Üson
for good measure

EV Battery Leak Testing

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Uson

Pioneer of Modern Leak and Flow Testing

Lithium-ion Battery Testing Equipment and Systems for Automotive Applications.

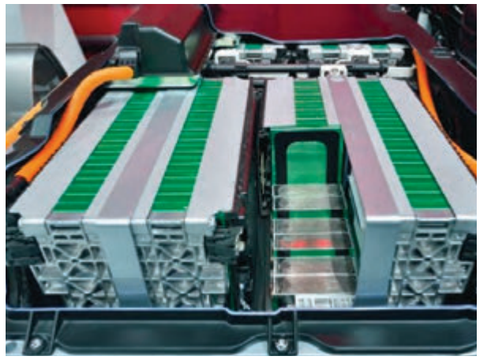
Global lithium-ion battery-cell production is expected to increase from 280 GWh today to 2,600 GWh in 2030. This aggressive growth prediction puts added pressure on EV battery manufacturers to produce at higher volumes without sacrificing quality or safety. In addition to high production requirements, manufacturers face the challenge of performing quality testing without industry standard guidelines. The lack of EV battery leak testing standards has left many manufacturers struggling to find viable testing solutions.

Uson is excited to be at the forefront of this emerging industry and applying over 55 years of experience serving automotive manufacturers around the globe. Our leak testing experts are working with both manufacturers and system integrators to develop testing standards for electronic vehicle battery testing processes to support the industry in delivering the highest level of quality and safety to consumers.

- Uson has more than 55 years of experience to support manufacturers in the automotive industry.
- We support our customers throughout the life of the Uson leak tester.
- Our leak testers deliver the assurance of quality, so bad parts don't leave the factory.
- Our leak testers capture vast amounts of data, for a clear view of how the manufacturing process is performing.
- Our leak testers accommodate multi-step processes for greater flexibility to meet quality demands.

EV Battery Testing Applications:

In many cases, leak rates are not standardized across manufacturer's. Uson's application team can assist in your development of leak rate definition for EV battery component testing applications including:



Battery Covers & Trays

These can present challenges with flexing due to thermal and environmental changes. Uson's experience with how a material's composition responds to variations in temperature or atmospheric conditions can help you navigate these challenges.

Cooling Modules & Assemblies

Larger cooling circuits and the number of connections on electrical vehicles can lead to increased cycle times. Our experts can determine the most effective equipment and test method combination to achieve acceptable cycle times without sacrificing quality or safety.

Battery Packs

Large volumes make obtaining repeatable results within cycle time difficult. Luckily, Uson's state-of-the-art technology provides the most reliable and repeatable results in the industry. Our innovations coupled with over 50 years of experience allows us to identify solutions and systems that meet both cycle time and quality requirements.

Electric Drive Unit

EV cars consist of an electric motor, power module, and transmission, and each has individual testing requirements. Uson has worked with the largest automotive manufacturers in the world to provide leak testing solutions for powertrain applications and we have the footprint to support the largest and most sophisticated operations.

Challenges Leak Testing EV Batteries:

Billions of lithium-ion battery cells are manufactured every year for use in electric, hybrid-electric, autonomous vehicles, medical devices, and a variety of consumer electronics products. Most quality issues occur during battery-cell production, battery-module assembly, or battery-pack assembly and include:

- Leaks allowing humidity or water into the cell
- Leaks allowing electrolytes out of the cell
- Modules and housing integrity

Historically, pressure and visual test methods have been used for soft-pouch, cylindrical and prismatic cells, however, these methods can be slow, unreliable, and may miss small lithium-ion leaks that, if left undetected, can create big quality and safety problems.

Uson continues to work with both EV battery manufacturers and system integrators to develop air leak testing standards and processes to support the industry in delivering the highest level of quality and safety to consumers. Our air leak testers offer reliable and non-destructive testing options for battery cells, housing, and assemblies.

Test Types For EV Battery Applications:

- Mass Flow
- Pressure Decay
- Differential Pressure Decay
- Differential Mass Flow

Leak Testing Solutions for Lithium-ion Batteries Used in Electric Vehicles

Uson has a variety of leak testers and test methods for reliable and non-destructive testing of battery cells, housing, and assemblies. Our experts can work with your application requirements to make equipment and test method recommendations that will offer the shortest cycle times and highest throughput while ensuring safety and quality standards are satisfied.

Sprint mD Multi-Function Leak & Flow Tester

Intuitive, feature rich solution for speed and compliance critical applications.

Sprint iQ Multi-Function Leak & Flow Tester

Proven testing capabilities in a compact design.

Optima vT Multi-Function Leak & Flow Tester

Power and flexibility for the most challenging applications.

Qualitek mR Multi-Range Leak & Flow Tester

The proven standard for fast, reliable leak testing in light-to-medium duty industrial applications.

Vector Leak Tester

The Ultimate In Leak Testing Performance Speed, durability and flexibility increasing production like never before.

628 Differential Pressure Decay Leak Tester

Proven measurement performance for single test pressure applications.

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Support and Commitment –
At all stages of your process

Uson maintains a global service and support team, with field sales and service experts located all over the world. This network of highly trained, local support experts in leak testing are available, no matter where your factory is located. As part of its aftermarket program, Uson provides calibration, preventative maintenance, and onsite modification services to keep the tester running in optimal condition.

Uson is fully committed to its products and does not obsolete legacy products until technology has progressed to the point that getting replacement parts is absolutely impossible. Even after spare parts aren't available, Uson's service team will continue to support the product.

Our Sales & Support Offices

With our strong, global team of sales representatives and support offices, Uson provides our customers with exceptional services in all world areas.

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