

**INNOVATORS IN REFRIGERATION AND COOLING TECHNOLOGIES**



**CIMCO**  
**DESICON™ & HUMICON™**  
**Dehumidifier Systems**



**Superior Air Handling and Conditioning**

**TOROMONT**

**CIMCO**



## THE BENEFITS

### EFFICIENT YEAR ROUND OPERATION

*CIMCO Dehumidifying Systems* effectively remove excess moisture under all conditions, ensuring safe, economical operations year round.

### IMPROVED AIR QUALITY

*CIMCO Dehumidifying Systems* increase the amount of ventilation make-up air required by ASHRAE and BOCA codes. (Options available for treatment of air.) The system contributes to a healthy, fresh air indoor environment.

### REDUCED ENERGY COSTS

*CIMCO Dehumidifying Systems* eliminate moisture build-up on the ice surface, so there is no freezing load on the system. Energy consumption is reduced and system capacity can be maintained at maximum levels.

### IMPROVED ICE QUALITY

*CIMCO Dehumidifying Systems* enable the refrigeration system to operate at maximum efficiency, producing hard, high quality ice.

### REDUCED MAINTENANCE COSTS

*CIMCO Dehumidifying Systems* decrease the relative humidity level to such a low dew point that mildew and mold cannot survive, thereby eliminating rot, corrosion and decay on building structures. Costly painting and maintenance problems are significantly reduced.

### EASY TO INSTALL

DESICON is weatherproof, so it may be mounted on a roof curb or next to the building on a concrete slab. It may, if required, also be mounted indoors. Installation only requires supply and return ducts, gas piping, power and humidistat wiring.

### SUPERIOR VENTILATION AIR HANDLING

The CIMCO DESICON unit can be provided with a simple outside air damper, or the optional make-up air module to allow continuous introduction of ventilation air to meet any building codes. Because of the unique design of the DESICON unit, optional components may be fitted at a later date if required.

#### *Options include:*

- **Make-up Air Module**  
Allows dehumidified ventilation air for indoor air quality
- **Cooling Module**  
Provides DX or chilled water cooling
- **Heating Module**  
Adds indirect fired gas or hot water heat
- **Digital Control**  
Full system or interface with your BMS

### CODE ISSUES

Current national building codes have been revised for ice arenas in the United States to conform to the Indoor Clean Air Act.

**BOCA 1996 CODE (ANSI/ASHRAE 62-1989)** requires .5 SCFM per square foot of ice sheet and 7.5 SCFM per person/spectator if the spectator is in the arena for less than three hours. This air is intended to be brought in from the outside and conditioned.

**UNIFIED MECHANICAL CODE (UMC)** requires 15 SCFM per person in public buildings. This code can be less stringent for smaller arenas, but the designer must conform to the maximum capacity for the arena.



## **CIMCO** *Dehumidifier Systems*

Today because of year-round use and construction in warmer climates, most ice arenas are faced with severe problems resulting from excess moisture. "Fog and drip" is the visible evidence of too much water vapor in an arena. This excess moisture causes building deterioration, increases the cost of maintaining the ice, and significantly reduces spectator/participant comfort. The only way to eliminate fog and

condensation is with a high efficiency dehumidification system.

With over 4,500 installations, CIMCO Refrigeration is recognized worldwide as the leader in artificial ice refrigeration technology. So we understand arena moisture problems, and with our high performance DESICON and HUMICON systems we can provide the solution that is best for you.

*Without Cimco  
Dehumidifier  
Systems*



*With Cimco  
Dehumidifier  
Systems*



### ***A properly designed system significantly reduces:***

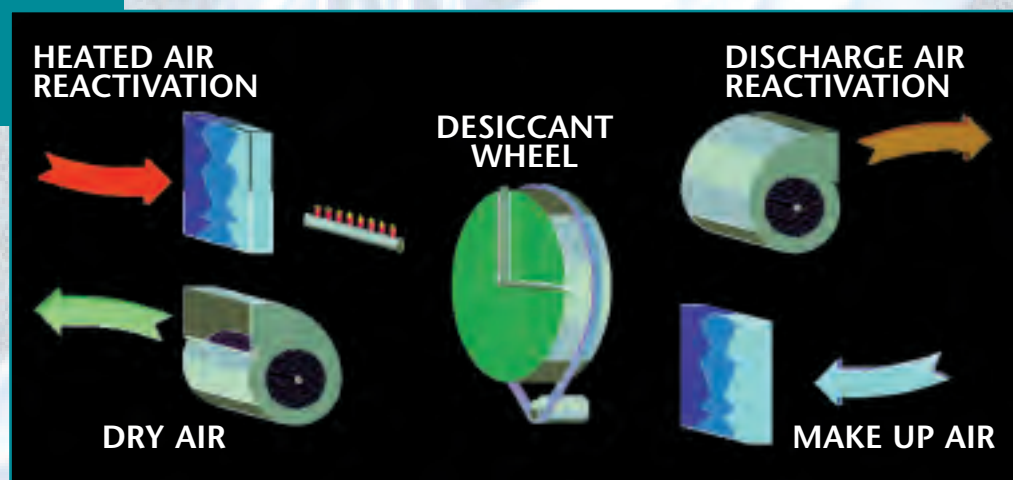
- fog and condensation
- dripping from the building structure
- lumps and bumps developing on the ice sheet
- mold growth
- paint peeling
- building maintenance costs
- operating costs of the refrigeration system

