

HOME AND PERSONAL CARE

Elevate your everyday with GEA:
Care beyond compare.



Solutions for home and personal care applications

Built on decades of GEA know-how and expertise, our home and personal care processing solutions give you a great head start.

GEA Mixing Plant



Starting with your vision

Producing home and personal care (HPC) products presents many process challenges for manufacturers, from the ability to adapt recipes and handle different types of raw materials when creating new products, to efficient scale-up, and the need to improve sustainability and cut carbon footprint.

Our expertise

Working for decades with manufacturers in every part of the HPC industry, we understand these challenges, and have developed components, equipment and end-to-end process lines that can help our customers stay flexible in today's fast-paced, demanding markets, while improving efficiency and productivity. Our portfolio spans equipment and expertise for all liquid HPC processes.

So, whether you are producing basic shampoo, or high viscosity lotions and toothpaste, GEA systems can help to address your process stumbling blocks, improve sustainability by reducing energy and water use, and recycling where possible to cut waste and reduce carbon footprint.

We look at every detail, and can offer expertise spanning engineering and installation, to complete turnkey projects and automation, as well as tailored service packages. We'll work together with you to understand your processes and challenges, and configure the most efficient plant design and technologies that will help you achieve your process and business goals.

Discover more at [gea.com](https://www.gea.com)

Application overview

Home care



Dishwashing

- Liquids
- Gels



Fabric care

- Conditioners
- Detergents
- Liquids
- Gels



Household cleaners

- Toilet cleaners
- Surface cleaners
- Abrasive liquids and powders
- Antibacterial products
- Disinfectants

Application overview

Personal care



Body care

- Body wash (Face, bath & shower)
- Body spray (Deodorants / antiperspirants)
- Alcohol gels / disinfectants (Hand sanitizers)
- Liquid soaps etc.

Hair care

- Shampoos
- Conditioners
- Styling products (Creams, waxes, gels, colorants)

Oral care

- Toothpaste
- Mouthwash

Skin care

- Body lotions
- Moisturizers
- Creams
- Sunscreens

Solutions for home and personal care

GEA process design and plant integration

GEA has more than 50 years' experience developing hygienic plant for processes in the home and personal care sector. We can supply individual equipment in standard formats, or tailor, deliver and install integrated processing lines that match your physical setup and infrastructure. GEA experts will be with you through every stage of plant design, construction and engineering, starting from concept, through to installation, commissioning and hand-over.

