Onergy

endoCube

WHY ARE YOU COOLING THE AIR AND NOT YOUR PRODUCT ?

Now with endoCube you can control your refrigeration based on product temperature.

HACCP AUSTRALIA FOOD SAFETY PROGRAMME CERTIFICATION

OVERVIEW

Refrigeration units work in a series of cycles – starting and stopping to maintain the required temperature. They usually monitor air temperature in order to decide when to switch on and off. However, air temperature tends to rise faster than food temperature and, as a result refrigeration works harder than necessary to maintain stored products at the right temperature. This in turn leads to excessive energy consumption and undue wear and tear on the equipment. This is where the endoCube kicks in.

HOW IT WORKS

The endoCube consist of a food simulant contained in a double-skinned enclosure. This food simulant mimic's the temperature of food at 10mm below the surface, and is designed to be fitted around the refrigerators thermostat sensor, which controls the compressor.

Once in place, the endoCube transforms the fundamental operation of the refrigerator because it will now use food temperature as the signal to control its refrigeration cycle rather than fluctuating air temperature. The effect is a more efficient refrigeration cycle, where the individual cycle lasts longer but the frequency is reduced by up to 80%.

As the start-up of a refrigerator compressor uses more power than in the running cycle, considerable energy savings are achieved. In addition, the more efficient refrigeration cycle leads to a more efficient unit, which then leads to a colder storage area. Consequently, you can turn down the thermostat and enjoy further energy savings without compromising food safety.

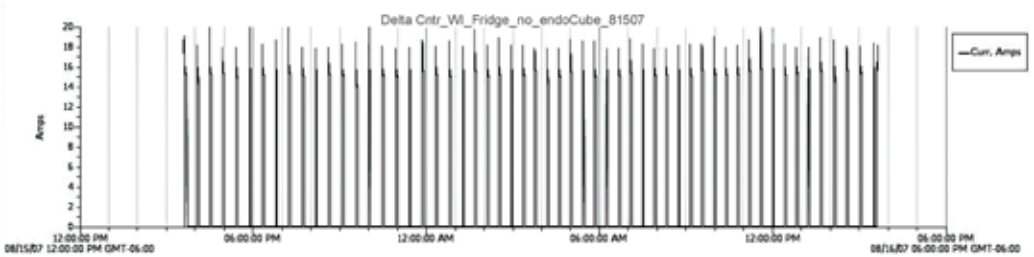
KEY BENEFITS

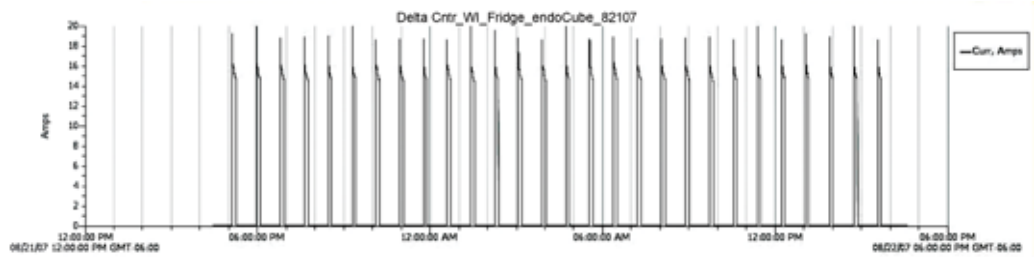
- Energy saving up to 30%
- Reduction of CO2 emissions, Green Image
- Accurate temperature mimicking
- Food monitoring keeps your food safer
- Return on Investment, ranges from 6 to 24
- Easy to install
- No electrical or mechanic parts
- Once fit, requires no maintenance
- Reduced wear and tear leading to extended life of equipment

DATA ANALYSIS

Compressor Cycling

These are graphs of 'Start–Stop' Cycles of 24 hour periods with and without the endoCube





Results

24 hour test without endoCube
57 compressor starts = 47 kWh

24 hour test with endoCube
28 compressor starts = 36.9 kWh

Energy Savings ..... 22% kW/kWh
Mechanical Savings ..... 51% Less Starts
Environmental Savings ..... 3,558 Lbs CO_2

TECHNICAL SPECIFICATIONS

Parts

endoCube and bayonet fixing (male)
two-part cable trap (termination)
bayonet fixing plate (female)
locking ring

Dimensions

Length ..... 4.5 cm–7.5 cm
(with bayonet and 2 part cable trap)
Width ..... 4.5 cm

Regulatory Certification

NSF protocol P235
HACCP Australia

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