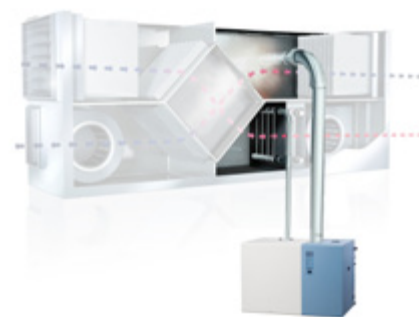
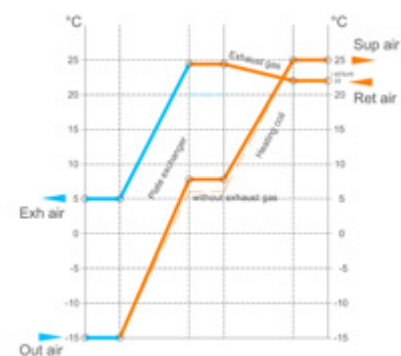


Gas-fired Steam Humidifier with additional Energy Recovery

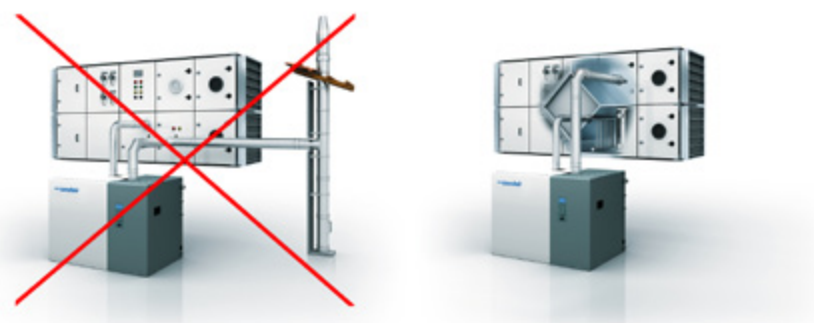
Moisten with sterile steam, which is necessary in sensitive A/C plants, is a highly energy-intensive air treatment. For the production of 40 kg/h steam with an electric steam humidifier, an expensive electric power of approx. 30 kW is needed. By using a gas-fired steam humidifier **lower priced natural gas can be used.**



Example:
Temperature curve with (without) gas-fired steam humidifier.

Humidifying which heats without flue pipe.
Through the introduction of the combustion exhaust gas in the exhaust air no more flue pipe is needed and an additional increase of the heat recovery performance is generated.

No more flue pipe is needed - in favor additional heating!



Let's talk about energy saving

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multiCENT Energy Saver

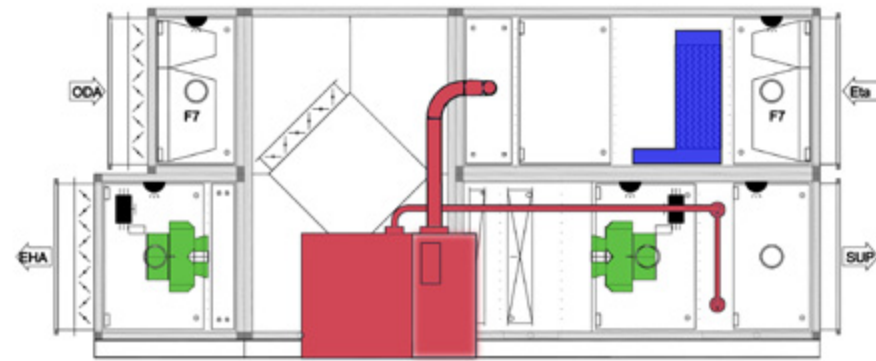
Increase Energy Recovery

Conventional Air Handling Units for supply/exhaust air mostly use only heat recovery systems in winter/heating operation.

With multiCENT Energy Saver you generate:

- **up to 20 % reduction on electrical power for ventilation** by using plug fans with state-of-the-art fan/motor technologies.
- **up to 40 % reduction on electric power for cooling energy** by exact calculation and using of energy recovery system in cooling mode with indirect adiabatic cooling.
- **100 % reduction of electrical power** by using gas-fired steam humidifier. **No chimney required - in favor additional heat recovery!**

Example of Air Handling Unit as **multiCENT Energy Saver** with additional components for reduction of energy consumption.



Plug Fans

Adiabatic cooling

Gas-fired Humidifier

Plug Fans with state-of-the-art Fan/Motor Technology

Most of the energy consumption of air handling units is the electric one, used to run the fan motor. So high fan efficiency means, due to the high annual operating hours, effective energy saving. State-of-the-art plug fans with free-running centrifugal impellers lead to a significant **increase of efficiency**. Driven by IEC motor with frequency inverters or external rotor motors with EC-technology and integrated EC-controller for the **highest energy saving**.



For bigger units and air volumes a modular system solution as Fan Wall with 3... 9 fan modules is available. This system allows advantages as low space requirements, reduction of sound power and energy saving through optimum selection of fan modules with the highest efficiency. So reductions of electrical power consumption up to 20% are possible.

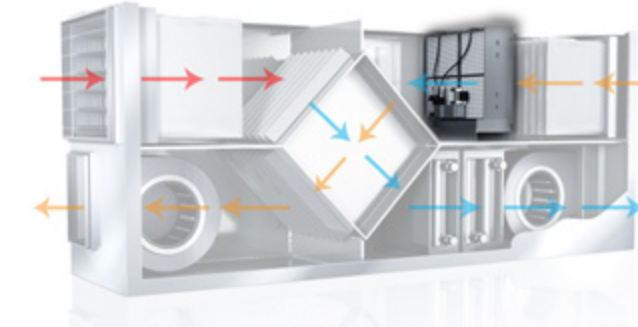
Example calculation

Air volume 5500 m³/h at static pressure 850 Pa

Option	Fan constr. type	Electr. power cons. kW	Comparison in %
1	Belt driven double inlet fan	2.49	100
2	Plug fan with steel impeller	2.22	89
3	Plug fan w 3D plastic impeller	2.17	87
4	Plug fan w 3D plast imp and EC motor	2.05	82

Renewable indirect Adiabatic Cooling

Exact calculation and using the energy recovery system in cooling mode with additional indirect adiabatic cooling allow a **decreasing of the cooling system** (as chiller or compressor section for dx-cooling) and a **reduction of the electrical power consumption up to 40%**.



Surface evaporator with high quality synthetic mats, built-in water recycling and optional control unit to optimize the water consumption (demineralised water recommended) and extend the service life.

Example:
Temperature curve with energy recovery and adiabatic cooling

