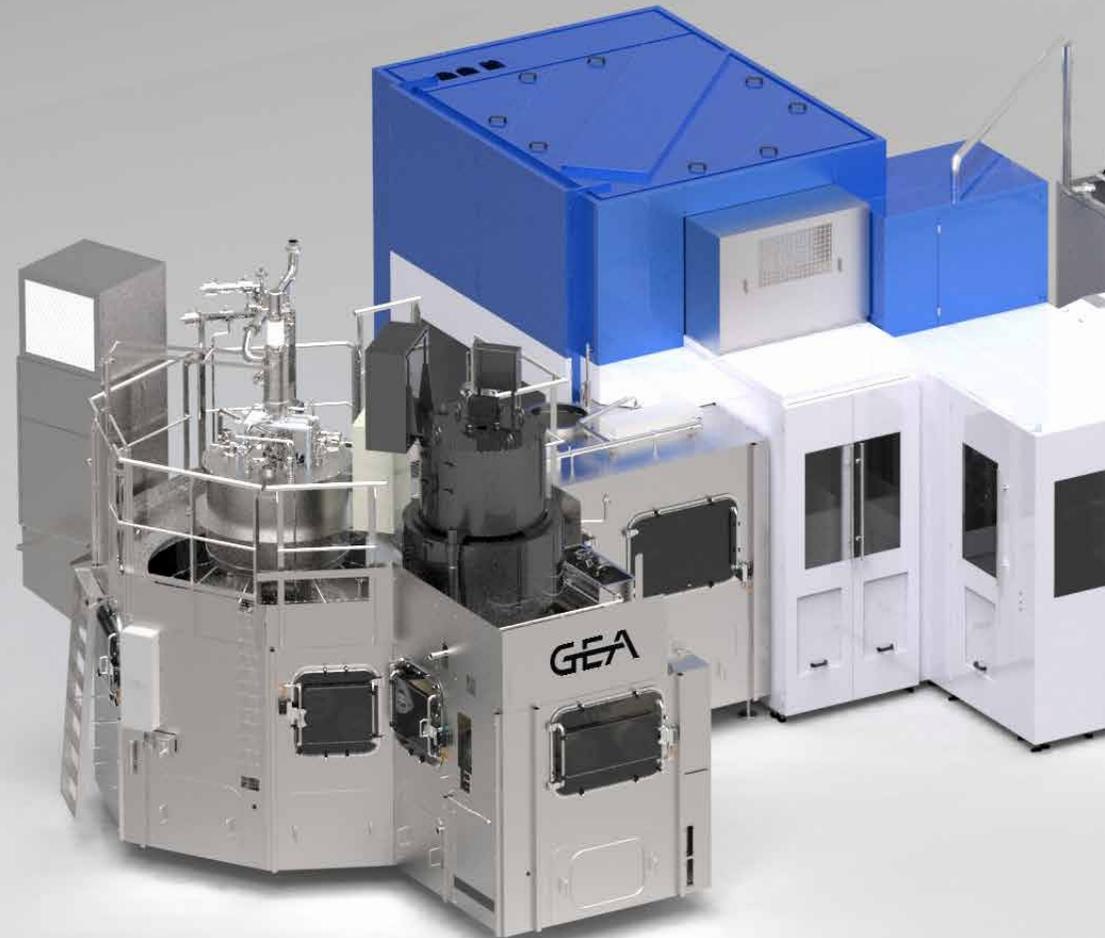


GEA DECONTAMINATION BLOW FILL SYSTEM

Filling a wide range of sensitive beverages
more sustainably.



COMBINING PRODUCT SAFETY AND SUSTAINABILITY IN ASEPTIC FILLING.

GEA diversifies integrated blow-fill aseptic technology to offer food safety to an exceptionally wide range of sensitive, long-life beverages.

Today's beverages have to deliver on a wide range of fronts, including functionality, health, sustainability, quality, shelf life and chain distribution. This challenges manufacturers to put their product range as well as their production processes to the test.

With its portfolio of blow fill aseptic technologies based on preform sterilization, GEA can provide beverage producers further sustainable solutions offering enhanced energy and resource efficiency.

Depending on the production objectives and the environmental conditions in which the filling line will operate, GEA offers two process configurations: GEA Aseptic Blow Fill ABF and GEA Decontamination Blow Fill DBF.

