

Case Study

Custom Walk-In chamber with specialized airflow provides solution for testing server racks

SYSTEM HIGHLIGHTS

- Dual-sided chamber with removable center divider
- Independent operation or combined functionality
- Robust refrigeration systems for precise temperature control
- Access doors to conditioning plenums for maintenance ease
- Tri-color light towers with audible alarms for monitoring
- Duplex outlets for additional equipment connectivity
- Emergency Power Off switches for safety precautions
- Enhanced operator safety with “Escape Route” doors
- Front and rear access to the System Under Test for convenience.



Additional doors provide access to maintenence and test areas.



Adjustable slats can be opened or closed for ventilation.

CHALLENGE

A leading technology expert providing infrastructure and software to facilitate the digital transformation of mission-critical businesses reached out to the CSZ team seeking a solution to test their server racks. Their specifications included a unique layout—two testing compartments within one walk-in chamber, separated by a removable wall. To meet the customer’s test requirements, the chamber must support holding temperatures between +5°C and +45°C and a humidity range of 10% to 95% while running a large 40,000 watt server load.

SOLUTION

The CSZ team designed a dual-sided walk-in chamber featuring a removable dividing partition, providing the flexibility to conduct independently operated tests or merge both compartments into a single, larger testing space. Doors on either side provide personnel access to the independent testing spaces while four 10HP single-stage refrigeration systems work to supply the required temperature control for a large live load of 40KW per side.

This approach ensured versatility in testing scenarios while maintaining precise environmental control.

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