Muonio

Rotary heat exchangers with a sorption coating

All-year-round humidity transfer for ventilation systems with mechanical cooling

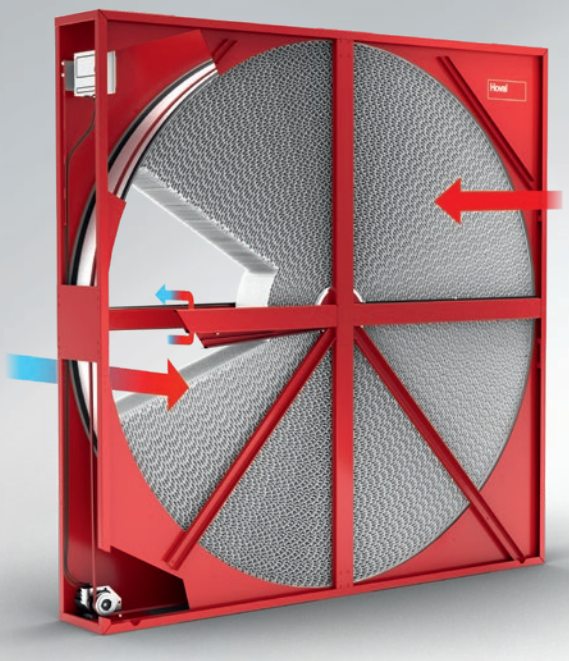
Maximum energy and humidity recovery
Consistently high performance without ice formation
Low investment and running costs

Sorption rotor
for all-year-round
humidity transfer

Hoval

Hoval | Responsibility for energy and environment

Muonio
In detail.



Muonio: maximum humidity transfer through sorption coating.

The Muonio is our most efficient rotary heat exchanger.

The sorption coating ensures maximum humidity transfer all year round. This means that, in the summer, the Muonio reduces the cooling demand that has to be covered with cooling units, while, in the winter, it significantly improves the indoor climate.

This makes the Muonio ideal for use in ventilation systems with mechanical cooling.

Maximum heat and humidity recovery

The storage mass in the Muonio heat exchanger is fully covered with the special 3 Å sorption coating. This not only ensures maximum heat and humidity recovery, but also helps to improve the quality of the air.

Consistently high performance without ice formation

Humidity is extracted from the extract air and passed to the supply air. This means that it cannot freeze and restrict the air flow, thereby ensuring a consistently high performance level.

Low investment and running costs

The effective heat and humidity transfer reduces the cooling demand that has to be covered with cooling units. As a result, the operating performance of these machines does not need to be as high and their dimensions can be reduced.

100% reliable, certified data:

Muonio: Technical data	
Heat recovery efficiency (dry)	max. 87%
Humidity efficiency (in the summer)	max. 85%
Rotor diameter	up to 4200 mm
One-piece / sectorised pressure drop	max. 300 / 400 Pa
Pressure difference (supply air / extract air)	max. 1000 Pa

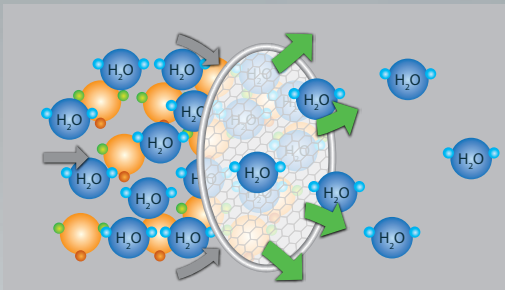
Subject to changes

Selective humidity recovery for improved air quality

The Muonio's sorption coating consists of a 3 Å molecular sieve. With its selective adsorption capability, this sieve provides a pleasant indoor climate:

- The desired air humidity is selectively recovered from the extract air.
- Unpleasant odours (VOC*) remain in the extract air and are removed.

*VOC (volatile organic compounds) act as carriers for unpleasant odours – for example, those generated when cooking.

