



# MX Series Valves

## LARGE FLOW PROPORTIONAL THERMOSTATIC MIXING OR DIVERTING VALVE

**PRODUCT DATA**



Union NPT Model



Flange Model

### APPLICATION

Any application requiring accurate control of water temperature based on mixing of hot and cold water, such as: Domestic water for hotels, schools, hospitals, nursing homes, offices, public facilities, commercial and industrial buildings, space heating, central distribution systems, heat pump systems, radiant floor heating, combo systems and industrial applications.

**Installer:**

1. Fill in measured discharge temperature on CAUTION label.
2. Attach CAUTION label to MX series valve.
3. Explain CAUTION label to owner.
4. Leave this instruction sheet with owner or on the job site.

### Benefits

The MX Series thermostatic mixing valve provides energy savings, increased comfort and safety for the user.

### PRODUCT SPECIFICATIONS

- 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.
- Temperature adjustable.
- Union NPT models (1 in., 1-1/4 in., 1-1/2 in., and 2 in.).
- Flange connection models (2-1/2 in. and 3 in.).
- Install in any position, heat trapping not required.
- Recirculation connection for fast response.
- Brass / stainless steel construction.
- Water surfaces Teflon® coated to prevent calcium and lime deposits.
- Allen wrench for temperature adjustment included.
- Maximum pressure differential between hot and cold ports is 7 psi.
- ASSE 1017 Listed (Union models only).
- CSA approved.

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# OPERATION

Automatic operation is provided by the thermostatic element. Element will control hot and cold supply based on valve setting. If cold water is shut off, valve reduces mixed flow in seconds (speed/residual flow rates vary by size).

## CAUTION

For domestic water application use "C" model, set temperature to not exceed 113° F (45° C) for safety. Do not override calibration. Test temperature with thermometers.

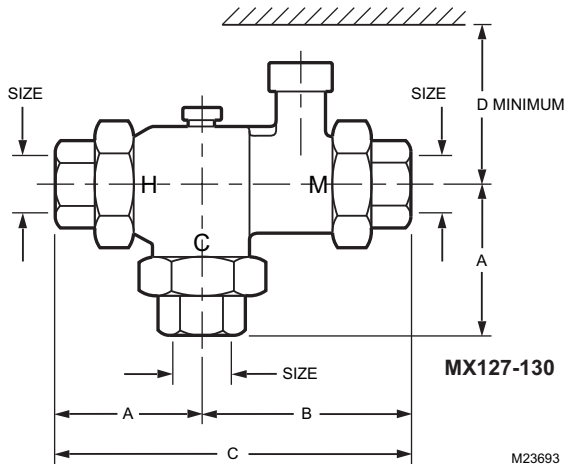


Fig. 1. Dimensions of Union NPT model.

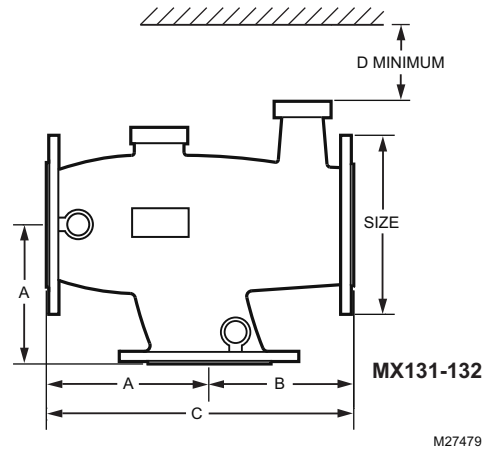


Fig. 2. Dimensions of Flange model.

Table 1. MX Series Valve Models.

