

# Electronic Mixing Valve



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**MetroMix**  
Electronic Mixing Valve With Safeguard  
Engineered specifically for domestic hot water



## MetroMix Control Specifications

Voltage Input:	120 VAC 60 Hz
Maximum Input Rating:	48 VA Max
Fuse:	20 mm 2.5 Amp
Display:	Graphical Display
Display Units:	Temperature (°F and °C)
Alarm Set Point:	80°F/27°C to 200°F/93°C
Set Point:	60°F/16°C to 180°F/82°C
Offset:	0°F/0°C to 80°F/44°C
Gain:	From -10 to +10
Modulation Output Signal:	0-10V, 2-10V, 0-5V, 1-5V, 4-20mA
LED:	3 (Actuator Signal, No Flow, Alarm Status)
Inputs:	System Temperature, Flow Prove, Remote Set point (4-20mA)
Buttons:	4 (buttons' functions vary)
Dimensions:	11" L x 9" H x 3 3/4" W
Weight:	2.5 pounds

### Electronic Mixing Valve Control with Safeguard

- Electronic mixing valve control for domestic hot water
- Stainless steel motorized valves
- Optional alarm condition safeguard with optional safety solenoid valve
- Optional communication over the Internet or BACnet

### Designed for temperature critical applications.

The MetroMix accurately regulates the water temperature using its modulating stainless steel motorized valve.

Typical uses include:

- Domestic hot water temperature control
- Heating and cooling applications
- Industrial processes

### Safeguard against high temperature system conditions.

When the temperature reaches a critical point, the MetroMix activates an optional solenoid valve to shut the hot water supply close. In addition, it can trigger two alarm outputs.

### Manual reset.

To resume normal operation after an alarm condition, the MetroMix must be reset manually by pressing the Manual reset button.

### Built-in setback schedule.

By having the capability to lower the target temperature during low usage periods, the MetroMix is now greener than ever. It is equipped with a 7-day setback schedule to increase savings during off-peak periods. You can adjust up to 4 setback schedules per day.

### Stainless Steel valves.

The MetroMix is packaged with a rugged stainless steel valve body and a reliable electronic actuator. These valves are designed to provide lead-free domestic hot water use. These valves have passed some of the most stringent code requirements.

### Internet communication capability.

The MetroMix can provide alarm alerts via the internet or cellular connectivity. With the installation of the optional MetroMail Communication Module the user can receive alarm messages via text or email over Ethernet or WIFI connectivity. For installations where Ethernet or WIFI are not available MetroCloud cellular dialer services are available, monthly cellular service charges will apply.

### BACnet communication capability.

The MetroMix connects to building automation system networks giving you the capability to change settings and monitor sensors. An optional BACnet Communication Module is required and provides communication via MSTP or Ethernet (IP) Protocols.

### Optional Power/Communication Loss Protection.

For critical service applications the MetroMix valve can be outfitted with an actuator that includes two super capacitors. These maintenance free capacitors will be charged from the actuator supply voltage. Upon the loss of power or communication from the MetroMix controller the super capacitors will drive the valve to a "safe" position, which is field selectable. In a domestic hot water application it would be configured to stroke "cold" preventing any hot water from leaving the mixing valve until power or communication is restored to the actuator.

# Sizing & Specifications

## MetroMix Control Module Specifications

Voltage Input: . . . . . 120 VAC 60 Hz  
 Maximum Input Rating: . . . . . 48 VA max  
 Display: . . . . . Graphic Display  
 Display/Temperature Unit: . . . . . °F and °C  
 Modes of Operation: . . . . . ETV,TMC,ETV+TMC Combo  
 MetroMix Set point: . . . . . 40°F/4°C to 200°F/93°C  
 Alarm Set Point: . . . . . 40°F/4°C to 200°F/93°C  
 Modulation Output Signal: . . . . . 0-10V, 2-10V, 0-5V, 1-5V, 4-20mA  
 LED Indicators: . . . . . 3(Actuator Signal, No Flow, Alarm Status)  
 Inputs: . . . . . Sensors(Hot, Cold, Mixed), Flow Probe, EMS 4-20mA  
 Dimensions: . . . . . 11"W x 9"H x 3¾"D  
 Weight: . . . . . 2.5Lbs.

