

# Expert on-site N<sub>2</sub> solutions for Li-ion battery production

Li-ion batteries (also known as lithium-ion batteries) are a booming industry. No wonder, as these rechargeable batteries are driving the electrification of cars and advanced energy storage, boosting the transition to net zero emissions. Nitrogen plays a key role in the production, assembly and testing of Li-ion batteries.



## Expert on-site N<sub>2</sub> solutions for of Li-ion battery production

Nitrogen is used throughout the entire Li-ion battery manufacturing process. The inert gas is applied to prevent the aging of the batteries' raw materials, in cell production, in battery assembly, and in testing.

### N<sub>2</sub> requirements of Li-ion battery production facilities

Because of the importance of nitrogen throughout the manufacturing process, Li-ion battery production facilities have a specific set of N<sub>2</sub> requirements:

- **Reliability:** Without N<sub>2</sub>, Li-ion battery production comes to a halt. That is why any nitrogen solution must deliver an absolutely reliable performance and purity.
- **Cost-efficient purity:** Li-ion battery manufacturing requires high-purity N<sub>2</sub>, which is more expensive to produce than a lower purity. A highly efficient nitrogen generator will keep energy costs in check.
- **A high-flow solution:** Large Li-ion battery facilities need up to several thousand Nm<sup>3</sup>/h of N<sub>2</sub> and thus a nitrogen solution that can reliably handle that very high flow.
- **Flexibility:** The nitrogen solution must meet the demands of all N<sub>2</sub> applications in the battery manufacturing process, from cell production to testing.
- **Sustainable production:** Li-ion batteries play an essential role in lowering the environmental impact of 21<sup>st</sup> century living and manufacturing. Naturally, its production must be sustainable as well.

### On-site nitrogen generation – the preferred solution

Many Li-ion battery production facilities still purchase their nitrogen – even though generating your N<sub>2</sub> on-site offers more advantages. Here are just four:



Greater cost-efficiency saves you money



Eliminating bottle or liquid deliveries reduces your environmental footprint



Take charge of your own nitrogen supply



Less hassle by removing supply logistics

## Take your Li-ion battery manufacturing to the next level with the PPNG HE



The PPNG HE is Pneumatech's premium high-flow PSA nitrogen generator, giving Li-ion battery production facilities an all-in-one solution with superior reliability and cost-savings:

- **High purity:** The PPNG HE produces the high nitrogen purity that battery production demands, up to 99.999% if needed.
- **Cost savings:** The PPNG HE offers best-in-class efficiency to keep the energy costs of producing high-purity N<sub>2</sub> to a minimum.
- **One integrated solution:** One PPNG HE can produce the high N<sub>2</sub> flow battery production requires. It effectively eliminates the need combine multiple units, which is a more costly, less efficient and less stable solution.
- **Sustainability:** Producing N<sub>2</sub> on-site eliminates delivery transportation emissions. The PPNG HE's energy efficiency also contributes to a greener production.
- **Long lifetime:** Thanks to its robust build and a host of protective features, the PPNG HE has a long lifetime. Its CMS will last at least 15 years at full load.
- **Outdoor installation:** The PPNG HE doesn't take up indoor floor space that might not be available. Its robust design allows for outdoor installation in temperatures down to -10°C/14°F.

### More than just a superior product

Pneumatech offers you more than "just" the best nitrogen generator on the market. We can also provide a wide range of industrial gas solutions, from CO<sub>2</sub> removal dryers used to prevent raw material aging, to oxygen generators, and turnkey air treatment and industrial gas systems.



#### Expert advice and support

Contact us with the details about your application and its requirements, such as your nitrogen usage or the size of generator you need. Our experts will put together the best on-site solution for you. If you don't have that information or need help, they are ready to help you through the specification process.



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