



GEA WHITEBLOC H2O2

Aseptic and ESL filling bloc
based on Hydrogen Peroxide technology.

ASEPTIC AND ESL FILLING BLOC BASED ON DRY TECHNOLOGY.

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.

Bottle sterilization with Whitebloc

H₂O₂ 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.

Once the containers enter the bloc, the sterilization/decontamination process is carried out in two different phases. During the dosing phase, the bottles pass through a first carousel where a system of nozzles spray the containers with H₂O₂ solution. On the second carousel the bottles complete the sterilization/decontamination phase and, via a flushing of hot sterile air, the peroxides are purged out and the bottles attain a final peroxide residual of less than 0.5 ppm.

All critical points are automatically controlled to ensure the maximum decontamination efficacy (up to 5 Log reduction on PET and up to 6 Log reduction on HDPE, with *B.atrophaeus*

at the end of the treatment for aseptic applications). Careful analysis and monitoring of critical control points allows H₂O₂ treatment to be automatically controlled for high efficiency, 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 prevents stoppages caused by clogging.

The entire system is simple, effective, compact and flexible. It has no moving parts or valves on the two treatment carousels. No water rinse is required. The 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.



Filling flexibility.

The GEA Whitebloc can fill a full range of sensitive products: high or low acid, still or carbonated drinks with or without particles, UHT milk, plant-based dairy alternatives and other liquid dairy beverages.

PROTECT AND EXTEND THE LIFE OF YOUR PRODUCT.

A physical isolation of the filling environment

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 key feature of ESL technology is 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.

In this configuration, after a complete and reliable sterilization of the microbiological isolator, during production the filler/capper zone is surrounded by a sterile overpressure air flow (from double HEPA filter). All surfaces in the microbiological isolator zone are accessible and very easy to clean.

Whitebloc uses a completely dry technology based on H₂O₂ treatment.



The GEA Whitebloc can handle a huge range of PET or HDPE bottle formats.



SENSITIVE PRODUCTS FILLING.

The right solution for your premium products.



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 designed the Fillstar DX with the aim of achieving completely product scrap-free operation to be used when filling ESL products, and Fillstar FX for aseptic applications.

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 and 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 Ultraclean environment that has a sterile air flow around the filling/capping area, with a 10Pa ambient overpressure. In aseptic configuration, a Fillstar FX is integrated within the Microbiological Isolator in a 30Pa sterile air overpressure.

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