

## Vitrifrigo – Frequently Asked Questions

*Q - There doesn't seem to be much insulation on Vitrifrigo products. Should I be concerned about that?*

**A** - There is adequate insulation, and of good quality, on all Vitrifrigo products. We have made calculations, verified by actual tests, which show that by adding 1" of insulation (R6) to a DP2600, the energy savings are only 4 amp/hrs per 24 hrs. This is such a small energy saving that adding more insulation is not considered to be worth the disadvantage of less interior volume and/or larger exterior size.

*Q - My existing fridge gets a lot of frost build-up. Are Vitrifrigo refrigerators frost-free?*

**A** - The reason that most marine fridges suffer with ice build-up is that the seals are inadequate, and this is especially true of the compression-type seals. If a weak seal allows cold air to escape, then warm, humid air will be drawn in to replace it and the moisture will end up as ice on the evaporator. Good seals will keep the cold air in and the humid air out and the fridge will be virtually frost-free. Vitrifrigo models all have excellent magnetic seals that prevent air from escaping or getting in, and so excessive frosting is not a problem.

*Q - What is the most important consideration when installing a Vitrifrigo fridge or freezer?*

**A** - All standard Vitrifrigo models are air cooled, and on most units the compressor and condenser are mounted on the rear of the cabinet. For maximum efficiency and performance it is very important that the warm air is allowed to escape to another area and cooler air drawn in to replace it. A small fan on the condenser blows the air through the coils and this warm air must be allowed to escape and not be drawn back into the condenser. Adequate vents at the rear and/or sides of the cabinet, one high and one low, should provide enough ventilation. One vent alone is not sufficient.

*Q - Is it more efficient to run Vitrifrigo models on 12v (or 24v), or 110V (or 230v)?*

**A** - The compressors used in Vitrifrigo and nearly all other marine fridges are 12/24 volt DC compressors. These are Danfoss BD 35 or BD 50 brushless compressors that have an electronic controller attached to them which they need in order to be able to run. Most Vitrifrigo models are offered with the option of being able to run on either 12/24v DC or 110/230v AC, and this is achieved either with a different compressor controller that has both AC and DC inputs, or a separate Power Unit. In both cases, the system will run on 110v or 230v AC if available, and then switch seamlessly to 12v or 24v DC when the AC power is removed. There is no measureable difference in efficiency between operating on AC or DC power.

*Q - Is it true that a fully stocked fridge is more efficient than an empty one?*

**A** - The amount of heat entering a fridge or freezer, and hence the amount to be removed, is a factor of the difference in temperature between inside and outside of the cabinet, together with the surface area and thickness and quality of insulation. There will be no difference in temperature inside a fridge that is fully stocked or one that is empty, so there will be the same amount of heat entering both, and therefore the same amount of heat that has to be removed by the refrigeration unit. What will change, however, will be the run cycle, with the fully stocked fridge running longer and resting longer than the empty one, but at the end of the day the power usage will be the same for both fridges.

There is one advantage to keeping a front loading fridge well stocked, and that is that there will be less air spilling out when the door is opened compared to an empty one. Although the amount of power needed to cool the incoming air is relatively small (just a few minutes run time for an empty box), the real benefit is that by minimizing the amount of air entering the fridge, you also minimize the ingress of humidity that can end up on the evaporator as frost.

*Q - My current fridge is noisy. How much noise do the Vitrifrigo models make?*

**A** - There are two components that are capable of making noise when running; the compressor and the cooling fan. The compressor is virtually silent so that leaves the fan as the only item likely to be heard. The fans on Vitrifrigo fridges are carefully selected to give adequate air flow while being as quiet as possible, and if you hear anything at all it will be no more than a faint hum from the fan when in operation.