



Innovative Engineering –
Quality in Line.



Dialogue – the key to success

GEA TDS success – as one of the world’s leading suppliers of process technology for pumpable food – is a result of working closely with customers to develop efficient plants for every application.

Our company brings together wide-ranging expertise in engineering, technology and automation. The number of 160 engineers relating to the total amount of 300 staff members speaks for itself. All our process engineers are specialists in specific industries and are experienced consultants for individual plant concepts or detailed projects.

We encourage intensive communication with our partners from production and product development, as part of the professional consultation process, to attain the optimum result. This



is achieved through direct contact with the local site to obtain accurate information about the process lines or systems required.

For all that’s good – milk, fruit juice and food processing industries

At GEA TDS we understand our customers’ needs, both in terms of our own areas of expertise, and wider within the plant. We focus on servicing three specific industries: dairy, fruit juice and food processing.

GEA TDS is proud to be the market leader in process technology for these high-hygiene sectors worldwide.

Co-operation with the global GEA Group provides us with definite advantages: As an engineering company, the GEA Group now focuses on speciality mechanical engineering, especially process engineering and equipment, and on plant engineering. This gives

us an excellent environment for innovation and intensive co-operation with our GEA Group partners, leading to the most efficient, reliable and cost-effective processing systems for our customers.



Hygiene – the key success factor for strong brands

Hygiene is a crucial factor for the quality of people's lives. Nowhere is this more apparent than in food production.

Since our company was founded in 1856, we at GEA TDS have continuously evolved our services to reflect the changing requirements of the developing market. The process of continuous change in the high hygiene sector has contributed to our specialisation in specific industries.

With respect to aseptic product treatment and energy optimisation we concentrate on quality, safety and reliability of production and profitability. Our experience, and co-operation with dairies over many years, has taught us that these are the key quality factors for efficient thermal processing.

The variables that need to be considered to achieve perfect product treatment vary with each company and marketplace. We understand this and use our decades of practical experience to focus on our main goal of determining

our customers' needs and making sure we satisfy them.

To help us do this we monitor the trends on the global markets with great interest. This triggers new ideas which lead to practical innovations both generally and for specific customers. This closeness to the market and holistic approach to product development allows us to minimise response times and ensures that our systems interface with the entire process.

The full program

At GEA TDS we regularly develop techniques to meet the demands of current trends such as UHT systems that process high-viscosity fluids and media containing large particles or fibres.

When integrated in "Smoothie" lines, for example, these systems can easily handle 100% juice containing fibres of up to 30mm and fruit pieces up to 6mm. Optional electronic control

processes can be used to minimise errors in open recipe systems.

It's important for reliability and economic efficiency to extend beyond the actual process line so we always ensure sterile and aseptic conditions in other steps of the process. We assume full responsibility for all interfaces between the process technology and filling systems supplied by the GEA Group and other equipment suppliers.

In the following pages we will show an overview of our portfolio for the industries in which we specialise: dairy, fruit juice and food processing. These are listed in no particular order so as not to imply a ranking.



Milk



Fruit juice



Food



Milk – the best asset

In Europe and in the USA, milk products are the number one basic food with markets growing throughout the world.

Over recent years the original glass of milk has developed into strongly diverging segments including such diverse products as low calorie drinks, mixed fruit drinks and “true functionals”.

Regardless of the product features and additional benefits offered, an indispensable factor for the quality of the milk product is, and will continue to be, the high hygienic standard of production lines. At GEA TDS we “translate” industry requirements into reliable production technology. We always keep an eye on all steps and phases. The growing market for milk-fruit drinks, for instance, needs the sound engineering know-how. Our GEA TDS systems combine thermal



process steps, weighing processes and blending to create a perfect concept.

This broad approach applies to all of our process lines, blending systems, CIP systems and automation – safeguarding production stability. All inserted units and components also play a role when it comes to increasing productivity and profitability.

For every taste

Our detailed engineering fully concentrates on the challenges our customers face.

We provide a modular approach to process engineering for the entire range of milk products: cheese, milk mix, dessert or yoghurt.

For the production of ESL (Extended Shelf Life) milk, for example, we have developed various microbial reduction processes and brought them to market maturity. The processes for ESL milk fall into two categories: heating and filtration. They allow the shelf life of

raw milk to be extended without losing the all-important fresh taste. Extended shelf life in this context is a quality grade for the high hygienic standard of the entire process technology.

The effective combination of hygiene and productivity makes our GEA TDS process technology a practical investment with a fast pay back.



Fruit juices and primary – natural benefits

Natural products are very popular among consumers. Not all products need to be organic, but they are expected to be healthy and tasty.

These requirements are also reflected in legal regulations. Food legislation as the German Food and Feed Code (LFGB), Health Claims or ordinances continue to demand new systems to ensure high-quality processing. Attention focuses on the overall protection of a production process.

Quality assurance, therefore, is a central issue for the fruit juice and primary industries. Exact metering processes and gentle raw material handling ensure the reliably high quality of the products. They are in constant demand from consumers for their taste and nutritional value.

In our fruit juice competence centre we have developed a fruit juice pasteuriser which meets all the relevant quality requirements – and even allows highly viscous products up to 10,000 mPa·s and products containing fibres up to a length of 30 mm to be treated without problem. This makes it the best choice, for example, for the trouble-free production of “smoothies”.



