

Enthalpy exchanger

Moisture recovery heat exchanger



The supply of cold and dry outdoor air in wintry conditions and exhaust of fouled, humid air will cause a gradual drop of the relative humidity in dwellings and offices. A too low relative humidity indoors is considered uncomfortable. For that reason it is not always desirable to discharge all moisture produced indoors to the atmosphere. Brink Climate Systems' enthalpy exchanger transfers part of the moisture in the exhaust air to the supplied dry outdoor air, so too much dehydration of the indoor air is prevented.

ENTHALPY EXCHANGER MOISTURE TRANSFER

The standard heat exchanger by Brink Climate Systems transfers heat. With the specially developed polymer membrane in the new enthalpy exchanger, in addition to heat, also moisture is transferred between the air flows. The quantity of moisture that is transferred depends on the relative humidity of the indoor and outdoor air and may run to about 60%. This will prevent a too low relative humidity indoors under cold and dry outdoor conditions.

The enthalpy exchanger is also excellently suitable for use at high outdoor temperatures and air humidities. The enthalpy exchanger makes it possible to keep the high humidity in the atmosphere outdoors because the moisture in the supplied outdoor air is transferred to the dryer exhaust air. If an air conditioner is used, energy will be saved because cooling dry indoor air takes less energy than cooling humid indoor air. The cooling capacity for instance of underfloor cooling may also increase because the floor's dew point will be lower at a lower relative humidity.

EFFICIENCY FROM HEAT AND HUMIDITY

The enthalpy exchanger not only has a temperature efficiency, but also an enthalpy efficiency (moisture transfer efficiency). That makes the total energy efficiency of the enthalpy exchanger 136%. Because of the slightly lower temperature efficiency of the enthalpy exchanger, the supply temperature in the habitable room with standard heat exchanger is a little lower. If that is not desired, the postheater may be used. This postheater can be connected to all Plus versions of the Renovent Excellent and the Renovent Sky.

ACCESSORY FOR RENOVENT EXCELLENT AND RENOVENT SKY

The enthalpy exchanger is available as an accessory for the Renovent Excellent 400 and 300 and for the Renovent Sky 300. When installed in a new building, it is recommended to postpone installing the enthalpy exchanger until the excess building moisture has been carried off. The standard heat exchanger can easily be replaced by the enthalpy exchanger without modifications to the appliance settings.

THE ADVANTAGES

- Moisture recovery till 60%
- Increased comfort
- A high enthalpy efficiency of 136%
- Energy savings on the air conditioner at high outdoor temperatures and high relative humidities
- Standard heat exchanger can be exchanged one-on-one by the enthalpy exchanger
- No condensate discharge required
- Longer service life
- Easily cleaned with water (up to 50 °C)

TECHNICAL SPECIFICATIONS

Technical specifications	Enthalpy exchanger
Temperature efficiency [%]	77 under EN308 at 225 m ³ /h
Enthalpy efficiency [%]	136 under EN308 at 225 m ³ /h



Climate Systems