



**Climate by Design**  
INTERNATIONAL

## ***Critical Process Food Grade Dehumidifier Series***



***Keep it Dry with CDI***

## What Does the Critical Process Food Grade Dehumidifier Series Do?

- Prevents condensation and food contamination hazards.
- Reduces wash-down recovery time.
- Increases production capacity and decreases maintenance.
- Lowers energy consumption and reduces electrical costs.
- Promotes a safer working environment by preventing fog and maintaining dry floors.
- Stops frost/ice on conveyors and doors.
- Achieves balanced pressure between processing rooms.
- Minimizes defrost cycles.

## Food Processing Applications



## Keep Rooms in USDA Compliance at All Times with our Critical Process Food Grade Dehumidifier Series!

Condensing moisture in your food processing rooms can be a quick end to a profitable day. By using a correctly applied and sized Food Grade Dehumidifier product you can take that concern off your list. Using desiccant dehumidification can achieve dewpoints well below the coldest surface in your processing room, therefore eliminating the possibility of condensation where that air is distributed.

## Desiccant Technology at Work

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 Critical Process Food Grade Dehumidifier 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.



## Critical Process Food Grade Dehumidifier Series

- Desiccant dehumidification specifically designed for the food industry.
- Available in Wipe Down, Wash Down, and Premium Wash Down Packages.
- Designed with pre-configured components combined to meet unique project requirements.
- Total system integration available including heating, cooling, sensible heat recovery, and special filtration.



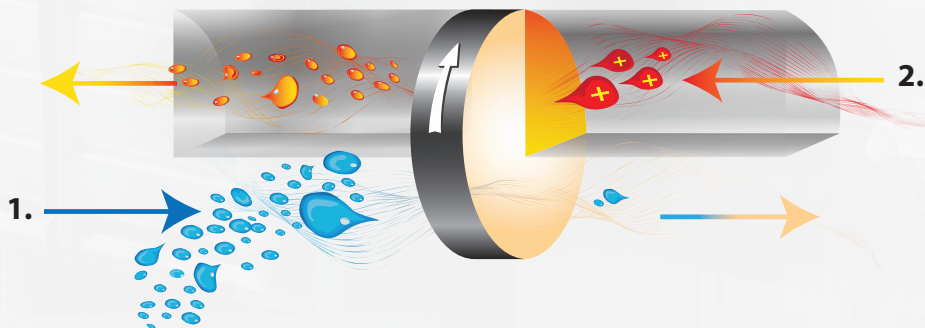
Unit shown with full drain pan floor.  
Available in Wash Down and Premium Wash Down Packages

## Why Use Desiccant Technology?

- Drier air can be achieved more effectively than with mechanical cooling.
- Reduce or eliminate FDA inspection issues.
- Thermodynamic efficiency achieved because no change of phase (condensation) is necessary.
- Independent control of humidity and temperature.
- Improves product quality and appearance.
- Prevents process shutdowns and production delays.

## Desiccant Technology

*Creating the climate you need to achieve your critical mission*



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

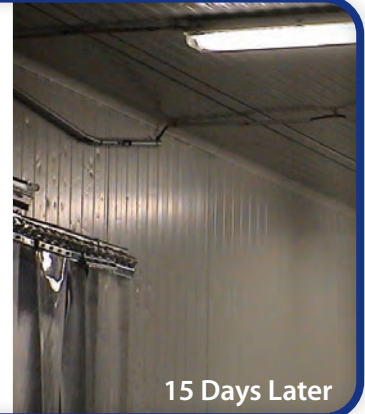
The solid desiccant rotor adsorbs moisture from process air [1]. The moisture is taken out of the rotor by a second and separate reactivating airstream [2]. This process enables the rotor to continually take moisture out of the airstream without interruption.

# Desiccant Technology at Work

## Processing Freezers



- Prevents moisture infiltration in spiral freezers.
- Keeps moisture from frosting freezer evaporator coils.
- Prevents ice buildup in freezer.
- Avoids costly mechanical failures of conveyor and spiral drives.
- Prevents unscheduled defrost that interrupts production flow.



