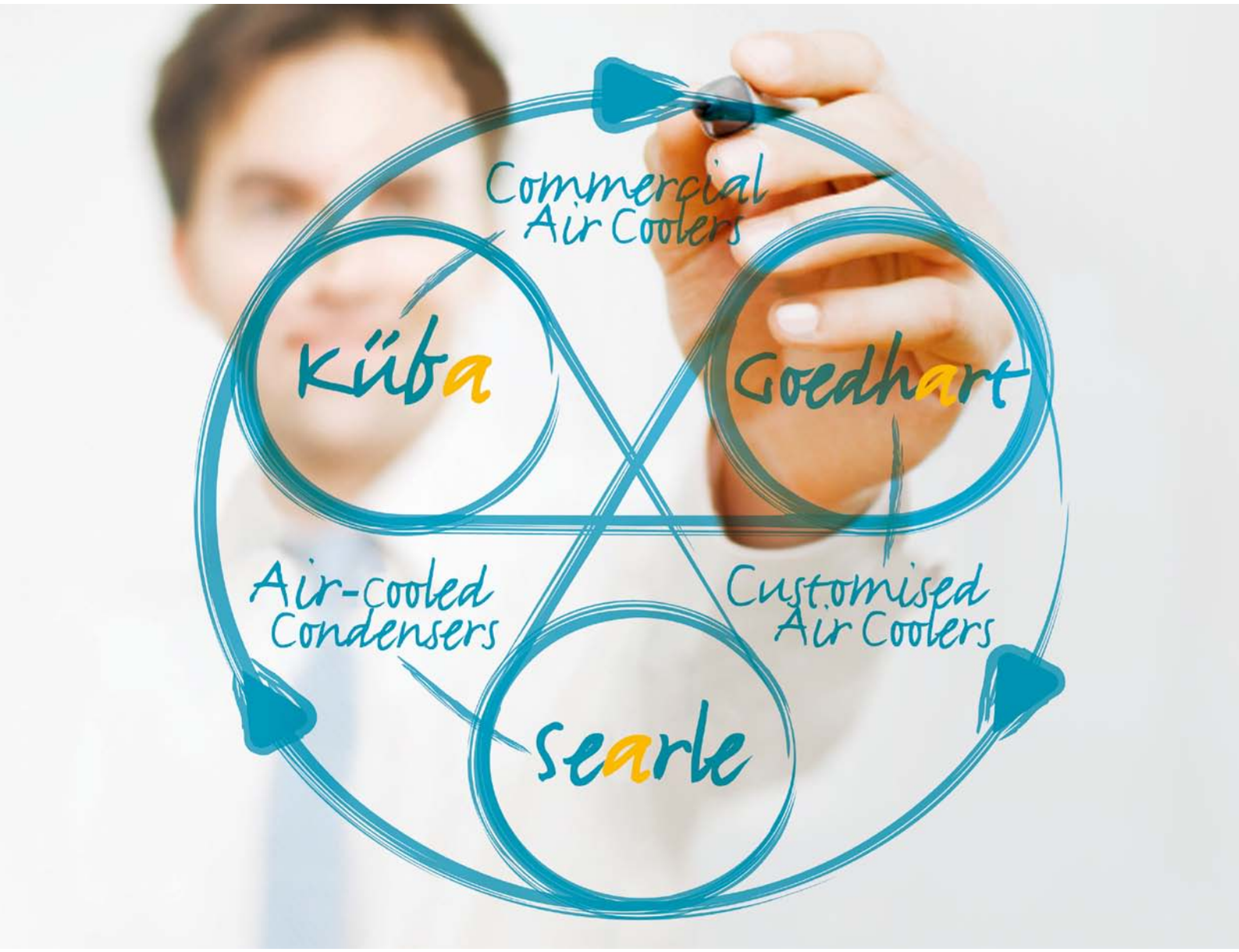


Triple-A portfolio from three top-class sources

Your powerful partners in commercial and industrial refrigeration:
GEA Küba. GEA Goedhart. GEA Searle.



» I must be able to trust my subcontractors 100 percent – in each and every respect. In our work for the operator, we act as one team. That means that my equipment manufacturer should be familiar with, and focused on, our customer's needs. «

A plant-systems contractor and OEM for supermarket chains and slaughterhouses

» Communication is essential. I need regular exchange with my refrigeration provider. I must always be on top of innovations and developments. «

A wholesaler for supermarkets and catering operations

» The market is much more demanding than 15 years ago. More refrigeration performance is needed, and the pressure for innovation is enormous. «

An industrial contractor for food and process industries



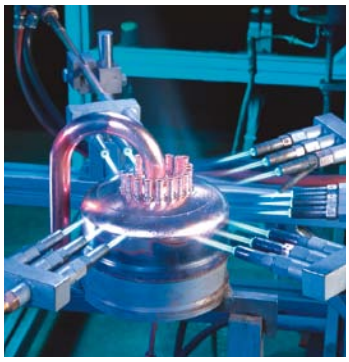
Good partners have an ear to the market.
GEA engineers fully concentrate on you and your requirements. As a result, you are always a step ahead and can focus on what really counts: your business.

