



## ESPAR HEATERS

Shoulder season cruising doesn't have to be a chilly affair

**T**he scenery during the shoulder seasons in the Pacific Northwest is spectacular and quite often you will be the only boat in an anchorage. If you have considered cold weather boating, but aren't sure what is involved in retrofitting your boat, we are going to look at a couple of diesel heaters that might be perfect.

Diesel-powered boat heaters are convenient since you don't need shore power or a generator to warm your boat. There are two main types, forced air or hydronic systems.

**FORCED AIR** heating systems (i.e. airtronic) consist of a heater with a fan that runs on diesel with air ducts that run throughout the boat to distribute the heat. The furnace heats air drawn into an air heat exchanger, and a

powerful fan forces the hot air through three-inch or four-inch ducting to different areas of the boat. Forced air furnaces tend to be most effective if the furnace can be located in a central or convenient location so that the ducting does not have to be too long or convoluted.

**HYDRONIC** heating systems have a boiler, warmed with a diesel flame, with heat exchangers installed and plumbed with coolant throughout the boat to distribute the heat. Hydronic heating systems incorporate an air-to-water heat exchanger to extract the heat from the coolant and move it throughout the boat. Hydronic heating systems are more time consuming to install but provide the benefits of radiant heat

and multiple zone controls.

Hydronic heaters also have the advantage when trying to heat isolated areas, especially on larger boats with multiple cabins. They circulate coolant heated by the furnace, and the heat can be extracted from the system using water-to-air heat exchangers at many points in the system. These hydronic systems are more expensive than the forced air systems but can be plumbed to your hot water tank.

Both forced air and hydronic systems use electric power to distribute heat throughout the boat through the use of fans or circulation pumps. Power consumption varies depending on the heated space, insulation of the boat, efficiency of the fans, number of heat exchangers and the desired temperature. These heating systems are much safer than propane and provide instant heat distributed evenly throughout the boat. The most popular brands are Eberspacher (Espar), Hurricane and Webasto.

Heaters are available in a complete range of sizes, based on the length of your boat. Below are two examples, an airtronic system and a hydronic system, both from Espar.

**AIRTRONIC D2** First up, the Espar Airtronic D2 12V or 24V diesel heating system is a compact and economical two-outlet, do-it-yourself heating system, perfect for boats in the 30-foot (nine-metre) range. The Airtronic D2 offers optimized fuel efficiency, a variety of operation modes and unsurpassed safety standards. It has a power setting for fast and direct heating that is very quiet. It is suitable for fresh air circulation and can be used purely for ventilation on warm days. The one stipulation for installation is that you need to fit a three-inch hose between the hull and the interior for the length of the installed air duct run. You also have to limit the bends and splices which can drastically reduce airflow and therefore heat.

**HYDRONIC D5E** The Espar Hydronic D5E is suitable for boats in the 40-foot (13-metre) range. It is more complicated to install than an

airtronic system as it requires external air for combustion and an external high-temperature exhaust port.

Hydronic systems have a very consistent heat output, individual temperature adjustments for every radiator panel and are relatively maintenance-free. The significant added benefit is that they can warm the water in your marine hot water tank, if the hydronic heating system coolant loop is plumbed to the hot water tank. However, on many boats, the engine's auxiliary coolant loop is also plumbed to the hot water tank. Some boaters will install "Y" valves and switch back and forth between the engine or hydronic system, warming the hot water. Other boaters disconnect the engine from the hot water tank and only use the hydronic system for heating water, so there is no confusion. In the summer months, they run the hydronic heating system without the fans so there is hot water but no cabin heat.

Espar has also introduced its new EasyStart app, which allows you to

operate your heater conveniently from your smart device. The application discretely transmits all settings directly to the heater's GSM (Global System for Mobile communication) module. Thanks to simple and intuitive navigation, you can operate your heater with increased convenience wherever you are—regardless of range. Other control features of the innovative EasyStart product range allow for ease of operation: backlight displays, intuitive guided user interfaces and large buttons.

Both systems are relatively maintenance-free. According to Mike DeVriendt, manager of national accounts support for Eberspacher, the exhaust is the best tell for maintenance. If you see white smoke from the exhaust, it is most likely time to change the screen or the fuel filter. Another culprit is dirty fuel. We have received calls from clients to say that they had a rough crossing across to Salt Spring and the heater stopped working. The sludge from dirty gas may clog the

fuel filter almost instantly.

Keep in mind that any heating system that requires ventilation relies on fresh air. This is straightforward when you are at anchor, and the boat is shifting with the wind; however, if you are tied to the dock or stern-tied in a bay, the wind can shift, forcing the exhaust from your heating system back into your boat. If you have one of these systems on board, you must install a carbon monoxide detector and a fuel vapour detector.

Scientists have determined that people feel best at 22° Celsius and 60 percent humidity. This rule of comfort has even been defined in a specific DIN (internationally accepted) standard. Having a heating system on board that easily and quickly heats to a preset temperature makes boating in colder temperatures far more enjoyable. However, having a reliable heating system on board can cause another challenge—who is going to leave a toasty warm cabin to walk the dog? 🐕

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