

CASE STUDY CNRS Amiens



Client's Field of Activity

Energy storage and conversion research laboratory

Business Challenges

- Provide an anhydrous environment essential for research on batteries of electric vehicles for the "Laboratory of Reactivity and Chemistry of Solids" and their customers
- Assure the reliability of the study results

Technical Challenges



- Provide a controlled dew point atmosphere to avoid interaction between water in the air and the components of a battery
- Prevent oxidation of the tested chemical elements (lithium)
- Maintain a dry atmosphere by hosting 8 people

Products – Solutions And Services brought by DESSiCA



Products

- The drying system has two processing stages :
 - a first stage with cooling and dehydration;
 - a second stage with cooling and final drying.
- The first stage is made by a standard air dehumidifier, the second stage by a STAD type Low Dew Point dehydrator specially designed to treat air at very low dew points.
- Air and water vapor tightness is achieved by Butyl type seals for great impermeability of the interior walls with respect to the insulation and the exterior as well as between the circuits.
- Thanks to the energy recovery system, the dehydrating 3rd generation silica gel wheel ensures very high dehumidification performance and also reduces energy consumption.

Products – Solutions and Services brought by DESSiCA



Installation

- The installation was carried out with a specific low dew point box.
- Airtightness is essential for this installation, it requires rigor in production, installation and when setting up assistance during commissioning.

Support and services

- Technical solution with low maintenance requirements apart from changing air filters 1 to 2 times a year
- Desiccant wheel life : 80% minimum yield after 10 years

Key benefits and return on Investment (ROI) for CNRS Amiens



- The installation provided by DESSiCA and its operating mode fully met the expectations of the CNRS Amiens. The main customer of this anhydrous room is in advanced study for the realization of their own equipment.
- The installation of the system enabled the CNRS Amiens to reach an extremely low humidity level, thereby ensuring the optimal conditions for several key stages in the battery manufacturing process.
- The facility has been in operation since January 2017.



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