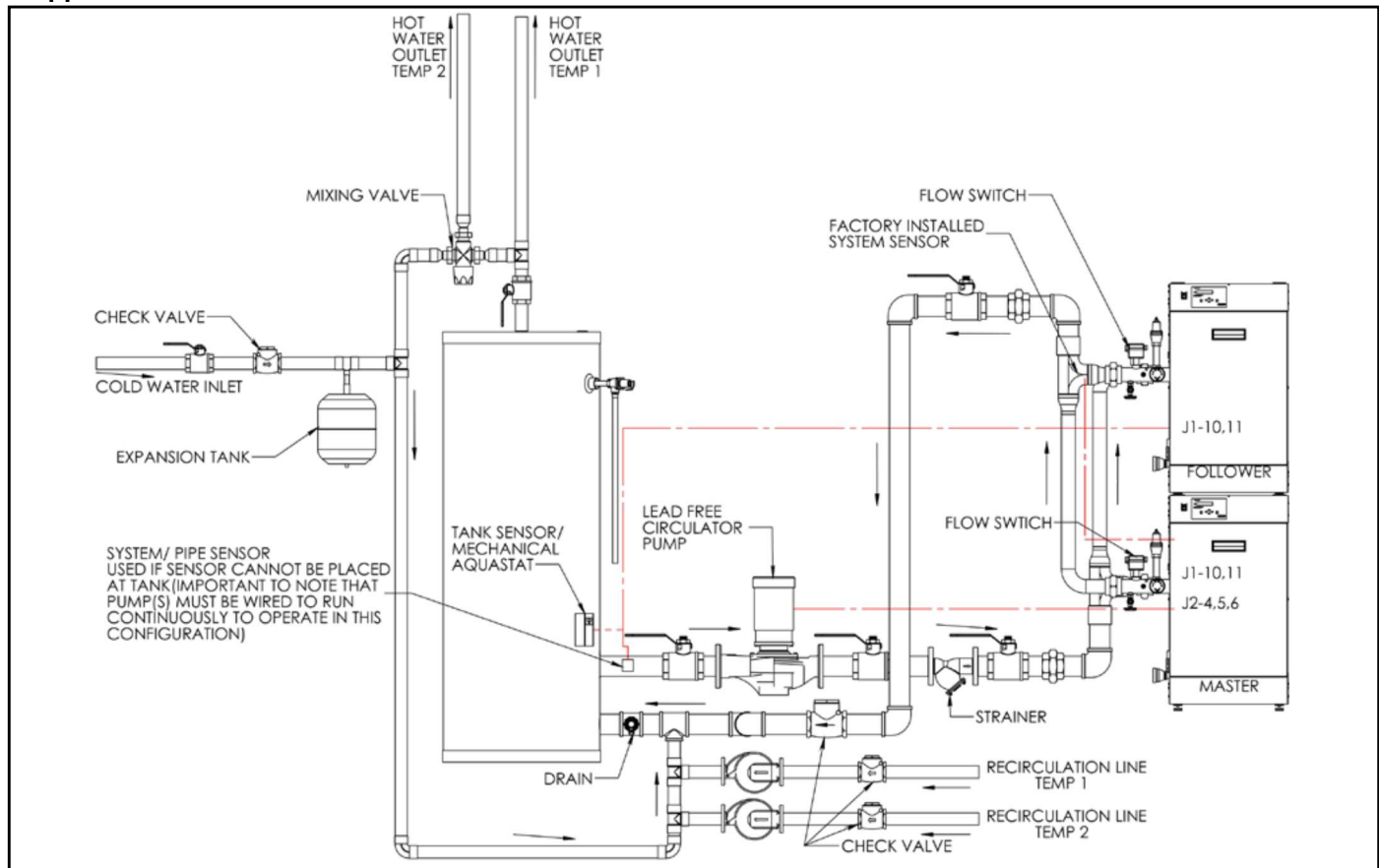


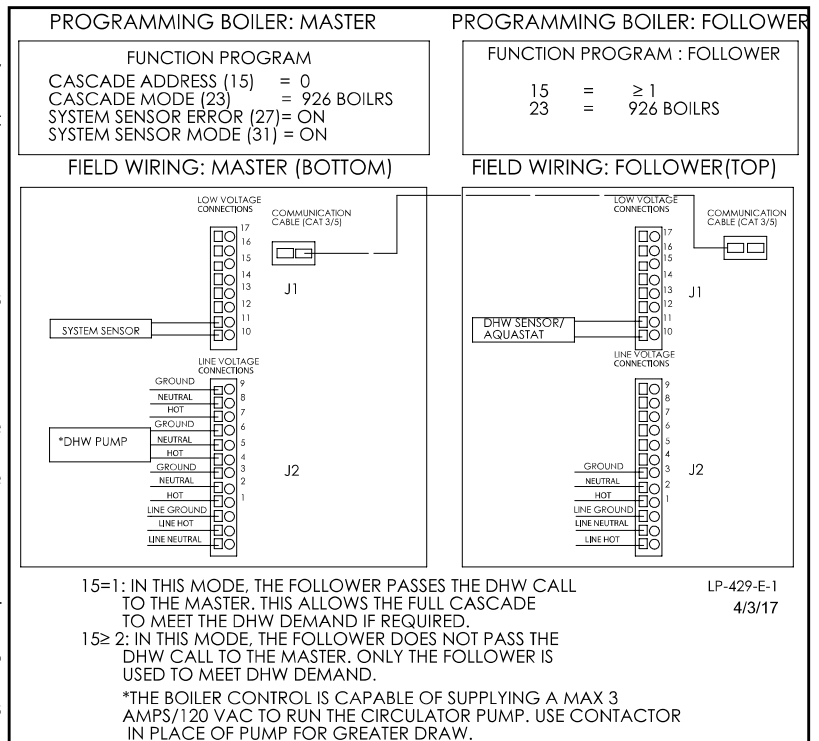
## I. Applications



**Figure 5 - Stacked VWH Boiler with Storage Tank Piping**

**FIGURE NOTES:**

1. This drawing is meant to show system piping concept only. Installer is responsible for all equipment & detailing required by local codes.
2. Boiler circulator must be rated for open loop application. Do not use cast-iron circulators.
3. Boiler circulator(s) operate continuously.
4. The minimum pipe size for connecting a storage tank is 1 1/2".
5. The minimum pipe size for connecting a boiler is 3". When sizing and installing a multiple boiler system, see Multiple Boiler Manifold Piping Chart, this manual.
6. All pumps are shown with isolation flanges or full port ball valves for isolation. The alternative is standard flanges with full port ball valves and a separate flow check valve.
7. Install a minimum of 12 diameters of straight pipe upstream of all circulators and check valves.
8. Install vacuum relief valve in accordance with local code requirements.
9. Multiple boilers and storage tanks shall be installed with reverse return piping (as shown).
10. Expansion tank must be rated for use with potable water.
11. Use either indirect/tank sensor or system/pipe sensor mounted on common return to the boiler.
12. Wire the tank or system/pipe sensor to the DHW sensor terminals input on the top boiler.
13. The system / pipe sensor must be placed on common piping to the tank as close to the tank as possible.
15. The system / pipe sensor is wired to the system sensor terminals on the top boiler.
16. The minimum storage tank size for a 1000VWH is 200 gallons. The minimum storage tank size for a 1700VWH is 350 gallons.

