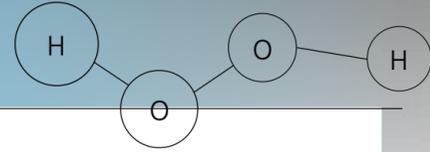


GEA Procomac Whitebloc H₂O₂

Aseptic and ESL filling bloc based on dry technology



Bottle sterilization with Whitebloc H₂O₂

GEA Procomac Whitebloc is a new technology concept specifically designed for the dairy industry that is ideal for HDPE and PET container handling. It is available for all ESL and aseptic product applications*.



Whitebloc allows users to choose the right decontamination target for every kind of product, High or Low Acid, according to the specific shelf life required. Whitebloc uses a completely dry technology based on H₂O₂ treatment.

*HA-LA with HDPE container HA only for PET



Once the containers enter the bloc, the sterilization/decontamination process is carried out in two different phases. During dosing phase, bottles enter the first carousel where a system of nozzles sprays the containers with H₂O₂ solution. The activating phase takes place on the second carousel. Here the bottles are flushed by hot sterile air that activates the H₂O₂, and then purges out peroxides and achieves a final peroxide of less than 0.5 ppm. All critical points are automatically controlled to ensure the maximum decontamination efficacy (up to 6 Log reduction with *B.atrophaeus* at the end of treatment). Careful analysis and monitoring of critical control points allows CHP treatment to be automatically controlled for high ef-

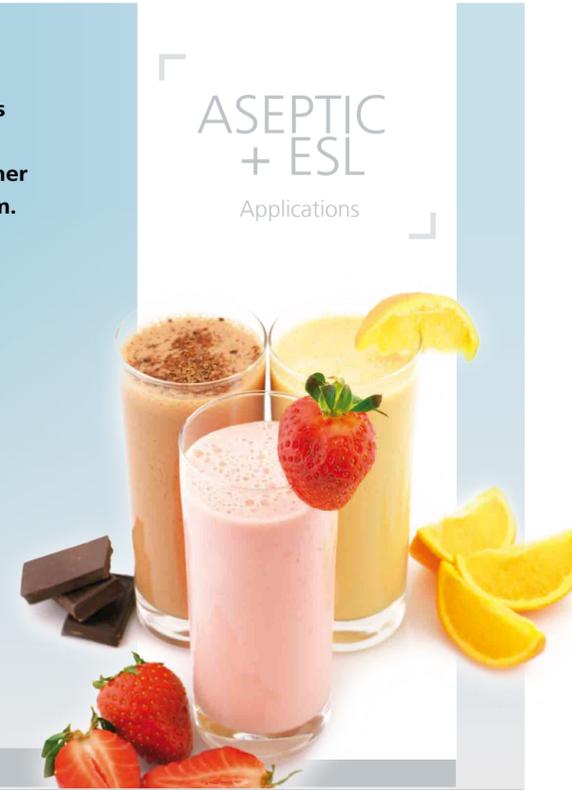
iciency, reliability and perfect system management. A *Smart Sensor™* system checks the pressure and flow rate of H₂O₂ at every nozzle in real time, making the system easy to control, reliable and preventing stoppages caused by clogging. The entire system is simple, effective, compact and flexible. It has no moving parts or valves on the two treatment carrousels. No water rinse is required. The GEA Procomac Whitebloc has all the ancillaries on board to achieve a very compact design and small footprint. Whitebloc can be coupled with a traditional blower or used as a stand-alone machine that receives bottles from an air conveyor.



From Clean Box concept to microbiological isolator

GEA Procomac Whitebloc technology allows the filling of beverages with different pH levels (from High Acid to Low Acid) and either ESL or shelf stable ones, on the same system.

The Clean Box is the key to ESL technology: a physical isolation of the ultraclean environment. To prevent bottles being re-contaminated after the H₂O₂ treatment, the filler/capper zone is surrounded by a sterile air flow. This sterile air carries an ambient overpressure of 10Pa in case of ESL filling. In aseptic configuration, all the critical parameters are set to the highest level of hygiene. After a complete and reliable sterilization of the microbiological isolator, the filler/capper zone is surrounded by a sterile overpressure air flow (from double HEPA filter) of 30Pa, during production. All surfaces in the Clean Box/microbiological isolator zone are accessible and very easy to clean.



