



In touch – Your partner for industrial refrigeration technology

Nothing but perfect conditions for your applications



GEA Refrigeration Technologies represents cooling and cold-storage technology closely oriented to the requirements and wishes of its customers: cost-efficient, long-life, energy-efficient, sustainable. And customized. After all, we know your business and your refrigeration needs from experience of more than 100 years. This is why we offer solutions, and not products. Solutions for your processes, for greater efficiency, and for enhanced climate protection.

In touch with our customers

GEA Refrigeration Technologies: Your partner for low temperatures

Our solutions are in touch with our customers – because they are cost- and energy-efficient, long-life, future-proof, sustainable – and customized.

GEA Refrigeration Technologies, part of the internationally active GEA Group, is a synonym for industrial refrigeration technology. Since the end of the 19th century, it has been our business to cool processes and products, and to control the temperature of goods in transport. You will find our solutions in the food and beverage sector; in the petrochemical, chemical, and pharmaceutical industries; on fishing ships; in natural gas liquefaction; in infrastructure facilities; and in ice factories. We are also at the top with know-how when it comes to refrigeration at leisure facilities. After all, we have been excited about refrigeration for decades now. As a result, our staff enthusiastically goes about its development and production projects – to include preventive and remedial maintenance of your refrigeration systems.

This enthusiasm is highly apparent in the daily work of all companies in our Segment. Whether it's complete systems or individual valves: we have the experience in every section of our company to optimally design, manufacture, and install refrigeration



systems. And to take full advantage of this experience, we not only carry out development in our own company: we also manufacture, assemble, and test the core components. A chain is, after all, only as strong as its weakest link: and this also applies equally well to refrigeration technology, cooling processes, and cooling chains. This makes it all the more important that you have a partner – in GEA Refrigeration Technologies – that has learned to master refrigeration from A to Z. And all of this since 1896, when Willem Grasso founded his refrigeration division. From this history of GEA Refrigeration Technologies, you will profit in the form of technical expertise and top sector know-how.

But we all live in the present and think about the future. We ponder a future in which more and more processes need energy around the world, and fewer natural resources are available. As a result, we have taken it as our goal to create solutions that are not only long-life and cost-effective, but also energy-saving and environment-protecting. We feel obligated to sustainability in many respects. Our objective is to produce long-life and material-saving products over the long run – as well as products that use environmentally benign refrigerants. And we aim to produce efficiently. But our responsibility does not end at the factory gate. As a result, we take great pains to ensure that our systems are energy-efficient and that they protect the climate. With GEA Refrigeration Technologies, you can also count on optimal economy: saving energy indeed means reducing money spent for energy. At the same time, you protect the environment. Thanks to our refrigeration technology, your processes will run more economically and more ecologically. To maintain our standard of living and to assure quality of life for future generations as well.

Our claim of combining economy with saving natural resources is reflected in all components of our company, such as the following: compressors, chillers, heat pumps, ice machines, fittings and valves, control systems, and many, many more. You can find proof of the above throughout the world. Our international corporate network – and above all our reference projects – are spread all over the globe.

Cool or ice-cold, depending on the application: GEA refrigeration expertise assures precisely the right temperature – whether it's just above freezing, or three digits below zero. Efficient, reliable, and even exact to within one degree if required.

Innovation is not merely a word. Innovation is a philosophy that is put into practice in each of our companies – above all, naturally, in our research and development departments. But you will also readily recognize in our production and systems business that many clever heads can be found behind the product systems of GEA Refrigeration Technologies.

In touch with future and environment

Engineering and development: Our expertise for your success



Since stagnation means moving backward, we have chosen innovation as the driving force behind our business. We hardly introduce one new development to the market, and our engineers are already thinking intensively about the next one – always searching for better, environmentally friendlier, and more economical possibilities of industrial refrigeration technology. Their goal is to reduce the CO₂ footprint that mankind leaves behind. In this effort, personal commitment and corporate objectives merge – since, after all, climate protection affects all of us.

In addition to the business success for which any company in the world is responsible, protection of the climate and the environment are therefore our top goals. And this means primary, and not secondary priority. After all, our success, and the success of our company as well, is based on ever-more climate-friendly solutions.

This includes moving away from synthetic refrigerants. It is true that these refrigerants are considerably more environmentally friendly than was the case decades ago – but this is not good enough for us. As a result, you will find virtually countless machines in our portfolio that are based on the natural refrigerants ammonia and CO₂. These refrigerants – preferred at any rate in the food and beverage industry – are dominating in increasingly more sectors, since they offer maximum climate protection without stressing budgets – and with enhanced performance. This is thanks to two aspects: progress in materials science and in manufacturing, and the inventive genius of our developers. One of our examples is the world's first compressor for supercritical CO₂ systems, with 130 bar operating pressure. Its environmentally friendly refrigerant CO₂ alone is a good reason for interest in this compressor. But the high operational pressure of this system also makes it extraordinarily efficient. Here, climate protection and cost effectiveness go hand in hand. That's the way it has to be, since climate protection cannot be implemented at any cost: our products must remain affordable.

