CASE STUDY

Munters

Munters retrofit cuts energy bill by 38%

InovisCoat, Germany

InovisCoat is a German technology company specializing in functional coatings such as photographic products. They offer contract coating at production site in Monheim am Rhein, providing customers classical coating programs and high-quality production of many single and multi-layered products.

A partnership over many years

Strictly controlled climate control is required to simultaneously (multilayer coating), apply up to nine different functional layers with extremely high precision.

InovisCoat is utilizing Munters equipment to control the relative humidity and is very satisfied with the solution. Munters' focus on always improving energy efficiency is also highly appreciated.

Munters has installed four large dehumidification system – a Munters MDS1000 and three Munters Rotor cassettes (2446-400mm rotor). The rotor cassettes each supply 35,000 m^3/h with a Relative Humidity below 2% RH to secure optimal conditions for the coating processes.

Case study

Munters helps InovisCoat cut their energy bill by 38%.

Advantages:

- PowerPurge internal heat recovery option and gas conversion retrofit cuts energy bill by 38%
- CO_2 emissions reduced by 240 tons per year
- Dehumidifiers adapted to least expensive energy source available
- Close cooperation with Munters After Sales Service ensures focus on energy efficiency

The Munters solution

During the past years, InovisCoat has enjoyed a close cooperation with Munters After Sales Service, who pay particular attention to energy optimization. Munters' After Sales Service suggested optimizations at InovisCoat, which have significantly cut the energy bill.

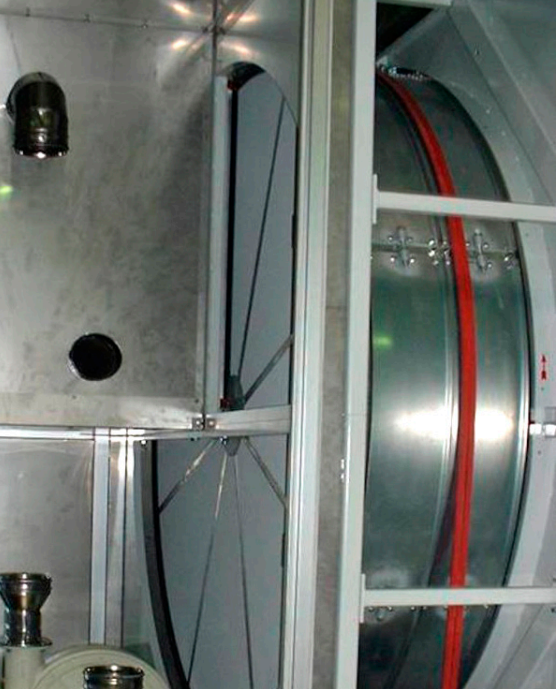
Since gas prices are low, Munters dehumidification systems have been converted from steam into gas regeneration. To further reduce energy costs, all Munters desiccant rotors have been equipped with Munters' patented PowerPurge™ internal energy recovery sector.

The Munters PowerPurge™'s innovative design adds a partial airstream to the regeneration zone of the rotor. This airstream is used for preheating the regeneration air, reducing the need for external heating.

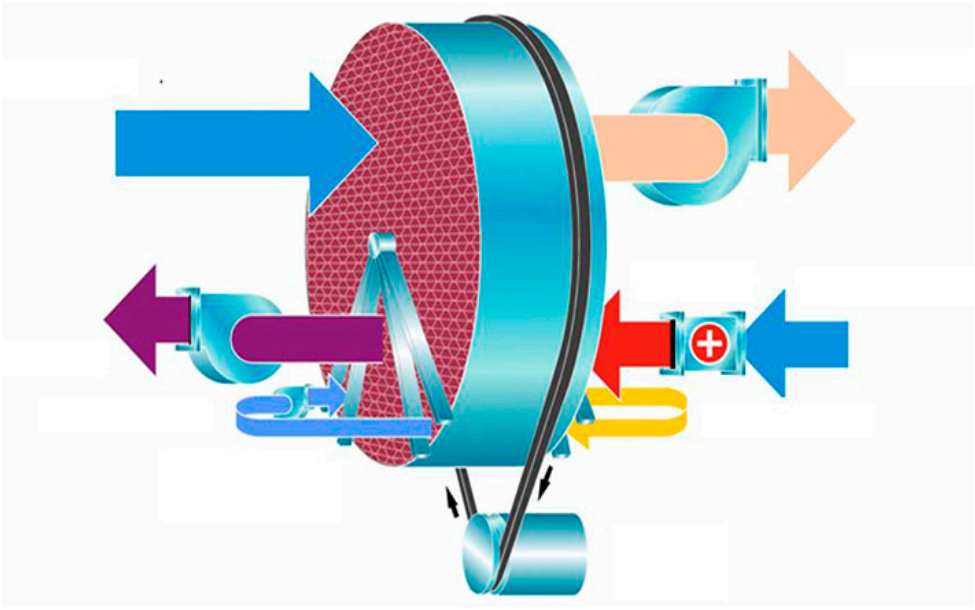
By adding PowerPurge™ onto the dehumidification systems, InovisCoat cut as much as 150 kW per dehumidification system per hour off their energy bill, equal to 38% electricity and gas savings.

