



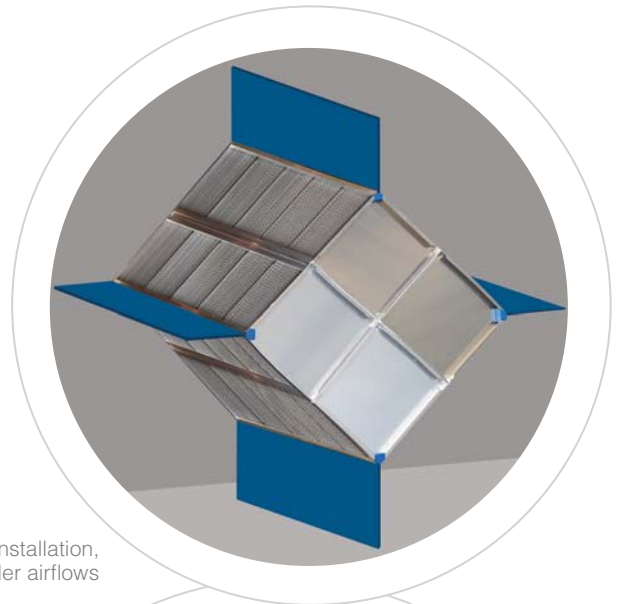
**InnergyTech IPE5
Enthalpy Plate
Exchanger**

INNERGYTECH IPE5

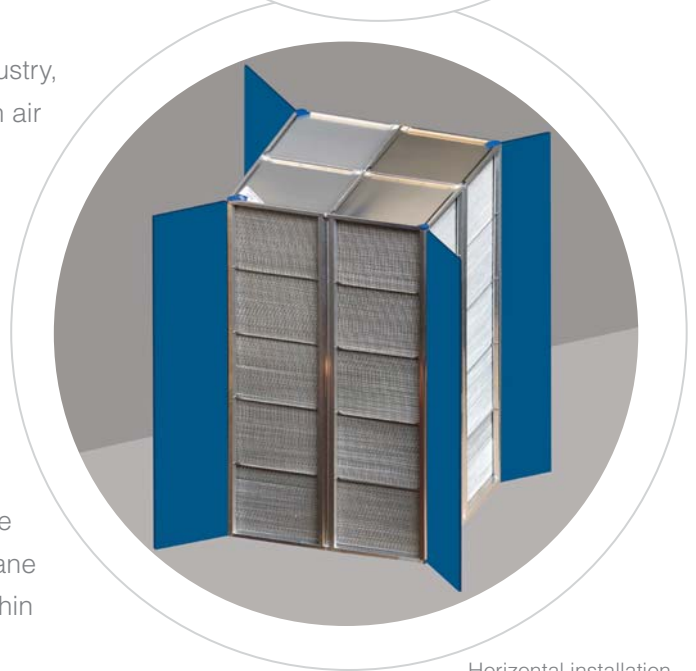
The IPE5 plate exchanger is the latest in the line of enthalpy plate exchangers from InnergyTech. Offered by Nortek Air Solutions as a featured part of our air management solutions, the IPE5 offers greatly improved effectiveness to help reach ASHRAE 90.1 requirements while reducing pressure drop up to 30%.

With a total of eight square dimensions, three different spacings and totally adjustable width, the IPE5 plate exchanger can be easily integrated into Nortek Air Solutions air handling units. The IPE5 is available in a variety of sizes up to 72" (6 feet) long in just one section. This not only makes the IPE5 the biggest enthalpy plate exchanger of the industry, but also fewer sections means a simpler and faster installation in air management designs.

The IPE5 solves the issue of keeping the hot and humid airflow separate from the cold and dry airflow by incorporating a fiber-based membrane; known as the RC135. It is impermeable to air, but highly permeable to water. Water transfer is based on the difference in vapor pressures of both airflows. The membrane continuously attempts to balance the pressures by absorbing water from the high vapor pressure side and releasing it on the low vapor pressure side. Heat transfer is made possible by the very small thickness (only 0.005") of the membrane as well as very good convection and conduction coefficients within the exchanger.



Standard vertical installation,
over/under airflows



Horizontal installation,
side-by-side airflows

Your Benefits

The IPE5 represents the very best the industry can offer when it comes to enthalpy plate exchangers by being the biggest enthalpy plate exchanger on the market that offers the best design flexibility ever available.

- Three different spacings to suit all different application needs (0.1", 0.14" & 0.16")
- Available from 17" square to 50" square dimensions (total of eight square dimensions)
- Completely adjustable width dimension (up to 72" in one section)
- Differential pressure limit of 5"WC (0.14" and 0.16" spacing) and 2"WC (0.1" spacing) can be tested up to 10"WC
- AHRI 1060 certified cores for guaranteed performances
- UL Recognized Component and bear the UL Certification label (tested under UL723 with success by the UL laboratory) meets NFPA 90A and B for flame and smoke rating of 25/50.
- Highly bactericide membrane per AATCC 30-2013 (does not support the growth of mold or bacteria)
- Standard five-year warranty (10-year also available)

