Piping Symbol Legend

- circulator (w/ isolation flanges)
- circulator w/ integral flow check)
- gate valve
- globe valve
- ball valve
- swing-check valve
- flow-check valve
- spring-loaded check valve
- hose bib / boiler drain
- thermostatic radiator valve TRV (straight)
- thermostatic radiator valve TRV (angle)
- circuit setter
- manual 3-way valve
- zone valve
- air separator
- diaphragm-type expansion tank

- pressure reducing valve
- diff. pressure bypass
- anti-scald rated mixing valve
- pressure gauge
- 4-way motorized mixing valve
- 3-way motorized mixing valve
- pressure relief valve
- backflow preventer
- float-type air vent
- union
- heat exchanger
- vacuum breaker

M. BOILER PIPING DETAILS
NOTES:

1. This drawing is meant to show system piping concept only. Installer is responsible for all equipment & detailing required by local codes.
2. Adjust differential pressure bypass valve to eliminate any flow velocity noise when zone with highest pressure drop operates by itself.
3. The minimum pipe size for connecting a Super Stor water heater is 1 inch.
4. The minimum pipe size for connecting a Munchkin boiler is 1.25 inches and 2 inches for the 399M.
5. All pumps are shown with isolation flanges. The alternative is standard flanges with full port ball valves.
6. The anti-scald mixing valve is recommended if the DHW temperature is set above the factory setting of 119˚F.
7. Install a minimum of 12 diameters of straight pipe upstream of all circulators.
8. A purging valve may be used in lieu of the ball valve / hose bib combination shown.
9. A minimum of 6 pipe diameters of straight pipe shall be installed upstream and downstream of all closely spaced tees.

NOTE: For Vision piping applications, refer to the Vision Installation Piping Diagrams.
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NOTE: For Vision piping applications, refer to the Vision Installation Piping Diagrams.
Standard Munchkin boiler  
Preferred piping (zoning with circulators)  
Domestic water heating mode

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Standard Munchkin boiler Preferred piping
(multiple boilers / zoning with circulators)
Space heating mode

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7. The anti-scald mixing valve is recommended if the DHW temperature is set above the factory setting of 119°F.
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NOTE: For Vision piping applications, refer to the Vision Installation Piping Diagrams.
Munchkin VISION 1 system (zoning with valves)
Space heating mode

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6. All pumps are shown with isolation flanges and integral flow check valves.
   The alternative is standard flanges with full port ball valves and a separate flow check valve.
7. The anti-scald mixing valve is recommended if the DHW temperature is set above the factory setting of 119°F.
8. Install a minimum of 12 diameters of straight pipe upstream of all circulators.
9. A purging valve may be used in lieu of the ball valve / hose bib combination shown.
10. Adjust differential pressure bypass valve to eliminate any flow velocity noise when zone with highest pressure
    drop operates by itself.
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8. The anti-scald mixing valve is recommended if the DHW temperature is set above the factory setting of 119°F.
9. Adjust differential pressure bypass valve to eliminate any flow velocity noise when zone with highest pressure drop operates by itself.
10. Adjust 3-way manually-set mixing valve to yield proper supply temperature to lower temperature load.
NOTES:

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7. The anti-scald mixing valve is recommended if the DHW temperature is set above the factory setting of 119°F.
8. Install a minimum of 12 diameters of straight pipe upstream of all circulators.
9. A purging valve may be used in lieu of the ball valve / hose bib combination shown.
Munchkin VISION 1 system (zoning with circulators)
Domestic water heating mode

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7. The anti-scald mixing valve is recommended if the DHW temperature is set above the factory setting of 119°F.
8. Install a minimum of 12 diameters of straight pipe upstream of all circulators.
9. A purging valve may be used in lieu of the ball valve / hose bib combination shown.
Munchkin VISION 1 system (zoning with circulators)
Space heating mode (w/ submixing)

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5. The minimum pipe size for connecting a Super Stor water heater is 1 inch.
6. The minimum pipe size for connecting a Munchkin boiler shall be 1.25 inches and 2 inches for the 399M.
7. All pumps are shown with isolation flanges and integral flow check valves. The alternative is standard flanges with full port ball valves and a separate flow check valve.
8. The anti-scald mixing valve is recommended if the DHW temperature is set above the factory setting of 119°F.
9. Install a minimum of 12 diameters of straight pipe upstream of all circulators.
10. A purging valve may be used in lieu of the ball valve / hose bib combination shown.
11. Adjust 3-way manually-set mixing valve to yield proper supply temperature to lower temperature load.
Munchkin VISION 1 system
(zoning with circulators)
Space heating mode (3 fully reset supply temperatures)

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4. The minimum pipe size for connecting a Super Stor water heater is 1 inch.
5. The minimum pipe size for connecting a Munchkin boiler shall be 1.25 inches and 2 inches for the 399M.
6. All pumps are shown with isolation flanges and integral flow check valves.
   The alternative is standard flanges with full port ball valves and a separate flow check valve.
7. The anti-scald mixing valve is recommended if the DHW temperature is set above the factory setting of 119°F.
8. Do not use valve actuators on manifolds supplied by manually-set 3-way mixing valves.
9. A purging valve may be used in lieu of the ball valve / hose bib combination shown.
10. Adjust 3-way manually-set mixing valve to yield proper supply temperature to lower temperature load.
Munchkin VISION 1 system (zoning with circulators)
Space heating mode (3 different supply temperatures)

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6. All pumps are shown with isolation flanges and integral flow check valves. The alternative is standard flanges with full port ball valves and a separate flow check valve.
7. The anti-scald mixing valve is recommended if the DHW temperature is set above the factory setting of 119˚F.
8. Follow all instructions for installation of injection mixing system.
9. A purging valve may be used in lieu of the ball valve / hose bib combination shown.
10. Adjust 3-way manually-set mixing valve to yield proper supply temperature to lower temperature load.
Munchkin VISION 1 system

Multiple high temperature priority loads controlled with zone valves

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7. The anti-scald mixing valve is recommended if the DHW temperature is set above the factory setting of 119°F.
8. Install a minimum of 12 diameters of straight pipe upstream of all circulators.
9. A purging valve may be used in lieu of the ball valve / hose bib combination shown.
10. High temperature loads cannot operate simultaneously with low temperature loads.
11. Supply water temperature to high temperature loads is not reset based on outdoor temperature.
12. Domestic water heating is highest priority load, and controlled through priority zone of multi-zone relay center.
Munchkin VISION 1 system
Multiple high temperature priority loads
controlled with zone circulators
Multiple low temperature load controls with zone circulators

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11. Supply water temperature to high temperature loads is not reset based on outdoor temperature.
12. Domestic water heating is highest priority load, and controlled through priority zone of multi-zone relay center.