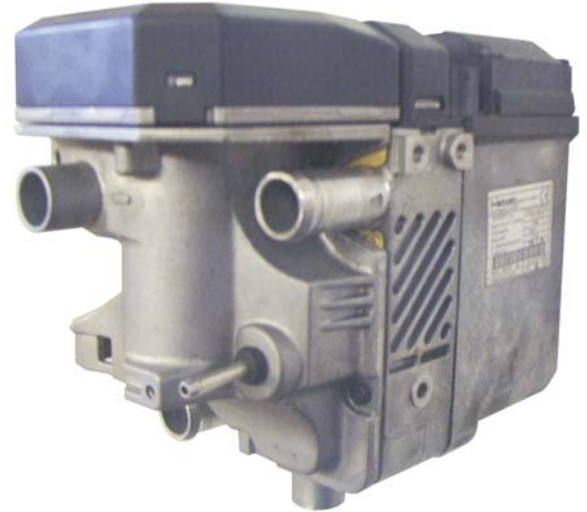


Specifications	
Heat Output: Full	17,200 Btu/h (5.0 kW)
Input Rating Based On Fuel Consumption: (Diesel) Full	0.18 gal/h (0.5 kg/h)
Reduced	0.09 gal/h (0.25 kg/h)
Rated Voltage:	12v or 24v
Electrical Power Consumption @ 12v: Full	46W
Reduced	32W
Dimensions (L x W x H)	9.1" x 4.1" x 6.4" 232mm x 105mm x 163mm
Weight	7.0 lbs (3.2 kg)



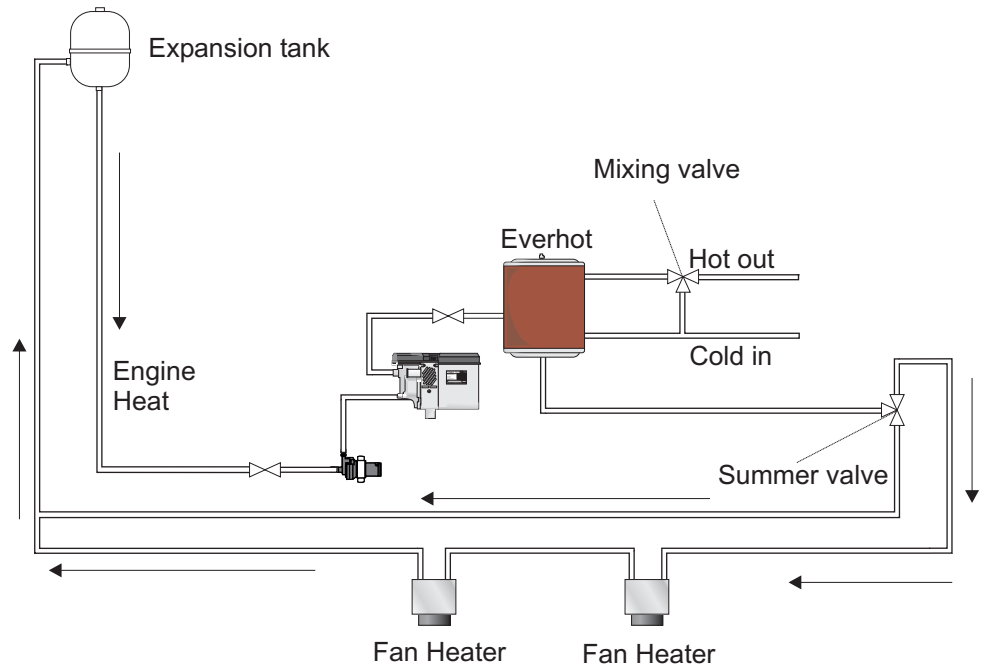
Domestic hot water is provided from both the heating system and the engine providing "free engine heat" for the heater loop.

Domestic hot water is provided by a tankless (on demand) hot water heat exchanger.

Bypass valves adjust the domestic hot water heat exchanger coolant flow.

A summer valve lets you make only domestic hot water during the warmer summer months.

The engine preheat pump circulates coolant through the heat exchanger for cold engine pre-heat.





**Sure Marine Service**  
(206) 784-9903



## **Webasto Hot Water Heating System for Boat Applications from 26 to 35 ft. in length. TSL 17**

The TSL 17 is designed for larger boats ranging from 26 to 35 foot (depending on make and model). This unit is a diesel-fired boiler that is available in 12 and 24 volt and is rated at 17,000 BTU. The TSL 17 is not designed for a live aboard application. If you wish to heat your boat for this purpose, please contact Sure Marine Service for advice.

