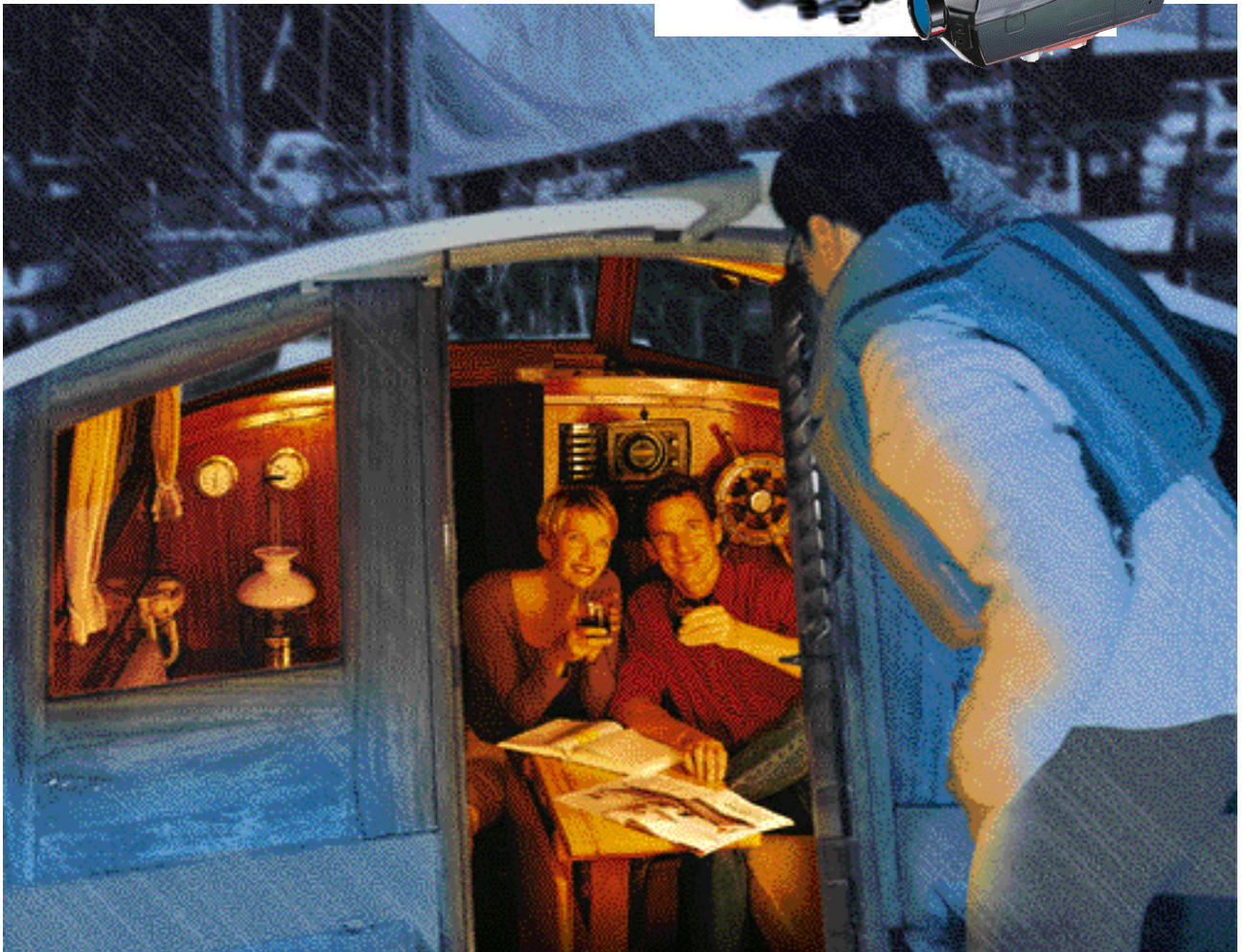


Marine Heating Systems from Espar

Setting the course for boating comfort



Featuring the "NEW" AIRTRONIC®
series of air heaters and "NEW"
HYDRONIC® 16 coolant heater



Take the chill out of Cold Weather Boating with an Espar Heater

Why Heat a Boat

Whether you navigate by power or sail, an Espar diesel-fired heater will keep you warm and comfortable, no matter what the weather or season. While others wait for the thermostat to rise, with on-board heat from Espar, you're already en route to your destination. Available in a wide range of thermal outputs to closely match your on board heating needs, Espar heaters are compact, convenient, economical to run and time tested for safety - with over 35 years of successful installations. Espar air heaters range from 6,000 to 41,000 BTU's, with water heaters from 11,300 to 120,000 BTU's. Every Espar heater is engineered for years of reliable use, and backed by at least a full year parts and labor warranty. Espar extends the shipboard entertaining season. Boating with Espar is boating in comfort, with all the benefits of on board heat. An international network of distributors and dealers ensures prompt, courteous service wherever you go. So set your course for boating comfort with reliable, on board heating systems from Espar.

Why Espar?