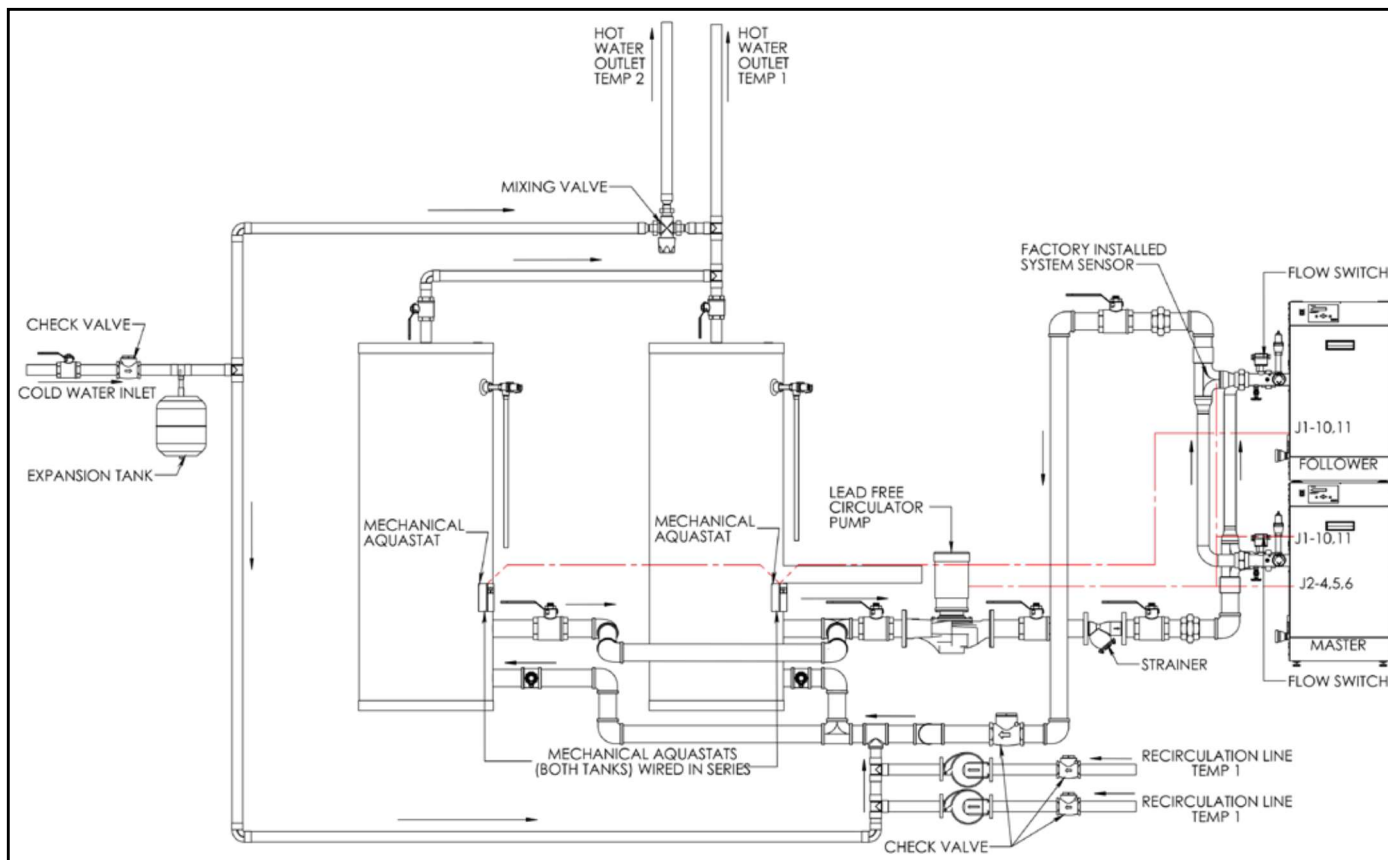


**Figure 6 - Stacked VWH Boiler with Storage Tank Wiring**

## WARNING

An ASSE 1017 thermostatic mixing valve is recommended on all tanks if the hot water temperature leaving the tank is above 119°F. Failure to do so could result in substantial property damage, serious injury, or death.

