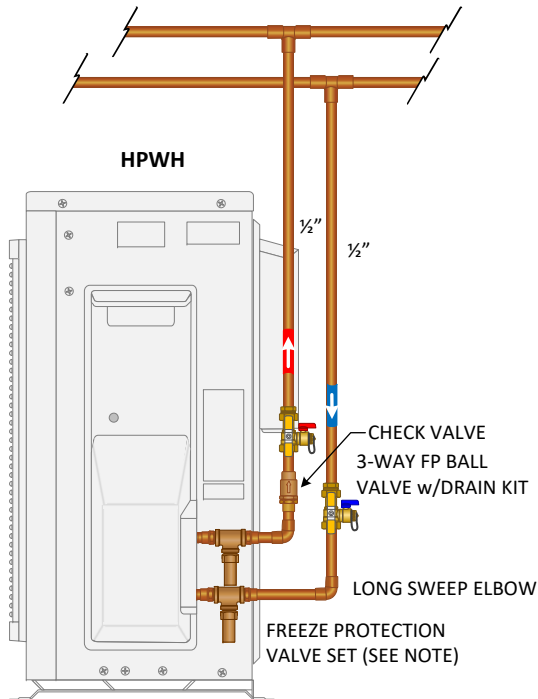
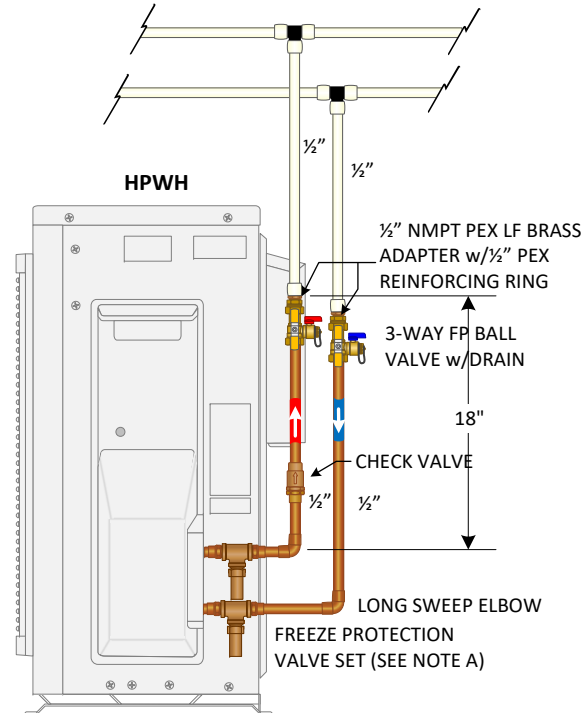


HEAT PUMP WATER HEATER PIPING DETAIL (HPWH)



PIPING DETAIL A
WITH COPPER PIPE



PIPING DETAIL B
WITH PEX PIPE

NOTES

NOTE A: TO PREVENT DAMAGE TO THE HPWH, WHERE TEMPERATURES ROUTINELY DROP BELOW FREEZING, WE RECOMMEND A FREEZE PROTECTION VALVE SET.

NOTE B: AREAS WHERE WATER HARDNESS IS GREATER THAN > 200 PPM, IT MAY BE NECESSARY TO PERIODICALLY SERVICE THE HPWH HEAT EXCHANGER. WE RECOMMEND INSTALLING A SERVICE VALVE FLUSH KIT TO THE HPWH. INSTRUCTIONS ON HOW TO DO THE PROCEDURE IS EXPLAINED IN OUR SANCO₂ TECHNICAL MANUAL.

NOTE C: INSULATE ALL PIPING PER CODE.

NOTE D: CHECK WITH LOCAL JURISDICTIONS FOR CODE REQUIREMENTS. SOME AREAS REQUIRE 18 INCHES OF COPPER PIPE AT THE HOT WATER HEATER OUTLET CONNECTION BEFORE TRANSITIONING TO PEX.

NOTE:
DASHED LINES REPRESENT CRITICAL
PIPING PATH. REFER TO ECO2
APPLICATION AND DESIGN MANUAL ON
HOW TO DETERMINE TOTAL
EQUIVALENT LENGTH (T.E.L.) DO NOT
EXCEED 66 FEET OF T.E.L.

