



Climate by Design
INTERNATIONAL

ARID-Ice®
Arena Dehumidification

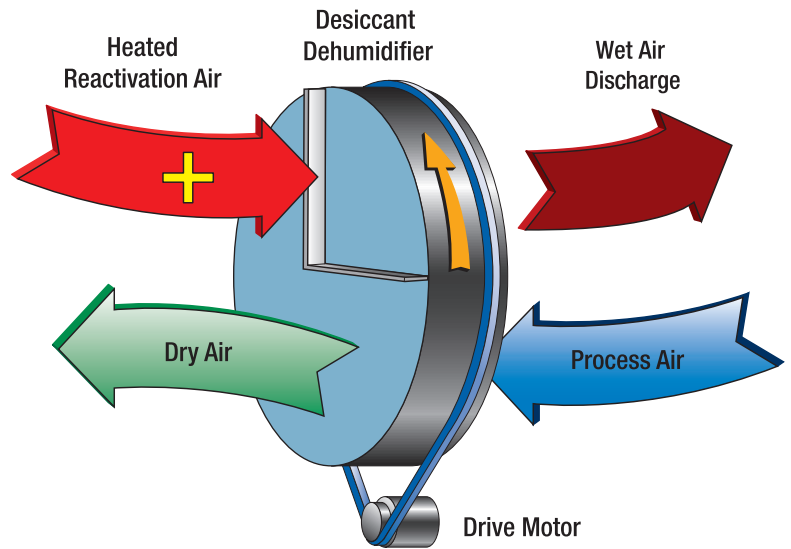
INTRODUCING ARID-Ice®

ARID-Ice® by Climate by Design International (CDI) utilizes flexible engineering and manufacturing techniques to build large-capacity desiccant dehumidification systems for a wide variety of industrial and commercial applications.

The ARID-Ice® product is comprised of high-capacity desiccant dehumidifiers to remove ambient water vapor from air. Complete solutions are available for condensation, fog and mold.

Special attention is paid to construction details to provide a resilient unit capable of meeting the demands of outdoor or indoor installation. The units incorporate state-of-the-art features to maintain peak efficiency. Our wide variety of products can be applied to a small community rink as well as stadium style arenas.

Our goal is to maintain the highest ethical standards and professionalism in order to best satisfy our customers.



Desiccant Dehumidification

Solid desiccant rotor adsorbs moisture from process air. Heat is used to “reactivate” the desiccant.

Why Use ARID-Ice® Desiccant Technology?

- **It's the only way to achieve air dry enough for ice arenas**
- **Thermodynamic efficiency:** Achieved because no change of phase (condensation) is necessary.
- **Simple design:** Basic dehumidifier includes only two fans, a heater and the desiccant rotor assembly.
- **Maintenance:** Simply replace filters regularly and performance is assured. A yearly inspection by our service technicians is recommended to head off unscheduled outages.
- **Construction:** Double-wall insulated casing suitable for indoor or outdoor mounting.
- **Controls:** Most sizes include standard intelligent microprocessor controllers with “Fail-Capable” mode and building management system interface ability.

Better Humidity Control Through ARID-Ice® Design

- **More Sizes:** Units range from 600 to 45,000 CFM.
- **More Flexibility:** Total system integration is available including heating, cooling, enthalpy recovery, and special filtration. Even custom configurations are available to meet unique project requirements.
- **More Support:** Application engineering assistance, start-up and owner training, and preventative maintenance programs offered by ARID-Ice.

