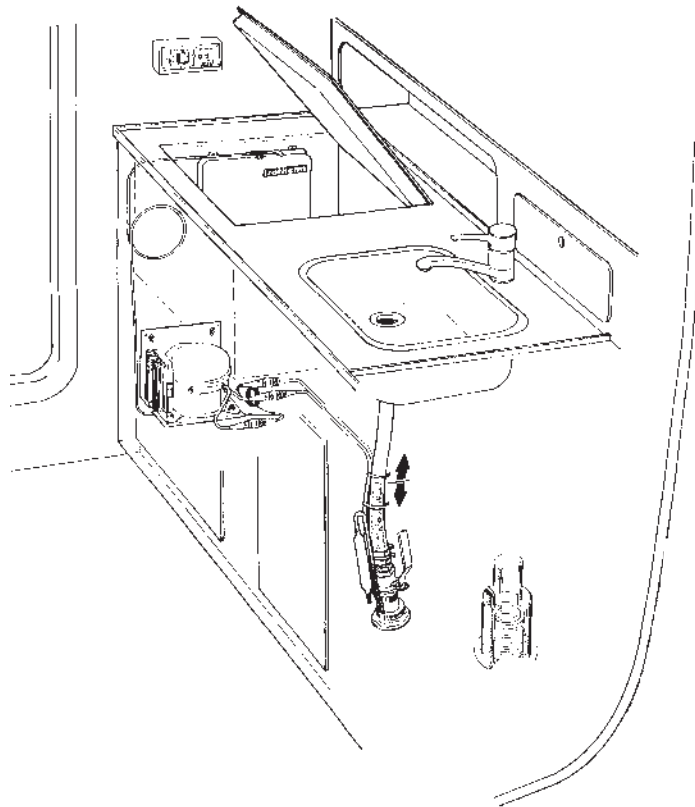


isotherm^{SP}



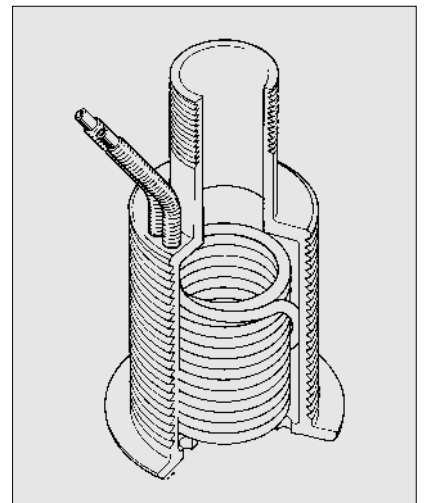
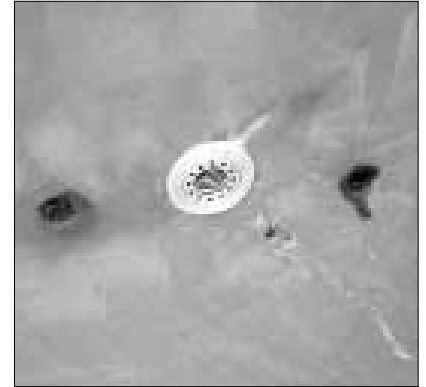
Addition to installation and operating instructions.

General

ISOTHERM SP is a sea water cooled refrigeration system for sailing yachts and motorboats. This unique system means reduced power consumption and noise levels. It has no fan or pump. The sea water cooled skin fitting/heat exchanger replaces the air cooled condenser and cooling fan. The heat is transferred directly to the surrounding water instead of being circulated as hot air inside the boat.

Description

The special skin fitting with its integrated condenser/heat exchanger is mounted in the hull and is made of salt water resistant brass with the heat exchanger coil in copper nickel alloy and replaces the existing skin fitting for the sink drainage. The connection pipes to compressor have a length of 1 meter and are equipped with quick couplings. A filterdryer is mounted approx. 20 cm above the skin fitting on the return pipe. A 1 $\frac{1}{4}$ " ball valve should be mounted on the skin fitting. The hose between the sink and the ball valve shall be a minimum of 38 mm diameter. The skin fitting is normally kept clean due to the constant movement of water and lack of sunlight. During sailing or motoring the water will flush the fitting and heat exchanger coil rapidly, which will keep it clean from marine growth. The skin fitting can be fitted with a zinc anode on the outside, as an option.



Operation

Always keep the ball valve open to ensure a satisfactory function.

If the ball valve is closed and the boat is in harbour the fridge will operate at a reduced cooling level. During sailing or motoring the fridge will operate better but not to its full potential. When the boat is on shore, the fridge system will operate at a reduced level, in this case the ball valve must be open to allow air ventilation through the hose and sink.

Maintenance

The maintenance is minimal. When necessary clean the heat exchanger pipe coil. Do not use sharp or hard tools, a brush will be enough. If necessary, the threaded bottom entrance washer can be removed.

Corrosion: Make sure that the refrigeration system is connected to the electrical system on board in such a way, it cannot be connected to the earth when shore power is connected. Normally no zinc anode is needed, but is available as an option.

Installation

First of all, plan your installation!

The skin fitting is to be mounted in the hull instead of the existing fitting for the galley sink waste water. The hole in the hull shall have a diameter of 60 mm. When an existing skin fitting is to be replaced, it is taken away by the following method. Place a wooden plug in the fitting from the outside, use a \varnothing 60 mm hole saw with center drill and cut out the complete skin fitting at the same time as the new hole is made. Put through the connecting pipes and the fitting from the outside. Seal carefully with Sikaflex 292 or equivalent. The skin fitting has a 42 mm wrench grip on the inside part for easy tightening of the counter nut. Bend aside the connection pipes to allow a 1 $\frac{1}{4}$ " ball valve to be mounted, which on the galley sink side shall have a hose serrated tail \varnothing 38 mm. Change the sink fitting to suite the \varnothing 38 mm hose to be installed. Remember twin hose clamps below the water line.

The compressor unit is most likely to be placed in the compartment under the sink, in a suitable distance from the skin fitting. The compressor shall be mounted horizontally. The bracket allows a choice of mounting positions, standing on the floor, bulk-head mounting or hanging from the top by means of adding another bracket. The compressor needs to be protected from splashed water or water leaking from the sink at all times.

See pictures also on the first page.

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