Enthalpy heat exchanger – comfortable microclimate in the premises all over the year: inlet air humidifying in winter, drying up in summer.

Operating principle
Outlet air humidity is recovered to inlet air through a special patented membrane, which does not allow outside dirt and bacterias to get into premises.

Patented membrane
Compared to cellulosic enthalpy heat exchangers, which have a limited life span, patented enthalpy heat exchanger manufactured from special membrane reaches best results in heat and humidity regeneration, moreover, exchanger is very hygienic and durable.
Better indoor microclimate

Enthalpy, like rotary heat exchanger, ensures highest comfort level in premises: when temperature in premises is 20-22 °C, optimal relative humidity is maintained. As we see in the graph below, counterflow plate heat exchanger removes too much moisture, that is why additional moistening is needed.

Greater benefits

<table>
<thead>
<tr>
<th>Heat exchanger</th>
<th>Counterflow plate heat exchanger</th>
<th>Enthalpy counterflow plate heat exchanger</th>
<th>Rotary heat exchanger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter savings*, kW</td>
<td>6,6</td>
<td>7,3</td>
<td>7,6</td>
</tr>
<tr>
<td>Summer savings*, kW</td>
<td>1,1</td>
<td>2,8</td>
<td>2,8</td>
</tr>
</tbody>
</table>

* conditions: 500 m³/h; winter: outside temperature -20 °C, RH 90%; summer: outside temperature 30 °C, RH 50%; inside temperature 20 °C, RH 40%.

Small possibility for heat exchanger to get iced up

Enthalpy heat exchanger can work without icing up up to -15 °C. Standard counterflow plate heat exchangers start to ice up when temperature is below -4 °C.

Ventilation + humidity control = simpler system

Enthalpy heat exchanger in winter time recovers not only heat, but also most of the moisture to ensure highest comfort level at premises. In summer time enthalpy heat exchanger does not allow excess moisture to get into premises, this advantage allow to save cold air inside and improve savings for air conditioning.

DOMEKT air handling units with enthalpy heat exchangers

Sizes of Domekt CF units

Temperature and moisture efficiency of heat exchanger

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