XCELERATOR

Accelerated Curing System

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What is the Accudraft® Xcelerator™? ▼

The Xcelerator is a filtered jet drying system that provides higher energy efficiency and faster curing times for automotive painting facilities.

The Xcelerator was developed in order to help high production collision centers meet and surpass their financial goals.

Often times, productivity is held back by paint drying time. Even the best managed collision center will eventually reach a production limit due to the finishing & drying process.

The Accudraft Xcelerator can nearly double finishing speeds overnight, turning any new or existing spray booth into a high performance machine.

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How does the Xcelerator™ Work? ▼

The Xcelerator system is designed to drastically reduce your curing times by creating convection in the spray environment and drying coatings in 1 step instead of 2.

There are two specific issues that can slow down the curing process in a traditional automotive spray booth:

1. Formation of a boundary layer around the vehicle surface
2. Heat losses within the workspace and around the vehicle

◀ Boundary Layer

A layer of slow moving air that prevents standard rates of down-draft airflow from making contact with the freshly painted surface.

This issue becomes even more important to address as coatings become less and less VOC-based.

VOC's (Volatile Organic Compounds) are chemicals that are used to aid in the drying process. With low-VOC or water based paints, the help of VOC's is no longer present and evaporation times will increase especially when outdoor humidity is high.

◀ Heat Losses

Hot air rises even in a spray booth and cold bodies like concrete and cold, non-insulated walls can cool heated air as it travels.

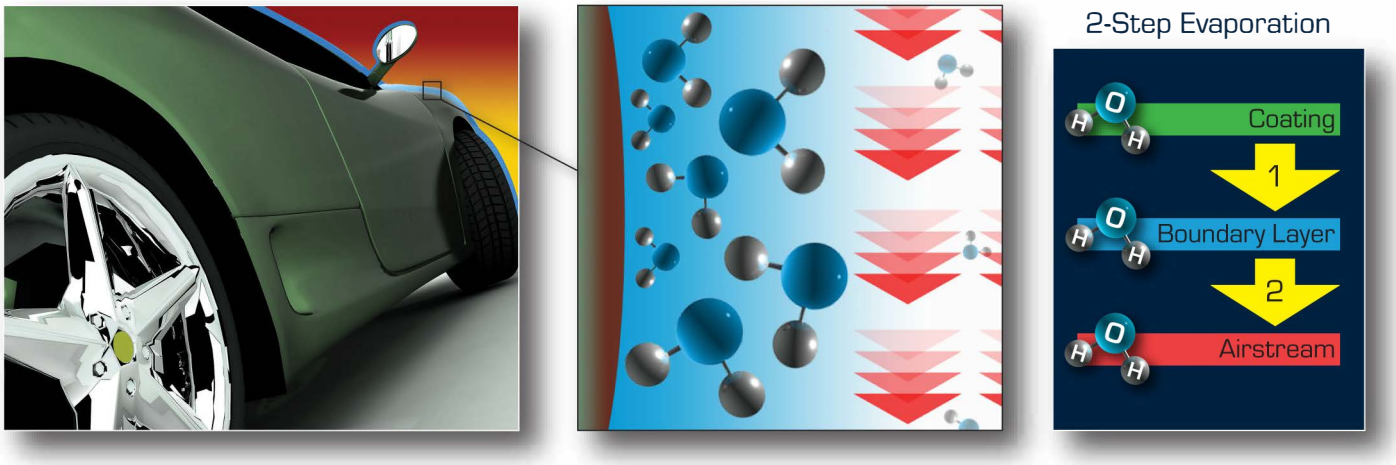
Heat efficiency is lost as the hottest air remains at the top and only the cooler air travels to the spray booth's exhaust point.

The Boundary Layer ▼

The formation of a boundary layer normally causes a slow, multi-step drying process:

