +140 F (-40 C to +60 C)
Leakage: Less than 1% of Cv.
Comments: Valve cannot be used in open systems such as Combo heating where fresh water is present. Valve will corrode.Use with max. 50% glycol in water solution
Materials
(Body): Cast Iron
(Interior Parts): Chrome-plated cast iron
(Seal): Double O-rings

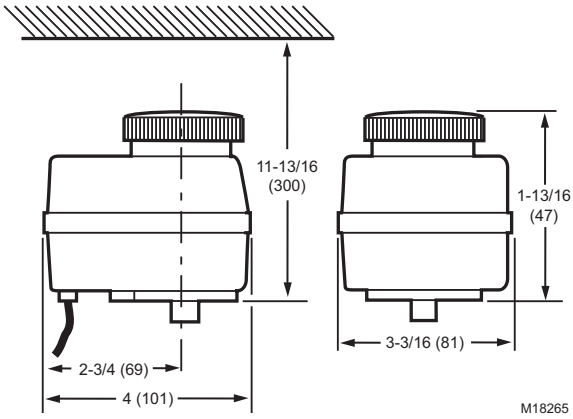
Material Number	Capacity		Pipe Size		Pipe Connection	Median Temperature Range		Used With	Body Pattern
	(Cv)	(Kvs)	DN	inch		(F)	(C)		
V5442N1015	7.4 Cv	6 kvs	DN20	3/4 in.	NPT (Internal Thread)	36 F to 230 F	2 C to 110 C	Must be used with M6063 actuator.	Rotary
V5442N1023	11.7 Cv	10 kvs	DN25	1 in.	NPT (Internal Thread)	36 F to 230 F	2 C to 110 C	Must be used with M6063 actuator.	Rotary
V5442N1031	18.7 Cv	16 kvs	DN32	1 1/4 in.	NPT (Internal Thread)	36 F to 230 F	2 C to 110 C	Must be used with M6063 actuator.	Rotary

M6063 Rotary Actuator

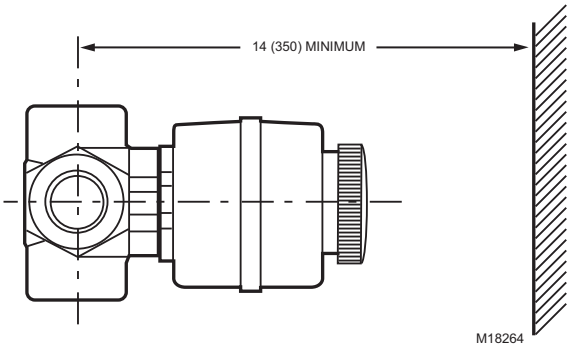
The Corona series of M6063 Actuator and V5442 Compact Rotary Valves provide integrated mixing of boiler supply, boiler return, loop supply, and loop return water in hydronic heating systems. The M6063 actuator enables automatic mixing operation when used with an AQ252 and AQ254 Aquatrol modules.

- 24 Vac floating input for automatic control.
- Single screw attachment to V5442 valve body.
- Multi-poise mounting.
- Color-coded position indicator.
- Manual valve operator.
- Auxiliary end switch for cascade control outputs.
- Sealed assembly; flylead electrical connections.

Dimensions in inches (millimeters)



Distance for installation



Aux Switch Ratings: 24 Vac, 3A, 24 VA pilot duty, Class 2, normally closed, Gray cable. S1 (black/gray pair) opens at left (CCW) end stop. S2 (brown/pink pair) opens at right (CW) end stop.
Timing: 100 seconds for 90 degrees (full) stroke
Electrical Connections: Color-coded 40 in. (1 meter) cable
Voltage: 24V
Frequency: 50 Hz; 60 Hz
Power Supply Rating: 3 VA, SDPT, or SP3T (tri-state) for proportional control.

Torque Rating: 60 lb-in. Manual declutch (7 Nm Manual declutch)
Cable: Blue=Common; Brown=Clockwise rotation; Black=Counter-clockwise rotation
Enclosure Rating: Double insulated. IP44 according to 60529 Standard (exceeds NEMA 3).
Operating Humidity Range (% RH): Less than 90% RH, non-condensing
Ambient Temperature Range: 32 F to 140 F (0 C to 60 C)
Shipping Temperature Range: -40 F to +140 F (-40 C to +60 C)

Material Number	Controller Compatibility	Control Signal	Comments	Used With
M6063A4007	PI or PID tri-state control signal for proportional control action, such as supplied by AQ252 and AQ254 Aquatrol modules	24 Vac Floating	Cross Reference: M6063 functionally replaces Centra VRK10-24 valve actuator when used with V5442 valve body.	V5442 Four-way mixing valve

VC Series Cartridge Cage 3-way Mixing Valves

Control central heating and/or cooling systems, fan coil systems, radiators and convectors. Depending on the model selected, it can be controlled by either a low voltage SPST or SPDT or floating controller such as a room thermostat, Aquastat control, or flow switch.

- Three-way valves.
- Minimal actuator power consumption.
- Double insulated actuator.
- Quick-connect or one-meter cable electrical connections available.
- Safe for use with potable water.
- Quick and easy replacement of moving parts.
- Actuator head installation does not require draining the system.
- On/Off models with six second nominal timing (floating/modulating models available with 120 second timing).

Dimensions, Approximate: 3 9/16 in high x 2 3/4 in wide x 3 3/4 in long (111 mm high x 68 mm wide x 89 mm long)
Coupling Controller: Integral
Aux Switch Ratings: 24 Vac, 2.2A pilot duty, Class 2, SPDT
Timing: 120 sec
Control Signal: 24 Vac Floating
Electrical Connections: Color-coded 40 in. (1 meter) cable
Voltage: 24V
Frequency: 50 Hz; 60 Hz

Power Supply Rating: 6 VA, SPDT, or SP3T (tri-state) for proportional control.
Differential (close-off) Pressure Rating: 60 psi (4 Bar)
Static Pressure Rating: 300 psi (20 Bar)
Median Temperature Range: 34 F to 203 F (1 C to 95 C)
Ambient Temperature Range: 32 F to 140 F (0 C to 60 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Materials
(Body): Bronze

Valve and Actuator Kit

Material Number	Body Pattern	Pipe Size		Pipe Connection	Capacity	Flow Characteristic	Comments
		Inch	DN				
VC6831ML6111/U	Three-way	3/4 in.	DN20	Sweat	5.9 Cv	Linear	Comes with Valve VCZNB7100 and Actuator VC6831ZZ11; Use with max 50% glycol in water solution
VC6831MS6111/U	Three-way	1 in.	DN25	Sweat	6.6 Cv	Linear	Comes with Valve VCZMA7100 and Actuator VC6831ZZ11; Use with max 50% glycol in water solution

A La Carte Option

Actuators

Material Number	Voltage	Frequency	Power Consumption	Stroke Timing	End Switch	Cable Length
VC6831ZZ11/U	24 Vac	50 Hz; 60 Hz	6 VA	120 seconds	—	60 inches
VC6834ZZ11/U	24 Vac	50 Hz; 60 Hz	6 VA	120 seconds	2- Position SPDT	60 inches

Valves

Material Number	Body Pattern	Pipe Size		Pipe Connection	Capacity	Flow Characteristic	Comments
		Inch	DN				
VCZMA7100/U	Three-way	1/2 in.	DN15	Sweat	3.7 Cv	Linear	Use with max 50% glycol in water solution
VCZMK7100/U	Three-way	3/4 in.	DN20	NPT	6.6 Cv	Linear	Use with max 50% glycol in water solution
VCZML7100/U	Three-way	3/4 in.	DN20	Sweat	6.6 Cv	Linear	Use with max 50% glycol in water solution
VCZMR7100/U	Three-way	1 in.	DN25	NPT	8.3 Cv	Linear	Use with max 50% glycol in water solution
VCZMS7100/U	Three-way	1 in.	DN25	Sweat	8.3 Cv	Linear	Use with max 50% glycol in water solution
VCZND7100/U	Three-way	1-1/4 in.	DN32	NPT	9 Cv	Linear	Use with max 50% glycol in water solution
VCZNE7100/U	Three-way	1-1/4 in.	DN32	Sweat	9 Cv	Linear	Use with max 50% glycol in water solution

Motorized Zone Valves

VC Series Quick Open Cartridge Cage 2-way Zone Valve

Control central heating and/or cooling systems, fan coil systems, radiators and convectors. Depending on the model selected, it can be controlled by either a low voltage SPST or SPDT or floating controller such as a room thermostat, Aquastat control, or flow switch.

- Two-way valves.
- Minimal actuator power consumption.
- Double insulated actuator.
- Quick-connect or one-meter cable electrical connections available.
- Safe for use with potable water.
- Quick and easy replacement of moving parts.
- Actuator head installation does not require draining the system.
- On/Off models with six second nominal timing (floating/modulating models available with 120 second timing).

Dimensions, Approximate: 3 9/16 in high x 2 3/4 in wide x 3 3/4 in long (111 mm high x 68 mm wide x 89 mm long)
Coupling Controller: Integral
Aux Switch Ratings: 24 Vac, 2.2A pilot duty, Class 2, SPDT
Timing: 6 sec
Control Signal: 24 Vac Floating
Electrical Connections: Color-coded 40 in. (1 meter) cable
Voltage: 24V
Frequency: 50 Hz; 60 Hz

Power Supply Rating: 6 VA, SPDT, or SP3T (tri-state) for proportional control.
Differential (close-off) Pressure Rating: 60 psi (4 Bar)
Static Pressure Rating: 300 psi (20 Bar)
Median Temperature Range: 34 F to 203 F (1 C to 95 C)
Ambient Temperature Range: 32 F to 140 F (0 C to 60 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Materials
(Body): Bronze

Valve and Actuator Kit

Material Number	Body Pattern	Pipe Size		Pipe Connection	Capacity	Flow Characteristic	Comments
		Inch	DN				
VC8715AM1000/U	Two-way	3/4 in.	DN20	Sweat	5.8 Cv	Quick Open; 6 Seconds	Comes with Valve VCZAM1100 and Actuator VC8715ZZ11; **Use with max 50% glycol in water solution**
VC8715AS1000/U	Two-way	1 in.	DN25	Sweat	7.0 Cv	Quick Open; 6 Seconds	Comes with Valve VCZAS1100 and Actuator VC8715ZZ11; **Use with max 50% glycol in water solution**

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Actuators

Material Number	Voltage	Frequency	Power Consumption	Stroke Timing	End Switch	Cable Length
VC8715ZZ11/U	24 Vac	60 Hz	6 VA	6 Seconds	—	60 inches
VC8714ZZ11/U	24 Vac	60 Hz	6 VA	6 Seconds	2-Position SPST	60 inches

Valves

Material Number	Body Pattern	Pipe Size		Pipe Connection	Capacity	Flow Characteristic	Comments
		Inch	DN				
VCZBB1100/U	Two-way	1/2 in.	DN15	NPT	3.5 Cv	Quick Open	Use with max 50% glycol in water solution
VCZAA1100/U	Two-way	1/2 in.	DN15	Sweat	3.5 Cv	Quick Open	Use with max 50% glycol in water solution
VCZAL1100/U	Two-way	3/4 in.	DN20	NPT	4.7 Cv	Quick Open	Use with max 50% glycol in water solution
VCZAM1100/U	Two-way	3/4 in.	DN20	Sweat	4.7 Cv	Quick Open	Use with max 50% glycol in water solution
VCZAR1100/U	Two-way	1 in.	DN25	NPT	6.6 Cv	Quick Open	Use with max 50% glycol in water solution
VCZAS1100/U	Two-way	1 in.	DN25	Sweat	6.6 Cv	Quick Open	Use with max 50% glycol in water solution
VCZBD1100/U	Two-way	1-1/4 in.	DN32	NPT	7 Cv	Quick Open	Use with max 50% glycol in water solution
VCZBE1100/U	Two-way	1-1/4 in.	DN32	Sweat	7 Cv	Quick Open	Use with max 50% glycol in water solution

VC Series Linear/Modulating Cartridge Cage 2-way Zone Valve

Control central heating and/or cooling systems, fan coil systems, radiators and convectors. Depending on the model selected, it can be controlled by either a low voltage SPST or SPDT or floating controller such as a room thermostat, Aquastat control, or flow switch.

- Two-way valves.
- Minimal actuator power consumption.
- Double insulated actuator.
- Quick-connect or one-meter cable electrical connections available.
- Safe for use with potable water.
- Quick and easy replacement of moving parts.
- Actuator head installation does not require draining the system.
- On/Off models with six second nominal timing (floating/modulating models available with 120 second timing).

Dimensions, Approximate: 3 9/16 in high x 2 3/4 in wide x 3 3/4 in long (111 mm high x 68 mm wide x 89 mm long)
Coupling Controller: Integral
Aux Switch Ratings: 24 Vac, 2.2A pilot duty, Class 2, SPDT
Timing: 120 sec
Control Signal: 24 Vac Floating
Electrical Connections: Color-coded 40 in. (1 meter) cable
Voltage: 24V
Frequency: 50 Hz; 60 Hz

Power Supply Rating: 6 VA, SPDT, or SP3T (tri-state) for proportional control.
Differential (close-off) Pressure Rating: 60 psi (4 Bar)
Static Pressure Rating: 300 psi (20 Bar)
Median Temperature Range: 34 F to 203 F (1 C to 95 C)
Ambient Temperature Range: 32 F to 140 F (0 C to 60 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Materials
(Body): Bronze

Valve and Actuator Kit

Material Number	Body Pattern	Pipe Size		Pipe Connection	Capacity	Flow Characteristic	Comments
		Inch	DN				
VC6831AA1111/U	Two-way	1/2 in.	DN15	Sweat	3.2 Cv	Linear	Comes with Valve VCZAA3100 and Actuator VC6831ZZ11; Use with max 50% glycol in water solution
VC6831AM1111/U	Two-way	3/4 in.	Dn20	Sweat	4.6 Cv	Linear	Comes with Valve VCZAM3100 and Actuator VC6831ZZ11; Use with max 50% glycol in water solution

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Actuators

Material Number	Voltage	Frequency	Power Consumption	Stroke Timing	End Switch	Cable Length
VC6831ZZ11/U	24 Vac	50 Hz; 60 Hz	6 VA	120 seconds	—	60 inches
VC6834ZZ11/U	24 Vac	50 Hz; 60 Hz	6 VA	120 seconds	2- Position SPDT	60 inches

Valves

Material Number	Body Pattern	Pipe Size		Pipe Connection	Capacity	Flow Characteristic	Comments
		Inch	DN				
VCZBB3100/U	Two-way	1/2 in.	DN15	NPT	3.5 Cv	Linear	Use with max 50% glycol in water solution
VCZAA3100/U	Two-way	1/2 in.	DN15	Sweat	3.5 Cv	Linear	Use with max 50% glycol in water solution
VCZAL3100/U	Two-way	3/4 in.	DN20	NPT	4.7 Cv	Linear	Use with max 50% glycol in water solution
VCZAM3100/U	Two-way	3/4 in.	DN20	Sweat	4.7 Cv	Linear	Use with max 50% glycol in water solution
VCZAR3100/U	Two-way	1 in.	DN25	NPT	6.6 Cv	Linear	Use with max 50% glycol in water solution
VCZAS3100/U	Two-way	1 in.	DN25	Sweat	6.6 Cv	Linear	Use with max 50% glycol in water solution
VCZBD3100/U	Two-way	1-1/4 in.	DN32	NPT	7 Cv	Linear	Use with max 50% glycol in water solution
VCZBE3100/U	Two-way	1-1/4 in.	DN32	Sweat	7 Cv	Linear	Use with max 50% glycol in water solution

Motorized Zone Valves

V4043 Line Voltage Zone Valves

Flare Connection

Sweat Connection

NPT Connection

Two way on-off line voltage valves consist of an actuator motor and valve assembly for controlling the flow of hot or chilled 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.
- Motor may be replaced without removing the valve body or draining the system.
- Suitable for heating and cooling applications.

Application: Hydronic Control
Type: Two position
Body Pattern: Two-way, Straight-through
Frequency: 60 Hz
Power Consumption: 9.6 VA
Nominal Timing (sec, min): De-energized Position: Normally Closed
Electrical Connections: 18 in. leads (457 mm leads)
Fluid Temperature Range: 40 F to 200 F (5 C to 93 C)
Maximum Ambient Temperature: 125 F (52 C)
Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Packing O-Ring): EPDM rubber
(Ball Plug): Buna-N (NBR) Rubber Ball

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

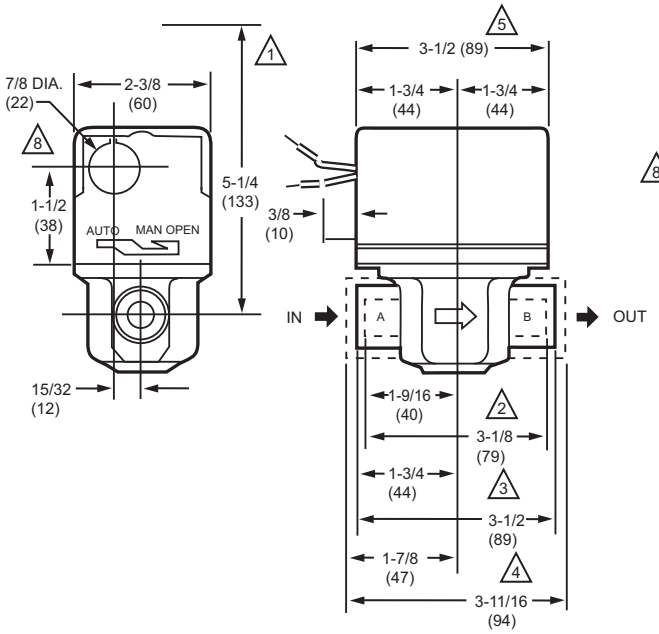
Approvals
Underwriters Laboratories, Inc: UL Listed: File MH11826

Replacement Parts:
802360LA-120V, 60 Hz Replacement motor for V4043, V4044 Zone Valves
802360MA-208V, 60 Hz Replacement motor for V4043, V4044 Zone Valves
802360NA-220V/50 Hz; 240V/60 Hz Replacement motor for V4043, V4044 Zone Valves

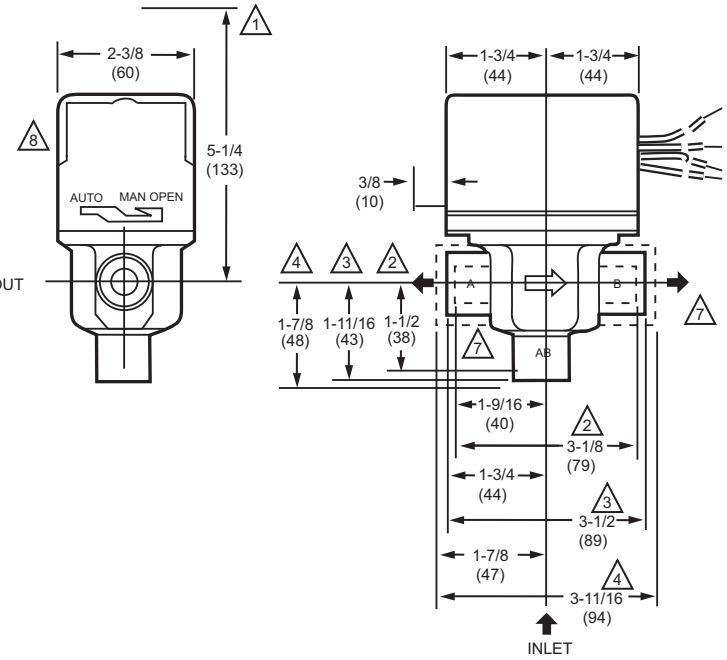
Material Number	Capacity (Cv)	Capacity (Kv)	Pipe Size inch	Pipe Size DN	Connection Type	Maximum Close-off Pressure (psi)	Maximum Close-off Pressure (kPa)	De-energized Position	Valve Action	Voltage	Current Draw (A)	Manual Opener
V4043A1002/U	3.5 Cv	3 Kv	1/2 in.	DN15	Flare	20 psi	138 kPa	Normally Closed	Spring return to close	120 Vac	0.08A	Yes
V4043A1010/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	Normally Closed	Spring return to close	120 Vac	0.08A	Yes
V4043A1028/U	3.5 Cv	3 Kv	1/2 in.	DN15	Flare	20 psi	138 kPa	Normally Closed	Spring return to close	208 Vac	0.04A	Yes
V4043A1044/U	3.5 Cv	3 Kv	1/2 in.	DN15	Flare	20 psi	138 kPa	Normally Closed	Spring return to close	240 Vac	0.04A	Yes
V4043A1051/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	Normally Closed	Spring return to close	240 Vac	0.04A	Yes
V4043A1184/U	1 Cv	0.9 Kv	1/2 in.	DN15	Sweat	50 psi	345 kPa	Normally Closed	Spring return to close	120 Vac	0.08A	Yes
V4043A1259/U	8 Cv	6.9 Kv	3/4 in.	DN20	Sweat	8 psi	55 kPa	Normally Closed	Spring return to close	120 Vac	0.08A	Yes
V4043A1317/U	8 Cv	6.9 Kv	1 in.	DN25	Sweat	8 psi	55 kPa	Normally Closed	Spring return to close	120 Vac	0.08A	Yes
V4043A1689/U	3.5 Cv	3 Kv	1/2 in.	DN15	NPT	20 psi	138 kPa	Normally Closed	Spring return to close	120 Vac	0.08A	Yes
V4043A1697/U	10 Cv	8.6 Kv	1 in.	DN25	NPT	6.5 psi	45 kPa	Normally Closed	Spring return to close	120 Vac	0.08A	Yes
V4043A1705/U	3.5 Cv	3 Kv	3/4 in.	DN20	NPT	20 psi	138 kPa	Normally Closed	Spring return to close	120 Vac	0.08A	Yes
V4043B1000/U	3.5 Cv	3 Kv	1/2 in.	DN15	Flare	20 psi	138 kPa	Normally Open	Spring return to open	120 Vac	0.08A	No
V4043B1018/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	Normally Open	Spring return to open	120 Vac	0.08A	No
V4043B1059/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	Normally Open	Spring return to open	240 Vac	0.04A	No

Dimensions in inches (millimeters)

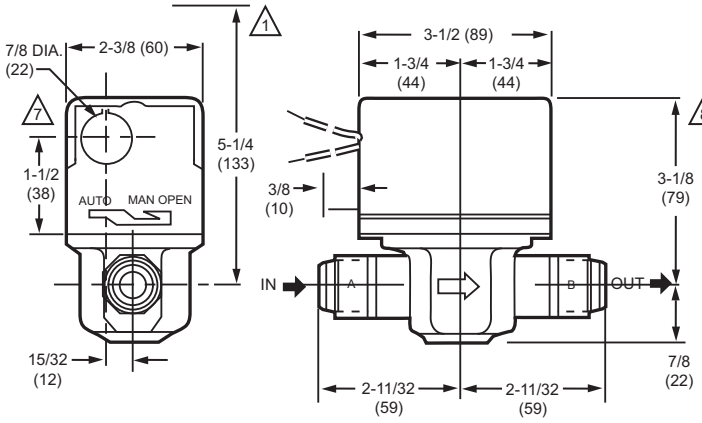
V4043, V8043 SWEAT COPPER CONNECTION MODELS 6



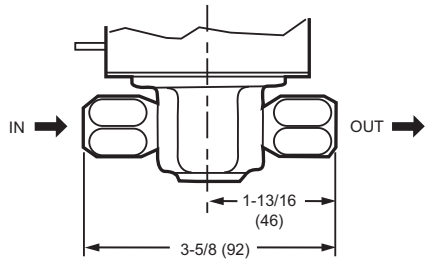
V4044, V8044 SWEAT COPPER CONNECTION MODELS



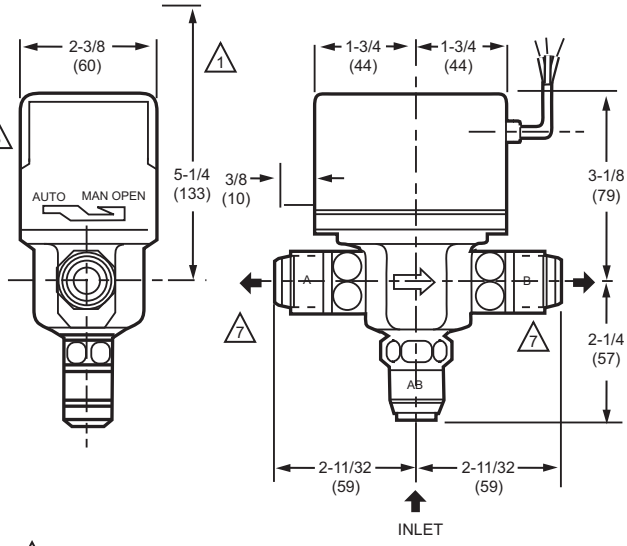
V4043, V8043 FLARE-FITTING MODELS 6



V8043 INVERTED FLARE MODELS



V4044, V8044 FLARE-FITTING MODELS



M10175

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

6 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.

