Sustainability that pays off.

Energy-efficient Process Air Dehumidification for Dry Production Conditions

Extraction. Filtration. Persistence.

Modular system concept ULT Dry-Tec® with pre- and post-cooler modules

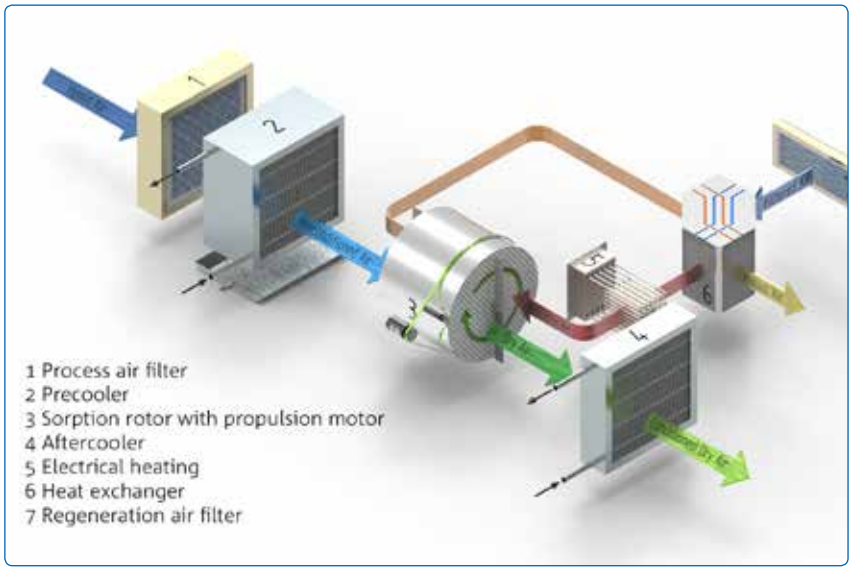
For many industrial processes a very low humidity is mandatory, in order to ensure optimal product quality and long product service life. ULT Dry-Tec® represents an energy-saving solution for processa ir drying. The intelligent heat recovery air circulation system reduces the energy expenditure for the regeneration of the deployed sorption wheel up to as much as 20 percent.

In production and storage processes in many industrial sectors, such as pharmacy, chemistry, electronics, food production and battery manufacturing or generally in dry rooms and storage rooms, a residual air moisture content of far below 20 percent is imperative. This requirement can be met using the modular adsorbtion dehumidification concept of the ULT Dry-Tec®.

Depending upon process application and ambient process conditions, dew point temperatures down to - 65 °C with a residual moisture content of 0.05 percent can be achieved with this concept.

The module series contains the following components: The sorption module ULT Dry-Tec®, which is internally used for adsorption and desorption, the pre-cooling module ULT Cool-Tec® V and the post-cooling module ULT Cool-Tec® N. Optionally, the pre- and post-cooling modules may be equipped with various filter elements of distinct filter classes (G, F, M or H). In addition to achieving the required low residual humidity, the process air flow at the module's inlet or outlet remains nearly particle-free.

The module concept of the system architecture is based on a rotational sorption process. The slowly turning,



Process diagram of the adsorption dryer ULT Dry-Tec®

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Energy cost savings and consumption optimisation for the processing of dry and clean process air are not only great challenges. They are also guarantors of sustainability, saving precious resources through energy-saving plant concepts."

Frank Schimmelmann, Division Manager Air Drying Processes, ULT AG

honeycombed sorption rotor is fully coated with a highly activated silica gel material blend. For special requirements, other adsorption material blends are also available.

The optimised and very efficient routing of the air flow inside the drying module ULT Dry-Tec® enables an efficient operation with extremely low pressure drop inside the sorption plant for enhanced savings within the drying processes.

The modular dehumidification concept also features energy-efficient, controllable fans for the process air flow (adsorption) and the regeneration air flow (desorption).

Optionally, an integrated heat recovery function can be included in the desorption loop of the regeneration air flow stream within the sorption module ULT Dry-Tec®.

Facts:

- High performance process air dehumidification for ultra-dry process conditions
- High energy efficiency due to small pressure losses and integrated heat recovery
- Special air circulation concept with optional pre- and re-cooling of the process air
- Easy handling due to compact and modular design
- Continuous and safe process monitoring