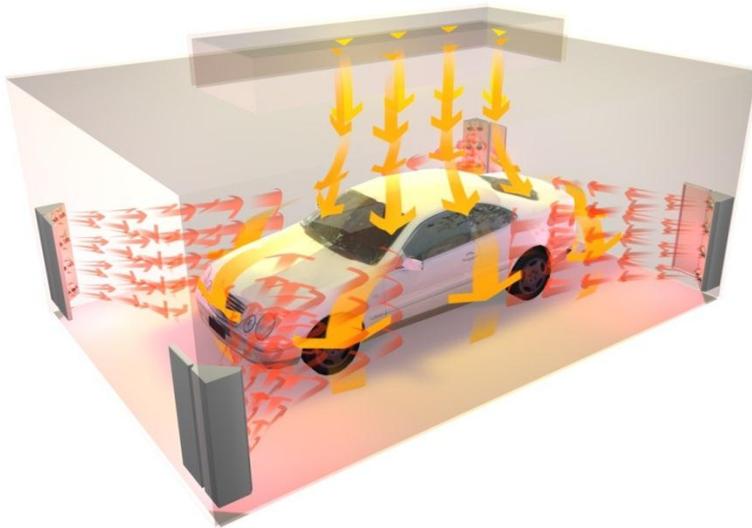




JUNAIR
SPRAYBOOTHs

JUNAIR QADs™

**AUXILIARY AIR MOVEMENT SYSTEM
FEATURES, ADVANTAGES & BENEFITS**



January 2013

Junair Spraybooths ANZ Pty Ltd

Phone: 1300 881 411 **Post:** Suite 302 Locked Bag 1, Robina Town Centre QLD 4230

Office: Suite 2D, 109 Upton Street, Bundall QLD 4217

Email: sales@junair.com.au **Web:** www.junair.com.au

QADs - FEATURES, ADVANTAGES & BENEFITS

Auxiliary air movement was introduced to spray booths as early as 1997 as a direct consequence of spray booth manufacturers looking for ways to make their equipment perform better with the low VOC paint products.

The following diagram shows the basic principle of auxiliary air movement.

A supplementary air flow is introduced into the spray booth cabin via high velocity nozzles. This air supply is filtered and heated to the same degree as the spray booth's conventional airflow. The auxiliary air flow only operates during the flash off and curing cycles.

Junair Spraybooths, based in the UK, was one of the first to develop auxiliary air movement technology for new and existing spray booth ovens and their QADs™ System was patented in 1998. Other manufacturers followed with variations on the theme and now auxiliary air movement is a standard fit on most booths installed.

Junair's QADs™ System quickly became the industry standard in Europe, and later in North America, because it could also be installed in any make of existing spray booth at a realistic upgrade cost.

Below are the features, advantages and benefits of installing the Junair QADs™ into your new or existing spray booth.

FEATURES	ADVANTAGES	BENEFITS
Draws air from plenum NOT spray cabin.	Input plenum air is clean and is not exposed to overspray during spray cycle.	Dirt or overspray not blown on to the freshly painted surfaces during flash and bake cycles.
Over 1 square metre of 10 micron filter enveloping input plenum air cages.	Large filter area ensures already clean plenum air is further filtered so filters do not load prematurely.	Additional insurance to make sure no dirt is blown onto painted surfaces. Filters only need to be replaced when main ceiling filters are replaced (about once per year).
Electrically operated fan motors, not compressed air.	Two 1.1kW motors consume relatively small amount of electrical power to produce turbulent clean air in the spray cabin. No compressed air is used to drive the QADs™ fans.	QADs™ is a waterborne solution that does not increase energy costs, but actually reduces them (reduced energy costs as a result of short bake times more than offsets small amount of electricity consumed running QADs™ fan motors. No drain on compressors.)
Fan motors are located above the plenum.	Fans and motors not in class 1 div 1 environment, not exposed to paint overspray.	Installation costs are lower than when electric motors are in spray cabin. No overspray contaminating fans or motors.
Dust covers/doors cover blower nozzles.	Instead of having exposed blower nozzles located in the spray cabin, the QADs™ blower nozzles are protected from dust & overspray when not in use.	Nozzles are always clean. They are never exposed to the cabin air except during flash off and bake cycles. QADs™ do not blow dirt or overspray onto the job.
Automatically operated dust covers/doors.	The dust covers/doors are automatically closed when the QADs™ system is not in use. The painter does not need to open/close them.	Automatic operation ensures QADs™ are always working optimally. Cleanliness of the blower towers & nozzles is not dependent on the painter.

