



Humidity Control Solutions for Printing Environments by Condair



**Thermo
systems**

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condair

Our team of experts are backed by nationwide projects from the largest printers that are household names to locally owned printing shops.

Whether you are looking to create the perfect environment for paper storage, boost your manufacturing output or protect your employees, we have low maintenance solutions that will help you maximize your goals.

Why is Humidity Control so Important for the Printing Industry?

- ✓ Maintain and improve the quality of your product.
- ✓ Reduce machinery downtime due to jamming and equipment failure.
- ✓ Eliminate electrostatic discharge (ESD).
- ✓ Decrease waste due to quality and jamming.
- ✓ Boost ROI of facility production and operations.
- ✓ Provides energy savings and indoor cooling in your facility.
- ✓ Minimize employee absenteeism by protecting their health with 40-60% RH.



Maintaining optimal humidity levels in printing applications directly enhances machine operations, leading to increased efficiency and reduced downtime. This is primarily due to the diminished instances of paper sticking together and paper jams. Consequently, printing within a humidity controlled environment ensures a consistent standard of quality, while simultaneously yielding decreased waste and prolonging the lifespan of printing cylinders and plates.

Controlling humidity levels in your facilities air is a critical factor within the printing industry, serving to minimize paper distortion and eliminate static buildup.

Paper inherently seeks equilibrium with the moisture present in its surroundings, absorbing and releasing moisture as necessary. Initially, paper is composed of approximately 4-6% of its weight in water during production. However, this percentage fluctuates contingent upon the humidity levels in the area that the paper passes through.

The overall relative humidity (RH) of a printing environment significantly influences the printing process, as various printing methods operate optimally with specific levels of paper moisture.

Inkjet Printing

Inkjet paper's performance is directly impacted by RH levels, with low humidity leading to ink spreading, show-through, and drying issues. While needing to operate within a range of 45-50% RH inkjet printing remains sensitive to RH variations, albeit reacting less to fuser heat at this humidity level.

Offset Printing

The moisture content in offset printing significantly influences the interaction between ink, paper, and press. Maintaining a higher moisture level of around 55% RH within the press hall is essential. Low RH levels can result in various issues such as curling, creasing, dot doubling, and electrostatic buildup, leading to misfeeds, stacking problems, and difficulties during trimming and folding. Additionally, paper shape alterations due to RH fluctuations can result in cracking along folds during subsequent printing passes.

Digital Printing

In digital printing, the paper's moisture content plays a crucial role in toner adhesion and roller temperature, directly impacting the occurrence of paper jams. Optimal printing conditions for digital printing necessitate a relative humidity (RH) of approximately 50-55%. When RH drops below 40%, paper dehydration occurs, leading to deformation and the generation of electrostatic charges, which can cause paper adhesion and dust attraction issues.

Solutions for printing applications



EL Series Electrode Steam Humidifier



DR Series Direct Room Humidifier



GS Series Gas Steam Humidifier



SE Series Steam Exchange Humidifier

Want to learn more about printing? Check out these resources.



Your local Condaair distributor is:



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