Industrial Refrigeration and Heating

Sustainable solutions for food, beverage and dairy processes
World-class, integrated cooling and heating solutions

GEA is a global specialist in high-efficiency refrigeration and heat pump technologies for food, beverage and dairy processes.
Meeting your precise temperature requirements – naturally

Our focus is on PQRST – product quality, reliability, safety and total cost of ownership

Optimal Product Quality
Food, beverage and dairy processors require precise temperatures for optimal product quality. They also seek to maximize the efficiency of their production systems. GEA’s expertise extends to a full range of reliable cooling and sustainable, energy-saving solutions which provide exactly that.

Our sophisticated refrigeration and related technologies include complete turnkey cooling installations, compressor packages, chiller systems and heat pumps — custom-engineered to meet your exacting specifications.

By focusing on PQRST, we not only maximize product quality, we also maximize the performance of your process using our energy-efficient refrigeration and heat pump solutions utilizing natural refrigerants such as ammonia and CO2. Combined with a tailor-made GEA service agreement, we ensure that your processes continue to operate at peak condition throughout the full life cycle of your plant.
Integrated solutions

A key advantage

One-Supplier Capacity
A key link between your production process and your end product, GEA’s industrial refrigeration solutions serve as the common element of GEA’s broader solutions. GEA’s expertise includes design and installation of complete processing plants, delivered by our GEA experts specializing in our food, beverage and dairy sectors. Our customers value GEA’s unique ability to serve as a single-source supplier.

Whether you are addressing current requirements or planning and implementing a new course for your company’s future, GEA will take time to understand your needs and work with you to develop and deliver ideal solutions.
Serving up solutions for all tastes

Customized, sustainable solutions for food processing and storage

As a global leader in process technology for the food industry, GEA’s process cooling systems are employed in our turnkey food application solutions.

In step with global trends and environmental concerns
As the world’s population increases, so does the demand for greater and better quality food. Producers must maximize their efficiencies and product quality in order to meet these needs.

Food hygiene, waste reduction, higher output and reduced perishability are key drivers for food processors, and GEA industrial refrigeration, freezing and sustainable energy technologies address these challenges. We provide proven temperature control reliability, custom engineered to meet your specifications.

But that’s not all. GEA’s unique offering includes helping our customers to significantly reduce their running costs using customized solutions, energy-efficient designs, waste heat recovery and heat pump technologies.

Every third chicken nugget is produced using GEA technology.
First-class technologies for thirst-quenching drinks

Efficient cooling and chilling solutions for superior beverage production

For decades, leading beverage companies throughout the world have selected GEA to provide innovative, comprehensive solutions, including sustainable process cooling systems to meet their rigorous demands. From ingredient management to processing, filling and storage, we apply our proven expertise in cooling and chilling solutions to maximize beverage quality and thoughtfully address environmental considerations.

A refreshing approach
Soft drinks, coffees, teas and juices all require temperature-sensitive processes during production. These processes rely on exact cooling and heating conditions to ensure processing hygiene and product safety.

By delivering the right temperatures to the right place in the production cycle, GEA’s sustainable, energy-efficient cooling and heating solutions ensure that our customers, consumers and our environment are well served.

Cheers to great beers
GEA’s beverage industry expertise also extends to brewing. Our refrigeration systems help customers achieve what they care about most — high-quality beer and optimal energy efficiency.

Our comprehensive approach includes conducting a complete analysis and assessment of all processes. This provides the basis from which customized solutions are created and implemented, including an integrated approach to energy. The result is a brewery optimized for efficiency, reducing both energy consumption and the brewery’s carbon footprint.

Approximately half of all beer is brewed with the aid of GEA systems and solutions.
Forward-looking solutions for farm-fresh products

Sustainable refrigeration for modern dairy processing

With more than 125 years of experience in dairy processing, GEA’s deep industry roots combine with its innovative technologies to provide customers unparalleled expertise in processing milk — one of the world’s most important and versatile foods.

Refrigeration — the common requirement
We design, engineer and supply equipment, processing lines and turnkey solutions for treating raw milk and milk-based products — from butter, ice cream, yogurt and cheese to infant formula, milk powder and whey. Whatever the product, GEA provides the necessary temperature management systems to ensure the highest product quality.

Giving temperatures and the environment the attention they deserve
Customers enjoy significant, measureable benefits as a result of the approach we take in providing the precise temperatures required at each step in the processing cycle. GEA’s refrigeration experts design customized systems that not only meet process-critical cooling needs, but also reduce energy costs and minimize the use of natural resources.