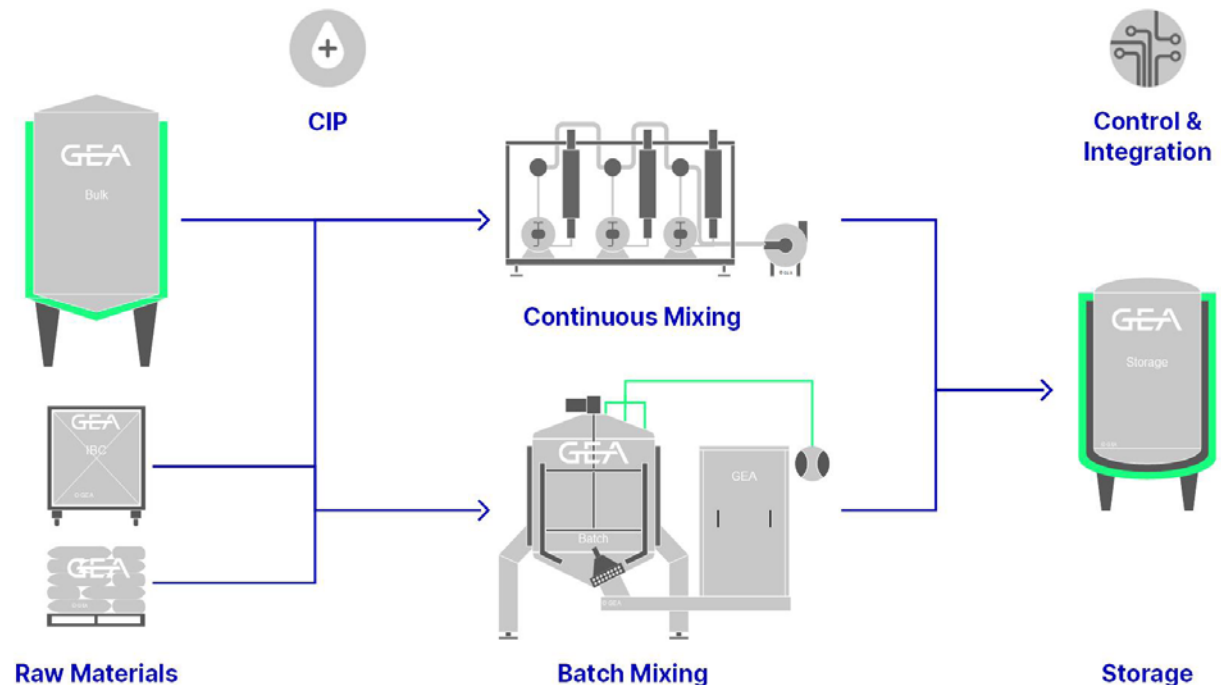
Hygienic design and product safety

Our systems are constructed using the highest quality materials and are designed to help ensure microbiological safety, and minimize contamination risks. Smart clean-in-place (CIP) plants ensure thorough, efficient cleaning, with less need for manual tasks and downtime, and more efficient, reduced use of water, energy and cleaning agents.

Solving complex challenges around the world

Our global presence means that wherever you are in the world, and whatever your product portfolio and setup, we can deliver GEA sales and support expertise who will understand your regional, national and markets, and can offer the entire range of GEA products and services from a central customer contact point.

Example of a GEA process line



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Batch mixing

Faultless mixing is an essential stage for processing homogeneous home and personal ingredients.

Rethinking mixing technology

Achieving a smooth, consistent mix without lumps or fish eyes, and in the shortest possible timeframe, is a key goal for home and personal care processing. Reliable, reproducible mixing reduces waste and costs, and improves quality. Optimized mixing helps to safeguard stability and so shelf life - for final products.

To help meet these expectations GEA has developed the BATCH FORMULA® PRO High Shear Mixer, as a state-of-the-art rethink on traditional mixing technology. The highly versatile BATCH FORMULA® PRO High Shear Mixer can be configured for mixing a wide range of HPC products.

Our energy-efficient system incorporates a high shear mixer that can help you to achieve homogeneous mixes fast and efficiently, whether your product is a frequent-wash shampoo formulation that requires simple blending, or a lotion formulated as a more complex oil and water emulsion.

Features and benefits

The GEA BATCH FORMULA® PRO High Shear Mixer doses dry ingredients into the liquid by means of vacuum. Powders are introduced below the liquid surface, which ensures instantaneous wetting and improved solubilization, while reducing foaming and air incorporation.

The system features an agitator for blending, and anchor agitator to support low shear mixing. Precisely controlled operating conditions help to ensure consistent, worry-free processing. The unit also incorporates a heating and cooling jacket, as well as the option for direct steam injection.