7 REFER TO MOUNTING INSTRUCTIONS.

8 OPENING FOR 1/2 IN. CONDUIT ON MANUAL LEVER SIDE FOR V4043, V8043; OPENING ON OPPOSITE SIDE FOR V4044, V8044.

Motorized Zone Valves

V4043 Line Voltage Zone Valves for Steam

Two way on-off line voltage valves consist of an actuator motor and valve assembly for controlling the flow of low pressure steam.

- Manual opener (on all models, except straight-through, normally open valves) for valve operation on power failure; valve returns to automatic position when power is restored.
- All models may be installed without disassembling the valve.
- Compact construction for easy installation.
- Complete powerhead may be removed or replaced without breaking plumbing line connections or draining the system.
- Motor may be replaced without removing the valve body or draining the system.
- Suitable for heating applications.

Application: Steam (low pressure) Control
Type: Two position
Body Pattern: Two-way, Straight-through
Valve Action: Spring return to close
Frequency: 60 Hz
Power Consumption: 9.6 VA
Nominal Timing (sec, min): De-energized Position: Normally Closed
Electrical Connections: 18 in. leads (457 mm leads)
Fluid Temperature Range: 40 F to 240 F (5 C to 116 C)
Maximum Ambient Temperature: 125 F (52 C)
Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Packing O-Ring): EPDM rubber
(Ball Plug): EPDM Rubber Ball
Comments: For low pressure (15 psi) steam application
Approvals
Underwriters Laboratories, Inc: UL Listed: File MH11826

Replacement Parts:
802360LA-120V, 60 Hz Replacement motor for V4043, V4044 Zone Valves
802360MA-208V, 60 Hz Replacement motor for V4043, V4044 Zone Valves
802360NA-220V/50 Hz; 240V/60 Hz Replacement motor for V4043,

Material Number	Capacity		Pipe Size		Connection Type	Maximum Close-off Pressure		De-energized Position	Voltage	Current Draw (A)	Manual Opener
	(Cv)	(Kv)	inch	DN		(psi)	(kPa)				
V4043E1003/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	Normally Closed	120 Vac	0.08A	Yes
V4043E1011/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	Normally Closed	208 Vac	0.04A	Yes
V4043E1029/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	Normally Closed	240 Vac	0.04A	Yes

V4044 Line Voltage Diverting Valves

Flare Connection

Sweat Connection

On-off and diverting line voltage valves consist of an actuator motor and valve assembly for controlling the flow of hot or chilled 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.
- Motor may be replaced without removing the valve body or draining the system.
- Suitable for heating and cooling applications.

Application: Hydronic Control
Type: Two position
Body Pattern: Three-way, Diverting
Valve Action: Spring Return to port A
Frequency: 60 Hz
Power Consumption: 9.6 VA
De-energized Position: Port A Normally Closed
Fluid Temperature Range: 40 F to 200 F (5 C to 93 C)
Maximum Ambient Temperature: 125 F (52 C)
Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Packing O-Ring): EPDM rubber
(Ball Plug): Buna-N (NBR) Rubber Ball

Comments: Use this valve in closed loop hydronic systems that do not contain dissolved oxygen in system water, such as fresh water from frequent source of makeup water.
Valve designed for cycling (not constantly powered on) applications.
Approvals
Underwriters Laboratories, Inc: UL Listed: File MH11826

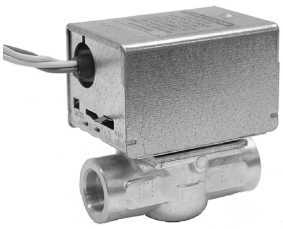
Replacement Parts:
802360LA-120V, 60 Hz Replacement motor for V4043, V4044 Zone Valves
802360MA-208V, 60 Hz Replacement motor for V4043, V4044 Zone Valves
802360NA-220V/50 Hz; 240V/60 Hz Replacement motor for V4043, V4044 Zone Valves
802360QA-277V, 50 Hz; 60 Hz Replacement motor for V4043, V4044 Zone Valves

Material Number	Capacity		Pipe Size		Connection Type	Maximum Close-off Pressure		Voltage	Current Draw (A)	Includes	Manual Opener	Electrical Connections
	(Cv)	(Kv)	inch	DN		(psi)	(kPa)					
V4044A1001/U	4 Cv	3.4 Kv	1/2 in.	DN15	Flare	20 psi	138 kPa	120 Vac	0.08A	—	Yes	18 in. leads; 457 mm leads
V4044A1019/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	120 Vac	0.08A	—	Yes	18 in. leads; 457 mm leads
V4044A1035/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	208 Vac	0.04A	—	Yes	18 in. leads; 457 mm leads
V4044A1043/U	4 Cv	3.4 Kv	1/2 in.	DN15	Flare	20 psi	138 kPa	240 Vac	0.04A	—	Yes	18 in. leads; 457 mm leads
V4044A1050/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	240 Vac	0.04A	—	Yes	18 in. leads; 457 mm leads
V4044A1191/U	7.0 Cv	6 Kv	3/4 in.	DN20	Sweat	10 psi	69 kPa	120 Vac	0.08A	—	Yes	18 in. leads; 457 mm leads
V4044A1258/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	277 Vac	0.04A	—	Yes	24 in. leads 610 mm leads
V4044A1290/U	2.7 Cv and 4 Cv	2.3 Kv and 3.4 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	120 Vac	0.08A	—	Yes	18 in. leads; 457 mm leads
V4044B1009/U	4 Cv	3.4 Kv	1/2 in.	DN15	Flare	20 psi	138 kPa	120 Vac	0.08A	Integral SPDT changeover Aquastat controller	Yes	18 in. leads; 457 mm leads
V4044B1017/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	120 Vac	0.08A		Yes	18 in. leads; 457 mm leads
V4044B1314/U	7.0 Cv	6 Kv	3/4 in.	DN20	Sweat	10 psi	69 kPa	120 Vac	0.08A		Yes	18 in. leads; 457 mm leads

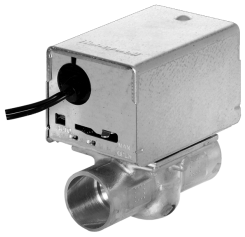
Motorized Zone Valves

V8043 Low Voltage Normally Closed Zone Valves

Flare Connection



NPT Connection



Sweat Connection

Sweat Connection with terminal block

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
Type: Two position
Body Pattern: Two-way, Straight-through
Valve Action: Spring return to close
Voltage: 24 Vac
Frequency: 50 Hz; 60 Hz
Power Consumption: 7.7 VA
Current Draw (A): 0.32A
De-energized Position: Normally Closed
Manual Opener: Yes

Fluid Temperature Range: 50 F to 200 F (10 C to 93 C)
Maximum Ambient Temperature: 125 F (52 C)
Comments: Use this valve in closed loop hydronic systems that do not contain dissolved oxygen in system water, such as fresh water from frequent source of makeup water.
Valve designed for cycling (not constantly powered on) applications.
Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Packing O-Ring): EPDM rubber
(Ball Plug): Buna-N (NBR) Rubber Ball
Approvals
Underwriters Laboratories, Inc: UL Listed: File MH11826

Replacement Parts:
802360JA-24V, 50 Hz; 60 Hz Replacement motor for V8043, V8044 Zone Valves
802360UA-24V, 50 Hz; 60 Hz Replacement motor for steam and heating Zone Valves

	US Material Number	Canadian Material Number	Capacity		Pipe Size		Connection Type	Auxiliary End Switch	Maximum Close-off Pressure		Electrical Connections
			(Cv)	(Kv)	inch	DN			(psi)	(kPa)	
	V8043A1003/U	**—**	3.5 Cv	3 Kv	1/2 in.	DN15	Flare	—	20 psi	138 kPa	18 in. (457 mm) leads
	V8043A1011/U	**V8043C1041/U**	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	—	20 psi	138 kPa	18 in. (457 mm) leads
	V8043A1029/U	**V8043C1074/U**	3.5 Cv	3 Kv	3/4 in.	DN20	Sweat	—	20 psi	138 kPa	18 in. (457 mm) leads
	V8043A1037/U	**V8043C1066/U**	3.5 Cv	3 Kv	1 in.	DN25	Sweat	—	20 psi	138 kPa	18 in. (457 mm) leads
*	**V8043A1193/U**	**V8043C1124/U**	3.5 Cv	3 Kv	1/2 in.	DN15	Inverted Flare	—	20 psi	138 kPa	18 in. (457 mm) leads
	V8043A1227/U	**—**	3.5 Cv	3 Kv	1/2 in.	DN15	NPT	—	20 psi	138 kPa	18 in. (457 mm) leads
*	**V8043E1004/U**	**V8043G1000/U**	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	N.O. SPST	20 psi	138 kPa	18 in. (457 mm) leads
*	**V8043E1012/U**	**V8043G1018/U**	3.5 Cv	3 Kv	3/4 in.	DN20	Sweat	N.O. SPST	20 psi	138 kPa	18 in. (457 mm) leads
*	**V8043E1020/U**	**V8043G1026/U**	3.5 Cv	3 Kv	1 in.	DN25	Sweat	N.O. SPST	20 psi	138 kPa	18 in. (457 mm) leads
	V8043E1061/U	**V8043G1174/U**	8 Cv	6.9 Kv	3/4 in.	DN20	Sweat	N.O. SPST	8 psi	55 kPa	18 in. (457 mm) leads
	V8043E1079/U	**V8043G1158/U**	8 Cv	6.9 Kv	1 in.	DN25	Sweat	N.O. SPST	8 psi	55 kPa	18 in. (457 mm) leads
*	**V8043E1129/U**	**V8043G1125/U**	3.5 Cv	3 Kv	1/2 in.	DN15	Inverted Flare	N.O. SPST	20 psi	138 kPa	18 in. (457 mm) leads
	V8043E1137/U	**V8043G1182/U**	10 Cv	8.6 Kv	1 in.	DN25	NPT	N.O. SPST	6.5 psi	45 kPa	18 in. (457 mm) leads
	V8043E1145/U	**V8043G1109/U**	3.5 Cv	3 Kv	3/4 in.	DN20	NPT	N.O. SPST	20 psi	138 kPa	18 in. (457 mm) leads
*	**V8043F1028/U**	**V8043F1127/U**	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	N.O. SPST	20 psi	138 kPa	screw terminal block
*	**V8043F1036/U**	**V8043F1135/U**	3.5 Cv	3 Kv	3/4 in.	DN20	Sweat	N.O. SPST	20 psi	138 kPa	screw terminal block
*	**V8043F1051/U**	**V8043F1119/U**	3.5 Cv	3 Kv	1 in.	DN25	Sweat	N.O. SPST	20 psi	138 kPa	screw terminal block
	V8043F1093/U	**—**	8 Cv	6.9 Kv	3/4 in.	DN20	Sweat	N.O. SPST	8 psi	55 kPa	screw terminal block
	V8043F1101/U	**—**	8 Cv	6.9 Kv	1 in.	DN25	Sweat	N.O. SPST	8 psi	55 kPa	screw terminal block

** TRADELINE models • SUPER TRADELINE models*

V8043 Low Voltage Normally Open Valves For Steam

Sweat Connection

NPT Connection

On-off and two way low voltage valves consist of an actuator and valve assembly for controlling the flow of low pressure steam.

- 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.
- Suitable for use 15 psi low pressure steam application.

Application: Steam (low pressure) Control
Type: Two position
Body Pattern: Two-way, Straight-through
Valve Action: Spring return to open
Voltage: 24 Vac
Frequency: 50 Hz; 60 Hz
Current Draw (A): 0.42A
De-energized Position: Normally Open
Manual Opener: No
Power Consumption: 7.7 VA
Nominal Timing (sec, min): De-energized Position: Normally Open
Electrical Connections: 18 in. leads (457 mm leads)
Fluid Temperature Range: 50 F to 240 F (10 C to 116 C)
Maximum Ambient Temperature: 125 F (52 C)

Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Packing O-Ring): EPDM rubber
(Ball Plug): EPDM Rubber Ball
Comments: For low pressure (15 psi) steam application

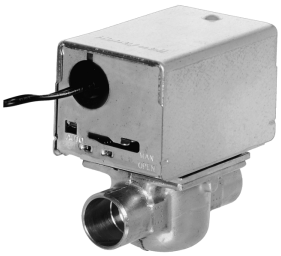
Approvals
Underwriters Laboratories, Inc: UL Listed: File MH11826

Replacement Parts:
802360UA-24V, 50 Hz; 60 Hz Replacement motor for steam and heating Zone Valves

	Capacity		Pipe Size			Maximum Close-off Pressure	
Material Number	(Cv)	(Kv)	inch	DN	Connection Type	(psi)	(kPa)
V8043J1003/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa
V8043J1029/U	3.5 Cv	3 Kv	1/2 in.	DN15	NPT	20 psi	138 kPa
V8043J1037/U	3.5 Cv	3 Kv	3/4 in.	DN20	NPT	20 psi	138 kPa

Motorized Zone Valves

V8043 Low Voltage Normally Open Zone Valves



Sweat Connection

NPT Connection

On-off and two-way 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.
- 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.
- No Manual opener

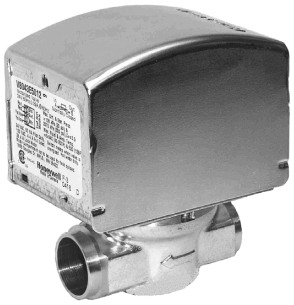
Application: Hydronic Control
Type: Two position
Body Pattern: Two-way, Straight-through
Valve Action: Spring return to open
Voltage: 24 Vac
Power Consumption: 7.7 VA
Current Draw (A): 0.32A
De-energized Position: Normally Open
Manual Opener: No
Nominal Timing (sec, min): De-energized Position: Normally Open
Electrical Connections: 18 in. leads (457 mm leads)
Fluid Temperature Range: 40 F to 200 F (5 C to 93 C)
Maximum Ambient Temperature: 125 F (52 C)
Comments: Use this valve in closed loop hydronic systems that do not contain dissolved oxygen in system water, such as fresh water from frequent source of makeup water.
Valve designed for cycling (not constantly powered on) applications.

Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Packing O-Ring): EPDM rubber
(Ball Plug): Buna-N (NBR) Rubber Ball
Approvals
Underwriters Laboratories, Inc: UL Listed: File MH11826

Replacement Parts:
802360JA-24V, 50 Hz; 60 Hz Replacement motor for V8043, V8044 Zone Valves
802360UA-24V, 50 Hz; 60 Hz Replacement motor for steam and heating Zone Valves

US Material Number	Canadian Material Number	Capacity		Pipe Size		Connection Type	Maximum Close-off Pressure		Frequency
		(Cv)	(Kv)	inch	DN		(psi)	(kPa)	
V8043B1019/U	**V8043D1156/U**	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	60 Hz
V8043B1027/U	**V8043D1064/U**	3.5 Cv	3 Kv	3/4 in.	DN20	Sweat	20 psi	138 kPa	60 Hz
V8043B1076/U	**V8043D1031/U**	3.5 Cv	3 Kv	3/4 in.	DN20	NPT	20 psi	138 kPa	50 Hz; 60 Hz

V8043 Low Voltage Series 5000 QuickFit® Zone Valves

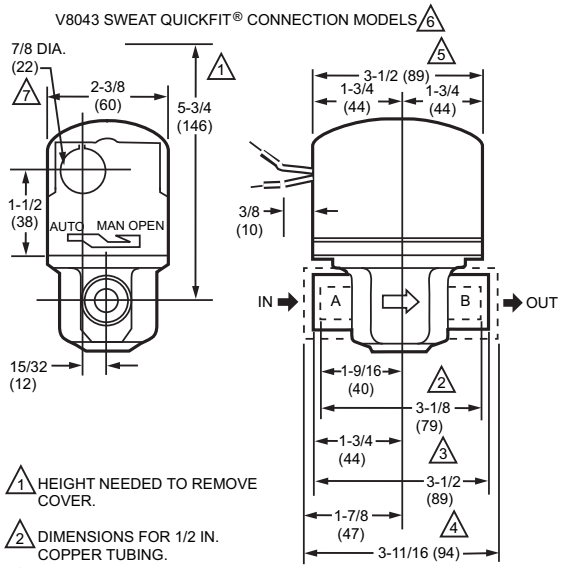


Sweat Connection

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 inches (millimeters)



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 4-7/8 IN. (124) 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

M23257

Application: Hydronic Control
Type: Two position
Body Pattern: Two-way, Straight-through
Valve Action: Spring return to close
Voltage: 24 Vac
Frequency: 60 Hz
Power Consumption: 7.2 VA
Current Draw (A): 0.32A
De-energized Position: Normally Closed
Manual Opener: Yes
Fluid Temperature Range: 50 F to 200 F (10 C to 93 C)
Maximum Ambient Temperature: 125 F (52 C)

Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Packing O-Ring): EPDM rubber
(Ball Plug): Buna-N (NBR) Rubber Ball

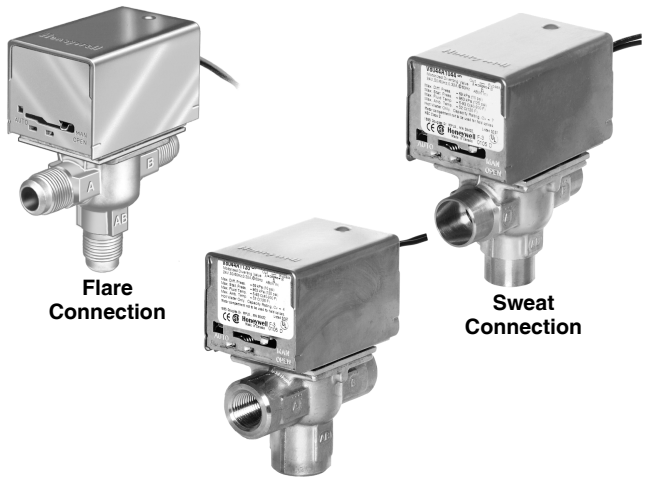
Comments: Use this valve in closed loop hydronic systems that do not contain dissolved oxygen in system water, such as fresh water from frequent source of makeup water.
Valve designed for cycling (not constantly powered on) applications.

Approvals
Underwriters Laboratories, Inc: CSA C/US: File 1322

US Material Number	Canadian Material Number	Capacity		Pipe Size		Connection Type	Auxiliary End Switch	Maximum Close-off Pressure		Electrical Connections
		(Cv)	(Kv)	inch	DN			(psi)	(kPa)	
V8043A5011/U	—	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	—	20 psi	138 kPa	18 in. (457 mm) leads
V8043A5029/U	**V8043C5058/U**	3.5 Cv	3 Kv	3/4 in.	DN20	Sweat	—	20 psi	138 kPa	18 in. (457 mm) leads
V8043E5004/U	**V8043G5000/U**	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	N.O. SPST	20 psi	138 kPa	18 in. (457 mm) leads
V8043E5012/U	**V8043G5018/U**	3.5 Cv	3 Kv	3/4 in.	DN20	Sweat	N.O. SPST	20 psi	138 kPa	18 in. (457 mm) leads
V8043E5020/U	—	3.5 Cv	3 Kv	1 in.	DN25	Sweat	N.O. SPST	20 psi	138 kPa	18 in. (457 mm) leads
V8043E5061/U	—	8 Cv	6.9 Kv	3/4 in.	DN20	Sweat	N.O. SPST	8 psi	55 kPa	18 in. (457 mm) leads
V8043E5079/U	—	8 Cv	6.9 Kv	1 in.	DN25	Sweat	N.O. SPST	8 psi	55 kPa	18 in. (457 mm) leads
V8043F5036/U	—	3.5 Cv	3 Kv	3/4 in.	DN20	Sweat	N.O. SPST	20 psi	138 kPa	screw terminal block
V8043F5051/U	—	3.5 Cv	3 Kv	1 in.	DN25	Sweat	N.O. SPST	20 psi	138 kPa	screw terminal block
V8043F5093/U	—	8 Cv	6.9 Kv	3/4 in.	DN20	Sweat	N.O. SPST	8 psi	55 kPa	screw terminal block

Motorized Zone Valves

V8044 Low Voltage Diverting Valves



Flare Connection

Sweat Connection

NPT Connection

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

- Manual opener (on all models, except straight-through, normally open valves) for valve operation on power failure; valve returns to automatic position when power is restored.
- All models may be installed without disassembling the valve.
- Compact construction for easy installation.
- Complete powerhead may be removed or replaced without breaking plumbing line connections or draining the system.
- Actuator motor may be replaced without removing the valve body or draining the system.

