



## Ideal room climate for smooth printing processes

# STULZ optimizes production conditions at Albert Bauer PRINT!

The success of printing processes stands and falls with the room temperature and air humidity. At Albert Bauer PRINT! in Hamburg, a subsidiary of Albert Bauer Companies, STULZ direct room humidifiers and closed-circuit air conditioning units keep the printing paper in optimum condition and so ensure more cost-efficient print jobs.

### THE FACTS

#### Client

Albert Bauer PRINT!

#### Task

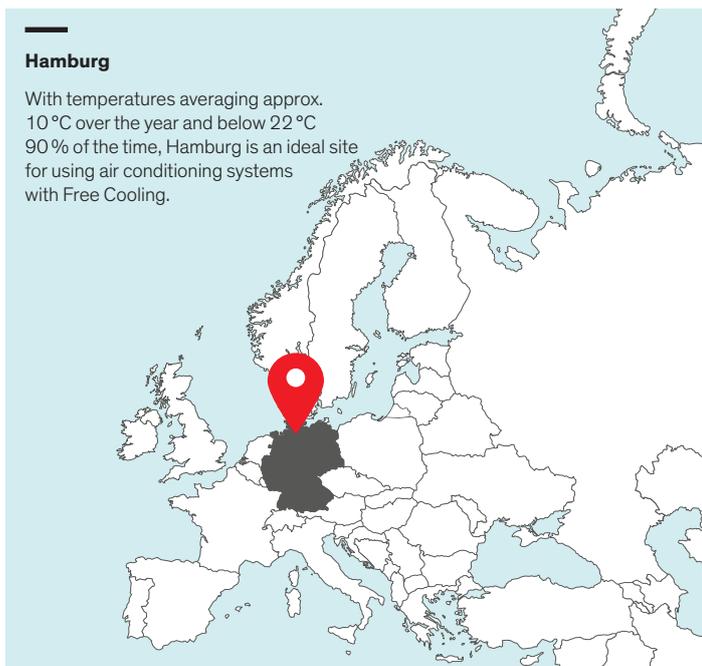
- Air conditioning a print room
- Constant temperature and constant relative humidity for the best possible printing process

#### Hardware

- Minispace CCU 110 CW air conditioning unit
- BNB 5000 humidifier



Ever since Albert Bauer Companies GmbH & Co. KG was founded in 1960, the company has had its headquarters in the Conventhaus in Hamburg.



## THE CUSTOMER

Albert Bauer Companies GmbH & Co. KG was founded in 1960, and today is one of the leading German producers of printed media. With offices in both Hamburg and Munich, more than 220 employees are responsible for around 300 German and international customers. The company's nine business units cover all disciplines of marketing media via online channels, in printing and in packaging. Its customers include medium-sized firms and corporations from the luxury and automotive sector and from retail. Find out more at [www.albertbauer.com](http://www.albertbauer.com).

## THE PROJECT

At Albert Bauer PRINT! in Hamburg, a subsidiary of Albert Bauer Companies, the constant attainment of uniformly high print quality is a fundamental prerequisite for acquiring print jobs and accomplishing them cost effectively. Print errors jeopardize both the customers' trust and the cost efficiency of production. A vital component here is the paper, which accounts for more than 50% of the cost of a print job, and must therefore be used as thriftily as possible. However, its efficient use depends to a great extent on the quality of the room climate: if the air in the room is too dry, the paper becomes statically charged. Then, the sheets stick together, and double feed can occur. If, on the other hand, the room climate is too damp, the paper absorbs some of this humidity. This hygroscopic reaction can have a negative effect on the printed image, and in the worst case the paper can ripple and become unusable. In the end, any of these events necessitate repeat printing, and make large dents in profit margins due to increased material consumption.

In order to prevent this scenario before it arises, and to keep paper in optimum condition during storage, printing and further processing, a process-optimized room climate was established in Albert Bauer's 522-square-meter print room. The desired room temperature was between 20°C and 22°C, and the relative humidity 50%. These ambient conditions keep both electrostatic charging and poor quality due to humidity at bay.



