

60  
years

## Aseptic or not – that is the question

We will present the alternative:  
The new GRUNWALD-FOODLINER 20.000 UC



UC – Ultraclean is a designation which has been controversially discussed in the dairy industry for years. There is no other technical explanation which is used in such a manifold way without having a precise definition. We would like to show you the new hygiene concept developed by GRUNWALD. We are convinced that this will set a new standard in terms of hygiene. Thus a hygiene level is achieved which meets the maximum requirements for ultraclean cup filling machines without costly aseptic technology.

This overall concept on the basis of this efficient and flexible inline machine Grunwald-Foodliner 20.000 guarantees a sterilisation rate of at least log4 without using peroxide. This applies to all standard cup sizes and for the maximum production speed. Maximum production speed means production outputs of up to 25,000 cups/h in a format flexible production. When handling just one cup size a production speed of up to 50,000 cups/h can be achieved.

### Maximum hygiene standard at the maximum production speed

The maximum hygiene standard at the maximum production speed can only be achieved with a very format flexible inline machine if various technology components result in a "smooth" overall concept due to the optimum combination of assembly groups, design know-how and innovative technology.

The new Grunwald hygiene concept is the result of the combination of the following technical developments and innovations:

- Double pulsed light high-performance UV(C) cup sterilisation with a guaranteed sterilisation rate of at least LOG 4 for all standard cup sizes of the dairy industry, partially  $\geq$  LOG 5, at the maximum cycle speed – evaluated by the Fraunhofer Institut, as per first quarter of 2016, the reference germ is aspergillus niger DSM1957

- Pulsed light high-performance UV(C) radiator for lid sterilisation – evaluated by the Fraunhofer Institut, as per first quarter of 2016

- Pre-filler and main filler in aseptic design type "Grunwald-Easyclean" – EHEDG-certified by the University of Weihenstephan (in accordance with guideline 89/392/EWG of the EC council for machinery for food products as well as DIN EN 1762-2, ISO 14159 and EHEDG guideline)

- Laminar cabin, designed as semi-tunnel, clean room class 5, Hepa filter EN ISO 14644.

### The tunnel is clean

Further decisive factors for the development of the new ultraclean hygiene concept were

the basic further developments and improvements with regard to the design of the inline machine GRUNWALD-FOODLINER 20.000. At the same time the optimum handling of the product and maximum production reliability was achieved.

Essential part of the overall concept is to completely newly design the complete hygiene area – this means from the "intelligent" cup storage up to the final interface defined by the customer – in order to achieve the maximum possible minimisation of parts. All drive components, all supply lines and almost any assembly group are consequently mounted outside the hygiene zone and thus outside the tunnel. The tunnel is sort of "clean". Except for the filling nozzles of the dosing stations almost no parts are within the hygiene area.

The relocation of parts and drive components outside the hygiene zone has another positive effect: they are no longer part of the cleaning process and thus are subject to less wear and tear. If the amount of components is reduced, the amount of maintenance will be lower accordingly.

### Product diversity due to flexibility

The format changeover which can be carried out very easily is advantageous in view of the necessary product diversity and thus the frequent product changes as it can even be carried out during the intermediate cleaning.

To call this technical innovation a mere format changeover would be an understatement.

It is worth mentioning that – depending on the design – the complete format changeover on this cup filling machine (e. g. from  $\varnothing$  75 to  $\varnothing$  95 cup) including format changeover of the integrated packer can be made within only 5 minutes.

This is another important contribution to short standstill times and higher availability of the cup filling machine.

### The all-round supervisory system

Due to the minimisation of parts the operator has a good view of the hygiene zone and it is easy to access – an essential facilitation for the operator. The enormous minimisation of parts has a positive effect with regard to time required for maintenance and cleaning. This also considerably reduces the standstill times and increases the availability of the machine.

Maintenance, risks and operational safety are issues with aseptic machines with peroxide sterilisation system which influence more and more the decisions for investments. It is time-consuming practice that daily tests and evaluations in the laboratory have to be made when using these sterilisation systems in order to control and observe the sterilisation rates.