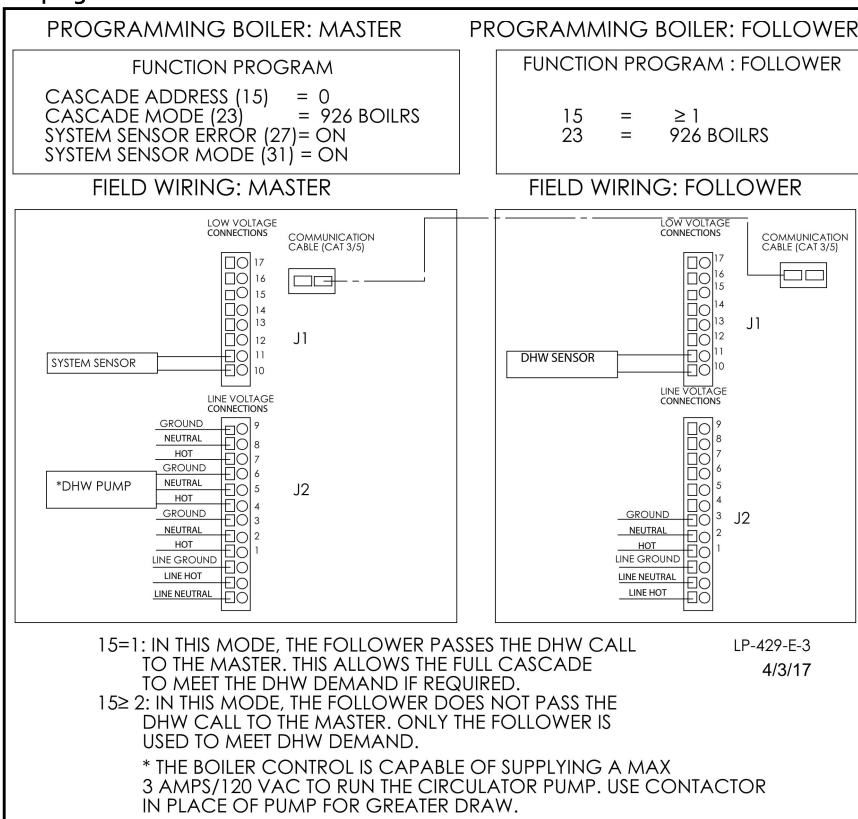
The piping will not support the weight of the circulators. Refer to the circulator manufacturer's instructions to properly support the circulator. Failure to comply with these instructions could result in property damage, severe personal injury, or death.



**Figure 7 - Stacked VWH Boiler with Two Storage Tank Piping**

**FIGURE NOTES:**

1. This drawing is meant to show system piping concept only. Installer is responsible for all equipment & detailing required by local codes.
2. Boiler circulator must be rated for open loop application. Do not use cast-iron circulators.
3. Boiler circulator(s) operate continuously.
4. The minimum pipe size for connecting a storage tank is 1 1/2".
5. The minimum pipe size for connecting a boiler is 3". When sizing and installing a multiple boiler system, see Multiple Boiler Manifold Piping Chart, this manual.
6. All pumps are shown with isolation flanges or full port ball valves for isolation. The alternative is standard flanges with full port ball valves and a separate flow check valve.
7. Install a minimum of 12 diameters of straight pipe upstream of all circulators and check valves.
8. Install vacuum relief valve in accordance with local code requirements.
9. Multiple boilers and storage tanks shall be installed with reverse return piping (as shown).
10. Expansion tank must be rated for use with potable water.
11. Use either indirect/tank sensor or system/pipe sensor mounted on common return to the boiler.
12. Wire the tank or system/pipe sensor to the DHW sensor terminals input on the top boiler.
13. The system / pipe sensor must be placed on common piping to the tank as close to the tank as possible.
15. The system / pipe sensor is wired to the system sensor terminals on the top boiler.
16. The minimum storage tank size for a 1000VWH is 200 gallons. The minimum storage tank size for a 1700VWH is 350 gallons.

