

SYSTEM HIGHLIGHTS

- Mechanical Drive Assist
- Casters with Track
- Adjustable Chamber Height
- Solid Floor Plug
- Two Diaphragm Interfaces for Vertical and Horizontal Shaker Table
- Floor Plug Lift Mechanism
- Three 6" Access Ports
- Reinforced Side Walls

BATTERY TESTING SAFETIES:

- Sheath Heaters
- Redundant High/Low Limit and Alarm
- Gas Monitor & Alarm (for HC & CO)
- Ports for CO2 fire suppression and sprinkler system
- Stack Light with Audible Alarm
- Programmable Door Lock
- Pressure Relief Ports
- Dry Air Purge System
- Fresh Air Blower

CHALLENGE

A leading global automaker needed a specialized vibration chamber to test lithium-ion battery packs for their electric vehicles. These large, heavy battery packs required a controlled environment for rigorous testing to ensure performance, reliability, and safety.

The automaker needed a solution that was not only large enough but also capable of adhering to safety standards for battery testing.

SOLUTION

CSZ engineers collaborated closely with the automaker to design and manufacture a custom 125 cu. ft. vibration temperature/humidity chamber. The chamber was designed for easy integration with the vibration shaker in vertical and horizontal mode. To address ceiling height requirements, the design involved lowering the vibration table into a pit.

The chamber was specifically engineered to handle large and heavy lithium-ion battery packs and meet EUCAR safety standards for testing batteries. With the installation of a solid floor plug, the system could operate as a EUCAR Level 5 chamber, providing full protection for the battery packs under extreme test conditions.

The chamber featured a wide temperature range from -70°C to +190°C and a humidity range of 10% to 95% RH. The system was also equipped with advanced safety features, such as gas monitoring, fire suppression, and pressurized relief ports, to ensure the safe testing of lithium-ion batteries.

