



PeerlessBoilers.com

Peerless® PureFire®

Commercial Buffer Tank Piping Supplement

NOTICE

These instructions are intended as a supplement to the Peerless® PureFire® Installation, Operation and Maintenance Manual and are intended for use by a qualified contractor.

A. Background

PureFire boilers are low mass heating boilers that are intended to modulate their output to closely match the building load. In some cases, adding a buffer tank to the system may prevent the boiler from cycling on setpoint. Several situations that may cause this short cycling are:

1. Boiler is oversized for the application: Boilers sized only by matching the nameplate information of the equipment it is replacing may not take into consideration changes in the number of zones supported or upgrades to windows and insulation.
2. Small zones set to maintain higher space temperatures than most of the system.
3. Mild weather conditions that significantly reduce the system load.

CAUTION

The volume of the buffer tank must be included when sizing the system expansion tank. Failure to account for this volume may result in injury or property damage.

NOTICE

The buffer tank should be sized in accordance with the tank manufacturer's instructions.

B. Piping

Buffer Tank Piping using 4 tank connections:

For buffer tanks with four system connections, Figure 1.1 shows the recommended piping. Notice that the diagram shows a system sensor on the system supply pipe. For this to work properly, change the cascade address on the boiler to "1" for managing boiler. See the Boiler Control Section 8.J (PF-50/399) or 8.F (PF-850-1000) of the PureFire IOM Instructions to set the Cascade Address.

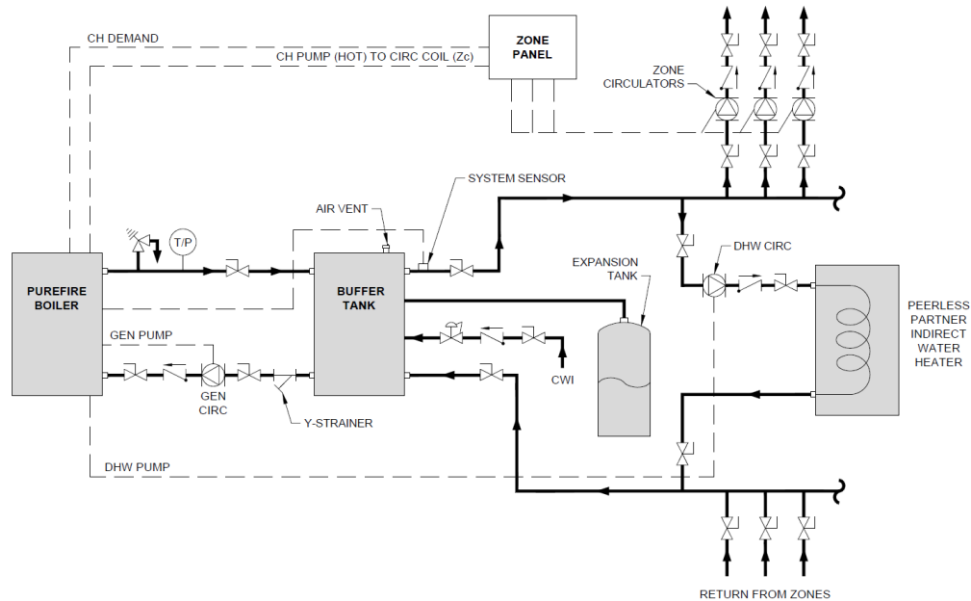


Figure 1.1: Four Connection Buffer Tank Piping Schematic

CAUTION

Use a Y-strainer on the return connection to the boiler to prevent system debris from obstructing the water passages on the boiler. Failure to do this volume may result in boiler failure.

B. Piping (Continued)**Buffer Tank Piping using 2 tank connections:**

For buffer tanks with two system connections, Figure 1.2 shows the recommended piping. Again, notice the system sensor on the system supply pipe. For this to work properly, change the cascade address on the boiler to "1" for managing boiler. See the Boiler Control Section 8.J (PF-50/399) or 8.F (PF-850-1000) of the PureFire IOM Instructions to set the Cascade Address.

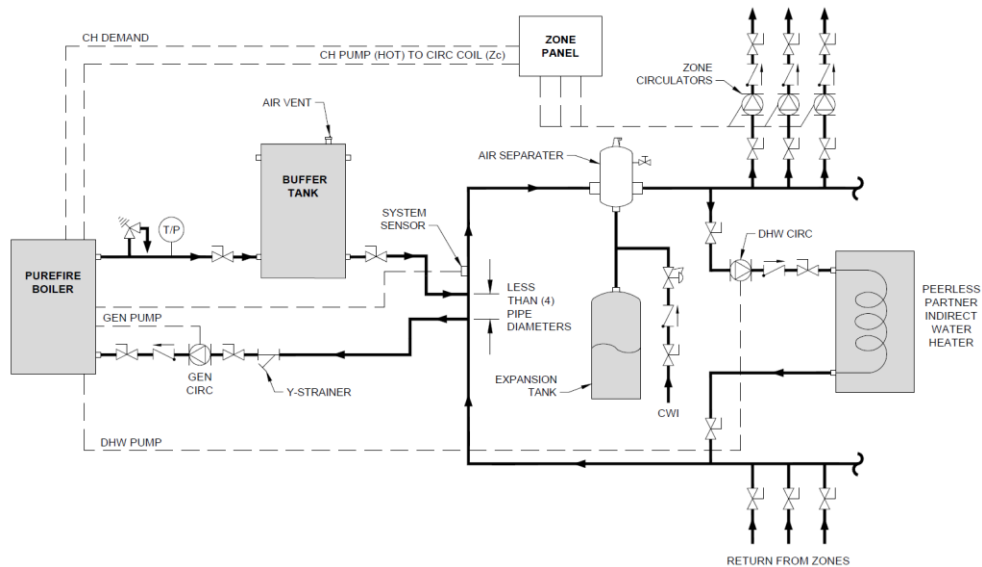


Figure 1.2: Two Connection Buffer Tank Piping Schematic

CAUTION

Use a Y-strainer on the return connection to the boiler to prevent system debris from obstructing the water passages on the boiler. Failure to do this volume may result in boiler failure.

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