Application: Hydronic Control
Type: Two position
Body Pattern: Three-way, Diverting
Valve Action: Spring Return
Voltage: 24 Vac
Frequency: 50 Hz; 60 Hz
Power Consumption: 7.7 VA
Current Draw (A): 0.32A
De-energized Position: Port A Normally Closed
Manual Opener: Yes
Electrical Connections: 18 in. leads (457 mm leads)
Fluid Temperature Range: 40 F to 200 F (5 C to 93 C)
Maximum Ambient Temperature: 125 F (52 C)
Comments: Use this valve in closed loop hydronic systems that do not contain dissolved oxygen in system water, such as fresh water from frequent source of makeup water.
Valve designed for cycling (not constantly powered on) applications.

Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Packing O-Ring): EPDM rubber
(Ball Plug): Buna-N (NBR) Rubber Ball

Approvals
Underwriters Laboratories, Inc: UL Listed: File MH11826

Replacement Parts:
802360JA-24V, 50 Hz; 60 Hz Replacement motor for V8043, V8044 Zone Valves
802360UA-24V, 50 Hz; 60 Hz Replacement motor for steam and heating Replacement Parts:

Material Number	Capacity (Cv)	Capacity (Kv)	Pipe Size inch	Pipe Size DN	Connection Type	Auxiliary End Switch	Maximum Close-off Pressure (psi)	Maximum Close-off Pressure (kPa)	Includes
V8044A1002/U	4 Cv	3.4 Kv	1/2 in.	DN15	Flare	—	20 psi	138 kPa	—
V8044A1010/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	—	20 psi	138 kPa	—
V8044A1044/U	7.0 Cv	6 Kv	3/4 in.	DN20	Sweat	—	10 psi	69 kPa	—
V8044A1051/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	—	20 psi	138 kPa	Restricted 2.5 Cv bypass port.
V8044A1135/U	4 Cv	3.4 Kv	1/2 in.	DN15	NPT	—	20 psi	138 kPa	—
V8044A1143/U	4 Cv	3.4 Kv	3/4 in.	DN20	NPT	—	20 psi	138 kPa	—
V8044B1018/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	—	20 psi	138 kPa	Integral SPDT changeover Aquastat controller
V8044E1003/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	N.O. SPST	20 psi	138 kPa	—
V8044E1011/U	7.0 Cv	6 Kv	3/4 in.	DN20	Sweat	N.O. SPST	10 psi	69 kPa	—

Y496 Zone Control Builder Packs

Contain devices necessary for temperature control of a single zone in a hydronic heating system.

- Include thermostat with special heat anticipator designed for best performance when used with the V8043 Zone Valve.
- Require 24 V power source.
- Custom packed with 10 Valves and 10 thermostats per carton.

Valve Dimensions: Valve: 4 in. high, 3-1/2 in. wide, 2 3/8 in. deep (Valve: 101 mm high x 90 mm wide x 60 mm deep)
Pipe Connection: Sweat
Body Pattern: Two-way
Valve Action: Spring return to close
Valve Capacity: 3.5 Cv (3 Kv)
Thermostat Electrical Rating: 24 V, 50 Hz; 60 Hz
Valve Electrical Rating: 24 Vac, 50/60 Vac
Thermostat Color: Premier White®
Comments: See valve and thermostat for more details.

Approvals
Underwriters Laboratories, Inc: UL Listed: Models V8043A,B,E,J & V8044A,B,E; UL Component Recognized: V8043F

Material Number	Y-Pack Includes
Y496A1074	V8043E1012, T822K1018
Y496A1082	V8043E1004, T822K1018
Y496A1090	V8043E1061, T822K1018
Y496B1024	V8043E1012, T87K1007
Y496B1040	V8043F1036, T87K1007
Y496E1005	V8043A1029, TH5110D1006
Y496E1013	V8043E1004, TH5110D1006
Y496E1021	V8043E1012, TH5110D1006

		Thermostat						Valve				
			Anticipator Adj.		Temperature Range			Pipe Size	Maximum Close-off Pressure		Valve Aux Switch Ratings	
	Material Number	Application	Heating	Cooling	(F)	(C)	Current	inch	(psi)	(kPa)		Includes
*	**Y496A1074/U**	Single Stage Heating Only	0.18 to 1.0 A	—	55 to 95 F	13 to 35 C	—	3/4 in.	20 psi	138 kPa	50 VA pilot duty @ 24 V; 4.4 A running @ 120 V	—
*	**Y496A1082/U**		0.18 to 1.0 A	—	55 to 95 F	13 to 35 C	—	1/2 in.	20 psi	138 kPa		—
*	**Y496A1090/U**		0.18 to 1.0 A	—	55 to 95 F	13 to 35 C	—	3/4 in.	8 psi	55 kPa		—
*	**Y496B1024/U**	Single Stage Heating and Cooling	0.1 to 1 2 A	0.0 to 1.5 A	40 to 90 F	4 to 32 C	—	3/4 in.	20 psi	138 kPa		104456B Wallplate
*	**Y496B1040/U**		0.1 to 1 2 A	0.0 to 1.5 A	40 to 90 F	4 to 32 C	—	3/4 in.	20 psi	138 kPa		104456B Wallplate
*	**Y496E1005/U**		—	—	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	Cooling: 1.0 A running; Heating: 1.0 A running; Fan: 0.5 A running	3/4 in.	20 psi	138 kPa	—	—
*	**Y496E1013/U**		—	—				1/2 in.	20 psi	138 kPa	50 VA pilot duty @ 24 V; 4.4 A running @ 120 V	—
*	**Y496E1021/U**		—	—				3/4 in.	20 psi	138 kPa		—

** TRADELINE models • SUPER TRADELINE models*

Zone Valve Replacement Parts

Material 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	

US Adapter Kits

Material Number	Description	Includes
40003918-006/U	Adapter kit for V4043, V8043, 2-way hydronic valves	Adapter plate, ball and shaft assembly, large O-ring and four mounting screws.
40003918-007/U	Adapter kit for V4044, V8044, 3-way diverting valves	Adapter plate, ball and shaft assembly, large O-ring and four mounting screws.
40003918-008/U	Adapter kit for V4043E, J, V8043J, low pressure steam valves	Adapter plate, ball and shaft assembly, large O-ring and four mounting screws.

Motorized Zone Valves

Zone Valves Replacement Heads

Maximum Ambient Temperature: 125 F (52 C)

US Material Number	Description	Electrical Connection Location	Voltage	Frequency	Aux Switch Ratings	Used With Valve Action	Used With Valve	
40003916-021/U	24 Vac, 50 Hz; 60 Hz Replacement head for V8043A	Same side of manual lever	24 Vac	50 Hz; 60 Hz	—	Spring return to close	Two-way	
40003916-023/U	240 Vac, 50 Hz Replacement head for V4043A, 240V, 50Hz	Same side of manual lever	240 Vac	50 Hz	—	Spring return to close	Two-way	
40003916-024/U	120 Vac, 60 Hz Replacement head for V4043A	Same side of manual lever	120 Vac	60 Hz	—	Spring return to close	Two-way	
40003916-025/U	24 Vac, 50 Hz; 60 Hz Replacement head with End Switch for V8044E	Same side of manual lever	24 Vac	50 Hz; 60 Hz	4.4 A running @ 120 V; 50 VA pilot duty @ 24 V	Spring return to close “A” port	Diverting	
40003916-026/U	24 Vac, 50 Hz; 60 Hz Replacement head with End Switch for V8043E	Same side of manual lever	24 Vac	50 Hz; 60 Hz	4.4 A running @ 120 V; 50 VA pilot duty @ 24 V	Spring return to close	Two-way	
40003916-027/U	24 Vac, 50 Hz; 60 Hz, N.O. Replacement head for V8043B	Same side of manual lever	24 Vac	50 Hz; 60 Hz	—	Spring return to open	Two-way	
40003916-030/U	240 Vac, 60 Hz, N.O. Replacement actuator for V4043B	Same side of manual lever	240 Vac	60 Hz	—	Spring return to open	Two-way	
40003916-031/U	120 Vac, 60 Hz, N.O. Replacement head for V4043B	Same side of manual lever	120 Vac	60 Hz	—	Spring return to open	Two-way	
40003916-032/U	24 Vac, 50 Hz; 60 Hz Replacement head for V8044A	On opposite side of manual lever	24 Vac	50 Hz; 60 Hz	—	Spring return to close “A” port	Diverting	
40003916-035/U	220/240 Vac, 50 Hz; 60 Hz	On opposite side of manual lever	240 Vac; 220 Vac	50 Hz; 60 Hz	—	Spring return to close “A” port	Diverting	
40003916-036/U	120 Vac, 60 Hz Replacement head for V4044	On opposite side of manual lever	120V	60 Hz	—	Spring return to close “A” port	Diverting	
40003916-037/U	24 Vac, 50 Hz; 60 Hz Replacement head for V8044B, With Aquastat Switch	On opposite side of manual lever	24 Vac	50 Hz; 60 Hz	—	Spring return to close “A” port	Diverting	
40003916-040/U	120 Vac, 60 Hz Replacement head for V8044B, With Aquastat Switch	On opposite side of manual lever	120 Vac	60 Hz	—	Spring return to close “A” port	Diverting	
40003916-041/U	120 Vac, 60 Hz Replacement head for V4043E, Steam Valve	Same side of manual lever	120 Vac	60 Hz	—	Spring return to close	Two-way	
40003916-043/U	24 Vac, 50 Hz; 60 Hz Replacement head with End Switch for V8044E	Same side of manual lever	24 Vac	50 Hz; 60 Hz	4.4 A running @ 120 V; 50 VA pilot duty @ 24 V	Spring return to close “A” port	Diverting	
40003916-044/U	24 Vac, 50 Hz; 60 Hz Replacement head for V8044B, with Aquastat	Same side of manual lever	24 Vac	50 Hz; 60 Hz	—	Spring return to close “A” port	Diverting	
40003916-045/U	120 Vac, 60 Hz Replacement head for V4044B, with Aquastat	Same side of manual lever	120 Vac	60 Hz	—	Spring return to close “A” port	Diverting	
40003916-046/U	24 Vac, 50 Hz; 60 Hz Replacement head for V8044A	Same side of manual lever	24 Vac	50 Hz; 60 Hz	—	Spring return to close “A” port	Diverting	
40003916-047/U	120 Vac, 60 Hz Replacement head for V4044A, 120V, 60Hz, with 96" leads	Same side of manual lever	120 Vac	60 Hz	—	Spring return to close “A” port	Diverting	
40003916-048/U	24 Vac, 50 Hz; 60 Hz Replacement head for V8043F, With End Switch	Same side of manual lever	24 Vac	50 Hz; 60 Hz	4.4 A running @ 120 V; 50 VA pilot duty @ 24 V	Spring return to close	Two-way	

US Material Number	Description	Electrical Connection Location	Voltage	Fre-quency	Aux Switch Ratings	Used With Valve Action	Used With Valve	
40003916-521/U	24 Vac, 50 Hz; 60 Hz Replacement head for V8043A 5000 series	Same side of manual lever	24 Vac	50 Hz; 60 Hz	—	Spring return to close	Two-way	
40003916-526/U	24 Vac, 50 Hz; 60 Hz Replacement head with End Switch, for V8043E 5000 series	Same side of manual lever	24 Vac	50 Hz; 60 Hz	4.4 A running @ 120 V; 50 VA pilot duty @ 24 V	Spring return to close	Two-way	
40003916-548/U	24 Vac, 50 Hz; 60 Hz Replacement head for V8043F, With End Switch	Same side of manual lever	24 Vac	50 Hz; 60 Hz	4.4 A running @ 120 V; 50 VA pilot duty @ 24 V	Spring return to close	Two-way	

Canada Replacement Power Heads

Canadian Material Number	Description	Electrical Connections	Voltage	Frequency	Used With Valve	
272748AB/U	24V Replacement motor for V Series Zone Valve	—	24 Vac		V8043	
272748ABP/U	24V, 50/60Hz replacement motor for V8043 zone valves	6 in. (152 mm) leads	24 Vac	50 Hz; 60 Hz	V8043	
272752DBP/U	120V, 60Hz replacement motor for V4043, V4044 zone valves	6 in. (152 mm) leads	120 Vac	60 Hz	V4043, V4044	
40003916-011/U	24V Replacement motor for V8043C	18 in.(457 mm) leads on same side of manual lever	24 Vac	60 Hz	V8043C	
40003916-012/U	24V, 60 Hz Replacement actuator for V8043G	18 in.(457 mm) leads on same side of manual lever	24 Vac	60 Hz	V8043G	
40003916-013/U	24V, 60 Hz Replacement actuator for V8043F	—	24 Vac	60 Hz	V8043F	
40003916-014/U	24V, 60 Hz Replacement actuator for V8043D	18 in.(457 mm) leads on same side of manual lever	24 Vac	60 Hz	Valves with Action of Spring return to open	
40003916-511/U	24V, 60 Hz Replacement actuator for V8043C “5000” series	18 in.(457 mm) leads	24 Vac	60 Hz	V8043C “5000” series	
40003916-512/U	24V, 60 Hz Replacement actuator for V8043G “5000” series	18 in.(457 mm) leads	24 Vac	60 Hz	V8043G “5000” series	

Canadian Adapter Kits

Material Number	Description	Includes
40003918-001/U	Adapter kit for converting three-way non-removable head style zone valves to removable head style for Three-way Zone Valves	Adapter plate, ball and shaft assembly, large O-ring and four mounting screws.
40003918-002/U	Adapter kit for converting straight-through (two-way) non-removable head style zone valves to removable head style for Straight-through (two-way) Zone Valves	Adapter plate, ball and shaft assembly, large O-ring and four mounting screws.

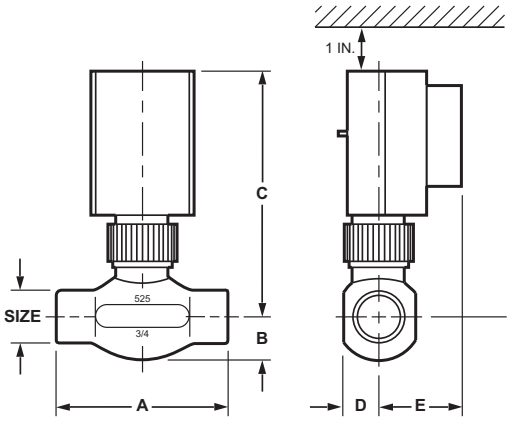
Motorized Zone Valves

MZV Series Motorized Zone valves

Honeywell MZV Series is the first linear zone valve with a built-in balancing plug that permits pre-balancing for each zone.

- Rack and pinion linear design.
- Fast acting, 15 seconds to open, 5 seconds to close.
- Two piece rack design to extend service life.
- Low power consumption, 8 valves, 40 VA transformer.
- External valve position indicator.
- Quiet operation, no water hammer.
- Built-in tamper resistant balancing valve for pre-balancing.
- High torque, constant speed synchronous motor.
- Cooler running, longer life motor.
- Operator can be replaced without draining system.
- Manual opening feature.
- Replaceable valve cartridge.
- Large adjustable flow, 1/2 in. 3/4 in. Cv 5.8; 1 in. 7.0 Cv; 1-1/4 in. Cv 7.0.
- Motor CSA recognized.
- 4 wire operator with auxiliary switch.
- 2 wire without switch, 24 in. leads.
- Compat ble with programmable thermostats.
- Bronze casting; brass/stainless trim.
- USA Patent Nos. 5,529,282; D369,650; 5,941,500; 6,032,924.
- UK Patent No. 2,052,382. 24 VAC, 60 Hz, 0.25 ampere.
- 30 mm collar (valve/actuator interface)

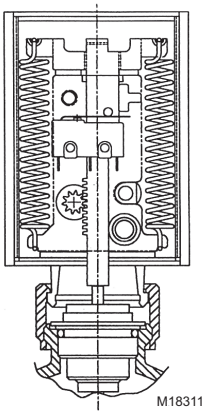
Dimensions in inches (millimeters)



MZV SERIES	VALVE SIZE	DIMENSIONS IN INCHES (MM)				
		A	B	C	D	E
524	1/2 IN.	3-5/16 (84)	1 (25)	4-13/16 (122)	11/16 (17)	1-5/8 (41)
525	3/4 IN.	3-5/16 (84)	13/16 (21)	4-13/16 (122)	11/16 (17)	1-5/8 (41)
526	1 IN.	3-13/16 (97)	1 (25)	4-13/16 (122)	13/16 (21)	1-5/8 (41)
527	1-1/4 IN.	3-13/16 (97)	1 (25)	4-13/16 (122)	13/16 (21)	1-5/8 (41)

M23259B

Patented long life rack and pinion design with built-in balancing valve



M18311

Application: Residential or Commercial Zoning for hot water heating or chilled water air conditioning systems, fan coil units or indirect water heater service.
Body Pattern: Two-way
Voltage: 24 Vac
Frequency: 60 Hz
Maximum Ambient Temperature: 125 F (52 C)

Material Number	Capacity (Cv)	Pipe Size		Connection Type	Auxiliary End Switch	Maximum Close-off Pressure		Maximum Water Pressure		Voltage	Frequency
		DN	inch			(psi)	(kPa)	(psi)	(kPa)		
MZV524-T/U	5.8 Cv	DN15	1/2 in.	NPT	—	20 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV524E-T/U	5.8 Cv	DN15	1/2 in.	NPT	SPST	20 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV525/U	5.8 Cv	DN20	3/4 in.	Sweat	—	20 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV525-T/U	5.8 Cv	DN20	3/4 in.	NPT	—	20 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV525E/U	5.8 Cv	DN20	3/4 in.	Sweat	SPST	20 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV525E-T/U	5.8 Cv	DN20	3/4 in.	NPT	SPST	20 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV526/U	7.0 Cv	DN25	1 in.	Sweat	—	17.5 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV526-T/U	7.0 Cv	DN25	1 in.	NPT	—	17.5 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV526E/U	7.0 Cv	DN25	1 in.	Sweat	SPST	17.5 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV526E-T/U	7.0 Cv	DN25	1 in.	NPT	SPST	17.5 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV527/U	7.0 Cv	DN32	1 1/4 in.	Sweat	—	17.5 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV527E/U	7.0 Cv	DN32	1 1/4 in.	Sweat	SPST	17.5 psi	—	125 psi	862 kPa	24 Vac	60 Hz

MZV Series Replacement Parts

Material Number	Description	Voltage	Frequency	Auxiliary End Switch	Maximum Close-off Pressure (psi)	Maximum Water Pressure		Maximum Ambient Temperature		
						(psi)	(kPa)	(F)	(C)	
MZV520-RP/U	Replacement operator for MZV 524/525/526/527 with end switch	24 Vac	60 Hz	SPST	—	—	—	240 F	115 C	
MZV521-RP	Replacement operator for MZV 524/525/526/527 without end switch	24 Vac	60 Hz	No	—	—	—	240 F	115 C	
MZV525-RP/U	Replacement valve cartridge for 1/2 in. (MZV524, MZV524E) and 3/4 in. (MZV525, MZV525E) valves	24 Vac	60 Hz	—	20 psi	125 psi	862 kPa	240 F	115 C	
MZV526-RP/U	Replacement valve cartridge for 1 in. (MZV526, MZV526E) and 1 1/4 in. (MZV527, MZV527E) valves	24 Vac	60 Hz	—	17.5 psi	125 psi	862 kPa	240 F	115 C	
SZ07-070/U	Conversion kit, telestat to Powertrack (MZV). Order with MZV520-RP. Includes adapter ring and shaft extension.	—	—	No	—	—	—	—	—	

MT4 Series Smart-T Thermal Electric Actuator

- No mounting tools required. Mounts easily to manifold with valve adapter (included)
- Waterproof housing
- Auxiliary switch models for driving pumps or fans
- Low power consumption
- Normally closed action
- Compact design - installs in tight spaces
- Visual indicator shows valve position
- Silent operation
- Reliable long-term operation

Materials (Body): Plastic
Dimensions, Approximate: 2.24 high x 1.77 long x 1.65 deep

Current Draw: < 0.1A while operating; 0.7A during first 500 milliseconds
Maximum Fluid Temperature: 248 F (120 C)

Material Number	Connection Type	Collar Diameter		Description	Used With
		inch	mm		
MT4-024S-NC-USA	Threaded	1 3/16 in.	30 mm	MT4 Thermal Electric Actuator	RM Series Manifolds

RM Series Manifold Accessories

Materials (Body): Brass/Plastic

Used With: RM Series Manifolds

Material Number	Connection Type	Connection Size	Description
FM100/U	Threaded	—	RM Series Manifold Flow Meter Replacement Top
MA206-019/U	PEX	R32 x 1 in.	R32 x 1 in. PEX Adapter
MA206-020/U	NPT	R32 x 1 in.	R32 x 1 in. NPT Adapter
MA206-022/U	Sweat	R32 x 1 1/4 in.	R32 x 1 1/4 in. Sweat Adapter
MC206-010/U	—	—	RM Series Union Coupling Gasket
MPF203-023/U	Threaded	3/4 in	RM Series Manifold Branch Cap
MTK202/U	Threaded	1 in	RM Series Manifold Union End Fitting with Thermometer

AquaPUMP™ Hydronic Circulating Pumps

PC3F2699

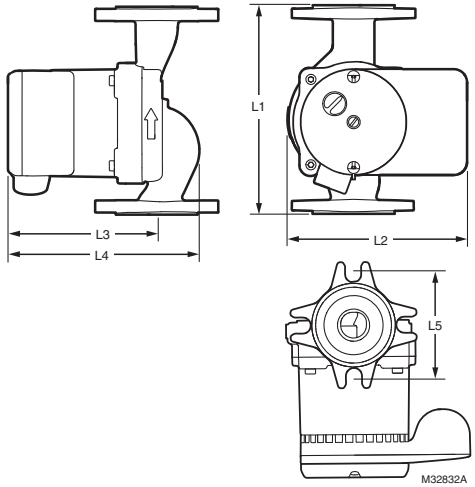
PC3F4344

PC3F1558

The PC3F in-line, wet rotor circulator with universal flange is designed for applications in closed-loop hydronic heating and cooling systems, as well as in solar systems. The pump is non-submersible and for use in dry, frost-free, well-ventilated installations.