## Electric Actuator Specifications

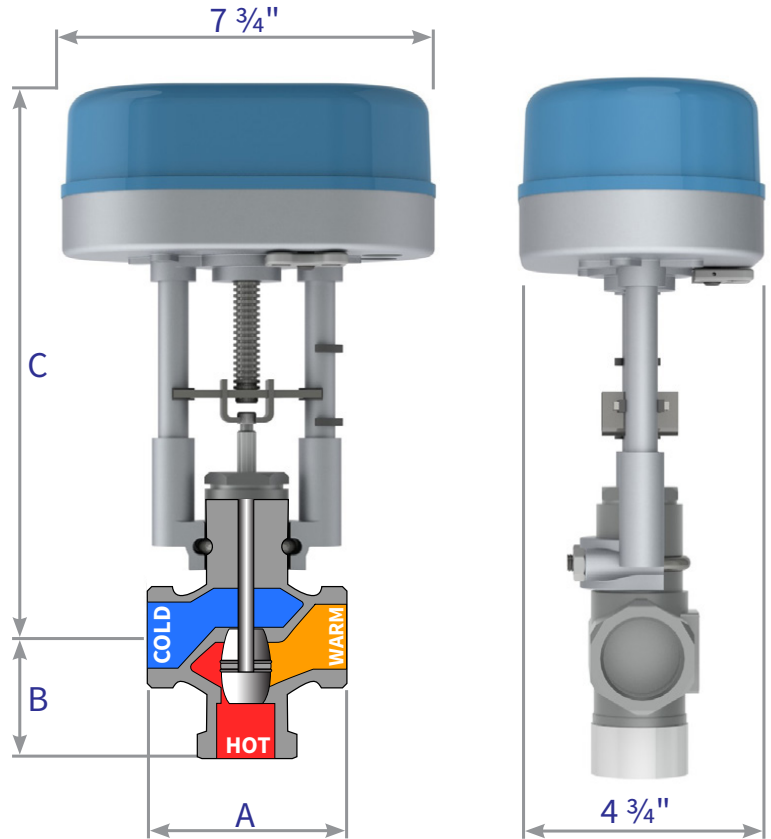
Voltage Input: . . . . . 24 VAC 60 Hz  
 Power Consumption: . . . . . 0-10V  
 Weight: . . . . . 2.6lbs.

## Stainless Steel Valve Specifications

Body & Trim: . . . . . 304 Stainless  
 Maximum Operating Temperature: . . . . . 300°F / 149°C  
 Maximum Working Pressure: . . . . . 225 psi  
 Stem Material: . . . . . 640 Stainless

## Stainless Steel Mixing Valves Conform To:

California Lead Free Plumbing Law  
 (Health and Safety Code AB-1953) CSA B 125.3  
 (NSF/ANSI 61 Section 8 - 2008) ASSE 1017-2009



## MetroMix Valve Sizing Chart

Pressure Drop	Valve Size						
	1/2"	3/4"	1"	1 ¼"	1 ½"	2"	2 ½"
3 psi	8	12	20	32	50	80	126
4 psi	9	15	23	37	58	93	145
5 psi	10	16	26	41	64	103	162
6 psi	12	18	28	45	71	113	178
7 psi	13	20	31	50	78	125	192
8 psi	14	21	33	53	83	132	205
9 psi	15	22	35	56	88	140	218
10 psi	16	23	36	58	91	145	230
Flow (gpm)							

## Minimum Service Clearance

Top	Left	Right	Front	Back
18"	12"	12"	12"	12"

## Stainless Steel Valve Dimensions

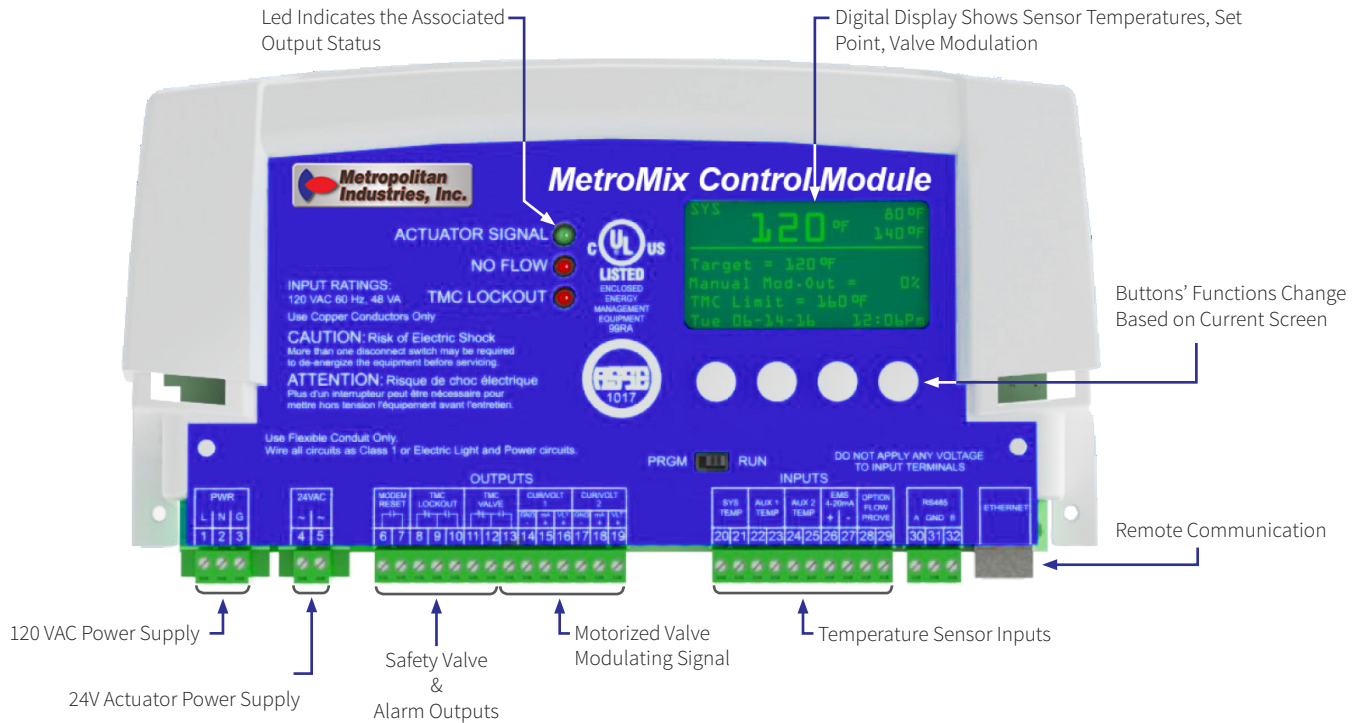
3-Way Valve Size	A	B	C	Inlet/Outlet Pipe Sizes		
				Mix	Hot	Cold
½"	3 ⅛"	2"	10 ½"	½"	½"	½"
¾"	3 ⅛"	2"	10 ⅝"	¾"	¾"	¾"
1"	4"	2 ⅛"	10 ¾"	1"	1"	1"
1 ¼"	4"	2 ½"	11"	1 ¼"	1 ¼"	1 ¼"
1 ½"	4 ¾"	2 ⅝"	11 ⅜"	1 ½"	1 ½"	1 ½"
2"	5 ½"	3 ⅜"	11 ⅞"	2"	2"	2"
2 ½"	6 ⅝"	4"	2 ¾"	2 ½"	2 ½"	2 ½"

