

# REFRIGERATION ENERGY SAVING DEVICES

## A SMALL DEVICE THAT GENERATES BIG ENERGY SAVINGS

### WHY USE ENERGY SAVING DEVICES?

#### Quality of life issue

- Energy and food production are two of the most significant contributors to emissions linked to climate change.
- Refrigerators and freezers typically work by **monitoring circulating air temperature**. If the air temperature rises as a result of opening a door, the equipment switches on to cool the air down again.
- **Air temperature rises far quicker than food temperature**; as a result, refrigerators and freezers work harder than necessary to **maintain the required storage temperature**.
- Coming on more often leads to increased electricity consumption and can shorten the expected life of the equipment.

#### Our opportunity as a Services suppliers

- Sodexo's business operations directly affect energy use and emissions through the use of equipment's, such as refrigeration units, at our clients' sites.

### WHO ARE THESE DEVICES FOR?

- The energy saving devices are for Sodexo's restaurant sites to reduce their impact on the environment as well as the energy bills.

### HOW DO THEY WORK?

- The first generation devices are a small plastic box containing a specially designed food wax that cools or warms at the same rate as food produce in refrigerators and freezers. The current technology provides product temperature mimicking using a patented high molecular weight thermoresponsive terpolymeric matrix which enables for greater consistency, performance and longer life.
- The food storage equipment becomes food temperature controlled, which **reduces the number of times the refrigeration equipment is switched on and off (called "cycles")**.



## Benefits



### ECONOMIC

- Reduces refrigeration equipment maintenance through reduced wear and tear of equipment.



### REGULATORY

- Measures food product temperature instead of air temperature.

### CO<sub>2</sub> ENVIRONMENTAL

- Reduces energy consumption from refrigeration equipment by up to 45%.
- Reduces carbon emissions and their impacts on climate change, ecosystems and biodiversity.
- Reduces food waste as it improves quality/shelf life of refrigerated food (less product loss).

## Did you know ?

- A commercial **freezer** has frequent refrigeration cycles: 3 minutes ON, 2 minutes OFF, 12 cycles per hour.
- With an energy saving device fitted, it becomes 8 minutes ON, 7 minutes OFF, 4 cycles per hour - a 66.66% reduction in **refrigeration** cycle frequency.

## Energy Management by Sodexo

We believe it is not only possible, but also vital to increase energy awareness, best practices around energy efficiency, and provide sustainable solutions while providing a safe, comfortable environment that facilitates work, education, healing and living.

### Innovative technologies for a cleaner future

Whether managing existing buildings, or constructing new ones, Sodexo ensures energy efficiency through project management, monitoring energy use and utilities, implementing energy awareness practices and programs or advising on new energy efficient technologies.

### Roth technological solution

Sodexo has acquired Roth Bros, a company that employs state-of-the-art remote monitoring systems to enable energy management from a distance, encouraging quick response times for repairs and more effective consumption management. Now we can even turn lights on and off remotely, at the touch of a button.

### Corporate culture holds a key to change

But not all solutions are about new technologies. We are too often focused on technological solutions, and fail to see that the energy management process requires changing corporate culture and attitudes.

### Energy Awareness and Education Program

Training people on practices to reduce energy consumption could lead to potentially high savings.

Simple changes like turning dishwashers off when not in use or using spare oven capacity to perform other cooking operations could lead to energy savings of up to 27% for dishwashing and 43% for cooking.