The ultraclean standard defined by Grunwald offers an enormous facilitation due to the automatic adjustment of the speed via the con-

trol, depending on the operating hours. This means after the defined maximum operating hours have been achieved a message for exchanging the UV(C) radiator appears on the display. In addition to this automatic control it is recommended to carry out an intensity measurement with a spectrometre once a week. This takes 5 – 10 minutes, the life of the UVC radiators will be 3,000 – 3,500 hours.

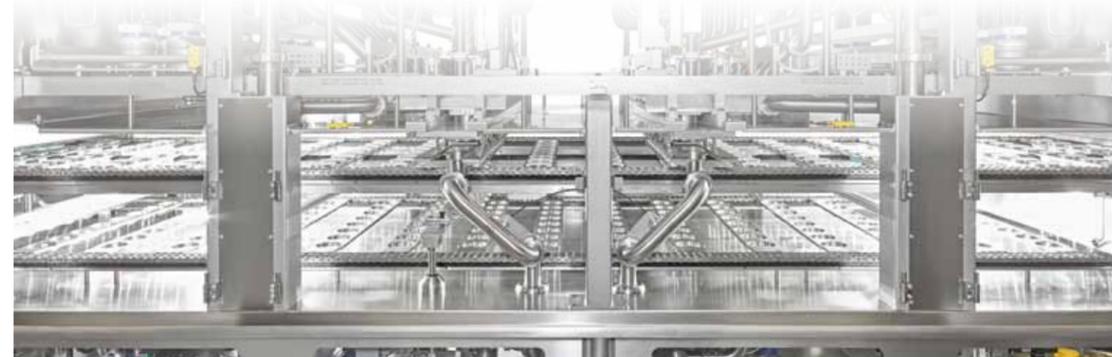
The laminar cabin, the heart of the ultraclean machine, is controlled in the same way. The display shows the operator in good time when the Hepa filter of the laminar cabin has to be exchanged. These messages cannot be ignored and therefore the hygiene standard will not be endangered. The operator is compelled to react with regard to all issues related to maintaining a constantly high hygiene standard. Otherwise the machine will be automatically switched off.

Due to this new ultraclean standard it is possible to fill food naturally, i.e. without using preservatives, chemical additives or

- see next page -

Photo on the left: the new 8-lane linear cup filler GRUNWALD-FOODLINER 20.000 UC

Photo on the bottom: The view of the tunnel clearly shows the newly designed hygiene zone – the tunnel is clean!



the disinfectant H<sub>2</sub>O<sub>2</sub> and to guarantee a long shelf-life. The danger of an overdosage of preserving or disinfectant additives is completely excluded. With an increasing number of skeptical consumers and a growing demand for products which are left in their natural state these factors are essential in order to assure the market and hence the customers that we are able to deliver healthy and 100 % natural products at an affordable price.

### Guaranteed production reliability – "foreign body protection"

In times when consumers are more and more confused by increasing food recalls technical risks must be avoided and production reliability must be increased further. The new filling machine Foodliner 20.000 UC has a very high production reliability especially with regard to open cups because **there are no small parts such as e. g. overhead mounted screws**. The slogan for the simple but innovative solution says: What is not fitted cannot loosen or even fall into the cups. **The danger of a foreign body in the product can thus clearly be excluded!**

Considering the technical innovations and the cleaning of the hygiene zone – which can be easily carried out – it is recognised that this new machine concept can also meet the **highest requirements with regard to product safety and product life**.

Photos top down:

01. Ideal access to the cup setter
02. View of the newly developed hygiene tunnel with maximum possible minimisation of parts
03. Double pulsed light high-performance UV(C) cup sterilisation with guaranteed sterilisation rate LOG4

Which excellent innovative performance has been accomplished with this cup filling machine becomes clear if the overall concept of our developmental performance and its additional key aspects are taken into consideration.

The new Grunwald Foodliner 20.000 UC is the ideal packing machine for maximum requirements when being equipped with an integrated and flexible tray packer. This filling machine disposes of an excellent development potential and a modern process technology which is orientated towards maximum hygiene standard, system optimisation and cost reduction.

All things considered the cup filling machine **Grunwald Foodliner 20.000 UC is the perfect complement to the modern process technology** which demands for a versatile, flexible and reliable machine technology with the maximum hygiene standard.

CONTACT

For further information on this new GRUNWALD-FOODLINER 20.000 UC please get in touch with your contact person at GRUNWALD. We look forward to your phone call or e-mail  
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