SOLID CONSTRUCTION

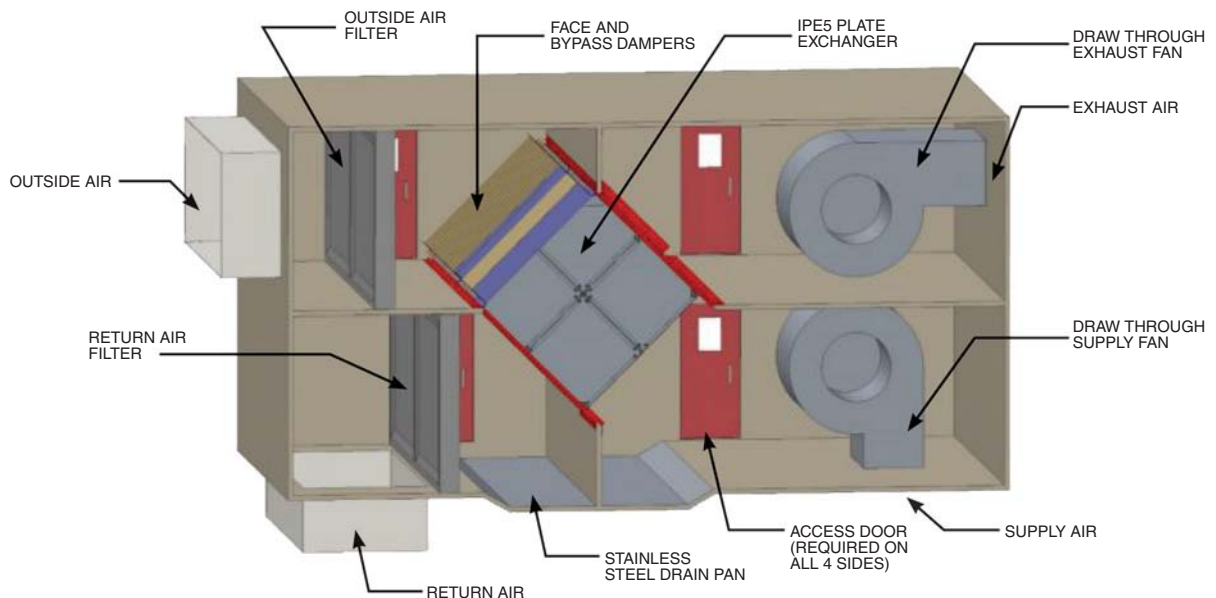
The IPE5 enthalpy plate exchanger features the following main components:

- Innergy RC135 membrane – Responsible for all energy transfer
- Special Aluminum mesh – Ensures precise and consistent spacing between each membrane layer for the lowest pressure drops
- Custom corner extrusions – Special aluminum corner extrusions contribute to the plate exchanger overall rigidity
- Corner sealant – Sealant results in a silicone-free exchanger construction
- Internal stiffener plates – Provides greater rigidity of the assembly
- End plates – enclose the assembly and should be used for lifting the plate exchanger
- No significant performance change after 1000 frosting/defrosting cycles



The Best Cost-Effective Solution for Total Energy Recovery

The IPE5 is the complete solution for energy recovery capabilities in air handling unit designs. Offering the best design flexibility ever available for exchangers, the IPE5 results in cost saving by reducing peak heating and cooling requirements. Reduced energy consumption also contributes to the protection of the environment. Nortek Air Solutions includes the IPE5 as a heat exchanger option in its air handling unit products.



PERFORMANCE CONTROL

Several mode options are provided to optimized air flow design.

Cooling Mode

When the outdoor air temperature is greater than the return air temperature, the IPE5 operates in cooling mode at its full effectiveness (with the bypass fully closed).

Frost Control Mode

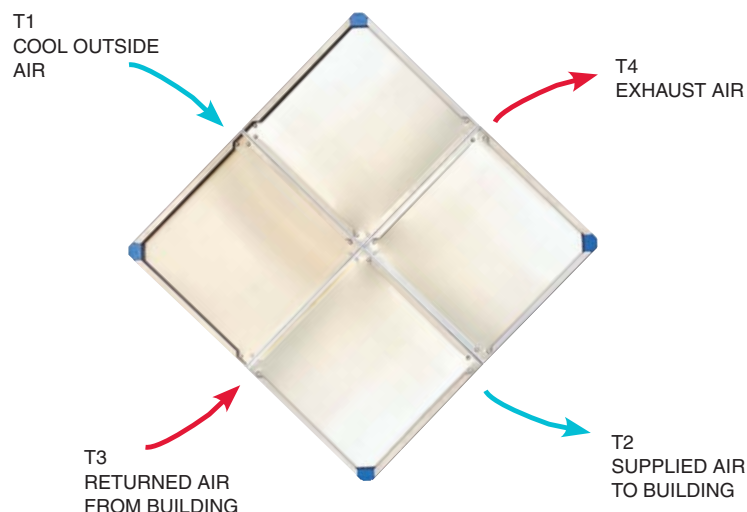
When the outdoor air or exhaust air temperature reaches the frost control setpoint, the preheat coil or face and bypass is modulated in order to avoid ice formation within the exchanger's media.

Free Cooling (Economizer) Mode

When outdoor air temperature is lower than the return air temperature, but the supplied air temperature reaches the free cooling setpoint as defined by user, the face and bypass is modulated in order to prevent the supplied air from exceeding the free cooling setpoint.

Heating Mode

When the outdoor air temperature is lower than the return air temperature (when the outdoor air or exhaust air temperature is above the frost setpoint) and supplied air temperature is below the free cooling setpoint as defined by user, the IPE5 operates in heating mode at its full effectiveness (with the bypass fully closed).



Specifications and illustrations subject to change without notice and without incurring obligation.