

DESICAIR® DESICCANT DEHUMIDIFICATION

**STULZ**

CLIMATE. CUSTOMIZED.



# Desiccant Dehumidification

Commercial, Industrial, and Portable Applications

# STULZ DESICAIR®

## Desiccant Dehumidification



### Mission Critical Expertise

Backed by over 45 years of global experience, STULZ is the foremost pioneer in the mission critical cooling, ultrasonic humidification, and dehumidification industries.

STULZ rugged dehumidifiers solve critical humidity control problems in the most demanding applications. In addition, a portable line of dehumidifiers solve water damage and mold remediation issues.

### Made in the USA

STULZ products are proudly engineered, manufactured and tested in the USA, to the very highest standards of quality, and in line with exceptionally stringent testing criteria.



### Product Support

STULZ USA designs, manufactures, and supports customers throughout the life cycle of their equipment, all from our North American headquarters in Frederick, MD. With 24 hour technical support, warranty inspection and start-up, training, and replacement parts, STULZ is more than ready to support your cooling and humidification needs.

Toll Free: (888) 529-1266

### Product Portfolio

Industrial		Light Duty	Portable
Series 1000	Series 2000	Series 100	Series 500

# Desiccant Dehumidifier Operation

## How it works...

STULZ DESICAiR dehumidifiers utilize silica gel desiccant in a rotary structure (rotor) to adsorb water from air. Since this dehumidification technology does not rely on condensing water on a cold surface, depending upon the entering air conditions, a dew point well below freezing can be attained.

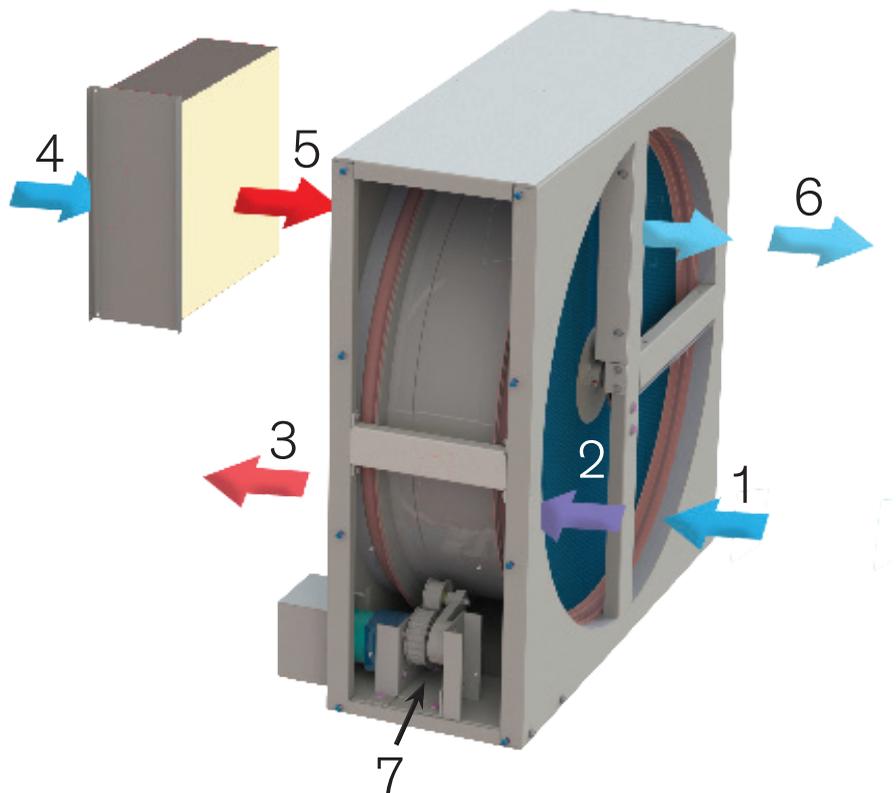
- Water molecules are attracted and held in the silica gel by physical adsorption
- There is no chemical reaction or by-product created
- Silica gel is effective even in sub-freezing temperatures
- Silica gel is non-corrosive and non-toxic
- Silica gel will not change state or liquify

Humid (process) air (1) passes through the process section of the desiccant rotor (2) where moisture is adsorbed by the desiccant. The process air is discharged (3) at a lower humidity level.

The reactivation air (4) is heated (5) and enters the reactivation section of the desiccant rotor. Water molecules transfer out of the desiccant into the reactivation air. The reactivation air is discharged (6) at a higher humidity level.

While the dehumidifier is operating, the rotor is continuously turned by the drive motor (7). The moisture adsorbed from the process air stream is carried to the reactivation section where the moisture is transferred to the reactivation air stream.

The air streams pass concurrently through the rotor in a counterflow air pattern. The process and reactivation air streams follow separate and isolated paths through the dehumidifier.



# Industrial Duty

## Series 1000

The STULZ DEZ Series 1000 has a small footprint and is engineered to handle severe operating conditions in applications requiring up to 600 cfm.

