



Solutions for the
tobacco industry
Excellence in humidity control
and monitoring

Connected Efficiency

Excellence in humidity control and monitoring

CAREL has extensive experience and knowledge in the processing and storage of tobacco. Our recommended proposals cover a vast range of sensors and adiabatic humidifiers, which adapt perfectly to the typical needs of this sector.

Properties of tobacco

Tobacco is a hygroscopic material, and as such, features a high moisture content; consequently, if the surrounding air is too dry, it naturally tends to release this moisture into the environment. The result is that the tobacco leaves to shrink and lose weight, making them much more fragile and vulnerable to tearing.

Why does tobacco need to be humidified?

Cigarettes, when stored at 24°C, can undergo a variation in weight of up to 12% if the relative humidity changes from 40% to 70%. Obviously, this also has negative repercussions on the production process, as the leaves used to make cigars will break much more readily, tobacco will be released from cigarettes and the paper will jam in the machinery.

The ideal temperature and humidity conditions

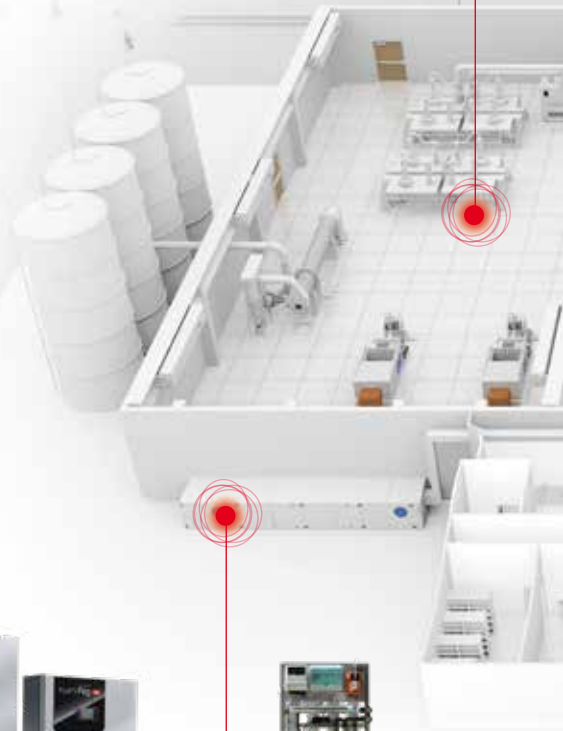
To overcome these problems, during the various stages of tobacco processing the air needs to be kept 20 and 24°C, with 60-70% RH. In the spaces used to store and preserve the products, on the other hand, the air should be around 20°C with a relative humidity of 70-75%. These conditions allow tobacco to maintain its qualities and natural aroma, until it is consumed. To ensure product quality and process efficiency, the tobacco industry therefore needs to feature systems to monitor air humidity and ensure it remains stable.

Evaporative cooling in summer

Atomisation of water naturally lowers the air temperature, saving energy for the cooling system and humidifying at the same time.



boss
Local supervisory system



humiFog Multizone
High-pressure humidifier (up to 70 bars)
for duct applications



WTS
(Water Treatment System)



Increased productivity

The right level of relative humidity means materials maintain their characteristics, while reducing waste and quality problems in industrial processes.



Dust in the air

The right level of relative humidity helps reduce airborne dust, avoiding problems in the production process and protecting operators.



Energy saving

Adiabatic technology ensures significant savings in running costs compared to isothermal humidification systems.



MC - compressed air and water humidifier

Ideal for installations where a compressed air circuit is already available for other purposes.

The humiSonic range is ideal for humidor applications with restricted installation space and low humidification load.