GEA Centres of Excellence



By listening to the market, GEA decided to establish three centres of excellence: Küba, Goedhart, and Searle. With this centre of excellence approach, GEA intends to emphasize the individual core competences of its three sources. GEA Küba focuses on commercial air coolers, GEA Goedhart is prominent in customised equipment, and GEA Searle is the specialist for air-cooled condensers. Together we offer a comprehensive refrigeration product portfolio for our customers. The value proposition of GEA covers all aspects of its value-adding partnership – as well as the factors influencing the entire life cycle of expenditure on equipment and processes. As part of its process of life-cycle costing, all the relevant criteria are coordinated and optimised to maximise the customer's benefit: such as planning, efficiency, and operating costs – and including maintenance, service, and upgrading. Our solutions meet all required regulations, whether specific to a country or to an industry. Our certifications include CE markings, PED, Eurovent and many more.

With GEA as a powerful background, these three Centres of Excellence concentrate on comprehensive consultancy and support services for customers and their markets – and each and every communication is focused on fruitful exchange for optimum results. GEA Küba, GEA Goedhart and GEA Searle exercise global responsibility and apply the special process expertise required. The customer benefits of dealing with such experts within a strong group include the purchasing power of such a group, market stability in critical periods, synergism and know-how transfer.



Küba brazing a refrigerant
CAL distributor

GEA Küba – setting technological standards, offering top quality and ensuring efficient solutions:
GEA Küba is widely known for great energy efficiency, optimum refrigerant distribution, reliable defrosting, effective heat transfer and outstanding reliability. GEA Küba is the only manufacturer that offers two comprehensive air-cooler product lines for a broad range of applications.