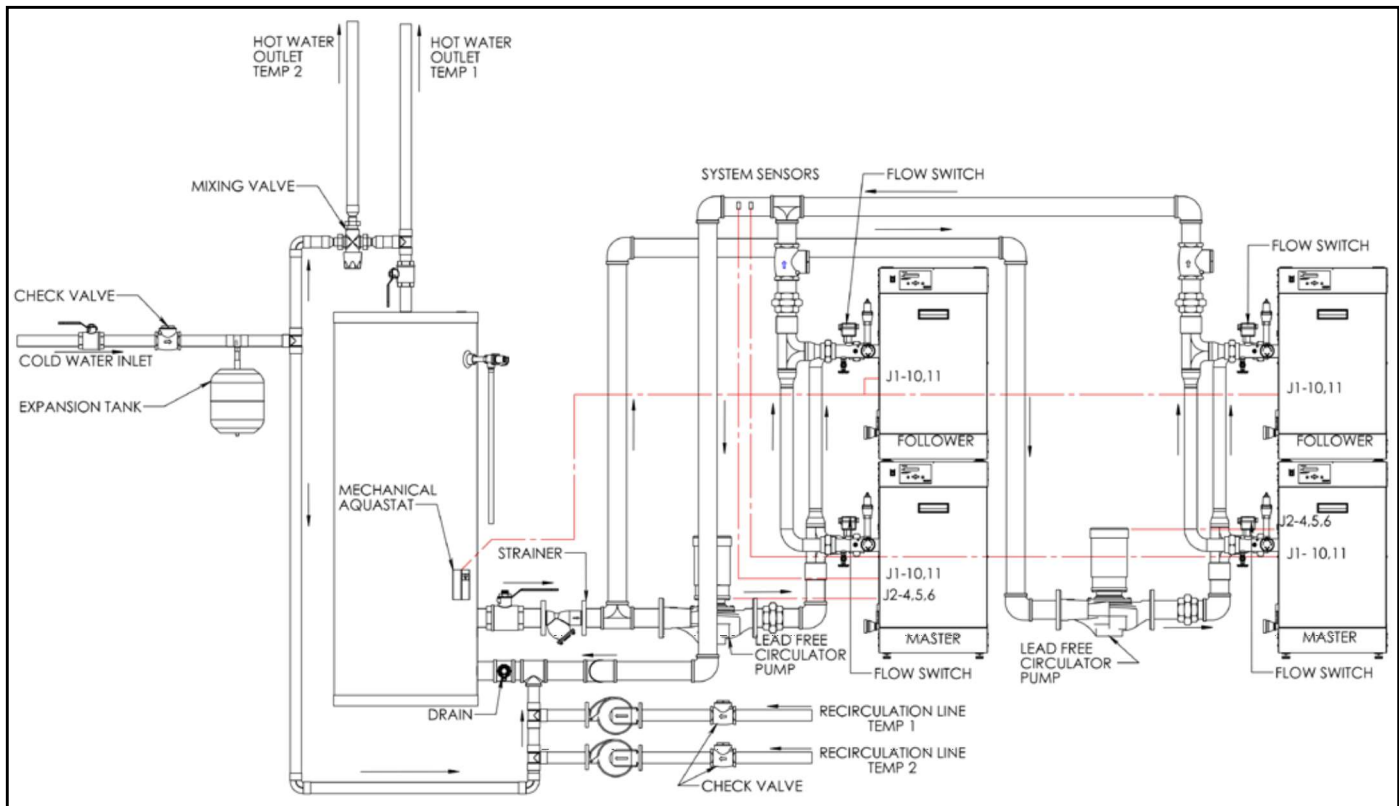


**Figure 8 - Stacked VWH Boiler with Two Storage Tank Wiring**

## ⚠ WARNING

An ASSE 1017 thermostatic mixing valve is recommended on all tanks if the hot water temperature leaving the tank is above 119°F. Failure to do so could result in substantial property damage, serious injury, or death.

