

# ASCENDANT™

## ACTIVE DESICCANT - HIGH EFFICIENCY COOLING HYBRID

**Ascendant™ is a conventional cooling – active desiccant hybrid system, performance optimized to deliver and control low dewpoint air while minimizing regeneration energy input.**

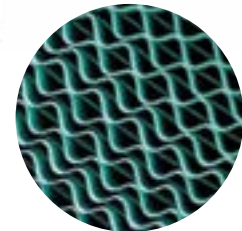
A highly efficient system, Ascendant delivers low dewpoints (down to 20°F) while minimizing the tons of cooling input. Ascendant operates with 25% to 50% less energy cost than conventional refrigeration-based dehumidification systems.

### TYPICAL APPLICATION EXAMPLES:

- **Hospital** – low space RH conditions, condensation prevention
- **Precision manufacturing** – tight humidity control
- **Food industry** – yeast production dry room
- **Archival storage / Underground Warehouse** – maximize dehumidification
- **School** – humidity control for mold remediation
- **Chilled Beams** – low dewpoint to avoid condensation
- **Hotel/condominium** – decoupling latent loads to downsized heat pumps
- **Cogeneration** – waste heat used to dehumidify outdoor air



## ASCENDANT



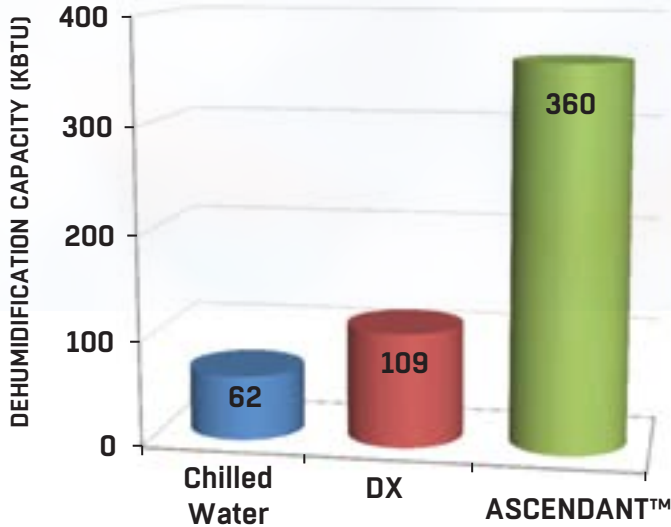
FLUTED MEDIA  
IN THE ACTIVE  
DESICCANT  
WHEEL

### KEY BENEFITS

- Low dewpoint, energy efficient dedicated outdoor air system
- Uses conventional chilled water or DX suction temperatures for high cooling side efficiency.
- Operates effectively without return air path when it's not available. Integrated semco True 3Å wheel when a return air path is available.
- High end construction, full featured
- Advanced integrated controls



## DEHUMIDIFICATION CAPACITY PROVIDED (per 10,000 cfm)



### THE PRINCIPLE BEHIND ASCENDANT

Ascendant processes outdoor/return air streams to a moderate leaving coil temperature condition (when needed), delivering saturated air to the active desiccant wheel which promotes very efficient operation while further depressing the supply air humidity content to very low dew points, not attainable with custom refrigeration based dehumidification systems.

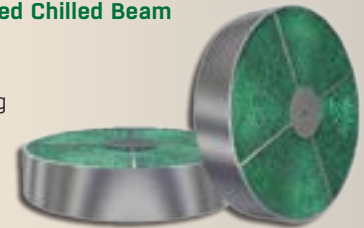
### UNIQUE ADVANTAGES

Ascendant has the capacity to deliver air dehumidified over a wide range to handle fluctuations in latent loads for a variety of applications. The on-board DDC controls allow the user to optimize temperature and humidity levels. An optional post cooling coil provides additional temperature control if required to ensure a steady and consistent indoor relative humidity.

### PRODUCTS TO COMPLEMENT ASCENDANT

SEMCO is pleased to offer other products which work together with the Ascendant to provide superior air quality and enhanced efficiency.

- 1. True 3 Angstrom Wheel** Industry's highest recovery performance (AHRI Certified) and Recovery Efficiency Ratios
- 2. NEUTON™ Controlled Chilled Beam Pump Module** Promotes load matching, increasing building energy savings
- 3. IQHC Active Chilled Beams** Best capacity to energy consumption ratio



**true3A**  
PATENTED PERFORMANCE

## EXCELLENCE IN SOLUTIONS

FläktGroup SEMCO delivers smart and energy efficient Air Distribution and Air Quality solutions to support every application area. We offer our customers innovative technologies, high quality and outstanding performance supported by more than fifty years of accumulated industry experience. The widest product range in the market, and strong market presence in 65 countries worldwide, guarantee that we are always by your side, ready to deliver Excellence in Solutions.

FläktGroup SEMCO

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