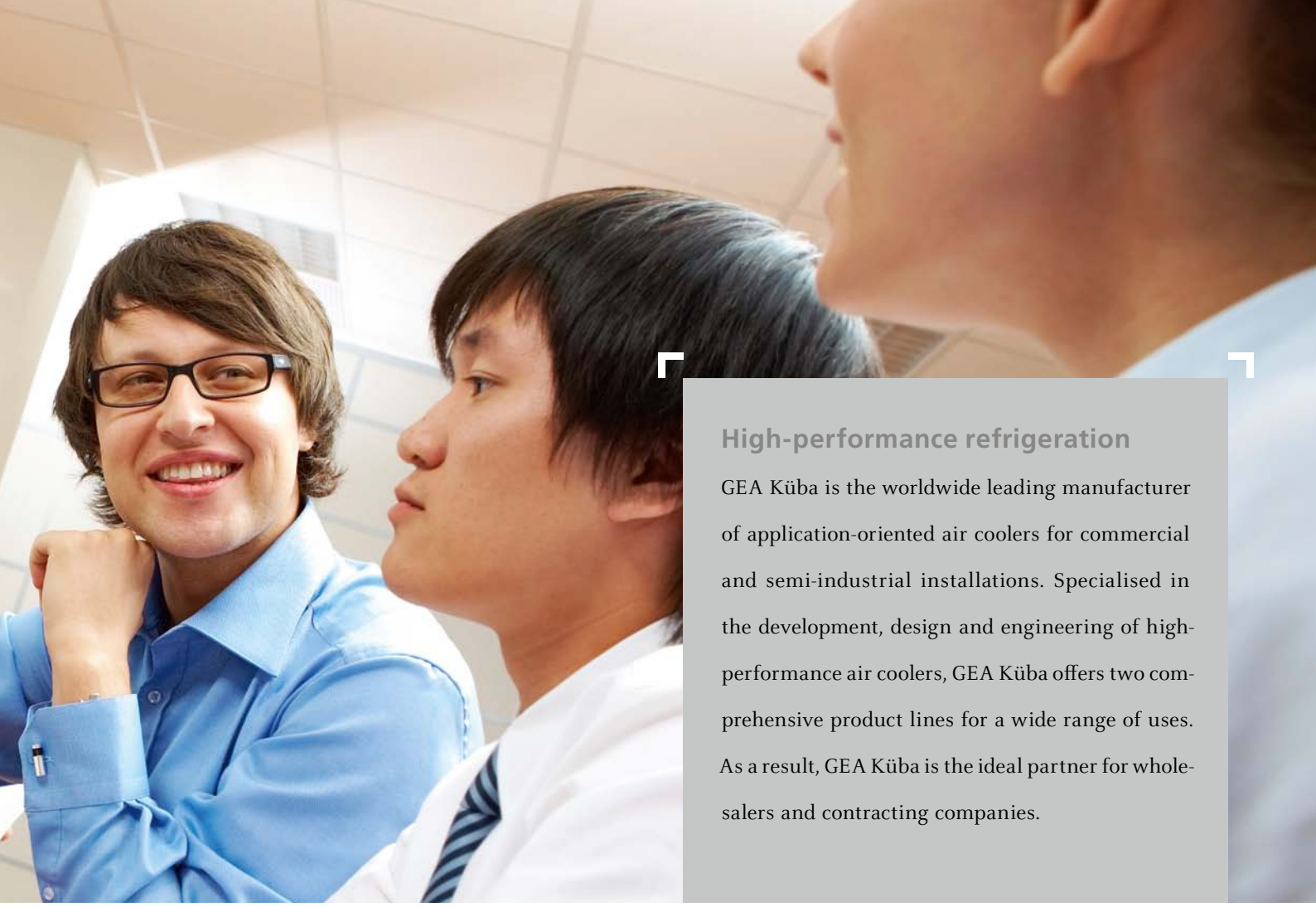
GEA Küba Centre of Excellence

The specialists in commercial air coolers

Eight decades of dedication to refrigeration technology

Since 1927, GEA Küba has developed and built its products in Germany, setting worldwide technological standards with the "Made in Germany" cachet. Today, the company represents tradition and progress. Continuously honed production processes and ongoing expenditures on R&D ensure a steady flow of pioneering developments and enhancements. GEA Küba has one of the largest R&D facilities of all air-cooler manufacturers in Europe. GEA Küba product quality is ensured not only by functionality endurance tests, but also daily by thousands of practical applications. The result is equipment with dependable installation, operation and maintenance. Customers will find unparalleled reliability and powerful support throughout a committed worldwide network of wholesalers.

With a close focus on the customer's needs, GEA Küba is driven to offer innovative product solutions with maximum user benefit, as opposed to creating merely the ultimate pinnacle of technology. An amply stocked warehouse at the Baierbrunn site near Munich guarantees prompt availability and provides added reliability for operations, planning and scheduling purposes.



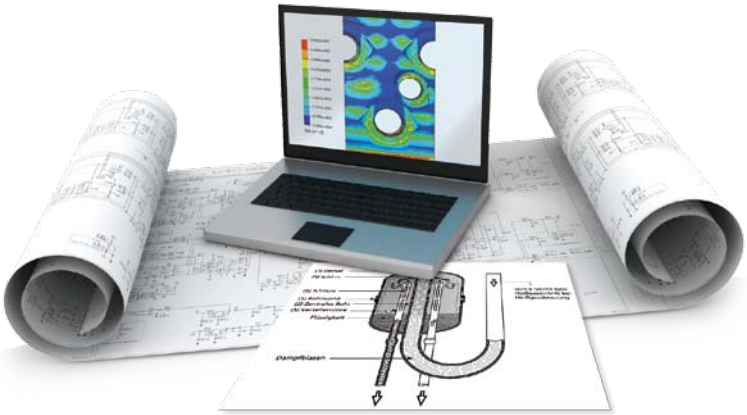
High-performance refrigeration

GEA Küba is the worldwide leading manufacturer of application-oriented air coolers for commercial and semi-industrial installations. Specialised in the development, design and engineering of high-performance air coolers, GEA Küba offers two comprehensive product lines for a wide range of uses. As a result, GEA Küba is the ideal partner for wholesalers and contracting companies.

Cutting-edge product design

GEA Küba applications for supermarkets, filling stations, bakeries and cold storage are focused on highly standardised, pre-engineered and top-class products. The will discover everything they need in Küba catalogues as well as in the Küba Select product selector.

