COLLAPSIBLE WATER TANKS and low temperature HEAT EXCHANGERS make it possible to store large amounts of energy at lower temperatures and deliver that heated water for domestic hot water pre-heat, radiant floors, ducted warm air and warm water baseboard systems

Tanks to 1205 gallons are crated 19" wide and 54" high. Two people can walk a large tank through a doorway, into the structure and have it piped up in an hour. The tanks are fully insulated as shown on the left. Tank sizes from 184 to 1550 gallons are 48" to 72" high. "Taller tanks" to 5000 gallons are custom orders

How It Works

The heat from the boiler and/or solar collector is transferred to the storage tank via heat exchanger coils. This same piping to the heat exchange coils are inter-connected to your central heating system. While the boiler is operating, the circulator pump is providing your heating system with hot water when it is needed, bypassing the coils and tank. When your heating system has its hot water needs satisfied, it diverts the hot water through the coils and continues to heat the water in the tank. When the boiler is not operating and your heating system calls for hot water, water is pumped through the coils in the storage tank, collecting the heat stored there, and providing that heated water to your heating system. An installed Energy Management Controller (EMC) senses the temperature in the lines from your boiler, the temperature in the lines of your heating system as well as the temperature in the storage tank, and automatically switches the flow of heated water from and too where it is needed. It will also automatically switch on your backup boiler or furnace when the heat stored in the tank is depleted.

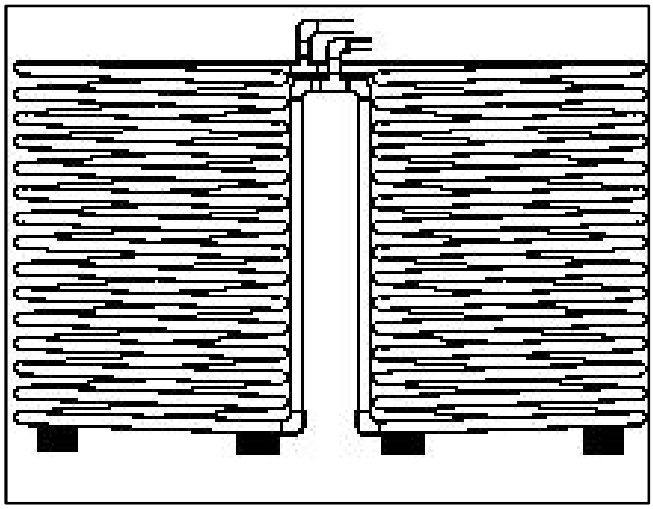
Utilizing heat exchange coils makes it feasible and economical to fill a remotely installed solid fuel boiler and lines with glycol antifreeze without having to fill the entire heating system.

Heat Exchangers

Vertical spiral heat exchangers, 21" in Diameter and 43" tall are available for all your applications. A special purpose DUAL STACKED COIL for smaller, DOMESTIC HOT WATER packages is featured on the back of this page. The two STACKED COILS can handle up to 2 or 4 solar collectors, the 120 HEX, 5 collectors and the 180 HEX up to 8 collectors at peak solar input. Both the 120 and the 180 can be piped in parallel to 1" or larger pipe for long runs for solar arrays of ten to 16 collectors. The same multiple works for 3 heat exchangers piped in parallel.

Spiral Heat Exchangers

- Two vertical spiral coiled copper heat exchangers are available and are custom made for this variable tank temperature heating application.
- The **heat exchange coils** are piped singly or in pairs for space heating and heating domestic hot water.
- Coils purge air automatically, critical during the initial system start-up.
- Heat stratification in the tank assures that the hottest water is delivered.
- Coils are designed to permit a unique piping arrangement. It allows one set of coils to heat the tank **(boiler to tank)** and heat the house **(tank to house)**, or it allows the boiler to bypass the tank and directly heat the house.
- a separate coil is used to deliver **DOMESTIC HOT WATER.**



The 120 HEX is rated for 26,400 BTUs and the 180 HEX for 39,600 BTUs at 120 Degrees tank temperature for space heating. These are workable low temperatures for solar heating. Few heat exchangers can match this level of performance at the price**.**

Central Heating

- A packaged, fully manufactured, light weight tank shipped crated 19” wide and multiple zones, both open and closed loops can be operated from the same wood burning boiler and tank system at the same time.
- Conventional 24 volt, EMC controls, reliable and safe hardwired designs are available for switch-over to back up fuels to keep you warm and your home at a set temperature when you are away.
- 54” high. The length varies with capacity. You can walk it into your home, open the crate and have it ready to fill with water in less than an hour.
- Water can be circulated in a closed loop through the tank heat exchanger, or tank water can be circulated open loop. Use both methods in the same tank if required.
- Distribution can be designed with hydronic baseboard, radiant floors, radiators, or warm-air duct heat exchangers in a furnace or heat pump system where central air conditioning is installed. Combining warm-air and baseboard, for example, is another advantage with this system.

There are 6 or 7 ways to put together one of these systems. It takes time for an installer to decide which method is best. To solve that problem, we have the EMC control. This control monitors the heating balance point between the heating load and the tank temperature and automatically switches over to the oil or gas backup after every available BTU has been provided by the tank. Be sure to order this control with your boiler and heat storage tank.