Operators manual
Slim/B Water heater

Isotemp Slim water heater has been designed and produced to ensure that your water heater will give long and trouble free operation for many years.
It is important, however, that your Isotemp water heater is correctly installed and maintained. During the winter period when the unit is not being used it is essential that it is drained to avoid risk of damage due to freezing.
Every single Isotemp water heater is individually pressure tested prior to delivery and carries a 2 year factory warranty in respect of defects in material and/or manufacture and a limited 5 year warranty on the inner tank.

Installation:

1. Positioning: The water heater may be positioned in a suitable place with the engine water connectors on the water heater below the level of the engine header tank. The connection hoses between the engine and the water heater should be kept as short as possible.

2. Mounting: The water heater can be mounted horizontal, with the safety valve lowest, or vertical with all connections pointing downwards. The mounting brackets can be turned to fit the bottom or a bulkhead on board. Bear in mind the weight of the unit when full of water.

3. Water connections:

3.1 Fittings: Use only fittings and accessories made of non-corrosive material such as brass or stainless steel. Avoid plastic fittings on the water heater depending on the heat, unless they are specially made for this purpose. For the engine connections, use heat resistant (100°C / 210°F) reinforced rubber hoses, resistant to anti-freeze and pressure proved for 5 bar / 70 psi. For the fresh water, use heat resistant fresh water hoses (food industry quality). They shall be rated 8 bar / 115 psi.
Seal threaded connections with e.g. Loctite 577 or Bondline T777.

3.2 Engine connections (see schedule): The water heater may be used with either fresh or sea water cooled engines. The flow of cooling water from the engine through the water heater must be at least 2 litres/min. If the boat has two engines, connect the water heater to one engine only.
Connection to the engine shall be done with min. 5/8" /16 mm hoses and adaptors to avoid restrictions. See the instructions in the engine operators manual, regarding hose dimensions and connection points.

3.3 Freshwater connections (see schedule): The water heater is fed with fresh water from the electrical fresh water pump. Max working pressure for the pump: 3 bar / 42 psi. Fresh water is taken in at the safety valve Tee. The hot water outlet, which also vents the water heater, should be connected to a mixer tap at the sink and/ or basin outlet. Cold water can be mixed with hot to avoid scalding. Set a proper temperature on the thermostat mixing valve on the water heater. The temperature of the hot water can be set between 38 and 65 °C / 100 and 150°F.
A possible waste water hose (i.d. 10 mm / 3/8") must always have a free outlet. There must be no valves or skin fittings, fitted to the waste water hose. A small quantity of water may be expended via the safety valve during the heating up period.

3:4 Electrical connection: All internal connections are made in the factory. The power supply cable is fitted with an standard EU plug, which should be fitted to a correctly installed socket. This socket as all "high-voltage" installations on board, must be carried out to fulfil valid regulations. The Isotemp Slim water heater is designed to meet regulations in this field.
Important! The water heater shall be connected to the mains power supply only when it is in service. When leaving the boat for any length of a period, it is recommended to pull out the cable connector from the socket to also disconnect the earth protection. This should be done even if the shore power system is shut off, as there can be a potential difference, between the earth from shore and the sea water earth of the boat. This can seriously damage, by stray current corrosion, the immersion heater, water heater tank or the engine with its drive unit.
Installation of a insulation transformer in the shore power equipment eliminates the risk of galvanic corrosion via the shore power connection.

4. Start up/Test: Start the engine and check the circulation of the cooling water. Secure the hoses after checking. When using with a fresh water engine cooling system, compensate with anti-freeze for the additional volume in hoses and heat exchanger. Fill up the water heater with fresh water by starting the fresh water pump, leaving the hot water tap open to air the system. Check there are no water leaks and finally connect the power cable first when the water heater is full. Check that the safety valve outlet is free to allow water to escape.
Note: the water expands during the heat up process, a small quantity can come out through the safety valve.

5. Maintenance:

5:1 Winter drain: When there is a risk of freezing temperatures, the water heater must be drained. This is done by pulling the lever on the safety valve to its open position. Take off the hot water hose and/or open the air bleeder screw on the mixer valve, to allow air coming into the tank.
The water heater can be left safely on board over winter.

5:2 Immersion heater: The immersion heater is 230V-750W. The thermostat equipment has an integrated working thermostat and a double overheat protection thermostat. This is manually re-settable, by pushing the white pin at the top of the thermostat. Also check why the overheat thermostat initially tripped before re-connection the power supply.
When leaving the boat for shorter or longer periods, it is recommended to disconnect the power supply cable plug. See above at 3:4.

5:3 Controls: Check regularly that there is no leakage in the connections.

