Case Study

Weiss Technik designs a Large Walk-In chamber with solid construction to accommodate efficient humidity testing and heavy loads.

WHY
Support the testing of sunroof assemblies, materials, and truck bed composites to develop more durable products. A large workspace is required to accommodate components such as car roofs and truck beds.

HOW
Weiss Technik designed a large welded walk-in test chamber with a 120"W x 144"D x 108"H workspace and solid construction for heavy loads and efficient, accurate humidity testing.

WHAT
The custom walk-in environmental test chamber features a side door for minimal disruption, glove ports for in-test access, and a remote air-cooled condenser with an extended interconnect run.

WHY - the challenge.

A global supplier of automotive components faced a significant challenge in their pursuit of continuous improvement for their products. They needed to develop and test automotive components, including sunroof assemblies, various materials like aluminum and composites, and truck bed materials, with the goal of creating lighter and more durable alternatives to existing products.

The testing process required a workspace large enough to accommodate entire car roofs and large truck beds, while also providing precise control over temperature and humidity conditions. Additionally, the chamber needed to handle substantial loads of up to 1000 pounds, making it a complex and demanding testing environment.

HOW - the idea.

The idea was to create a large, welded walk-in test chamber that would provide the necessary space and environmental control capabilities. To minimize disruption during testing, the team incorporated a side door for easy access and glove ports for in-test adjustments. Following a consultation regarding the site's water access limitations, the Weiss Technik team designed an innovative solution with an unusually long interconnect run to a remote air-cooled condenser mounted on the facility roof.

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WHAT - the solution.

The custom walk-in environmental test chamber features solid construction to ensure efficient and accurate humidity testing, crucial for evaluating the durability of automotive components. The bi-parting heated doors with 20" x 20" heated windows allow for easy loading of vehicle components and truck beds, while the 36" W x 78" H personnel door provides convenient access for operators.

To address the customer's specific needs, the chamber includes several specialized features. Four 5-inch access ports and glove ports enable interaction with test items without disrupting the test environment. The chamber also incorporates a sprinkler port and safety anchor and lifting rings for installation.

System Highlights

- Large welded walk-in/drive-in chamber design
- Bi-parting heated doors with windows for easy loading
- Side door and glove ports for minimal test disruption
- 150 ft interconnect run to remote air-cooled roof-mounted condenser
- WEBSeason Touch screen controller for precise environmental control
- Quieter operation with sound deadening
- 36" x 36" heated observation window
- Safety features including emergency stop and warning system
- Capable of accommodating large, heavy test specimens up to 1000 pounds