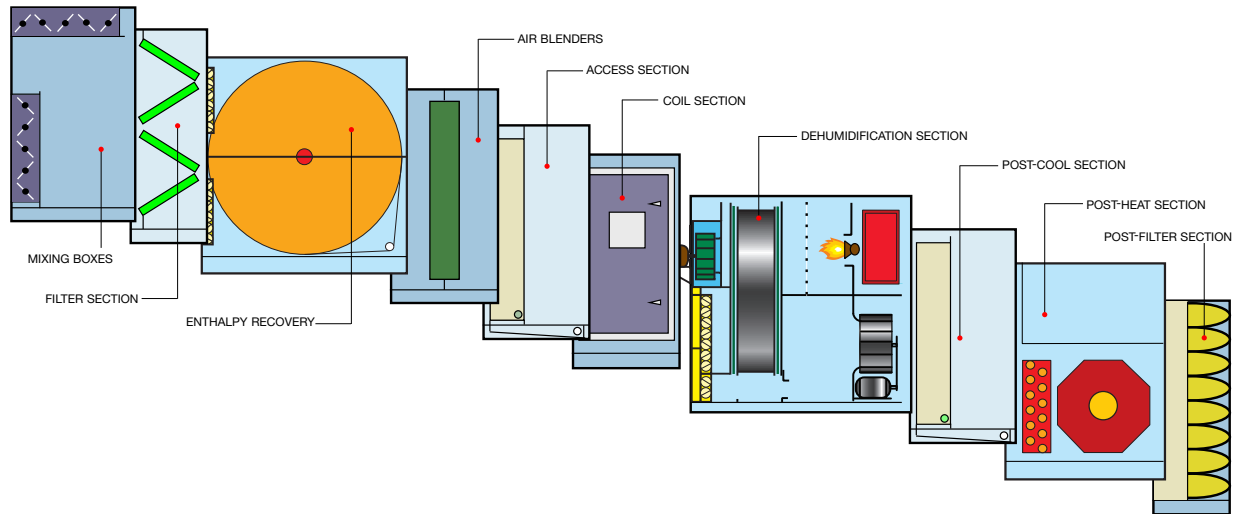


ARID-Ice BASIC CONFIGURATIONS

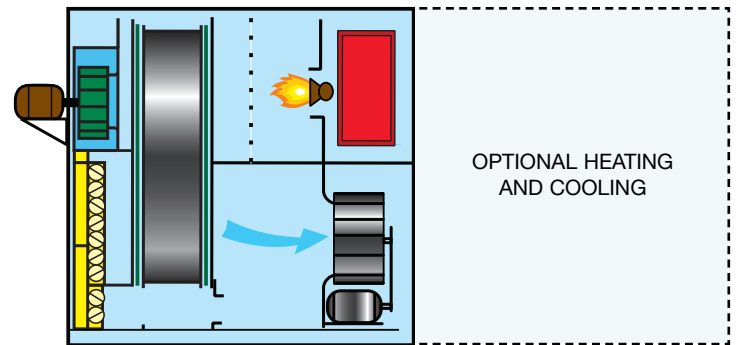
Typical component options include:

- 30% through 99.97% HEPA filtration
- Washable and drainable casing construction
- G-90 Galvanized, Aluminum or Stainless-Steel Casing Construction
- Chilled-Water, Direct-Expansion or Ammonia Cooling Coils
- Steam, Thermal-Liquid or Hot-Water Heating Coils
- Indirect- or Direct-Fired Natural Gas Heating Systems
- Desiccant Dehumidifier Rotor with Stabilized Silica Gel Media
- Energy-Recovery Rotor
- Roof-Curb, Slab, or Steel-Dunnage Mounting
- Indoor or Outdoor Mounting
- Integrated Microprocessor Control Systems
- Steam Humidification Systems
- Ultra Efficiency Ventilation allows dehumidified ventilation air for indoor air quality.
- Waste Heat Recovery Coil
- Reactivation Energy Recovery

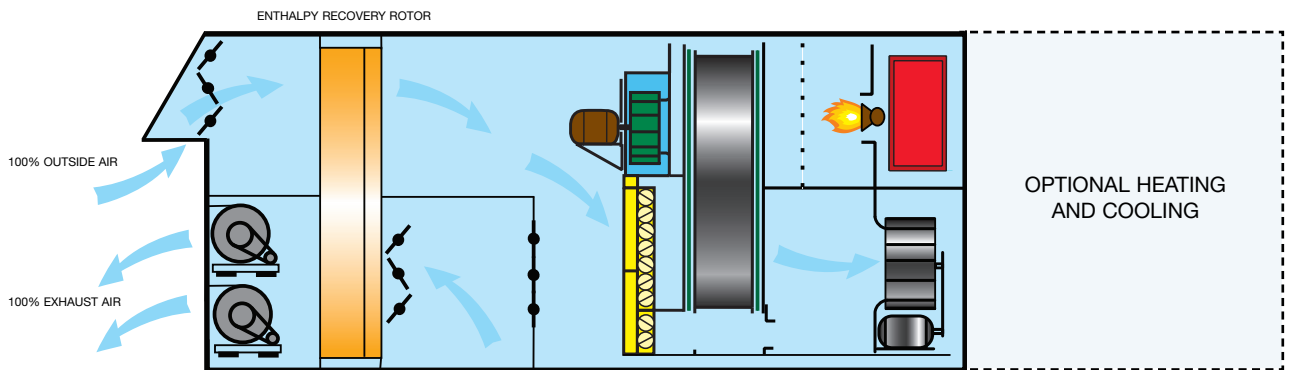
UNIT SECTIONS



ARID-Ice dehumidification units may be configured for total system integration which includes heating, cooling, enthalpy recovery, special filtration and custom configurations for unique arena requirements.



