

JASCA MICRO-ATOMISING SYSTEMS

for the bakery

With the right combination of humidity and temperature, you can increase the quality of your dough products and reduce energy costs.

Jasca: sustainable and efficient solutions for the bakery industry.

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Quality above all

How consistent is the quality of your dough?

Dough is fragile and very sensitive to drying out, e.g. during the proofing process. The ambient temperature in a proofing cabinet or room is often warm enough, but the humidity is too low or the dough cools down during the proofing process. The core and the outside of the dough rise at different rates, resulting in an irregular crumb structure. Optimizing each individual process in the bakery with the right balance of humidity and temperature ensures the consistent quality of your dough.

HOW DOES IT WORK?

The Jasca micro atomasing systems have been specially developed for atomising liquids oil or water-based products. The system essentially consists of a central control unit, a pipe network and one or more atomiser with flow regulators.

Special (mobile) atomisers are used to atomise normal tap water with compressed air into an extremely fine mist. At a short distance from the nozzle, almost all the water has already evaporated. This is a major advantage over using steam. As the humidity is introduced into the room as an extremely fine mist, the total energy consumption is only 10 to 15 % compared to a system with steam humidification.

There is no product loss in the mixer during the kneading process, the cooling of the dough is optimal and whirled-up flour dust is almost completely reduced.

"Since installing Jasca's micro-atomising systems, we have been able to better control the moisture content in our production process, which has improved the shine and crust of the products. We soon came up with the idea of using this technology for the pre-proofing cabinet and for the large bread proofing rooms. Even our initially critical bakers are satisfied. Today, all proofing cabinets have been converted. The energy gains are considerable. Even the gas-fired steam boiler has completely disappeared."

Klaas Fuite - Director of the Fuite bakery

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Applications

Wide range of applications

Jasca is specialised in advanced atomising solutions, such as proofers and cooling rooms, designed to optimise humidity control and product quality. In addition to atomising in proofers and cooling rooms, our atomising system is also suitable for atomising hoppers and mixers and has unique, patented atomisers for periodic self-cleaning.

The Jasca atomising systems can be used in the bakery sector, among others:

- proofer (pre and post) and retarder;
- process area (room and workplace atomising);
- belt atomising;
- hopper, tub and mixers atomising;
- cooling tower and proofers;
- alcohol atomisation in bread bags for longer shelf life;
- before and after the oven;
- disinfection;

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• mobile and installed.

The result is fresher bread products, a higher yield, considerable savings in energy costs and an increase in efficiency throughout the entire system.

Results

Better (baking) results

The Jasca micro-atomising system delivers excellent results in several ways. The (mobile) atomisers spray moisture— even when mixed with additives or oils—in very fine droplets using air pressure. This even distribution creates ideal conditions for moisture and heat to circulate throughout the area.

This means:

- controllable and verifiable processes in your proofing cabinets;
- less drying out of the dough;
- improved product quality;
- better taste and smell;
- thinner crust formation;
- better baking results;
- better coloration;
- fresher bread and baked goods;
- reduction of flour dust;
- better conditioning and climate control of your room;
- a more beautiful product at lower production costs.

The Jasca micro atomising system can be used in different variants: mobile, fixed and rotating. So there is a suitable solution for every workplace.

Additional benefits:

- significant cost savings through more economical energy use;
- no additional heat input (as with a steam system);
- easy to maintain and lime-free installation;
- fixed and rotating atomisers that allow better control over your production;
- atomising systems suitable for both new and existing proofers;
- water softening is almost unnecessary, the process can be carried out with normal tap water.

Product Installation

Disinfection is fast, efficient and effective and can be carried out outside working hours. This saves manpower and production time.

CONNECTION TO EXISTING SYSTEMS

The tailor-made systems with patented atomisers are suitable for both new and existing systems and are also available as mobile systems. Jasca therefore has a suitable system for every situation and every installation. By installing the atomising system in parallel with existing (water) systems, all legal requirements are met. Finally, mixing with water is impossible and the water can be rinsed out immediately after disinfection.

DROPLET SIZE

The size of the flow limiters depends on the dust intensity. Regulators can range from 0.5 to 12 liters per hour depending on the situation. Every situation is unique, so we check which droplet size is optimal for your workplace.

MOVEABLE NOZZLES

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The moveable nozzles can be used to condition larger areas. In short, optimum cooling, much less dust and a pleasant room climate. The moveable nozzles are mainly used for atomisation at the workplace.

Nozzles

SELF-CLEANING NOZZLES

The nozzles work with normal tap water, meaning that additional costs of softening water is not always required. Additionally the units are self-cleaning. A unique, patented system cleans the water and air nozzles regularly. This effectively removes lime deposits and other impurities from the nozzles.

The nozzles are made of stainless steel (air cap, cleaning needles and springs) and Teflon (seals and moving parts). These self-cleaning nozzles therefore reduce the risk of malfunctions to practically zero.