## DESICON™...TODAY'S MOST EFFICIENT, COST EFFECTIVE DESICCANT SYSTEM

DESICON is unsurpassed in its capability to absorb moisture from the air. Instead of condensing moisture like an air conditioner, the DESICON system removes moisture directly using a rugged, long-lasting desiccant rotor. The moisture from the arena is continuously removed from

the desiccant using inexpensive natural gas heating, and expelled directly outside. This process eliminates condensation, so no refreezing is required. Your equipment can then run at maximum efficiency, reducing energy costs.

DESICON technology is so efficient that it can replace up to three standard refrigeration units. While conventional refrigeration systems maintain relative humidity levels at approximately 75% at 55°F within the arena, the DESICON system dries the air so thoroughly that it can maintain relative humidity levels as low 20-30% during unoccupied hours. At this RH level the ice condition is optimized, the refrigeration system operates at maximum efficiency, and you save expensive system capacity and energy dollars.



# HUMICON™...THE MOST ECONOMICAL & RELIABLE DEHUMIDIFYING SYSTEM AVAILABLE TODAY

With thousands of units already in use, the HUMICON system is easily the most popular arena dehumidifying system in North America. The HUMICON system has been specially designed with moisture removing coils, large air handling capacity and a quick defrost cycle to take in large volumes of humid air, extract the moisture and quickly return dry, warm air to the rink.

Proper moisture removal and air circulation generally requires two HUMICON units in an arena with a 85' x 200' ice surface. One unit is usually satisfactory for curling arenas with up to 4 sheets of ice.



## MARK VIII HUMICON FEATURES

- Available in both Bitzer open drive and Copeland Compliant Scroll® hermetic compressor models
- Direct drive blower eliminates fan belt adjustments and replacement
- Refrigerant sight glass and access ports located on side of unit for easy service
- New electronic defrost timer initiates defrost only on demand
- Filter Monitor light indicates when filters need changing
- Electronic Humidstat option

With HUMICON, participants will enjoy improved ice conditions and comfort, while building owners will appreciate the more efficient, economical operation.

# CIMCO-LEWIS

## The Cold Specialists

### *Design & Engineering*

CIMCO-LEWIS has built its reputation by having the best technical sales, manufacturing and refrigeration engineers. From coast to coast, our team of application specialists can draw on 90 years of experience to design the refrigeration process

cooling plants that will meet your specific needs. From initial concept, through site supervision, to project commissioning, CIMCO-LEWIS engineers are available to ensure the success of your project.

### *Manufacturing*

We have established our reputation by using the latest manufacturing techniques to produce the world's leading refrigeration equipment. In fact, many of the products that become part of our refrigeration systems are manufactured by CIMCO-LEWIS, such as: shell and

tube heat exchangers; pressure vessels; dehumidifiers; water tanks and pumping sets; microprocessor and relay logic control systems and complete packaged refrigeration and process cooling systems.

### *Components*

At CIMCO-LEWIS we ensure that every component used in our systems is chosen based on the knowledge gained from past experience. Each product is carefully evaluated, tested and proven before it becomes part of a CIMCO-LEWIS system. From the

compressor, through to the simplest control, each unit is carefully assessed and matched with components of proven dependable performance to keep our clients and their products cool.

### *Installation & Service*

A key aspect of our success has been our experience in preparation, installation, start-up and balancing of our systems. CIMCO-LEWIS offers preventive maintenance and service inspection programs with

reliable, professional follow-up service. When it comes to keeping things cold or on ice, only CIMCO-LEWIS does it better than Mother Nature.

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*Cimco-  
Expect the  
best*