

Figure 26 – DHW Piping, Single Water Heater

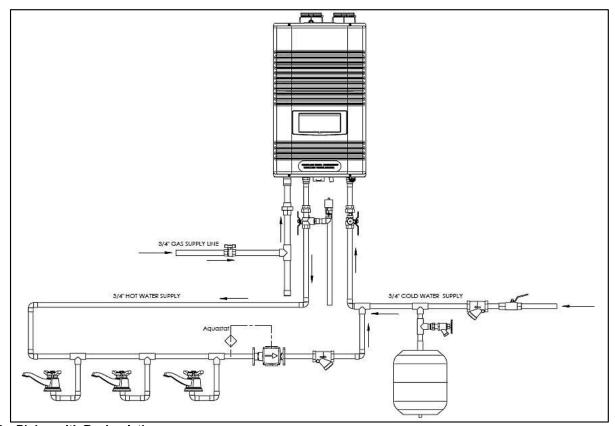


Figure 27 – Piping with Recirculation

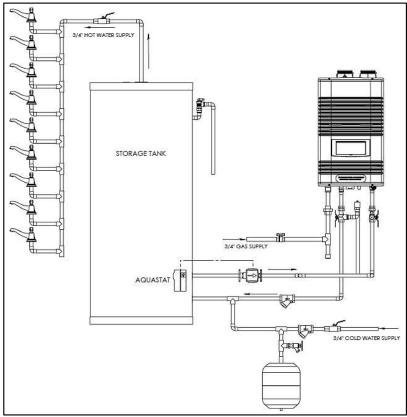


Figure 28 – Water Heater with Storage Tank

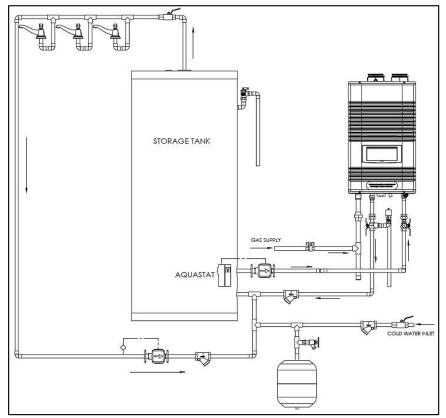


Figure 29 – Water Heater with Storage Tank and Recirculation

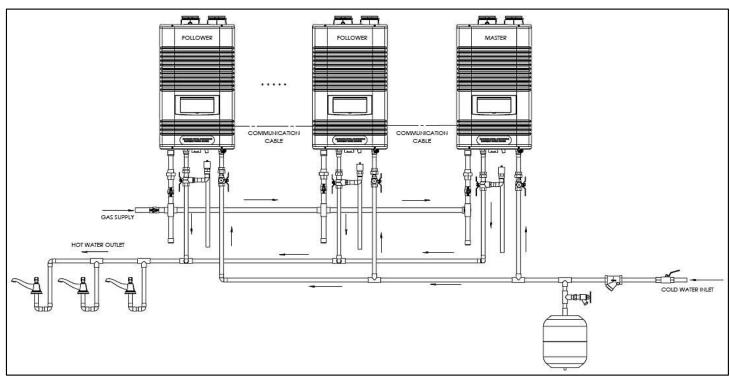


Figure 30 – Multiple Water Heater Piping – Cascaded System

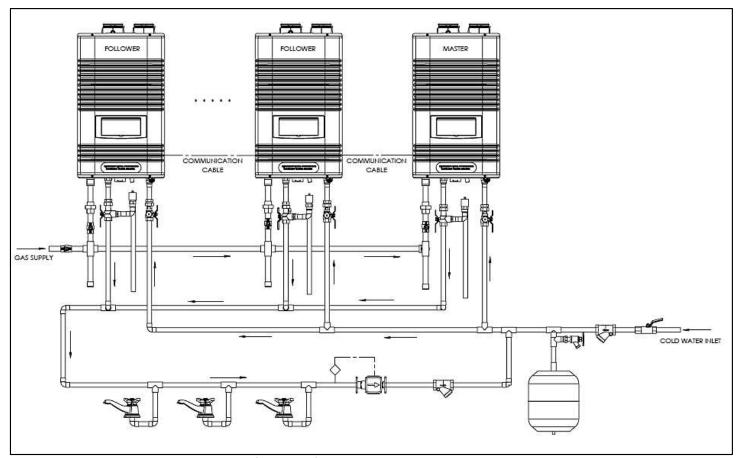


Figure 31 - Multiple Water Heater Piping - Cascaded System - Recirculation

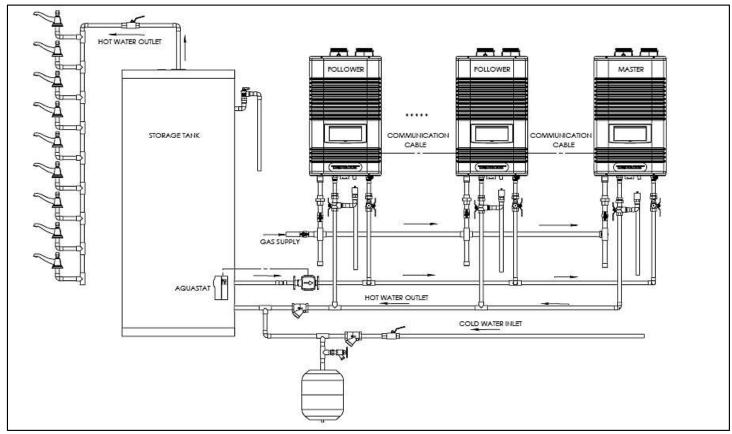


Figure 32 – Multiple Water Heater Piping – Cascaded System with Storage Tank

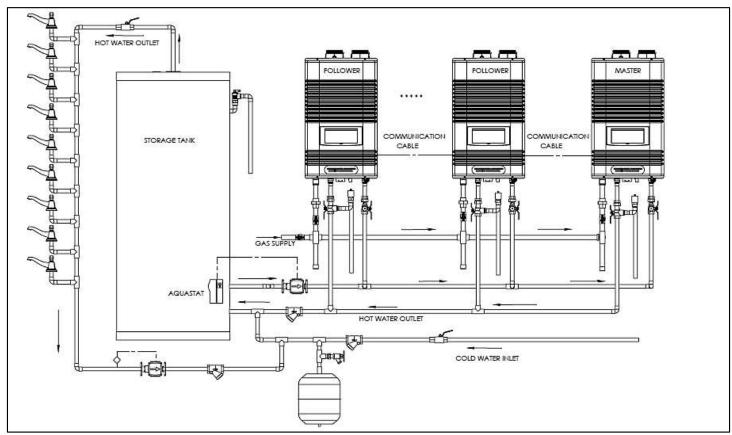