It is inevitable that a manufacturer will tell you "theirs" is the best. But you as a consumer need to check that the following features are offered.

Indirect system, to ensure that combustion products are passed overboard and only clean warm air enters the boat.

Diesel-fired systems for safety-this has to be the best fuel to use.

Blown warm air for efficiency. A boat is a long "tube" and so effective heating should be distributed under fan pressure to reach every corner.

Automatic control, important electronic features to monitor, safe efficient operation.

Self regulation, most of the systems within our range now self-regulate over a number of heat levels for maximum efficiency.

Marine design, special attention to components and system features to suit the harsh environment.

National dealer support, you will want to talk to an expert locally about the initial purchase, installation and service. Espar provides good dealer coverage along both coasts with trained staff who will visit your boat.

Espar Heater Systems offer all of these features. Indeed, all major boat builders now fit or offer Espar heaters. There has to be a reason for that.



"Whatever your boat, think Espar central heating"

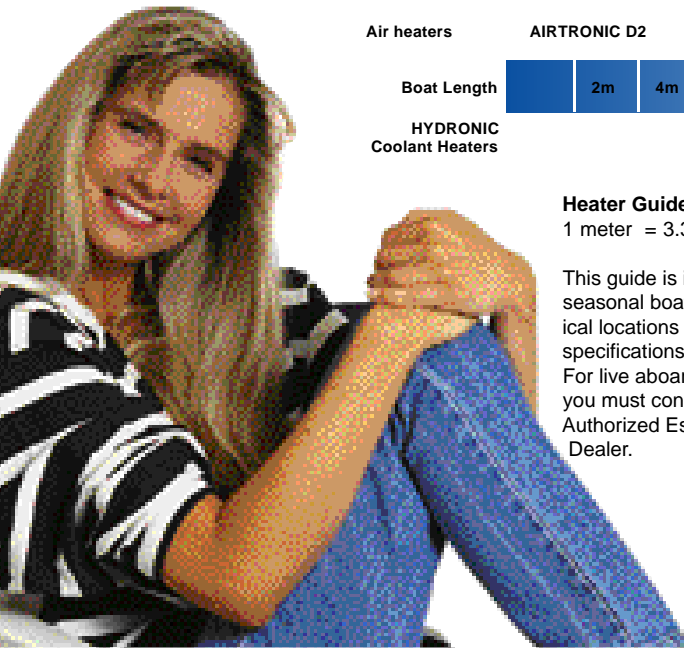
Air heaters	AIRTRONIC D2	D4	D5LC	D8LC									
Boat Length	2m	4m	6m	8m	10m	12m	14m	16m	18m	20m	22m	24m	
HYDRONIC Coolant Heaters			Hydronic D4W		D 5	Hydronic 10			16	24	30	35	

Heater Guide

1 meter = 3.3 feet

This guide is intended for seasonal boaters. geographical locations do effect the specifications for a heater. For live aboard systems, you must consult an Authorized Espar Marine Dealer.

7-day timer with thermostat, includes self diagnostics.





Espar First Class in Marine Heating Applications

Power Boats

Modern motor yachts offer a high level of luxury and comfort, a warm and cozy environment will be a priority. Espar air or water heater systems fit virtually any type of motor yacht. For example, an Espar water system installation can be integrated into your domestic hot water system and give a supply of hot water at all times.

Espar air heaters are normally installed in the engine area with hot air ducted to the cabins via flexible tubes. All you see are the discreet outlets in the cabins.

Diesel fuel is drawn directly from the main tank with a separate fuel metering pump, this pump is included with your kit. For boats with gasoline engines it is recommended that you consult your dealer for guidelines and installation instructions. If you have a gasoline fired engine, a diesel heater is recommended using a separate tank to hold the diesel. Fuel usage for the heater is so minimal that only a small tank is needed.

Espar heaters can suit boats up to 95 feet through multiple heat and zone heating, whilst offering the latest in power and space saving designs.

Sailboats

In a sailboat, space is at a premium. The compact size of an Espar unit reflects this with the heater usually being fit in a stern / cockpit locker and the exhaust being led away to the transom.

The warm air duct system is led to the cabins behind panels and through interior lockers. All that can be seen are the outlets in berth / seating



- ✔ Espar Operates in Harbor Or at Sea
- ✔ Great for Windscreen De- misting
- ✔ Warm Comfortable Cabins - always.
- ✔ Anywhere..Anytime...In Any weather Espar sets the standard for boating comfort
- ✔ Extend your boating season with an Espar Heater Systems on board.



fascias. The ducts are kept as short as possible to maintain an efficient air-flow. Very often only one outlet is necessary in sailboats up to 32 feet. The strength of the outlet hot air flow is sufficient to convect throughout the boat.

A battery connection is necessary to drive the initial ignition, fuel system and main air fan. However, Espar units are designed to offer a balance of economic electrical draw with optimum heat and air power performance.