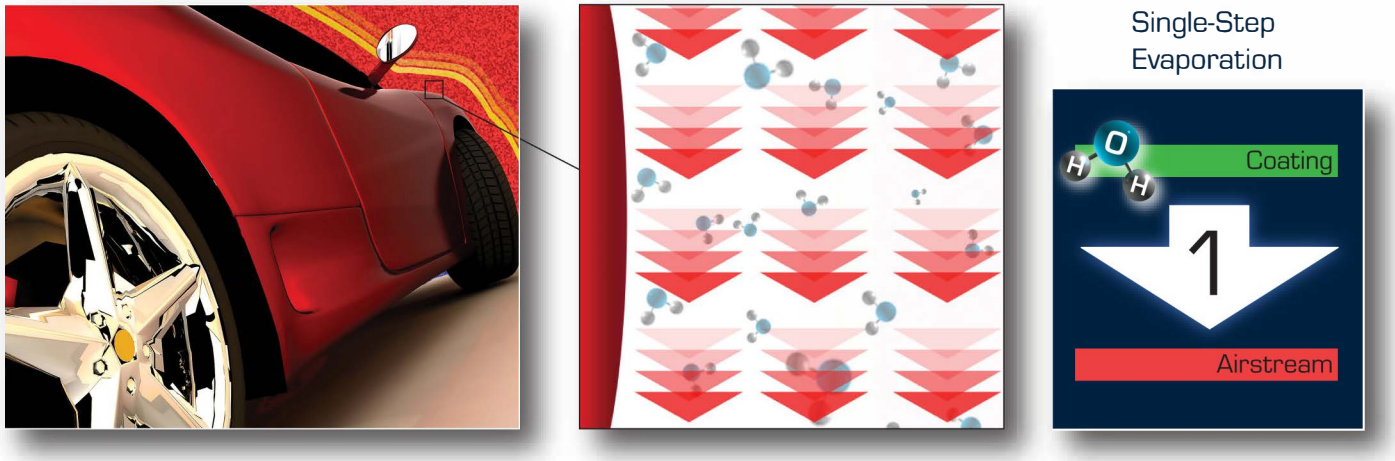
Step 1 - Moisture molecules exit the coating and concentrate right above the surface since air movement is generally still or "lazy" in this area.

Step 2 - Eventually, the molecules in the boundary layer heat up and evaporate into the airstream.



▼ Xcelerator air jets penetrate the boundary layer, heating and drying in one step

With the Accudraft Xcelerator system on, the boundary layer is destroyed. Heated air is in direct contact with the coating, allowing moisture molecules to heat up, evaporate, and spread out all in one fast step. Flash and cure times can improve up to 50%.



Heat Efficiency and Distribution ▼

◀ Heat Losses

With standard airflow, heat is lost during travel from the spray booth's delivery plenum to the exhaust point.

The result is unevenly distributed heat that tends to neglect certain areas of the vehicle, especially those areas lowest to the ground. Cooler areas down low take the longest to cure.

The Xcelerator evenly distributes heated air all around the vehicle ▼

This creates a much faster temperature rise and allows the areas close to the floor to rise in temperature just as the areas that are higher up.

