

FREEZAIRE®



## WHEN MOISTURE IS YOUR PROBLEM

Moisture creates problems for refrigerated storage operations. Condensation and ice on floors slow down loading and unloading operations, and employees can slip and fall, leading to costly injuries. Also, fog can obscure trafficways and ice can jam doors or prevent them from sealing properly. And that ice must be chipped or melted off by hand; a nasty, time-consuming job for workers who could be making money for the company by moving product instead of wasting time chipping ice.

Beyond safety problems and high labor costs, high humidity reduces your refrigeration efficiency. Extra moisture increases your defrost cycles, which costs you more money, and degrades your temperature control. But now those problems can be solved quickly and easily—with a solution that pays for itself!

## FREEZAIRE® IS YOUR SOLUTION

Munters' FreezAire desiccant dehumidifiers attack the problem at its source. FreezAire units remove moisture from air in the loading dock area—so humidity can't condense on the floors or invade storage areas.

Since floors are dry and ice-free,

your pallet trucks can work at full speed, transferring product quickly and profitably. And in a way, the FreezAire solution is free—because you save so much money by reducing your defrost cycles. Here are four ways that FreezAire makes money for you every day.

## DELIVERING BIG BENEFITS

### ■ Faster loading & unloading

Ice on the floors and doors slows your motorized pallet trucks to a crawl, as drivers try to avoid collisions, and wait for ice-encrusted doors to open and close. With FreezAire removing condensation, ice and fog, pallet trucks can work at their normal high speed, reducing truck loading and unloading times, and increasing the throughput of your facility.

### ■ Consistent temperatures improve product quality

Coolers need to defrost so frequently during the summer that temperatures can rise above the level needed for safe storage. Product waiting temporarily on the dock warms up, reducing its quality. FreezAire removes moisture load from the coolers, so the dock temperatures remain ideal for temporary staging of frozen product.

### ■ Safer docks and lower worker's compensation costs

Your employees deserve a safe working environment. Ice and water on floors are major causes of injuries in warehouses. By removing the humidity that causes slippery surfaces, FreezAire helps you control your insurance costs, and ensures that your workers remain healthy, productive and safe.

### ■ The solution pays for itself

By installing FreezAire units, one warehouse in Maine reduced their utility bill by \$22,000 in only eight months. That's because when the dock is dry, your refrigeration coils operate more efficiently. And they defrost much less frequently—about as often as during winter months. So you reduce your electrical power costs. FreezAire not only improves your operations and your product quality while keeping your workers safe...it pays you money during every hour of operation!

## DIVERSE USES

FreezAire is the perfect solution for a variety of food processing needs.

- Frozen fruits and vegetables
- Frozen meats and seafood
- Frozen prepared meals
- Pastry and bakery products



*Munters FreezAire units are simple and compact, ideal for retrofitting on existing buildings.*

## THE MOISTURE PROBLEM

Warehousemen understand that moisture is the source of many problems which plague refrigerated storage buildings. But the source of that moisture may be less obvious.

Humid air infiltrating into the loading dock carries 95% of the moisture load on cold storage buildings. Humid air is pulled into the dock through the small gaps between the truck van and the door cushions. Differences in air density between the hot air outside and the cold air inside the dock drive humid air into the building continuously. Even small cracks allow large amounts of moisture to enter the dock.

For example, humid air moving slowly (50 fpm) through a 1/2" crack around a single 8' x 9.5' truck door carries a full gallon of water into the dock every day. Imagine the effect of many doors with such cracks, and the effect of high winds during rainy, foggy weather. That humid air load is the same as someone sloshing a pail of water through each door onto the dock floor every few hours.

To avoid the problems of such high infiltration, the air must be dried before its moisture can condense on the floors, walls, doors, and cooling coils. That's what the FreezAire unit does.

## APPLICATIONS

FreezAire is designed to be used in a variety of different frozen food applications.

- Frozen food distribution centers
- PRW's
- Blast and spiral freezer processing
- Ice cream and dairy plants

## HOW FREEZAIRE UNITS SOLVE THE PROBLEM

Since the problem is humid air infiltration through the dock doors, the FreezAire unit captures the humid air above the doors. That way, most of the humidity load is removed before it can drift into the rest of the building to condense on cold surfaces.

Humid air pulled into the FreezAire unit is then dried deeply and warmed slightly. The dry air leaving the unit flows across the freezer doors and the floor at the rear of the loading dock—so the driest air is placed on the coldest surfaces. Dry air keeps these surfaces free of ice buildup, and rapidly removes any condensation which might form during peak work periods.