- Twist-To-Fit Universal Flange, Rotates 90° to fit most installations with a single product
- Three pump sizes cover every application
- 3-Speed Versatility maximize efficiency and provide sufficient flow rates with a single pump
- Universal Design replaces wide range of competitive models with just one brand

Hydronic Circulating Pump dimensions diagram



Dimensions in inches (millimeters)

Pump Model	L1	L2	L3	L4	L5
PC3F1558IUF00	6-1/2 (165.5)	5-1/2 (140)	4.7 (118)	6.6 (167)	3-5/32 (80.2)
PC3F2699IUF00	6-1/2 (165.5)	6.1 (155)	6.5 (165)	7.8 (197)	3-5/32 (80.2)
PC3F4344IUF00	8-1/2 (216)	6.1 (155)	6.9 (174)	8.9 (227)	3-7/16 (87.3)

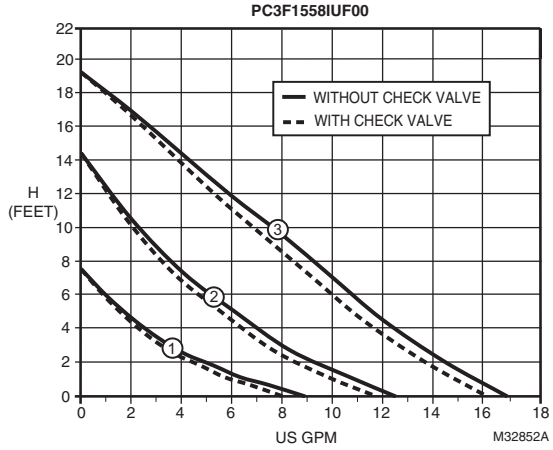
Maximum Noise Rating: Driving (dB(A) @ 1m)-- 43
Maximum Water Pressure (psi): 145 psi
Voltage: 115V at 60 Hz
Ambient Temperature Range: 32 F to 104 F (0 C to 40 C)
Fluid Temperature: 230 F (110 C) Maximum
With optional check valve installed - 200 F (95 C) Maximum
Materials: Housing--Cast Iron; Bearings and Shaft--Ceramic

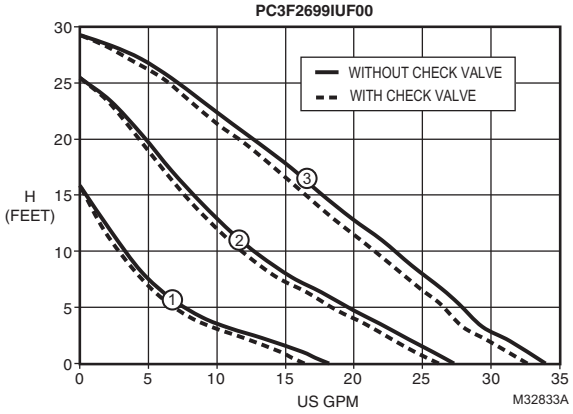
Material Number	Maximum Flow Rate (gpm)	Pressure Head	Dimensions	Weight (lb)
PC3F1558IUF00/U	15 gpm	19	6-1/2 in. A to B ports End to End	7.8 ib
PC3F2699IUF00/U	25 gpm	31	6-1/2 in. A to B ports End to End	9.5 ib
PC3F4344IUF00/U	45 gpm	17	8-1/2 in. A to B ports End to End	12.3 ib

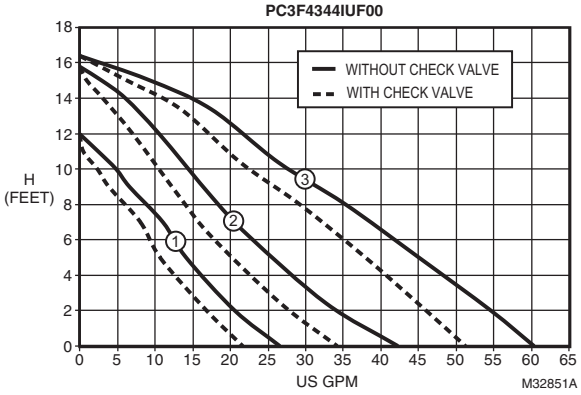
AquaPUMP Accessories

Material Number	Fluid Temperature (F)	Fluid Temperature (C)	Size	Description	
PCG100/U	230 F Maximum	110 C Maximum	1 in.	1 inch Circulating Pump Flange Gasket	
PCG125/U	230 F Maximum	110 C Maximum	1-1/4 in.	1-1/4 inch Circulating Pump Flange Gasket	
PCG150/U	230 F Maximum	110 C Maximum	1-1/2 in.	1-1/2 inch Circulating Pump Flange Gasket	
PCV100/U	200 F Maximum	93 C Maximum	1 in.	1 inch Circulating Pump Check Valve	
PCV125/U	200 F Maximum	93 C Maximum	1-1/4 in.	1-1/4 inch Circulating Pump Check Valve	
PCV150/U	200 F Maximum	93 C Maximum	1-1/2 in.	1-1/2 inch Circulating Pump Check Valve	

Flow Curves







AquaPUMP™ cross-reference

Use this tool to meet your installation needs. Each Honeywell circulator replaces both regular and rotated flange models.

Honeywell				Grundfos		Taco		Bell & Gossett	Armstrong	Wilo	
Material Number	**Pump Length**	**Max Flow**	**Speed**	**Single Speed**	**3-Speed**	**Single Speed**	**3-Speed**			**Single Speed**	**3-Speed**
PC3F1558IUF00	6.5 in.	15 gpm	High	UP-42F UP-42F-FC	UPS15-58 High UPS15-58-FC High	005F 007F 008F 008F-IFC	00R High 00R Med	NRF-22 LR-20WR	Astro 30 Astro 30-3 Astro 50-3 Astro 230C1	Star 16	Star S16 High
			Medium	UP15-42FC	UPS15-58 Low UPS15-58-FC Low	005F-IFC 006F 006F-IFC 007F-IFC	00R Low	NRF9F/LW NRF-25 Med			Star S16 Med
			Low	UP15-18F UP15-18F-FC							Star 5 S16 Low
PC3F2699IUF00	6.5 in.	34 gpm	High	UP26-96F UP26-96F-FC UP26-116F UP26-116F-FC	UPS26-99 High UPS26-99-FC High	0011F 0011F-IFC 0013F 0013F-IFC		NRF-36 Med NRF-45 Med H-41	E7 Astro 50 Astro 50-3	Star 30F Star 32F	S21 High
			Medium	UP26-64F UP26-99FC	UPS26-99 Low UPS26-99-FC Low	0014F 0014F-IFC				Star 17 FX	S21 Med
			Low					NRF-33			Star S21 Low
PC3F4344IUF00	8.5 in.	59 gpm	High	UP43-44F UP43-44F-FC	UPS43-44 High UPS43-44-FC High			HV H-32	E16		
			Medium		UPS43-44 Med UPS43-44-FC Med	0010F 0012F-IFC	0010 Med	NRF-33	H32		
			Low		UPS43-44 Low UPS43-44-FC Low	0010F-IFC	0010 Low				

The information in this table is based on publicly available information as of the date of this publication. Honeywell is not liable if information is found to be incorrect.
If the cross referenced model uses a flow check valve, then use a flow check with the Honeywell model as well.

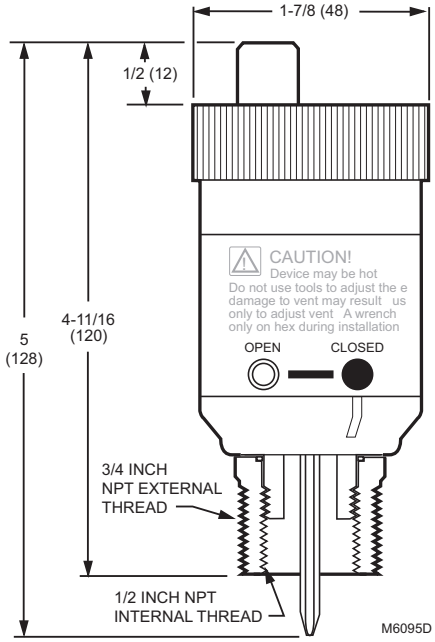
Air Vents and Eliminators

EA79 Industrial Air Vents

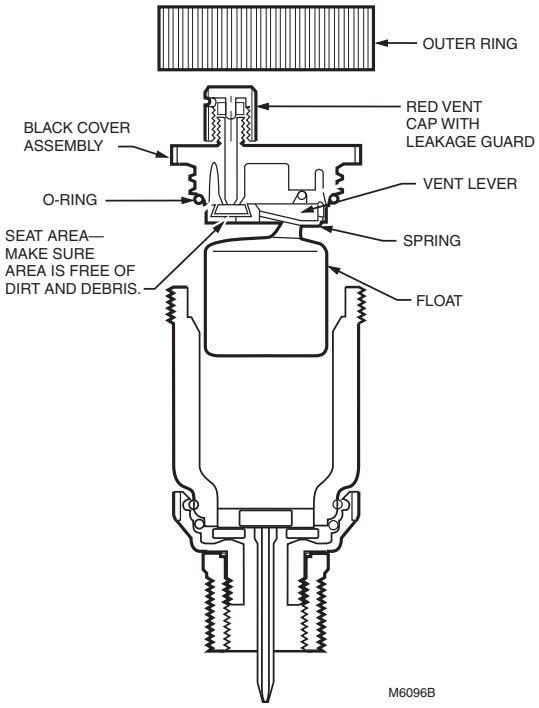
The Honeywell EA79 Industrial Air Vent purges air from high pressure mains and equipment in hot or cold closed water systems.

- Built-in shutoff valve for servicing without system shutdown.
- Built-in vacuum breaker.
- Removable float/valve assembly for easy servicing.
- Safety drain connection and vent cap with leakage guard.
- Brass shell construction.
- Internal parts made of corrosion-resistant and chemical-resistant materials for use with water systems containing propylene glycol, mineral oils, or petroleum-based oils. Replaces Hoffman # 79 or Dole # 75 Vents.
- Maintains quiet and efficient operation.

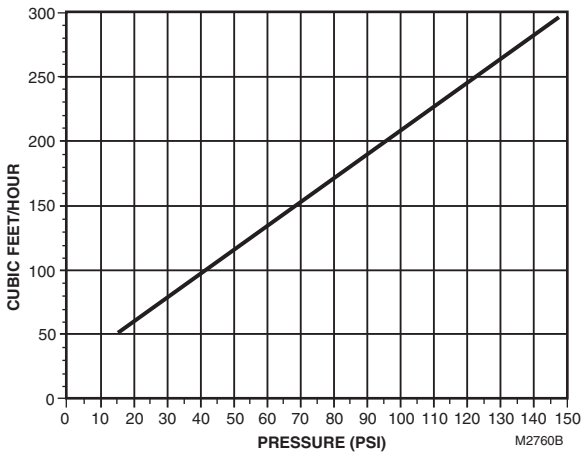
Dimensions in inches (millimeters)



EA79 construction



EA79 capabilities



Application: Hydronics
Corrosion Resistant: Internal parts made of corrosion-resistant and chemical-resistant materials for use with hydronic systems that may contain concentrations of propylene or ethylene glycol.
Maximum Operating Temperature: 250 F (120C)
Maximum Operating Pressure: 150 psi (1034 kPa)

Accessories:
Q122A1001-Safe waste connector (M20 thread connection)

Replacement Parts:
P79B1003-Replacement O-ring, cover and internals for EA79A1004

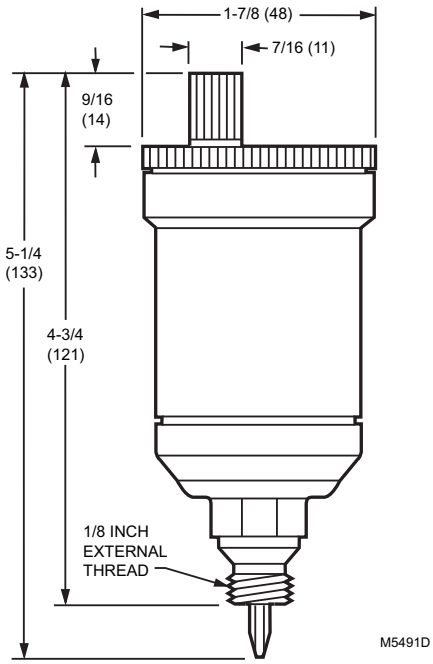
Material Number	Connection Type	Connection Size	Description
EA79A1004	3/4 in. male NPT pipe thread with 1/2 in. female NPT pipe thread	3/4 in.	Industrial automatic air vent

EA122A Automatic Air Vent for Non-Heating System Applications

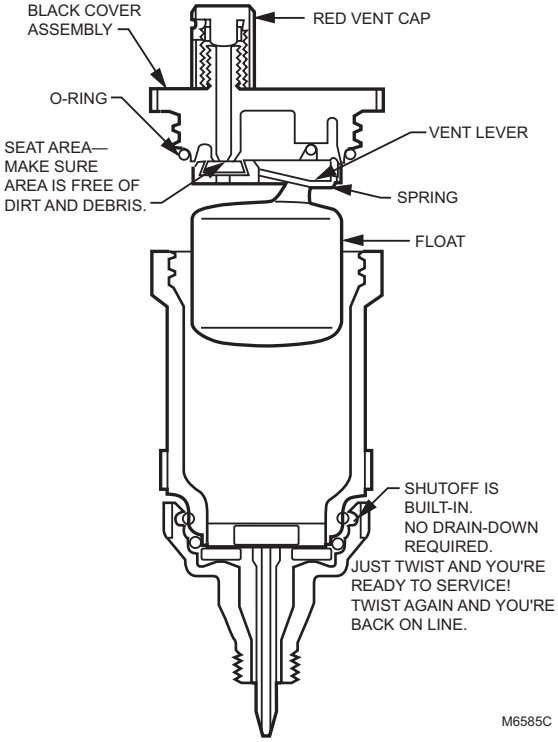
The Honeywell EA122A Automatic Air Vent purges air from high pressure mains and equipment in hot or cold potable water systems.

- Includes removable float/valve assembly for easy servicing.
- Not for use in steam systems.
- Body, cover and float assembly made of thermoplastics.
- Internal parts made of corrosion-resistant and chemical-resistant materials for use with water systems containing light concentrations of propylene glycol, mineral oils, or petroleum-based oils.
- Oil resistant seal.
- EPDM seat disc and O-ring.

Dimensions in inches (millimeters)



EA122A construction



Application: Potable water installations
Dimensions (approximate): 5 1/4 in. long x 1 7/8 in. diameter (133 mm long x 48 mm diameter)
Corrosion Resistant: Internal parts made of corrosion-resistant and chemical-resistant materials for use with hydronic systems that may contain concentrations of propylene or ethylene glycol.
Maximum Operating Temperature: 212 F (100 C)
Maximum Operating Pressure: 90 psi (620 kPa)

Accessories:
Q122A1001-Safe waste connector (M20 thread connection)

Replacement Parts:
900761-Red Vent cap for Air Vent
P122B1010-Cover assembly including cover, float assembly and vent cap

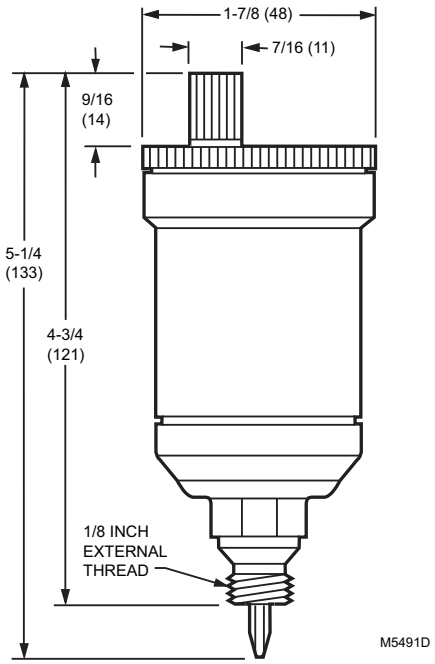
Material Number	Connection Type	Connection Size	Description
EA122A1028	Male NPT	1/8 in.	Automatic air vent with built-in shut off valve; includes EPDM seat disc and O-ring.
EA122B117/U	Male NPT	1/8 in.	Automatic Air vent without build-in shutoff valve or leakage guard; includes EPDM seat disc and O-ring.

EA122A Automatic Air Vent for Heating System Applications

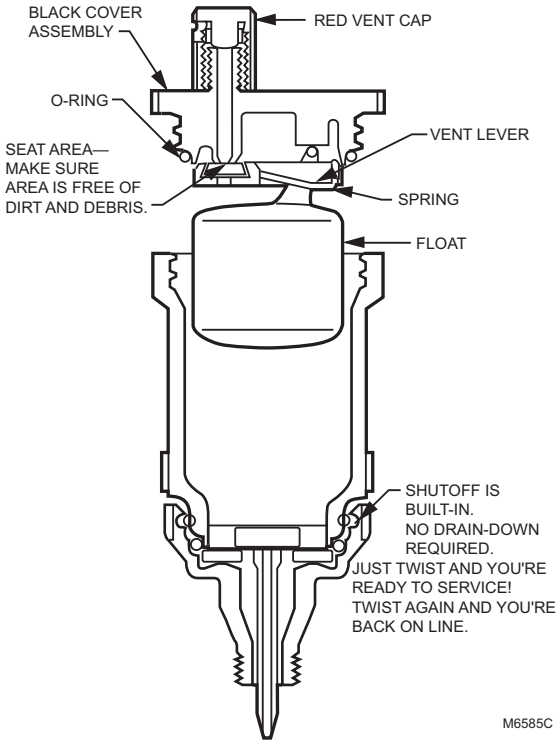
The Honeywell EA122A Automatic Air Vent purges air from high pressure mains and equipment in hot or cold closed water systems.

- Includes removable float/valve assembly for easy servicing.
- Not for use in steam systems.
- Body, cover and float assembly made of thermoplastics.
- Internal parts made of corrosion-resistant and chemical-resistant materials for use with water systems containing light concentrations of propylene glycol, mineral oils, or petroleum-based oils.
- Oil resistant seal.
- NBR seat disc and O-ring.

Dimensions in inches (millimeters)



EA122A construction



Application: Hydronic heating and cooling
Corrosion Resistant: Internal parts made of corrosion-resistant and chemical-resistant materials for use with hydronic systems that may contain concentrations of propylene or ethylene glycol.
Maximum Operating Temperature: 212 F (100 C)
Maximum Operating Pressure: 90 psi (620 kPa)

Accessories:
Q122A1001-Safe waste connector (M20 thread connection)

Replacement Parts:
P122B1002-Cover assembly including cover, float assembly and vent cap

Material Number	Connection Type	Connection Size	Description
EA122A1002	Male NPT	1/8 in.	Automatic air vent with built-in shutoff valve and leakage guard, oil resistant

Air Vent Accessories and Replacement Parts

Material Number	Description	Used With
P122B1002	Cover assembly including cover, float assembly and vent cap	EA122A1002;
P122B1010	Cover assembly including cover, float assembly and vent cap	EA122A1028;
P79B1003	Replacement O-ring, cover and internals for EA79A1004	EA79A1004;
Q122A1001/U	Safe waste connector (M20 thread connection)	EA79; EA122A;

GoldTop™–Universal Air Vent for Residential and Commercial Heating and Cooling Systems.

Installers, wholesalers and OEMs can now stock one vent for all their venting needs between 1 and 150 psi systems and obtain the highest venting performance. Honeywell has reinvented the vent! Air vents have been removing air from heating and cooling systems for decades. Some were better than others. Many stopped venting after initial filling. No one has, up to now, been able to design a low cost vent that performs at both low and high pressures. It was always one or the other. Honeywell's revolutionary patented fulcrum design offers a venting rate of 3-4 times that of other products. It works when others stop venting at higher pressures. The GoldTop offers convenient, one-fits-all concept and is competitively priced.

- Patent No. 5,988,201.

Application: Residential or commercial heating and cooling systems
Dimensions, Approximate: 1 27/32 in. diameter x 3 1/4 in. long (24 mm diameter x 83 mm long)
Materials (Body): Brass

Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 150 psi (1034 kPa)

Material Number	Connection Type	Connection Size	Weight		Description
			lb	kg	
FV180/U	Male NPT	1/8 in.	0.4 b	0.18 kg	1/8 in. NPT Goldtop Universal Air Vent for heating and cooling systems
FV180A/U	Male NPT	1/4 in.	0.4 b	0.18 kg	1/4 in. NPT Goldtop Universal Air Vent for heating and cooling systems
FV183/U	Male NPT	3/4 in.	0.4 b	0.18 kg	3/4 in. NPT Goldtop Universal Air Vent for heating and cooling systems

Hygrovent–Automatic Vent for Hot Water or Steam

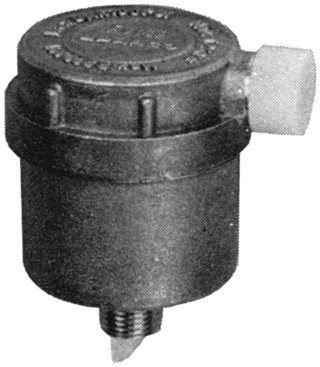
The Honeywell Hygrovent is an automatic air vent for hot water and steam systems. Install in baseboards, radiators, convectors and high points in piping systems to remove air. The nickel-plated valve has a quick venting design and a positive shut-off ball check.

Application: Hot water or steam
Dimensions, Approximate: 1 27/32 in. diameter x 3 1/4 in. long (24 mm diameter x 83 mm long)
Materials (Body): Nickel Plated
Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: Water: 125 psi; Steam: 10 psi

Material Number	Connection Type	Connection Size	Weight		Description
			lb	kg	
HV190/U	Male NPT	1/8 in.	0.6 lb	0.3 kg	1/8 in. NPT Automatic Air Vent for hot water or steam

Air Vents and Eliminators

MaxiVent™–Air Vent for heating and cooling systems



The Maxivent features a low profile, fit anywhere solid brass body and cover, and a high temperature polypropylene float.

