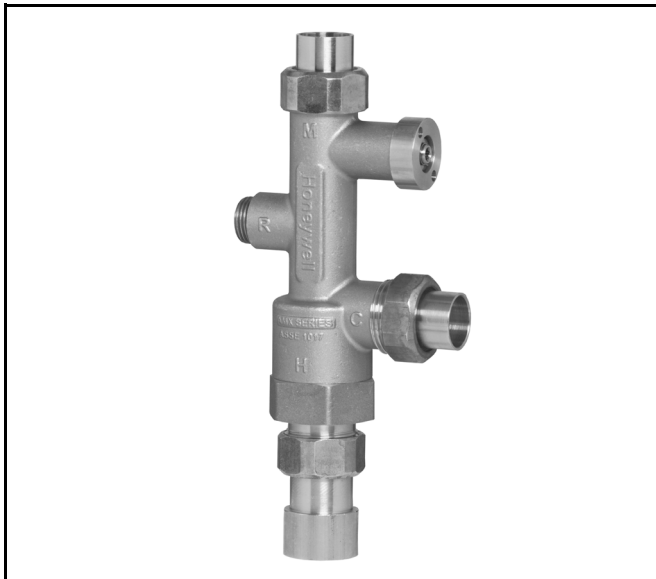


# AMX Series DirectConnect™

## SPECIFICATION DATA



## FEATURES

- Designed to be installed directly on the water heater hot port.
- 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 using 3/16 in. Allen® wrench (included).
- Union coupled tailpiece connections included.
- Heat trapping not required.
- Recirculation connection for fast response.
- Integral check valve on cold water port.
- Bronze/stainless construction.
- Teflon® coated wear surfaces to prevent lime deposits.
- Maximum pressure differential between hot and cold ports is 7 psi (48 kPa).
- ASSE 1017 certified. CSA and IAPMO listed.
- Lead-free models available.
- Patent Pending.

## APPLICATION

Any application requiring accurate control of water temperature based on mixing of hot and cold water, such as:

- Domestic water for residents designed to be mounted directly on the water heater.
- Hotels, schools, hospitals, or nursing homes.
- Space heating.
- Radiant floor heating.
- Central distribution systems.
- Combo systems.
- Heat pump systems.
- Industrial applications.

## Benefits

AMX Series DirectConnect™ Mixing Valve provides energy savings, increased comfort and safety for the user.

## OPERATION

Automatic operation is provided by thermostatic element. Element will control hot and cold supply based on valve setting. If cold water is shut off, valve reduces mixed flow rate in seconds.



## CAUTION

**Injury Hazard.**

**Exceeding mix temperature can cause burns.**

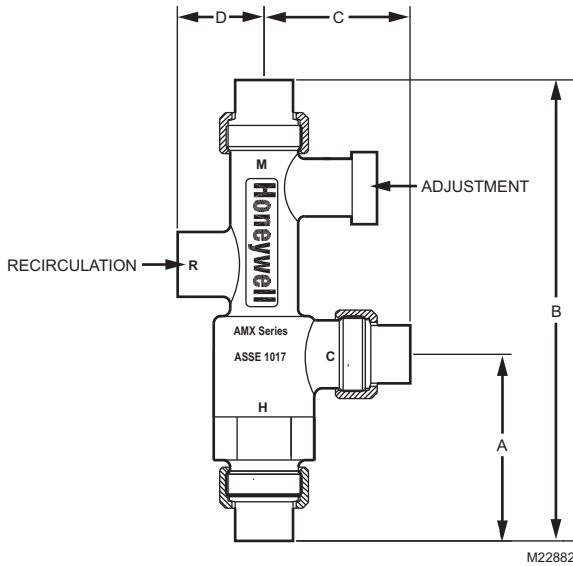
For domestic water applications the AMX Series DirectConnect Mixing Valve temperature should not exceed 120 °F (49 °C).



## Service

To remove dirt, flush valve. To remove calcium deposits, soak valve in vinegar for 24 hours and flush, or contact factory.

## SPECIFICATIONS



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

**Fig. 1. Thermostatic Mixing or Diverting Valve dimensions.**

**Maximum Temperature:** 200 °F (93 °C), except for CPVC mixing valves (maximum of 180 °F [82 °C] at maximum of 100 psi).