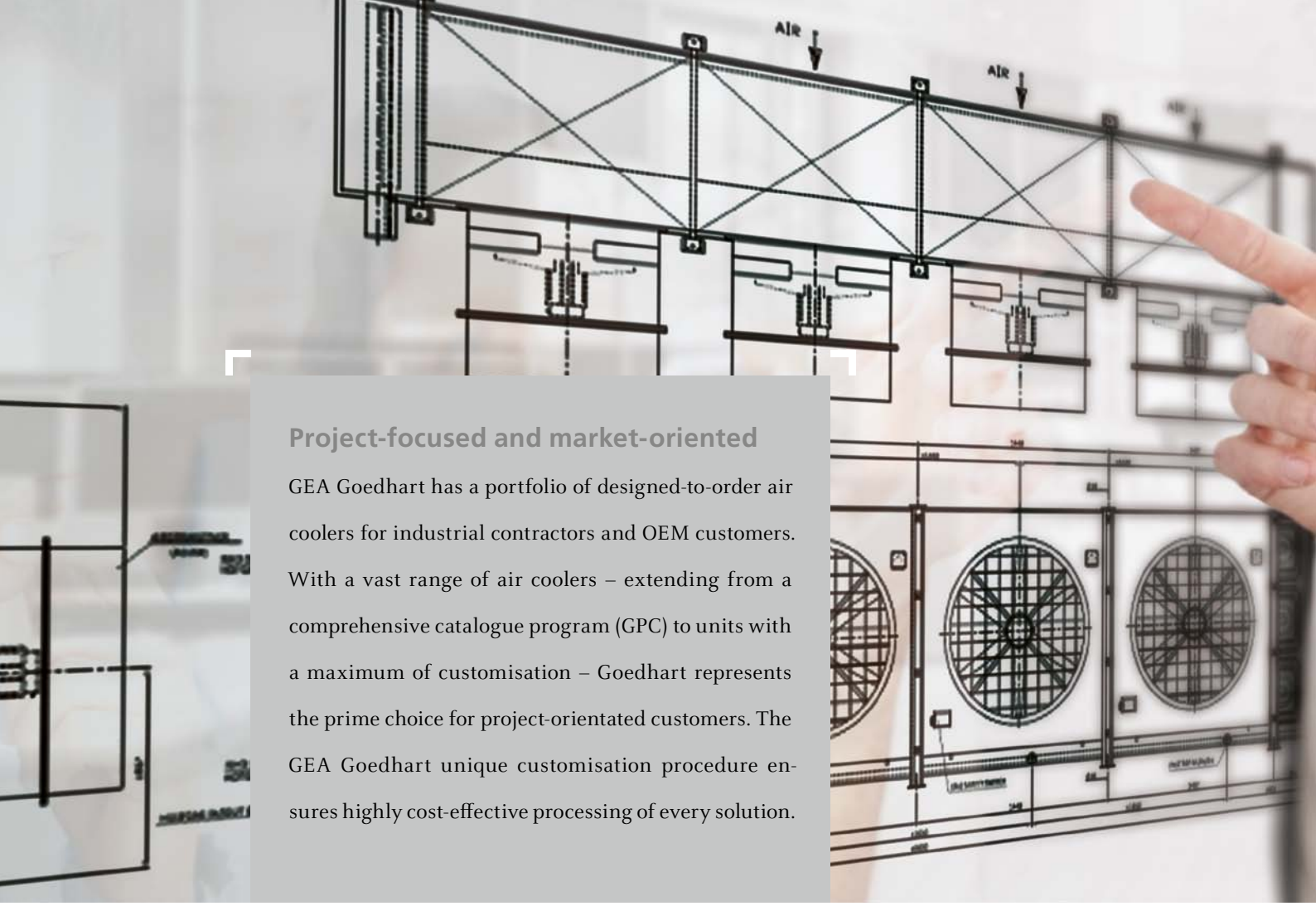
Product features are impressive throughout the entire portfolio: dual-component powder coating even on inaccessible parts results in perfect surface characteristics – food-safe, environment-friendly, and easy to clean. Long-lasting corrosion protection facilitates hygiene in the cooling room. Küba air straighteners reduce swirl characteristics to a minimum, and the air stream is uniform and straight. Latest-generation EC fan sets come with over 90 percent energy-conversion efficiency and a bundle of innovative features. Highly efficient quick-defrost systems by GEA Küba allow rapid defrosting over the whole surface while lowering energy consumption.



GEA Küba innovations and ongoing optimisation

- Küba HFE® tube-fin systems offer the optimum combination of maximum heat transfer and minimum pressure loss
- Perfect refrigerant circulation with Küba CAL® distributors
- Efficient Küba systems for fast and efficient defrosting over the whole surface
- Küba air straighteners ensure uniform and straight air streams for better distribution of cooled air, short cooling times – as well as lower temperature differences and operational costs
- Efficient EC fan technology
- Optimisation of product lines for higher efficiency





Project-focused and market-oriented

GEA Goedhart has a portfolio of designed-to-order air coolers for industrial contractors and OEM customers. With a vast range of air coolers – extending from a comprehensive catalogue program (GPC) to units with a maximum of customisation – Goedhart represents the prime choice for project-orientated customers. The GEA Goedhart unique customisation procedure ensures highly cost-effective processing of every solution.

GEA Goedhart – the GPC program, your selection software
User-friendly selection software for contractors, consultants, and every other feasible user. Accurate selection and an extensive list of accessories, including drawings. Inside the GPC shell is sophisticated capacity design software that enables you to optimise circuits to satisfy your design requirements.