Product Number	Size NPT	C <sub>v</sub>	Min. Flow (GPM)	GPM @ 30 psi	Temp. Range	Weight in Lbs (kg)	Dimensions in inches (mm)			
							A	B	C	D
MX 127	1 in.	4.0	1.0	22	113°-149° F (45°-65° C)	3.6 (1.6)	2.8 (66)	3.7 (94)	6.5 (165)	6.0 (152)
MX 128	1-1/4 in.	9.3	2.5	50		6.4 (2.9)	3.3 (84)	4.4 (112)	7.7 (196)	6.9 (175)
MX 129	1-1/2 in.	13.5	3.5	75		8.4 (3.8)	3.6 (91)	5.0 (127)	8.6 (218)	7.0 (178)
MX 130	2 in.	18.0	5.0	100		13.1 (5.9)	4.2 (107)	5.8 (147)	10.0 (254)	7.3 (185)
MX 127C*	1 in.	4.0	1.0	22	86°-113° F (30°-45° C)	3.7 (1.7)	2.8 (66)	3.7 (94)	6.5 (165)	6.0 (152)
MX 128C*	1-1/4 in.	9.3	2.5	50		6.5 (2.9)	3.3 (84)	4.4 (112)	7.7 (196)	6.9 (175)
MX 129C*	1-1/2 in.	13.5	3.5	75		8.5 (3.9)	3.6 (91)	5.0 (127)	8.6 (218)	7.0 (178)
MX 130C*	2 in.	18.0	5.0	100		13.2 (6.0)	4.2 (107)	5.8 (147)	10.0 (254)	7.3 (185)
MX131**	2-1/2 in. Flange	34.0	10.5	186	113°-149° F (45°-65° C)	51 (23.1)	5.7 (144.8)	5.7 (144.8)	11.4 (289.6)	4.0 (101.6)
MX132**	3 in. Flange	50.0	15.8	274	113°-149° F (45°-65° C)	62 (28.1)	6.1 (154.9)	6.1 (154.9)	12.2 (309.9)	4.0 (101.6)
MX 050-RP Recirculation Adapter Kit						0.2 (0.1)				
* Union models include 1/2-in. recirculation adapter. ** Flange models recirculation adapter size (MX131 1 in. and MX132 1-1/4 in.) <b>Maximum Temperature:</b> MX127, 128, 129, 130, 131, 132: 221° F (105° C) MX127C, 128C, 129C, 130C: 185° F (85° C)						Maximum working Pressure 150 psi (1034 kPa). Minimum temperature difference between hot and mix should be 10° F (6° C). Use C models only for domestic water.				

## Service

To remove dirt, flush valve. To remove calcium and lime deposits, soak valve in vinegar for 24 hours and flush or contact factory for assistance. Do not attempt to field repair this calibrated valve.

## Temperature Selection

The MX Series Valves are made in two ranges: 113°-149° F (45°-65° C) and 86°-113° F (30°-45° C). The factory setting is 130° F (54° C), and 105° F (41° C) respectively. Change temperature setting with an Allen wrench, which is included; 3/16 for MX 127 or a 5/16 for MX 128, MX 129 and MX 130. Punch through the center of the temperature range label. By turning the screw clockwise, the mix temperature increases (counterclockwise, it decreases). Each complete turn with the Allen wrench changes the temperature as follows: MX 127 (1 in.); 11° F (6° C), MX 128 (1-1/4 in.), MX 129 (1-1/2 in.) and MX 130 (2 in.), 7° F (4° C). Do not operate valve at temperatures outside of its calibrated range of 113°-149° F (45°-65°) or 86°-113° F (30°-45° C). Use a thermometer to verify temperature.

## TYPICAL INSTALLATION DIAGRAMS

### Domestic Water Mixing

Use when water temperature produced by heater is hotter that desired at point of use. Many codes require that water supplied to the system be limited to 120° F (49° C) max.

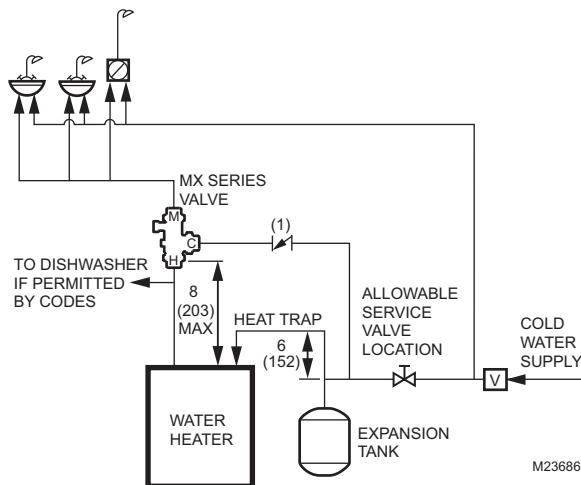


Fig. 3. Water heater without recirculation in inches (mm).

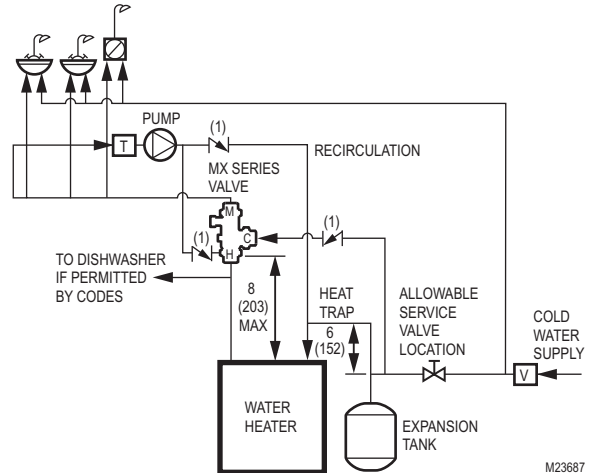


Fig. 4. Heater with recirculation in inches (mm).

