

No access for germs

UV-C disinfection systems ensure operational hygiene at iglo

Products from the frozen food manufacturer iglo satisfy the very highest quality standards and offer consumers daily culinary inspiration for a varied, balanced and tasty diet. Hygiene plays a major role in the company's production facilities. This is why two disinfection systems are used at the Reken plant, where predominantly vegetables are processed, which effectively disinfect packaging materials and containers using UV-C radiation before they enter the high-care area.

In the Münsterland region, more than 100 contract farmers grow a variety of vegetables for iglo. This includes spinach, various types of cabbage and herbs, which are used to produce a variety of frozen specialties – and all this under the strictest hygienic requirements. The two sterilization systems installed last year have made a major contribution to this. Project engineer Jörg Köhne describes the initial situation: "Before for instance, auxiliary products such as packaging materials, plate containers, plastic pallets or stainless steel containers are transferred to our high-care area, where highly sensitive production takes place, they have to be sterilized". From the very beginning, common disinfectants were not suitable for this purpose. "As part of our sustainability strategy, we began looking for technologically efficient and, above all, chemical-free solutions." What followed – after selecting various suppliers – was the consideration of price and performance, which ultimately led to concrete discussions with Sterilsystems on site in Reken. "We worked together with Quality Assurance Management, Production Management and Project Management

to define the technical quality requirements and ultimately make the decision to implement the project," reports Köhne.

The first part of the project involved the installation of a so-called UV-C disinfection lock in the wall between the preparation and processing areas. Our requirement was that large-format auxiliary products such as stainless steel containers, plastic pallets and even urgently required machine spare parts had to be able to be supplied aseptically to the high-care area during production. The benefit of this solution is that pallets, bundles, containers or packaging units are placed in the UV-C disinfection lock by forklift truck and then disinfected before entering the clean room area. Any undesirable microorganisms on the surfaces of the deposited objects are removed dry by means of UV-C radiation without the need for chemicals or heat. Jörg Köhne explains: "As soon as the goods are in the lock, the start button is pressed via a touch panel with visualization, the sluice gates close and the disinfection process runs fully automatically. This process takes about five minutes. The sterilized goods are then removed in the clean room.

The special arrangement of the emitters and an emitted wavelength of exactly 253.7 nanometers ensure that any germs, viruses, yeasts or mold spores are inactivated to 99.999 percent. Thanks to optimum light blocking and safety devices, the lock can be used without posing any risk to employees. "Our measurements prove that the UV-C lock functions perfectly hygienically and satisfies our highest requirements for food safety," confirms Köhne. "We are very satisfied with it. The disinfection performance is outstanding!"

The second task for Sterilsystems was to install an additional UV-C continuous disinfection system directly next to the disinfection lock for smaller objects. Here, for example, primary packaging materials such as plastic films or plate containers are disinfected before they enter the processing area. This sterilization system was also customized to meet the dimensions required by iglo. The goods placed on the conveyor belt in the preparation area are automatically guided through the treatment zone, where undesirable microorganisms are removed highly efficiently at an angle of 360 degrees, i.e. from all sides. This results in a highly effective irradiation performance even from below on the conveyor belt. This system also eliminates possible germs, bacteria, yeasts and mold spores by up to 99.999 percent. Jörg Köhne concludes: "Disinfection has proven to be flawless and odorless. There are no residues whatsoever. The entire system works without chemicals and the operating costs are low. Both UV-C sterilization systems make a significant contribution to our quality assurance and food safety – fully in line with our sustainability goals".

WS/St. ■

www.iglo.de

www.sterilsystems.com

- 1. Frozen vegetables are extremely popular among Germans with a per capita consumption of 6.2 kilograms (2018).**
 - 2. A disinfection lock of this model is available at iglo in Reken and is installed between the preparation room and the high-care area.**
 - 3. Smaller sized consumer goods, such as packaging materials, are sterilized using a UV-C continuous flow system**
- Photos: Sterilsystems, Deutsches Tiefkühlinstitut / Peter Rees**