

Our Solution.

Creating the necessary climatic conditions accounts for up to 50% of the total energy consumption in battery cell production.

As part of the QueEn* project, Weiss Klimatechnik has developed a unique solution for innovative air management in mini-environments, which generates extremely dry, clean air with high efficiency. **For economical and safe production of high-performance, durable battery cells.**

*QueEn: quality-oriented and energy-efficient plant technology for LIB and NextGen production in mini-environments. BMBF funding code: 03XP0543B



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Passion for climate.



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The challenge.

Future cell materials are pushing the limits of currently available dehumidification technologies.

The challenges are as follows:

- ▮ Generation of dew points of -60°C and lower
- ▮ High-precision process control
- ▮ Protection of personnel
- ▮ Reduction in energy demand
- ▮ Reduction of the CO₂ footprint
- ▮ Quality assurance



Compact Mini-Environments instead of large, elaborate drying rooms.

Plenty of benefits for you.

Pure and dry process air, delivered precisely where it is needed.

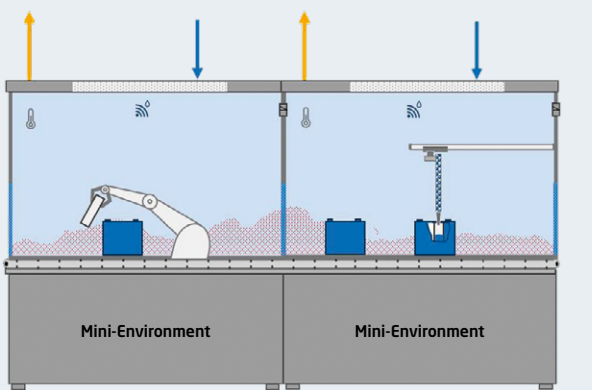
Process-oriented mini-environments encapsulate the production environment and create compact, closed and limited areas for critical processes.

These mini-environments make it possible to provide and precisely control the required degree of dryness and purity of the air. Moderate climatic conditions are sufficient for reliable manufacturing processes in the production facility surrounding the mini-environments.



A real game changer in battery cell production.

- More efficiency**
- Up to 80% lower energy consumption and costs
 - Significantly smaller CO₂ footprint
- Increased quality**
- Precise dew point control at the point of use
 - Higher process quality thanks to stable low humidity
 - No risk of personnel introducing moisture
- More safety**
- Optimised protection of processes, personnel and products
 - Minimised risk for the entire process



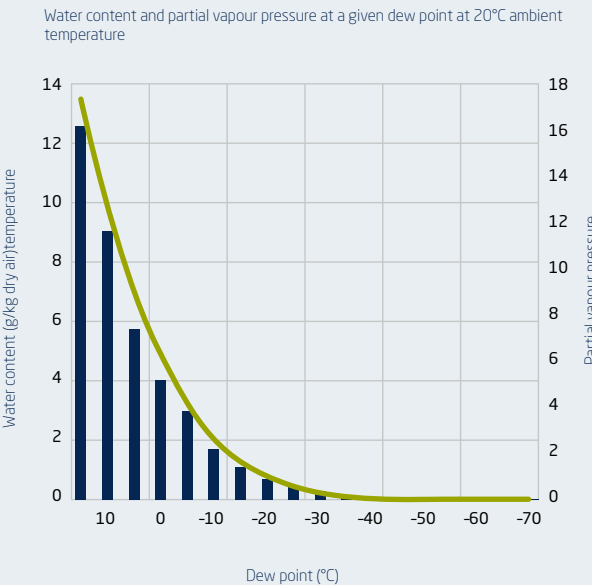
This is how innovative air management works.

1. Adsorption drying

For extremely low dew points of -60°C and lower, traditional moisture removal (condensation) is not sufficient. Therefore, we use specially developed adsorption dryers.

2. Innovative air management

With new approaches in material selection, sensors, and control technology, we ensure consistent climatic parameters. The focus is on maintaining a stable and consistent low dew point and, if necessary, ensuring the required air purity at the process-appropriate pressure ratio.



Suitable for new systems, but also for retrofitting.

- Flexible and suitable for a wide range of applications:
- Battery cell manufacturers
 - Process equipment manufacturers
 - Research institutes and laboratories
 - Automotive manufacturers and suppliers