ASEPTIC + ESL Applications

Handling PET and HDPE - NeckFlex

A new gripper design allows the handling of PET or HDPE bottles on Whitebloc.

NeckFlex technology is the new neck-handling system that can be used for both PET or HDPE containers and can handle a huge range of bottle formats, from 'single serve' bottles to a family size format, at any speed.



Dry H₂O₂ technology for cap/foil decontamination

The new Sterilcap VHP L and the Sterilfoil VHP L are able to sterilize caps and foils using dry H₂O₂ technology and have been specifically designed to be used with Whitebloc.

Sterilcap VHP L and Sterilfoil VHP L represent the latest in smart, money-saving technology for cap and foil decontamination.



Sterilcap VHP L

Sterilcap VHP L is a totally dry system designed to handle flat or sport caps. Its exceptional flexibility means it can handle both ESL and aseptic HA applications at a wide range of decontamination target levels - up to 3 Log on *B.atrophaeus* (aseptic HA)/Up to 5 Log on *A. brasiliensis* (ESL) - to meet the required PET bottle shelf life. Through the preheating phase the caps are subjected to the ideal temperature profile avoiding any condensation risk. This allows a very low total peroxides residual (<0.05ppm). Despite a strong and effective decontamination, the VHP flow has a gentle treatment on the caps that doesn't remove the slipping agent. The caps are pushed forward using only the vapour flow and gravity.



Sterilfoil VHP L

Through a combined action of H₂O₂ condensing and VHP treatment (C-VHP), the system achieves a maximum decontamination efficacy (up to 6 log on *B. atrophaeus*) on both ESL and aseptic LA applications. The simple mechanical construction provides customers with a safe and hygienic closure system for HDPE containers. A specific compact sterilization chute allows simultaneous internal and external decontamination. Foils are pushed forward in a pressurized VHP flow through rails shaped to change the contact points during sterilization. The sterilization chute is electrically heated on both sides to prevent H₂O₂ condensation, avoid foil jams and prevent damage which would later result in poor foil application performance.





New trends: Milk based drinks with fruit or cereal pieces

Whitebloc in aseptic version can enclose within its frame the innovative Aseptic Piston doser PX. The GEA Procomac Dual Fill system consists of two consecutive operations performed by two separate filling carrousel, both located inside a microbiological isolator: the aseptic Piston Doser PX doses with extreme accuracy fibres and solid particles up to 10 x 10 x 10 mm then the extremely clean volumetric electronic Fillstar FX fills the liquid product.



Fillstar DX – designed for dairy



When filling sensitive products it is necessary to combine the most stringent hygiene levels with the highest efficiency and performance. To meet this need GEA Procomac designed the Fillstar DX with the aim of achieving completely product scrap-free operation.

The Fillstar DX has an external static tank located just above the filling valves making it fully drainable, with no stagnation points and has a special product recovery duct under the filling nozzles to ensure that the system achieves a complete recovery of product during:

- the start-up cycle
- product changeover
- at the end of production

The filling valve is sterilizable with steam. It can be automatically controlled making it easy to use and manage. The electronic, volumetric filling valve - pioneered in aseptic designs - has no moving parts in contact with the product. The filling is achieved without any contact with the bottle neck, and it benefits from a double filling speed to optimise filling accuracy.

The Fillstar DX is housed inside a Clean Box that has a sterile air flow around the filling/capping area, with a 10Pa ambient overpressure (or 30Pa within a microbiological isolator in case of aseptic configuration), to prevent re-contamination

For aseptic applications the product is filled using the standard aseptic Fillstar FX.

We live our values.

Excellence • Passion • Integrity • Responsibility • GEA-versity

GEA Group is a global engineering company with multi-billion euro sales and operations in more than 50 countries. Founded in 1881, the company is one of the largest providers of innovative equipment and process technology. GEA Group is listed in the STOXX® Europe 600 Index.

GEA Process Engineering

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