For our company to continue to generate affordable and economical solutions, development and marketing staff always keep their ear to the market. In our intra-company development centers, they find out what your innovation requirements are. And they implement the necessary solutions.



In the development of new products, our experts utilize not only the latest in engineering tools: they also have access to a world-wide competence network – and to more than 100 years in refrigeration technology.

The new organization within GEA Refrigeration Technologies plays a key role here. Now as before, each GEA company enjoys its own autonomy through its own special application areas. But our developers work in a network that simplifies know-how exchange and makes knowledge transparent for each project partner in the Segment – also on an intra-company basis. This means that we don't try to invent the wheel all over again – which accelerates development cycles and reduces costs.

The results for you: reliable, high-performance technology at affordable prices. And with low subsequent costs. The concept of life-cycle costs, indeed, is always in play when new ideas are discussed in our company. One good example is the V Range of our compressors. In comparison to their predecessors, these machines use about 6 % less energy, consume only around half as much oil, and require less maintenance. This means appreciable reduction in life-cycle costs. But this does not neglect reliability; on the contrary – Internet-based monitoring for the V Range enables obtaining information anywhere and at any time on machine status and maintenance needs, and optimally matching the maintenance cycles to the modes of operation.



The engineering of products at GEA – for example, with the V Range of our compressors – is in touch with the future and with our environment. How? Because of low life-cycle costs, modest energy consumption, and only slight maintenance efforts.

Throughout our sector it is of course essential that products function optimally in actual practice, and not only in the lab. For this reason, our refrigeration specialists are at the same time experts in their processes. This has led to success in designing application-optimized refrigeration systems, and in maximizing the benefits they offer.

In touch with your applications

Customized solutions: because each sector of industry is different



Whatever is involved – an ice factory in China, freeze-dryers for coffee in Columbia, a beer brewery in India, a slaughterhouse in Russia, or cold storage for fruit in South Africa: refrigeration is needed in all cases. But not just any kind of refrigeration – we are talking about cooling and freezing optimally matched to your process or your product.

