



The right choice, the right result.



Green-Save™

CLEANER
more comfortable
more economical air.

Hi-Quality.
Hi-Performance.
Hi-IAQ.

HI-PANEX Series

The innovative HI-PANEX PRODUCT LINE of sensible and enthalpy wheels represents the **LATEST DEVELOPMENT** in rotary wheel heat exchanger technology for ventilation air.

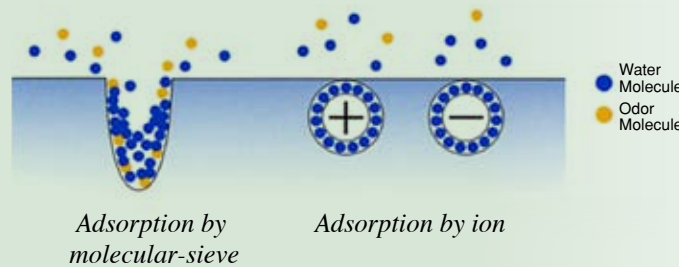
Green-Save™



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SENSIBLE AND ENTHALPY HEAT EXCHANGERS

Seibu Giken developed the use of ion exchange resins in place of traditional desiccants, resulting in the lowest co-adsorption in the industry. Ion exchange resins attract water molecules from air without adsorbing them into pores. This ionic attraction is highest for water due to the polar electrical field of the water molecule. Co-adsorption of non-water vapors is lower than silica gel, lower than 4A and even 3A molecular sieve desiccants.

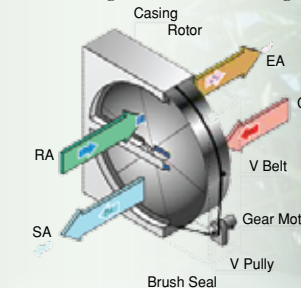


CONSTRUCTION

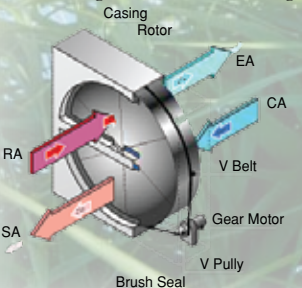
The Hi-Panex heat exchanger is manufactured by winding flat and corrugated sheets of high quality aluminum substrate to form a fluted “honeycomb” structure. The corrugated flutes provide strong support, while the interleaved flat sheets prevent nesting or collapsing of flutes. Both the sensible and enthalpy wheels are manufactured using the same aluminum substrate and construction.

Sensible wheels transfer thermal energy only and do not adsorb moisture. Enthalpy wheels transfer both heat and moisture from one air stream to another. Ion resin is permanently bonded to the aluminum and then coated with an antibacterial and mold-proof treatment that lasts the lifetime of the heat exchanger.

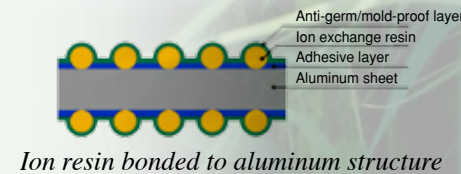
Function of the total heat exchanger in air-cooling



Function of the total heat exchanger in air-warming



This feature allows for the use of the Hi-Panex enthalpy wheel for pretreatment of outside air for ventilation of buildings to improve indoor air quality. Most commercial building applications can take advantage of the enthalpy heat exchanger while some laboratories utilize the sensible heat recovery wheel to avoid the transfer of moisture or other vapors.



ENERGY SAVINGS

Hi-Panex rotary heat exchangers use exhaust air from the building to provide a temperature and humidity gradient to reduce the summer cooling and winter heating load on the building system. Using the standard indoor design condition for 75° F at 50 percent relative humidity compared to outside air conditions, the Hi-Panex total enthalpy heat exchanger removes 1.6 tons/1000 cfm of load against the ARI outdoor standard of 95° F dry bulb and 75° F wet bulb (.0142 W), and 3 tons/1000 cfm of load rated against the more humid climate condition of 95° F dry bulb and 80° F wet bulb (.019 W).

HEAT RECOVERY AND DEHUMIDIFICATION

Superior performance makes the Hi-Panex enthalpy heat exchanger the first choice for pretreatment of ventilation air. SG America offers thermally reactivated desiccant dehumidifiers to handle the rest of the load, even to maintain positive humidity control within the building. Our desiccant dehumidifiers further dry a portion of the ventilation air to low dew point temperature, such that when mixed with the return air, the main cooling coils become “sensible” only. This eliminates wet condensate pans, increases the efficiency of the chiller and provides for lower humidity throughout the supply air distribution system.



FEATURES

Wheels and cassettes available for air flows from 1,000 to 80,000 scfm.

- Available for factory-manufactured air handlers, contractor built-up systems, ERV OEMs and packaged systems.
- Reduces carryover of air pollutants, including odors.
- Produces clean ventilation air through energy-saving and environmentally safe technology.
- High-efficiency sensible and latent heat exchange.
- Enthalpy wheels are antibacterial—mold and mildew proof.



APPLICATIONS

For Enthalpy (Total) or Sensible Heat Recovery Applications:

Hi-Panex heat exchangers with Hi-moisture transfer reduce up to 80 percent of the humidity load of the outside air used for ventilating office buildings, schools, hospitals, nursing homes and hotels.



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