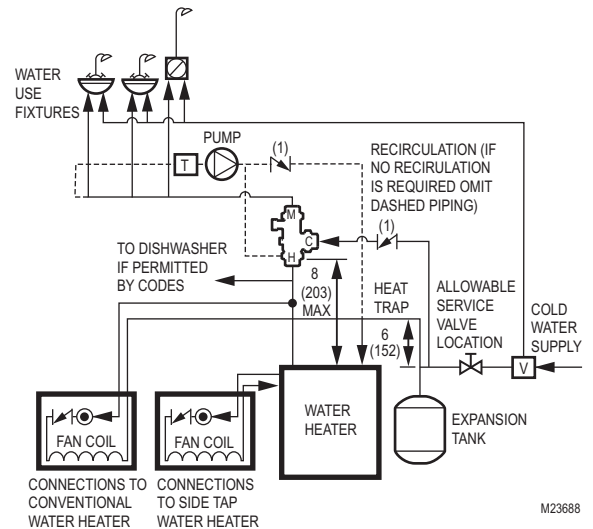


Fig. 5. Water heater is used for domestic water and space heating in inches (mm).

- 1.= Check Valve.
- 2. = Alternate Pump Location.
- V.= Any device which turns the domestic water system into a closed system, such as backflow preventers, check valves or pressure reducing valves.

NOTE: "V" is optional depending on local codes. If a "V" type valve is used, it is mandatory that a thermal expansion tank be installed as shown. Otherwise dangerously high pressures could result or water heater safety relief valve will frequently expel water. If a "V" device is not used, a thermal expansion tank is not required.

## Space Heating

Boiler must operate at a water temperature higher than desired temperature in the heating system in order to perform at maximum efficiency. Example: Radiant floor heating.

### Mixing Applications (Constant Supply Temperature)

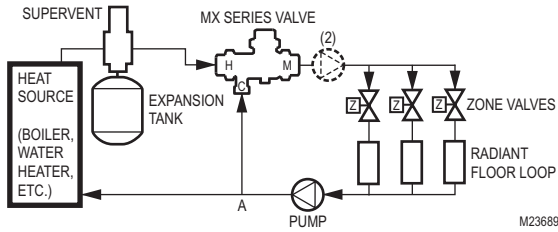


Fig. 6. Single loop.

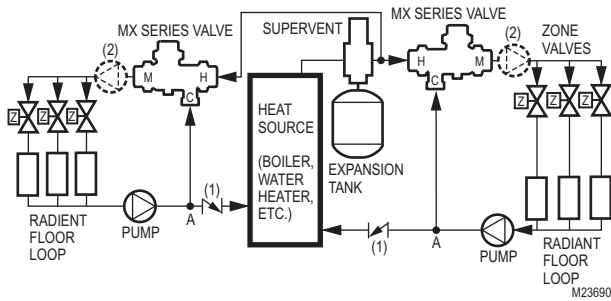


Fig. 7. Multiple loops. Each loop operates at a different temperature.

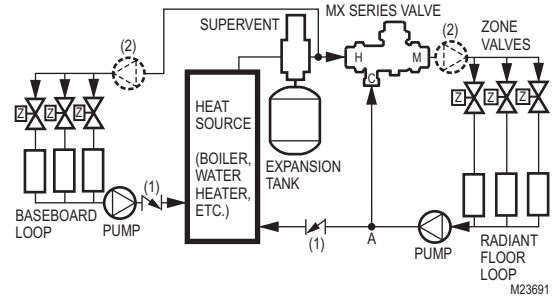


Fig. 8. Multiple Loops. One loop operates at boiler water temperature and MX Series loops at lower temperature.

### Diverting Application

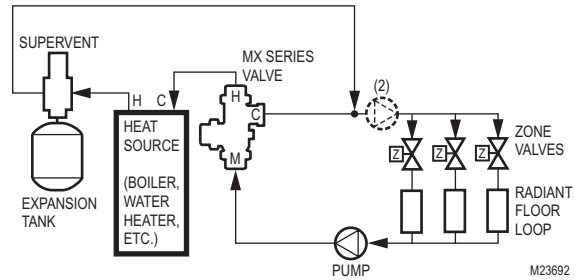


Fig. 9. Single loop. For multiple loops see Mixing Applications.

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Resideo Technologies, Inc.  
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