GEA TDS e. g. is a reliable partner concerning maceration process technology. We design demanding liqueur inline-blending and filtration units.

Apart from perfect bacteriological results, plant owners also benefit from low investment costs and a high heat recovery rate of up to 92 per cent.

Optimal resource flow

Consistently high quality comes as a result of both careful monitoring of the production process and efficient process data management.

As an engineering company for the entire process chain, GEA TDS offers a range of products including scanner systems based on an SQL database. This electronic Track & Trace application is an ideal support especially

for flexible blending processes which require manual intervention; it satisfies all legal requirements and covers the entire production process.

We supply key products that serve the entire range, from individual control systems to complex plant automation networks. All modules and technologies used comply with international standards such as ISA-S88 or ISA-S95. All plant concepts are individual, scalable and future-proof.

The core element of our automation concept is a toolbox with standardised software modules for specific technological applications. These modules combine the visualisation and control levels into a customisable supervisory control system.

Our MES modules (Manufacturing Execution System modules), based on our know-how of specific industrial sectors, ensure high transparency of the process sequences, optimum utilisation of resources and dependably high product quality.



Liquid and pasty food – all that's healthy

The original boundaries between nourishment and pleasure have become increasingly blurred in response to more sophisticated tastes and processes. Mega consumer trends such as health, wellness, enjoyment and convenience have inspired producers to form completely new ideas about products.

This phenomenon has meant that product specification has become a key business factor for the food processing industry; this, in turn requires suppliers of production

technology to meet the challenge of constantly developing innovative processes.

GEA TDS is the ideal partner when it comes to pioneering engineering. Our product program covers all size levels from complete process lines via special aseptic treatments – such as UHT – down to functional details such as degassing technology.

The current trends of process automation and integration as well as blending processes under septic or aseptic conditions are among today's challenges. To meet these requirements, we offer semi-automatic or fully automatic recipe control systems to which thermal process steps can



be added in accordance with requirements. Volume and mass flow meters or weighing systems allow blending phases to be monitored and logged down to the smallest step.

Throughout the development of our technology and individual plants we pay special attention to economical factors specifically with regard to the efficient use of energy.

Manageable innovation

Product development is a sensitive subject – from recipe to production.

This is why we at GEA TDS offer a special plant format: a truly individual pilot plant. Before the entire full-scale process line is converted for a new product we enable our customers to test production on a manageable scale.

We have both pilot blending systems and pilot UHT treatment plants

available to our customers for product optimisation ahead of full production. Our newly-designed indirect pilot UHT plant is suitable for the thermal treatment of 500 to 1,000 l/h of liquid food. The capacity depends on the viscosity of the product. The plant easily handles different media with a wide range of viscosities from low to high.

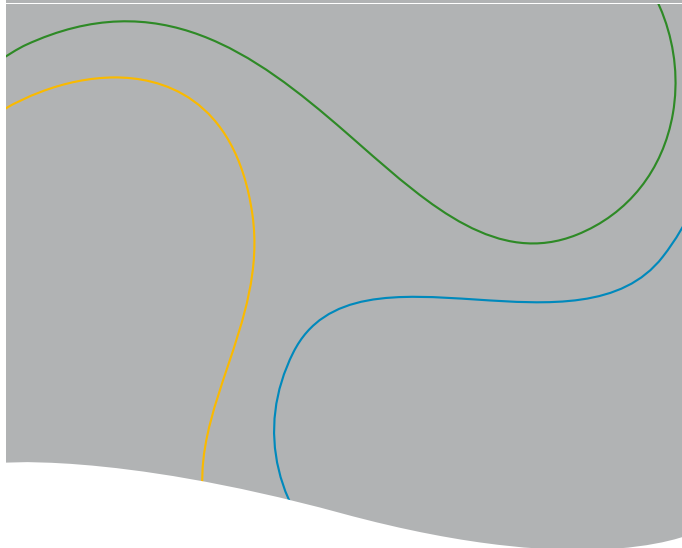
The modular concept allows the system to be combined with plate and tubular heat exchangers. When selecting cross sections in tubes and plates we have made certain that results can be compared directly with those

expected from a real production plant. This way we help our customers develop top-quality products and make sound entrepreneurial decisions.

By combining our solid engineering know-how and excellent key components from the GEA Group, we create plants, and provide process components and services for smooth and reliable production. Over the last 150 years we have worked hand-in-hand with our customers to maintain continuous product development that matches their requirements and the needs of the process.



Innovative Engineering –
Quality in Line.



Please contact us to request our industry-specific brochures or to discuss your specific requirements.

Quality in Line is a promise that we make to both our customers and to consumers. We at GEA TDS use our expertise to ensure the highest quality standards – no matter whether the task is small or complex. Our partnership approach ensures reliable, customer-oriented plants every time.



Process Engineering

GEA TDS GmbH

Voss-Straße 11/13 · 31157 Sarstedt · Germany
Phone +49 5066 990-0 · Fax +49 5066 990-163

Am Industriepark 2–10 · 21514 Büchen · Germany
Phone +49 4155 49-2200 · Fax +49 4155 49-2724

Kruppstraße 3 · 48683 Ahaus · Germany
Phone +49 2561 8602-0 · Fax +49 2561 8602-130

www.gea-tds.com
geatds@geagroup.com