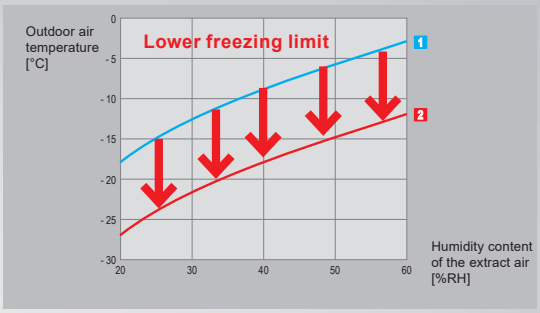


Selective adsorption capability of the 3 Å modular sieve: Water molecules (Ø = 2.7 Å) are transferred to the supply air; larger molecules (Ø > 3 Å) are removed.

Protection against ice formation during winter operation

The Muonio with sorption coating removes a significant amount of humidity from the extract air during the winter. The extract air does not condense and the freezing limit* is significantly lower, thereby ensuring that the Muonio maintains a consistently high performance level even at low outdoor temperatures.

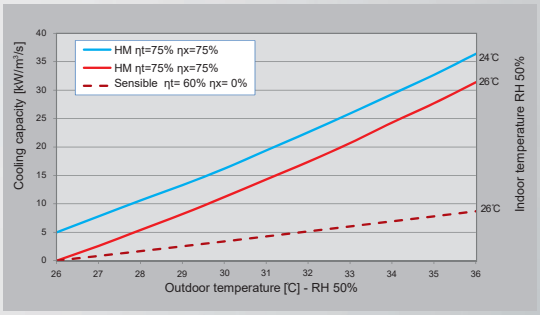
* Effective heat recovery means that the extract air can be cooled substantially and condensed. From a certain outdoor temperature (= the freezing limit), the condensate can freeze and restrict the air flow in the heat exchanger, thereby hindering the performance. The less condensate that forms, the lower the freezing limit.



With sorption rotors (2), the freezing limit is approx. 10° lower than with condensation rotors (1)

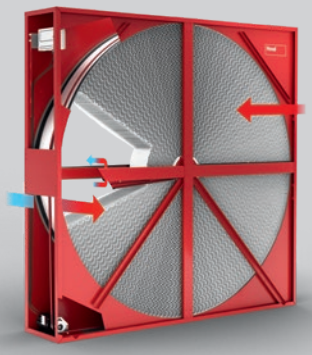
Cost savings through reduced cooling demand during the summer

The sorption coating guarantees maximum humidity transfer all year round. In summer operation, the supply air is not only pre-cooled, but also significantly dehumidified at the same time.
This in turn reduces the subsequent cooling demand. As a result, the performance of the cooling units does not need to be as high and their dimensions can be reduced, thereby reducing both running and investment costs.



Significantly reduced cooling demand leads to savings on running and investment costs.

Ask for advice today: Tel. +423 399 2400 | info.klimatechnik@hoval.com | www.hoval-energyrecovery.com.



For even greater performance: the 250 mm wheel depth

For even greater performance requirements, other high-performance variants are available with a wheel depth of 250 mm. This offers outstanding efficiency in terms of energy recovery while maintaining a low pressure drop:

- Enhanced heat and humidity recovery
- Up to 20% lower pressure drop (compared to the standard version)
- Reduced dimensions of the AHU

For additional applications: Hoval plate heat exchangers

- Crossflow and counterflow heat exchangers
- Air flow rates of 200–100 000 m³/h
- For ventilation centres, air duct systems and process technology
- Tried-and-tested Hoval quality

Hoval energy recovery
You can count on us.

As a specialist for energy recovery systems, Hoval is your experienced partner with decades of experience in the industry. Hoval develops and produces components for heat, cold and moisture recovery for today and tomorrow. The systems are used in ventilation systems and in process technology. You can be sure to save both energy and costs while protecting the environment.

Hoval is one of the leading international companies for energy recovery systems, which are exported worldwide.

We take our responsibility for the environment seriously.
Energy efficiency is at the heart of what we develop.

Responsibility for energy and environment

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