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AirSolution

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Etikettierung

**Flexibel mit
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umgehen**

Feuchtemessung

**Auf den Punkt
genau**

Kamerasystem

**Produktkartons
clever
kontrollieren**

Decontamination

**Hygiene solutions
customised
to the product**

No mercy for germs

Hygiene solutions customised to the product ensure trouble-free processes

Air Solution, based in Bremen, has been specialising in air and surface sterilisers and operational analysis for 15 years. Their professional hygiene services are widely used in the food industry. The ongoing development of micro-fogging and conditioning equipment ensures a competitive edge, explained Managing Director Ralf Ohlmann and Sales Manager Dr. Florian Schmitt in an interview with LT. One new product is an antimicrobial agent based on plant extracts.

Using sterilisation technology developed by Air Solution, a significant improvement in the sanitary conditions in a plant can be achieved at relatively little cost, ensuring an ongoing optimisation in food product quality and the associated storage life. „Our intention is to intervene in the processes as early as possible to hinder infection by taking preventive measures,“ says Ralf Ohlmann, Founder and Managing Partner of the company. The air and surface sterilisation is achieved by targeted micro-fogging of the treatment agent, L.O.G. The application possibilities are endless. Entire rooms, air conditioning plant or processing and pack-

aging machines can be equipped with the system, depending on requirements. „Our sterilisation solutions are mainly used in the dairy industry, meat processing and delicatessen production, but we are also leaders in the beverage and bakery industries,“ says Dr. Florian Schmitt, who for several months has been working as Sales and Application Technology Manager at Air Solution.

„Because we use extremely low concentrations of the active ingredient, it cannot be detected by humans and is classified as safe as regards human toxicology.“ The process can therefore easily be used with both food and personnel being

exposed to the open air in the production area. Dr. Schmitt mentioned another important property: „The sterilising agent is a processing agent that does not need to be declared.“

The air management system is adapted to the product, supporting an environment in which the processing performs superbly. „For this we also offer an agreed precise localisation of moisture, heat and dust as well as the visualisation of airflow or condensation. This also means that the causes of fungus and germs can be detected,“ said Mr. Ohlmann. „Because we want to correct problems where they occur, and not simply remove their effects.“ This is why he offers environmental data collection and professional planning services via the Engineering Division. On this basis, an optimised hygiene system solution can be developed to create a long-lasting low-cost operating environment. Effective sterilising levels of 0.1 millilitres per cubic metre have already been achieved in ambient air.

Most companies in the food industry work under good hygienic conditions, but the demands of the trade are increasing, especially with regard to shelf life. Mr. Ohlmann puts his concept to work here as well. It is possible to make improvements and stabilise the hygiene status at minimal cost. „We achieve the maximum return with the minimum cost,“ says the CEO. „Another problem is that the personnel working in companies are increasingly less skilled, as the business comes under rising cost pressures. Our system is designed such a way that it remains unaffected by the staff whilst at the same time working efficiently.“

Air Solution mainly installs fixed sterilising systems, because much more targeted action on the overall process flow can



Ralf Ohlmann (left): „We stabilize the hygienic status and maintain it economically, making the processes permanently safe.“ Air Solution mainly installs fixed sterilisation systems, because much more targeted action on the overall process flow can be taken with them than with mobile devices. The micro-fogging apparatus meets the latest technical standards. Dr. Florian Schmitt (right): „We are constantly developing processes and products that can be used without restriction in the future.“

be taken with them than with mobile devices. „Let’s take the production of cooked ham,“ says Dr. Schmitt, citing an example. „In this case we have the microbiological problems after the thermal process has finished.

Here we can use a permanent installation in the cooling zone after cooking and begin with the micro-fogging of our agent in the pre-cooling area, in order to securely protect the product in the atmosphere from reinfection.“ The air quality improvements extend to the cutting and packaging of ham and maintain the product in perfect condition. „The packaged slices of ham are still in the lower bacterial count region even when they have reached the best-before date,“ said Dr. Schmitt. „Retailers are insisting on such requirements more and more frequently. There is no need for chemical substances or alcohol in this the hygiene application, which makes it easier when it comes to making the declaration.“

The micro-fogging equipment meets state-of-the-art technical standards, is equipped with a programmable logic controller and a remote control module. For Mr. Ohlmann, reliability is of critical importance. If a defect were to occur, it is signalled with an alarm and the operator can intervene immediately. The company is constantly looking for improvements too. Mr. Ohlmann said: „We are already developing the technology of tomorrow. That’s the only way we can keep ahead of the competition.“

The L.O.G. sterilising agent fights a wide range of bacteria, moulds and yeasts with great efficiency. It also has virucidal properties.



Michael Kuper: „Since we have been using these sterilisation methods, our production hygiene has become safer and more stable.“

Dr. Schmitt commented on the formulation: „Only natural substances are used in the mix of active agents. This brings with it the benefit that they interact with each other to further increase their effect, so we know that with individual substances, such as the salts of lactic acid, relatively little is needed“ Mr. Ohlmann added: „As part of the development of our technology, we have recently expanded the range of active agents to include plant extracts that we are able to make water soluble using a special process and then micro-fog them. The basic raw materials here include garlic, olives and citrus fruits. We want to maintain our leading

expertise, and so are having to do a lot of development work.“

To be successful in the market, Air Solution has to adapt to the regulatory requirements of each country. These requirements change frequently. Dr. Gitte Graubner, responsible for Quality Assurance, works out the basics. „This activity is extremely important for us and involves high costs,“ said Mr. Ohlmann. Approvals for halal and kosher production are also important. Using the sterilising agent in organic facilities is not a problem either.