The TSL 17 is a water heater designed to heat a coolant loop ran throughout the boat with a system of fan heaters that will blow hot air over coils flooded with coolant. In larger boat applications, water heat is almost a necessity due to the fact that air heaters will not have the airflow to heat the entirety of the boat at an even level. A coolant heater heats the coolant evenly, thus heating the entire boat at an even rate. Other benefits of water heaters are added applications such as domestic water heat. The TSL 17 can be plumbed through existing domestic hot water systems replacing the engine as a heat source.

The TSL 17 can be plumbed in such a way that when it is operational, the unit will heat domestic hot water. This can be done by plumbing one of the heater loops through an existing hot water heater, or by installing an Everhot heating system. The Everhot is an on-demand domestic water heater that will provide domestic hot water as long as the heater is up to temperature. See the attached sheet on the Everhot system for more information.

The TSL 17 system can be wired in such a way that it can be controlled by internal temperature of the boat. It has the ability to be zoned into an unlimited amount of zones based on your needs. In this application, multiple thermostats are installed in each "zone" of the boat controlling the operation of the heater. A zone can be staterooms, heads, saloons, etc. If any zone is calling for heat, the thermostat will have the heater and the nearby fan heater run until the cabin is up to temperature. Once all zones are up to temperature, the heater and fan heaters will be turned off. When heat is needed again in any zone, the fan heaters and eventually the heater itself will be turned on.

As with everything in the boating world, placement is very important. A clean, dry location should be chosen for the mounting of the TSL 17. Once a spot is chosen, it must then be checked against the parameters of the heater. The installation manual will provide specifics, but major limitations such as the exhaust should be considered. The exhaust should be vented as high and as far aft as possible with the aft transom being the ideal place for going through the hull. The TSL 17 has a maximum run of 10' and may only have 270° or less in bends. The unit should also have adequate room for maintenance of the heater and related components that must be located near the unit. Also take into consideration the limitations of the fuel, electrical and coolant systems.

Contact Sure Marine or consult the installation manual for further specifications on mounting.

As mentioned before, placement of the exhaust thru-hull is very important to heater installation. The TSL 17 uses a 22mm " exhaust pipe and thru-hull. The thru-hull must be installed in a place where it is free of seawater and where there is a limited possibility of contact with any limbs of passengers on your boat. The aft transom is the ideal position for the thru-hull, but it is not always possible to reach. In this case, a spot as high and as far aft as possible should be chosen.



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Once limitations for the heater have been considered, locations to mount the other parts of the heating system should be chosen. Aside from hose and fan heaters, most other system components (such as the system pump, manifolds, domestic water heater and so on) can be mounted near the heater out of the way. One component is in most cases very tricky to mount: the expansion tank. The expansion tank in the water system **must** be above everything else in the system. If you wish to put a fly bridge heater on your fly bridge, the expansion tank must be above the heater. This is to provide head pressure for the water pump and to prevent air locks in the system. This is an inconvenient specification, but if your heater is to perform properly, it must be followed.

Once space for all of the system components has been chosen, fan units for your cabins must be sized and have space provided for them. Each cabin has different needs for heat depending on use, layout, amount of windows, and so on. To figure BTU for each cabin, take the cubic footage (length x width x height) and multiply it by 15. This will give you an approximate rating for that space, favoring the high side. If the space is well insulated and has no windows, perhaps a factor of 12 can be used.

Once BTU requirements have been figured, different models of fan heaters can be chosen by shape, capacity or use. See the attached information on fan heaters to choose the right fan heaters for your spaces. Each fan heater is normally rated to 7,000 BTU or 14,000 BTU depending on model. In some cases a space may not need 7,000 BTU, but to have heat it must have a fan heater. There are fan heaters that can be split between two spaces and divide the heat. Another method is to merely have the fan controlled by thermostat. Once the smaller space is up to temperature, the unit will shut off.

Once all models have been chosen for each space, subtract their rating from the 17,000 BTU of the TSL 17. More fan heaters than the rated BTU of the heater can be installed but for the unit to operate properly only 17,000 BTU of fan heaters should be in operation.

With this basic information, the choice of heater for your boat should be a bit easier (or perhaps harder if you cannot meet specifications). If you have any further questions on installation, please contact Sure Marine to purchase an installation manual or ask any other questions you may have.