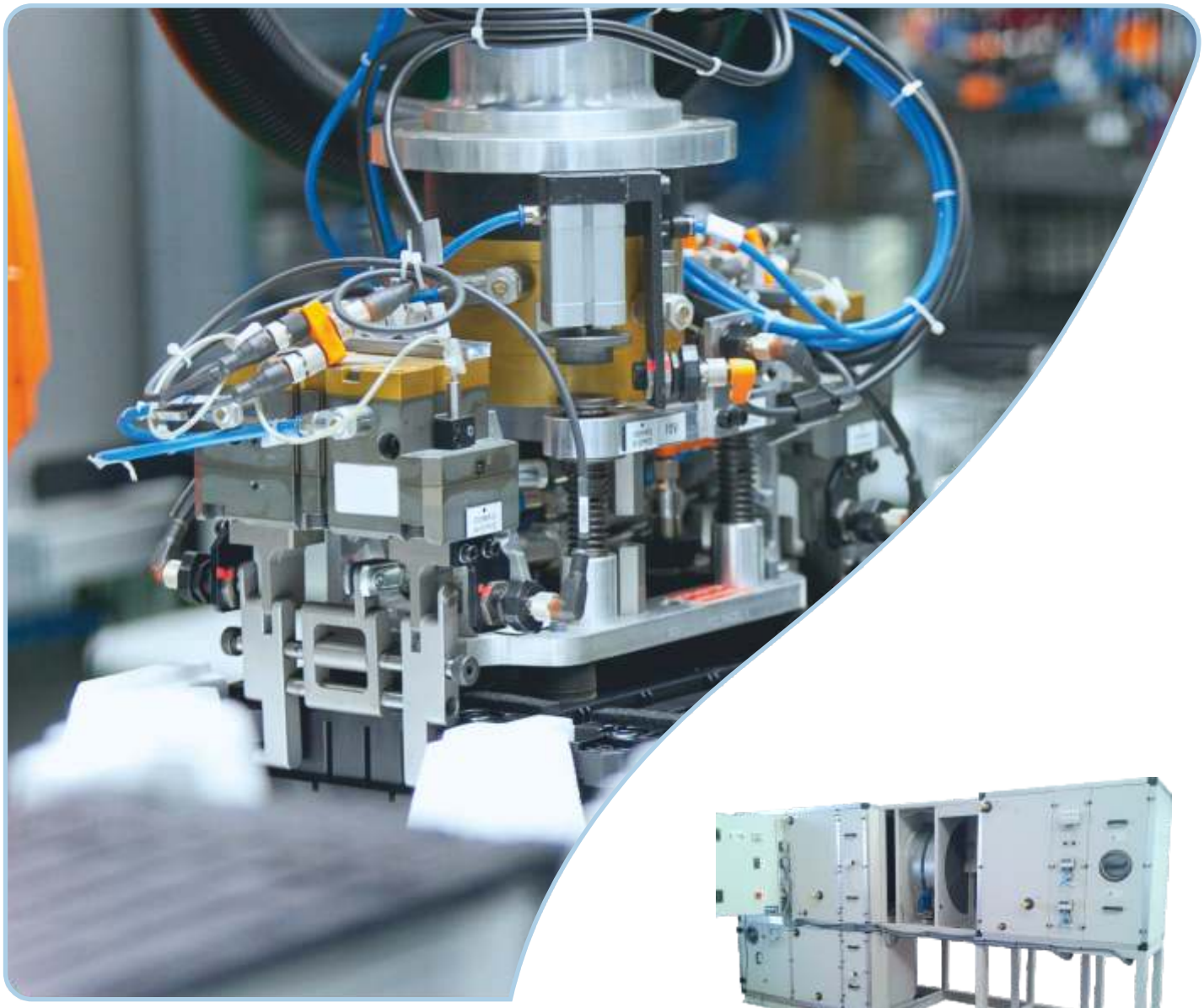
fisair
air humidity control



Low Dew Point Humidity Control for Battery Production

Li battery production

Lithium battery production is done in small laboratories in general. These laboratories must be designed as “dry rooms”.

The product, “high energy battery” unfortunately has some bad habits like we all do. It can react with water vapor to form heat, lithium hydroxide and hydrogen. For preventing this habit to happen, it needs a manufacturing facility with less than 1% humidity environment. Humidity directly affects the performance and the running life of the product.

Lithium batteries are mostly specialized by; lithium ion cell, lithium-metal cell, lithium metal polymer cell and lithium ion polymer cell types. Because of the lithium salts inside, an extremely dry production room is needed.

The Lithium compounds are highly hygroscopic and it is very common that it can absorb moisture from humid areas. This will affect the battery performance. Also, an extremely dry room needed for preventing the explosions can be occurred from the humidity in the air.

ADVANTAGES OF THIS SYSTEM:

- You can dry to practically any humidity content (dew point temperature from 20ºC to –70ºC), so a small percentage of the propulsion flow is treated: lowering costs.
- Easy maintenance and operational simplicity.
- Despite greater energy consumption, most of the required energy will be used for heating, so excess vapour from the system or natural gas can be used: very economical options with a high degree of availability in systems during wet times of year.

Example of a Fisair DFLOW system designed to meet maximum energy efficiency standards in a famous lithium battery research centre.

How to do?

As Fisair, we are having a very sensible approach to this kind of processes.
The production room which includes lithium and its compounds has to be maintained at very low dew points. The main goal on dehumidifying is to prevent the lithium from absorbing the humidity from air. And for this, moisture coming from the people inside must be prevented.

With Fisair DFLOW units, the people working inside is not a problem anymore!

Some references:

Eli Lilly and the Company

Solvay S.A.