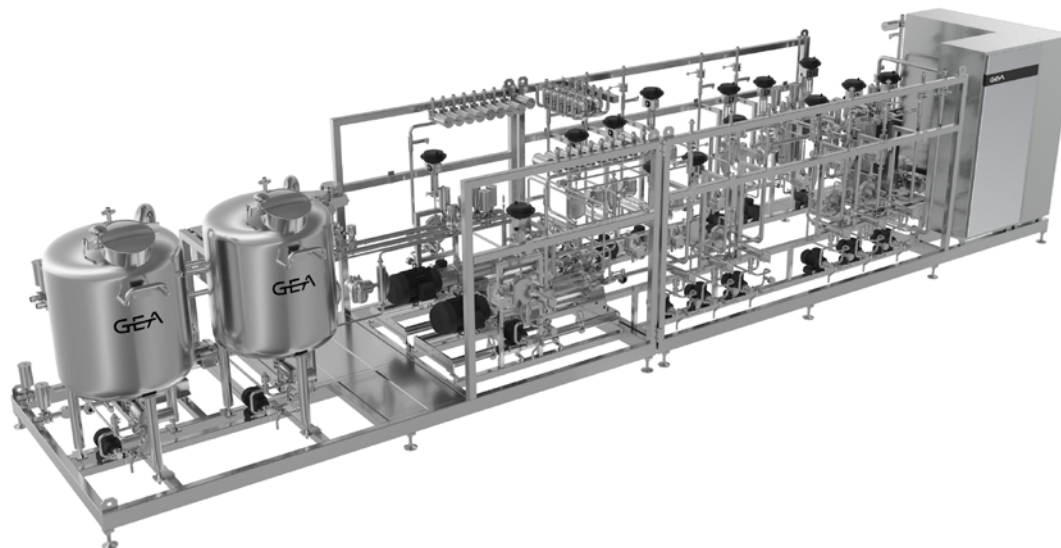
Potential benefits for customers include increased production capacity and efficiency. The one-pot design can help you to reduce product losses/waste, saves time, and reduce energy use. All of this may enable increased profits, while reducing environmental impact and achieving a faster return on investment. And before you invest, we can provide test mixers for scale up qualification trials.



GEA BATCH FORMULA® PRO

Continuous Mixing

A game-changer in continuous mixing for home and personal care products.



GEA DICON®

GEA has developed **DICON®** as an innovative technology that brings continuous mixing capabilities to the home and personal care manufacturing sector.

As a leading technology supplier for the industry, we've leveraged our process and industry expertise to create a cutting-edge continuous mixing system that streamlines production and supports your drive to create superior quality products.

The GEA DICON® lets you achieve a seamless and uninterrupted mixing process. This reduces downtime and increases efficiency, which can equate to significant cost savings.

DICON® has flexibility built-in, and can handle high- and low-viscous emulsion formulations or obtain a homogeneous blend, so you can produce a wide range of products, - from lotions and creams to gels and shampoos.

The system is designed to deliver proportional ingredient addition, prioritizing product quality according to the recipe. Precise control of key mixing parameters gives you confidence in consistent, reproducible production.

DICON® is built to comply with the strictest regulatory standards for hygiene, and features effective, thorough cleaning protocols for all round peace of mind that your mixing process is safe and hygienic.

We think the GEA DICON® represents the future of home and personal care continuous mixing, empowering manufacturers to elevate production capabilities, reduce costs, and deliver superior products to the market.

Homogenization

Top performing homogenization for home and personal care.

In the ever-evolving world of home and personal care products, achieving consistent and high-quality formulations is paramount. That's where homogenization comes into play – the essential process that ensures uniformity, stability, and optimal performance.

Homogenization technology has undergone remarkable advancements, enabling manufacturers to overcome challenges and deliver products that exceed consumer expectations. Whether it's creams, lotions, gels, shampoos, or other formulations, the benefits of homogenization are far-reaching.

- **Consistency is Key:** Homogenization ensures that each batch of your product is identical, removing variations and ensuring uniformity. This not only enhances product efficacy but also strengthens brand reputation and consumer loyalty.
- **Improved Stability:** Proper homogenization eliminates particle settling and separation, ensuring a stable and reliable product shelf life.
- **Maximized Ingredient Efficiency:** By breaking down and dispersing particles evenly, homogenization optimizes the use of costly ingredients, minimizing waste and maximizing the overall effectiveness of your formulations.
- **Time and Cost Savings:** Modern homogenization equipment streamlines production processes, reducing downtime and overall production costs.
- **Customized Solutions:** Homogenization technology offers flexibility to tailor product formulations according to specific needs, catering to diverse consumer preferences and market demands.



Ariete® Homogenizer

Flow components

Components designed to support reliable, repeatable processing and product quality for all your home and personal care products.