Application: Residential or commercial heating and cooling systems
Dimensions, Approximate: 2 in. high x 1 5/32 in. diameter (51 mm high x 29 mm diameter)
Materials (Body): Brass
Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 150 psi (1034 kPa)

Material Number	Connection Type	Connection Size	Weight		Description
			lb	kg	
FV147/U	Male NPT	1/8 in.	0.12 lb	0.06 kg	1/8 in. NPT Air Vent for heating and cooling systems
FV147A/U	Male NPT	1/4 in.	0.12 lb	0.06 kg	1/4 in. NPT Air Vent for heating and cooling systems

AP400 Air Purger

Air Purgers provide efficient separation of air and water in hydronic heating systems. Heavy duty cast bronze construction with tappings for expansion tank and automatic air vent mountings. Removes entrapped air with internal baffle design through continuous recirculation of heating system water with use of air vent. Improves system efficiency, reduces noise and helps extend component life.

- Heavy Duty cast iron construction
- 1 inch, 1 1/4 and 1 1/2 inch models (inlet and outlet)
- 1/2 inch bottom tapping for expansion tank mount
- 1/8 inch top tapping for air vent mount
- Directional flow arrow for correct installation

Application: Closed heating systems
Dimensions (approximate): 6 in. long x 3-3/4 in. high x 2-3/8 in. wide (152 mm long x 95 mm high x 60 mm wide)
Materials (Body): Cast Iron

Maximum Operating Temperature: 275 F (135 C)
Maximum Operating Pressure: 125 psi (862 kPa)

Material Number	Connection Type	Pipe Size	Connection Size	Weight		Description
				lb	kg	
AP400/U	Female NPT	1 in.	Bottom: 1/2 in.; Top: 1/8 in.	4.2 lb	1.9 kg	1 in. NPT Air Purger for closed heating systems
AP401/U	Female NPT	1 1/4 in.	Bottom: 1/2 in.; Top: 1/8 in.	3.8 lb	1.7 kg	1 1/4 in. NPT Air Purger for closed heating systems
AP402/U	Female NPT	1 1/2 in.	Bottom: 1/2 in.; Top: 1/8 in.	8.6 lb	3.9 kg	1 1/2 in. NPT Air Purger for closed heating systems

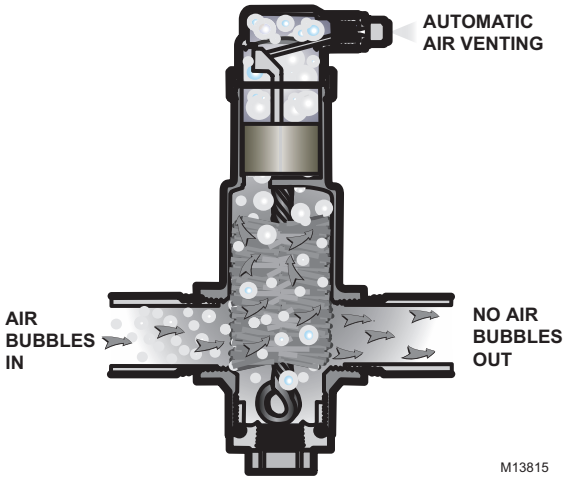
SuperVent® Air Eliminator—Eliminates Air from Hydronic Heating Systems without Bleeding

Conventional automatic air vents installed in Hydronic heating systems can leak and cause inefficient system operation. To effectively eliminate air from the system without bleeding, air bubbles ned to be vented. The NEW Honeywell SuperVent purges air through a no clog vent assembly that controls dirt and debris to minimize air vent fouling.

- No clog vent.
- Dirt and Debris resistant.
- 360 degree adjustable collar ring for installation flexibility.
- Stainless steel concentrator which eliminates gurgling noise.
- Bronze body for rigid construction.
- Threaded connections.

Application: Residential or Commercial closed loop hydronic heating or chilled water systems
Materials (Body): Bronze
Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 125 psi (862 kPa)

How it works



Material Number	Pipe Size	Maximum Diameter		Dimensions, Approximate		Connection Type	Connection Size	Capacity	Weight	
		inch	mm	inch	mm			(Cv)	lb	kg
PV075/U	3/4 in.	1 13/16 in.	46 mm	6 29/32 in. high x 2 11/16 in. wide	176 mm high x 68 mm wide	Female NPT	1/2 in. bottom inlet	13 Cv	2 lb	0.9 kg
PV075S/U	3/4 in.	1 13/16 in.	46 mm	6 29/32 in. long x 3 3/16 in. wide	176 mm high x 81 mm long	Sweat	1/2 in. bottom inlet	13 Cv	2 lb	0.9 kg
PV100/U	1 in.	2 3/32 in.	53 mm	6 1/2 in. high x 3 3/32 in. wide	192 mm high x 79 mm long	Female NPT	1/2 in. bottom inlet	22 Cv	2.75 lb	1.2 kg
PV100S/U	1 in.	2 3/32 in.	53 mm	6 1/2 in. high x 3 11/16 in. wide	192 mm long x 94 mm wide	Sweat	1/2 in. bottom inlet	22 Cv	2.75 lb	1.2 kg
PV125/U	1 1/4 in.	2 1/2 in.	64 mm	7 27/32 in. high x 3 11/16 in. wide	199 mm high x 94 mm wide	Female NPT	1/2 in. bottom inlet	38 Cv	3.5 lb	1.6 kg
PV125S/U	1 1/4 in.	2 1/2 in.	64 mm	7 27/32 in. high x 4 13/32 in. wide	199 mm high x 112 mm wide	Sweat	1/2 in. bottom inlet	38 Cv	3.5 lb	1.6 kg
PV150/U	1 1/2 in.	3 3/32 in.	79 mm	9 5/32 in. high x 4 5/16 in. long	233 mm high x 110 mm long	Female NPT	1/2 in. bottom inlet	50 Cv	5.2 lb	2.4 kg
PV200/U	2 in.	4 in.	102 mm	10 9/32 in. high x 5 3/16 in. long	261 mm high x 132 mm long	Female NPT	1/2 in. bottom inlet	95 Cv	8 lb	3.6 kg

SuperVent® Air Eliminator Universal Models - Eliminate Air from Hydronic Heating Systems without Bleeding

Conventional automatic air vents installed in Hydronic heating systems can leak and cause inefficient system operation. To effectively eliminate air from the system without bleeding, air bubbles ned to be vented. The NEW Honeywell SuperVent purges air through a no clog vent assembly that controls dirt and debris to minimize air vent fouling.

- No clog vent.
- Dirt and Debris resistant.
- 360 degree adjustable collar ring for installation flexibility.
- Stainless steel concentrator which eliminates gurgling noise.
- Bronze body for rigid construction.
- Threaded connections.

Application: Residential or Commercial closed loop hydronic heating or chilled water systems
Connection Type: Female NPT
Materials (Body): Bronze
Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 125 psi (862 kPa)

Material Number	Pipe Size	Connection Size	Capacity (Cv)	Maximum Diameter inch	Maximum Diameter mm	Dimensions, Approximate inch	Dimensions, Approximate mm	Weight lb	Weight kg
PVU075/U	3/4 in.	3/4 in. bottom inlet	3.6 Cv	1 13/16 in.	46 mm	7 9/32 in. long x 2 11/16 in. wide	185 mm long x 68 mm wide	2.1 lb	0.9 kg
PVU100/U	1 in.	1 in. bottom inlet	6.2 CV	2 3/32 in.	53 mm	7 27/32 in. high x 4 13/32 in. wide	199 mm high x 112 mm wide	2.8 lb	1.3 kg
PVU125/U	1 1/4 in.	1 1/4 in. bottom inlet	10.5 Cv	2 1/2 in.	64 mm	8 1/4 in. high x 3 11/16 in. wide	212 mm high x 94 mm long	3.6 lb	1.6 kg
PVU150/U	1 1/2 in.	1 1/2 in. bottom inlet	14.3 Cv	3 3/32 in.	79 mm	9 13/32 in. high x 4 5/16 in. wide	239 mm high x 110 mm long	5.2 lb	2.4 kg

Typical Installation

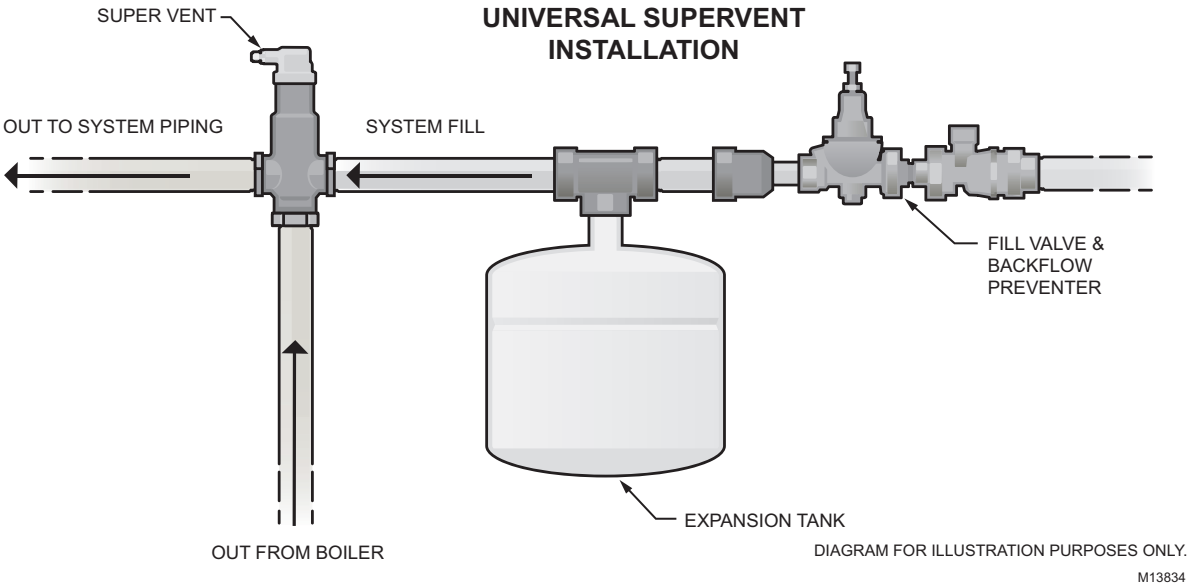


DIAGRAM FOR ILLUSTRATION PURPOSES ONLY.

M13834

SuperVent® Vent Top for Heating and Cooling Systems

The Supervent has high venting capacity and incorporates a check valve. Use with SuperVent PV Series products.

Application: Residential or commercial heating and cooling systems
Materials (Body): Brass
Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 150 psi (1034 kPa)

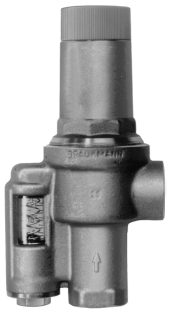
Material Number	Connection Type	Pipe Size	Connection Size	Maximum Diameter		Dimensions, Approximate		Weight	
				inch	mm	inch	mm	lb	kg
SV173/U	NPT	3/8 in.	3/8 in.	2 in.	51 mm	3 in. high x 2 in. diameter	76 mm high x 51 mm diameter	0.43 b	0.19 kg
SV175/U	NPT	1/2 in.	1/2 in.	2 in.	51 mm	3 in. high x 2 in. diameter	76 mm high x 51 mm diameter	0.43 b	0.19 kg

SuperVent Replacement Parts

Material Number	Description
PV-001RP/U	Replacement Air Vent Assembly for PowerVent (pre 2004) size 3/4 in., 1 in., 1 1/4 in., 1 1/2 in. and 2 in.
PV-020RP/U	PV SuperVent Vent Top Replacement (New Style 90 Degree)

Differential Pressure Regulators

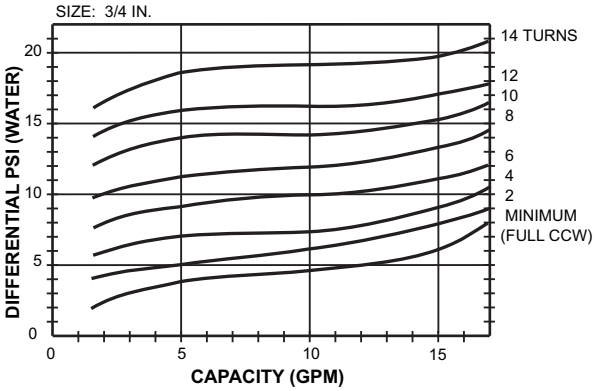
D146 Differential Pressure Regulators

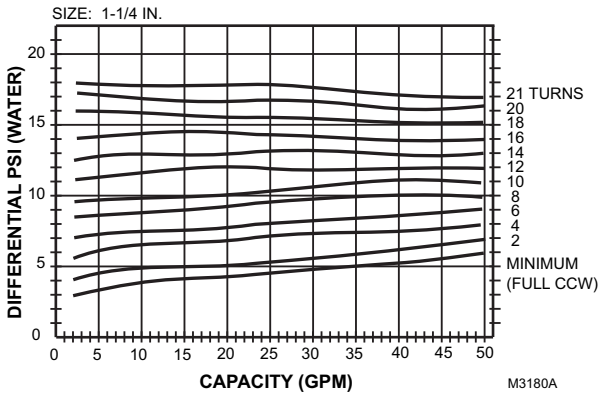


Used to eliminate excessive pump head pressure when most radiator valves are closed due to reduced demand.

- Install between supply and return sides of a hydronic system to stabilize pressure differential and reduce the effects of demand changes.
- Control maintains a constant differential between the two sides by opening a bypass whenever the difference between supply and return reaches the setpoint.
- Provides silent, trouble-free service.
- Easy installation; requires no electrical hookup.
- Easy adjustment of pressure by turning regulating cap.
- Built-in differential pressure indicator.
- Brass valve body with thermoplastic and stainless steel parts.
- Diaphragm of EPDM.

D146 Capacities



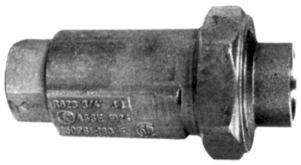


Maximum Inlet Pressure Rating (psi): 85 Psi
Outlet Pressure Adjustment Range (psi): 0-17 psi
Pipe Connection: Angle type, female threaded NPT

Temperature Range: 230 F (110 C)
Materials: Brass (body), Stainless steel and engineered thermoplastics. EPDM diaphragm.

	Pipe Size			Dimensions, Approximate			
Material Number	inch	DN	Capacity	inch	mm	Description	Includes
D146M1032	3/4 in.	DN20	18 gpm; 120,000 Btu/hr	6 1/4 in. high x 3 3/8 in. wide	160 mm high x 86 mm wide	Differential Pressure Regulator, 3/4 in.	Built-in differential pressure indicator
D146M1040	1 1/4 in.	DN32	50 gpm; 395,000 Btu/hr	8 1/2 in. high x 4 1/4 in. wide	213 mm high x 109 mm wide	Differential Pressure Regulator, 1 1/4 in.	Built-in differential pressure indicator

Backflow Preventers with Dual Check for Domestic water



Backflow Preventers-Dual Check for Domestic water

- Dual Check Valves may be installed in either a vertical or horizontal position and should be installed immediately down stream of the water meter.

Dimensions, Approximate: 4 3/8 in. long x 2 1/8 in. wide (111 mm long x 54 mm wide)
Connection Type: NPT
Maximum Ambient Temperature: 180 F (82 C)
Maximum Operating Pressure: 150 psi (1034 kPa)
Approvals
Canadian Standards Association: Certified
Other: ASSE Certified

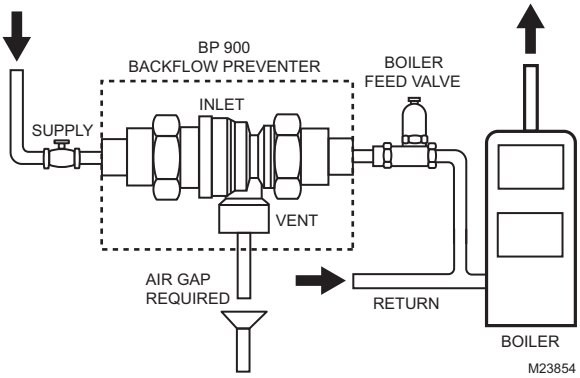
Material Number	Connection Size		Description	Weight	
	inch	DN		lb	kg
BP700/U	3/4 in.	DN20	Dual check 3/4 in. NPT	1.0 lb	0.45 kg
BP701/U	1 in.	DN25	Dual Check 1 in. NPT	1.4 lb	0.64 kg

Backflow Preventers with Intermediate Atmospheric Vent for Heating Systems

The BP900 is a double check backflow preventer with an intermediate vacuum breaker designed to prevent the backflow of contaminated water into the potable water supply. Designed for the use on small supply lines, it protects against both backflow and back siphonage for continuous pressure applications.

- It is ideal for boiler feed lines, livestock drinking fountains, trailer park water hook-ups, laboratory equipment and numerous other applications.
- Suitable for either hot or cold water service, the BP900 is designed for non-continuous backflow temperatures up to 250 F and working supply pressures up to 175 psi.

Typical Installation

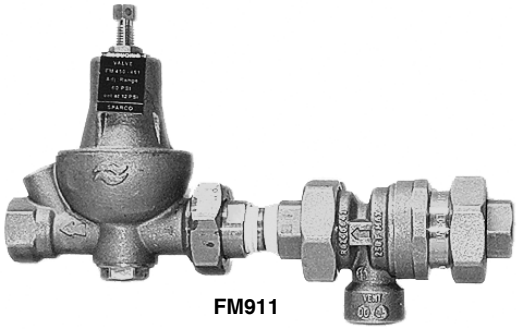


Dimensions, Approximate: 4 7/8 in. long x 2 1/2 in. wide (124 mm long x 63 mm wide)
Connection Type: NPT
Maximum Ambient Temperature: 250 F (121 C)
Maximum Operating Pressure: 175 psi (1207 kPa)
Approvals
Canadian Standards Association: Certified
Other: ASSE Certified

Material Number	Connection Size		Description	Weight	
	inch	DN		lb	kg
BP900/U	1/2 in.	DN15	Double check intermediate vacuum breaker - 1/2 in. NPT	1.2 lb	0.54 kg
BP901/U	3/4 in.	DN20	Double check intermediate vacuum breaker - 3/4 in. NPT	1.2 lb	0.54 kg

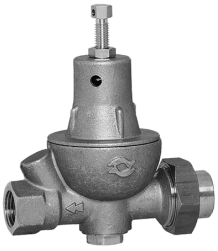
Boiler Fill Valves

FM Boiler Fill Valves



FM911

VF06-100-SUSUT



FM450

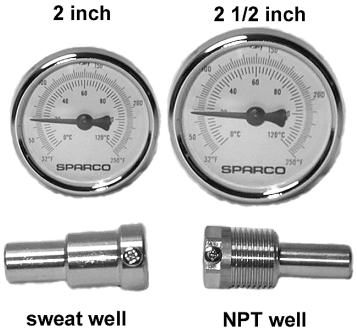
Pressure regulating valve for automatic control of boiler feed water and other pressure reducing applications. Especially constructed for expansion tank mounting.

- Fast fill feature.
- Built in check valve.

Application: Fast fill pressure regulating boiler feed valve with check valve.
Connection Type: NPT
Inlet Connection Size: 1/2 in.
Pipe Size: 1/2 in.
Materials (Body): Brass
Maximum Ambient Temperature: 212 F (100 C)

Material Number	Inlet Connection Type	Maximum Operating Pressure (psi)	Maximum Operating Pressure (kPa)	Regulating Pressure Range (psi)	FAST Fill	Dimensions, Approximate (inch)	Weight (lb)	Description
FM450/U	Sweat or Threaded	150 psi	1034 kPa	4 psi to 60 psi	yes	4 1/8 in. high x 5 5/16 in. long	1.8 b	1/2 in. sweat union pressure reducing valve, includes union nut and both sweat and NPT tailpiece
FM911/U	Sweat or Threaded	150 psi	1034 kPa	4 psi to 60 psi	yes	—	4 lb	1/2 in. NPT Backflow preventer and boiler fill valve assembly, includes union nut and both sweat and NPT tailpiece
VF06-100-SUSUT/U	1/2 in. Sweat Union or Threaded Union	150 psi	1034 kPa	8 psi to 50 psi	—	5 2/3 high X 4 4/5 Long	—	“DialSet” Boiler Fill Valve 1/2 in. Single Union Sweat or Threaded Inlet, 1/2 in. Union Threaded Outlet

Sweat and Threaded Thermometers with Thermowells



Thermometer with Sweat or Threaded Connection.

- Brass thermowell is included to allow the thermometer to be removed without draining the system.
- 2 inch or 2 1/2 inch Dial.

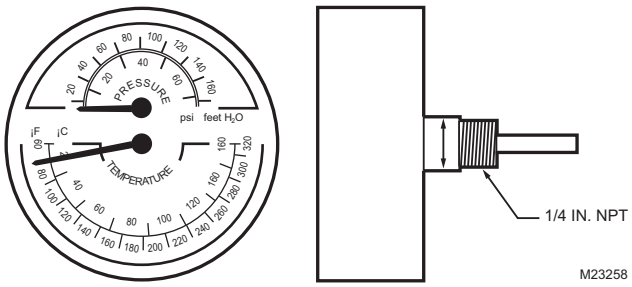
Materials: Case: steel; Well: brass
Temperature Range: 32 F to 250 F (0 C to 121 C)
Connection Size: 1/2 in.

Material Number	Connection Type	Dial Size		Length		Weight	
		inch	mm	inch	mm	lb	kg
GS200/U	Sweat	2 in.	51 mm	1 1/4 in.	51 mm	0.21 b	0.095 kg
GS250/U	Sweat	2 1/2 in.	63.5 mm	1 1/4 in.	51 mm	0.25 lb	0.114 kg
GT161/U	NPT	2 in.	51 mm	1 1/2 in.	51 mm	0.21 b	0.095 kg
GT162/U	NPT	2 1/2 in.	63.5 mm	1 1/2 in.	51 mm	0.25 lb	0.114 kg

Tridicators

Pressure/temperature gauge with relief set point indicator for boilers and shut off valve.

