



## PRINT HUMIDIFICATION

Increasing profits with  
environmental control

# TRUSTED TECHNOLOGY

Condair humidifiers are used by printers around the world to prevent dimensional changes to paper, avoid issues of electrostatic, and prevent web breaks and machinery downtime.

Some of the world's largest printing companies, print machinery manufacturers and brands put their trust in Condair humidification systems to help them improve

productivity and maintain their product quality.



## 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 printing industry for more than 60 years and is highly experienced in many different processing technologies, climates and all types of print production and finishing facilities.

Humidifier systems are designed for each individual application by print 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 printing 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 many years.

# IMPROVE PRINT PRODUCTIVITY WITH OPTIMUM HUMIDITY

In the extremely competitive print market, humidity control is essential to maintain productivity at all stages of production and avoid machine downtime and waste.



## Paper

Paper loses moisture rapidly when exposed to dry air. Sheet and web roll paper is typically produced and wrapped to stay in equilibrium with air at a humidity of  $50\pm 5\%RH$ . When the ambient humidity falls below this level, paper loses water to the environment from exposed surfaces, changing its shape, dimensions and physical properties.

Below  $40\%RH$ , the movement of paper on paper and other surfaces generates electrostatic charges, which cause it to stick together, attract dust and become difficult to handle.

## Platemaking

When the protective film is removed from plates, electrostatic charge is generated. This can attract dust and grit to an otherwise unblemished surface, makes handling difficult and also generates sparks. Maintaining an environment of  $45\%RH$  prevents these problems.

## Sheet fed offset

Unwrapped paper in a dry press hall will lose moisture from any exposed surface. Tight edges result, making the paper curl, causing misfeed, misregister, dot doubling and creasing as the paper passes between blanket and impression cylinders. Misfeed also occurs due to electrostatic build-up, making stacking difficult. Printed work awaiting another pass continues to change shape, resulting in misregister.

During finishing, paper that has low moisture content will crack along folds resulting in a lesser quality product or increased wastage.

Maintaining a relative humidity of  $50-55\%RH$  in the press hall and bindery resolves these issues.

## Web printing

If air is too dry in the paper store, laydown area and reel stand, the exposed edges of the paper rolls lose moisture and shrink. On the web press, the distorted paper is then under greater tension at its edges than the centre, causing tears. These web breaks mean substantial downtime as the paper is spliced or rethreaded through the press.

In a dry press hall, the rapid passage of paper through the press generates electrostatic charge. This results in problems with stacking, cutting, trimming and folding, due to sticking.



Web printing is highly productive and any loss of production is costly, but problems relating to dry air can be addressed by maintaining the relative humidity at  $50-55\%RH$ . In flexo, with water-based inks,  $55-60\%$  is required.

## Digital printing

The problems experienced elsewhere in printing apply equally to digital but electrostatic problems associated with machinery can be a particular issue. To counter this, a relative humidity of  $50-55\%RH$  is recommended.

# SOLUTIONS FOR THE PRINTING INDUSTRY

Condair has a comprehensive range of humidification products to suit any printing facility. From wall-mounted steam units for a small digital print room to extensive spray systems for the largest of press halls.

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

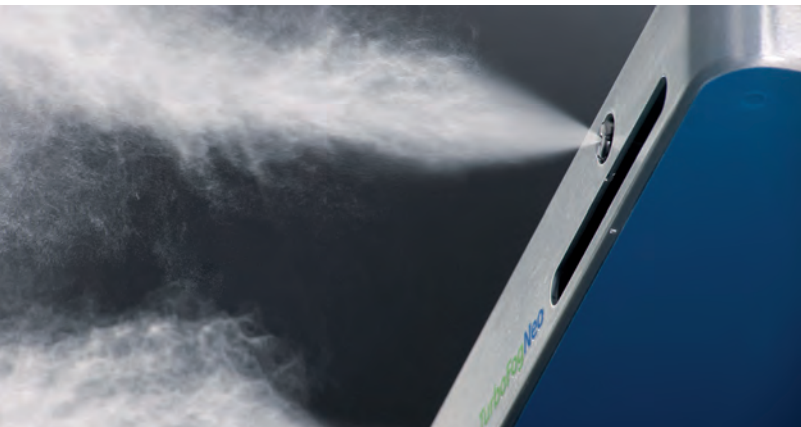
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Condair EL steam humidifier

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