The GPC selection software from Goedhart

GEA Goedhart Centre of Excellence

The specialists in customised air coolers with a focus on projects

GEA Goedhart looks back on decades of experience in building customised air coolers. The company has developed trend-setting solutions for a wide variety of applications – from fruit storage, slaughterhouses, and large distribution Centres to coolers for sophisticated automotive test chambers. State-of-the-art plants in the Netherlands and the Czech Republic ensure superior product quality. At GEA Goedhart each and every refrigeration project is given the attention needed to assure reliable operation and to turn it into a profitable capital outlay. A parametric design system enables GEA Goedhart engineers to specify and integrate project requirements at the design stage. This approach minimises overall development costs and maximises quality and cost efficiency of the final product.

Your professional partner for industrial and semi-industrial projects

The relationship between customer and supplier will largely determine both the immediate and the long-term success of a refrigeration project. GEA Goedhart provides outstanding support throughout every project phase. Its Technical Sales Team works



with the customer's experts to analyse the key objectives and parameters of a given project. GEA Goedhart follows a unique and very flexible design-to-order philosophy, based on a vast range of materials as well as on highly efficient and versatile production lines. Time is money, which is why GEA Goedhart sales engineers promptly provide feedback, supported by powerful software tools. Production systems are likewise geared to flexibility, such that even complex projects can be realised within acceptable lead times. Since designs are parametric, changes can be made without risking the progress of the project. Skilful implementation of a made-to-fit design into the production process is the result of perfectly smooth cooperation among sales, design and production teams. Continuous controlling and experienced logistics ensure that all coolers are on site when they are needed. An experienced after-sales team ensures appropriate support and prompt supply of all parts required to assure effective installation. All components come from A-rated suppliers, and all materials can be tracked.

Designed for long service life

GEA Goedhart products are symbols of ruggedness. In industrial and semi-industrial refrigeration, this is absolutely necessary, given the necessary handling, cleaning, and operation of the equipment. For corrosive environments, all protection techniques are available. Ease of cleaning of the coolers is part and parcel of equipment design. The food industry is a key market for GEA Goedhart. Almost all freezing- and cooling-system suppliers in the freezing-tunnel and spiral-freezer sector use GEA Goedhart equipment.

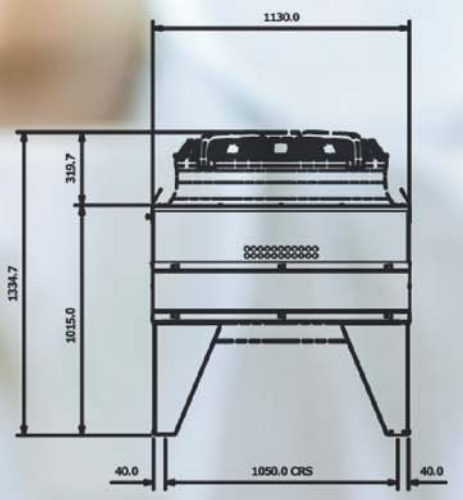
GEA Goedhart innovations and continuous optimisation

- All units individually matched to required capacity and operating conditions
- GEA Goedhart fin design in combination with chosen fin patterns assure the optimal capacity-price ratio
- Hydraulic expansion for stainless steel tubes ensures 100 percent long-lasting bond between tubes and fins
- Efficient defrost systems with optimal heat distribution over the coil
- Ease of cleaning the coolers, completely integrated into designs
- Design for natural refrigerants



Reliable and efficient condensing

GEA Searle is a market leader in the field of air-side heat exchange and industrial air conditioning. Its range of air-cooled condensers is one of the largest in Europe and encompasses a wide range of applications. GEA Searle is a well-known and popular brand among many supermarket chains.





