

CASE STUDY

Manufacturing

Convertible Paint Booth Solution for Immediate and Long-Term Dual Use

Sector: Industrial

Project Overview

A mid-west manufacturer required a paint booth solution to support production immediately while awaiting delivery of a permanent pressurized booth. Critically, this was not a short-term temporary need. The customer wanted a system that could adapt to their facility layout over time: initially operating at full height, then being reconfigured to a lower height for a different area of the building and continuing to serve as a secondary booth for smaller components.

The Challenge

- Immediate painting capability needed while awaiting permanent booth delivery
- System had to be convertible from full height to a lower configuration
- Relocation to a lower-ceiling area of the building planned for later
- Long-term use as a secondary booth for smaller parts required

The Solution

Duroair provided a 14'H x 16'W x 30'L DuroRoom™ enclosure paired with a 25,000 CFM DuroCap™ vented filtration system, featuring a Variable Frequency Drive (VFD). The VFD enables airflow to be reduced proportionally when the booth height is lowered, maintaining proper face velocity and compliant ventilation performance in both the initial and reconfigured states.

System Specifications

Enclosure	14'H x 16'W x 30'L DuroRoom™ (convertible design)
Filtration	25,000 CFM DuroCap™ Vented System with VFD
VFD Benefit	Airflow adjustable as enclosure height changes maintains face velocity
Phase 1	Full-height operation during permanent booth lead time
Phase 2	Height reduced and relocated to lower-ceiling area for secondary use

The Result

✓	Immediate capability painting operations started while permanent booth on order
✓	Capital efficiency system repurposed rather than replaced therefore no waste
✓	Long-term value secondary booth retained for smaller components indefinitely
✓	Flexible airflow control VFD ensures compliance in both operating configurations
✓	Lifecycle planning modular design enabled strategic two-phase deployment

Why This Project Matters

This installation demonstrates Duroair's ability to:

- Engineer modular, future-proof systems designed to adapt to changing facility layouts
- Deliver convertible enclosures that serve multiple phases of a facility's evolution
- Apply VFD airflow control to maintain compliance across variable configurations
- Design for lifecycle value, not just immediate operational need