The FreezAire units never need defrosting, because they remove moisture from air through desiccant attraction, rather than through condensation. Since water is removed as a vapor rather than as a liquid, a desiccant dehumidifier can operate continuously, delivering air much drier than cooling-based dehumidifiers. This means the FreezAire equipment has tremendous dehumidification capacity even in cold, dry dock areas.

For example, air entering a desiccant dehumidifier at a 40°F dew point is dried to less than a -6°F dew point before returning to the dock. So a typical FreezAire unit, which dries 6,000 cubic feet of air each minute, can remove 115 lbs. (13 gallons) of water vapor from the dock every hour!

*The key to solving moisture problems is simply to eliminate the humid air infiltration entering through the dock doors. The FreezAire unit is mounted above the dock, capturing humid air before it can invade the storage area, and flooding the dock with dry air to remove hazardous condensation from the floor.*



## MUNTERS SERVES COLD STORAGE NEEDS

Munters pioneered the use of desiccant dehumidification in retail stores over 10 years ago. Our SuperAire units are now installed in more than 1,000 supermarkets. They save power costs for frozen food display cases by reducing frost buildup and improving operating efficiency.

Leading the industry into the next century, the Munters Companies have two divisions that produce the equipment you need for frozen food storage.

## MUNTERS DRYCOOL

Here at the DryCool Division, we manufacture the SuperAire and FreezAire units that control humidity in retail stores and in loading docks. We will engineer a solution to your needs in these applications.

## MUNTERS CARGOCAIRE

Our sister division, Cargocaire, has been serving industrial users of desiccant technology for over 50 years. Their dehumidifiers meet the needs of process freezers, which operate at especially low temperatures and even lower moisture levels than loading docks.

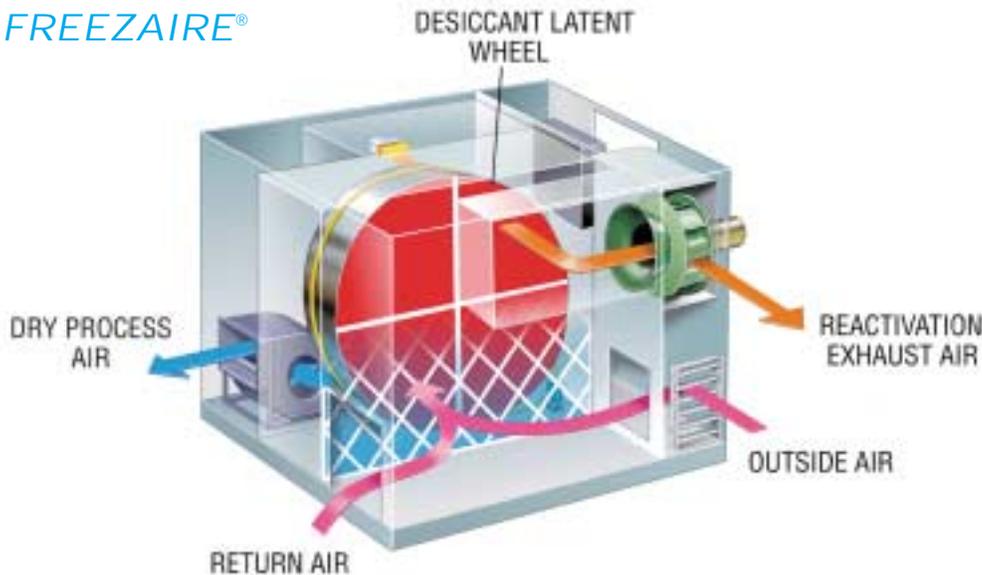
## THE BOTTOM LINE

Your facility, your truckers and your workers make money by moving product in and out of trucks quickly. FreezAire removes the water and ice from the dock, so you can get back to high-speed operation. And the FreezAire solution even pays for itself twice; first by reducing the cost of running your refrigeration equipment, and again as your transfer speed picks up. Productivity increases for zero net investment cost.

## THE NEXT STEP

We invite you to call Munters Corporation in Amesbury, MA. We can discuss any questions you may have, and explain exactly how our FreezAire units can be fitted to your building.

**FREEZAIRE®**



Munters—Dehumidification Division  
79 Monroe Street Amesbury, MA 01913  
TEL: (978) 241-1100 or (800) 843-5360  
FAX: (978) 241-1263  
EMAIL: [dhinfo@munters.com](mailto:dhinfo@munters.com)