

The Optimum Principle in drying

This high performance drying unit is the first to allow the necessary regeneration to be dynamically adapted to the requirements.



Totech cabinet combination with one active and two passive modules from the MSD series.

The prerequisite for this is a precise, long-term stable humidity sensor. Compared with the cyclic method, this saves a lot of energy, and increases availability. Combined with the appropriate type of cabinet, this means tailor-made solutions for any application.

Adsorption drying in detail

The rate of drying is strongly influenced by the differential vapor pressure. The lower the vapor pressure in the storage environment, the quicker the moisture is extracted from moistened components and circuit boards. The Totech GmbH storage systems create an atmosphere with < 0.5 %RH at room temperature, and with a water vapor content of less than 0.05 g/m³ practically generate a „moisture vacuum“. This leads to an effective re-drying process, with already absorbed moisture being dissipated again. This process is extremely gentle, because it entails no thermal stress whatsoever.

Dynamic drying unit is the core

The newly developed, dynamic, high performance drying unit U-5002 by Totech still achieves humidity values below 0.17 %RH, even at 60 °C. Even with the door open, the humidity hardly rises above 5 %RH, and drops to well below 1 %RH again within a few minutes.

This is with an energy consumption that is lower than that of the earlier models. Whereas it was necessary previously to regenerate the drying agent at regular intervals (usually every six hours), this process can now, for the first time, be controlled as required. The condition of the drying agent is checked continuously by a microprocessor, and compared with the stored set-point values. Only when the moisture content in the cabinet exceeds the absorption capacity of the drying agent, is thermal regeneration initiated.

This in turn is individually adapted to the desired residual moisture in the cabinet. It was thus possible to further dramatically reduce the energy consumption in storage cabinets that are rarely opened. A regeneration of 15 minutes is often sufficient for several weeks' drying.

" Rotronic HygroClip2 probe – indispensable for our high performance drying unit."

Gerhard Kurpiela
Totech GmbH, Germany

The sensor – guarantee for reliability

One important prerequisite for control of the regeneration processes is precise, long-term stable measurement of the humidity in the dryer's atmosphere. Here, the exceptionally fast responding HC2-S probe from Rotronic has thoroughly proved its mettle. The data logger that is integrated in the precision sensor records relevant data, such as humidity and temperature, without interruption in offline mode.

In addition, these data can be stored online via the standard serial port, and monitored for threshold infringements. This forms the basis for reliable documentation in the context of Moisture Sensitive Management. Thanks to its reliable plug connector, recalibration of the entire systems is possible by swapping in a calibrated Rotronic probe with a certificate.

Totech GmbH

Totech is a leading company in the product categories of drying cabinets, dry-storage cabinets, vacuum units and nitrogen cabinets. With the dynamic drying unit in the absorption-drying storage cabinets, all moisture sensitive components are dried quickly, gently and with high process reliability.

Storage in a dry atmosphere also offers optimum protection from oxidation. The maintenance-free drying units, combined with the precision sensors from Rotronic, lead the way in de-moisturizing performance paired with greatest energy efficiency.