

Frost-free storage of frozen products

Applications



Dessica Systems is a specialist in dry air technology and its applications in industrial environments for drying and dehumidification.

Dessica Systems has developed its distinctive know-how by delivering innovative solutions tailored to the needs of dry air usage in the manufacturing processes of several types of customers.

Your partner in dehumidification

Dessica dry air systems are used by the food industry; we have extensive experience in the fields of production, packaging and storage of products. **Dessica** equipment provides dry air in cold rooms **prevent the formation of fog, frost or ice**. The Dessica systems **remove moisture** even under penalizing climatic conditions.

Frost and ice problems

The storage of frozen products is often a source of numerous problems related to formation of frost or ice :

- Frozen or slippery floors that are troublesome and hazardous for personnel;
- Ice formation leading to premature deterioration, breakdowns and an increase in maintenance costs for equipment and premises;
- Necessity for repackaging products;
- Impossibility of reading bar codes on packaging;
- Increase in consumption of cooling energy.

This phenomenon arises from the inability of cold air to contain a large amount of water vapor, which condenses to form fog, frost or ice. To avoid these problems, it is necessary to limit humidity from outside and dry the air to maintain a dew point preventing condensation. Thanks to **Dessica** systems, it's possible to obtain a **very dry air to maintain required conditions** in the atmosphere, in airlock, dock, or in warehouse doors thus making impossible this condensation and therefore the formation of fog, frost or ice.

Some examples

In a cold store at -25 °C, the maximum amount of water vapor that a kilogram of air is 0,4 g. The outdoor air in France can reach, depending on the region, between 12 and 18 g of water vapor per kg of air. An outside air infiltration of 100 m³ / h can therefore generate moisture input of **more than 40 kg per day**, which will turn into ice.

- **Cerelia Unibake : Loading dock air treatment**

This warehouse has a temperature-controlled loading dock at 5 °C. This **Dessica** system operating in recycling, the humidity has been controlled, by this way, maintaining the dew point closer to the room temperature **eliminating the addition of humidity in the room**.

- **Aldis : Cold room air treatment**

This warehouse open into a controlled room at 5°C. A frequent activity oblige to leave doors permanently open without possibility to install strip curtains. **Dessica** install a air door and a dehumidifier working in recycling and blowing dry air above from each access door to the bedroom (interior side). One of the other doors with a second air door permit to create a second gate to air. **Air infiltration was thus limited** and the **excess humidity in the chamber evacuated** by the DESSICA air dryer.

Advantages of the Dessica solution

- **Reduce operating expense :**

It is no longer necessary to remove the ice manually in the cold room.

The breakdowns on mechanical equipment decrease (photoelectric cells, palletizers, conveyors...) The maintenance of Dessica equipment is low.

- **Decrease the risk of accidents and improved working conditions :**

Dry floor and ice-free on either side of the door, is no longer dangerous and slippery.

- **Quality packaging :**

It is no longer necessary to repackage.

Reading bar codes is no longer a problem.



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