For problem-free printing: Air conditioning and humidification integrated directly in the print room of Albert Bauer PRINT!

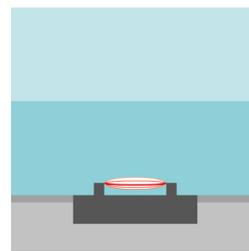
## IMPLEMENTATION

Albert Bauer PRINT! decided to use two STULZ BNB 5000 Ultrasonic direct room humidifiers with a central water treatment system. The units work on the principle of ultrasonic humidification, and achieve a humidifying output of 5.0 kg/h at a power consumption of 430 VA. STULZ direct room humidifiers use up to 90% less electricity than conventional electrode or resistance steam humidifiers. The long maintenance interval of one year brings an additional cost advantage. Moreover, thanks to their continuous supply of fresh water from the central treatment system, the units provide humidification with a high level of hygiene as per VDI standard 6022.

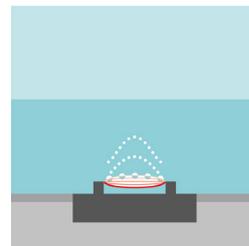
In addition to the two direct room humidifiers, the Albert Bauer print room hosts a STULZ Minispace CCU 110 CW closed-circuit air conditioning unit for a constant temperature and humidity. This powerful precision air conditioning unit, which has a small footprint, is connected to the building's central cold water supply, and the use of EC fans that can work in partial load mode make it an extremely energy-saving model. Furthermore, the company makes the most of the cool outside air of the Hanseatic City of Hamburg to further increase the energy efficiency of the air conditioning system. To do this, special supply and exhaust air ducts were installed for Direct Free Cooling. To guarantee a constant temperature and humidity in the print room in Free Cooling mode, the supply air duct was fitted with an outside air filter, a heating coil, and a temperature and humidity sensor.

### STULZ BNB Ultrasonic humidifier function principle

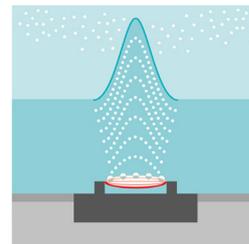
Ultrasonic humidifiers operate according to the principle of "ultrasonic atomization".



The humidifier is switched on.  
The oscillator amplitude is positive.



The oscillator amplitude is negative.  
The inertia of the water creates a vacuum.



After approx. 10 amplitudes, the ultrasonic humidifier reaches 100% of its output.

## THE RESULT

The installation of STULZ direct room humidifiers and closed-circuit air conditioning units has brought about the desired success: the air in the Albert Bauer print room constantly shows a temperature between 20 °C and 22 °C, and a relative humidity of 50%. Thanks to this optimized room climate, the number of print errors has been permanently reduced, with both customer satisfaction and the cost efficiency of print jobs rising as a result.

The Minispace precision air conditioning unit is connected to a supply air and exhaust air duct, and its Direct Free Cooling function enables energy saving air conditioning of the print room.



## ABOUT STULZ

STULZ is one of the world's leading solution provider of energy efficient temperature and humidity management technology, specifically for mission critical applications.

Backed by over 40 years of experience, STULZ is one of the foremost pioneers in the field of air conditioning solutions for dependable applications and Data Centers. STULZ air conditioning equipment is developed and manufactured primarily in Germany, to the very highest standards of quality and in line with exceptionally stringent testing criteria.

The STULZ product range includes traditional room cooling, high-density cooling, chillers, container

modules and air handling units with adiabatic cooling. All systems are available with Indirect Free Cooling. STULZ offers Direct Free Cooling for CRAC systems, air handling units and modular Data Centers. Together with its various sizes, extensive additional options and modularity, STULZ therefore boasts a product range that is unique in the world and can make optimum air conditioning a reality for practically every Data Center project.

For further information about our services and products please visit our website

[www.stulz.com](http://www.stulz.com)