

Zehnder enthalpy exchanger

Technical specification



Advantages

The Zehnder enthalpy exchanger provides comfortable indoor climate because of heat and humidity recovery. It prevents dry heating air in the winter and heats the cold outdoor air. Hygienically perfect operation is guaranteed by the integrated polymer membrane film Microban®. It is impermeable to microbes of all kinds. The humidity recovery means that frost protection is not required until temperatures reach -6 °C, resulting in high energy efficiency. The enthalpy exchanger can be retrofitted and is easy to clean with water.

Technical specifications

The results stated below are based on tests with the Zehnder stand-alone enthalpy exchanger.

Zehnder enthalpy exchanger for Zehnder ComfoAir 350

	Standard exchanger	Enthalpy exchanger
Sensitive	95%	80%
Latent	0%	70%
Overall	95%	120%

The measurement data is determined at 150 m³/h, with extract air of 22 °C / 40% relative humidity and outdoor air of 0 °C / 75% relative humidity, relative to the sensitive heat in the extract air flow compared to the outdoor air.

Properties of the membrane

The special polymer membrane film Microban® allows transfer of steam between the flows of supply and extract air. Due to their size, micro-organisms cannot penetrate through the membrane. In addition to this, the special Microban® coating prevents formation of bacteria and mould. As a result, the Zehnder enthalpy exchanger meets strictest hygienic requirements.

Benefits

- Maximum living comfort due to heat and humidity recovery
- High level of energy efficiency
- Easy to retrofit

Article numbers

Description	Article number
Zehnder enthalpy exchanger ComfoAir 160	400 400 037
Zehnder enthalpy exchanger ComfoAir 180	527 004 850
Zehnder enthalpy exchanger ComfoAir 200	200 350 615
Zehnder enthalpy exchanger ComfoAir 350	527 002 630
Zehnder enthalpy exchanger ComfoAir 550	527 002 800

Zehnder enthalpy exchanger ComfoAir G90 / G91	527 002 630
Zehnder enthalpy exchanger ComfoAir 500	527 002 800
Zehnder ComfoAir Q350/450/600	527 006 990

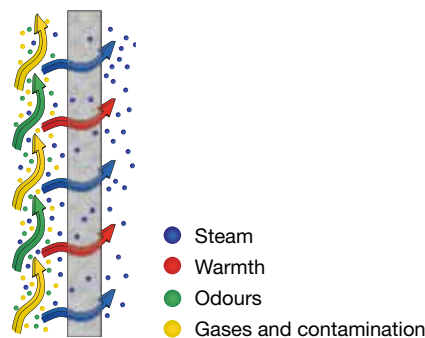
Article numbers for units equipped at the factory, see unit TS.

Tender specification

Zehnder cross-counterflow enthalpy exchanger for heat and humidity recovery. For simple retrofitting in ventilation units Zehnder ComfoAir G 90/G 91/350, 160, 180, 200, 350, 500/550, ComfoAir Q350/450/600.

Functional principle

The Zehnder enthalpy exchanger allows the heat energy and humidity (sensitive and latent) to be transferred between the supply and extract air flow without transferring odours, gases and contamination. The humidity is transferred as steam by diffusion from the high to the low steam pressure side so that the Zehnder enthalpy exchanger can be perfectly used in cold as well as warm humid regions the whole year around.



Frost protection

The transfer of humidity between the supply and extract air flow lowers the condensation point in the enthalpy exchanger. Frost-free permanent operation is ensured even at external temperatures below 0 °C. Pre-heaters or frost-protection strategies are not necessary until extreme outdoor temperatures, from approx. -6 °C. As a result, the enthalpy exchanger ensures even greater energy efficiency without minimising the comfort by reducing the air supply.

Maintenance of the enthalpy exchanger

The Zehnder enthalpy exchanger can be cleaned with water (up to 60 °C), and even mild cleaning agents can also be used. The Microban® coating is permanently bonded to the membrane and is not water-soluble.