REFRIGERATOR SYSTEMS

HOW & WHY IS ICEER MORE EFFICIENT?

Cabinet

The construction of the cabinet has a high insulating factor resulting in **minimal heat absorption** into the cabinet. We aim for 75mm or greater of insulation for fridges and 100mm or greater around freezers.

All units are fully moulded, sealed fibreglass, internal and external, providing an excellent moisture barrier which is essential to maintain good insulation and low power.

I cannot stress how important this vapour seal is. Any cabinet where you can feel the foam on the outside or has seams or screw holes will allow moisture to permeate the insulation and degrade the insulation qualities. Higher power consumption and poor performance is the end result of no vapour seal and only gets worse as time goes by.

Motor system

The performance of the electrical mechanical system efficiently removes the required heat (B.T.U's) from the inside of the cabinet to the outside in **wide range of ambient** temperatures.

In general, to design an ideal refrigeration system by the text book the following fixed parameters are required to be known:

(a) given ambient;

(b) available motor/compressor capacity

(c) internal cabinet requirements;

(d) charge and pressure of the refrigerator gas.

With these factors known and stable, an efficient system can be designed.

Unfortunately under field operating conditions these factors are variable and rarely constant. When any one or more of these factors vary from the fixed parameters, the ability of **other** systems to **efficiently** remove heat B.T.U.'s from the cabinet is dramatically reduced.

However the **ICEER** system **does** satisfy the needs of many varied applications. We do not use a mechanical thermostat. We have designed our own intelligent controller.

Intelligent control of the system achieves a near constant ratio of B.T.U's removal per power input (watts) in a ambient temperatures of up to an incredible 45 degrees Celsius.

By using the best proven components found in refrigeration systems, then electronically monitoring and intelligently controlling the system, stabilising all variables, **ICEER** gains maximum cooling or heat (B.T.U.s) extraction for the power input.

This method of control is similar to a mechanical TX valve used in larger volume systems like those found in supermarkets and industry to control gas pressure . Every 1 degree increase of gas pressure saves about 3% power.

Combining this method of control with a proven and exceptional cabinet construction for both fridge and freezer and the maximum internal volume for minimum external surface area gives you minimum battery drain