Warm cabins beating condensation, and drying clothes. Espar is the full boat heating systems

As ducts pass through interior lockers, natural surface heat loss creates useful drying compartments. This surplus heat is also doing much for heating those hidden corners beneath the cabin floors.

New AIRTRONIC models such as the D2 and D4 offer integrated electronic control (no separate control box required), automatic boost heat level, self-regulation across a number of heat levels and extremely low power consumption.

Fuel is drawn from the main boat tank and actual consumption is so small it does not materially affect the capacity of fuel carried for the engine.



Hot Air Systems



Marine Applications

Forced warm air convection is very useful on a boat. Espar heating systems do much to give rapid heat to cabins and combat condensation.

The air system is compact with all heat creation and fan distribution neatly packaged in one heater unit. This, when installed in a locker or engine area, suits the concept and layout of boats.

An air system offers some interesting benefits such as toilet area heating and hanging locker drying. These all form a part of the basic hot air ducted system. An Espar heating system also enhances the value of the boat.

How the Heater Works

When heating is called for by the cabin temperature sensor or the pre-select timer control, the heaters fan draws combustion air into the heat exchanger.

Simultaneously fuel is drawn from the main tank by the heaters fuel pump and mixed with the air.

As the ignition plug ignites this fuel/air mixture, a controlled flame is established



inside the sealed heat exchanger. The combustion gases pass safely out through the exhaust skin fitting to the atmosphere.

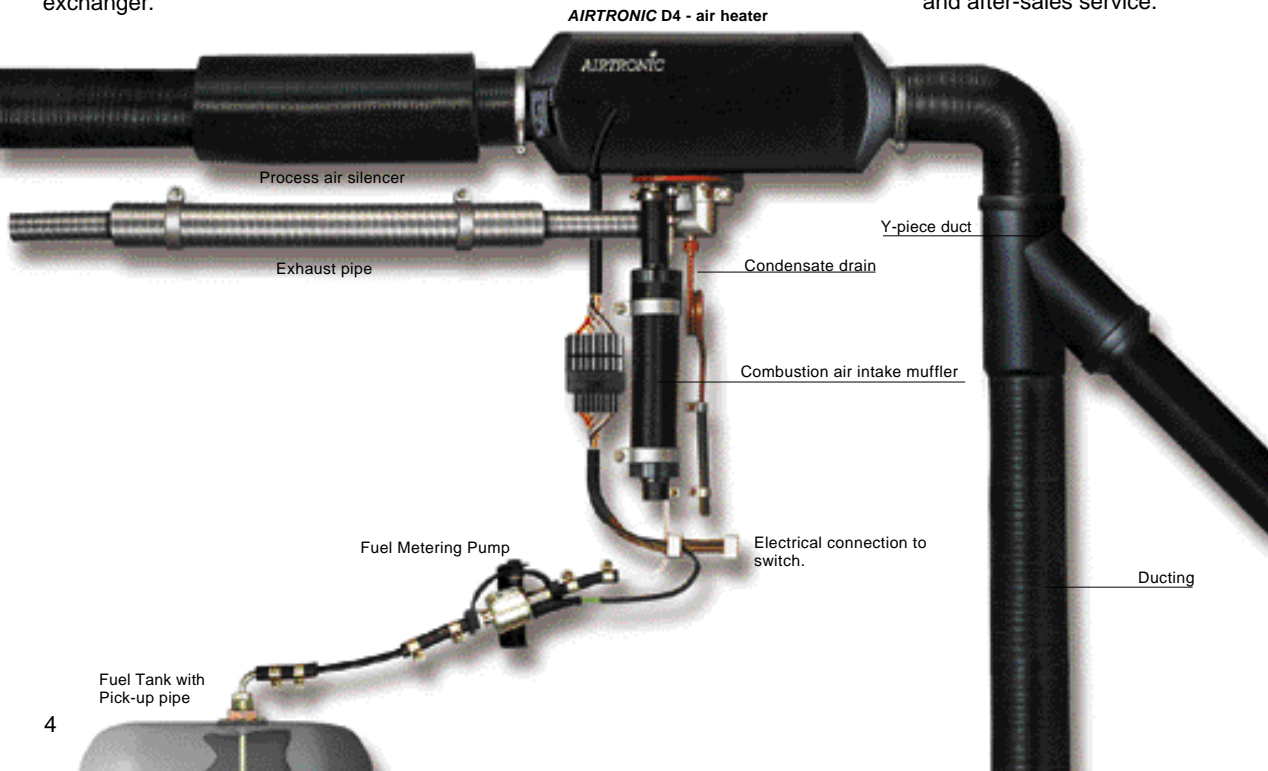
Clean air is drawn over the walls of the heat exchanger and into the duct system. This will have been fitted to distribute the heat appropriate to the needs of

each cabin. It is possible to have adjustable outlets to fine-tune the airflow. The system is monitored for a safe start, available battery power, flame failure and overheating.

Most models within the range can now be controlled with a rheostat switch and cabin temperature sensor, which accurately inter-reacts with the temperature setting to self-regulate the heater.

