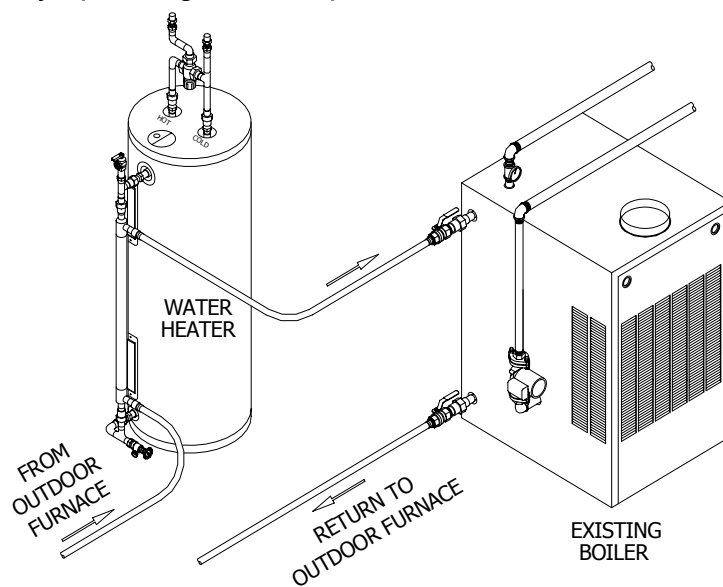


# CONNECTING TO AN EXISTING BOILER

The FREE HEAT MACHINE outdoor wood burning furnace can be connected to your existing boiler system if so desired. There are two important considerations before deciding to connect an outdoor furnace to your existing Boiler Type heating system. First, does your boiler system adequately heat your home at present? Obviously if the system will not provide adequate heating now or is undersized, then it will probably not provide adequate heating after being connected to an outdoor furnace. Secondly, the temperature of the heated water coming from the outdoor furnace will fluctuate by approximately 20°F (normally 155°F-175°F) and could drop to as low as 150°F due to heat losses between the outdoor furnace and the boiler. Consider that if the existing boiler water temperature was lowered to 150°F, would your present system heat adequately? Remember that cast iron radiators and baseboard radiators are very sensitive to water temperature for optimum performance. To get an indication of how the system would perform, we recommend that you adjust the water temperature of your existing system to 150°F, and try heating your home for a few days. It may be necessary to add an additional forced-air unit in conjunction with connecting to the existing boiler to obtain adequate heat.

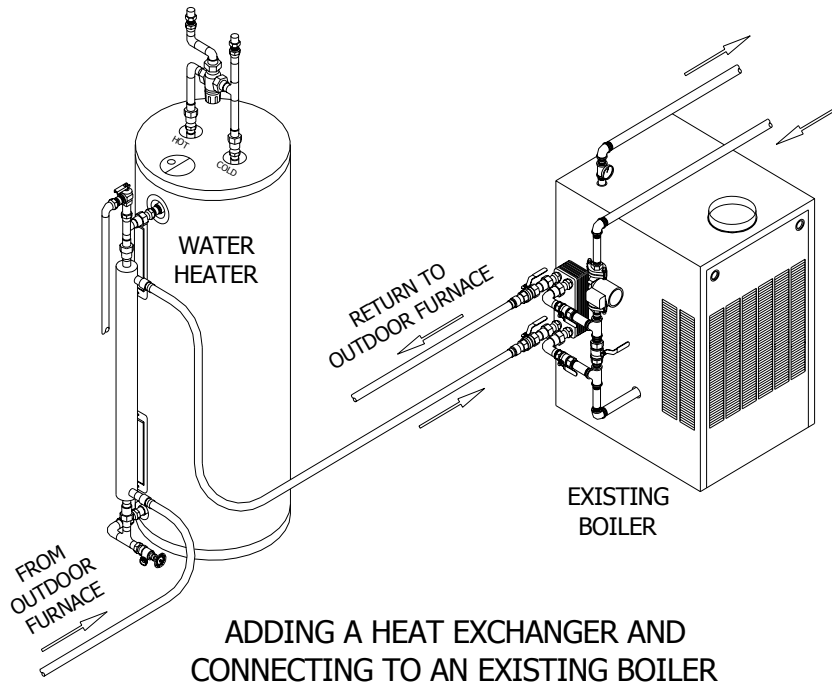
There are two basic methods for connecting to your existing boiler. The first is to simply direct connect the heated water from the furnace into the existing boiler system. With this configuration, the system is vented, as the outdoor furnace is vented to the atmosphere. To be able to direct connect into your existing boiler, your existing system must be currently operating in a non-pressurized manner.



DIRECT CONNECTING TO AN EXISTING BOILER

With the second method, a water-to-water heat exchanger is added to heat the water just before it enters the existing boiler. With this arrangement, the boiler temperature set point is lowered to approximately 10°F less than the temperature of the heated water coming from the outdoor furnace. This allows the outdoor furnace to heat the boiler water when desired plus provides the option that if the outdoor furnace water temperature drops (i.e. no fire or broken pump) then the existing boiler can be operated

to maintain the water temperature for heat. Using this method, the existing boiler system can be operated in a pressurized manner, which is typical for most systems.



In order to properly size and configure the outdoor furnace to suit your existing boiler system and heating needs, the following information is needed.

### EXISTING BOILER INFORMATION SHEET

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Number & Type of Heating Appliances Connected to Existing Boiler:

Baseboard Radiators \_\_\_\_\_ Cast Iron Radiators \_\_\_\_\_  
 Radiant Floor (sq ft) \_\_\_\_\_ Hot Water Heater \_\_\_\_\_  
 Duct Coil Water/Air Radiators (BTU/hr) \_\_\_\_\_

Important Boiler Information:

Make and Model Number \_\_\_\_\_  
 BTU/hr Input \_\_\_\_\_ BTU/hr Output \_\_\_\_\_  
 Inlet/Outlet Pipe Size: \_\_\_ Steel \_\_\_ Copper \_\_\_ Threaded \_\_\_ Soldered \_\_\_  
 Normal Operating Water Temp (°F) \_\_\_ Pressurized \_\_\_ Non-Pressurized \_\_\_  
 Electric \_\_\_ Natural Gas \_\_\_ Propane \_\_\_ Oil \_\_\_

Boiler Circulating Pump Information:

Make and Model Number \_\_\_\_\_  
 Horsepower \_\_\_ Amps \_\_\_\_\_ Connection Pipe Size \_\_\_\_\_

Please provide a simple sketch of system & digital photo of boiler with connected piping.

Other Notes: \_\_\_\_\_