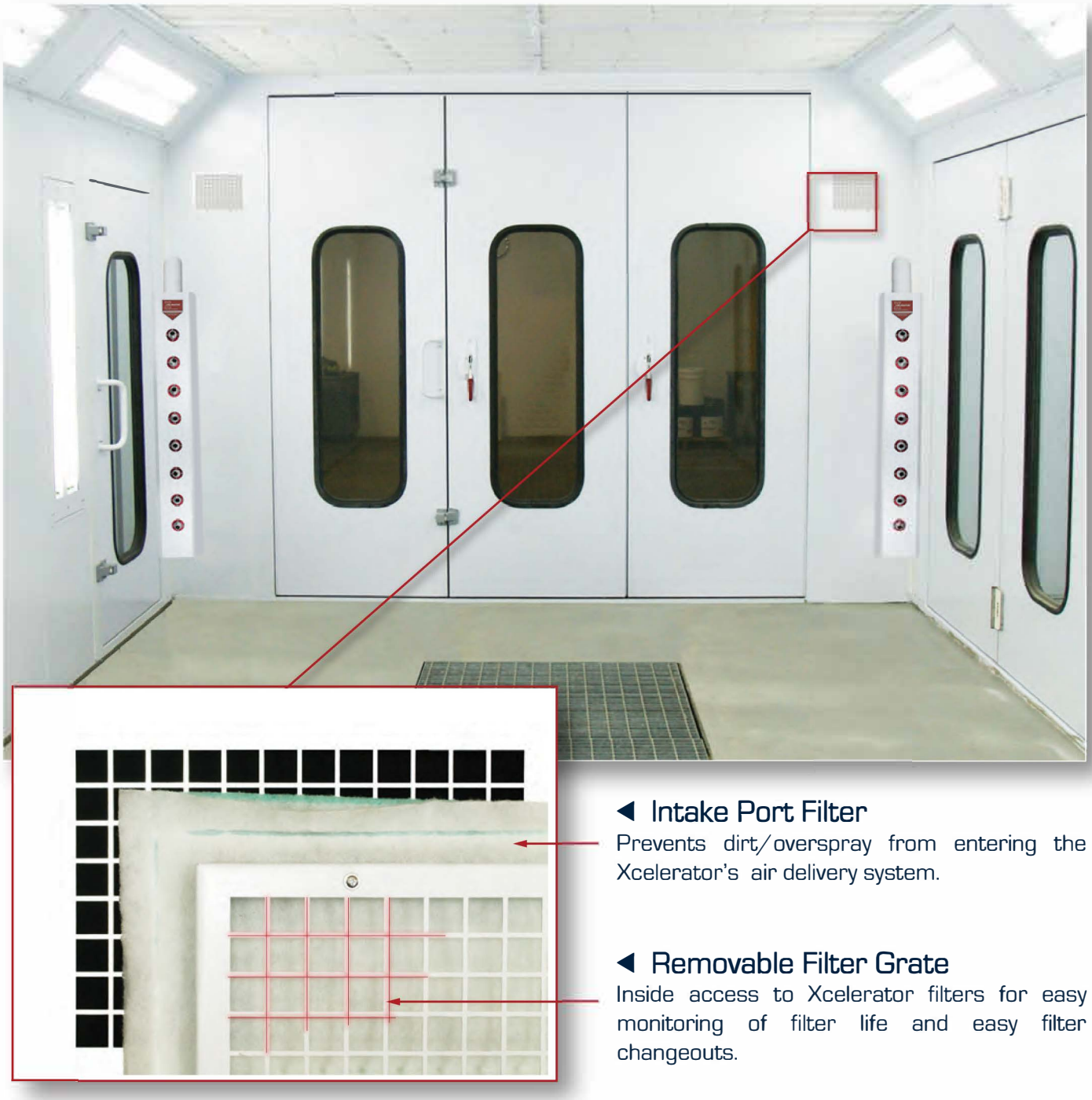
◀ Heat Efficiency

Hot air is now picked up and blown through the nozzles at a fast rate to create a convection environment. This allows the entire workspace to reach the high temperatures normally found only near the ceiling.

Additionally, the height of the Xcelerator allows air to reach all areas on the vehicle top to bottom.

Filtration ▼

The Xcelerator system delivers double filtered air via intake ports installed in the spray booth wall. Each motor/blower set draws air that is already clean and heated right from the booth workspace. Intake ports may be located anywhere around the spray booth that is accessible, maximizing installation flexibility. Standard set includes one intake port for each pair of modules.



◀ Intake Port Filter

Prevents dirt/overspray from entering the Xcelerator's air delivery system.

◀ Removable Filter Grate

Inside access to Xcelerator filters for easy monitoring of filter life and easy filter changeouts.

Features

The Xcelerator does not use the shop's air compressor. Instead, independent motors and turbines provide filtered air to the nozzles. Depending on the Xcelerator package you choose, the user can run the modules independently, as a whole, or in pairs instead of running the entire system on every job.

With a 5-foot module and a 6-foot final installation height, the Xcelerator system reaches hoods and roofs on some of the tallest vehicles. Adjustable nozzles direct the air streams independently.

Energy Savings ▼

By drying in one step and increasing your booths heat efficiency, paint jobs can be completed in almost half the time, saving you up to 50% in total energy used.

XCELERATOR	OFF	ON
Average Flash Time *	15 Min.	5 Min.
Average Bake Time *	45 Min.	25 Min.

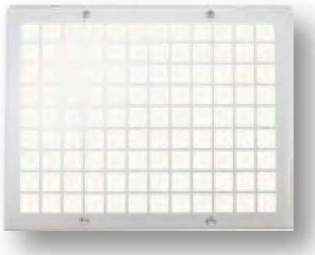
*All time values shown are estimated and are not guaranteed. Actual flash & bake times may vary.

▼ Optional VFD Package

Optional variable frequency drives allow the user to regulate the intensity of the Xcelerator jets using throttle control dials. Variable Frequency Drives provide a soft-start function for the Xcelerator's motors, saving an additional 30% on electric usage.

Optional Horizontal Module ▼

The Xcelerator horizontal module is designed to be installed along the side wall of the spray booth or workspace. For extra long workspaces, horizontal modules provide additional airflow at the center of the vehicle or truck. Any Xcelerator system can be ordered in horizontal or vertical positions. Horizontal units are also available in both independent and paired operation.



▼ Typical Horizontal Module Installation

Controls ▼

Xcelerator controls are either mounted next to your system's existing controls or programmed into the SmartPad™ digital controller on any new Accudraft finishing system.

SmartPad® ▶

- All functions are pre-programmed
- Activates & deactivates system
- automatically
- Adjustable times & temperature settings
- No additional controls

  Available on any new Accudraft spray booth or finishing system

◀ XR®

- Mounts next to existing booth controls
- Manually activate & deactivate system
- Automatic timer
- Optional time-out buzzer
- Works with basic ON/OFF systems, paired systems, or fully independent systems

Xcelerator® System Packages

Model	Operation Type	Modules (Qty)	Motor/Fan Groups (Qty)	VFD Drives (Qty)	In-Booth Controls	Horizontal Model
XR-4	Fully Independent	4	4	Optional	Optional	XR-4H
XR-2	Paired	4	2	Optional	N/A	XR-2H
XR	All Modules On/Off	4	2	N/A	N/A	XR-H

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