The heater therefore regulates the heat output to maintain maximum efficiency. In doing so, greater fuel economy and reduced power consumption are achieved.

Espar's Marine Distributors will assist you in designing the system that's right for you. They can supply an installation kit for those owners interested in installing an Espar air heater system themselves. They can also provide parts and after-sales service.



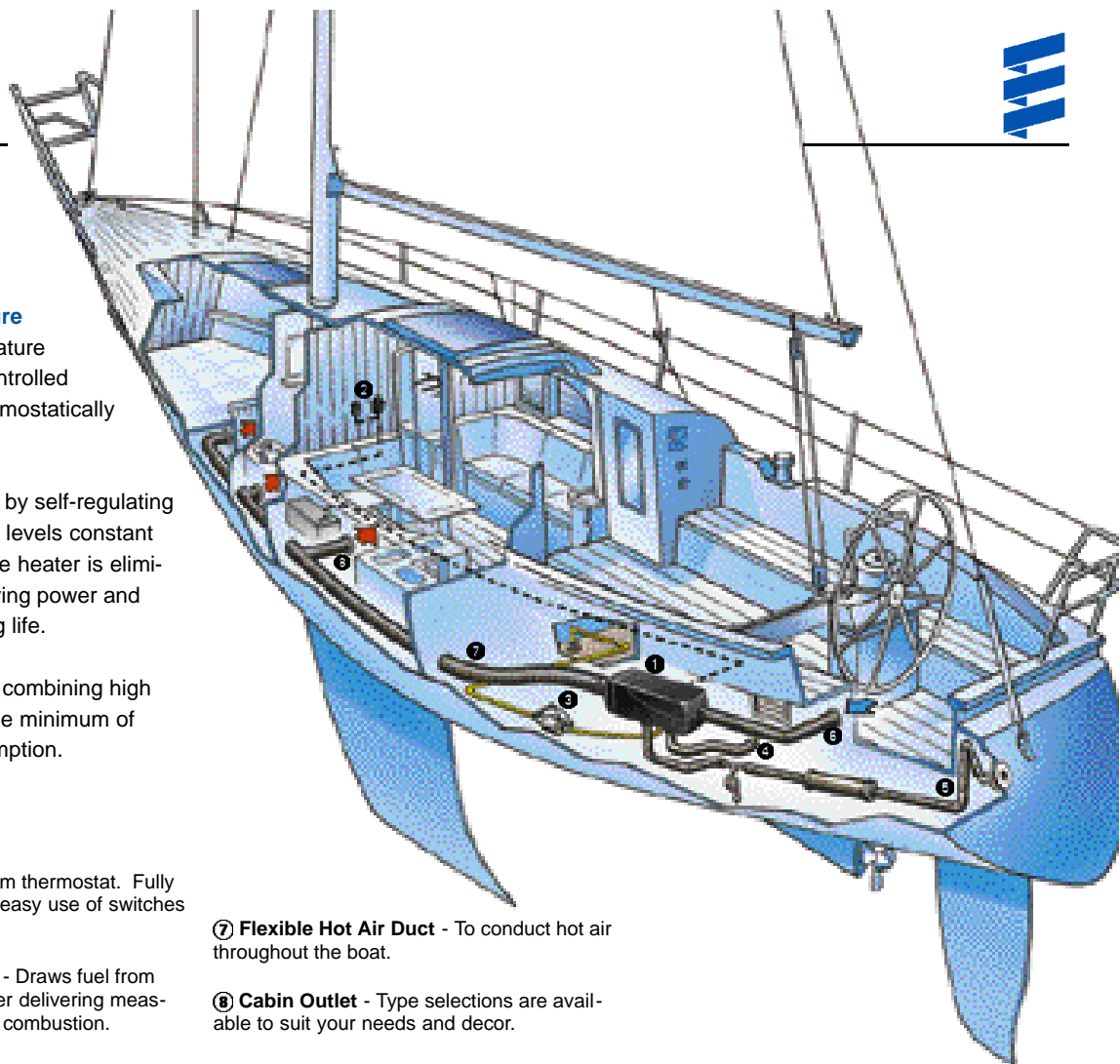


Consider these Benefits

Automatic temperature control, cabin temperature is more accurately controlled than by traditional thermostatically controlled systems.

Variable heat output, by self-regulating over a number of heat levels constant "on/off" switching of the heater is eliminated, thereby preserving power and increasing ignition plug life.

Maximum efficiency, combining high volume air-flow with the minimum of power and fuel consumption.



① Heater

② **Heater Control** - Room thermostat. Fully automatic controls allow easy use of switches and thermostats.

③ **Fuel Metering Pump** - Draws fuel from tank, through the fuel filter delivering measured amounts for perfect combustion.





④ **Combustion Air Intake** - Draws air to mix with fuel for combustion.

⑤ **Combustion Exhaust** - A flexible stainless steel tube to the through-hull fitting.

