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ENERGIES

**Equilibrium in Technology**

**NANO**  
**TECHNOLOGY**

## ROTORS WITH NANOTECHNOLOGY

Rotary heat exchangers for transfer of heat and moisture with a unique hydrophilic layer formed by 4Å - ZEOLITE molecular sieve.

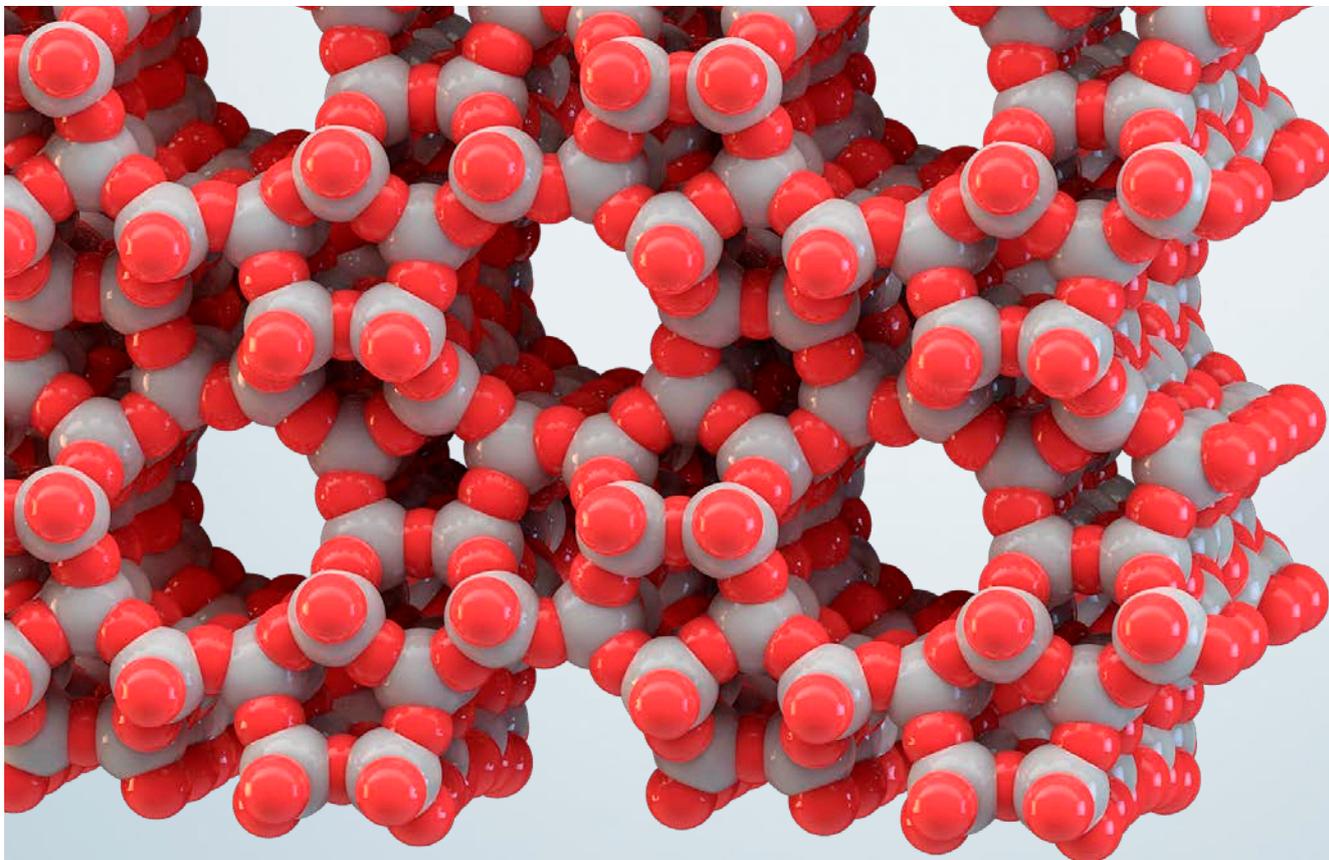
The latest technology for transfer of moisture designed for rotary heat exchangers. A special synthetic Zeolite layer applied on the aluminium carrier benefits from the latest findings in the field of nanotechnology. The main advantage is the clearly defined molecular structure. Zeolite layer transfers water steam molecules while preventing from sorption and transfer of odour and VOC (volatile organic compounds) molecules.

Healthier environment at construction sites = 4Å - ZEOLITE molecular sieve.



### Key benefits

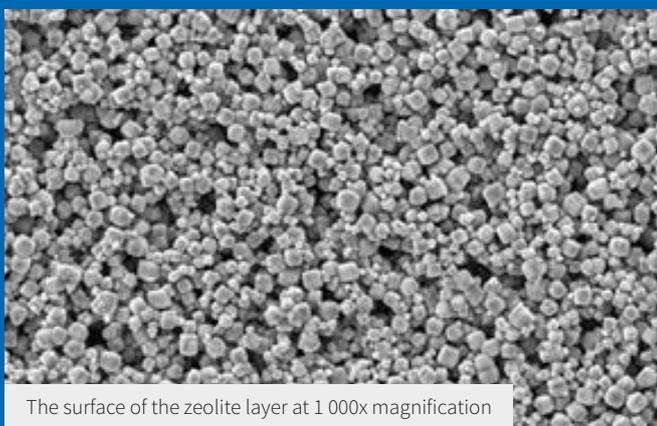
- High efficiency of moisture transfer (up to 90 %)
- No odour and VOC transfer
- Lower cross contamination (carry-over effect)
- Reduced costs for moistening
- Lower risk of rotor freezing
- Low pressure loss
- Antimicrobial properties
- Healthier and cleaner inner environment at construction sites



## Zeolite - a natural substance

In past the most frequently used material for rotational heat exchangers with transfer of moisture was silica gel.

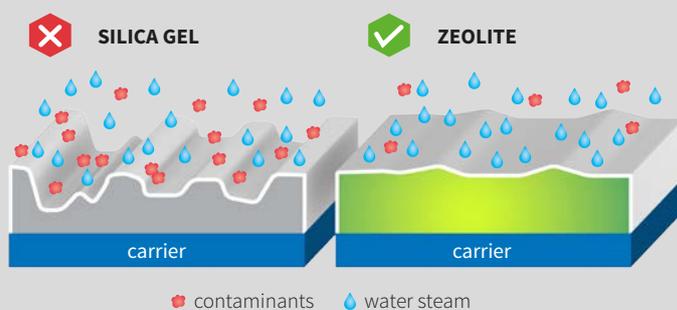
**With its unique structure, 4Å – ZEOLITE molecular sieve now replaces silica gel completely.**



The surface of the zeolite layer at 1 000x magnification

In natural environment Zeolites are present in the form of microporous aluminosilicate minerals with a characteristic 3D porous structure - channels and cavities of constant dimensions. The technology by KASTT makes use of the molecular sieve with an efficient diameter of 4 Å (Ångström =  $10^{-10}$  m).

Zeolites of such a diameter absorb the water steam molecules with a critical diameter of 3,2 Å. The size of commonly occurring odors and VOC is 7 Å or more. Therefore the sorption of these unwanted substances is completely excluded with this technology.



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🏠 KASTT, spol. s r.o.  
 Jižní 870  
 500 03 Hradec Králové  
 Czech Republic

📞 +420 495 404 010  
 📧 info@kastt.cz

[www.kastt.cz](http://www.kastt.cz)