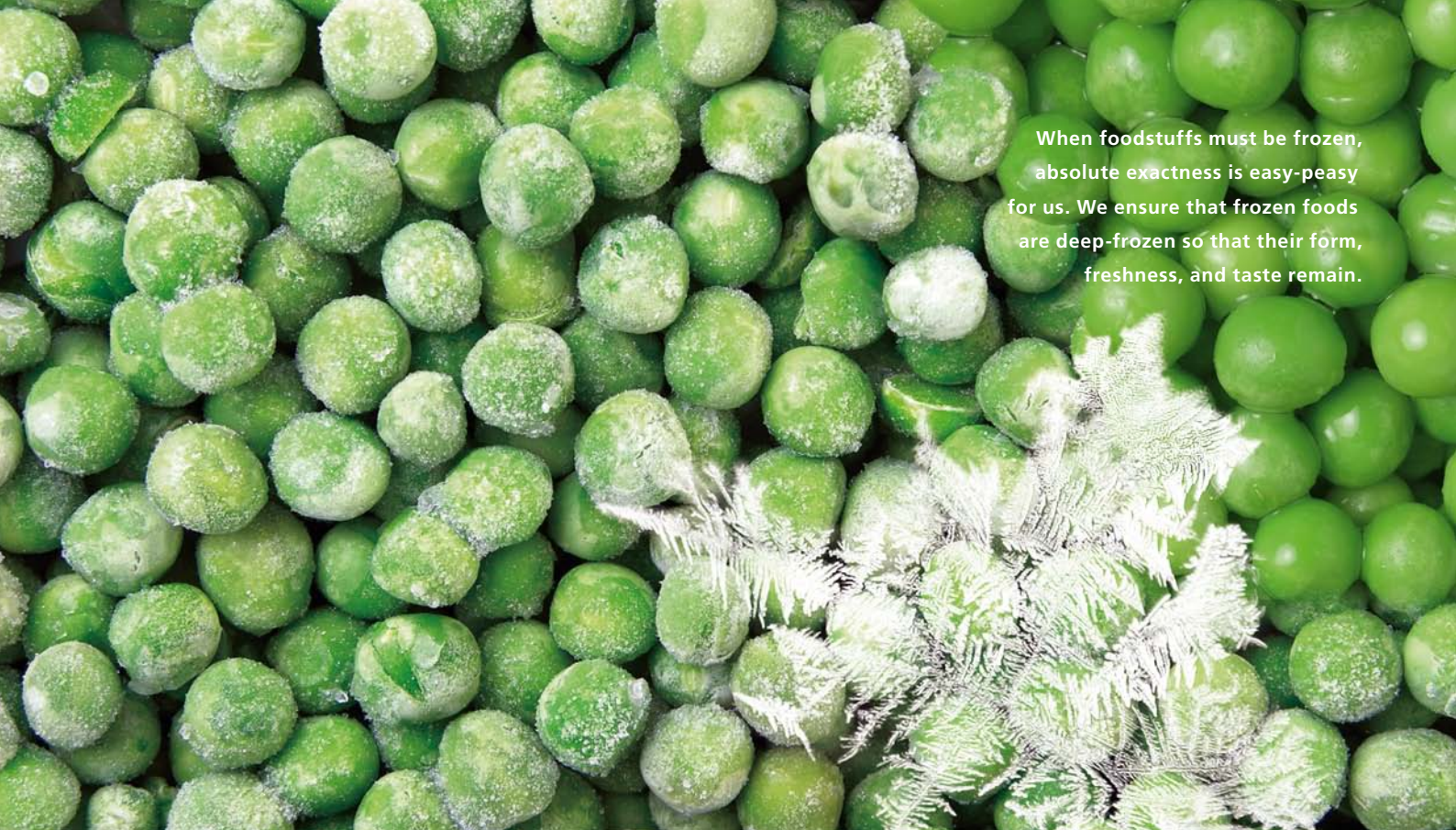


In close contact with you – our customers – our sales and engineering departments search for the solution to match your needs. These departments not only represent their respective companies, but also the complete refrigeration technology of our Segment. For you, this means that you can expect overall solutions that have been optimally coordinated with each other – and in which the quality of refrigeration-plant technology, control systems, and life-cycle costs are readily evident in the total concept.



You can therefore forget about interface problems or about dealing with many suppliers or a staff of consultants in order to arrive at optimal refrigeration technology. Place your trust in our experts. They will support you from the initial description of your needs up to commissioning of your new refrigeration system. Decades of experience and numerous prominent reference projects all over the world are the best evidence that we do our work well: creating harmoniously functioning overall solutions that optimally support your processes.

Often, our engineers assemble the best plant for you from already existing modules. Frequently, though, they also produce completely new solutions that offer you and your sector colleagues maximum efficiency. With such special solutions, for example, our company has made a good name for itself. We have been very successful in analyzing specific problems and developing tailored solutions.



When foodstuffs must be frozen, absolute exactness is easy-peasy for us. We ensure that frozen foods are deep-frozen so that their form, freshness, and taste remain.

We offer you: top competence, from development to service

Of course we won't leave you alone when your systems have been installed. We support you during your plant operation, assure optimal maintenance, supply wear and spare parts, and are quickly there when your refrigeration systems unexpectedly have difficulty. In short: we are responsible for absolutely satisfactory operation – with companies around the world, and with highly competent staff.

Our responsibility does not end with installation of your systems of plant facilities. We'll take you along the first steps by putting complex systems into initial operation, then optimizing them in accordance with your operational conditions, and finally checking the functions. But more: as a result of the open systems architecture of our control technology, it is possible to network refrigeration plants with other facilities and to integrate them into your process-control plant. This provides you an overview of the entire system and simplifies systems management.

In addition, we offer you preventive and restorative maintenance as well as fast spare-parts service. Our engineers are selected, ongoing-trained experts that stand at your side around the world, and that have access to the knowledge and the expertise of our entire Segment. And you can depend on this expert knowledge if you are looking for new possibilities of efficiency enhancement. Either for purchase or as part of contracting: our team will find for you the energy-optimized and sustainable solution.

We have extensive experience in the following markets:

- Food and beverage industry
- Storage and distribution
- Oil, gas, chemical, and pharmaceutical industries
- Utilities
- Leisure
- Marine
- Bus, rail, transportation
- Supermarkets



With the same love of detail that your food-processing specialists search out the best in ingredients and optimize production processes: our engineers design the systems to match the requirements demanded here for cooling and gently freezing.

Of course, we all want our vegetables to be full of vitamins and our apples to be tasty and crisp. And one factor is often the key here: refrigeration. Proper cooling inhibits the proliferation of microorganisms, and freezing permanently seals freshness in these foods. The success of frozen berries, pizzas, French fries, and many other foods is also based on the expertise of our refrigeration specialists.