### Applications

- Warehouse & Storage Facilities
- Document Archives
- Military Equipment Preservation
- Laboratories and Clean Rooms
- Food Processing
- Pneumatic Conveying (Product Silos)
- Pharmaceutical Manufacturing
- Corrosion & Condensation Prevention
- Mold & Mildew Prevention
- Electronics Storage
- Water Treatment Plants
- Museums
- Film Storage
- Grow Facilities



**DEZ Series 1000**

scfm

300 - 600



Condensation and high humidity can lead to product spoilage in bulk storage and cause blockages in pneumatic conveying applications.

### Features

- Space or process conditioning, controls relative humidity or dew point
- Many pre-designed options to meet your needs
- Portable units available
- Low maintenance plus easy access to all internal components
- Constructed of high grade 5052 aluminum alloy
- Solid state controls
- Electric reactivation of desiccant rotor
- Industrial control panel UL508A listed
- Code conformance: standard units NRTL Certified to UL 1995 standards
- LED status indicator lights
- Single point power connections
- Suitable for indoor or outdoor applications

# Industrial Duty

## Series 2000

The STULZ DES Series 2000 is available with many options and is engineered to handle severe operating conditions in applications requiring up to 12,000 cfm.

### Applications

- Warehouse & Storage Facilities
- Document Archives
- Military Equipment Preservation
- Laboratories and Clean Rooms
- Food Processing
- Pneumatic Conveying (Product Silos)
- Pharmaceutical Manufacturing
- Corrosion & Condensation Prevention
- Mold & Mildew Prevention
- Electronics Storage
- Water Treatment Plants
- Museums
- Film Storage
- Grow Facilities



	<b>DES Series 2000</b>
scfm	750 - 12,000



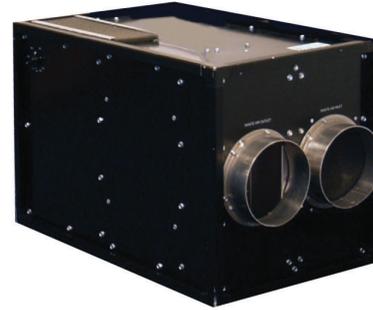
Condensation occurs when an object is at a cooler temperature than the surrounding air dew point, such as in water treatment plants.

### Features

- Space or process conditioning, controls relative humidity or dew point
- Many pre-designed options to meet your needs
- Low maintenance plus easy access to all internal components
- High grade 5052 welded aluminum alloy construction provides air tight construction for low air leakage, corrosion protection and light weight
- Solid state controls
- Single point power connection
- Industrial control panel UL508A listed
- NRTL Certified to UL 1995 standards on electric and steam units, optional on gas units
- Electric, steam or direct fired natural gas reactivation of desiccant rotor
- Hinged cabinet access doors
- LED status indicator lights
- Suitable for indoor or outdoor applications

# Light Duty Series 100

Compact, lightweight and rugged, the DH Series 100 desiccant dehumidifier is an ideal unit for small space applications.



## Applications

- Military Equipment Storage
- Storage Closets/Rooms
- Electrical and Electronic Vaults
- Glove-Box Assembly
- Pharmaceutical
- Confectionary
- Self-Storage Facilities
- Small Area Applications

	<b>DH Series 100</b>
<b>CFM</b>	<b>100</b>



Some documents, books, and museum artifacts require controlled humidity to assure preservation.

## Features

- Solid construction: sturdy aluminum frame
- State-of-the-art self regulating electric reactivation heater
- Operates at 115 volt single phase
- Control panel - on/off/auto switch with integral humidistat
- Suitable for indoor applications

# Portable

## Series 500

The STULZ DRY Series 500 is portable, compact, and designed for maneuverability in small spaces, like building elevators and tight corridors. The DRY-700 is used for disaster recovery and water damage restoration.

### Applications

- Water Damage Restoration
- Structural Drying
- Portable/Temporary Dehumidification



DRY Series 500	
scfm	700



Water damage can be caused by fire sprinkler systems or pipe leaks.

### Features

- Rugged all aluminum cabinet construction
- Single point power connection - 12' stowable power cord
- Proportional controlled electric reactivation of desiccant rotor
- Round air connections with duct beads
- Low maintenance - easy access to all internal components
- Solid state controls
- Wheel mounted (skid mounted available for permanent installation)
- High external static pressure capability
- Process and reactivation dampers for air flow adjustment
- Main power disconnect
- 2 stage heater power selector
- Suitable for indoor applications



**STULZ USA Headquarters**

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**Designed and Manufactured in the USA**

STULZ Air Technology Systems, Inc. is proud to research, design, manufacture and support our full catalog of dehumidification, precision cooling and humidification solutions in the USA.

For further information, please visit our website at **[www.stulz-usa.com](http://www.stulz-usa.com)**