



Humidity control in cold storage and freezing processes

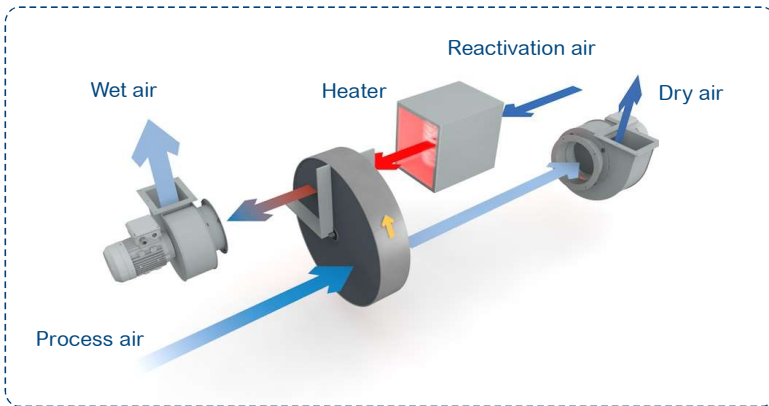
High humidity levels in installations, especially during the summer, can cause interruptions in production processes, which can turn in result in delays and economic losses.

Air inevitably passes from one area to another in and around cold storage chambers as a consequence of reception, movement, storage and other processes carried out inside. The entry of air from outside can cause the formation of ice and frost.

FISAIR dehumidifiers can significantly reduce the formation of ice and the cyclical need for defrosting, thereby ensuring smooth and high-speed running all year round.



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Advantages of the dehumidification of processes:

- Lower operating costs.
- Improved quality of products.
- No interruptions in the process.
- Improved safety at work.

Design principles:

- Elimination of humidity at source.
- Maintenance of low dew points preventing the formation of ice.

Dehumidifiers eliminate humidity before it can accumulate as ice in the equipment. In contrast to conventional air dehumidifiers, FISAIR units use state-of-the-art desiccant technology.



FISAIR supplies a desiccant rotor drying system able to eliminate air humidity at extremely low temperatures. During the process, the air in the chamber is passed through a silica rotor, which absorbs the water vapour in the air at temperatures of up to -70°C and moves it to another part of the equipment, the reactivation circuit. Exterior energy is then employed to move the water vapour out of the chamber.

The units can be installed in antechambers with air locks to reduce the infiltration of humidity, and in the chambers themselves to dry these small infiltrations.

They greatly improve the quality of the space, make major reductions in energy consumption, and have a significant impact on reducing breakdowns in the machinery.



The basic approach to their correct sizing involves the quantification of the infiltration of humidity and the determination of the suitable dew point required.

If the installation is already up and running, the work is just a question of taking readings of the temperatures of the walls, floors and structure of the conveyor belt on which the formation of ice must be reduced to a minimum. The dew point to be controlled must be slightly below this surface temperature.



A good example is STEF Euromerk Valencia: a DFRA-0400E model dehumidifier with heat recovery. The combination of these units and the placement of a quick-closing antechamber made it possible to drastically reduce energy consumption, and to solve the problem faced by the client.