In touch with your market: food and beverage industry

Freezing for freshness, cooling against spoilage



In the processing of meat and poultry, the prevention of microorganism proliferation is critical. Low temperatures keep meat fresh and prevent the formation of pathogens. But it's not only a matter of maintaining the right temperature. At many workplaces in the meat industry, the effects of cooling are required only at certain points. In such cases, especially designed facilities ensure supply of energy-saving refrigeration: e.g., in slaughterhouses. Such systems reduce power consumption and weight loss – and save money. And with the aid of effective energy-recuperation systems, operational costs are even lower.



In other areas of the food and beverage industry as well, refrigeration plays a key role. In breweries, for example, cooling is required at certain points. For example, air coolers keep hops at a temperature between 0 and 1 °C/32 and 33.8 °F and maintain relative humidity of 55 to 75 %. The wort, additionally, must be cooled from its boiling point to approx. 7 to 12 °C/44.6 to 53.6 °F, in order to prepare it for the fermentation process. You may take your next beer from your own fridge or fresh from the tap in your bar: in either case, our refrigeration technology may not have set the drinking temperature, but in all likelihood has contributed to assuring just the right taste.

The key principle in meat processing is: cooling counters contamination. In other areas as well, maintaining freshness is essential. So that cabbage stays crispy and fruit keeps all its vitamins.

Fruit and vegetables also profit from cooling, from the very beginning. After all, the decrease in vitamin content begins immediately after harvesting. Whether apples from Lake Constance in Germany or kiwis from New Zealand: cooling maintains freshness at both ends of the world.

Our systems keep frozen food colder than ice-cold: and yet they treat it gently. Smaller products such as peas, green beans, Brussels sprouts, or berries, for example, are frozen in IQF freezers, which move the food in a stream of cold air. The individual pieces thus do not stick together. Sometimes we shock-freeze fruit so thoroughly that it stiffens suddenly. But this is done with good intention: shock freezing very quickly achieves low temperatures, so that only small ice crystals result. When the fruit is thawed, the cell structure remains basically undamaged, and the fruit retains its consistency.

What do vegetables have in common with bouquets of flowers? Both profit from our refrigeration experience during storage. With vegetables, cooling minimizes vitamin loss. Cooling prevents cut flowers from opening or wilting before reaching retailers. Refrigeration is even more important for deep-frozen food. They would become unusable if the cooling chain breaks even once on the way to the customer.

In touch with your market: storage and distribution

So that fresh things remain fresh



The route of products is often a long way from the producer to the destination. Systematic, effective cooling is very often absolutely essential to ensure that perishable goods and frozen foods arrive in fresh condition: at transshipment facilities, during transport, or in distribution centers. This applies to fish, meat, vegetables, and fruit – and for many other foods and beverages, including dairy products. That's why we love our cold cheese from GEA Refrigeration Technologies – for example, from wholesale warehouses, where our refrigeration systems protect it.



The same likewise applies to frozen products: only a closed and effectively supervised cooling chain can guarantee that foods and beverages do not perish. If frozen food thaws only once during transshipment or storage, the goods would be unusable. As a result, we offer not only refrigeration systems, but also the required control technology for monitoring flawless functioning of the equipment. In this way, systematic cooling safeguards the health of consumers – and yours as well.

In the service of health, our equipment also operates at another place: in medication logistics. Many drug substances must not be stored over a particular temperature. Most of them remain unharmed at room temperatures, and must therefore be protected only from relatively high temperatures. Other drug substances, however – including live vaccines – must be stored under refrigerated conditions.

Freshly harvested and freshly to the table. That's your benefit from a systematic cooling chain: from shipping, through warehousing, and up to the retailer. Cheese likewise needs a cool climate to ripen without damage.

But refrigeration is good not only for food and medication. Many cut flowers – especially when they are imported from distant countries – can arrive at their destinations in their full beauty thanks only to systematic cooling. And in the breeding of decorative plants, productivity and product-quality issues dictate the effective regulation of both temperature as well as relative humidity.



Cut flowers should open up at their destination, and not underway – which means that cooling is often absolutely essential. Effective refrigeration means that the recipients of such gorgeous gifts will grow warm at heart.



Refrigeration is indispensable
in the chemical, petrochemical,
and pharmaceutical industries:
to cool starting materials,
to control the temperature of
processes, to liquefy gases, ...

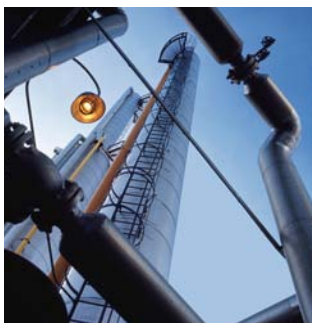
In the processing industries involving chemicals, petrochemicals, and gas, refrigeration has become absolutely necessary. It takes starting materials and products to the required temperatures. Or, it cools after chemical processes have developed heat. And sometimes refrigeration simply enables making something very small out of something very large: for example, air or industrial gases, for which liquefying greatly economizes transport and storage.