Technical data Isotemp Slim/B

Type	Volume ltr.	L x øD mm	Weight kg.	Immersion heater
601521S000003	15	540 x 285	8	230V / 750W
602021S000003	20	665 x 285	9.5	230V / 750W
602521S000003	25	785 x 285	11	230V / 750W

Connection fresh water: BSP ½" outside for cold and hot water, Engine water: BSP ½" outside.
Inside thread for cold water in when thermostat mixing valve is mounted.
Material: Engine water coil, storage tank and all connections: Stainless steel AISI 316
Outside cover and mounting feet stainless steel AISI 304
Immersion heater in copper covered by nickel. Immersion heater also available in 120V version.
Safety valve: 85 psi / 6.0 bar
Insulation: Foamed expanded polyurethane

Above data valid for Slim/B with thermostat mixing valve mounted.
Changes of the specification may be done without prior notice.

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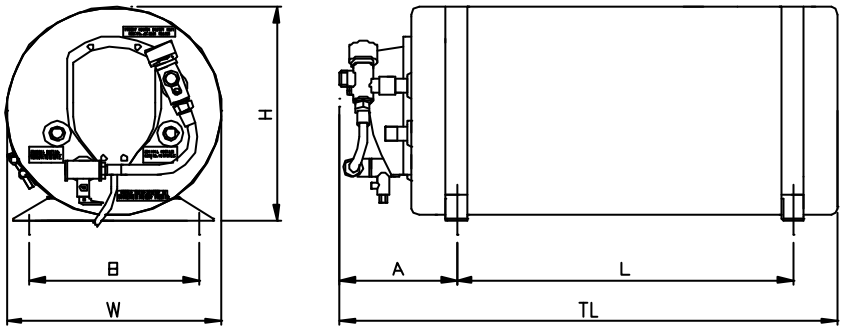
Dimensions



Type	A	L	B	TL	W	H
15L	160	320	245	540	285	295
20L	160	445	245	665	285	295
25L	160	570	245	785	285	295

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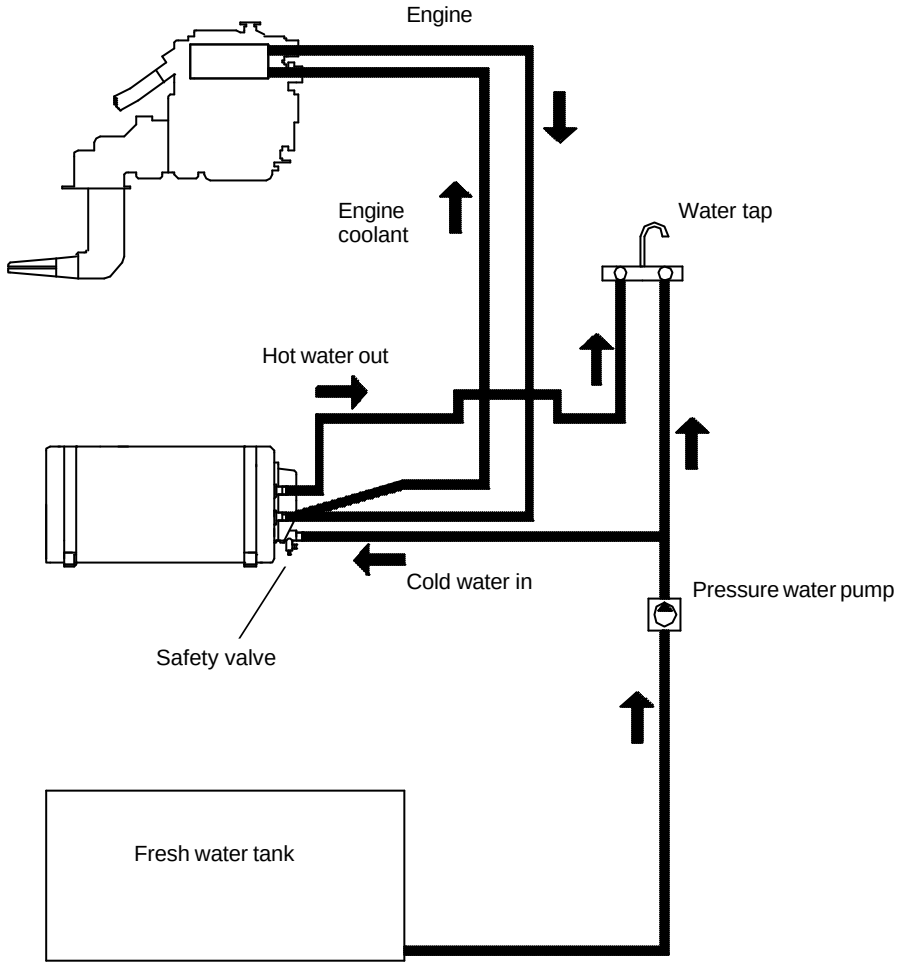
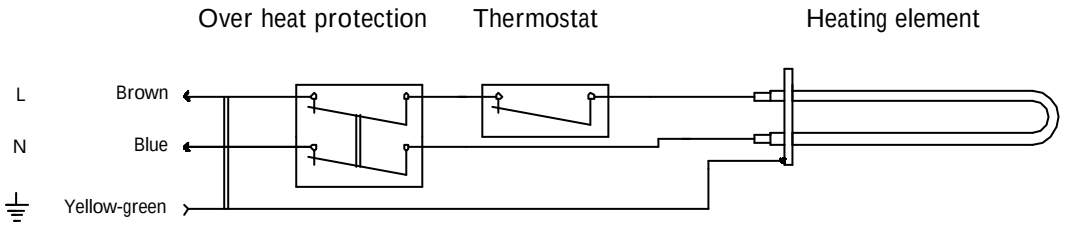
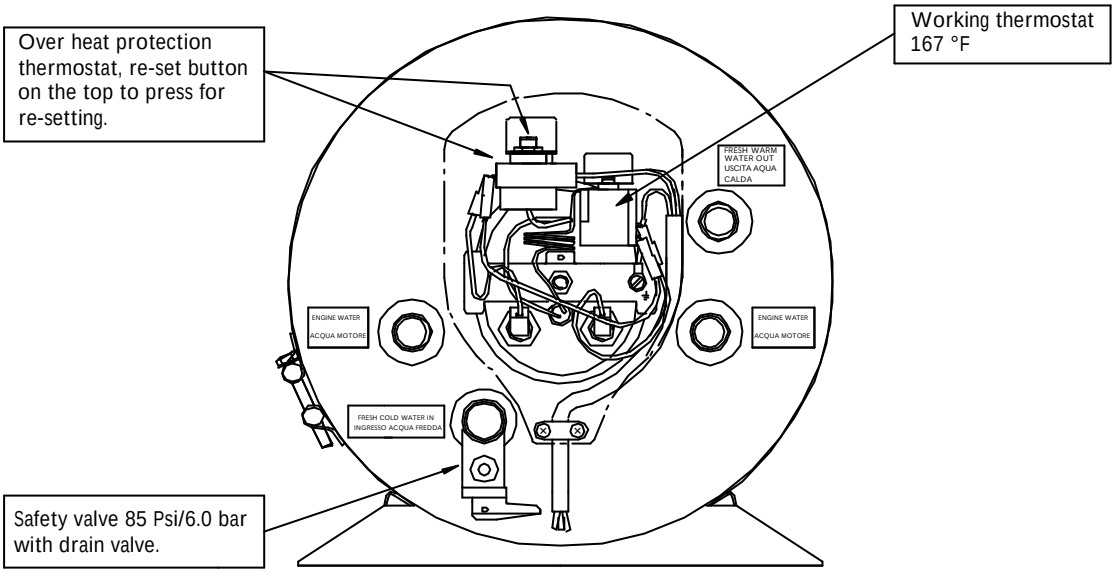
Principal connection diagram



