Electronic Mixing Valve

MetroMix

Engineered specifically for domestic hot water
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.
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: Actuator Signal, No Flow, Alarm Status
Inputs: Sensors (Hot, Cold, Mixed), Flow Probe, EMS 4-20mA
Dimensions: 11"W x 9"H x 3 3/4"D
Weight: 2.5 Lbs.

Electric Actuator Specifications
Voltage Input: 24 VAC 60 Hz
Power Consumption: 0-10V
Weight: 2.6 Lbs.

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

<table>
<thead>
<tr>
<th>Pressure Drop</th>
<th>1/2&quot;</th>
<th>3/4&quot;</th>
<th>1&quot;</th>
<th>1 1/4&quot;</th>
<th>1 1/2&quot;</th>
<th>2&quot;</th>
<th>2 1/2&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 psi</td>
<td>8</td>
<td>12</td>
<td>20</td>
<td>32</td>
<td>50</td>
<td>80</td>
<td>126</td>
</tr>
<tr>
<td>4 psi</td>
<td>9</td>
<td>15</td>
<td>23</td>
<td>37</td>
<td>58</td>
<td>93</td>
<td>145</td>
</tr>
<tr>
<td>5 psi</td>
<td>10</td>
<td>16</td>
<td>26</td>
<td>41</td>
<td>64</td>
<td>103</td>
<td>162</td>
</tr>
<tr>
<td>6 psi</td>
<td>12</td>
<td>18</td>
<td>28</td>
<td>45</td>
<td>71</td>
<td>113</td>
<td>178</td>
</tr>
<tr>
<td>7 psi</td>
<td>13</td>
<td>20</td>
<td>31</td>
<td>50</td>
<td>78</td>
<td>125</td>
<td>192</td>
</tr>
<tr>
<td>8 psi</td>
<td>14</td>
<td>21</td>
<td>33</td>
<td>53</td>
<td>83</td>
<td>132</td>
<td>205</td>
</tr>
<tr>
<td>9 psi</td>
<td>15</td>
<td>22</td>
<td>35</td>
<td>56</td>
<td>88</td>
<td>140</td>
<td>218</td>
</tr>
<tr>
<td>10 psi</td>
<td>16</td>
<td>23</td>
<td>36</td>
<td>58</td>
<td>91</td>
<td>145</td>
<td>230</td>
</tr>
</tbody>
</table>

Flow (gpm)

Pre-piped Packaged Systems Available.
Contact Metropolitan Industries for more information.
(815) 886-9200

Minimum Service Clarance

<table>
<thead>
<tr>
<th>Top</th>
<th>Left</th>
<th>Right</th>
<th>Front</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>18&quot;</td>
<td>12&quot;</td>
<td>12&quot;</td>
<td>12&quot;</td>
<td>12&quot;</td>
</tr>
</tbody>
</table>

Stainless Steel Valve Dimensions

<table>
<thead>
<tr>
<th>3-Way Valve Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>Inlet/Outlet Pipe Sizes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mix</td>
<td>Hot</td>
<td>Cold</td>
<td></td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>3 3/8&quot;</td>
<td>2&quot;</td>
<td>10 3/8&quot;</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>1&quot;</td>
<td>4&quot;</td>
<td>2 3/8&quot;</td>
<td>10 3/8&quot;</td>
<td>1&quot;</td>
</tr>
<tr>
<td>1 1/4&quot;</td>
<td>4&quot;</td>
<td>2 3/8&quot;</td>
<td>11&quot;</td>
<td>1 1/4&quot;</td>
</tr>
<tr>
<td>1 1/2&quot;</td>
<td>4 3/8&quot;</td>
<td>2 3/8&quot;</td>
<td>11 3/8&quot;</td>
<td>1 1/2&quot;</td>
</tr>
<tr>
<td>2&quot;</td>
<td>5 1/8&quot;</td>
<td>3 3/8&quot;</td>
<td>11 3/8&quot;</td>
<td>2&quot;</td>
</tr>
<tr>
<td>2 1/2&quot;</td>
<td>6 5/8&quot;</td>
<td>4&quot;</td>
<td>2 3/8&quot;</td>
<td>2 1/2&quot;</td>
</tr>
</tbody>
</table>
**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.