In touch with your market:
oil, gas, chemical, and pharmaceutical industries

**Involving precise processes,
and life-savers**



In the chemical, petrochemical, and pharmaceutical industries, it is often necessary to run processes at a precisely specified temperature, or to prevent media and products from exceeding a certain temperature level – regardless of ambient conditions. Our systems and plants, for example, ensure constancy here. Examples of application are many and various. Many processes take place in the chemical industry with the release of heat. Our machines can subsequently return the product to the required temperature level. This is necessary in some processes not only for practical reasons, but also to ensure safety. For compression processes, in addition, it is unavoidable that the compressed material heats up and often requires cooling.



In the natural-gas sector, industrial refrigeration technology assures safety in the process and quality in the product: cooling removes water from the energy medium. This prevents the formation of methane hydrates and enables feeding natural gas through the distribution mains with a constant calorific value. This means that the flames in your cooking stoves and heating systems always burn uniformly.

In the pharmaceutical industry, cooling is often a prerequisite to assure the effectiveness of medication. In raw-materials storage, in production, and in forwarding: at many places, excessive temperatures would lead to a failure of the processes or decomposition of drug substances.

*Onshore or offshore:
GEA refrigeration technology
is at home everywhere.
Individually engineered systems
and rugged component assemblies
assure that operations
proceed smoothly, even under
roughest conditions.*

There is an additional application for refrigeration that also provides benefits in medicine: the liquefaction of gases. Nitrogen and oxygen, the main constituents of our air, can be liquefied and stored after being separated. Liquid nitrogen, at temperatures of around -196 °C/-320.8 °F, frequently serves for the preservation of biological material and the freezing of blood and cells. Liquid oxygen, for example, allows patients to benefit from oxygen therapy without serious restriction of their mobility: one liter of liquid oxygen provides 850 liters in gas form.

Our systems in many projects evidence that cooling can be highly valuable in mining, in constructing buildings, and even in tunnel building. Concrete, for example, hardens optimally only if it cures under the appropriate temperatures. And in tunnel construction, freezing the ground prevents ground water from washing the subcourse out under the feet of the construction crew.

In touch with your market: utilities

Cool creations for construction



When tons of concrete are placed and skyscrapers shoot up into the sky, GEA technology is often on the scene. If concrete, for example, cures too fast owing to high ambient temperatures, it will not harden uniformly. Cracking can be the serious consequence. Cooling in the curing phase is therefore often essential in assuring the required stability for buildings. It is possible to provide the refrigeration required here by various ways. Water chillers provided for concrete construction, for example, assure an initial temperature of only a few degrees above freezing. One option is cooling concrete with ice made by special flake-ice machines. Up to hundreds of tons of ice daily can be produced by the various models available.



For ease of handling at the construction site, GEA offers container solutions that supply ice out of a “black box.” The final user doesn’t need to understand the technology. Thanks to the rugged and proven design of these machines, he simply takes out the ice that he needs.

Ice-cold technology is also required for tunnel construction, especially in moist environments: to freeze the ground. Without this technique, ground water could endanger or even halt the project. By providing artificial frost, a construction project, however, stands on a firm foundation. Owing to the great safety relevance of this technique, GEA not only offers this technology, but also – if the customer so requires – provides the availability and the maintenance of the equipment. Such an arrangement prevents, for example, the failure of a container unit during the critical phase of tunnel construction.

Constructive cooling: many structures could not be constructed without the use of ice, since proper cooling favorably influences the hardening of concrete. Refrigeration is likewise welcome in tunnel construction to keep groundwater in check.

In mining, refrigeration has a completely different function: it makes deep mining tolerable for the miners down there. The work in mines, which is sweaty and difficult enough, can become pure hell in deep mines, which can get extremely hot. Air coolers – fed by cold water chilled above ground – greatly enhance the working conditions of miners. As in hardly any other application, this example makes clear: we provide technology that is produced by people for people.



We have something to counter the unbearable heat that miners suffer in deep shafts. Our refrigeration makes it possible for many miners to work at all, since the heat of the earth produces extremely high temperatures in deep mines.



Artificial cold as fun
factor: winter-sports lovers
can pursue their hobby
even in warm regions. In
ice rinks or ski halls.

Ice skating in summer or skiing in the desert – made possible only thanks to refrigeration technology. And it enables some people to see and experience snow for the first time in their lives – and to revel in this pleasure. But professional winter athletes likewise benefit from artificial cold, and not only leisure-time amateurs. The pros can now train long after Father Frost has taken his departure.