BASIC DEHUMIDIFICATION UNIT



ENTHALPY RECOVERY AND DEHUMIDIFICATION UNIT



Without ARID-Ice condensation builds up on ice arena glass.



Without ARID-Ice fog collects above the ice surface.



Outdoor slab installation rated at 3,000 SCFM.

ARID-Ice provides the driest, most comfortable, most economical solution for ice arena humidity.

Year-round operation of indoor ice arenas requires humidity control to stop several problems, including fog, mold growth and dripping. Because the ice sheet cools the building, moisture-laden air from outdoors condenses on anything below the “Dewpoint.”

The ARID-Ice unit eliminates these symptoms. Skaters appreciate improved ice conditions, and spectators are more comfortable. In addition, your ice-making refrigeration equipment will run much more efficiently, and resurfacing is less frequently required. Efficient operation and favorable customer response make for a more profitable skating facility.

Why Dehumidify?

During the summer months, moist outside air migrates into the arena through openings such as doors, leaky dampers, and ducts. Many current building codes also require large ventilation volumes, which might contain a huge amount of moisture.

How Does It Work?

ARID-Ice is the best way to dehumidify an indoor ice arena because of its low dewpoint capability. Instead of condensing moisture out of the air like an air conditioner, it is removed directly using a durable, permanent, desiccant rotor that attracts moisture. The ARID-Ice unit delivers much drier air than is possible with other dehumidifiers, so it will do a superior job in your arena.

The moisture from the building is continuously driven off the desiccant with heat in the form of inexpensive natural gas. The moisture from the arena is simply expelled outside. No condensation occurs during the process, so there is nothing to drain, and nothing to freeze.

ARID-Ice provides the driest, most comfortable, most efficient, most economical solution to ice arena humidity. Models are available for any combination of moisture load and ventilation requirement.

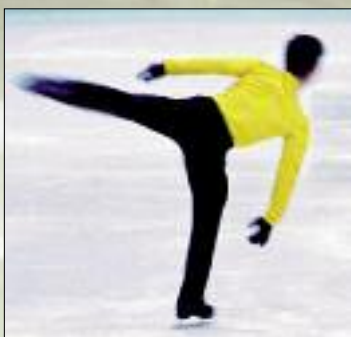
What About Ventilation Air?

The Arid-Ice unit can be provided with a simple outside air damper, or the optional ultra efficiency ventilation air module to allow continuous introduction of ventilation air to meet any building code, including BOCA, UMC and ASHARE standard 62. Because of the unique design of the ARID-Ice unit, IMC optional components may be fitted at a later date if required.

How Easy Is It To Install?

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

ARID-Ice DEHUMIDIFIERS FOR INDOOR ICE ARENA HUMIDITY CONTROL



Because of its low dewpoint capability, ARID-Ice is the best way to dehumidify indoor ice arenas: Hockey, Figure Skating, Speed Skating and Curling.

Rooftop installation rated at 15,000 SCFM.

FEATURES AND BENEFITS*

- Our standard is a microprocessor controller for reactivation rate and safeguard functions, and also for heating and cooling functions if these options are present. Terminal-strip connection points are included for customer use for alarming, monitoring, and for communication with a building management system. (Our microprocessor is a BAC-Net compatible device, and requires a gateway device to communicate.)
- Each unit is ETL Listed and approved as a unit. Every item shipped carries a full ETL approval including all options in compliance with the current mechanical code. We also have the ETL-C listing for Canadian projects. On European projects, we can provide country-specific C-E approvals.



- The microprocessor reactivation controller maintains a constant burner-output temperature, so burning the desiccant rotor is unlikely. In addition, modulating via a reset schedule minimizes energy use. Full-rated performance is available in cool weather because it is not necessary to limit the firing rate as other manufacturers do.



