

# Coloplast Cuts Carbon Footprint by 230 Tons Yearly



The Danish company Coloplast cuts energy bill dramatically by implementing Munters rotors with an energy recovery purge sector in dehumidifiers.

The Coloplast company develops and manufactures products for ostomy, urology and continence care, wound and skin care. For many years Coloplast has been working closely with Munters on creating optimal climate conditions for clean room production facilities.

Continuously working on reducing greenhouse gas emissions and energy consumption, Munters has helped optimize energy efficiency on their Danish premises.

Two Munters dehumidification systems, both providing precise dry air for clean room production processes were thoroughly examined and together with Helge Jensen, Energy Specialist at Coloplast, Munters created a plan for energy optimization.

The dehumidifiers have both been supplied with a pre-cooler chilling the airstream to a water content of 5g/kg, with a by-pass and post cooling, the two systems supply air at 15°C/15%RH (water content of 1.5g/kg).

## **The energy optimization consisted of:**

- Installation of Munters Energy Recovery Purge®, one of Munters energy recovery systems that collects waste heat from the hottest section of the desiccant drying wheel and uses that to help with the drying wheel regeneration. This reduces the energy required for the wheel reactivation while also reducing the discharge temperature of the process air, resulting in lower energy costs for post cooling.
- Frequency converters were installed on the inlet fans to the dehumidifiers, controlling the units dependent on the duct pressure/need of dehumidification. As some production plants are not in constant operation the need of dry air is variable. By installing dampers and frequency converters on the dehumidification units, they automatically adapt the amount of dry air needed to the actual situation.

Mr. Helge Jensen confirmed energy saving figures provided by Munters. The impressive energy savings resulted in an ROI of only 0.6 per year and Coloplast has reduced the emission of CO<sub>2</sub> by 230 tons per year.



Munters supplies a variety of energy recovery systems for multiple dehumidification series and various applications

The extremely positive experience on the retro-fit installation of Munters Energy Recovery Purge® and Munters amends to the control system lead to the same update of another dehumidifier in the same production facility.

### ***How an Energy Recovery Purge section works:***

The heart of the Munters dehumidifier is the desiccant wheel. The desiccant wheel rotates slowly between two primary airstreams, process and reactivation. In the process airstream, water vapour is removed as it passes through the desiccant wheel. This dehumidified air is then delivered to, for example, to a production area. The wheel then rotates into the reactivation sector where a heated airstream is passed through the wheel. The desiccant wheel releases the water vapour to this airstream. This moisture laden airstream is then exhausted outdoors. The majority of the energy required for the desiccant process is used in heating the reactivation airstream.



The unique patented Munters Energy Recovery Purge system acts as an energy recovery system, collecting waste heat from the hottest section of the desiccant wheel and using it to help with the regeneration process. This reduces the energy required for reactivation while lowering the discharge temperature of the process air, decreasing energy costs for post cooling.

Coloplast operates globally, employing more than 7,000 people and is listed on the Copenhagen Stock Exchange.

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