In touch with your market: leisure

Winter enjoyment at summer temperatures



Even in moderate climate regions, the winters are often so short that skiing, snowboarding, or ice skating are naturally possible only for a few weeks in the year. But we are able to extend the season for skiing, for example: with snow produced from crushed flake ice. And of course in warmer regions, winter sports are impossible any time – except in indoor rinks or ski facilities.



When it comes to ice and snow, our GEA refrigeration technology functions even better than Mother Nature from some viewpoints. For example, providing ice layers with a constant thickness is no problem with our refrigeration and control systems. Likewise, cross-country ski runs can be constructed with our support in special halls: with guaranteed snow quality and entirely without the danger of avalanches.

For indoor ski slopes, we cool water down almost to the freezing point. This cold water is then fed to snow cannons, as they are also used in outdoor ski areas. Indoors, they fire their charges into ice-cold indoor air. GEA can also provide the required bone-chilling cold. Indoor snow at the press of a button is not only popular in areas where winter sports are at home – but also in regions near the equator. There, indoor ski facilities enable many to get to know white crystalline beauty for the first time, without long trips to cold climates.

Better than Mother Nature: mirror-smooth rink surfaces and artificial snow are always available, and always in uniform top quality. The best in skiing and skating, whatever the time of year.

We gladly admit it: we ourselves find it a bit difficult to speak about “industrial” refrigeration technology when it comes to such leisure and sports facilities. But we just love this market – because we love to make ice and snow.

All the way from fishing ships to juice transport: many perishable goods are transported on the high seas. Our refrigeration technology makes every effort to ensure that they arrive unharmed. But we also deliver the energy in compact storage form: liquefied natural gas takes up considerably less space than does the compressed form. As a result, it can be shipped much more cost-efficiently from far-distant storage facilities to centers where it is needed.

In touch with your market: marine

Better management of time and space



Energy-givers on the high seas: during maritime transport of juice, perfect refrigeration preserves its freshness. And for natural-gas transport, refrigeration allows extreme compactness: far below zero, gas becomes liquid and occupies only 1/600th of its original volume.

It sounds like a paradox: buyers of frozen fish often enjoy fresher products than those at the fresh-fish counter. The explanation, for example, lies in our refrigeration technology for ships. One technique is the use of spiral freezers not only to process fish on the high seas, but also to freeze it immediately. The compact and vertically oriented configuration of these freezers saves space and can accordingly be easily integrated into a floating factory. Freezing on board also offers practical benefits for crew and company management: fishing ships no longer have to organize expensive, time-oriented logistical arrangements to transport their catch ever faster. Smaller ships, instead, cool their catch in salt water at $-10^{\circ}\text{C}/14^{\circ}\text{F}$, or store it on ice. Here as well, sector-typical specialties must be taken into consideration, since ice is not just ice. Several solutions effectively adapted to the fishing industry are required here: slurry ice, for example, for cooling the product just after the catch, or flake ice for preserving it, with the choice between sea-water ice or fresh-water ice.

GEA also assures the transport of precious vitamins on the high seas: for example, with so-called juice carriers. Thanks to these systems, the juice can be pressed where the fruits are harvested. This saves room, since juice is considerably more compact and cheaper to transport than the amount of fruits required for its production. Despite all the space that can be saved, we are still talking about huge volumes: cooled juice containers on ships can hold up to half a million liters.

Compactness is also in demand for an entirely different application: natural gas. If distances or infrastructure do not allow transport by pipeline, ship transport is often the best alternative. But the same laws apply here on board: space is money. GEA liquefying systems reduce space requirements by liquefying gas down to below $-160^{\circ}\text{C}/-256^{\circ}\text{F}$, and our cryotechnology enables great economy in the transport of energy media. Such liquefying shrinks the space needed for such gas to 1/600th of the requirements for uncompressed gas.



We catch freshness: a cooling bed of ice is the ideal intermediate storage for fish. GEA Refrigeration Technologies is on board on the largest fishing ships, which process the fish as soon as it is caught.



Underway with a cool head:
passengers enjoy HVAC comfort
with compressors from GEA
Refrigeration Technologies.

Whether it's people or transported goods that are underway: GEA Refrigeration Technologies assures the correct temperature with reliable, energy-saving, and small-footprint refrigeration technology.

In touch with your market: bus, rail, transportation

Comfortable climate on the way



In the selection of effective HVAC systems, mobile applications require entirely different standards than do stationary facilities. Reliability and ruggedness are even more important, and preventive and corrective maintenance must take place quickly and simply. In addition to these aspects, compact dimensions and low weight are likewise essential criteria. Whatever you transport: we offer you an advanced and environmentally harmonious solution, and we support you in your selection of the most favorable refrigerant.