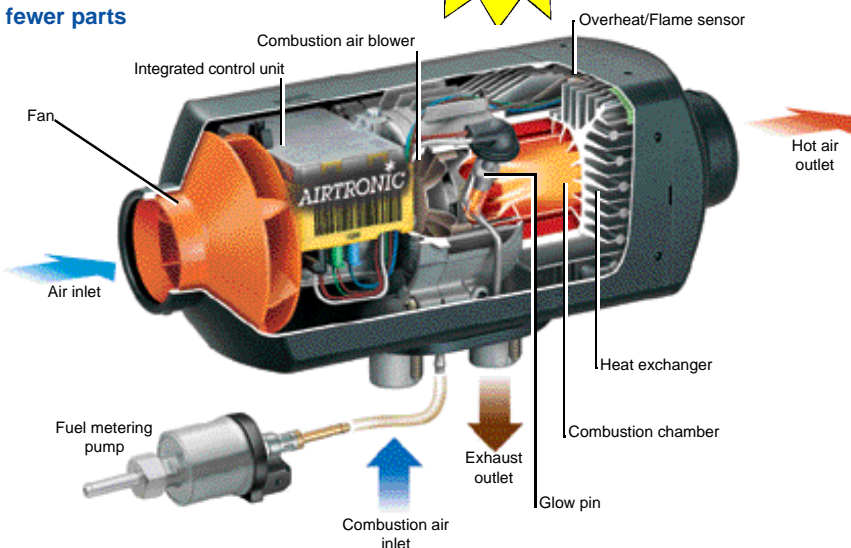
⑥ **Fresh Air Intake** - Providing cabin ventilation, it can be installed as a fresh air or re-circulating air system, whichever best suits your requirements.

⑦ **Flexible Hot Air Duct** - To conduct hot air throughout the boat.

⑧ **Cabin Outlet** - Type selections are available to suit your needs and decor.

-  smaller
-  lighter
-  easy quick hood release
-  fewer parts

AIRTRONIC D4
13,600 BTU/hr



Hot Water Systems

Marine Applications

A water heater will offer air heat via radiators or fan blowers and give a supply of domestic hot water for taps, showers, etc.

The heater unit can be installed alongside the engine. It can be plumbed into the existing engine heat exchanger, or as a separate system completely.

A water line is connected to the boats water heater to give domestic hot water. From this line, heated towel rails and drying locker outlets are possible. This offers the flexibility for summer use to avoid heating the cabins unnecessarily.

A second hot water line takes heat to the cabins. The hot water is converted into warm air via panel radiators. This is the favored approach but adequate fascia or bulkhead space will be necessary to house the panels. Alternatively low current consumption fan blowers are available to work in a similar way to a car heat exchanger. Blown warm air is then available by switching the individual heater units as heating is required. These can be linked to individual cabin thermostats for full system control.

The water heaters own thermostat will control the system temperature automatically, very much as a domestic boiler does.

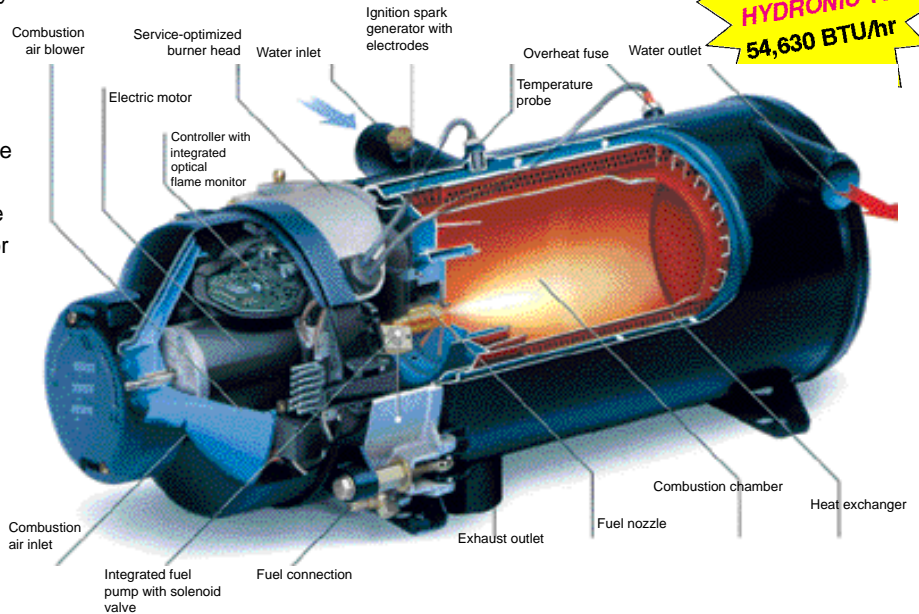
Espar marine dealers offer all parts for the system so there is no need to worry about obtaining the right individual components. A kit can also be developed from the available parts to suit your particular requirement.