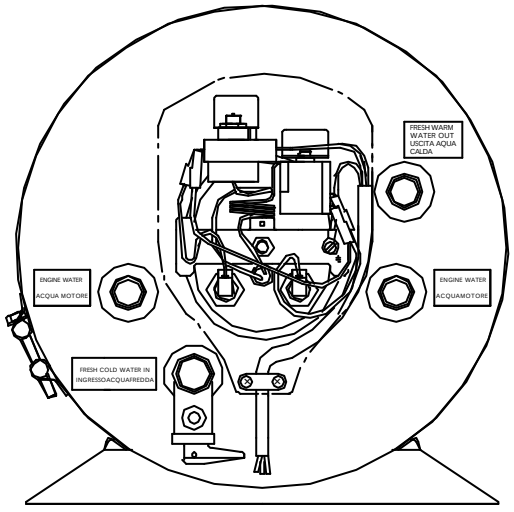
Wiring diagram



Thermostats



Exchange of heater coil



Exchange of heater coil

Switch off the mains power, pull out the mains power cable. Take off the plastic cover, unscrew the two screws at the sides, push the cover slightly downwards and the cover is free to take off.
Unscrew the thermostat and the overheat protection from their brackets for better access.
Take off the electrical wires from the heater coil.
Loosen the center nut and unscrew it completetly, the bracket and the heater coil are now loose.
Put on the nut on the heater coil center bolt (without the bracket mounted), it is easier to grip the unit with the nut on the center bolt.
Push off the rubber seal, let it fall in, it will come out together with the heater coil unit.
Turn the heater coil 90° to the left, the wire connection tabs shall point to the right. Twist the unit so its inner end hits the tank wall on the left side.
Pull out the heater coil unit through the hole with the left side first.
Unscrew the heater coil from the big mounting flange. Use wrench size 19 mm.
Mount the new heater coil with the new enclosed washers. The inner end shall piont downwards when it is mounted in correct positon.
Assembly in the opposite order to the description above.
Remember, put on the big rubber seal first.