



LEAKB-TRACER

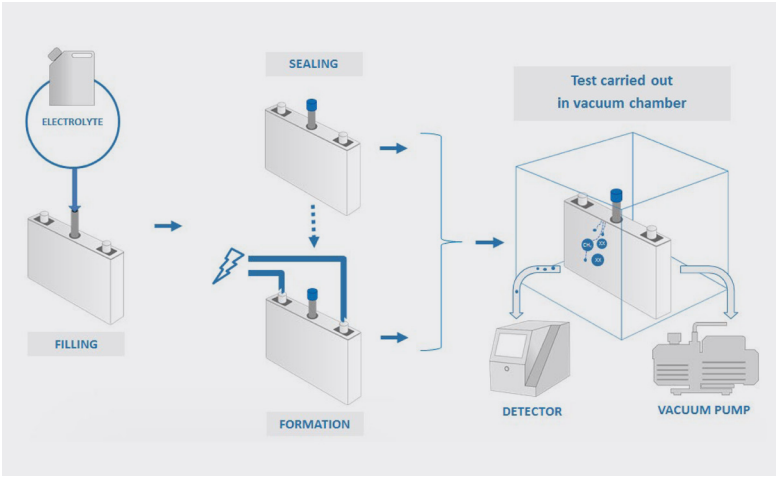
FLEXIBLE SYSTEM FOR
LEAK TESTING OF
SEALED
BATTERY CELLS



MARPOSS

Introduction

Rechargeable lithium-ion batteries are the new generation of batteries currently used in the E-Mobility market, especially in electric vehicles. Perfect sealing of batteries is mandatory in order to prevent the loss of electrolytes, which are often composed of flammable solvents that can produce toxic substances or compromise the correct functionality of the cell if they comes in contact with the ambient humidity. Consequently, this is why leak testing is a fundamental operation in the production of battery cells. The electrolyte tracing technique allows the cell to be tested in the final stage of the process, after electrolyte filling and completed sealing.



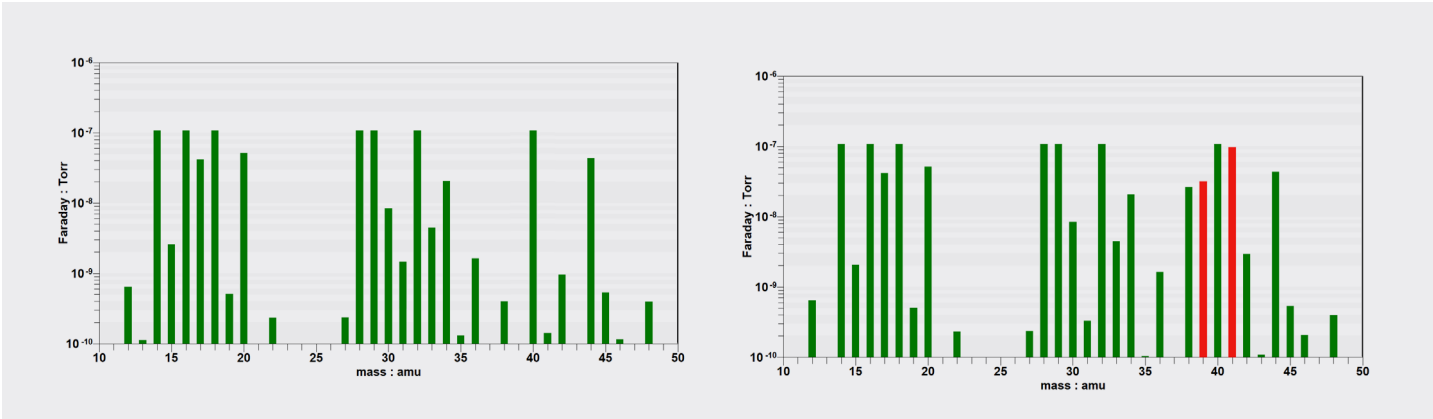
Description

Leak B-Tracer is an easily-re-tooled, semi-automatic station dedicated to the leak testing of several types of sealed battery cells during different operations of the assembly process, before or after formation and degassing. By loading cells in the vacuum chamber, if there is a leakvaporization of the solvents can be generated and extracted from the cell. The size of the leak is then quantified using a suitable mass spectrometer.

Intended use:

- Leak Tests on prototypes and pilot lines
- Off-line testing and SPC analysis
- Re-check of a scrap batch from testing in mass production

The leak test station main structure is made of durable aluminium profiles with an aluminium base plate. The station will be enclosed with Lexan safety fences and a door on the load/unload side with an interlocked safety switch. The electrical cabinet, the measure instrumentation and the leak test fixture will be assembled on the main structure. The quantity, as well as the type of cells to be tested, can be easily defined and modified to accommodate new requirements by manual retooling of the two bottom trays. This enables the Leak B-Tracer capable of testing any type of cell. Additionally, the system can easily work with any type of electrolyte and, by using the **AMU* scanning** procedure, our system can easily identify the correct AMU value without knowing the recipe of the solvent.



* Atomic Mass Unit

Technical Specification

Max Chamber Size	Width 280 mm x Depth 160 mm x Height 250 mm
Cell Type	Cylindrical – Prismatic – Button – Pouch
Electrolyte Type	DMC – EMC – DEC – MB – EA – EC – PP – PC – etc..
Operation	after electrolyte filling and sealing – before or after formation and degassing
Typical Cycle Time	from 15 to 60 seconds*

*depending on type, size and number of cells