How the Heater Works

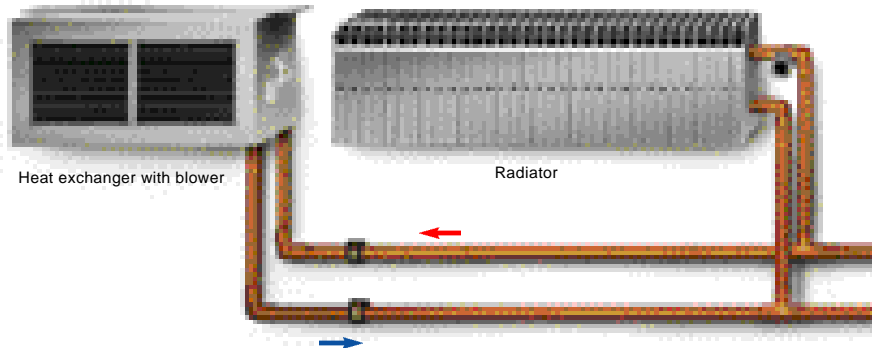
On starting, the heater draws in combustion air from the engine area or wherever the heater is located. Fuel is drawn from the main boat tank and mixed with the air. A glow plug ignites the air/fuel ratio and a controlled flame is established in the heat exchanger. The integrated water pump no circulates the system's water, passing it over the heat exchanger and onto the water heater and radiator system.

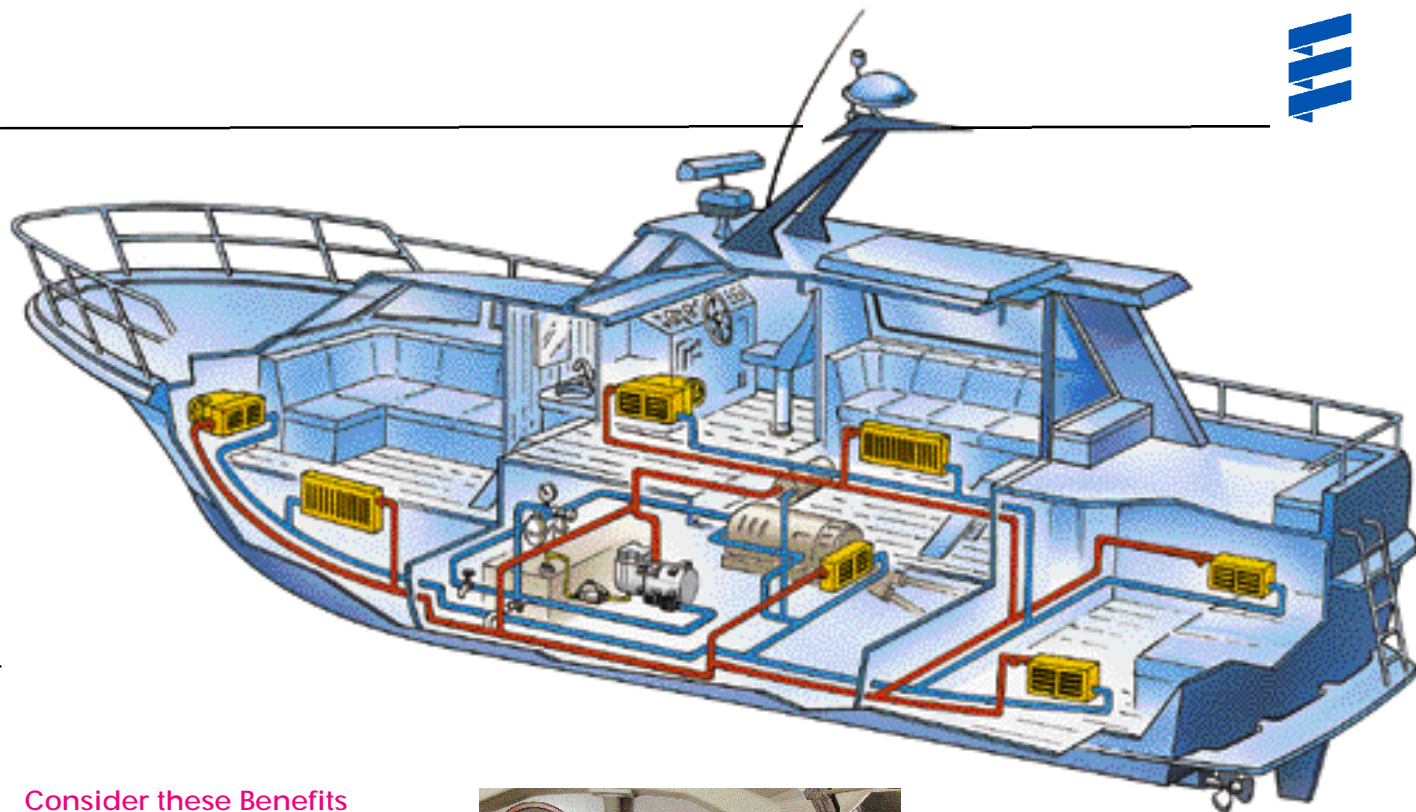


Once the system is hot the heater will regulate down to a lower heat level. This avoids unnecessary cycling by detuning the once heated system into a steady "top up". The system is under much greater control and is very economical to run. When heavy demands are made on the system, such as a shower or maximum cabin heat, the heater automatically returns to a higher heat level.