**Pre-piped Packaged Systems Available.**

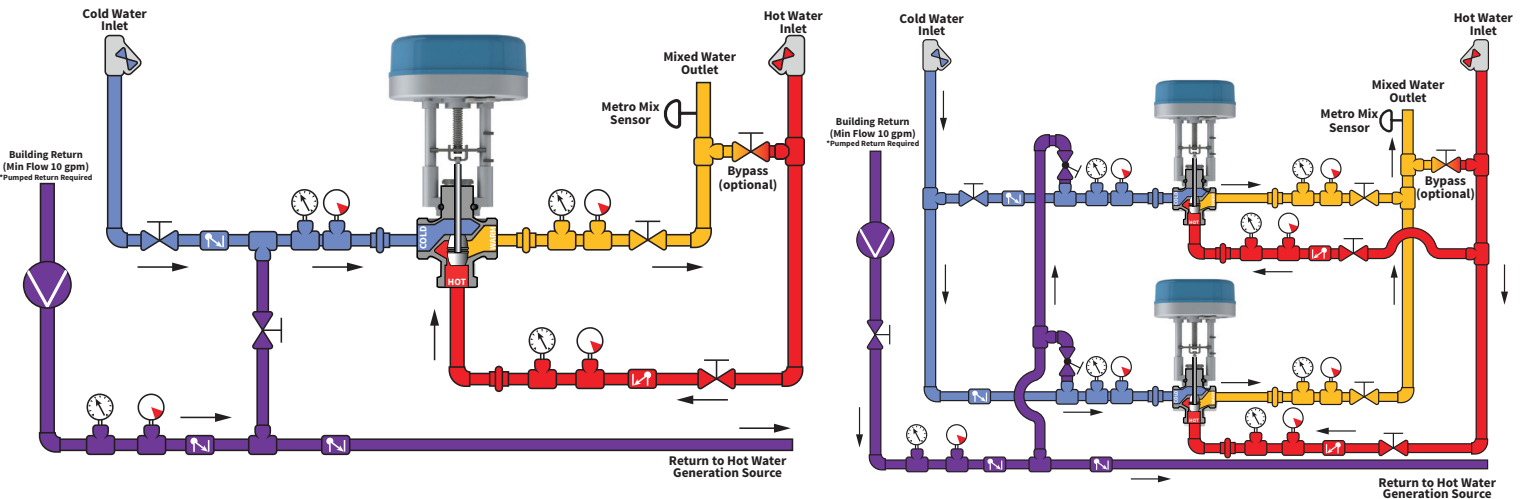
Contact Metropolitan Industries for more information.

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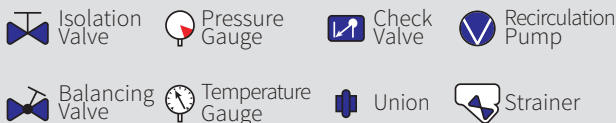
## MetroMix Layout



## Piping Diagram



## Symbol Legend



Warning: These drawings show suggested piping configuration and valving. Check with local codes and ordinances for additional requirements.

Warning: Hot water piping must have a minimum 18" heat trap (loop) installed before the master mixing valve.