**Minimum Temperature Difference between hot and mix:** 10 °F (-12 °C).

**Factory Temperature Setting:** 120 °F (49 °C).

**Maximum Pressure:** 150 psi (1034 kPa).

**Minimum Flow:** 0.5 gpm (1.9 lpm).

**Recirculation Port:** 1/2 in. NPT.

**Lead-free Plumbing Code Compliance:** The wettable surface of lead-free models contain less than 0.25% of lead by weighted average.

## Temperature Selection

The AMX Series DirectConnect is made with a temperature range of 90 to 130 °F (32 to 54 °C). The factory mix output setting is at 120 °F (49 °C), using the following normal conditions: 140 °F (60 °C) hot water input and 60 °F (16 °C) cold water input. Conditions different than the normal setting may require readjustment to achieve the 120 °F (49 °C) mix output temperature.

To change the output mix temperature it requires a 3/16 in. Allen wrench, which is included.

1. Punch through the center of the temperature range label.
2. Adjust temperature mix output by turning the screw clockwise to decrease the mix temperature and counterclockwise to increase the mix output temperature.
3. Use a thermometer to verify mix output temperature.

### **IMPORTANT**

*Do not operate the valve at temperatures outside of its calibrated range.*

# TYPICAL INSTALLATION DIAGRAMS

## Domestic Water Mixing (Figures 2, 3 and 4)

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

A temperature control circulating pump is required to move the tempered water in the recirculation loop. The Honeywell L6006C1018 Aquastat® Control is the recommended temperature control device for the circulator. The Honeywell Aquastat Controller should be set 5 to 10 °F (-15 to -12 °C) below the set mixed outlet temperature.

### CAUTION Injury Hazard.

**Can cause severe burns.**

If the circulator pump is continuously running and not temperature controlled by an Aquastat Controller, the recirculating loop temperature could exceed the set mixed temperature and reach scalding temperatures during no demand periods.

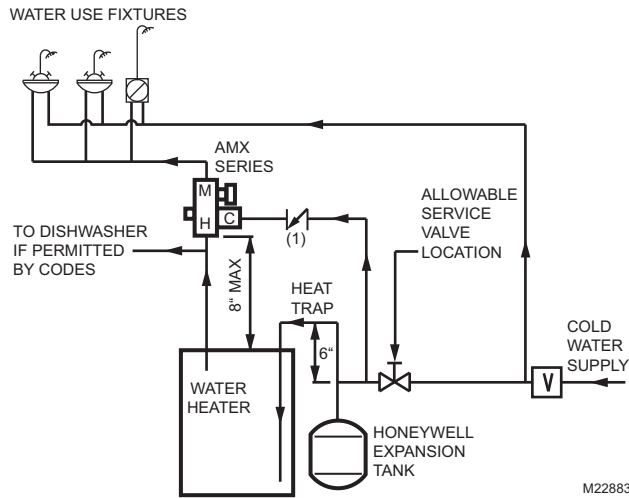


Fig. 2. Water Heater without Recirculation.