Espar's
"New"
HYDRONIC 16
54,630 BTU/hr





Consider these Benefits

Automatic temperature control.

Cabin **temperature** can be controlled automatically using radiators with thermostatic valves or room thermostats in conjunction with fan matrix blowers.

Variable heat output

By **self-regulating** between high and low heat output levels, "on/off" switching of the heater is greatly reduced.

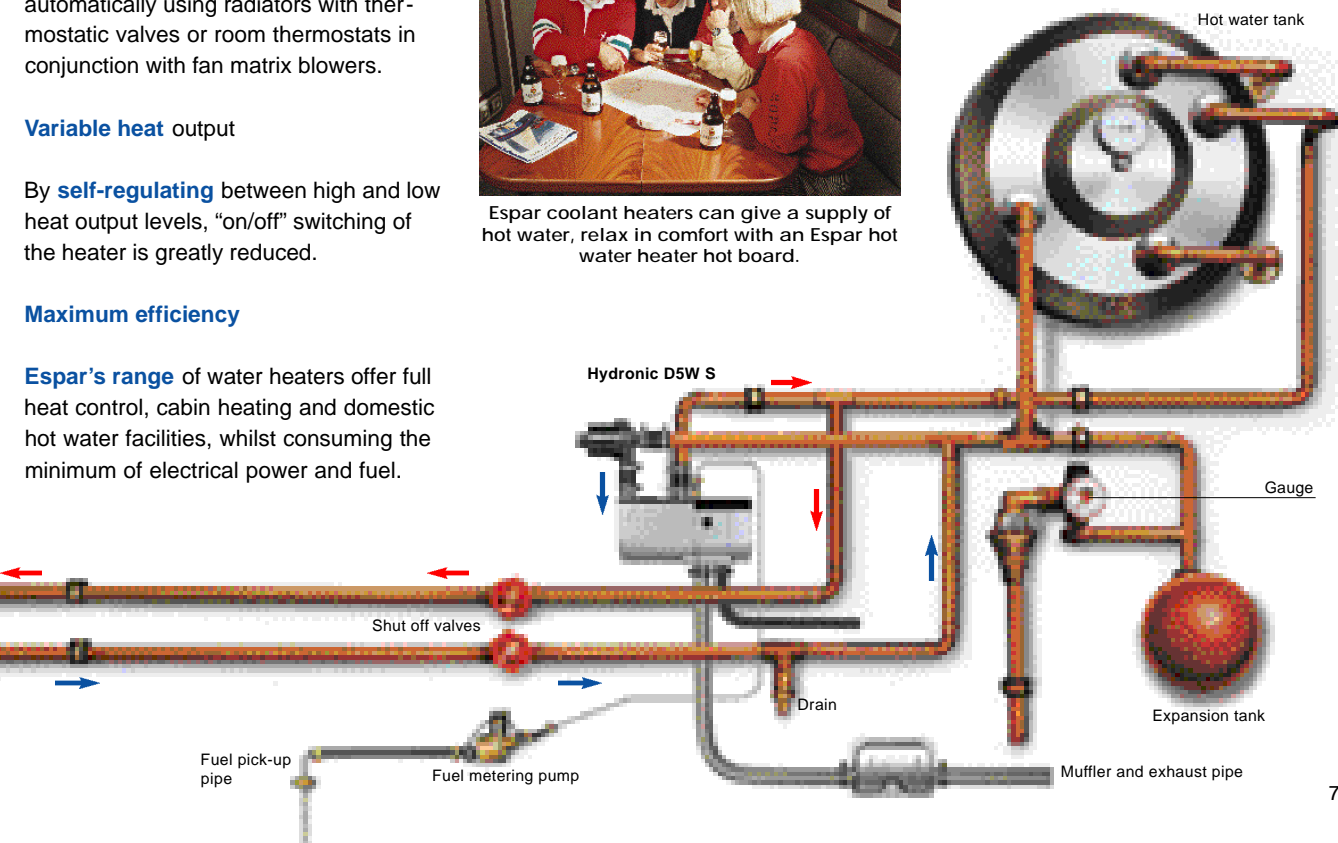
Maximum efficiency

Espar's range of water heaters offer full heat control, cabin heating and domestic hot water facilities, whilst consuming the minimum of electrical power and fuel.



Espar coolant heaters can give a supply of hot water, relax in comfort with an Espar hot water heater hot board.

Espar water heaters have their own circulation pump, so it can be designed into a full, central heating system, incorporating engine preheating. Available in five output models.