Dimensions Diagram



Temperature Range: 60 F to 320 F (15 C to 160 C)
Connection Size: 1/4 in.
Maximum Operating Pressure: 75 psi

Material Number	Connection Type	Dial Size		Length		Weight		Comments
		inch	mm	inch	mm	lb	kg	
TD-090/U	NPT	3 1/8 in.	79.4 mm	1 21/32 in.	23 mm	0.3 lb	0.14 kg	Pressure/temperature gauge with relief set point indicator
TD-165/U	NPT	3 1/8 in.	79.4 mm	2 in.	42.1 mm	0.3 lb	0.14 kg	Pressure/temperature gauge with relief set point indicator
TDV-040/U	NPT	3 1/8 in.	79.38 mm	29/32 in	23.02 mm	0.4 lb	0.18 kg	Pressure/temperature gauge with relief set point indicator and shut off valve

Boiler Trim Kits

Boiler Trim Kit with SuperVent

Honeywell TK Series Combo Boiler Trim kits are a quick and convenient way to purchase the key "boiler trim" used by installers when performing a boiler change out. All Combo Trim Kits with SuperVent include expansion tank and SuperVent high performance air eliminator; selected models also include FM911 combination boiler fill valve / backflow preventer and/or service check valves for in-line servicing of the expansion tank.

Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 100 psi (689 kPA)
Diameter: 11 in. (279 mm)

Material Number	Connection Size (inch)	Connection Type	Height		Volume		Maximum Acceptance Volume		Weight		Includes
			inch	mm	gal	L	gal	L	lb	kg	
TK30PV100FM	SuperVent: 1 in. Tank: 1/2 in.	SuperVent: Female NPT Tank: Male NPT	15 1/2 in.	394 mm	4.4 gal	16.7 L	2.5 gal	9.5 L	16 lb	7.3 kg	TK300-30, PV100, SCV-050, FM911
TK30PV100FMNC/U	SuperVent: 1 in. Tank: 1/2 in.	SuperVent: Female NPT Tank: Male NPT	15 1/2 in.	394 mm	4.4 gal	16.7 L	2.5 gal	9.5 L	16 lb	7.3 kg	TK300-30, PV100, FM911
TK30PV100SFM/U	SuperVent: 1 in. Tank: 1/2 in.	SuperVent: Sweat Tank: Male NPT	15 1/2 in.	394 mm	4.4 gal	16.7 L	2.5 gal	9.5 L	16 lb	7.3 kg	TK300-30, PV100S, SCV-050, FM911
TK30PV125FM/U	SuperVent: 1 1/4 in. Tank: 1/2 in.	SuperVent: Female NPT Tank: Male NPT	15 1/2 in.	394 mm	4.4 gal	16.7 L	2.5 gal	9.5 L	16.8 b	7.6 kg	TK300-30, PV125, SCV-050, FM911
TK30PV125SFM/U	SuperVent: 1 1/4 in. Tank: 1/2 in.	SuperVent: Sweat Tank: Male NPT	15 1/2 in.	394 mm	4.4 gal	16.7 L	2.5 gal	9.5 L	16.8 b	7.6 kg	TK300-30, PV125S, SCV-050, FM911
TK60PV100SFMNC/U	SuperVent: 1 1/4 in. Tank: 1/2 in.	SuperVent: Female NPT Tank: Male NPT	23 in.	584 mm	4.4 gal	16.7 L	2.5 gal	9.5 L	15.3 b	6.9 kg	TK300-60, PV100S, FM911
TK60PV125FMNC/U	SuperVent: 1 1/4 in. Tank: 1/2 in.	SuperVent: Female NPT Tank: Male NPT	23 in.	584 mm	7.6 gal	28.8 L	2.5 gal	9.5 L	17.5 b	7.95 kg	TK300-60, PV125, FM911
TK60PV125SFMNC/U	SuperVent: 1 1/4 in. Tank: 1/2 in.	SuperVent: Sweat Tank: Male NPT	23 in.	584 mm	7.6 gal	28.8 L	2.5 gal	9.5 L	17.5 b	7.95 kg	TK300-60, PV125S, FM911

Boiler Trim Kit with Air Purger

Honeywell TK Series Boiler Trim kits are a quick and convenient way to purchase the key "boiler trim" used by installers when performing a boiler change out. All Trim Kits with Purgers include expansion tank, air purger and air vent; selected models also include FM911 combination boiler fill valve / backflow preventer and/or service check valves for in-line servicing of the expansion tank and air vent.

Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 100 psi (689 kPA)
Diameter: 11 in. (279 mm)
Height: 15 1/2 in. (394 mm)

Material Number	Connection Size (inch)	Connection Type	Volume		Maximum Acceptance Volume		Weight		Includes
			gal	L	gal	L	lb	kg	
TK300-30A-1/U	Tank: 1/2 in.; Air Purger: 1 in.	Tank: Male NPT; Air Purger: Female NPT	4.4 gal	16.7 L	2.5 gal	9.5 L	13 lb	5.9 kg	TK300-30, AP400, FV180, SCV-0125, SCV-050
TK300-30A-1FM/U	Tank: 1/2 in.; Air Purger: 1 in.	Tank: Male NPT; Air Purger: Female NPT	4.4 gal	16.7 L	2.5 gal	9.5 L	16.6 b	7.5 kg	TK300-30, AP400, FV180, SCV-0125, SCV-050, FM911
TK300-30A-2/U	Tank: 1/2 in. Air Purger: 1 1/4 in.	Tank: Male NPT; Air Purger: Female NPT	4.4 gal	16.7 L	2.5 gal	9.5 L	13 lb	5.9 kg	TK300-30, AP401, FV180, SCV-0125, SCV-050
TK300-30A-2FM/U	Tank: 1/2 in. Air Purger: 1 1/4 in.	Tank: Male NPT; Air Purger: Female NPT	4.4 gal	16.7 L	2.5 gal	9.5 L	16.6 b	7.5 kg	TK300-30, AP401, FV180, SCV-0125, SCV-050, FM911

TK300 Series Expansion Tanks- Heating

Honeywell Expansion Tanks are designed to absorb hot water expansion in closed heating systems. They are equipped with butyl diaphragms to separate the air from the system water (glycol). The tanks are a welded, not clamped design. Pre-pressurized at 12 psi, the tank keeps fluids circulating and maintains minimum system pressure. Honeywell tanks resist water logging, loss of pressure through relief valve spills, loss of BTUs and reduce circulator running time. Use the super efficient Honeywell PowerVent or air vents to remove air and micro-bubbles from the system for maximum performance.

- Butyl/EPDM diaphragm- 9 times better than natural rubber
- Deep-drawn steel tank
- Controls system pressure
- Air-tight cushion-factory pre-charged to 12 psig and 100% tested

Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 100 psi (689 kPA)

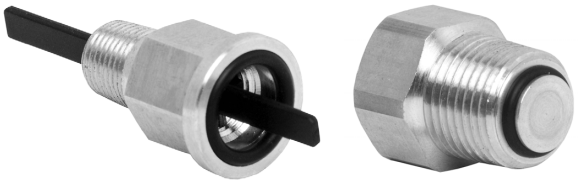
Materials: steel shell, heavy duty butyl diaphragm
Connection Type: Male NPT
Comments: Heating

Material Number	Connection Size (inch)	Diameter		Height		Volume		Maximum Acceptance Volume		Weight	
		inch	mm	inch	mm	gal	L	gal	L	lb	kg
TK300-15/U	1/2 in.	8 in.	203.2 mm	12 5/8 in.	321 mm	2.0 gal	7.6 L	1 gal	3.8 L	5 lb	2.3 kg
TK300-30/U	1/2 in.	11 in.	279 mm	15 1/2 in.	394 mm	4.4 gal	16.7 L	2.5 gal	9.5 L	9 lb	4.1 kg
TK300-60/U	1/2 in.	11 in.	279 mm	23 in.	584 mm	7.6 gal	28.8 L	2.5 gal	9.5 L	14 lb	6.4 kg
TK300-90/U	1/2 in.	15 3/8 in.	390.5 mm	21 in.	533 mm	14.0 gal	53.1 L	11.5 gal	40.1 L	23 lb	10.4 kg

Expansion Tank Sizing based on BTU's

Boiler	Type of Radiation			
Net Output in 1000's of BTU/Hr	Finned Tube Baseboard or Radiant Panel	Convectors or Unit Heaters	Radiators Cast Iron	Baseboard Cast Iron
MBH	Use Model	Use Model	Use Model	Use Model
25	**TK300-15**	**TK300-15**	**TK300-15**	**TK300-15**
50	**TK300-15**	**TK300-15**	**TK300-30**	**TK300-30**
75	**TK300-30**	**TK300-30**	**TK300-30**	**TK300-60**
100	**TK300-30**	**TK300-30**	**TK300-60**	**TK300-60**
125	**TK300-30**	**TK300-60**	**TK300-60**	**TK300-90**
150	**TK300-30**	**TK300-60**	**TK300-90**	**TK300-90**
175	**TK300-60**	**TK300-60**	**XPS-030V**	**XPS-030V**
200	**TK300-60**	**TK300-60**	**XPS-030V**	**XPS-030V**
250	**TK300-60**	**TK300-90**	**XPS-030V**	**XPS-040V**
300	**TK300-90**	**XPS-030V**	**XPS-030V**	**XPS-040V**
350	**XPS-030V**	**XPS-030V**	**XPS-040V**	**XPS-060V**
400	**XPS-030V**	**XPS-040V**	**XPS-040V**	**XPS-060V**

Service Check Valves



Service Check Valves for air vents and expansion tanks allow easy field service without draining system.

CAUTION: Reduce system temperature to ambient and pressure to 0 psi before servicing component. Failure to do so may result in injuries.

Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 100 psi (689 kPA)

Material Number	Connection Size (inch)	Connection Type
SCV-0125/U	1/8 in.	Inlet FNPT, Outlet MNPT
SCV-050/U	1/2 in.	Inlet FNPT, Outlet MNPT

Commercial Expansion Tanks

Expansion Tank Sizing based on BTU's

Boiler	Type of Radiation			
Net Output in 1000's of BTU/Hr	Finned Tube Baseboard or Radiant Panel	Convectors or Unit Heaters	Radiators Cast Iron	Baseboard Cast Iron
MBH	Use Model	Use Model	Use Model	Use Model
25	**TK300-15**	**TK300-15**	**TK300-15**	**TK300-15**
50	**TK300-15**	**TK300-15**	**TK300-30**	**TK300-30**
75	**TK300-30**	**TK300-30**	**TK300-30**	**TK300-60**
100	**TK300-30**	**TK300-30**	**TK300-60**	**TK300-60**
125	**TK300-30**	**TK300-60**	**TK300-60**	**TK300-90**
150	**TK300-30**	**TK300-60**	**TK300-90**	**TK300-90**
175	**TK300-60**	**TK300-60**	**XPS-030V**	**XPS-030V**
200	**TK300-60**	**TK300-60**	**XPS-030V**	**XPS-030V**
250	**TK300-60**	**TK300-90**	**XPS-030V**	**XPS-040V**
300	**TK300-90**	**XPS-030V**	**XPS-030V**	**XPS-040V**
350	**XPS-030V**	**XPS-030V**	**XPS-040V**	**XPS-060V**
400	**XPS-030V**	**XPS-040V**	**XPS-040V**	**XPS-060V**

TAXV Series Expansion Tank- Commercial Usage

TAX Series (commercial) Expansion Tanks are designed to absorb hot water expansion in closed heating systems. TAX tanks are used in large installations. They are equipped with butyl diaphragms to separate the air from the system water (glycol). The tanks are a welded, not clamped, design. Pre-pressurized at 12 psi, the tank keeps fluids circulating and maintains minimum system pressure. Honeywell tanks resist water logging, loss of pressure through relief valve spills, and loss of BTUs.

- ASME construction: Horizontal TAX Series tanks.

Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 125 psi (862 kPa)
Precharge: 12 psi
Materials: steel shell, heavy duty butyl diaphragm
Comments: ASME Construction

Material Number	Connection Size (inch)	Diameter		Height		Volume		Maximum Acceptance Volume		Weight	
		inch	mm	inch	mm	gal	L	gal	L	lb	kg
TAXV-015/U	1/2 in.	12 in.	304.8 mm	19 1/4 in.	489 mm	7.8 gal	29.6 L	2.5 gal	9.5 L	48 b	21.8 kg
TAXV-020/U	1/2 in.	12 in.	304.8 mm	26 in.	660 mm	10.9 gal	40.2 L	2.5 gal	9.5 L	61 b	27.7 kg
TAXV-040/U	1/2 in.	16 1/4 in.	412.7 mm	29 1/2 in.	749 mm	21.7 gal	82.2 L	11.3 gal	42.8 L	116 b	52.7 kg
TAXV-060/U	1/2 in.	16 1/4 in.	412.7 mm	45 1/8 in.	1146 mm	33.6 gal	127.3 L	11.3 gal	42.8 L	145 b	65.9 kg
TAXV-080/U	1/2 in.	16 1/4 in.	412.7 mm	56 in.	1422 mm	44.4 gal	168.3 L	22.6 gal	85.6 L	70 b	89.1 kg
TAXV-100/U	1/2 in.	16 1/4 in.	412.7 mm	68 1/4 in.	1734 mm	55.7 gal	211 L	22.6 gal	85.6 L	231 b	105 kg
TAXV-120/U	1 in.	24 in.	609.6 mm	44 1/4 in.	1124 mm	68 gal	257.7 L	34 gal	128.9 L	233 b	105.9 kg
TAXV-144/U	1 in.	24 in.	609.6 mm	49 1/8 in.	1247.8 mm	77.0 gal	291.8 L	34 gal	128.9 L	256 b	116.4 kg
TAXV-180/U	1 in.	24 in.	609.6 mm	56 1/2 in.	1435 mm	90 gal	341.1 L	34 gal	128.9 L	286 b	130 kg
TAXV-200/U	1 in.	24 in.	609.6 mm	63 in.	1600 mm	110 gal	416.9 L	34 gal	128.9 L	326 b	148.2 kg
TAXV-240/U	1 in.	30 in.	762 mm	49 1/8 in.	1368.4 mm	132.0 gal	500.3 L	46 gal	174.3 L	456 b	207.3 kg
TAXV-260/U	1 in.	30 in.	762 mm	49 1/8 in.	1247.8 mm	158.0 gal	500.3 L	56 gal	174.3 L	435 b	207.3 kg
TAXV-280/U	1 in.	30 in.	762 mm	49 1/8 in.	1247.8 mm	211.0 gal	500.3 L	84 gal	174.3 L	435 b	207.3 kg

XPS Series Honeywell Expansion Tanks

XPS Series (commercial) Expansion Tanks are designed to absorb hot water expansion in closed heating systems in larger installations. They are equipped with butyl diaphragms to separate clamped design. Pre-pressurized at 12 psi, the tank keeps fluids circulating and maintains minimum system pressure. Honeywell tanks resist water logging, loss of pressure through relief valves spills, loss BTUs for improved system performance.

- For ASME construction consult factory.

Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 100 psi (689 kPA)
Connection Type: Female NPT
Materials: steel shell, heavy duty butyl diaphragm
Comments: Heating

Material Number	Connection Size (inch)	Diameter		Height		Volume		Maximum Acceptance Volume		Weight	
		inch	mm	inch	mm	gal	L	gal	L	lb	kg
XPS-030V/U	1 in.	15 3/8 in.	390.5 mm	23 7/8 in.	606 mm	14.0 gal	53.1 L	11.3 gal	42.8 L	25 lb	11.4 kg
XPS-040V/U	1 in.	15 3/8 in.	390.5 mm	31 5/8 in.	803 mm	20.0 gal	75.8 L	11.3 gal	42.8 L	33 lb	15 kg
XPS-060V	1 in.	15 3/8 in.	390.5 mm	46 1/2 in.	584 mm	32 gal	121.3 L	11.3 gal	42.8 L	43 lb	19.5 kg
XPS-090V/U	1 1/4 in.	22 in.	558.8 mm	36 in.	914 mm	44 gal	166.8 L	34 gal	128.9 L	69 lb	31.4 kg
XPS-110V/U	1 1/4 in.	22 in.	558.8 mm	46 3/4 in.	876.3 mm	62 gal	235 L	34 gal	128.9 L	92 lb	41.8 kg
XPS-160V/U	1 1/4 in.	26 in.	660.4 mm	47 1/4 in.	1200 mm	86.0 gal	325.9 L	46 gal	174.3 L	123 lb	55.9 kg

Thermostatic Radiator Valves and Actuators

V135 Thermostatic Mixing or Diverting Valves

Thermostatic Mixing or Diverting Valves for use in hydronic heating systems as a three-way mixing or diverting valve; controls loop temperature in radiant heating systems.

- Includes plastic handle for manual operation.
- Knurled ring on T100R control head for easy attachment to V135.

Application: Thermostatic mixing/diverting valve for use in hydronic heating systems. Controls loop temperature in radiant heating systems.
Capacity: Standard
Materials (Body): Bronze
Differential Pressure Rating: 17 psi maximum
Pressure Ratings (Steam): 232 psi maximum (1601 kPa)
Temperature Rating: 248 F Maximum (120 C Maximum)
Collar Diameter: 1 3/16 in. (30 mm)

Material Number	Dimensions, Approximate		Pipe Size		Body Pattern	Capacity (Cv)	Connection Type	Used With
	inch	mm	inch	DN				
V135A1006	2 9/16 in. x 5 1/8 in.	64 mm x 128 mm	3/4 in.	DN20	Three-way	3.7 Cv	Sweat	T100R
V135A1014	2 15/16 in. x 5 13/16 in.	74 mm x 148 mm	1 in.	DN25	Three-way	5.8 Cv	Sweat	T100R
V135A1022	3 3/4 in. x 7 1/8 in.	95 mm x 180 mm	1 1/4 in.	DN32	Three-way	5.8 Cv	NPT	T100R
V135A1048	3 3/4 in. x 7 3/8 in.	95 mm x 188 mm	1 1/2 in.	DN40	Three-way	11.7 Cv	NPT	T100R
V135A1063	3 3/8 in. x 6 3/8 in.	86 mm x 162 mm	1 1/4 in.	DN32	Three-way	5.8 Cv	Sweat	T100R

T100R Thermostatic Mixing or Diverting Valve Actuator

For use in hydronic heating systems with V135 Valves in a three-way mixing or diverting application. Controls loop temperature in radiant heating systems.

- T100R Thermostatic Actuator includes strap-on-pipe sensor.
- Knurled ring on T100R control head for easy attachment to V135.

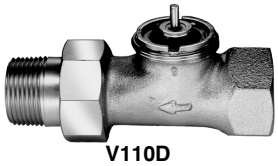
Application: Three-way mixing and diverting applications in hydronic heating systems requiring remote sensing
Used With Valve: V135
Collar Diameter: 1 3/16 in. (30 mm)

Material Number	Application Type	Capillary Length		Temperature Range		Sensor	Setpoint
		(ft)	(m)	(F)	(C)	Integral or Remote	
T100R1004	Thermostatic Radiator Controller for use with V135 valve body for diverting or mixing applications.	6 ft. 8 in.	2 m	50 F to 122 F	10 C to 50 C	Remote	Remote
T100R1012	Thermostatic Radiator Controller for use with V135 valve body for diverting or mixing applications.	6 ft. 8 in.	2 m	86 F to 158 F	30 C to 70 C	Remote	Remote

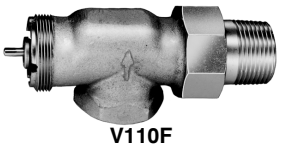
V135 Thermostatic Mixing or Diverting Valves Replacement Cartridges

Material Number	Application	Pipe Size (inch)	Description	Used With
V135A-12VE	Accessory or Replacement Part	3/4 in.; 1/2 in.	Replacement cartridge for V135A 1/2 in. and 3/4 in. models	V135
V135A-1VE	Accessory or Replacement Part	1 1/4 in.; 1 in.	Replacement cartridge for V135A 1 in. and 1 1/4 in. models	V135

V110 High Capacity Thermostatic Radiator Valves



V110D



V110F

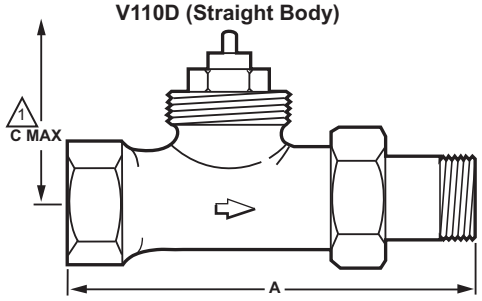
V110E

High Capacity Thermostatic Radiator Valves with T104 Thermostatic Actuators provide precise and automatic control of room temperature in two-pipe systems by modulating the flow of hot water or steam through free-standing radiators, convectors and other heating units with high capacity requirements.

- Designed with the higher capacity normally required by North American heating systems.
- Valve seat disc, which is made of resilient material (EPDM), ensures tight shutoff on steam or hot water systems.
- Nickel-plated bronze casted body with working parts in cartridge insert for ease of service.
- All working parts are replaceable using service tool (MT100C1011) while valve remains in service, in-line, under pressure.
- Valves normally open without control mounted.
- Valves may be used with T104 Thermostatic Actuators.
- Meet ASHRAE Standard 102-1989.

