Figure 4 – Phoenix with Recirculation Line and Thermostatic Mixing Valve Piping

NOTES:
1. Minimum pipe size should match unit connection size. Upsize pipe accordingly if greater flow is required.
2. A thermal expansion tank suitable for potable water must be sized and installed within this piping system between the backflow preventer and the cold water inlet.
3. Gas line must be rated to the unit maximum input capacity. Unit must have 10 feet of pipe after gas regulator.
4. All circulators should have an integral flow check.
5. Drains and check valve between unit and storage tank will assist in purging air from system.
6. This drawing is meant to demonstrate system piping only. The installer is responsible for all equipment and detailing required by local codes. In Massachusetts, you must install a vacuum relief valve per 248 CMR.
7. Always shut off power to the water heater or isolate the heater from the system if ANY plumbing work is to be done. Running the water heater without water will result in dry firing.

DANGER
An ASSE 1017 thermostatic mixing valve MUST be installed when using outdoor reset. Failure to do so could result in substantial property damage, serious injury, or death.

WARNING
The piping will not support the weight of the water heater circulator pump. Refer to the pump manufacturer’s installation instructions to properly support the circulator pump. Failure to comply with these instructions could result in substantial property damage, severe personal injury, or death.
Figure 5 – Phoenix with Air Handler on Side

NOTES:
1. Minimum pipe size should match unit connection size. Upsize pipe accordingly if greater flow is required.
2. A thermal expansion tank suitable for potable water must be sized and installed within this piping system between the backflow preventer and the cold water inlet.
3. Gas line must be rated to the unit maximum input capacity. Unit must have 10 feet of pipe after gas regulator.
4. All circulators should have an integral flow check.
5. Check with air handler manufacturer for proper sizing.
6. This drawing is meant to demonstrate system piping only. The installer is responsible for all equipment and detailing required by local codes. In Massachusetts, you must install a vacuum relief valve per 248 CMR. With air handlers, outdoor reset is available with an outdoor sensor. See Part 8, Section D.
7. Always shut off power to the water heater or isolate the heater from the system if ANY plumbing work is to be done. Running the water heater without water will result in dry firing.

NOTES FOR AIR HANDLER APPLICATION:
1. MASSACHUSETTS STATE PLUMBING CODE REQUIRES A DISTANCE NO GREATER THAN 50 FEET FROM THE WATER HEATER TO THE FAN COIL IN THE AIR HANDLER.
2. MASSACHUSETTS STATE PLUMBING CODE REQUIRES AN ELECTRONICALLY TIMED CIRCULATOR PUMP TO ACTIVATE EVERY SIX HOURS FOR 60 SECONDS. THIS CIRCULATOR IS REQUIRED TO BE BRONZE OR STAINLESS.
3. ALL WATER PIPING MUST BE INSULATED.
4. YOU MUST INSTALL A VACUUM RELIEF VALVE PER 248 CMR.

NOTE: THIS DRAWING IS MEANT TO DEMONSTRATE SYSTEM PIPING ONLY. THE INSTALLER IS RESPONSIBLE FOR ALL EQUIPMENT AND DETAILING REQUIRED BY LOCAL CODES.

⚠️ DANGER

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