OPTIMIZATION WITHOUT INTERRUPTION

Technology is constantly evolving, which is why the new generation nozzles have been further optimized:

- new round design;
- even smaller droplets thanks to an improved spray pattern;
- a particularly low-noise design;
- even lower air consumption.

CERTIFICATE

The Jasca nozzles are the only ones that are 100% certified with the correct O-rings for the food industry. We recommend a cost-effective annual preventive inspection of nozzles. This can be done in cooperation with your technical department and our internal service department.



When used correctly, the nozzles do not cause moisture deposits on the floor, the machines or the products".

Precipitation

"We are delighted that we can now offer our customers constant quality, even in the summer months. The elimination of the steam boilers also brings us monthly energy savings of around 29% for gas and our water consumption has fallen by as much as 86%. With the Jasca cold water atomaising system, our consumption has fallen from 132 m3 to 17.4 m3 per month." Reinhold Lipp, technical manager, Lieken company

PRECIPITATION IN THE FORM OF MIST

The nozzles powerfully generate small droplets that begin to fall after a short time. These droplets mix intensively and turbulently with the surroundings. The force stirs up a lot of air in the cabinet, which leads to mixing. This happens at low air speeds. In the nozzles, however, the moisture is mixed directly with a very large amount of air from the environment. The droplets that do not evaporate completely immediately remain in suspension as mist. You will then only see a very light mist.

LEGIONELLA PREVENTION PROGRAMME

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For flushing the main pipes to prevent the development of legionella there as well. Normal (tab) water contains sediments. Among other things, these deposits cause a biofilm to form in the pipes, especially when the water flows slowly. This biofilm is an ideal environment for the development of micro-organisms such as legionella. In order to minimise the formation of biofilm, we have developed the option of using as a flushing protocol in our cleaning system.

It is advisable to have a legionella test carried out annually by Jasca technicians.

REDUCE FLOUR DUST ALLERGIES IN BAKERS!

The fine flour dust that is whirled up in bakeries is often a source of hypersensitivity for your employees. Studies by the health authorities show that 25% of bakers suffer from flour dust allergies. The Jasca atomising system solves this problem for you.

The reduction system ensures that less flour dust is released into the room air. This process is more effective than ceiling suction systems. The swirled-up flour dust particles are trapped in the moisture and land on the floor, where they no longer cause irritation. Reducing flour dust in the workplace increases the productivity of your employees.



The movable atomiser is mainly used for workplace atomisation. Larger areas can be conditioned with the movable atomiser. For you this means optimum cooling, much less dust and a pleasant room climate.

Self-cleaning and disinfection

Wageningen University has shown that disinfection by atomisation is the most effective method of disinfection. Jasca's special atomisation system prevents the growth of micro-organisms.

THE MOST EFFECTIVE WAY TO DISINFECT

In the food industry, good disinfection is crucial

Cleaning can remove up to 90% of microorganisms, which may sound impressive. However, from a microbiological perspective, this level of reduction is far from sufficient. Suitable disinfectants significantly improve industrial hygiene. The requirement is ultimately a 99.999% reduction.

POWERFUL ATOMISATION

Scientific studies show that this high percentage can only be achieved if disinfectants are forcibly introduced into a room. To this end, Jasca has developed a unique system that can also be fully integrated into existing humidification lines and production processes. The atomisers developed by Jasca introduce the disinfectant into the (production) rooms at high pressure. Thanks to the very high pressure, all surfaces are powerfully hit, right into the smallest corners and hard-to-reach places. And this works much more effectively than spraying by hand! This means that micro-organisms can no longer grow.

By installing the disinfection atomising system in parallel with existing water systems, all legal requirements are met. After all, mixing with water is not possible and rinsing with water can take place immediately after disinfection.

Sustainability & Energy-saving

COST SAVINGS THROUGH MORE ECONOMICAL USE OF ENERGY

Jasca atomising systems can be highly cost-effective due to their innovative use of specialized nozzles that atomise ordinary tap water into an ultra-fine mist using compressed air. This method allows for rapid evaporation of water just a short distance from the nozzle, which is a significant advantage over traditional steam-based humidification systems. Because the moisture is introduced as a fine mist, the total energy consumption is drastically reduced—using only about 10 to 15% of the energy required by steam humidification systems.

Additionally, the system's efficiency translates into lower operational costs, as it consumes much less water and energy overall. In fact, Jasca's technology can use up to ten times less energy and up to four times less water compared to steam-based alternatives. The atomisers are also self-cleaning and easy to integrate into existing production lines, minimizing maintenance and installation expenses.

This combination of reduced energy and water usage, minimal maintenance, and flexible implementation makes Jasca atomising systems a sustainable and economical choice for businesses seeking to optimize their environmental footprint and operational costs.







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OPTIMIZE YOUR PRODUCTION

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