

Tankless Water Heater by Finn Home Inspectors

Tankless heaters produce hot water for bathing, like a hot water tank would. They consist of a coiled loop of pipe that is immersed in a steam or hot water boiler.

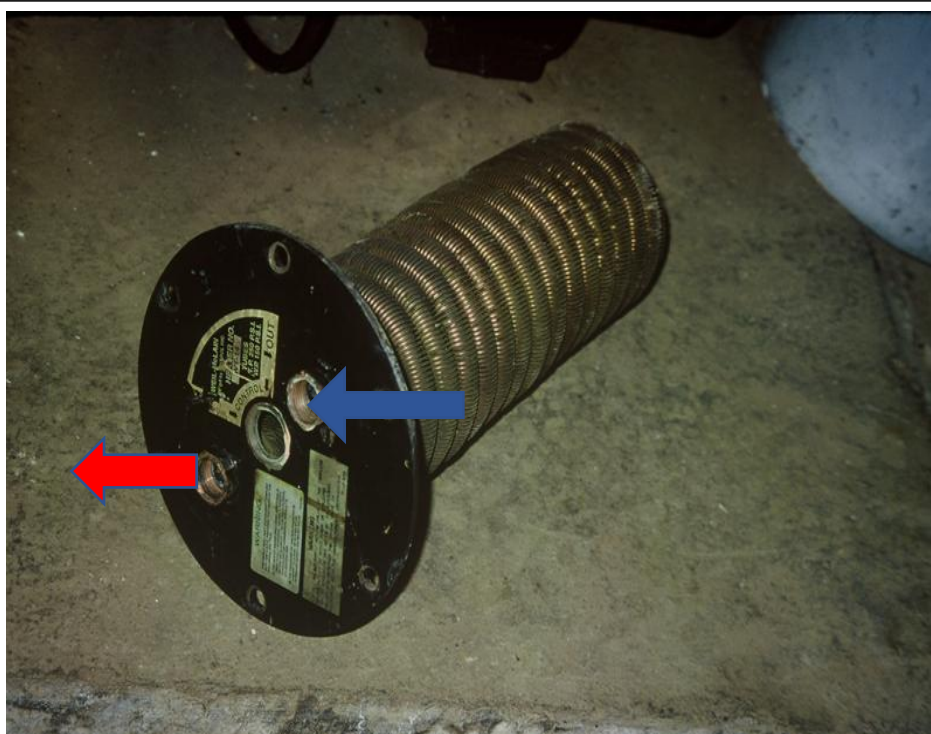
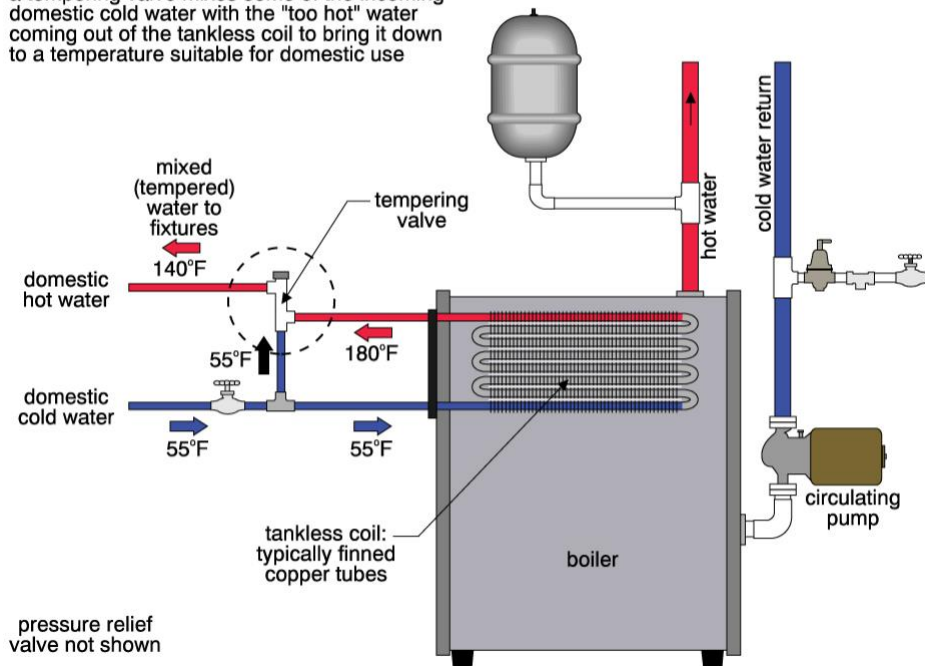
The cold water enters the coil and hot water comes out the discharge. The flow rate of the water determines how hot the water is when it exits. When not flowing the water in the coils will become the same temperature as the water in the boiler, hot water 180, steam close to 212 degrees Fahrenheit. At the exit from the coil a mixing/tempering valve is installed to mix an appropriate amount of cold water to produce a water temperature that is the correct temperature.

The temperature of the water can be adjusted by turning the knob on top of the valve. However, over time these valves tend to fail. When failed, the hot water will come out scalding and then the water temperature will drop off. When this occurs the tempering valve needs to be rebuilt or replaced.

Diagram from Carson/Dunlop.

Tempering valve with tankless coil

a tempering valve mixes some of the incoming domestic cold water with the "too hot" water coming out of the tankless coil to bring it down to a temperature suitable for domestic use



Above - a tankless heater that was removed from the boiler, note the coiled loop of pipe to heat the water. The arrow show where the water enters and where it exits.

Above – a mixing/tempering valve. Adjust temperature by turning the black knob.