



## HUMIDIFICATION IN SPRAY BOOTHS, COATING & SURFACE FINISHING

Humidification and Evaporative Cooling



# TRUSTED TECHNOLOGY

Condair humidifiers are used in spray booths, coating and surface finishing facilities around the world to maintain the optimum humidity and maximise production efficiency.

Some of the world's leading manufacturers, spray booth and air handling units 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, Europe and North America as well as sales operations in 15 countries and distributors in over 40 more.

The company has been serving the global spray booth and surface finishing industry for more than 60 years and is highly experienced in working with many different climates,

painting and coating processes, and all types of manufacturing facility.

Humidifier systems are designed for each individual application by 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 specialist painting, coating or surface finishing processes.

Condair's expert humidifier engineering teams can provide installation, commissioning and maintenance support to ensure improved production efficiencies continue to return on the initial investment for years to come.

# IMPROVED PRODUCTION EFFICIENCY

Correct humidification and humidity control will improve productivity through many paint spray, coating and surface finishing processes.



## Paint spray booths

Relative humidity levels of between 65-75% are maintained in spray booths to prevent aerosol evaporation and pigment agglomeration, and promote consistent deposition rates. By stopping the evaporation of the aqueous-based paint aerosol, the paint meets the target surface as the manufacturer intended, improving finish and lowering paint costs.

The introduction of precipitated dust from evaporated paint is also prevented, further improving the quality of the booth's atmosphere and ultimately the surface finish.

## Electrostatic painting & powder coating

A relative humidity of between 40-65%RH is typically maintained in electrostatic paint and powder coating areas. If the humidity is too high, the effects of the electrostatic charge are disrupted, coat adhesion is affected and higher flow rates required for the same finish. If the humidity is too low,

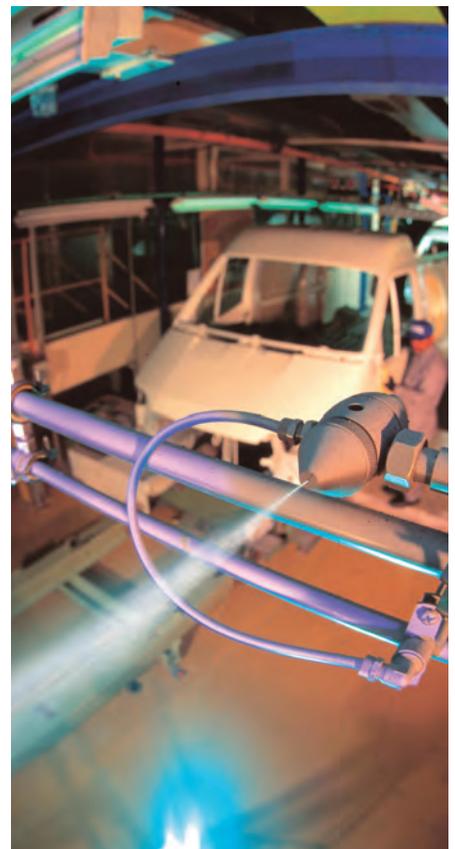
the charging characteristics of the corona are affected so the powder doesn't become properly charged, effecting transfer efficiency.

## Dipping and electroplating

If the air is too dry around multi-stage treatment processes, there is a risk that the job can prematurely dry between tanks. This can lead to staining and affect the finish from subsequent process tanks. Needing to strip and rework materials is time consuming and costly. A humidity of 50-60%RH prevents rapid surface drying and avoids this loss of productivity.

## Validation testing

Protective finishes are often subject to testing to check manufacturers' claims in relation to international standards or performance and corrosion resistance. It is vital humidification systems supplying test chambers perform correctly or the atmosphere can fall outside the specified conditions, resulting in test results being void and a potential restart required.



# SOLUTIONS FOR SPRAY BOOTHS, COATING AND SURFACE FINISHING

Commonly, temperature and relative humidity control will be provided by an air handling system fitted with spray or evaporative humidifiers, delivering conditioned air directly to one or more spray booths. This might be supplied by the booth manufacturer or designed separately and supplied by an air handling unit (AHU) manufacturer.

For individual spray booths, an associated AHU may be incorporated or a positive pressure containment room is built around the booth, conditioned to provide the appropriate temperature, humidity and air filtration.

Condair has a comprehensive range of humidifiers and associated water

treatment systems to suit any spray booth, coating or surface finishing application. This specialist range is combined with extensive expertise, working with manufacturers, spray booth and AHU companies, ensuring Condair always recommends and supplies the most appropriate solution for a spray booth, coating or surface finishing project.



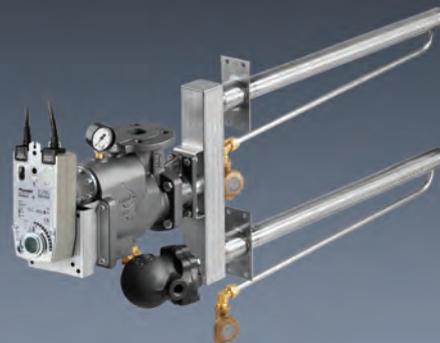
Condair ME



JetSpray



Condair GS



Condair ESCO