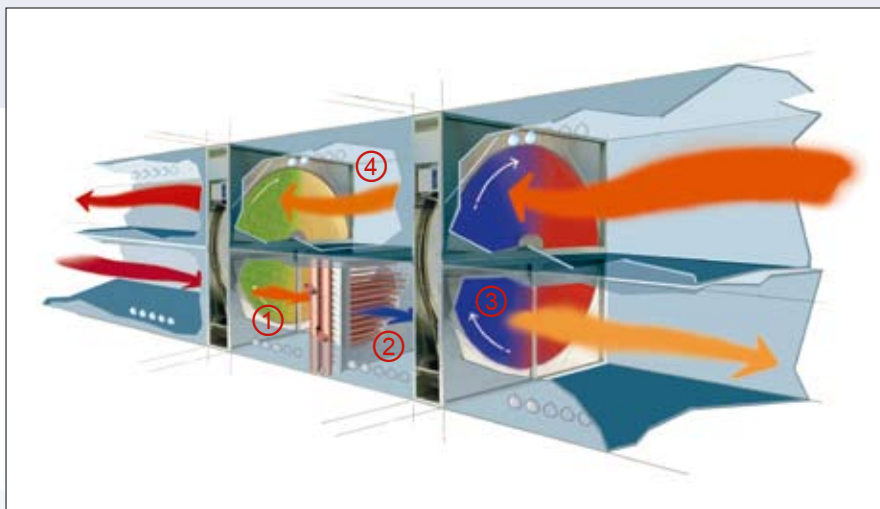




## Enventus „Double Wheel Concept“

### ● Benefits of Enventus “Double wheel concept”

- Lower cooling capacity needed
- No additional reheating capacity needed
- Sensible wheel precools exhaust air - sorption rotor works even more efficient
- Good control of the supply air temperature
- Most energy effective solution for cooling **and** drying supply air in AHU units



In regions with high humidity or buildings with dry cooling systems (chilled beams, chilled ceilings), the supply air needs to be dried. Traditionally air drying has been done by cooling the air to condense the humidity from the air and reheating it to requested inlet temperature.

① Sorption rotors (sensible + latent heat) are providing an excellent method to precool and dehumidify the fresh air before entering cooling coil. The savings of cooling capacity due to sorption rotors is up to 50% of the cooling need of an AHU.

② After the sorption wheel, the supply air is passing cooling coil and is cooled down to dew point of requested supply air conditions. Usually, a reheating is requested to obtain right air temperature. This can be done with:

- Water heating coil - expensive due to piping and regulation
- Electric heater - very expensive running costs
- Heat pipe system combined with reheating coil or electric heating element - expensive running costs with electric heating element or most effectively
- ③ Non hygroscopic (sensible) wheel - double wheel concept!

Additionally using a sensible wheel in the AHU will make both the cooling coil smaller and the reheating coil (electric element) needless. ④ At the same time, the sensible wheel precools exhaust air and makes the sorption rotor work even more efficient.

The Enventus “Double Wheel concept” is doing both cool and heat recovery at the same time, and therewith a lot of energy saving can be reached. As rule of thumb, the additional costs of the second thermal wheel can be saved during the first 6 months. Thereafter the energy saving is pure profit in the years to come.

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