



Climate by Design
INTERNATIONAL

CDH Dehumidification Series



Keep it Dry with CDI

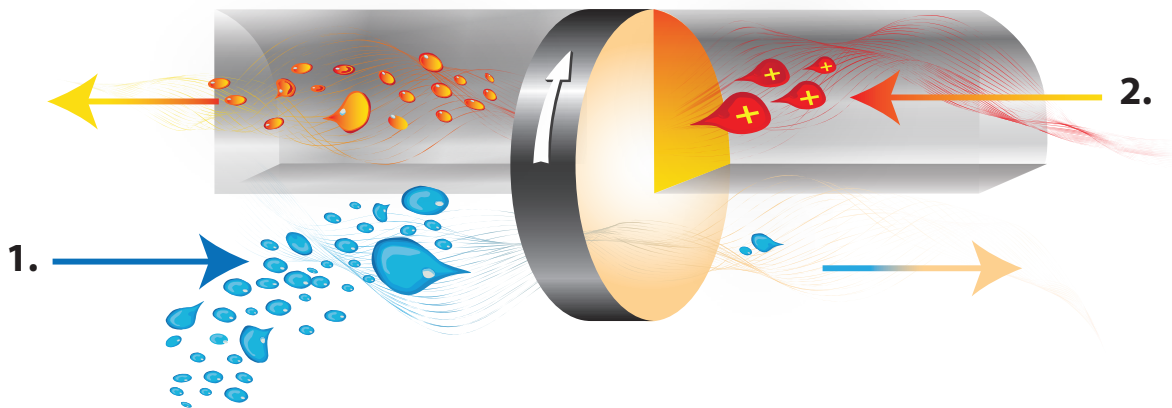
Keep it Dry with CDI

Why Use Desiccant Technology?

- Very dry air can be achieved (-60 C dewpoint).
- **Thermodynamic efficiency:** Achieved because no change of phase (condensation) is necessary.
- **Better construction:** Double-wall insulated casing suitable for indoor or outdoor mounting.
- **Simple maintenance:** Simply replace filters regularly and performance is assured. A yearly inspection by our service technicians is recommended to head off unscheduled outages.

Desiccant Technology

Creating the climate you need to achieve your critical mission



Dedicated desiccant air-supply units provide low-humidity conditions necessary to maintain a dry environment. It's a simple solution to an old problem.

The solid desiccant rotor adsorbs moisture from process air [1]. The moisture is taken out of the rotor by a second and separate reactivating airstream [2]. This process enables the rotor to continually take moisture out of the airstream without interruption.



CDH Dehumidification Series

- **More Sizes:** Process air flow range of 1,500 to over 100,000 SCFM.
- **More Flexibility:** Total system integration available including heating, cooling, enthalpy recovery, and special filtration. Designed with custom configurations of standard components to meet unique project requirements.
- **More Support:** Application engineering assistance, start-up and owner training, and preventative maintenance programs offered by CDI.



Configurable Components *Match Your Critical Process*

Typical Components:

- Process and reactivation MERV 8 through HEPA filters.
- Direct gas fired, steam, hot water, or electric actively heated reactivation.
- Heat Recovery
- Gas heating
- Fan Brigade
- Standard intelligent microprocessor controllers with "Fail Capable" mode and full building integration capable of using BACnet™, Modbus®, or LonWorks®.
- Integrated refrigeration
- UVGI

Unit Casings – Your Choice:

- From 2 ½" double wall through 6" NoThruMetal®

Desiccant Technology at Work

CDH Dehumidification Series

Uncontrolled humidity does not need to be a problem. By providing dry air, you can control threats to health, safety, product and a myriad of costs. Dry air is a solution to corrosion, bacteria, and mold. By using a CDI DH Dehumidification Series Unit, you can have independent control of humidity and temperature. Now you can be as dry as you want at whatever temperature you want.

Hospital Surgical Suites



- Control humidity and temperature independently for surgeon and patient comfort.
- Use standard utilities e.g. 45°F chill water (no low temp CW or DX needed).
- Lowest first cost when paired to a primary AHU.
- Meet infection control goals, reduce HAIs.
- Simple retrofit solution to achieve new drier conditions on existing systems.

Ice Arenas



- Controls humidity to stop problems like fog, mold growth, and dripping.
- Skaters appreciate improved ice conditions and spectators are more comfortable.
- Minimizes the cost of running rink refrigeration systems while eliminating humidity concerns.

Water Treatment Plants



- Controls humidity of air surrounding cold pipes, eliminating condensation to prevent rust, mold, mildew, and poor reliability of electronic devices.
- Actively reduces the space dew point to prevent sweating.
- Prevent room humidity from exceeding a set value with CDI's proprietary microprocessor, virtually eliminating corrosion.

Spiral Freezers & Cold Storage Loading Docks



- Circulates dehumidified air through the loading dock or corridor.
- Removes the moisture before it causes problems at the freezer, cooler, or the associated doorways.
- Reduces latent requirements on the refrigeration system extending time between defrosts.
- Prevents moisture infiltration avoiding frost and ice buildup in the freezer and on the floor.
- Provides a safer working environment with lower maintenance costs.