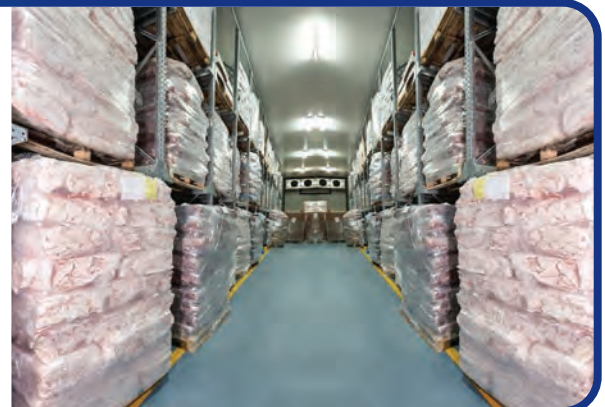
## Meat Processing Plants



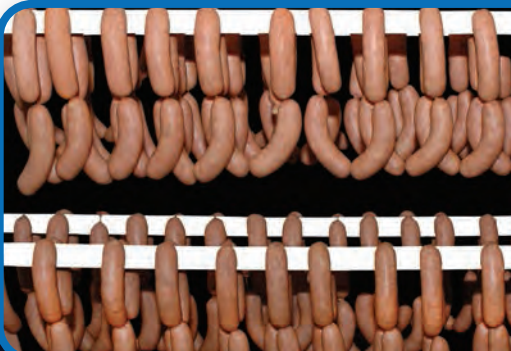
- Allows for an appropriate control dewpoint, well below room surface temperatures where condensation can form.
- Prevents condensation.
- Avoids production delays.
- Evades costly production interruptions.

## Cold Storage Loading Docks

- Reduces latent requirement on refrigeration systems.
- Controls sensible temperature more efficiently.
- Prevents moisture infiltration.
- Avoids frost and ice buildup.
- Safer work environment.
- Lower maintenance costs.



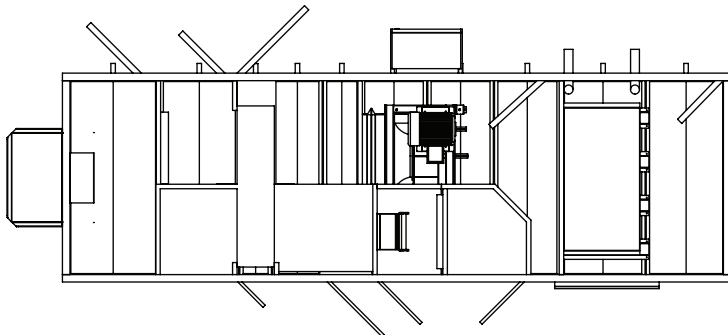
## Food Processing and Manufacturing



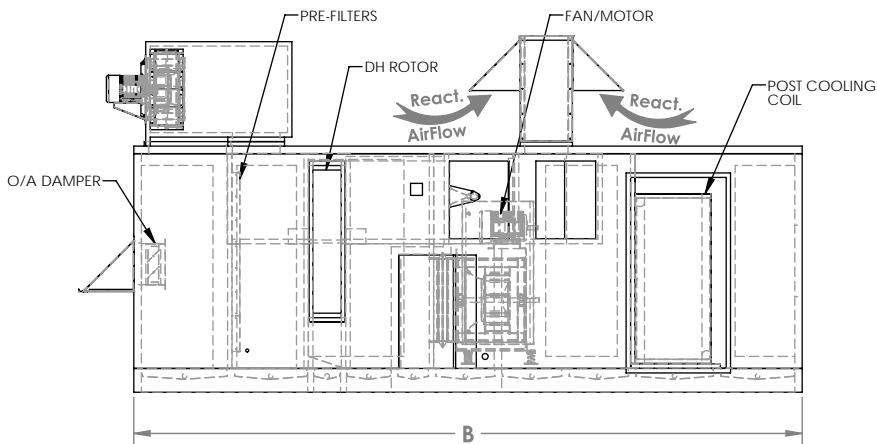
- Improves process operations.
- Provides consistent operation.
- Improves process yields and increase production flow.



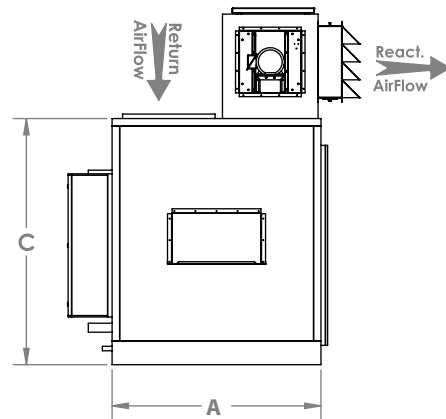
## Critical Process Food Grade Dehumidifier\*