NOTE A: TO PREVENT DAMAGE TO HWWP'S INTERNAL COMPONENTS, WE MUST LIMIT THE INCOMING BUILDING WATER PRESSURE TO A MAXIMUM OF 75 PSI. THIS INCLUDES CALCULATING STATIC PRESSURE PLUS INCOMING WATER PRESSURE. THIS CAN BE CONTROLLED BY SELECTING A PROPERLY SIZED PRESSURE REDUCING VALVE.

NOTE B: MAXIMUM DISTANCE OF SEPARATION FROM THE FURTHEST HPWH TO THE FURTHEST STORAGE TANK IS 66 FEET. THE DESIGNER/ENGINEER MUST ACCOUNT FOR TOTAL EQUIVALENT LENGTH OF PIPE & FITTING PLUS STRAIGHT PIPE ALONG THE CRITICAL PIPING PATH. CONSULT WITH ECO2 SYSTEMS TECHNICAL SUPPORT OR REFER TO OUR ECO2 APPLICATION AND DESIGN MANUAL.

Diagram Description:

- HPWH Units:** 20 units labeled HPWH-1 through HPWH-20. Units 1-10 are at the top, and units 11-20 are at the bottom. Each unit has a "TOP" and "BACK" connection. Air flow is indicated: "FRONT" (up) and "BACK" (down) for units 1-10, and "BACK" (down) and "FRONT" (up) for units 11-20.
- Piping:**
 - Reverse Return Piping:** A central loop with a blue supply line and a red dashed return line. Diameters are specified: 1/2" and 1" for the top section, and 1/2", 3/4", and 1" for the bottom section.
 - Manifold Connections:**
 - Top Connections (Typical):** 1 1/4" upper connection, 1 1/2" bottom connection, 1 1/2" lower connection, and 3" connection.
 - Bottom Connections (Typical):** 1" upper connection, 1/2" bottom connection, 3/4" lower connection, and 1" connection.
- Central Components:**
 - Tanks:** TANK-1, TANK-2, TANK-3, and TANK-4. Each has a 150# PRV and a "PRV TO DRAIN" connection.
 - Swing Tank:** MODEL ECO-119SW30, with 1 1/2" NPT connections and a 150# PRV to drain.
 - Expansion Tank:** 150# expansion tank.
 - Recirculation Pump:** "FROM HW FIXTURES" and "TO HOT WATER FIXTURES".
 - Valves:** Check valves, isolation valves, and a pressure-reducing valve (75# MAX).
 - Other Components:** Y-strainer, building backflow preventer, and anti-scald (mixing valve).
- Notes:**
 - "NO BULLHEAD TEE'S"
 - "NOTE: SEE VALVE DETAIL ON PAGE-1 (TYP)"

**NOTE: SEE VALVE
DETAIL ON PAGE-1 (TYP)**

MODEL ECO-285GLNST	
STORAGE TANK CONNECTIONS	
COLD WATER INLET	3" FEMALE NPT
HOT WATER OUTLET	3" MALE NPT
COLD WATER TO HP	1 ½" FEMALE NPT
HOT WATER FROM HP	1 ½" FEMALE NPT

HPWH MODEL's GS5-45HPC & GS5-45HPC-D	
HOT WATER OUTLET CONN.	½" NMPT
COLD WATER INLET CON.	½" NMPT
ALL PIPING & CONNECTIONS TO MAIN HEADERS CAN BE ½" COPPER OR PEX	

