

LOW DEWPOINT

HUMIDITY CONTROL



PINNACLE®

PRIMARY VENTILATION SYSTEM

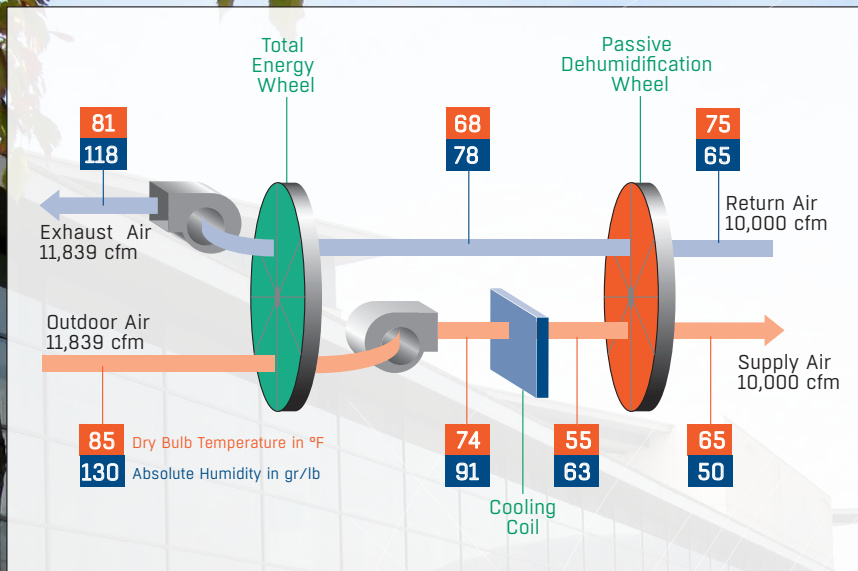
PINNACLE KEY BENEFITS

- Provides a very high degree of latent cooling using only a minimal amount of conventional cooling input
- Constant stream of optimally conditioned ventilation air comes into the space while stale polluted air is exhausted out
- Substantial energy savings over traditional over-cooling and reheat systems
- Lower installation costs due to reduced demand for overall heating and cooling capacity

The Pinnacle manages 100% of a building's ventilation and indoor humidity load in a single package, responding to varying conditions on demand. It cools, heats, or dehumidifies as required, providing a steady stream of optimally pre-conditioned, high quality, comfortable air.

The Pinnacle economically provides high quantities of outdoor air while simultaneously controlling indoor humidity levels. It accomplishes this by dehumidifying the supply air to very low dew points in an energy-efficient manner, without the use of a regeneration heating source. Outdoor air is continuously delivered to the occupied space while simultaneously controlling humidity levels at the conditions recommended by ASHRAE, even at part-load conditions.

Utilizing the strengths of total energy recovery, conventional cooling technology, and a new class of desiccant product, the passive dehumidification wheel, the Pinnacle provides the best possible outdoor air preconditioning system.



Schematic of the Pinnacle system operating at peak space latent load providing 88.5 tons of total cooling at a SHR of 0.27 using only 51.4 tons of refrigeration input. The dew point delivered to space is 38.9°F. A conventional system with the same leaving coil temperature will NOT deliver the same dewpoint. It would require 97.4 tons of refrigeration and 226 MBtuh to achieve the same leaving coil condition.

THE PRINCIPLE BEHIND PINNACLE®

The two most significant advantages offered by the Pinnacle, when compared with the traditional over-cooling and reheat systems, are that (1) the dehumidification or latent capacity (e.g., dryness of the air provided to the controlled space) is significantly increased and (2) the energy efficiency is greatly improved.

The Pinnacle has more latent capacity and higher energy efficiency than a desiccant-based cooling (DBC) or a dual-wheel energy recovery system (DWERS.)

The Pinnacle can provide outdoor air at a humidity content of 40 gr/lb using standard cooling equipment. This results in a 90 gr/lb reduction at the typical outdoor design condition of 130 gr/lb. Providing very dry air using conventional cooling equipment has many advantages including a significant reduction of energy consumption and, therefore, cost. With very dry air, lower air flow quantities can handle far more latent load.



Based on our e³ concept, we provide innovative and sustainable products to help you achieve or surpass your environmental targets while optimizing your investment and Life Cycle Cost.

“[The Pinnacle] was the only system that could provide the humidity control we desired without any active regeneration of desiccant material.”

- Steve Daiute, Assistant Vice President, Greenman-Pedersen

EXPERIENCE & EXPERTISE

With over a half-century of innovation and expertise to share with our customers, SEMCO® is a global leader in air management. With market presence in 65 countries, we are in a unique position to be a local supplier and an international partner in our customers' projects. Our constant aim is to provide systems that precisely deliver the best indoor air quality and performance, while maximizing energy efficiency.

PRODUCTS TO COMPLEMENT THE PINNACLE

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

- 1. NEUTON™ Controllable Chilled Beam Pump Module**
Promotes load matching, increasing building energy savings
- 2. IQHC Active Chilled Beams**
Best capacity to energy consumption ratio