**PLAN VIEW**



**ELEVATION VIEW**

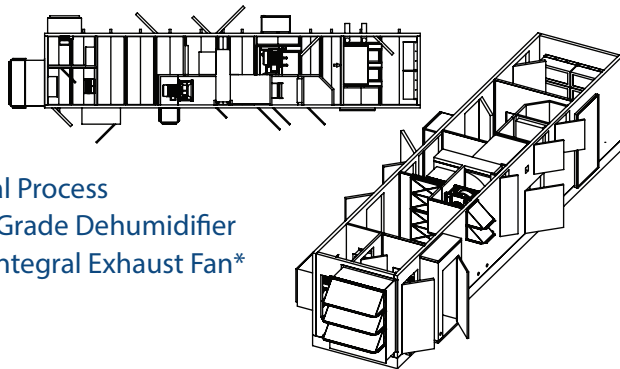


**END VIEW**

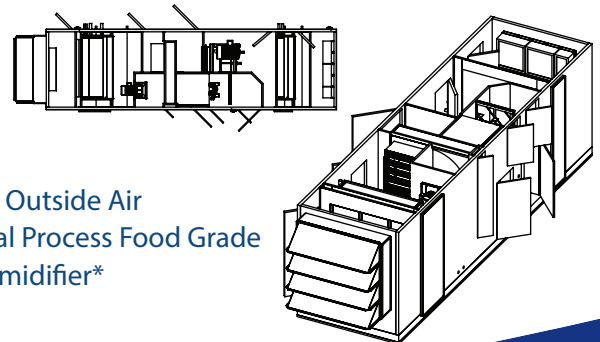
### Dimensions and Weights

Product	CFM	A	B	C	Weight
FDH-138	5,000	62	214	72.5	6,500
FDH-142	5,800	66	216	76.5	7,400
FDH-148	7,500	70	224	82.5	8,300
FDH-154	10,000	78	232	90.5	9,700
FDH-160	12,000	86	238	98.5	11,300
FDH-168	15,000	92	258	110.05	13,600

## Also Available in these Models



Critical Process  
Food Grade Dehumidifier  
with Integral Exhaust Fan\*



100% Outside Air  
Critical Process Food Grade  
Dehumidifier\*

\* Available in Wipe Down, Wash Down, and Premium Wash Down Packages.

# Why Buy CDI?

*The solution you need without more.  
When it's critical, you can get the best.*

CDI knows and understands the stringent criteria that the Food Processing Industry needs and demands, while maintaining product configuration flexibility so you do not have to pay for more than you need. Common options that are industry proven like the "clean-up purge cycle" are now available to be combined with desiccant technology for even more dramatic results.

## 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 prorated rotor and cassette warranty.
- Desiccant cassette is stainless steel.
- Washable desiccant rotor.
- 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.

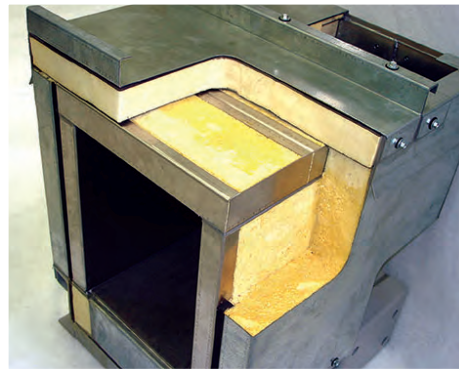


## Quality Construction

*- Cleanable or washable, your choice...*

- Standard unit construction is G-90 galvanized steel, 2 1/2" NoThruMetal with polyurethane foam insulation.
- Cost competitive double wall construction with smooth interior that is easily cleanable.

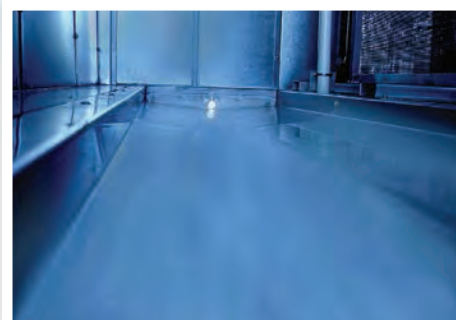
## Patented NoThruMetal™ Casing Option



CDI's casing is truly thermally broken and because of this has unprecedented thermal performance that:

- Dramatically increases resistance to air and moisture leakage.
- Provides superior condensation control.
- Ultimate in a smooth sanitary cleanable interior surface.
- Our patented NoThruMetal™ cabinet is truly a "cabinet within a cabinet".
- Injected polyurethane foam insulation R-6 per inch is offered in 2 1/2", 4", and 6" thicknesses.

## Cooling Coil/Drain Pan



- 3-way pitched welded drain pans.
- Water is quickly and effectively shed through drain connections on unit base frame.
- Maintenance is reduced to simple inspections and minimal surface cleanup.



## PLC Control System

### Microprocessor Safeguards

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



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

## 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.

## 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.

## Doors

- Full size access doors between components.
- All doors are equipped with locking handles; keyed access prevents unauthorized entry.
- Single point latch for tall doors for easy opening.
- Door holder restraint to hold electrical and gas doors open.
- Thermal break doors.
- Roller latches.



## ETL Certification

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







Climate by Design  
INTERNATIONAL

## 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.

[sales@cdihvac.com](mailto:sales@cdihvac.com)