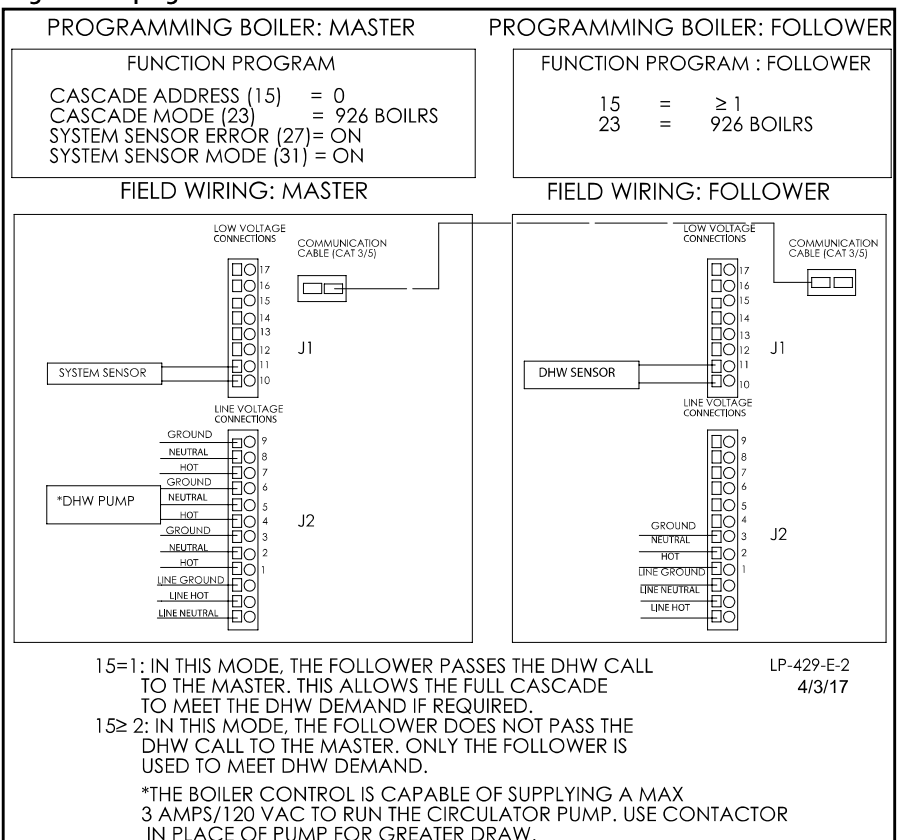
The piping will not support the weight of the circulators. Refer to the circulator manufacturer's instructions to properly support the circulator. Failure to comply with these instructions could result in property damage, severe personal injury, or death.



**Figure 9 - Two Stacked VWH Boilers with One Storage Tank Piping**

**FIGURE NOTES:**

1. This drawing is meant to show system piping concept only. Installer is responsible for all equipment & detailing required by local codes.
2. Boiler circulator must be rated for open loop application. Do not use cast-iron circulators.
3. Boiler circulator(s) operate continuously.
4. The minimum pipe size for connecting a storage tank is 1 1/2".
5. The minimum pipe size for connecting a boiler is 3". When sizing and installing a multiple boiler system, see Multiple Boiler Manifold Piping Chart, this manual.
6. All pumps are shown with isolation flanges or full port ball valves for isolation. The alternative is standard flanges with full port ball valves and a separate flow check valve.
7. Install a minimum of 12 diameters of straight pipe upstream of all circulators and check valves.
8. Install vacuum relief valve in accordance with local code requirements.
9. Multiple boilers and storage tanks shall be installed with reverse return piping (as shown).
10. Expansion tank must be rated for use with potable water.
11. Use either indirect/tank sensor or system/pipe sensor mounted on common return to the boiler.
12. Wire the tank or system/pipe sensor to the DHW sensor terminals input on the top boiler.
13. The system / pipe sensor must be placed on common piping to the tank as close to the tank as possible.
15. The system / pipe sensor is wired to the system sensor terminals on the top boiler.
16. The minimum storage tank size for a 1000VWH is 200 gallons. The minimum storage tank size for a 1700VWH is 350 gallons.

