



# HUMIDIFICATION IN AUTOMOTIVE MANUFACTURING

Humidification and Evaporative Cooling



# TRUSTED TECHNOLOGY

Condair humidifiers are used in automotive manufacturing facilities around the World to control the humidity in paint spray booths, sanding decks and engine test cells.

Some of the World's leading automotive companies put their trust in Condair humidification systems to help them achieve their production objectives.



## GLOBAL EXPERTISE, LOCAL SOLUTIONS

Condair has manufacturing facilities in Asia, North America and Europe as well as sales operations in 19 countries and distributors in over 50 more.

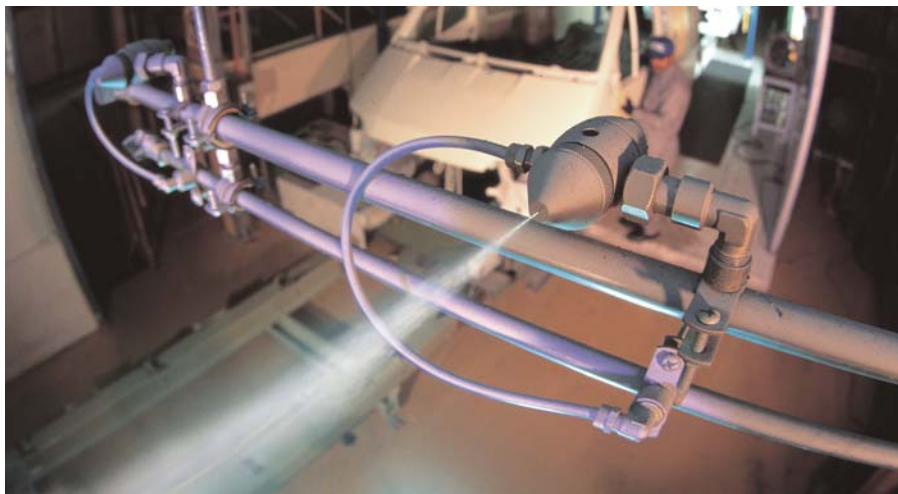
The company has been serving the global automotive industry for more than 65 years and is highly experienced in delivering the right solution for a client's requirements.

Humidification systems are designed for each application by experienced automotive humidification experts to create the optimal production environment. If required, Condair's regional R&D departments can work with a client's production team to deliver innovative solutions for an automotive manufacturing or testing process.

Condair's specialist humidification engineering teams can offer installation, commissioning and maintenance support to ensure improved production efficiencies continue to return on the initial investment for many years.

# IMPROVED MANUFACTURING EFFICIENCY

Correct humidification within an automotive manufacturing or testing facility will improve production efficiencies in several areas across the plant.



## Paint spray booths

The optimum humidity for the transfer of paint from the spray nozzle to bodywork is 72% relative humidity. Correct humidification prevents the evaporation of water-based paint, allowing it to reach the bodywork as the manufacturer intended. Combating paint evaporation also reduces the introduction of paint dust to the spray booth. These benefits combine to improve the finish quality of the bodywork, reduce sanding requirements and lower paint costs by avoiding atmospheric losses.

Paint spray booths are typically served by central air handling units that employ in-duct humidifiers. Due to the high volume of air required low energy systems are used such as spray, evaporative or gas-fired steam.

## Sanding decks

By maintaining 55% relative humidity in sanding decks, dust is suppressed and static build-up reduced. This prevents airborne paint dust from being attracted to the surface of the bodywork, greatly decreasing sanding time and improving the quality of the finish.

As these areas are usually very warm, the air supplied to them from central air handling units is cold with low moisture content. Direct air humidification is therefore required and is typically provided by spray systems as they offer humidity control as well as around 4°C of evaporative cooling.



## Engine testing

Exhaust emission testing must be carried out within certain temperature and humidity ranges so it is important humidification systems can meet the control tolerance and provide reliable humidification.

Electric steam humidifiers are often used to provide close humidity control while gas-fired steam, evaporative or in-duct spray systems can offer a lower cost and lower maintenance alternative.

# SOLUTIONS FOR AUTOMOTIVE HUMIDIFICATION

Condair manufactures a comprehensive range of humidifier systems across all types of humidification technology. This enables Condair's humidification engineers to always be able to recommend the right solution for a client.

Alongside humidification systems Condair also offers a wide range of associated products such as water treatment systems, air compressors, pumps and humidity monitors.

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Evaporative humidification



In-duct or direct air spray humidification



Gas-fired steam humidification



Electric steam humidification