FEATURES	ADVANTAGES	BENEFITS
Large filter area enveloping air cages in the input plenum.	Large filter area in input plenum versus small filter pads located in the spray cabin. Filters do not become prematurely plugged because of paint overspray contamination nor because the filter area is too small.	Air cages located in the input plenum prevent the filter socks getting contaminated with paint overspray during the paint cycle. When the small filter pads located in the spray cabin quickly become loaded with overspray and dirt this results in a reduction of air velocity from the blower towers nozzles. Painters often remove the filter pads causing contamination of the blower tower components, or the effectiveness of the system (air velocity) is reduced. The performance of QADs™ does not change over its lifetime (as long as QADs™ air cage filters are changed once per year).
Positive air pressure in blower towers when not in use.	Even when panels are painted off the vehicle (normally at one end of the spray cabin) overspray is driven away from the covered blower nozzles.	Provides additional insurance to ensure no overspray contaminates the blower nozzles, which could then be blown onto the painted surfaces.
Two vertical columns of air blowers in each blower tower.	The air blowing out of the nozzles is directed along the side and across the back (or front) of the vehicle, shearing off the saturated boundary air layer (immediately above the wet paint film).	Narrow jets of high velocity air could cause solvent popping on the bake cycle and could result in an incomplete (less thorough) flash off. QADs™ produce short flash off and cure times without the risk of solvent popping/boil.
Aluminum blower nozzles.	Precision machined aluminum blower nozzles are not prone to being electrostatically charged compared to nylon nozzles.	Further insurance preventing dirt or overspray contaminating the nozzles, which could be blown onto the painted surfaces.
Blower towers mounted in four corners of spray booth.	Small blower towers are unobtrusive and further away from the vehicle (or panels) being painted compared to blower towers mounted on the side walls of the booth.	Blower towers do not get in the way of the painter when he is painting. The turbulent air produced is less intense (more diffuse) and will more effectively remove the water from waterborne basecoats without 'dead areas' and without solvent popping problems on the bake cycle.
Blower towers located at low level.	Even though all of the QADs™ nozzles in the blower towers are directed horizontal and so do not point to the floor, the complete vehicle is enveloped in turbulent air.	No dust is kicked up off the floor producing cleaner jobs on flash off and bake cycles.
All 4 QADs™ blower towers are automatically activated each flash off and bake cycle as opposed to the painter needing to activate individual towers.	This creates a stable air flow environment in the spray cabin every time the QADs™ system is operating.	Although competitors have tried on numerous occasions to operate individual blower towers, it has been proven this can cause 'dead spots' and unwanted air currents in the cabin that can cause dirt to be blown onto the wet painted surface. Painters could make mistakes if they chose to activate only one or two blower towers resulting in parts of the vehicle not flashing off properly. QADs™ will flash off/cure all panels on a vehicle without introducing dirt onto the wet paint film.

FEATURES	ADVANTAGES	BENEFITS
Automatically raises cabin air temperature to approximately 38°C during flash off cycle.	Air can hold more moisture the hotter it is. QADs™ automatically increases the cabin air on the flash off cycle (as well, it automatically turns off the burner for the last two minutes of the flash off cycle to bring the air temperature down to spray temperature). It does not rely on the painter to increase the air temperature.	Flash off times of waterborne basecoats are short (typically less than 5 minutes) regardless of ambient temperature and humidity) and QADs™ do not depend on the painter to do this task. Flash off times between basecoat and the first coat of clear is dramatically shortened (typically less than 5 minutes). Clear coat finish is crisper with less micro-shrinkage.
Alarm/buzzer at the end of the flash off cycle.	At the end of the flash off cycle the loud alarm sounds notifying the painter that it is time to apply the next coat of paint.	Booth cycle time is optimized; painter does not so easily get distracted on another task and so applies each successive coat ASAP.
QADs™ Automatic capability.	Taking advantage of the temperature stratification in a down draft spray booth, the QADs™ system draws say, 60°C air from the plenum, ducts it to the blower towers from where the blower nozzles direct this hot, clean turbulent air at the side panels (where over 80% of work is done in an auto body repair shop)	Bake times are consistently reduced by approximately 35% and bake temperatures are reduced. This reduces booth cycle time increasing booth production capacity (by approximately 10 minutes per job) and reduces energy costs by approximately 35-40%. Quality of the cure is improved over baking without QADs™.
Static Neutralization upgrade option available (see information sheet on Static Neutralization).	QADs™ can be upgraded with the SN upgrade kit improving the quality of the paint work especially on plastic parts.	Less dirt, fewer color match problems especially between bumper covers and adjacent metal panels.
Over 5,000 QADs™ systems are currently in operation. Used by all major paint manufacturers and recommended by most major car manufacturers.	Junair QADs™ is a tried, test and proven system.	Customers choosing QADs™ are assured they will work as they are supposed to. Many shop owners who have invested a lot of money in competitor's equipment have been forced to remove them and replace them with QADs™. Choosing QADs™ prevents customers from wasting money and paint company technical representatives having to "fight the equipment" to make their low VOC paint work properly.