GEA Searle Centre of Excellence

The specialists in air-cooled condensers

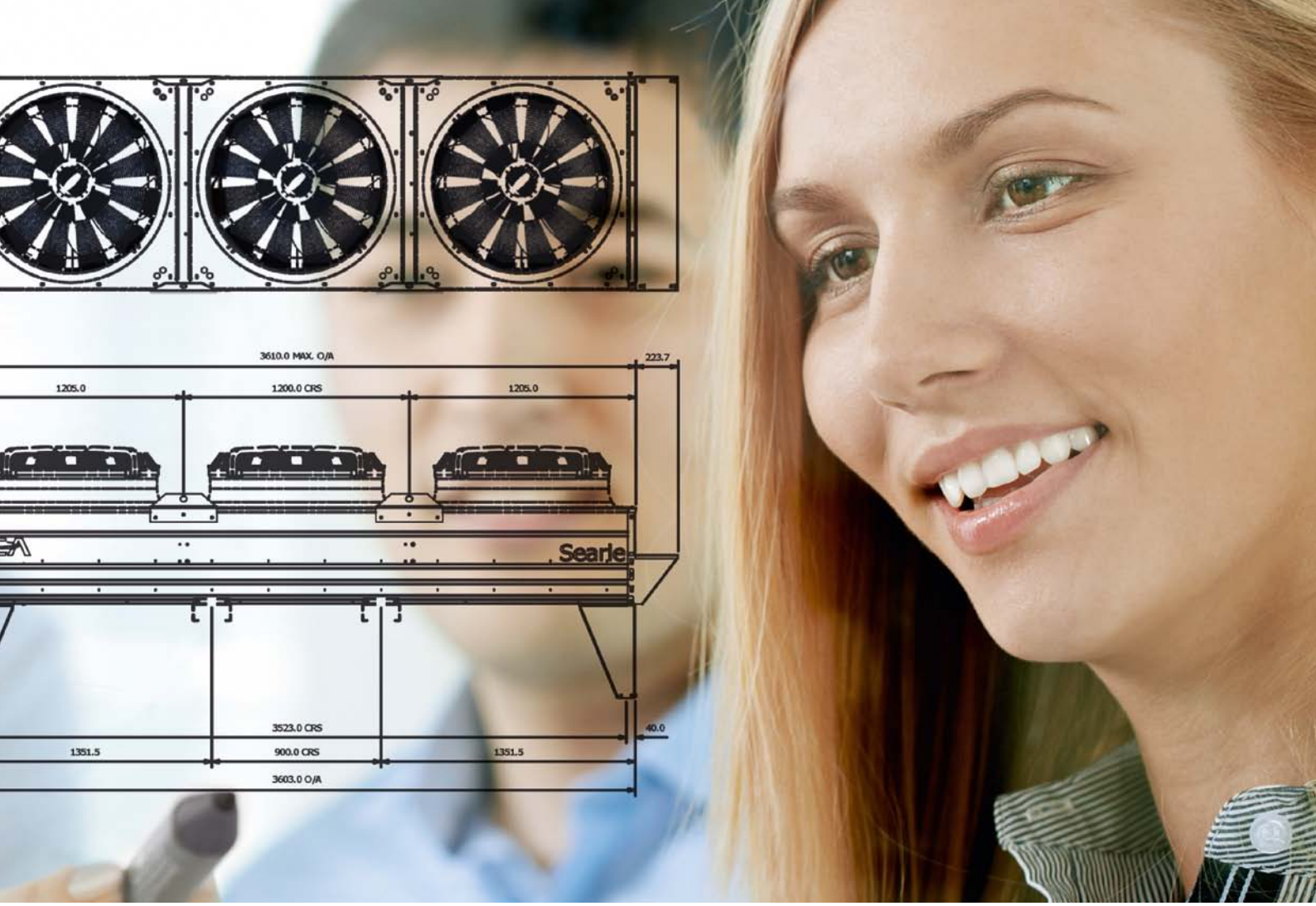
GEA Searle designs, engineers, and manufactures air-cooled condensers, systems and solutions for customers who employ refrigeration as an essential part of their primary processes. The new range of GEA Searle condensers offers you a wider choice than ever before – including both flat-bed and V-bank units, arranged in single- or double-bank configurations, and with multiple module lengths. The wide range is suitable for most refrigeration and air conditioning condenser applications.

The new generation of condensers features EC fan sets, which produce energy savings of up to 50 percent, new fan designs to improve airflow and reduce noise – as well as advanced coatings that ensure full life expectancy even in the harshest climates. At the same time, GEA Searle is moving towards greener refrigerants and unit designs that make it easier to separate the various metal and other components for recycling when the units are eventually replaced. The demand for such refrigeration technology in the UK and European supermarket industry is the driving force behind natural refrigeration. Our Centre of Excellence is dedicated to serving customers anywhere in the world and is committed to continuously providing state-of-the-art solutions and components with the lowest total cost of ownership.

GEA Searle – reliable business partner with an extensive product range:
In addition to developing new product lines, GEA Searle effectively executes special projects on behalf of customers. A high level of expertise and sophisticated test equipment ensures that the most demanding specifications are met. GEA Searle supplies its products to a broad range of industries.