Aseptic and hygienic valve technology

We've developed a portfolio of aseptic, hygienic and ultraclean valves that can help you optimize processes for home and personal care manufacturing.

The complete portfolio spans economically designed hygienic valves for complex tasks as well as for basic functions. Our components are there to support your goal of achieving the highest product quality, HPC process efficiency and safety. The GEA VARIVENT® valves are core components of matrix-piped process plants.

For sterile applications we offer aseptic and ultraclean valves and components that hermetically seal process lines, so you can configure lines for maximum process and product safety.

VARICOVER® product recovery systems

Product recovery or pigging systems are important tools that are used throughout industry help to reduce product losses and waste.

GEA VARICOVER® product recover systems expel residual product from the pipes and return it to the product flow by pigging. Less product in the pipes dramatically reduces the wastewater load during CIP and so reduces resource use for wastewater treatment.

Hygienic pump portfolio

As a full-line supplier of premium pump solutions, GEA offers a variety of hygienic pumps that have been developed to match just about any application for home and personal care manufacturers.

Our portfolio includes centrifugal pumps (end-suction, self-priming and multi-stage systems) as well as positive displacement pumps (rotary lobe and NOVATWIN+ twin screw).

Cleaning devices

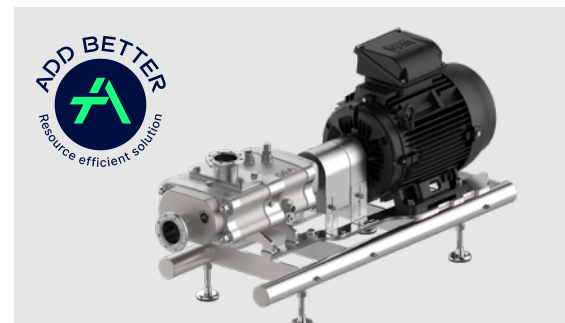
Choosing the right cleaning system can let you save resources during the cleaning process. GEA options include orbital, rotating or static devices, so you can select the best option to install into your process setup.



GEA VARICOVER® product recovery systems



GEA VARIVENT® mixproof valve with balancer



GEA Hilge NOVATWIN+

Integrated heating & refrigeration solutions

Helping manufacturers improve energy efficiency and reduce carbon footprint.



Cooling and heating account for up to 60% of the energy cost of home and personal care processing. GEA knowhow spans both process technology and utilities, so we have developed a holistic approach to address your cooling and heating challenges.

Using our engineering expertise, we can configure tailored solutions that seamlessly integrate smart cooling and heating systems into your processes.

GEA also offers heat recovery solutions, and innovative heat pump technology that captures and boosts that waste energy to generate additional heating and cooling capacity that can be rechanneled to other areas of the plant. By using GEA heat recovery and heat pump systems it may even be possible to switch off your fossil fuel boiler.

So, our heat pumps don't just let you save on energy costs, they can help you to cut your fossil fuel use and emissions, and so reduce carbon footprint, helping you contribute to a greener and brighter future for manufacturing.

Benefits

- Potential increase in heating performance
- Potential reduction of energy usage and operational costs
- Potential reduction of CO₂ and NO_x emissions
- Reduce water consumption
- Reuse waste heat for other heating purposes

Reduce costs

We provide innovative, measurable, solutions with payback terms that can reduce your total cost of ownership. We aim to give you technologies that help you maximize the performance, efficiency and sustainability of your HPC processes.

Our energy-efficient refrigeration solutions use natural refrigerants such as ammonia and CO₂. Natural refrigerants are the most efficient, and do not impact on global warming as there are no CO₂ emissions.

By using our technologies, you may be able to achieve significant reductions in primary energy use, without releasing greenhouse gases. Our technologies could help pave the way to the ultimate goal of enabling closed loop, carbon-neutral home and personal Care processing.

CIP | SIP

Technology to support optimum hygiene and confidence in product safety.