Compressors made by our company assure that sensitive goods reach their destinations while still fresh. With efficient systems from GEA Refrigeration Technologies, increase your cargo capacity and your freight throughput – or simply save energy. But it's not only temperature-sensitive cargo that must reach its destination at the right temperature: passengers also expect to enjoy a trip in a comfortable atmosphere, and to arrive fresh and relaxed. Then do the same that prominent bus manufacturers have learned – trust in HVAC systems with compressors from GEA.

In their search for innovative solutions, our engineers often pursue new approaches. When required, however, they can also think along prescribed tracks. In its many applications, GEA Refrigeration Technologies also offers extremely compact and extra-light compressors for effective HVAC systems in passenger trains.

Components for cooling and refrigeration systems must be stable and rugged for mobile applications. After all: repair and procurement of spare parts underway is not always easy.

We also move in familiar waters when it comes to refrigeration systems for ships. This applies to transport vessels, tankers, as well as cruise liners. For vacationers who reserve a cruise, the liner itself is usually the actual destination. These passengers expect a luxurious ambience with pleasantly controlled temperatures, as well as outstanding cuisine. No wonder, then, that – with these requirements – the chefs on board many cruise liners likewise depend on GEA Refrigeration Technologies. Thanks to sophisticated GEA refrigeration technology, stocks of foods and prepared dishes are perfectly temperature-controlled.

Supermarkets now offer their customers an increasingly great diversity of cooled and deep-frozen products. With the growing amount of display space required for these kinds of merchandise, the interest in saving energy has likewise grown. Advanced technologies from GEA Refrigeration Technologies enable fully exploiting the potential of savings with refrigeration systems.

In touch with your market: supermarkets

Efficiently cooling products



Such extensive offerings as deep-frozen vegetables for quickly cooked meals, prepared fruit, and salad mixes for lunch breaks in the office mean that convenience foods are becoming more popular than ever among consumers. It is especially the fresh, ready-to-eat snacks, salads with dressing, pasta dishes, desserts, and many more such products that now dominate refrigerated display space in supermarkets. Changing habits are reflected in the offerings of supermarkets, which means that the assortment of deep-frozen and chilled foods is steadily growing. Chilled food primarily includes freshly prepared foods and ready-to-eat dishes from refrigerated displays. The requirements for display space and refrigeration systems have of course grown along with this trend: which is a challenge for supermarket operators. On the one hand, familiar classics from chilled or deep-freeze displays – such as French fries and fish sticks – must be displayed with a simple overview, but new products on the other hand must be attractively presented.



Foods such as fish are very sensitive and require a non-interrupted cooling chain. As a result, the components of complex refrigeration systems must represent a standard of excellence for system performance and reliability.

Investment in long-life, cost-effective, and compact refrigeration systems for storage and sales areas pays off from the very start. After all: the customer expects to find optimal merchandise quality and an extensive selection.

Chilling and freezing systems from GEA Refrigeration Technologies are not always hidden discreetly away in machine rooms. Sometimes they are highly visible – for example, at the fish counter of a supermarket. Flake ice is really at home there, since especially trained salespersons find it child's play to attractively decorate sensitive foods on such ice. They can model out small ice hills or valleys, and each fish, mussel, and crustacean can be attractively and appealingly arranged. All such delicacies enjoy a stable foundation on such ice.

For chilling and freezing systems, ice machines, and the like, products from GEA Refrigeration Technologies form the perfect basis for long-lasting food freshness and, in the end, a solid business relationship between supermarket operators and their customers.



Refrigeration systems for chilling, deep-freezing, and HVAC are by far the largest energy consumers in a supermarket. Highly advanced GEA technology offers enormous potential for savings here.

With the necessary big picture, but also with love of detail – this is how GEA Refrigeration Technologies creates its products. They embody the knowledge of generations – expertise in technology and, above all, in its application. After all, your success is our success. And this means that you can place your trust in our technology.

In touch with our technology

Products and components: Made by people for people

GEA Refrigeration Technologies offers, for example:

- Piston compressors
- Screw compressors
- Compact piston compressors
- Heat pumps
- Packages and skids (complete systems on frames)
- Ice machines
- Freezers
- Valves and other fittings
- Dryers
- Purgers
- Control systems

Development – a word that has countless important meanings for us. It stands for our innovative spirit that continuously brings out new products. And it means progress in our own company, progress that is founded on growth in knowledge and the accumulation of experience. And it stands for the effort toward something better.

Seeking out large and small optimization potentials, again and again critically examining what we have done to find improvement possibilities, and turning our best ideas into deeds – or, more truthfully expressed, into products: that is the daily business of our development departments. But innovation doesn't stop at the drawing board. In production as well, we place top priority on the adaptation of advanced methods, so that our manufacturing processes can react more flexibly and faster, and with higher quality, to your wishes and requirements.