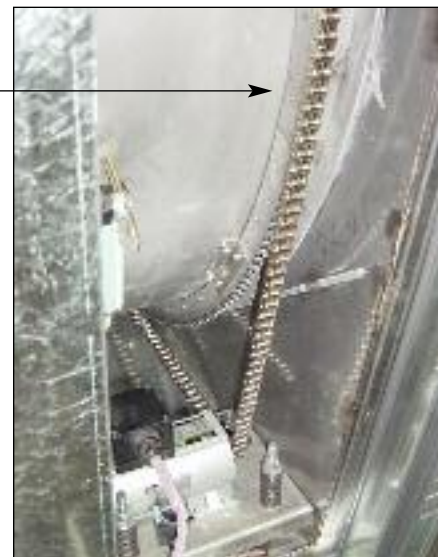
- The units use combination circuit breaker/overload/ starters for fan motors. This eliminates the need for spare power fuses, and saves the customer downtime because, if an upset occurs, a simple reset will bring the unit back online.



- Our reactivation burner flame safeguard system is an industrial Honeywell R7895A instead of a commercial-or residential style "ignition module." The standard gas train on gas-fired units is an ANSI type, and includes inlet regulator, automatic main and pilot valves, an electronic modulating valve, in addition to safety manual valves.



- Reactivation temperature sensors are 500°F rated Platinum thermistors.
- A full-perimeter sprocket with a #40 molly chain drives our desiccant rotor. This is more durable than any other system on the market.



*Not applicable on certain units

- Stabilized silica gel is permanently bonded to a low specific-heat substrate for long-lasting dehumidification performance at maximum efficiency.



- Our desiccant rotor seals are dual-contact, extruded seals, designed for maximum life. This is the most durable seal in the industry.
- Standard filters provided are minimum 30% efficient industrial pleated-style to insure a clean desiccant rotor. Additional filtration is available.
- Our standard unit construction is double-wall, and insulated. It is very rugged, and includes airtight, gasketed access doors for access to components.



- Heavy duty blowers are backward inclined or forward curved nonover-loading rated for total static pressure. Wherever possible, blowers are directly coupled to fans to eliminate belts and external bearings.



- Wiring to industrial terminal strips makes for easier connection and troubleshooting.



- All doors are equipped with locking handles with common keyed access to prevent unauthorized access.
- Multiple components and configurations provide a versatile unit to meet every application requirement.

ARID-Ice ARENA PRODUCTS

ARID-Ice is the premier desiccant dehumidifier for indoor ice arenas. Our units are equipped to reduce humidity levels, eliminate indoor condensation and fog, prevent mold, reduce refrigeration costs and improve indoor air quality, these systems utilize natural gas, steam or electric reactivation. We have provided equipment for over 500 skating surfaces throughout North America from 600 to 45,000 SCFM.

For ARID-Ice sales and equipment specifications call 507.451.2198 or visit us at www.cdims.com.



Indoor installation rated at 12,000 SCFM.



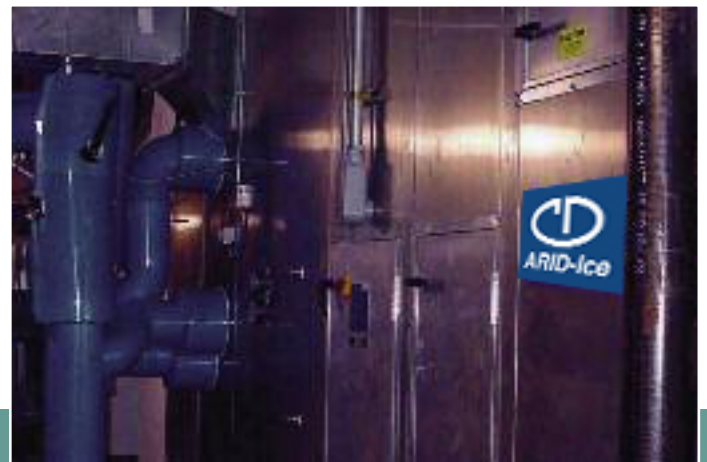
Rooftop installation rated at 10,000 SCFM



Curbside installation rated at 5,500 SCFM



Rooftop installation rated at 5,500 SCFM



Indoor installation rated at 45,000 SCFM.



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