Approximately one quarter of processed milk comes from GEA production systems.
Sustainable energy solutions

Reducing costs – improving our planet

The majority of the energy utilized by food, beverage and dairy process systems is to meet precise cooling and heating requirements. These systems therefore represent the largest opportunity to reduce costs. GEA’s expertise extends to identifying these energy-saving and energy-management opportunities. We provide measurable, innovative solutions with short payback times aimed at reducing your total cost of ownership and carbon footprint. For example, GEA’s heat pump technology upcycles byproducts of the processing chain, including waste heat, back into the production cycle.

Benefits:
- Reduced running costs.
- Lower carbon footprint.
- Achievement of your sustainability goals.
- Improvement of the natural environment by reducing the use of natural resources and CO2 emissions.

GEA’s energy efficiency experts work with customers to identify potential savings related to their facility’s processes.

Talk with us about GEA energy solutions and take a big step forward to improve your operations — and our planet.
Engineering for a better world

OUR COMMITMENT
At GEA, sustainability and value creation are intertwined. By continuing to offer efficient products and process solutions, we ensure sustainable management and the protection of the natural environment.

The key values that we hold as an organization focus on excellence, passion, integrity, responsibility and diversity. These principles serve as the foundation from which each GEA employee works to serve our customers and care for our planet.
In food, beverage and dairy processing, heating and cooling are essential. The cooling system consumes a substantial amount of electrical energy and releases the rejected heat and the electrical energy to the environment. GEA’s innovative heat pump technology upcycles this waste heat to create useful warm water, subsequently saving huge quantities of fossil fuel that would otherwise be needed in the heating process. In addition, water consumption by the cooling tower or evaporative condenser is substantially lowered.

In this way, GEA’s heat pump helps you to reduce water and energy consumption and lower your carbon footprint — a win-win outcome that we can all appreciate.

This dairy processing example illustrates the levels at which sustainable heat may be managed in order to achieve a zero-carbon-emission solution.

**Level 1:** Reusing energy that flows directly via heat exchangers.

**Level 2:** Applying a heat pump to elevate the temperature level to a higher value.

**Level 3:** Harvesting solar heat (directly from solar collectors or indirectly from geothermal heat) and applying it directly in the process after a temperature lift with a heat pump.
A sweet story

Increasing the Efficiency of Confectionary Production – Decreasing Environmental Impact

A global leader in the production of sweet treats selected GEA to install its heat pump technology at key production facilities. The goal was not only to reduce energy expenses but to also contribute to achieving the customer’s stated targets for reducing their carbon footprint.

Heat pumps, in particular, deliver a huge contribution to the reduction of the carbon footprint by minimizing the use of fossil fuels. At one of the customer’s production sites, GEA’s innovative heat pump is responsible for a reduction of 1,000,000 m³ of natural gas per year, equivalent to a reduction of more than 800 tCO₂ per year (1600 tCO₂ per year if green electricity is applied).

In addition, the waste heat from the cooling plant is now upcycled to usable warm water for their process — an additional reduction to the environmental impact.

After the payback period of approximately 2.5 years, a significant yearly cost saving is achieved during the 20-plus-year anticipated life cycle of the heat pump.
GEA Service –
For your continued success

Reduce the life cycle cost of your plant and equipment

We work alongside our customers in close partnership, supporting them throughout the full life cycle of their plant and equipment to ensure lasting business success.

Getting you started
As a supportive and committed partner for life, we plan and build around individual needs, sharing process knowledge, training employees and supporting operators to get our customers up and running and ensure a smooth, seamless ongoing service.

Keeping it running
To ensure our customers benefit from continuous production processes for minimal unexpected downtime, we provide fast support, efficient maintenance and top-quality spare parts, whenever and wherever needed.

Constantly improving
We safeguard our customers’ investments by constantly looking ahead through modernizing or upgrading of equipment and optimizing of processes to meet changing needs and new market demands. We are always working to increase production efficiency and ensure peak performance.

Together with you
Commitment to our customers and their business means investing in their objectives, their risks and their future success. We work in ever-closer collaboration, providing on-going systems audits and on-site support through innovative new service models in order to generate improved performance.

Keeping it cool, with GEA Service
Our four stages of continued success
We live our values.
Excellence • Passion • Integrity • Responsibility • GEA-versity

GEA is one of the largest technology suppliers for food processing and a wide range of other industries. The global group specializes in machinery, plants, as well as process technology and components. GEA provides sustainable solutions for sophisticated production processes in diverse end-user markets and offers a comprehensive service portfolio. The company is listed on the German MDAX (G1A, WKN 660 200), the STOXX® Europe 600 Index and selected MSCI Global Sustainability Indexes.