GEA CIP unit

Meeting stringent regulatory standards

GEA offers efficient, thorough clean-in-place (CIP) systems to help ensure that your process lines comply with the most stringent regulatory standards for hygiene, so you can be confident that every GEA system supports your product safety.

Fast and effective CIP for better sustainability

Our CIP systems are configured to support efficient cleaning of your process equipment, and that match your plant and product needs.

Fully automated CIP systems from GEA are designed to be fast and effective, so you can stay productive and keep downtime between batches or product changeovers to a minimum. Where possible our systems use less water and chemicals, which reduces costs and improves sustainability.

We can also design and build systems with sterilize-in-place (SIP) functionality for microbiology product control.

Automation and control

Process automation for reliable, reproducible manufacturing.



GEA offers a portfolio of well-proven systems for the control and collection of process data in the home and personal care sector. We can tailor and supply operating systems for single plants, complete lines, or provide solutions that enable enterprise-level oversight.

We understand that different plants will have different process automation requirements. GEA Codex® is a scalable automation solution that can be set up to provide basic process control functionality when that's all that's required.

For more comprehensive automation we can configure our modular GEA Codex® MES (manufacturing execution system) platform to provide fully integrated, enterprise-wide network MES capabilities, allowing you to track and manage every stage in your production processes.

This level of automation can help you to reduce the need for manual tasks and intervention.

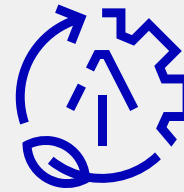
As part of the MES, GEA offers an advanced recipe application module, designed specifically for different industries including home and personal care, so that you can easily create and manage recipes and production scheduling.

GEA automation solutions provide detailed records and analysis of your production processes, to help you plan for changes or troubleshoot, support the best use of resources, and secure reliable, consistent product quality.



PERFORMANCE PARTNERSHIP

Empower your business with a partnership designed to optimize your performance. Together with you, we create services that matter: We focus on your specific goals and help you increase **Availability, Productivity and Sustainability** – enabled by digitalization.



AVAILABILITY PRODUCTIVITY SUSTAINABILITY

Enabled by digitalization.



Enhancing Availability

Proactively minimize down-time with maintenance strategies and innovative technologies that ensure smooth, uninterrupted operations.



Boosting Productivity

Optimize efficiency with process improvements, staff training, and actionable, data-driven insights to maximize your production potential.



Driving Sustainability

Reduce environmental impact, improve resource-efficiency, and extend machine lifespans with tailored solutions and expert support.

Enabled by digitalization

- **Optimize and automate** your processes
- **Solve problems early** with predictive analytics
- **Identify untapped opportunities** through actionable insights
- **Make data-based decisions** – anytime, anywhere

Let's talk to unlock
your full potential



[GEA.com/service](https://www.gea.com/service)

Global test facilities

Expertise to help you test new products and processes.