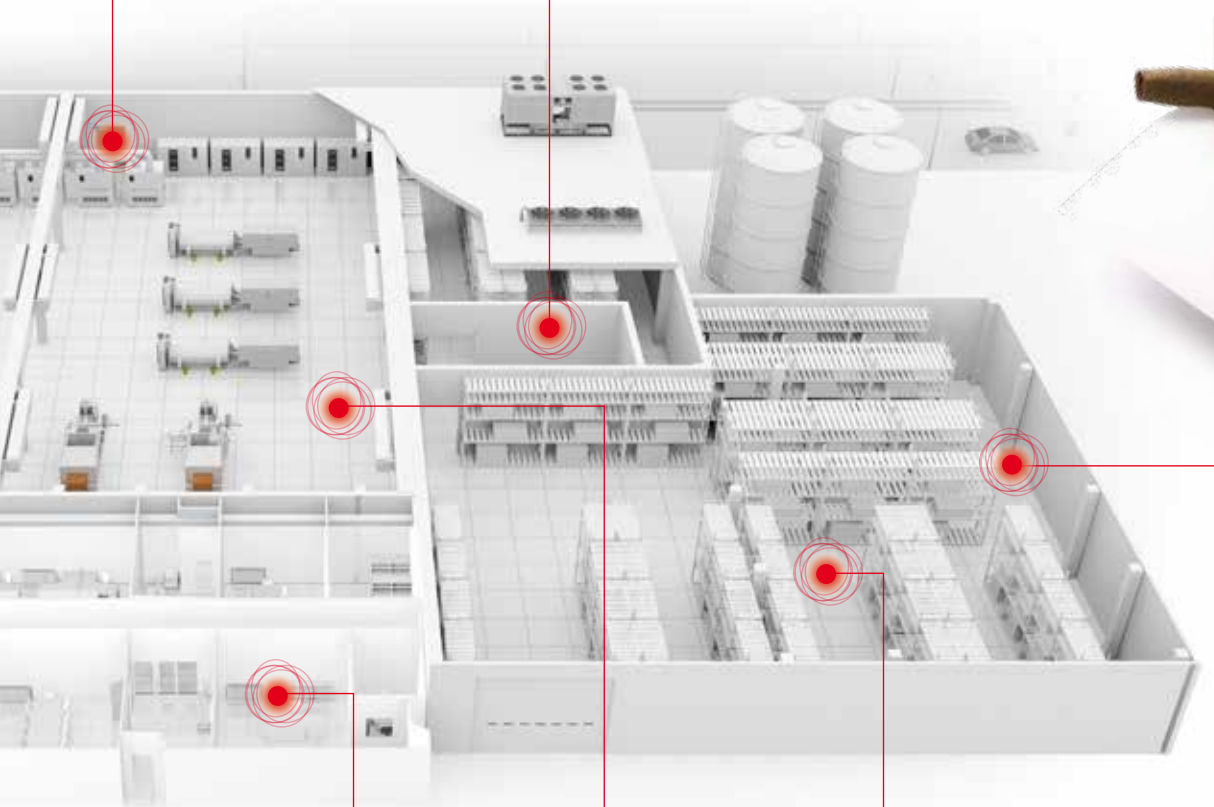


humiSonic direct



humiSonic compact

Humidifiers with ultrasonic technology. The droplets measure around 1 micron in diameter, ensuring high absorption efficiency



Energy meters



Smoke sensor



Temperature and humidity probe

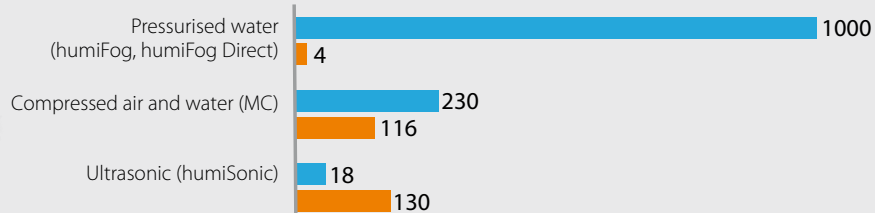


humiFog Direct

High pressure humidifier (70 bars) for direct room applications



Humidifier capacity and energy consumption

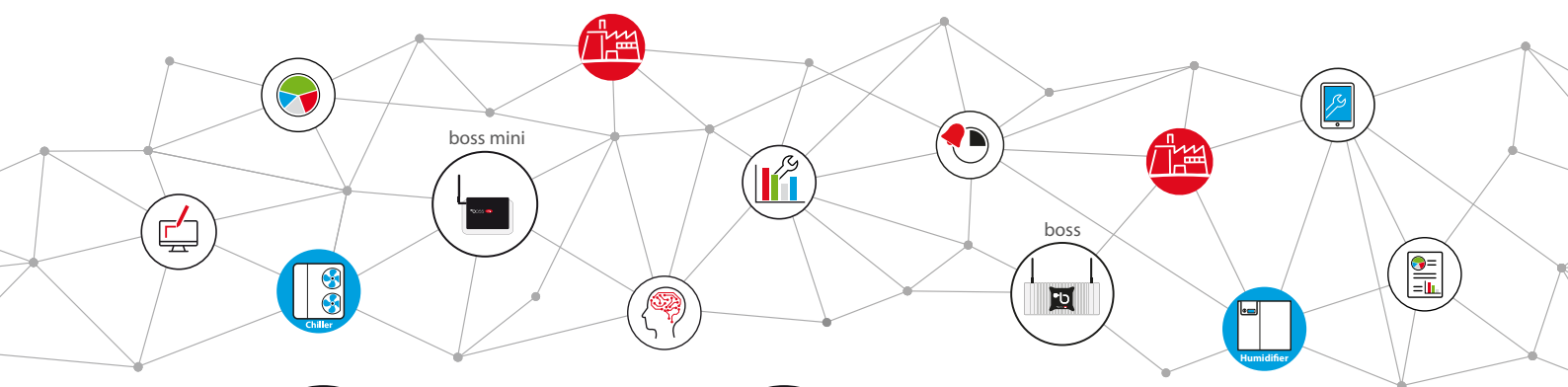


— Maximum capacity (l/h)

— Specific energy consumption (W·kg /h)

Saving time and money has never been so simple

The new supervisory systems manage and monitor the various units, meeting the requirements of Industry 4.0 and facilitating interaction via PC, tablet or smartphone.



Property manager



Service manager

Some boss and boss mini interfaces



Variable log



List of connected devices



Easy control: all the equipment for managing humidity and air-conditioning are always under control, from any of the devices: operating conditions, configurations and alerts of any issues are available via PC, tablet and smartphone in a clear and effective format.



Cost optimisation: local and remote control and monitoring solutions are considered as technologies within the scope of the new industrial revolution, commonly referred to as Industry 4.0. Within each local regulatory framework and related tax incentives, the system includes all of the required interconnection, flexibility and security features.



Maintenance cost reduction: balance equipment operation using dedicated rotation logic. The smart edge BOSS can manage multi-equipment systems and control based on a virtual remote probe.



Quality improvements: equipment availability is essential in mission critical processes. Effective 24/7 control of the most critical alarms is supported by alarm prioritisation and in-depth technical analysis, natively integrated in the monitoring systems.

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