Searle R&D facility



Greener refrigeration solutions

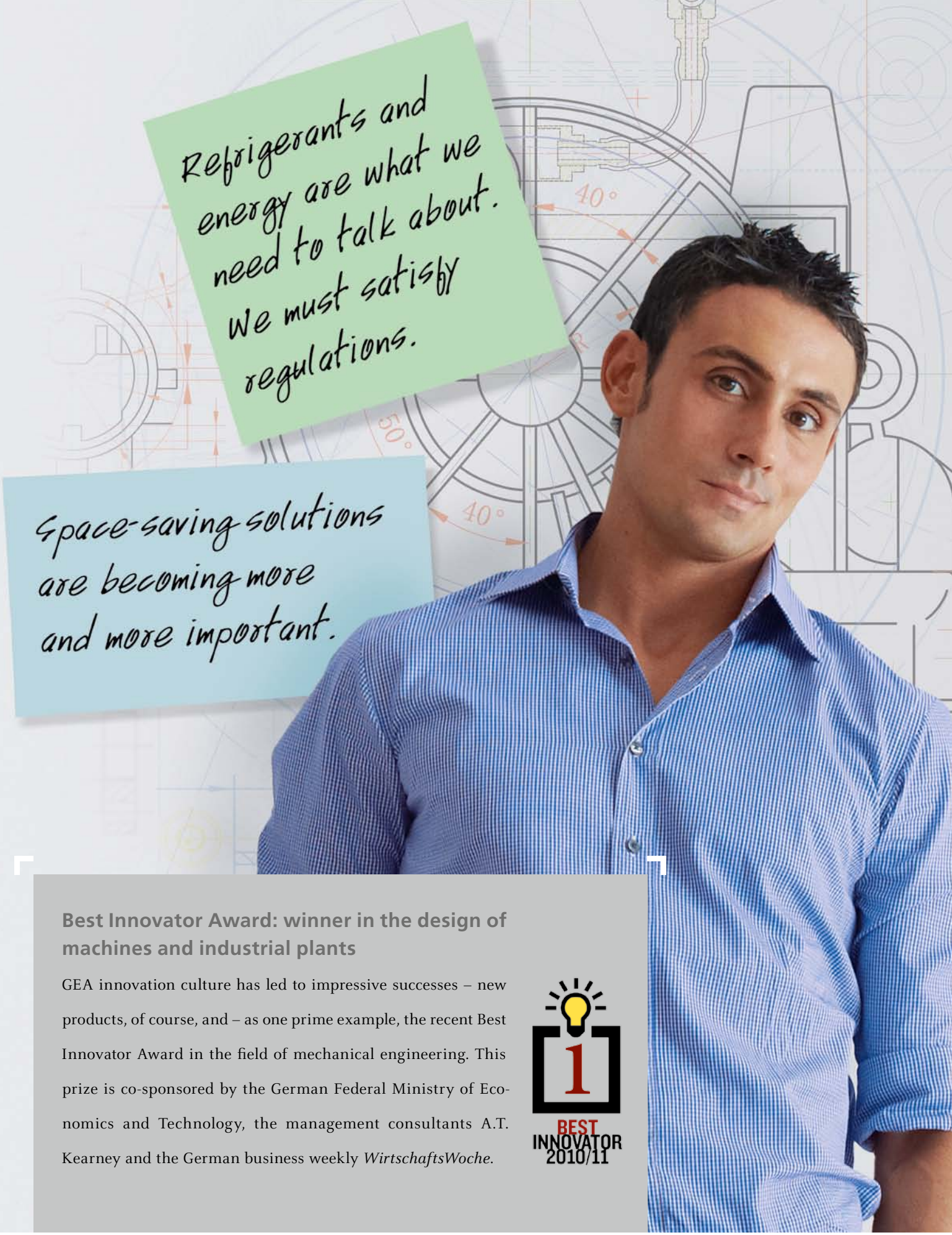
GEA Searle has turned its spotlight on improved energy efficiency, quieter operation and greater durability in its range of air-cooled condensers and condensing units for refrigeration throughout the food chain. Objectives: great economy in operating performance and enhanced end-of-life recyclability. While population growth and increasing living standards fuel demand for refrigeration, power consumption must at the same time be reduced.

Global presence for regional demands

Refrigeration markets differ regionally in terms of economic development, but in all areas offer a wide variety of technical applications. GEA Searle customers have a strong regional focus, including multinationals operating globally with local centres. This underlines the need for a global refrigeration player: not only with regional presence in its markets to reduce logistics costs, but also with the capability of delivering complete refrigeration solutions and systems. To guarantee the continued excellence of our products in terms of innovation, design and performance, the GEA Searle network of computer-aided design systems coordinates the activities of engineering, production, customer service and accounting functions such that customers effectively control and track in-plant activity.

GEA Searle innovations and continuous improvements

- Carbon footprint reduction with environment-friendly refrigerants such as CO_2
- Highly efficient EC fans as standard a new range of gas coolers
- Focus on quiet operation
- Greater durability
- Most comprehensive R&D facilities in the British refrigeration industry
- Close links with standard-setting organisations



Best Innovator Award: winner in the design of machines and industrial plants

GEA innovation culture has led to impressive successes – new products, of course, and – as one prime example, the recent Best Innovator Award in the field of mechanical engineering. This prize is co-sponsored by the German Federal Ministry of Economics and Technology, the management consultants A.T. Kearney and the German business weekly *WirtschaftsWoche*.