ABF represents the most advanced solution for shelf-stable, low-acid beverages, the utmost demanding products in terms of microbiological risk control. It is therefore the state-of-the-

art and reliable technology for highly sensitive products ranging from milk and liquid dairy products to plant-based and other beverages such as functional drinks and green tea.

Ensuring food safety at best-in-class TCO, DBF is designed for shelf-stable, high-acid beverages such as juices and isotonic, or other sensitive beverages when distributed in cold-chain. DBF brings into focus both efficiency in plant operation and total cost of ownership, result of an affordable initial cost of investment as well as an efficient use of utilities, quick format changeovers and plant availability.

The actual choice of the suitable aseptic filling technology always remains multi-dimensional due to the demands of each production. GEA provides customers with comprehensive advice and complete portfolio of dedicated, complementary technology solutions to overcome the decision hurdles.



Future-proof products thanks to future-proof production.

As innovation leader in aseptic blow-fill-cap processes, GEA partners with manufacturers on their journey to meet consumer demands for high-quality products with improved sustainability credentials.

INTRODUCING THE GEA DECONTAMINATION BLOW FILL SYSTEM.

With DBF, GEA has made the advantages of preform sterilization and integrated blow-fill technology available to those customers who distribute high acid beverages such as juices and isotonic, ensuring food safety at best in class TCO.

Preform sterilization

Both high acid (pH of under 4.5) and low acid (pH over 4.5) sensitive beverages can be adversely affected by light or oxygen or can be highly susceptible to biological spoilage. Depending on the product treatment and container decontamination, they can be distributed at ambient temperature or through the cold chain.

With the DBF system the preform is treated with VHP (Vapor Hydrogen Peroxide) in a single process immediately after it leaves the oven, and then blown with sterile air before

passing on to the aseptic filler and aseptic capper for an efficient and robust sensitive product bottling.

Filling flexibility

Since the blower module is not part of the aseptic process, the changeover operation is quick and simple. The system offers extreme SKUs variability as it allows to switch from large volume to single serve container or to adopt different neck finish dimensions in short times. This allows customers to meet today market's requirements for format and shape wide flexibility.

In addition, the complete system allows to fill a large variety of sensitive liquid products including still or carbonates, clear or viscous beverages, and those with pulp, fibers and pieces of fruit or cereals with dimensions up to 10x10x10 mm.

Sustainable solution.

The GEA DBF is a completely dry preform sterilization platform based on VHP treatment.



SKUs flexibility.

Quick format changeover compared with similar decontamination systems.





Closure sterilization and aseptic capping

The GEA DBF is ready to handle both sport and flat cap design. The closure sterilization module uses a VHP-based technology and offer quick changeover without loss of sterility.

The capper module is specifically designed for aseptic applications and is completely embedded in the microbiological isolator. GEA provides a patented electrical barrier that effectively separates the sterile zone from mechanical components that require lubrication, a hygienic design with no bellows that's easy to clean, and full traceability of the capping process to achieve maximum product safety.

BENEFITS FOR YOUR PRODUCTION.

Manufacturers benefit from flexibility and environmental control in the high-performance production of long-life beverages.

- Sustainable solution: completely dry preform sterilization platform – no water consumption during production.
- Machine complexity and footprint reduction: no preform tilting in the oven module is needed.
- Preform thermal profile optimization: oven dual ventilation system provides independent and dedicated air flows for cooling preform neck and preform body.
- Gentle handling: preform are transferred through cam-controlled grippers to avoid stress to the neck of the bottle even at high-speed production (over 2,500 bottles/minute).
- Blowing flexibility: wide high-pressure blowing angle allows the high-speed production of complex shape bottles.
- Reduced energy costs: a air recovery system is fitted as standard to recover a portion of the air from the high-pressure circuit thereby.
- SKUs flexibility: quick format changeover compared with similar decontamination systems.
- Easy monitoring of sterilization effectiveness: single point internal and external preform sterilisation performed with a single media minimizes the critical control points.
- Maximum food safety: the unique Smart Sensor solution checks that every preform is effectively sterilised.



The GEA DBF offers a sustainable decontamination process for preforms and caps.

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