Global centers of excellence

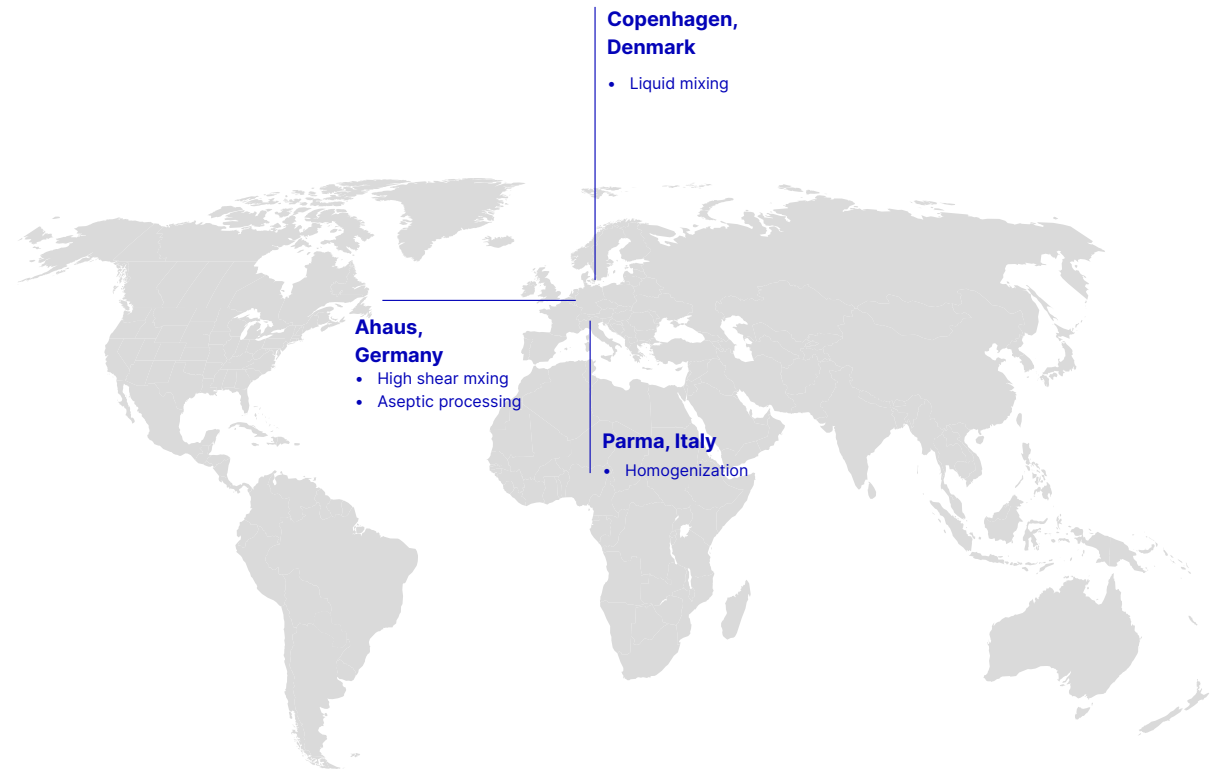
Developing new home and personal care products can be a risky, and expensive business, so we've established global GEA centers of excellence where you can trial new recipes, evaluate and validate processes, and get expert advice and help, using a range of laboratory-scale and pilot plant GEA equipment.

Tap into expertise

Specialists at our centers of excellence offer in depth application, process and engineering expertise, and will work with you to help select and tailor the best components and systems for your products and setup. It's our aim to help you optimize every process stage, from early product development through to final process refinement.

Let's get talking

Contact your local GEA representative to find out more about what our centers of excellence can offer.



Enviromental responsibility

Engineering for a better world



Resource-efficient manufacturing solutions

We are all aware of the need to reduce our impact on the environment, both in our everyday lives, and within our industries. This isn't just the right thing to do to help secure a greener future, it also makes economic sense.

Technologies for a future-proof future

It's our goal at GEA to develop technologies that give you the freedom to develop new products, but that also help you to reduce consumption of scarce resources, minimize waste, and achieve significant energy savings.

We aim to deliver manufacturing solutions that can make your processes more climate friendly today, and for the future.

Manufacturing more products in less time

Sometimes making a process more economically effective can also have positive environmental effects.

All manufacturers understand the importance of keeping changeover times to a minimum, to reduce downtime and so support productivity, and, ultimately, revenues and profits.

A modern, efficient CIP/SIP system from GEA could save your money in terms of enabling higher plant use and productivity. And, because such systems can use less cleaning fluids and water than manual cleaning, they can ultimately reduce water-related costs and cut wastewater processing, as well as make significant time savings and free operators to focus on other key plant functions.

Energy efficient solutions

Energy consumption is another important factor in the total cost of ownership (TCO) of a process plant, whatever your products. Offering detailed engineering for the integration of resource-efficient solutions like heat pumps and energy recovery systems into production processes, GEA's tailor-made solutions improve your processes, minimize energy consumption and improve your total cost of ownership.

Discover more at [gea.com](https://www.gea.com)

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