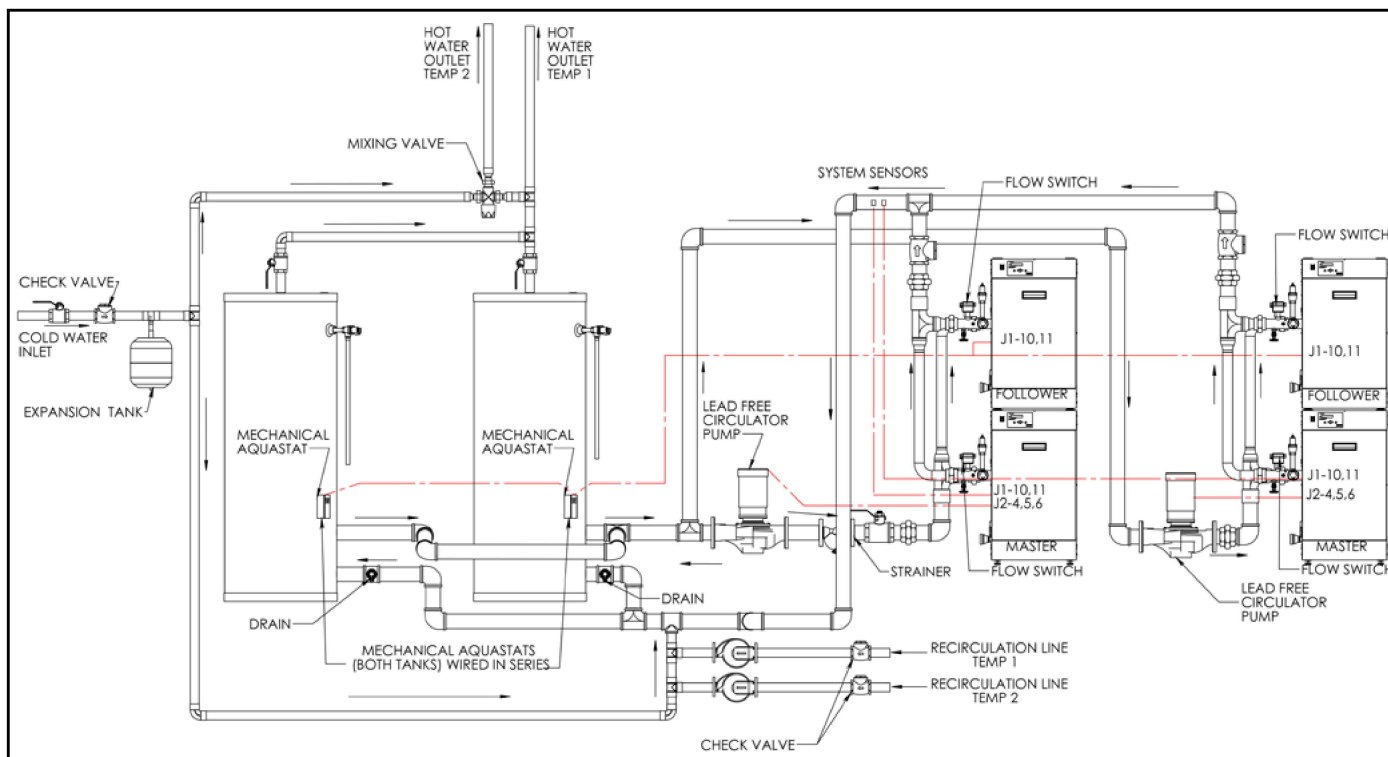


**Figure 10 - Two Stacked VWH Boilers with One Storage Tank Wiring**

## WARNING

An ASSE 1017 thermostatic mixing valve is recommended on all tanks if the hot water temperature leaving the tank is above 119°F. Failure to do so could result in substantial property damage, serious injury, or death.

The piping will not support the weight of the circulators. Refer to the circulator manufacturer's instructions to properly support the circulator. Failure to comply with these instructions could result in property damage, severe personal injury, or death.