The use of detergents and sterilising agents can be drastically reduced by micro-fogging the L.O.G. This is because the germ status in the environment and on the surfaces of the process equipment is kept low - even in areas that are narrow and difficult to access. Dr. Schmitt added: „Our agent is also completely compatible with the material. It does not cause any wear and tear on the machine. This compares with classic sterilising agents that are so aggressive that they can even attack stainless steel.“

Mr. Ohlmann describes his concept in a nutshell: „We provide system solutions in a spirit of collegiate consultation. We recognise where there are risks of infection in the operation, and tackle their causes in a sustainable manner, taking actions that are compatible with the particular food. This allows us to offer our customers a long-lasting hygienic safeguard for their processes and products.“

The Lobetaler organic dairy in Biesenthal, uses Air Solution’s air and surface sterilisation method in a packaging line for yogurt. In the first step, the empty cups are rinsed LOG with the conditioning



The Air Solution sterilisation technology is based on a micro-fogging system that can be used for various applications. The L.O.G. conditioning agent used fights bacteria, moulds and yeasts with great efficiency.

agent L.O.G. directly before they are filled. Furthermore, the head space of the filled cup is suitably treated prior to the application of the foil lids. Michael Kuper, Business Unit Manager at the dairy, confirmed the effectiveness of these measures: „As a result of using these sterilisation methods, our production hygiene has become safer and more stable.“ Mr. Lobetaler works according to Naturland guidelines. Alongside yogurt products, the product range includes cream, ayran (yogurt drink) and soft cheeses. Mr. Kuper noted: „The ingredients used in the sterilising agent mean that we have found a solution that is transparent and straightforward with

regard to organic standards and our claim of sustainability.“

At the Jermi cheese factory in Laupheim, streamer and pickup mobile sterilisation systems are used. They support the hygiene requirements for a packaged product in a protective atmosphere, which is one of the core competencies of the company.

CEO Gerhard Jerg said. „In addition to the clean room conditions, streamers and pickups ensure that the airborne germs are displaced. The units are extremely compact and need to be positioned in various places. „The sterilisation units at Jermi are used at critical points in particular,

such as stacking belts, transfer stations or product outlets where slicers are operating, but also in sensitive areas in extrusion and filling processes. „We achieve measurable results by using sterilisation technology, „says Mr. Jerg. „In the treated areas, the number of airborne germs will be reduced to a constant zero CFU. In plain English, this means that the susceptibility to mould of the finished product can be significantly minimised, in particular with our processed cheese specialities.“ St.

www.air-solution.com

www.lobetaler-bio.de

www.jermi.de

Packaging technology

Built-in low-cost hygiene

Novapac integrates Air Solution air and surface sterilisation in its packaging machines to ensure a high standard of hygiene. Sales Manager Wolfgang Natterer explains further advantages for the user.

LT: In which machines do you use the sterilisation system?

Natterer: With us it is mainly the thermoforming machines and cup filling machines that are so equipped. The sterilisation is used in particular in sensitive products such as cream cheese or yogurt to obtain the required log-rates and thus achieve longer shelf life.

LT: Could you briefly describe the principle of sterilisation method?

Natterer: We micro-fog the treatment me-

dium cold in the cup, on the foil lids and a space of between one and two metres around the machine. As a result, we achieve a germ reduction of log 4 or better.

LT: What are the advantages of this solution compared to other sterilisation methods?

Natterer: There are some advantages compared to other sterilisation methods. For example, using the system means that sterile air hoods are no longer needed, lowering costs. The addition of a sterilisation unit is simple. Even peroxide machines can be

converted. Another advantage compared to other sterilising solutions is the lower price. And we should not forget that the stainless steel on the machine is not attacked even after several years of production.

LT: What impact does the sterilising agent have on the staff?

Natterer: The active agents are completely harmless. In contrast, peroxide leads to hair discolouration and other tolerance problems.

LT: Is UVC sterilisation an alternative?

Natterer: The big disadvantage of UVC solutions is, having to protect the operator, who should not look into the light. And when they need replacing, the bulbs are not cheap. Not only that, in the case of UVC for example, germ reductions of only log 2 to log 3 are reached in yogurt filling and packaging.

LT: How well are your customers from the food industry accepting packaging sterilisation using active agent micro-fogging?

Natterer: The process is now well established in the industry. Anyone who wants to be working in the range of log 4 and above should resort to this method, as it is inexpensive and has the advantages mentioned. To our knowledge, the supplier is currently working on the development of the active agent so that in future even higher log rates can be achieved.

LT: What are the prospects for the procedure?

Natterer: Air Solution's sterilisation system is, as I said, highly efficient - both in terms of capital costs and operating costs. Our job is to convince the dairy technicians and persuade them to move away from the old methods. This solution is interesting, particularly for small and medium-sized businesses.

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Servo motor driven cup filling and closing machine with integrated sterilisation system