PRINT HUMIDIFICATION

Increasing profits with environmental control
CONDOR 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.

TRUSTED TECHNOLOGY

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.

GLOBAL EXPERTISE, LOCAL SOLUTIONS

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.

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.
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±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.

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.
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.