AIRTRONIC D2



Heat output
BTU/hr (Kw)
Fuel consumption
gal/hr (l/hr)
Electrical (12volt)
consumption
Air throughput (cfm)
Weight

Boost 7,500 (2.2), High 6,150 (1.8)
Med. 4,100 (1.2), Low 2,900 (0.85)
Boost 0.07 (0.28), High 0.06 (0.23)
Med. 0.04 (0.14), Low 0.026 (0.10)
Boost 2.8 amps, High 1.9 amps
Med. 1.0 amps, Low 0.67 amps
Boost 48, High 40, Med. 27, Low 30
6 lbs. (2.7 kg)

AIRTRONIC D4



Heat output
BTU/hr (Kw)
Fuel consumption
gal/hr (l/hr)
Electrical (12volt)
consumption
Air throughput (cfm)
Weight

Boost 13,650 (4), High 10,200 (3)
Med. 6,800 (2), Low 3,400 (1)
Boost 0.13 (0.51), High 0.10 (0.38)
Med. 0.07 (0.25), Low 0.034 (0.13)
Boost 3.3 amps, High 2.0 amps
Med. 1.1 amps, Low 0.60 amps
Boost 85, High 69, Med. 50, Low 19
9.9 lbs. (4.5 kg)

D5LC



Heat output
BTU/hr (Kw)
Fuel consumption
gal/hr (l/hr)
Electrical (12volt)
consumption
Air throughput (cfm)
Weight

Boost 18,800 (5.5), High 16,400 (4.8)
Med. 6,800 (2), Low 4,100 (1.2)
Boost 0.18 (0.70), High 0.15 (0.58)
Med. 0.09 (0.34), Low 0.04 (0.15)
Boost 6.7 amps, High 6.7 amps
Med. 3.3 amps, Low 3.3 amps
Boost 137, High 137, Med. 81, Low 81
17.6 lbs. (8 kg)

D8LC



Heat output
BTU/hr (Kw)
Fuel consumption
gal/hr (l/hr)
Electrical (12volt)
consumption
Air throughput (cfm)
Weight

High 27,300 (8.0), Low 11,900 (3.5)
High 0.26 (1.0), Low 0.11 (0.4)
High 9.6 amps, Low 9.6 amps
High 151, Low 146
44 lbs. (20 kg)

AIR OR WATER ... THE CHOICE IS YOURS

Espar Heater Systems have the most comprehensive range of heaters available in today's marketplace.

Espar is backed by the well-established, international corporation, J. Eberspächer. With over 135 years experience, J. Eberspächer is the world leader in fuel-fired heaters. J. Eberspächer pays close attention to detail whilst integrating the latest technology into their designs.

The support of factory-trained technicians is vital to any modern essential equipment. Espar offers this support through a well-developed and established network of distributors and dealers across North America.

Models are available in 12 and 24 volt.

D12L



Heat output
BTU/hr (Kw)
Fuel consumption
gal/hr (l/hr)
Electrical (12volt)
consumption
Air throughput (cfm)
Weight

High 41,000 (12), Low 20,500 (6)
High 0.37 (1.4), Low 0.18 (0.7)
High 15.8 amps, Low 15.8 amps
High 220, Low 220
44 lbs. (20 kg)

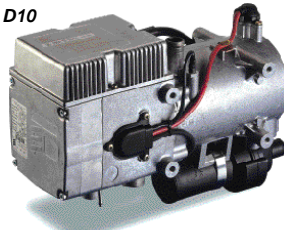
HYDRONIC D5



Heat output
BTU/hr (Kw)
Fuel consumption
gal/hr (l/hr)
Electrical (12volt)
consumption
Water throughput
Weight

Boost 17,000 (5.0), Low 8,200 (2.4)
Boost 0.16 (0.62), Low 0.08 (0.30)
Boost 4.4 amps, Low 1.9 amps
234 US gal/hr against 0.1 bar
(900 l/hr against 0.1 bar)
6.3 lbs. (2.9 kg)

HYDRONIC D10



Heat output
BTU/hr (Kw)
Fuel consumption
gal/hr (l/hr)
Electrical (12volt)
consumption
Water throughput
Weight

Boost 32,400 (9.5), High 25,600 (7.5)
Med. 10,900 (3.2), Low 5,100 (1.5)
Boost 0.32 (0.12), High 0.24 (0.09)
Med. 0.11 (0.4), Low 0.05 (0.18)
Boost 10.4 amps, High 6.3 amps
Med. 3.5 amps, Low 2.9 amps
370 US gal/hr against 0.14 bar
(1,400 l/hr against 0.14 bar)
14.3 lbs. (6.5 kg)

HYDRONIC D16



Heat output
BTU/hr (Kw)
Fuel consumption
gal/hr (l/hr)
Electrical (24volt)
consumption
Water throughput
Weight

54,630 (16)
High 0.48 (1.8)
High 2.1 amps
1,320 US gal/hr against 0.2 bar
(5,000 l/hr against 0.2 bar)
40 lbs. (18 kg)

Espar Heater Systems also provides the Hydronic D4 and HYDRONIC 24/30/35 large coolant heaters. Inquire about these systems at your local Espar Marine Dealer.

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Espar Heater Systems

Sales & Service