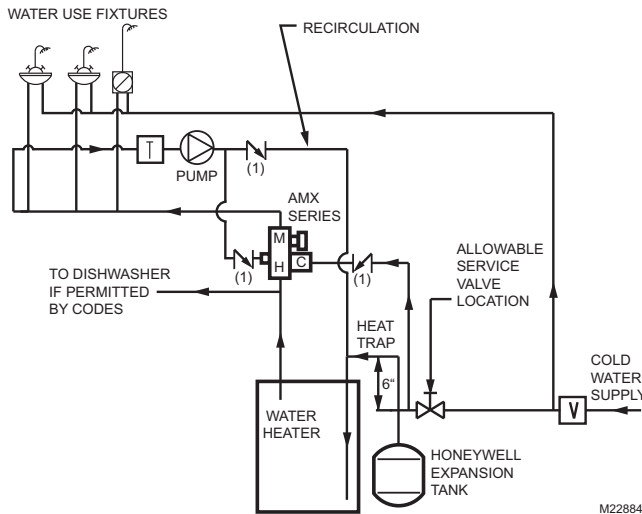


Fig. 3. Water Heater with Recirculation

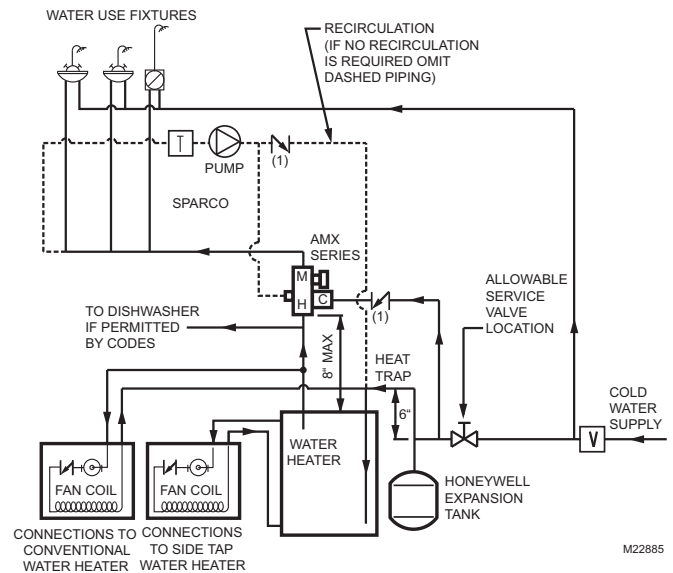


Fig. 4. Water Heater used for Domestic Water and Space Heating.

### Legend:

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.

T = Recirculation pump thermostat control.

**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, dangerous high pressures could result or water heater safety relief valve will frequently expel water. If no V device is used, no thermal expansion tank is required.

## Recirculation Loop

The purpose of a recirculation loop is to supply immediate tempered water to all hot water fixtures. This helps conserve water usage. In the recirculating loop, the hot water supply returns from the furthest fixture from the heating source and is connected to the AMX mixing valve recirculation port and the cold supply line of the water heater, storage tank or boiler. The AMX Series DirectConnect mixing valve allows easy recirculation connection through the integral recirculation port.

## Space Heating (Figures 5, 6, 7 and 8)

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

### Mixing Applications (Constant Supply Temperature)

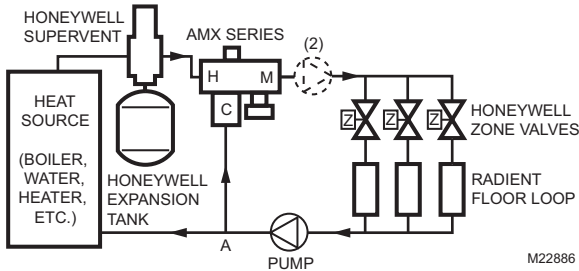


Fig. 5. Single Loop.

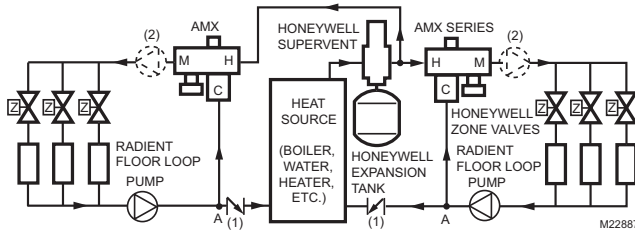


Fig. 6. Multiple Loop (Each Loop Operates at a Different Temperature).

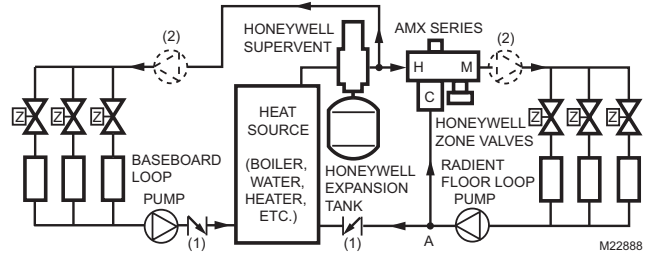


Fig. 7. Multiple Loops (One Loop at Boiler Water Temperature and AMX Series DirectConnect Loop at Lower Temperature).

### Diverting Application (Constant Temperature)

Single loop is shown in Fig. 8. For multiple loops, see the Mixing Applications section.

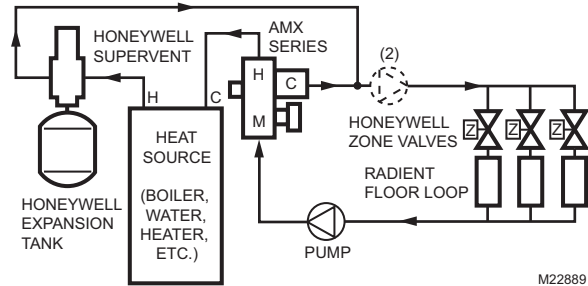


Fig. 8. Single Loop.

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Teflon® is a registered trademark of E.I. du Pont de Nemours and Company.

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