Dimensions in inches (millimeters)

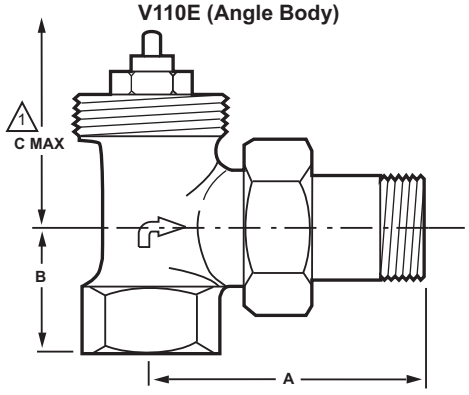
V110D (Straight Body)



PIPE SIZE	A IN. (MM)	1 C MAX IN. (MM)
1/2 INCH	3-3/4 (95)	4-3/4 (121)
3/4 INCH	4-1/8 (105)	4-3/4 (121)
1 INCH	4-15/16 (125)	4-3/4 (121)
1-1/4 INCH	5-7/8 (149)	5 (127)

1 C MAX DIMENSION IS WITH T104 CONTROL INSTALLED. M18959A

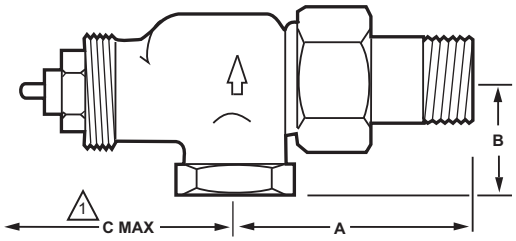
V110E (Angle Body)



PIPE SIZE	A IN. (MM)	B IN. (MM)	1 C MAX IN. (MM)
1/2 INCH	2-9/16 (65)	1 (25)	4-3/4 (121)
3/4 INCH	2-5/8 (67)	1-1/8 (29)	4-3/4 (121)
1 INCH	3 (76)	1-5/16 (33)	4-3/4 (121)
1-1/4 INCH	3-5/8 (90)	1-11/16 (43)	5 (127)

1 C MAX DIMENSION IS WITH T104 CONTROL INSTALLED. M18960A

V110F (Horizontal Angle Body)



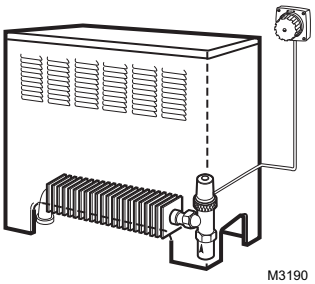
PIPE SIZE	A IN. (MM)	B IN. (MM)	1 C MAX IN. (MM)
1/2 INCH	2-1/4 (57)	1 (25)	5-1/8 (130)
3/4 INCH	2-9/16 (65)	1-1/8 (29)	5-1/4 (133)
1 INCH	2-15/16 (74)	1-3/16 (30)	5-1/4 (133)
1-1/4 INCH	3-1/2 (89)	2-3/16 (56)	5-1/4 (133)

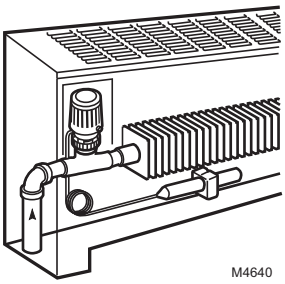
1 C MAX DIMENSION IS WITH T104 CONTROL INSTALLED. M18961A

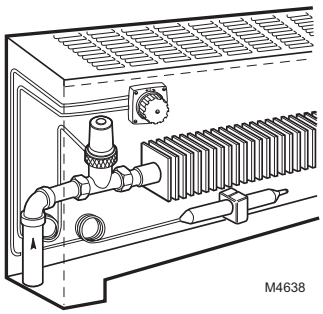
Capacity: high
Materials (Body): Nickel Plated Bronze
Differential Pressure Rating: 17 psi maximum
Pressure Ratings (Hot Water): 150 psi maximum (1034 kPa maximum)
Pressure Ratings (Steam): 15 psi maximum (103 kPa)
Temperature Rating: 248 F Maximum (120 C Maximum)
Cartridge Change Tool: Yes - Use MT110C1011
Actuator Connection: M40 x 1.5

Thermostatic Radiator Valves and Actuators

Typical Installations


M3190


M4640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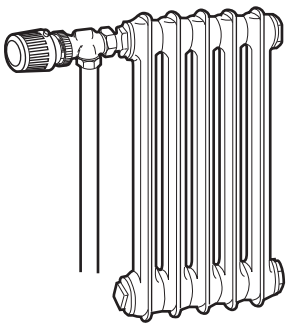
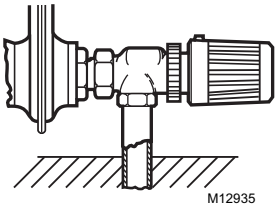

M4632


M12935

Material Number	Application	Pipe Size		Body Pattern	Capacity		Connection Type	Used With
		inch	DN		(Cv)	(Btu/hr-steam)		
V110D1000/U	Precise and automatic control of room temperature in two-pipe systems by modulating the flow of hot water or steam through high capacity heating units.	1/2 in.	DN15	Straight	4.6 Cv	127,000 Btu/hr	Threaded	T104
V110D1008/U		3/4 in.	DN20	Straight	5.8 Cv	162,000 Btu/hr	Threaded	T104
V110D1016/U		1 in.	DN25	Straight	7.0 Cv	193,000 Btu/hr	Threaded	T104
V110D1024/U		1 1/4 in.	DN32	Straight	8 Cv	193,000 Btu/hr	Threaded	T104
V110D5001/U		1/2 in.	DN15	Straight	4.6 Cv	127,000 Btu/hr	Sweat	T104
V110D5009/U		3/4 in.	DN20	Straight	5.8 Cv	162,000 Btu/hr	Sweat	T104
V110D5017/U		1 in.	DN25	Straight	7.0 Cv	193,000 Btu/hr	Sweat	T104
V110E1004/U	Precise and automatic control of room temperature in two-pipe systems by modulating the flow of hot water or steam through high capacity heating units when used with T104 Thermostatic Actuators	1/2 in.	DN15	Angle	4.6 Cv	127,000 Btu/hr	Threaded	T104
V110E1012/U		3/4 in.	DN20	Angle	5.8 Cv	162,000 Btu/hr	Threaded	T104
V110E1020/U		1 in.	DN25	Angle	7.0 Cv	193,000 Btu/hr	Threaded	T104
V110E1028/U		1 1/4 in.	DN32	Angle	8 Cv	193,000 Btu/hr	Threaded	T104
V110E5005/U		1/2 in.	DN15	Angle	4.6 Cv	127,000 Btu/hr	Sweat	T104
V110E5013/U		3/4 in.	DN20	Angle	5.8 Cv	162,000 Btu/hr	Sweat	T104
V110F1002/U		1/2 in.	DN15	Horizontal Angle	4.6 Cv	127,000 Btu/hr	Threaded	T104
V110F1010/U		3/4 in.	DN20	Horizontal Angle	5.8 Cv	162,000 Btu/hr	Threaded	T104
V110F1018/U		1 in.	DN25	Horizontal Angle	7.0 Cv	193,000 Btu/hr	Threaded	T104
V110F1026/U		1 1/4 in.	DN32	Horizontal Angle	8 Cv	193,000 Btu/hr	Threaded	T104
V110F5003/U		1/2 in.	DN15	Horizontal Angle	4.6 Cv	127,000 Btu/hr	Sweat	T104
V110F5011/U		3/4 in.	DN20	Horizontal Angle	5.8 Cv	162,000 Btu/hr	Sweat	T104

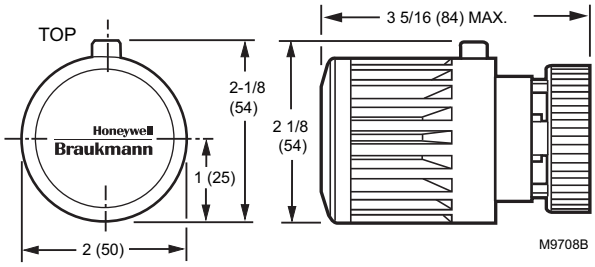
T104 High Capacity Thermostatic Radiator Valve Actuators

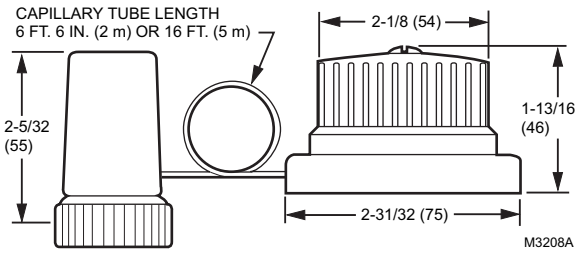
T104A T104B T104C T104F T104V

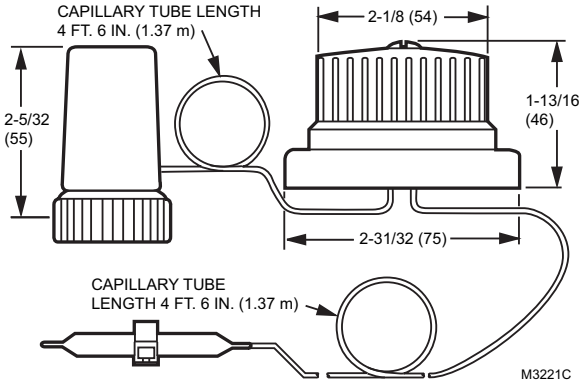
Provide precise and automatic control of room temperature in two-pipe systems by modulating the flow of hot water or steam through free-standing radiators, convectors and other heating units with high capacity requirements.

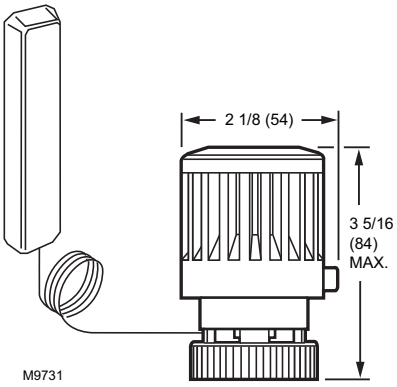
- Continually monitor and adjust room temperature for consistent comfort and relief from under-heating and overheating.
- Designed with the higher capacity normally required by North American heating systems.
- Valve seat disc, which is made of resilient material (EPDM), ensures tight shutoff on steam or hot water systems.
- Nickel-plated bronze casted body with working parts in cartridge insert for ease of service.
- Controls include sensor, setpoint dial and valve actuator; components may be integral or connected by capillary tubes.
- Require no electrical connections.
- Meet ASHRAE Standard 102-1989.
- 40 mm collar diameter.

Dimensions in inches (millimeters)

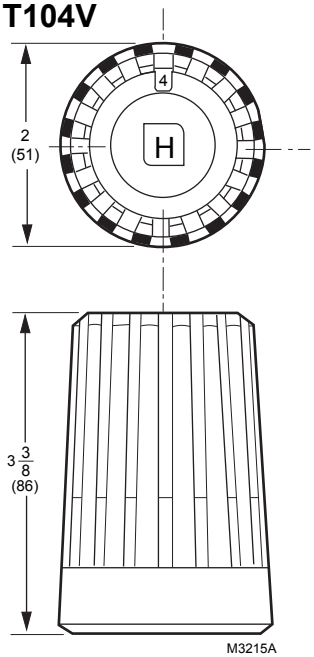








T104V



Thermostatic Radiator Valves and Actuators

Application: High Capacity Thermostatic Radiator Actuator
Used With Valve: V110

Collar Diameter: 40 mm

Material Number	Application Type	Capillary Length		Temperature Range		Sensor	Setpoint	Comments
		(ft)	(m)	(F)	(C)	Integral or Remote		
T104A1040	Self-contained controller with sensor, setpoint dial and valve actuator in one unit. Adjustable limits. Mount horizontal. Not for use inside enclosures or in locations with restricted airflow around sensor. For V110 valves.	—	—	43 F to 79 F	6 C to 26 C	Integral	Integral	Adjustable Limits
T104B1038	Controller with combined remote setpoint and sensor mounted on a wall. Setpoint/sensor connect with a capillary tube to an actuator, which mounts on the valve body. For V110 valves.	6 ft. 8 in.	2 m	48 F to 79 F	9 C to 26 C	Remote	Remote	—
T104B1046	Controller with combined remote setpoint and sensor mounted on a wall. Setpoint/sensor connect with a capillary tube to an actuator, which mounts on the valve body. For V110 valves.	16 ft	4.9 m	48 F to 79 F	9 C to 26 C	Remote	Remote	—
T104C1036	Controller with remote setpoint and sensor normally mounted with setpoint dial mounted on outside cabinet or enclosure; sensor mounted beneath heating coils in cold air return. Double capillaries. For V110 valves.	Two 4 1/2 ft	Two 1.4 m	48 F to 79 F	9 C to 26 C	Remote	Remote	—
T104F1512	Thermostatic radiator valve controller for use with V110 series valves. With remote temperature sensing and integral set point. Adjustable limits.	6 ft. 8 in.	2 m	43 F to 79 F	6 C to 26 C	Remote	Remote	Adjustable Limits
T104V1422	Self-contained controller with sensor, setpoint dial and valve actuator in one unit. Locks to valve body. Rugged design. Adjustable setpoint under locking cap. Factory set at 68 F (20 C). Mounts horizontal. Not for use in enclosures. For V110 valves.	—	—	43 F to 79 F	6 C to 26 C	Integral	Integral	Vandal Proof

T104 Thermostatic Radiator Valves Parts and Accessories

Material Number	Description	Used With
P110V1003	Replacement Locking Ring for T104V1422 only (package of 5)	T104V1422;
G111B1053	Bulb guard to protect remote temperature sensors on T104C and T104F controls only	T104C; T104F

V2000 Series Valve Bodies Cross Reference to V100 Series

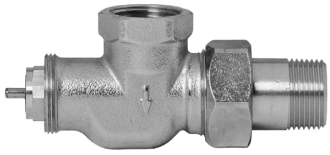
Use T100 Actuators With New V2000 Series Valve Bodies

V2000 Series (Current)	V100 Series (Obsolete)	Product Description
V2040DSL15	**V100D 1056**	1/2 in. TRV Straight Body, Female NPT Inlet, Male NPT Tailpiece Outlet
V2040DSL20	**V100D 1064**	3/4 in. TRV Straight Body, Female NPT Inlet, Male NPT Tailpiece Outlet
V2040DSL25	**V100D 1072**	1in. TRV Straight Body, Female NPT Inlet, Male NPT Tailpiece Outlet
V2043DSL15	**V100D 5057**	1/2 in. TRV Straight Body, Female NPT Inlet, Sweat Tailpiece Outlet
V2043DSL20	**V100D 5065**	3/4 in. TRV Straight Body, Female NPT Inlet, Sweat Tailpiece Outlet
V2040ESL15	**V100E 1055**	1/2 in. TRV Vertical Body, Female NPT Inlet, Male NPT Tailpiece Outlet
V2040ESL20	**V100E 1063**	3/4 in. TRV Vertical Body, Female NPT Inlet, Male NPT Tailpiece Outlet
V2040ESL25	**V100E 1071**	1 in. TRV Vertical Body, Female NPT Inlet, Male NPT Tailpiece Outlet
V2043ESL15	**V100E 5056**	1/2 in. TRV Vertical Body, Female NPT Inlet, Sweat Tailpiece Outlet
V2043ESL20	**V100E 5064**	3/4 in. TRV Vertical Body, Female NPT Inlet, Sweat Tailpiece Outlet
V2040ASL15	**V100F 1054**	1/2 in. TRV Horizontal, Female NPT Inlet, Male NPT Tailpiece Outlet
V2040ASL20	**V100F 1062**	3/4 in. TRV Horizontal, Female NPT Inlet, Male NPT Tailpiece Outlet
V2040ASL25	**V100F 1070**	1 in. TRV Horizontal, Female NPT Inlet, Male NPT Tailpiece Outlet
V200LDSL15	**V100G 5054**	1/2 in. TRV Straight Body, Sweat Inlet, Sweat Outlet No Tailpiece
V200LDSL20	**V100G 5062**	3/4 in. TRV Straight Body, Sweat Inlet, Sweat Outlet No Tailpiece
V2042HSL10	**V100P 1046**	1/8 in. TRV (1/2 in. Body With 1/8 in. Adapter) Male NPT Inlet, Female NPT Outlet. One Pipe Steam
V2043HSL10	**Y100P 1001**	1/8 in. TRV (1/2 in. Body With 1/8 in. Adapter) Male NPT Inlet, Female NPT Outlet. One Pipe Steam Includes SA123A1003
VS1200SL01		Replacement Cartridge New V2000 Series

V200; V2000 Series Standard Capacity Thermostatic Radiator Valve Body

V200LD

V2040D



V2040A, V2040E

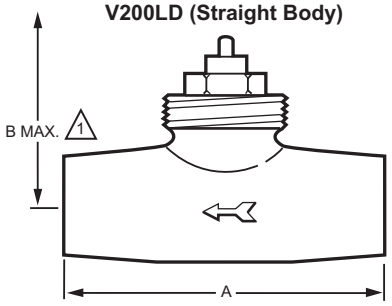
V2040E

One-Pipe Steam Thermostatic Radiator Valves - Allow automatic temperature control in one-pipe steam or hot water systems for free standing radiators, convectors and other heating units with standard capacity requirements. Provide comfort and energy savings.

- Continually monitors and adjusts room temperature for consistent comfort and relief from under-heating and overheating.
- Adjustable balancing cartridge design made from resilient material (EPDM), ensures tight shut-off on steam and hot water systems.
- Nickel plated brass casted body.
- Replaceable cartridge for easy service with service tool.
- Controls include valve body, steam air vent.
- Used with T100 set point and capillary actuators.
- No electrical connection required for non-electric actuators.
- Normally open without control mounted.

Dimensions in inches (millimeters)

V200LD (Straight Body)

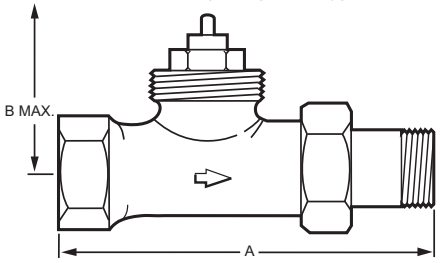


PIPE SIZE	A IN. (MM)	1 B MAX IN. (MM)
1/2 INCH	2-5/8 (66)	4-1/16 (104)
3/4 INCH	2-15/16 (74)	4-1/16 (104)

1 B MAX DIMENSION IS WITH T100A CONTROL INSTALLED.

M12933C

V2040D (Straight Body)

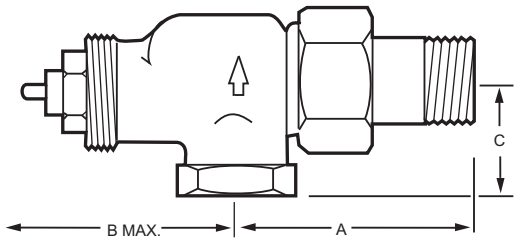


PIPE SIZE	A IN. (MM)	1 B MAX IN. (MM)
1/2 INCH	3-3/4 (95)	4-1/6 (104)
3/4 INCH	4-3/16 (106)	4-1/6 (104)
1 INCH	4-1/2 (114)	4-1/2 (114)

1 B MAX DIMENSION IS WITH T100A CONTROL INSTALLED.

M12930D

V2040A (Horizontal Angle Body)

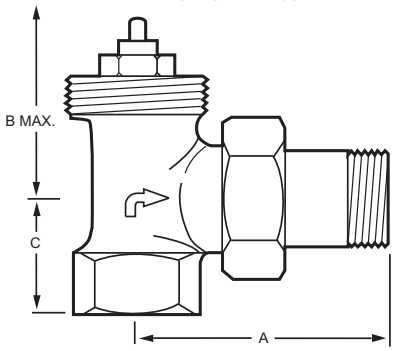


PIPE SIZE	A IN. (MM)	1 B MAX IN. (MM)	C IN. (MM)
1/2 INCH	2-1/8 (54)	4-1/2 (115)	1-1/8 (29)
3/4 INCH	2-1/2 (64)	5-3/16 (132)	1-3/16 (31)
1 INCH	2-15/16 (74)	5-3/16 (132)	1-7/16 (37)

1 B MAX DIMENSION IS WITH T100A CONTROL INSTALLED.

M12932C

V2040E (Angle Body)



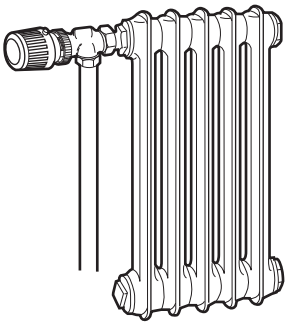
PIPE SIZE	A IN. (MM)	1 B MAX IN. (MM)	C IN. (MM)
1/2 INCH	2-5/16 (58)	3-13/16 (97)	1 (25)
3/4 INCH	2-5/8 (66)	3-13/16 (97)	1-1/8 (29)
1 INCH	2-15/16 (74)	4-5/16 (110)	1-5/16 (34)

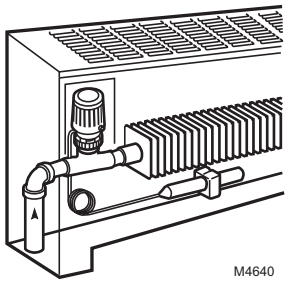
1 B MAX DIMENSION IS WITH T100A CONTROL INSTALLED.

