



***CONTESSA 32 CLASS ASSOCIATION TECHNICAL PAPER***

***CONVERTING THE COOLBOX TO A FRIDGE***



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## DOCUMENT INFORMATION

<b>Technical Paper Name</b>	Converting a coolbox to a fridge
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## OVERVIEW

Having retired last year and with more time to spend afloat, we took the opportunity of having the galley in pieces to refit the gas piping to convert the coolbox to a fridge. This turned out to be a pretty simple process – the choice of unit is limited by space available so the main challenge is where to locate the compressor

A key consideration is that the couplings supplied are one time usage, so once the coupling is made, you can't break it without losing all the refrigerant and having to return the whole setup to the manufacturer for recharge.

The kit consists of three pieces – the cooling plate and refrigerant piping, a thermostat / off switch and the compressor / heat exchanger unit.

## REPAIR PROCESS

The first issue was where to site the compressor as this will determine which configuration you buy – long or square. The usual options are :

- Cockpit locker
- Behind / under the sink
- Locker at aft end of the port berth

However, none of these really suited, our cockpit locker is increasingly occupied by a new gas locker and pressure water system, behind the sink is our bottle locker that we didn't want to lose and the locker at the aft end of the berth is too far away. So the rather unconventional location is behind the cooker, where there is space to fit the long / narrow configuration without restricting the swing of the cooker. The area is well ventilated, and air flow to the heat exchanger is provided through a matrix of holes drilled in the shelf, a gap at the back of the shelf and an opening into the sink bulkhead. This is also necessary to allow you to make up the piping and electrical connections as they end up being at the back of the unit behind the heat exchanger and are inaccessible unless you allow the shelf to rotate downwards and tilt the unit inboard – this requires that the piping can also rotate through the same arc when you return the unit to its normal position. To prevent radiant heat from the oven (which we rarely use) affecting performance, a small sheet of aluminised engine sound insulation sits between the cooker and cooling unit with gaps top and bottom for airflow, this is only mounted with a screw each side so can be swiveled up against the underside of the locker to increase airflow if required when the cooker is not in operation.

The piping runs from the coolbox inboard of the sink and then out along and through the cooker bulkhead to the cooling unit, with the "spare" forming a U to allow the cooling unit to rotate. The piping is quite stiff and can only tolerate large radius bends so the cooling plate has to be able and bulk of the piping has to be able to move around as you feed the pipe along its route. This is much easier with the sink removed, which also allows the piping to be clipped in place. Once the piping is run, the cooling plate can be screwed to the coolbox side.

While it only consumes 35 watts, the power cables required are pretty chunky, and in our case are shared with the water pressure pump. If the cables are too light, the voltage dip on start up triggers the low battery voltage protection in the electronics and the unit won't start.

ADDITIONAL PHOTOGRAPHS



Refrigeration plate in the coolbox – just enough clearance to the lid  
Thermostat / off switch above



Bottle locker behind sink – loop of coolant piping just visible top right



Compressor and heat exchanger in position behind the cooker with the “heat shield” swung up

## SUPPLIERS AND ADDITIONAL INFORMATION

Compressor unit :

[http://marine.dometicgroup.com/en/products/cooling\\_units\\_423.php](http://marine.dometicgroup.com/en/products/cooling_units_423.php)

Cooling plate :

[http://marine.dometicgroup.com/en/products/cooling\\_units\\_423.php?artOrigID=139&sprID=2](http://marine.dometicgroup.com/en/products/cooling_units_423.php?artOrigID=139&sprID=2)

Install instructions :

This is what comes with the package

[http://www.waeco.co.uk/docs/Ins\\_ColdMachine\\_EB\\_10s\\_07.pdf](http://www.waeco.co.uk/docs/Ins_ColdMachine_EB_10s_07.pdf)

and this is a bit more helpful for planning

<http://www.waeco.co.uk/docs/Cooling%20around%20the%20world%20new.pdf>

If you would like any additional information about how to proceed with upgrades or repairs to your Contessa 32 an excellent forum is available on the Association website where you can post questions and draw on the collective knowledge of many owners.

Contessa 32 owners are in the very lucky position to be able to contact the original and current manufacturer of Contessa yachts, the team at Jeremy Rogers Yachts are extremely helpful and will offer free advice to owners as well as historical information about your particular Contessa. Jeremy Rogers Yachts can provide a range of spare parts and will carry out repairs both small and large, their contact details can be found on the Jeremy Rogers website