HOT WATER COILS

Dickinson Natural Draft Diesel appliances have the option of adding a water coil to supply hot water. Appliances can be purchased with a water coil already installed, or a coil can be retrofitted to an existing appliance.
Dickinson water coils are manufactured from stainless steel and measure 5/8" (outside diameter) they come with compression fittings to which attaching 2-3 feet of copper or other metal pipe is recommended. Farther than 2-3 feet away from the appliance suitable hot water piping can be used instead of metal.
Each water coil is formed differently to fit the appliance they are intended for. The coils come in both 1-turn and 2-turn configurations. The estimated output of a 1-turn coil is 5-10 gallons of water per hour, and 15-20 gallons in the case of a 2 turn. Smaller natural draft heaters and stoves may only be capable of fitting a 1-turn coil *(see page 9 for coil specifications)*

Heating Capacity
It takes approximately 3000 BTU to raise the temperature of 30 gallons of water by 30 degrees. Because much of the BTU produced in the appliance becomes radiant heat which spreads throughout the cabin, it is difficult to estimate in advance the heating capacity of an appliance install with any accuracy.

Pressure Relief
A pressure relief must be installed in the system in order to avoid a dangerous build up of pressure.

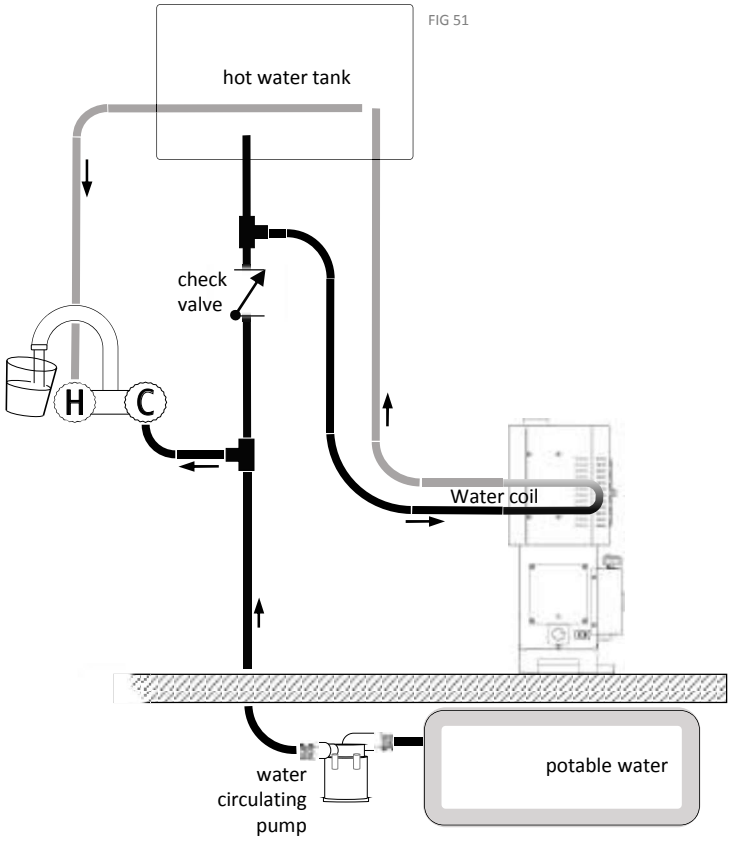
Hot Water Tank
If you have a hot water supply tank mounted above the level of the coil, the coil can heat and circulate the water inside it by means of convection only. If the tank is not positioned above the appliance or is far away, a water circulating pump is recommended. The temperature of the water in the system will maintain heat better if it is moving quickly, and for that reason a water circulating pump is recommended for convection installs as well. The temperature of the water achieved and the volume of water moved through the system will also greatly depend on the heat being generated in the appliance itself.

See below for diagrams of coils being used in a radiator system *(fig 51)* and coil use in a potable water system *(fig 52)* If a hot water tank, radiator or other device is being used in conjunction with a hot water coil, follow all manufacturers guidelines for that device. The examples below are for illustrative purposes only and are not meant to depict the best or only way to lay out a hot water system.

Professional advice and support should be sought out for the installation of your hot water system.

Hot water tank install
Example of an installation using a hot water tank to supply hot & cold water for domestic uses such as washing & bathing. In this system the water tank is equipped with a pressure relief. A check valve prevents cold water from entering the hot water storage.

FIG 51



Radiator install
Example of an installation using a hot water expansion tank, viewed from above, to circulate hot water for use in a radiator located in another cabin. In this install, the water expansion tank is equipped with a pressure relief. A shut-off is installed to allow flow to be shut off.

FIG 52