

# Automotive humidification

Increasing profits with environmental control

55-72%rH  
= maximum profits

Correctly humidifying several areas within an automotive manufacturing environment can help improve the finish on bodywork, speed sanding operations and assist in engine testing.

By maintaining paint spray booths at 72% relative humidity (%rH) optimum paint transfer takes place between the spray guns and the bodywork. This will improve the finish and decrease the amount of sanding required.

A relative humidity in sanding areas of 55%rH will stop static electricity building-up and help prevent dust from the sanding process adhering to bodywork. It can also reduce ambient temperatures by as much as 4°C.

Correct humidification will:

- Provide optimum paint transfer
- Improve bodywork finish
- Eliminate static build-up
- Decrease sanding times
- Reduce ambient temperatures
- Provide required air humidity levels for engine testing

Our clients include:

Volvo Trucks ● Toyota ● Mercedes Performance Engines ● Ford ● Honda  
Aston Martin ● Vauxhall / General Motors ● Porsche ● Volvo ● Mercedes  
Ricardo ● Peugeot ● Renault ● Saic-Metzeler ● Nissan ● Rolls Royce ● BMW

## Automotive manufacturing humidification

# Why humidify in the automotive manufacturing industry?

A well-designed humidification system will help the automotive manufacturer in many ways and in various areas throughout the plant:

### Paintspray booths

The optimum humidity for the transfer of paint from the spray gun to car bodywork is 72%rH. This prevents any evaporation of water-based paint and allows the paint to reach the bodywork as the manufacturer intended. By maintaining this level of humidity paint costs are reduced by avoiding losses to the atmosphere.



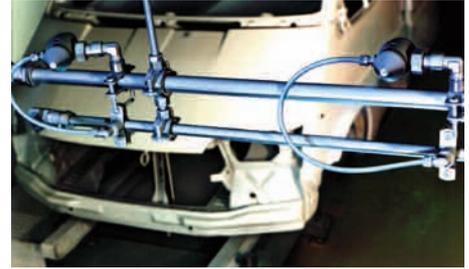
Previous installations of JS humidification systems into paint spray booths have resulted in an 8% increase in cars passing inspection first time after spraying without any sanding required.

As paint spray booths are fed air from central air conditioning systems the type of humidifier used is an in-duct unit. Historically this has been a spray system but a more modern solution is an evaporative humidifier, as the running costs are much lower.

### Sand decks

The optimum humidity to eliminate static in sand decks is 55%rH. At this level the moisture content of the air changes the electrical charge of the dust so that it is the same as the surface of the car. This results in the dust running off the bodywork of the car instead of being attracted to it. This greatly decreases the sanding time and improves the quality of the finish.

By using a direct-air spray humidifier up to 4°C of evaporative cooling can be achieved around the sand decks. This is a very beneficial side-effect as these



areas can reach up to 40°C under the hot inspection lights and with painted surfaces that have recently been through an oven.

### Engine testing

To design cars that are suitable for global use, in a range of humidities and temperatures, the engine must be able to operate in such conditions. Humidifiers that can recreate any such conditions are an essential element of the air conditioning plant feeding these areas.

As close control of humidity is required, the most popular form of humidifier for this application is a steam generating system fed with reverse osmosis water. Although in some circumstances, a spray system can be used, giving considerable savings in running costs.

## Why JS Humidifiers?

JS Humidifiers offers a comprehensive service of humidifier system design, installation and maintenance. Our range includes spray, steam and evaporative humidifiers and with over 30 years experience in automotive manufacturing humidification we are ideally placed to advise you on which type will be most suitable for your specific application.



[www.jshumidifiers.com](http://www.jshumidifiers.com)

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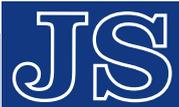
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JS has a policy of continually improving products and performance. Actual specifications might vary from those shown.



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