**Figure 11 - Two Stacked VWH Boilers with Two Storage Tanks Piping**

**FIGURE NOTES:**

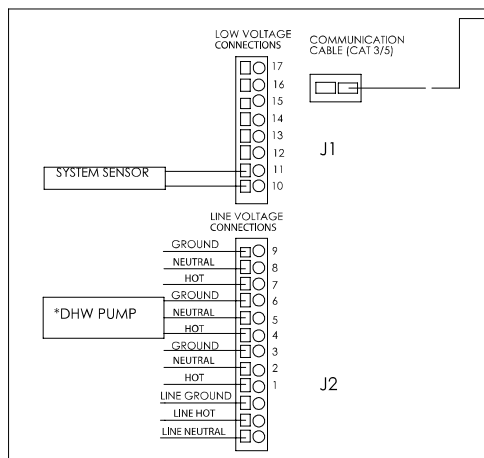
1. This drawing is meant to show system piping concept only. Installer is responsible for all equipment & detailing required by local codes.
2. Boiler circulator must be rated for open loop application. Do not use cast-iron circulators.
3. Boiler circulator(s) operate continuously.
4. The minimum pipe size for connecting a storage tank is 1 1/2".
5. The minimum pipe size for connecting a boiler is 3". When sizing and installing a multiple boiler system, see Multiple Boiler Manifold Piping Chart, this manual.
6. All pumps are shown with isolation flanges or full port ball valves for isolation. The alternative is standard flanges with full port ball valves and a separate flow check valve.
7. Install a minimum of 12 diameters of straight pipe upstream of all circulators and check valves.
8. Install vacuum relief valve in accordance with local code requirements.
9. Multiple boilers and storage tanks shall be installed with reverse return piping (as shown).
10. Expansion tank must be rated for use with potable water.
11. Use either indirect/tank sensor or system/pipe sensor mounted on common return to the boiler.
12. Wire the tank or system/pipe sensor to the DHW sensor terminals input on the top boiler.
13. The system / pipe sensor must be placed on common piping to the tank as close to the tank as possible.
15. The system / pipe sensor is wired to the system sensor terminals on the top boiler.
16. The minimum storage tank size for a 1000VWH is 200 gallons. The minimum storage tank size for a 1700VWH is 350 gallons.

**PROGRAMMING BOILER: MASTER**

**FUNCTION PROGRAM**

CASCADE ADDRESS (15) = 0  
 CASCADE MODE (23) = 926 BOILRS  
 SYSTEM SENSOR ERROR (27) = ON  
 SYSTEM SENSOR MODE (31) = ON

**FIELD WIRING: MASTER**

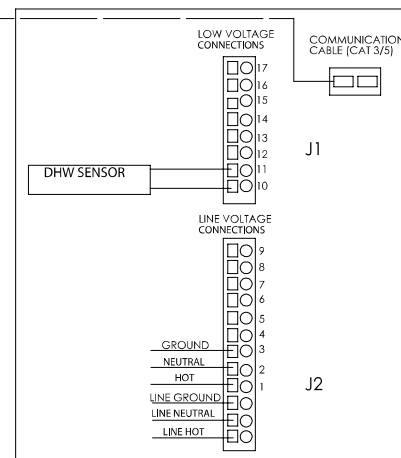


**PROGRAMMING BOILER: FOLLOWER**

**FUNCTION PROGRAM : FOLLOWER**

15 = ≥ 1  
 23 = 926 BOILRS

**FIELD WIRING: FOLLOWER**



15=1: IN THIS MODE, THE FOLLOWER PASSES THE DHW CALL TO THE MASTER. THIS ALLOWS THE FULL CASCADE TO MEET THE DHW DEMAND IF REQUIRED.

15≥ 2: IN THIS MODE, THE FOLLOWER DOES NOT PASS THE DHW CALL TO THE MASTER. ONLY THE FOLLOWER IS USED TO MEET DHW DEMAND.

\*THE BOILER CONTROL IS CAPABLE OF SUPPLYING A MAX 3 AMPS/120 VAC TO RUN THE CIRCULATOR PUMP. USE CONTACTOR IN PLACE OF PUMP FOR GREATER DRAW.

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**Figure 12 - Two Stacked VWH Boilers with Two Storage Tanks Wiring**

**WARNING**

An ASSE 1017 thermostatic mixing valve is recommended on all tanks if the hot water temperature leaving the tank is above 119°F. Failure to do so could result in substantial property damage, serious injury, or death.

The piping will not support the weight of the circulators. Refer to the circulator manufacturer's instructions to properly support the circulator. Failure to comply with these instructions could result in property damage, severe personal injury, or death.