M12931D

Thermostatic Radiator Valves and Actuators

Typical Installations


M4632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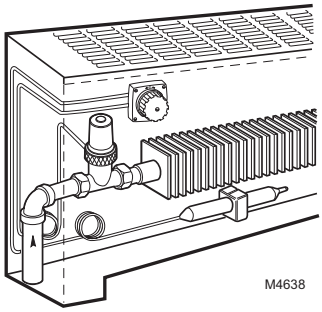
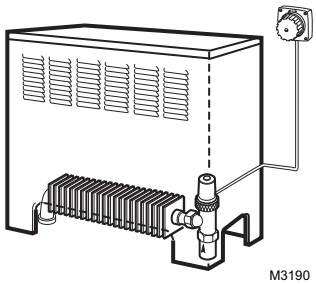

M4638


M3190

Capacity: Standard
Materials (Body): Nickel Plated Bronze
Differential Pressure Rating:
With T100 or T200: 15 psi (103 kPa)
For low noise: 3 psi (20 kPa)

Pressure Ratings (Hot Water): 150 psi maximum (1034 kPa)
Pressure Ratings (Steam): 15 psi maximum (103 kPa)
Temperature Rating: 248 F Maximum (120 C)
Cartridge Change Tool: Yes - Use VA8200A001
Inlet Connection Type: NPT
Actuator Connection: M30 x 1.5

Material Number	Application	Pipe Size		Body Pattern	Capacity		Inlet Connection Size (inch)	Connection Type	Used With
		inch	DN		(Cv)	(Btu/hr-steam)			
V200LDSL15	For baseboards and other installations with copper tubing.	1/2 in.	DN15	Straight	2.5 Cv	59,100 Btu/hr	1/2 in.	Sweat both ends, no union	T100
V200LDSL20		3/4 in.	DN20	Straight	2.7 Cv	63,800 Btu/hr	3/4 in.	Sweat both ends, no union	T100
V2040ASL15	Replaces most manual valves with minimum piping changes.	1/2 in.	DN15	Horizontal Angle	2.5 Cv	59,100 Btu/hr	1/2 in.	Threaded	T100A, M and V controls to conform to horizontal mounting requirements
V2040ASL20		3/4 in.	DN20	Horizontal Angle	2.7 Cv	63,800 Btu/hr	3/4 in.	Threaded	T100A, M and V controls to conform to horizontal mounting requirements
V2040ASL25		1 in.	DN25	Horizontal Angle	2.7 Cv	70,500 Btu/hr	1 in.	Threaded	T100A, M and V controls to conform to horizontal mounting requirements
V2040DSL15	Especially suited for base boards and straight runs where manual valves were not originally installed.	1/2 in.	DN15	Straight	2.5 Cv	59,100 Btu/hr	1/2 in.	Threaded	—
V2040DSL20		3/4 in.	DN20	Straight	2.7 Cv	63,800 Btu/hr	3/4 in.	Threaded	—
V2040DSL25		1 in.	DN25	Straight	2.7 Cv	70,500 Btu/hr	1 in.	Threaded	—
V2040ESL15	Use where installation space is limited	1/2 in.	DN15	Angle	2.5 Cv	59,100 Btu/hr	1/2 in.	NPT	T100BT100CT100F
V2040ESL20		3/4 in.	DN20	Angle	2.7 Cv	63,800 Btu/hr	3/4 in.	NPT	T100BT100CT100F
V2040ESL25		1 in.	DN25	Angle	2.7 Cv	70,500 Btu/hr	1 in.	Threaded	T100BT100CT100F
V2043DSL15	For baseboards and other installations with copper tubing.	1/2 in.	DN15	Straight	2.5 Cv	59,100 Btu/hr	1/2 in.	Sweat both ends, no union	T100
V2043DSL20	Especially suited for base boards and straight runs where manual valves were not originally installed.	3/4 in.	DN20	Straight	2.7 Cv	63,800 Btu/hr	3/4 in.	Sweat	—

T100 Standard Capacity Thermostatic Radiator Actuators

T100B

T100F

T100C

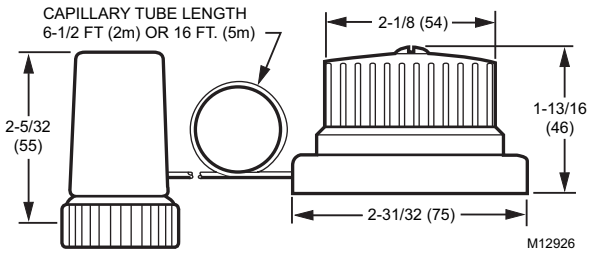
T1002W

Allow automatic temperature control in two-pipe steam or hot water systems for free standing radiators, convectors, and other heating units with standard capacity requirements. Provide comfort and energy savings at affordable prices.

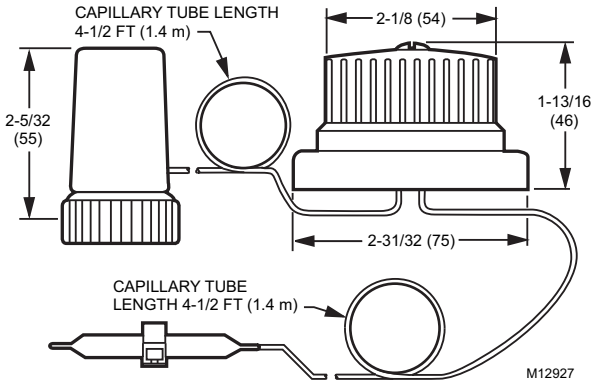
- Continually monitor and adjust room temperature for consistent comfort and relief from under-heating and overheating.
- Valve seat disc, which is made of resilient material (EPDM), ensures tight shutoff on steam or hot water systems.
- Nickel-plated brass casted body with working parts in cartridge insert for ease of service.
- Controls include sensor, setpoint dial and valve actuator; components may be integral or connected by capillary tubes.
- Require no electrical connections.
- All working parts are replaceable using service tool (MT100C1016) while valve remains in service, in-line, under pressure.
- Valves normally open without control mounted.
- 30 mm collar diameter

Dimensions in inches (millimeters)

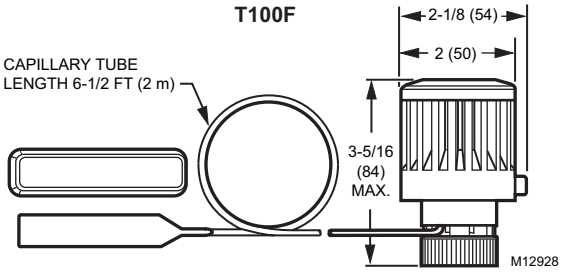
T100B



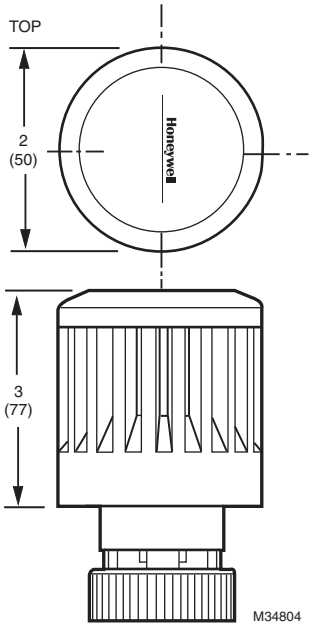
T100C



T100F

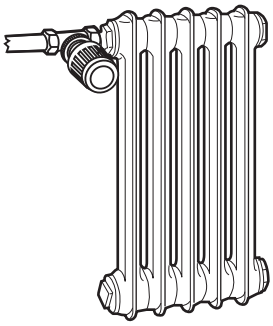


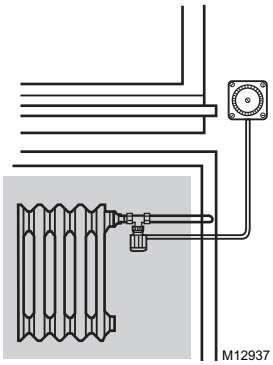
T1002W



Thermostatic Radiator Valves and Actuators

Typical Installation


M4631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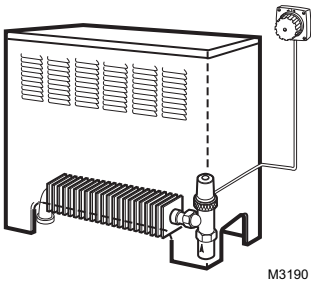
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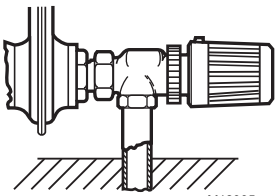
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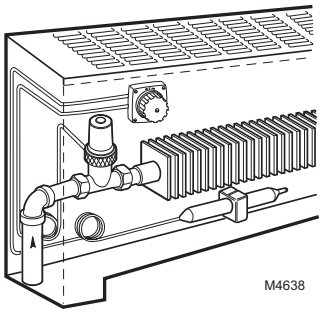

M4638

Application: Standard Capacity Thermostatic Radiator Actuator
Used With Valve: V100, V2000

Collar Diameter: 30 mm

Material Number	Application Type	Capillary Length (ft)	Capillary Length (m)	Temperature Range (F)	Temperature Range (C)	Sensor	Setpoint	Replaces	Comments
						Integral or Remote			
T1002W0NA	A self-contained control with sensor, setpoint dial and valve actuator in one unit. Mounts horizontal. Not for use inside enclosures or where airflow around sensor is restricted. Adjustable limits.	—	—	43 F to 79 F	6 C to 26 C	Integral	Integral	American Steam - 02-100-00. Taco - 5202. Danfoss RA2000 - 013G8200. Ammark - 72. TM Macon - TM B22000. NT Macon - NTB B24000. (in combination with V2000)	Adjustable Limits
T100B1035	A control with combined remote setpoint and sensor mounted on wall. Connected by a capillary tube to an actuator, which is mounted on the valve body.	6 1/2 ft	2 m	48 F to 79 F	9 C to 26 C	Remote	Remote	American Steam - 02-300-00. Taco - 5206. Danfoss RA2000 - 013G8262. Ammark - 76. TM Macon - TML B42000. NT Macon - NTL B45000. (in combination with V2000)	—
T100B1043	A control with combined remote setpoint and sensor mounted on wall. Connected by a capillary tube to an actuator, which is mounted on the valve body.	16 ft	5 m	48 F to 79 F	9 C to 26 C	Remote	Remote	Taco - 5207. Danfoss RA2000 - 013G8265. Ammark - 76L. (in combination with V2000)	—
T100C1026	A control with remote setpoint and sensor mounted with setpoint dial on outside of heating cabinet; sensor mounted beneath heating coils in cold air return. Dual capillary.	Two 4 1/2 ft	Two 1.4 m	48 F to 79 F	9 C to 26 C	Remote	Remote	American Steam - 02-320-00. Taco - 5211. Danfoss RA2000 - 013G8233. Ammark - 74. TM Macon - TMLZ B52000. NT Macon - NTL B55000. (in combination with V2000)	—
T100F1395	A control with remote temperature sensing and integral set point. Adjustable limits.	6 ft. 8 in.	2 m	43 F to 79 F	6 C to 26 C	Integral	Integral	American Steam - 02-120-00. Taco - 5203. Danfoss RA2000 - 013G8202. Ammark - 73. TM Macon - TMZ B32000. NT Macon - NTZ B35000. (in combination with V2000)	Adjustable Limits

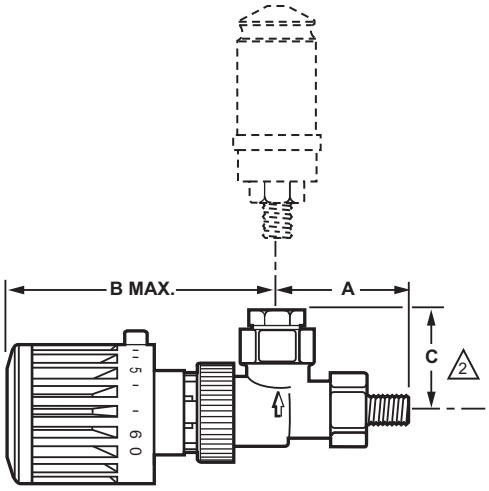
V2042H; V2043H One-pipe Steam Thermostatic Radiator Valve

One-Pipe Steam Thermostatic Radiator Valves - Allow automatic temperature control in one-pipe steam or hot water systems for free standing radiators, convectors and other heating units with standard capacity requirements. Provide comfort and energy savings.

- Continually monitors and adjusts room temperature for consistent comfort and relief from under-heating and overheating.
- Adjustable balancing cartridge design made from resilient material (EPDM), ensures tight shut-off on steam and hot water systems.
- Nickel plated brass casted body.
- Replaceable cartridge for easy service with service tool.
- Controls include valve body, steam air vent.
- Used with T100 set point and capillary actuators.
- No electrical connection required for non-electric actuators.
- Normally open without control mounted.

Dimensions in inches (millimeters)

V2042H (Body)/V2043H (Body with Vent)



PIPE SIZE	A IN. (MM)	1 B MAX IN. (MM)	2 C IN. (MM)
3/8 INCH	1-11/16 (43)	3-13/16 (97)	1-3/16 (31)

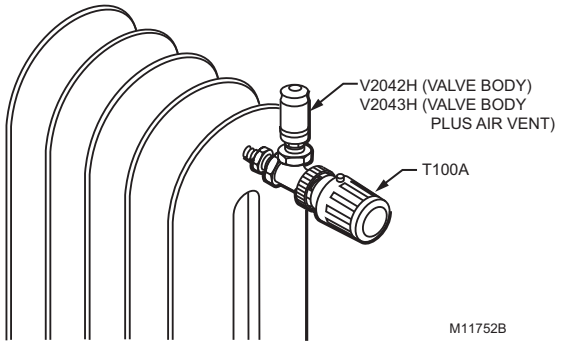
1 B MAX DIMENSION IS WITH T100A CONTROL INSTALLED.

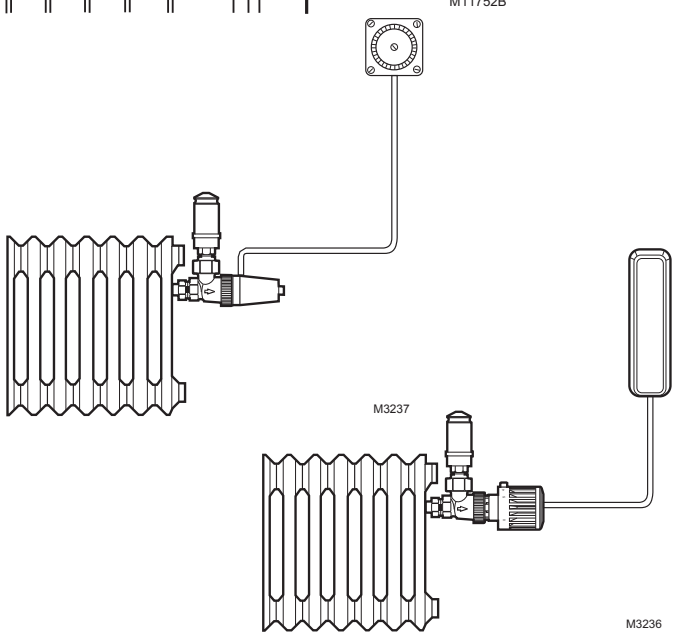
2 C DIMENSION IS WITHOUT THE STEAM/AIR VENT INSTALLED.

M17016B

Application: Capacity: Standard
Materials (Body): Nickel Plated Bronze
Differential Pressure Rating:
With T100 or T200: 15 psi 103 kPa)
For low noise: 3 psi (20 kPa)
Pressure Ratings (Steam): 15 psi maximum (103 kPa)
Temperature Rating: 248 F Maximum (120 C)

Typical Installations

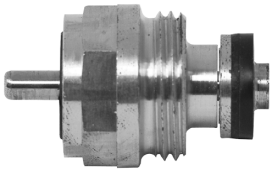




Material Number	Application	Pipe Size (inch)	Body Pattern	Connection Type	Includes	Used With
V2042HSL10	Angle pattern valve body for one pipe steam systems	1/8 in.	Angle	Threaded	—	T100
V2043HSL10	Thermostatic Radiator Valve Pack. Includes V2042HSL10 body plus steam/air vent. Use for one pipe steam applications.	1/8 in.	Angle	NPT	V2042HSL10 plus steam/air vent	—

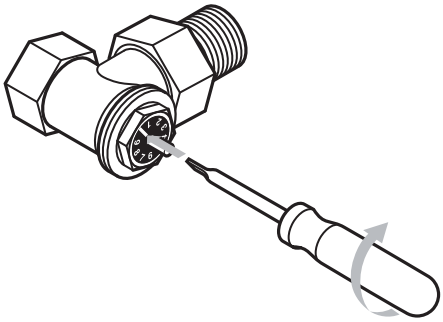
Thermostatic Radiator Valves and Actuators

V2000 Series Thermostatic Radiator Valve Accessories

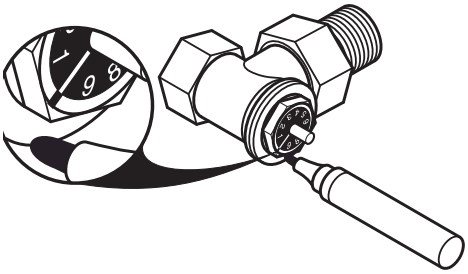


Materials (Body): Bronze

V2000 Series Cartridge Balancing Procedure Step 1

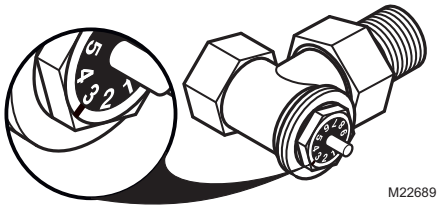


V2000 Series Cartridge Balancing Procedure Step 2



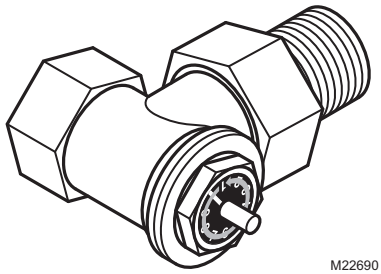
M22688

V2000 Series Cartridge Balancing Procedure Step 3



M22689

V2000 Series Cartridge Balancing Procedure Step 4



M22690

Material Number	Application	Description	Used With
VS1200SL01	Accessory or Replacement Part	Replacement cartridge for NEW V2000 (adjustable cartridge)	T100

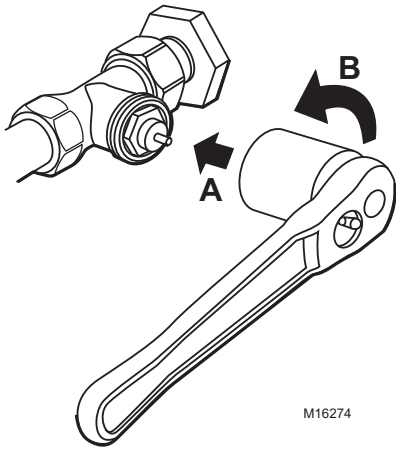
MT100; MT110 Cartridge Changing Tool

The MT110 Valve Cartridge Changing Tool enables the user to remove, and clean or replace the valve cartridge while the valve remains pressurized. Boiler shutdown is not required.

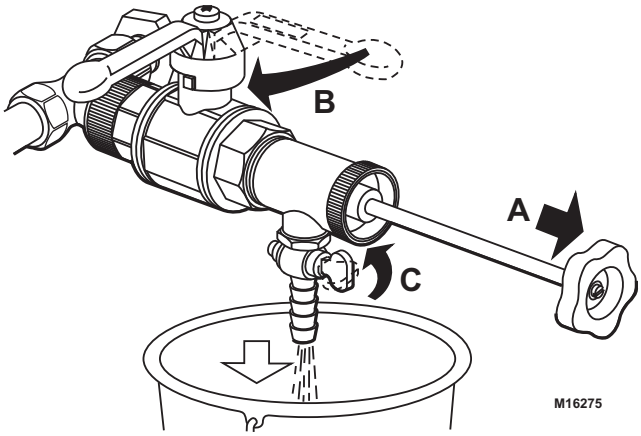
- MT110 for V110 Series valves.

Application: Actuator Removal Tool
Used With Valve: V100

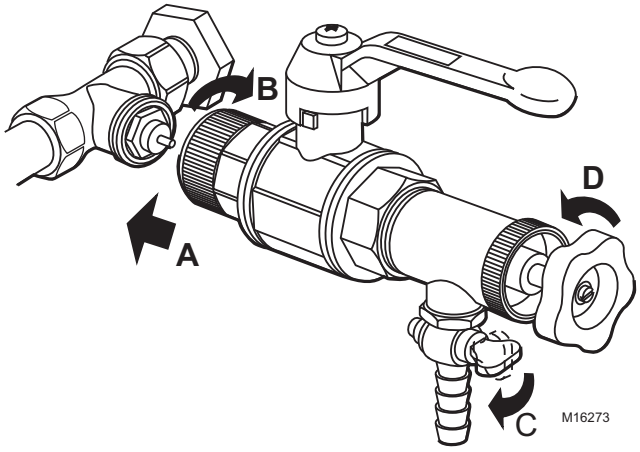
Remove control and loosen valve cartridge slightly.



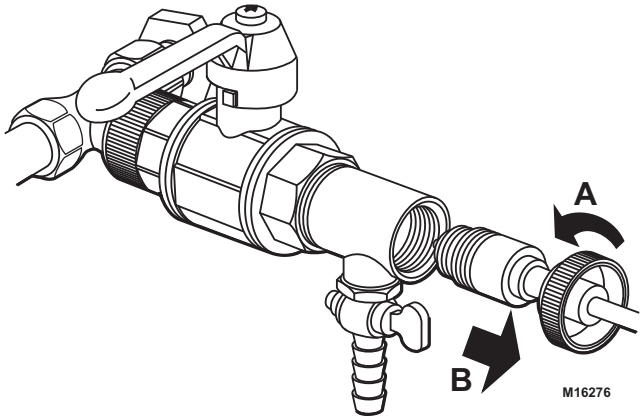
Open shut-off on drain cock, removing excess water and steam from chamber.



Tighten Cartridge Changer to valve body and close off drain cock.



Unscrew end cap and remove cartridge from chamber. Clean or replace cartridge.



Material Number	Application Type	Description	Comments	Used With
MT110C1011/U	Cartridge changing tool, in service, in line, under pressure for V110 series valve.	Cartridge Changing Tool for in-line service of V110 valves	—	V100
MT110D1019/U	Socket to remove or replace cartridges on V110D, E, F series valves; use in combination with MT110C1011 for pre-loosening and final tightening of cartridge. Fits 3/8 in. socket driver.	Cartridge Changing tool	For CA110C Cartridge	—

Thermostatic Valve Accessories

Material Number	Description	Used With
CA100B1008	Replacement cartridge for old style V100 (metal cartridge body)	V100 Series
CA110C107/U	Replacement Cartridge for V110	V110 Series

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

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.

f 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.

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 a manual return authorization form issued by Honeywell Customer Care.

INSTRUCTIONS—WHOLESALER 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:

(i) identified with a Honeywell Return Authorization Form (obtained from the B2B website at Customer.Honeywell.com)
(ii) 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
(iii) packed separately from other returns and protected from shipping damage;
(iv) have certification by the installer or servicing dealer that the product was removed, due to failure, within the applicable warranty period;
(v) are received transportation pre-paid at the facility listed on the shipping and/or packing slip.
(vi) 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.

1. *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.
2. *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:

(i) product is damaged or missing parts or accessory items including batteries.
(ii) 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
1-888-793-8193

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:

1. To modernize or refurbish your existing commercial and/or process control system.
2. 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).
3. 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.

f 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
1-888-793-8193

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

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From our popular zone valves, Aquastats, the energy-saving Aquatrol® and most recently AquaPUMP, you can meet just about every boiler room need with just one brand - Honeywell. With three sizes, multiple speeds for each size and the unique Twist-To-Fit flange, AquaPUMP™ has you covered, eliminating guesswork in the boiler room. Because a single AquaPUMP™ can replace a wide range of competitive models, you can handle nearly all jobs with just one product. And, it comes with the quality you expect from Honeywell, backed with our 5-year Warranty and UL certification.

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Find out more by contacting your Honeywell representative or visit www.forwardthinking.honeywell.com.

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