Figure 33 – Multiple Water Heater Piping – Cascaded System with Storage Tank and Recirculation

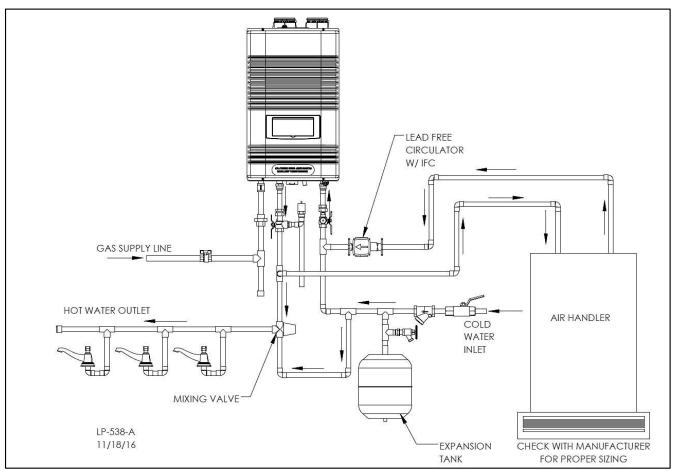


Figure 34 – Water Heater with Air Handler – NOTE: There is a Built-In Flow Check in the Air Handler Loop

## NOTES:

- 1. Minimum pipe size should match 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. All circulators should have an integral flow check.
- 4. Drains and check valve between unit and storage tank will assist in purging air from system.
- 5. These drawings are 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.
- 6. Mixing valve application is optional, but recommended to help prevent scalding.
- 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.