The fact that we strive not only for high performance, but also top quality, becomes highly apparent with the reliability of our products. Countless systems in highly diverse sectors provide proof of this: with reliable cooling of processes and processed goods.



Piston compressors



Screw compressors



Compact piston compressors



Chillers and heat pumps



Packages and skids



When you see our equipment, you will find a well-rounded solution even in rectangular enclosures. It's logical: one thought constantly revolves in the heads of our developers – to try to achieve maximum customer benefits.

This is all made possible by a high degree of motivation and highly efficient quality management. At each of our plant locations, this means that two main factors have become absolutely accepted and routinely practiced: ongoing training of our staff, and certification as per EN ISO 9001. Perhaps even much more essential, however, is the responsibility that our staff assumes. As a result, continuous improvement processes take place in our production plants not only on the drafting board, but also directly at the workplace. Quality is put into practice. And products are not simply products alone: they are benefits presented in technical form, made by people for people.

“In touch with our technology” means that we are always trying to achieve something better – for you and for the following generations.



Ice machines



Freezers



Valves



Dryers and purgers



Control units

Are you looking for a company that solves your special refrigeration problem? Well, now you have met just the right business partner. Why? Because we offer solutions, and not just products. And these solutions develop in close coordination with you. But we are ready to help you not only in the planning phase: we also provide strong support in matters of financing, implementation of the facilities, initial startup, and maintenance.

In touch with your success

Planning and consulting: With a view for the essentials



Made as a whole, but thought through down to the last detail. So that each tiny component of your individual solution functions flawlessly. Day after day, day and night.

No two plants operate identically – which means that processes cannot be implemented with standard solutions. This virtually means that we especially think through each large refrigeration plant, so that your investment will remain low and your benefits, high. For reasons of economy, however, it is not possible to apply a special development to each application. We are looking for the golden mean – and our experts do in fact find it.

Finding the technically best solution for your requirements is a challenge that we gladly accept. We construct the most appropriate systems for your special case, from the extensive product portfolio of GEA Refrigeration Technologies. On a one-stop-shopping basis. This assures reliability and harmony, since it enables optimal coordination of the interaction among systems. In addition, we deliver for you the entire measurement and control technology, which prevents interface problems, reduces complexity, and simplifies integration into your plant instrumentation and control system. We also gladly integrate systems from third parties. We not only offer open control technology for such purposes – we also provide you our entire technical knowledge in mechanical and electrical engineering, hydraulics, and automation. In addition, our team oversees the setup of facilities, supervises assembly of equipment onsite, and supports initial startup. Despite our great admiration of engineering and technology, though, we never lose sight of your goals: greatest-possible benefits under cost-effective conditions, with a maximum of environmental and climate protection.



Real knowledge of a customer is much more than just cultivation of contacts. For us, this means putting ourselves into your situation, recognizing your problems, and finding the optimal solution together with you.

Contracting – a question of money?

To prevent the best technical and economical solution from failing as a result of investment difficulties, we not only optimize the concept of your refrigeration plant: we also help to create the necessary financial conditions. Optional contracting agreements provide you the security that you are investing in thrifty technology planned for the long term, and at the same time you enjoy relief from financial risks. We can also help you to apply for any available subsidies, and to take full advantage of them.

It chugs and chugs and chugs

Do you also love to hear that chugging sound? The continuous purring of equipment, or the gentle swishing of media through the tubing network? We certainly do. This is why we remain at your service after setting up our equipment – with an international, highly competent service network. Preventive and remedial service are the keys to long service lives of your assets, a maximum of cost effectiveness, and operations that are as smooth as possible. But, if a malfunction should still occur in your plant, we are there for you – in urgent cases, around the clock. Online or with you onsite, we see to the fastest possible elimination of any trouble. Also included is of course a world-wide, spontaneous spare-parts service.

GEA Refrigeration Technologies offers you:

- Comprehensive consultation
- Responsible project support
- Great investment security
- Future-proof solutions
- Maximum plant service life
- Long system life cycles
- Low energy consumption
- Minimized operational costs
- Competent service
- Fast delivery of spare parts
- Climate and environmentally friendly technologies

Do you need any further information? Please go to GEA Refrigeration Technologies at www.gea.com



We live our values.

Excellence • Passion • Integrity • Responsibility • GEA-versity

GEA Group is a global engineering company with multi-billion euro sales and operations in more than 50 countries. Founded in 1881, the company is one of the largest providers of innovative equipment and process technology. GEA Group is listed in the STOXX® Europe 600 Index.

