



# Finding the optimal cold store conditions

Kitchen Range Foods, England



*Kitchen Range Foods has been producing sweet and savoury frozen food products for over 30 years. Part of the International Marfrig Group, they supply products to big brands food outlets, as well as national and regional food wholesalers. Kitchen Range Foods had suffered from a common problem experienced by many frozen and chilled food manufacturers, wholesalers, distributors and cold store operators – humidity.*

Issues associated with high humidity are often accepted as the norm within the industry, with ice, frost, snow and condensation a familiar sight in these very cold environments.

“We had tried many other options over the years” says Andy Gordon of Kitchen Range Foods. “At the lower end of the market we tried, with some successes, drop down plastic curtains but these tended to get damaged easily, and became brittle and discoloured over time. Towards the upper end of the market, we tried using an air curtain but this proved to be unreliable, inefficient and was eventually turned off and never used again.”

### Case study

Controlling humidity in food cold stores.

#### Advantages:

- Safer for staff and forklifts
- Reduced ice on floors & surfaces
- Improved evaporator efficiency
- Better visibility
- Easier handling of boxes
- Improved storage environment
- Reduce defrosts by 1/3



## Prioritising safety and efficiency

Problems occur when unconditioned, moisture-laden air passes into low temperature areas. When this moist air comes into contact with the very cold surfaces within a cold store, such as floors, door handles and surfaces, it condenses and freezes, creating a build-up of ice that is dangerously slippery and a risk to safety.

In addition, ice accumulating on evaporators impacts on efficiency and the overall climate inside the store.



## Finding the right solution

Munters solution for Kitchen Range Foods was to install a Munters IceDry 1400 desiccant dehumidifier inside the cold store in order to target moisture at source.

Specially designed to withstand the  $-25^{\circ}\text{C}$  temperatures experienced in frozen storage areas such as these, Munters IceDry is installed near the door inside the cold store for maximum efficiency. Due to the proximity of the dehumidifier's air inlet to the door, the system continuously treats the moist infiltrating air before it can distribute throughout the cold store.

This air is then dried using Munters desiccant wheel (rotor) technology and discharged above the cold store door on the inside via a tailor-made distribution plenum.

"The condition of the cold store has greatly improved and we are now snow and ice free for the first time in many years," explains Andy. "We no longer have issues with the refrigeration equipment icing, blocking up and the cold store is now the best it's ever been for excessive ice and snow build up on the walls and packaging."

This significant improvement in conditions means that the cold store is much safer for staff. Door handles and boxes are also clear of ice and snow, making them much easier to handle and assisting with loading and unloading times.

Keeping evaporators free of ice has resulted in a more efficient refrigeration system and Kitchen Range Foods have been able to reduce their daily defrosts from three per day down to two per day.

Would you like to find out if Munters has a solution for your company too? If so, please visit our website, [www.munters.com/food](http://www.munters.com/food)

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