Museums, Libraries & Archival Storage



- Preserve artifacts, books, collections, and artwork.
- Keep relative humidity level low and stable.
- Prevent decay from mold.
- Options for redundancy and backup.

Industrial Manufacturing



- Eliminate condensation which results in a higher quality part, reduce the cycle time, allowing parts to be produced faster.
- Stabilize manufacturing consistency.
- Applications include industrial painting booths, glass laminating, electronics, and plastic injection blow molding.

Other Applications:



- Bulk Product Handling
- Clean Rooms
- Commercial Buildings
- Grocery Stores
- Hygroscopic Materials Manufacturing
- Pharmaceutical
- Pneumatic Conveying
- Refrigerated Warehouse
- Silo Blanketing
- Suspension Bridge Corrosion Prevention

Why Buy CDI?

Desiccant Rotor System Built to Last

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

- Industry leading 7 year rotor and cassette warranty.
- Desiccant cassette is stainless steel.
- Washable desiccant rotor for easy cleaning.
- Desiccant Rotor Seals: dual-contact, Viton.
- Seals designed to last the life of the unit.
- Full-perimeter sprocket with a #40 Molly Chain drives desiccant rotor.



Quality Construction

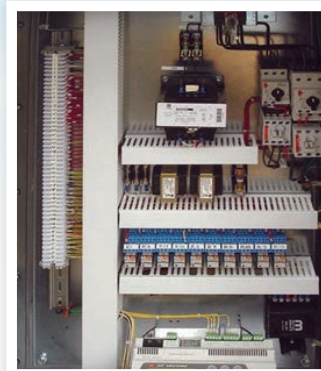
Standard unit construction is G-90 galvanized steel, double wall, and insulated.

Doors

- Easy open quarter turn latch doors, not bolted panels.
- Single point latch for tall doors for easy opening.
- Door holder restraint to hold electrical and gas doors open.
- Thermal break doors.
- Roller latches.



Circuitry Designed for Ease and Safety



Combination circuit breaker/overload starters for fan motors - eliminates the need for spare power fuses and saves downtime. If an upset occurs, a simple reset will bring the unit back online.

- Wiring to industrial terminal strips makes for easier connection and troubleshooting.
- All doors are equipped with locking handles; keyed access prevents unauthorized entry.

ETL Certification

- Complete unit is ETL listed and approved.
- ETL-C listings are provided for Canada.
- CE approvals.





Blowers



- Airfoil, non-overloading rated for total static pressure.
- Direct drive fans to eliminate belts and external bearings wherever possible.
- Piezometer Ring to measure flow.

User Interface

- An excellent tool for start-up, troubleshooting, and monitoring unit operation.
- Easy access to unit set points.
- Provides quick assessment of unit status and conditions.



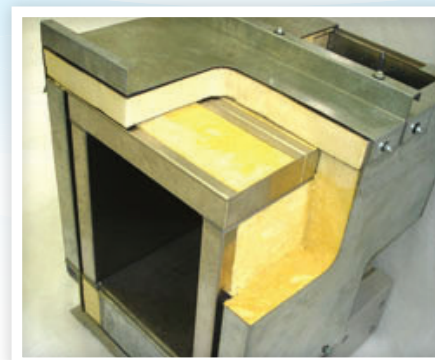
Microprocessor Safeguards



- Microprocessor standard controller for temperature, humidity, flow control, and safeguard functions.
- Terminal strip connection points for alarming, monitoring, and building management system communications.

Options

- Stainless steel construction.
- Gas, electric or steam reactivation.



- Optional, remotely located, user interface panel is available when increased accessibility is important.

CDI's casing is truly thermally broken and has unprecedented thermal performance.

- Dramatically increases resistance to air and moisture leakage.
- Provides superior condensation control.
- Ultimate in a smooth sanitary cleanable interior surface.
- Our patented **NoThruMetal**® design is truly a "cabinet within a cabinet".
- Injected polyurethane foam insulation R-6 per inch is offered in 2 ½", 4", and 6" thicknesses.



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Why Buy CDI?

Configurability

Simply put, have it your way!

Quality

Our goal is to provide our customers with superior, energy-efficient solutions for indoor air quality.

Service

With our trained and equipped field service technicians there is always someone near you to assist. Services range from preventative maintenance to prescriptive plans for a specific application. 24/7 customer service hotline available.



Who We Are

Climate by Design International, Inc., formerly Concepts and Designs, Inc. (CDI) was founded in 1991 in Owatonna, Minnesota.

CDI provides customers with a broad array of custom HVAC options. Years of HVAC industry experience established the foundation for today's thriving company.

Our products offer indoor air quality solutions for numerous markets: Hospital Surgical Suites, Food Processing, Ice Arenas, Water Treatment Plants, Pharmaceuticals, Automotive, Rental, Aviation and all types of facilities requiring controlled air climates. We have provided climate control products to numerous countries including: USA, Canada, Mexico, Australia, Guinea, Russia, China, India, and Israel.

We offer catalogued standard product for application specific projects, as well as configurable or custom built solutions.

We serve our customers well by producing quality products and services while building and maintaining relationships based on honesty and integrity.

Contact our application specialists to learn how you can benefit from Desiccant Dehumidification.

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