Estimated savings confirmed

Mr. Jörg Siegel from InvoisProject GmbH confirmed the results of Munters' estimated savings and expressed his satisfaction with this energy update, appreciating Munters' competence within energy efficient air treatment.



Munters Rotor Principle with PowerPurge™



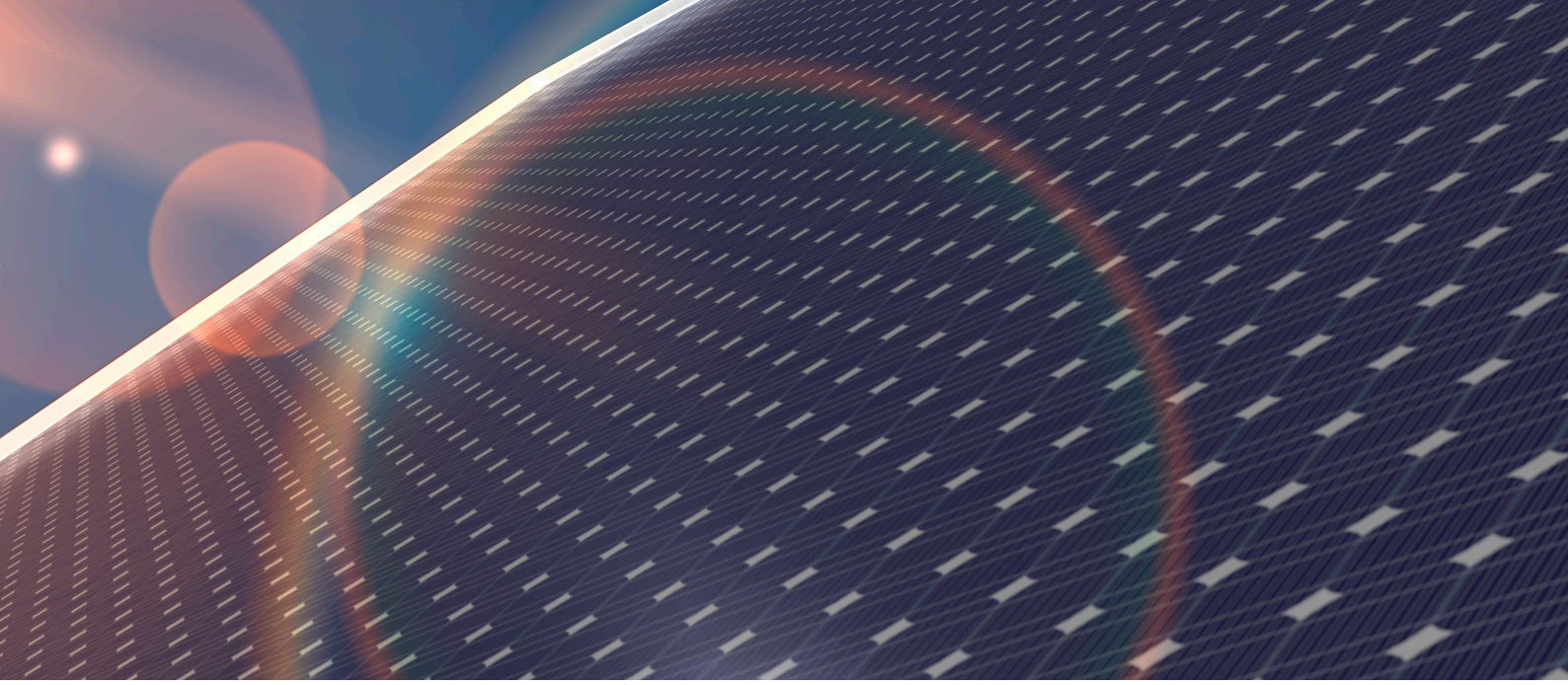
The Munter power purge principle

A desiccant dehumidifier has a desiccant rotor (wheel) that rotates between two primary airstreams - process and reactivation. Water vapor is removed as it passes through the desiccant wheel in the process airstream.

The dehumidified air is then delivered to a manufacturing process, or space.
A heated airstream is passed through the wheel and the water vapor is released to this airstream in the reactivation sector.

The majority of the energy required for the desiccant process is used when heating the reactivation airstream. The unique patented PowerPurge acts as an energy recovery system, collecting waste heat off the hottest section of the desiccant wheel and using it to help with regeneration. This reduces the energy required for reactivation while also reducing the discharge temperature of the process air, resulting in lower post cooling energy costs.

PowerPurge can also save on investment cost. Equipping a new desiccant system with PowerPurge can reduce the size of the desiccant rotor without diminishing the dehumidification capacity while still saving on energy costs.



More energy saving purge options

The PowerPurge is designed for retro-fit and new installations in our bigger dehumidification systems. Different Purge designs are available for a number of dehumidifier series and applications.

All designs offer savings on the reactivation airstream while some also use separate air recirculation to cool the rotor material on the process air inlet side - improving desiccant dehumidification capacity and decreasing the dry air temperature after the rotor.

Munters ML series are all configurated with an energy-saving purge sector as standard. Bigger standalone units and our system solutions all have purge sectors as options for even greater energy efficiency. Another way to achieve big energy savings is to convert the systems to a more cost-efficient energy source like direct-fired gas.

Would you like to find out if Munters has a solution for your company too? If so, please visit our website, www.munters.com

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