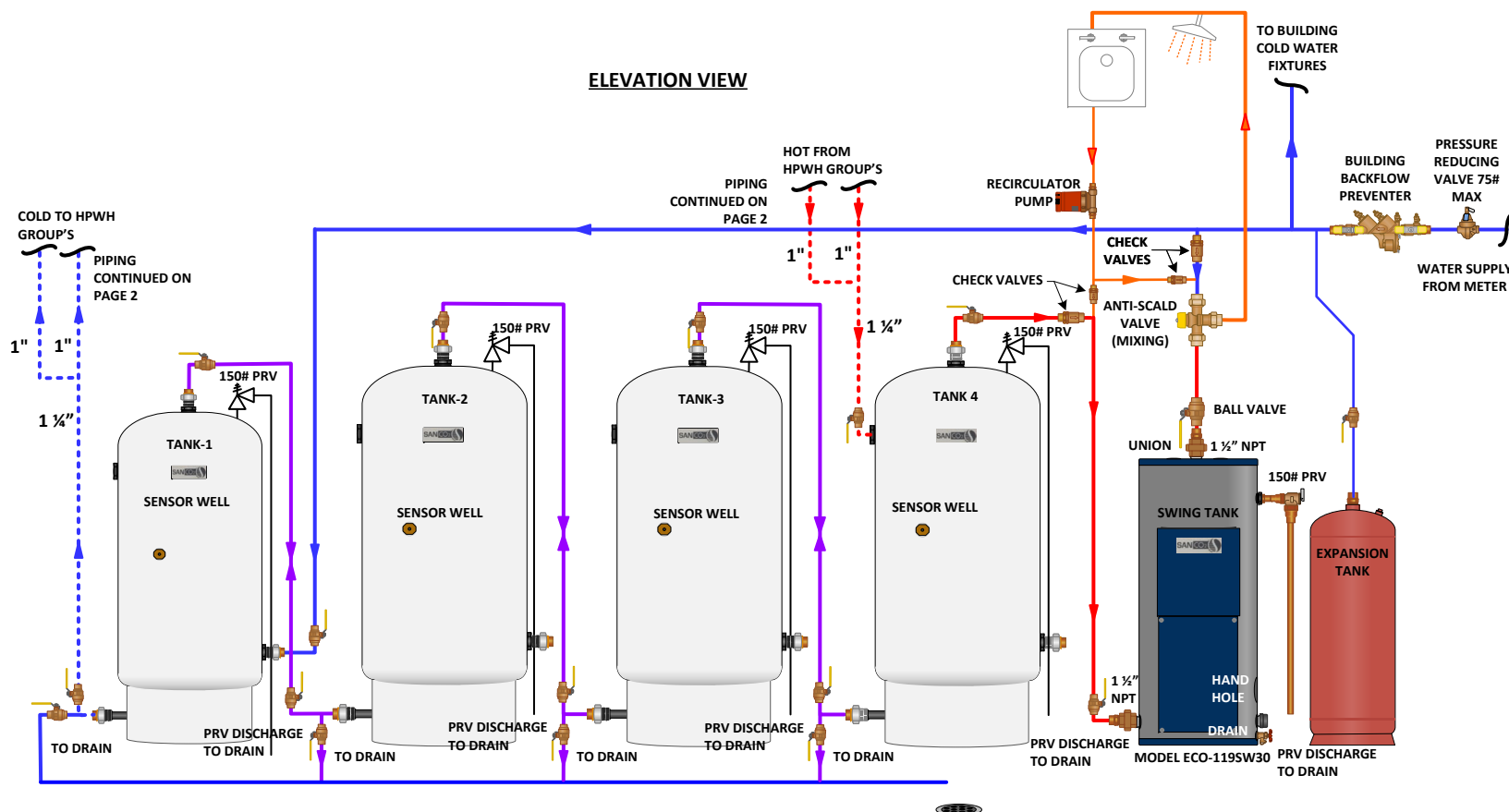
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ELEVATION VIEW



MODEL ECO-455GLNST

STORAGE TANK CONNECTIONS

COLD WATER INLET	3" FEMALE NPT
HOT WATER OUTLET	3" MALE NPT
COLD WATER TO HP	1 1/2" FEMALE NPT
HOT WATER FROM HP	1 1/2" FEMALE NPT

MODEL ECO-285GLNST

STORAGE TANK CONNECTIONS

COLD WATER INLET	3" FEMALE NPT
HOT WATER OUTLET	3" MALE NPT
COLD WATER TO HP	1 1/2" FEMALE NPT
HOT WATER FROM HP	1 1/2" FEMALE NPT

HPWH MODEL'S GS5-45HPC & GS5-45HPC-D
HOT WATER OUTLET CONN. 1/2" NMPT
COLD WATER INLET CONN. 1/2" NMPT
ALL PIPING & CONNECTIONS TO MAIN
HEADERS CAN BE 1/2" COPPER OR PEX