BEST INNOVATOR 2010/11

GEA demands and encourages new ideas

Good partners plan for the future

Economic viability is today defined in terms of ecology and sustainability. Reduced consumption of resources, full use of energy regeneration potentials, fewer parts, less space and improved working conditions – these are today's selling propositions. Together with GEA engineers, you can make your contribution to the cost-effective and safe production or storage of vital products, thereby preserving the very essentials of life – which means engineering for a better world, as we understand it.

Minimising carbon footprints is a major driving force behind our R&D efforts. In our portfolio you will find many solutions for natural refrigerants such as ammonia, carbon dioxide and non-halogenated hydrocarbons. Energy consumption is remarkably lower in these systems as a result of optimised heat transfer with minimum loss of pressure and with electronically commutated fan sets. Advanced GEA finned-tube designs, refrigerant distributors and defrosting technologies ensure that life-cycle costs remain low. Continuous improvement is part of the GEA mentality. Immediately after they roll out one newly developed product, our engineers are already busy thinking about the next. GEA never ceases to search for even better solutions in refrigeration applications.

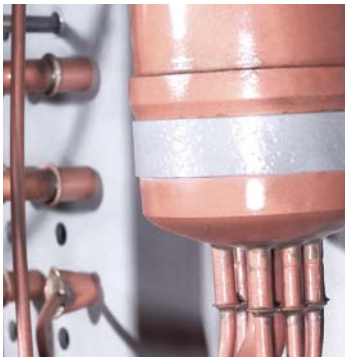
Innovation in each and every Centre of Excellence

At GEA Küba, air coolers with multiple injection are equipped with the CAL® distributor, a Küba patent. It enables even distribution of refrigerant, thanks to an optimised ratio of liquid and vapour. Unfaltering cooling performance comes with optimal humidity levels and fewer defrosting intervals.

Innovative GEA Goedhart fin design, in combination with the fin pattern selected, assures the optimal capacity-price ratio for the customer's project. Hydraulic expansion for stainless steel tubes ensures a 100 percent long-lasting bond between the tubes and fins. GEA Goedhart has the most extensive portfolio for natural refrigerants. Extensive research and close cooperation with our customers have led to cutting edge solutions.

New generation condensers

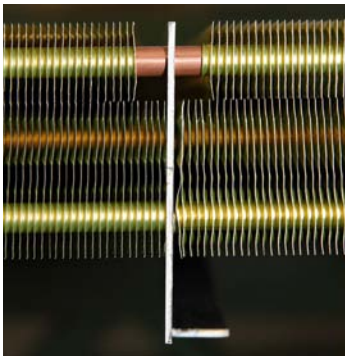
The new generation of condensers are highly efficient and incorporate the latest technology, meeting the demand for high performance and cost competitive refrigeration solutions. The range features market leading technologies for coil, case, fans and production techniques. Interlock side plate construction gives structural integrity modular variants throughout the entire range, allowing lengths up to 12 m.



GEA Küba CAL® distributor



GEA Goedhart calibration



GEA Searle PG CO_2 gas cooler fin arrangement

Reliable protection by GEA for perishable seasonal goods

Avoiding moisture and vitamin loss is the key to gentle treatment of perishable food. Vegetables, fruit and other agricultural goods are very sensitive to refrigeration conditions.







Fruit and vegetable storage

Maintaining value

Refrigerated storage systems in the agricultural sector are essential because they extend the period of acceptable eating quality for perishable seasonal products.

Under satisfactory storage environments, the flavour, colour, weight and texture required for product marketability are maintained as near to harvested quality as possible. Precisely cooled and stored vegetables can achieve higher prices when sold outside the harvest season. To gain maximum profitability from a given crop, a refrigerated storage system must therefore efficiently and consistently maintain the correct temperature and level of relative humidity.

Preserving vitamin value

Fruit and vegetables are often underway for days before they reach shopping bags. Transportation and intermediate storage pose immense cooling requirements – since vitamins begin to diminish directly after harvest. Proper cooling slows this impairment of vitamin value. For all companies that ripen or store fresh fruit and vegetables, refrigeration has major impact on their economic success. GEA air coolers offer optimum goods protection and perfect support for finishing processes to assure preservation or enhancement of the value of chilled goods.

Bright ideas for the smallest details

Storage operators' expectations are clear-cut: moderate investment, assured reliability, and sustainable low operating costs. Cross-connection of two linked systems, for example, guarantees reliable cooling of sensitive produce, even if one of the systems fails. If the cold rooms are heavily frequented, an entrance zone for selection and packaging – that also serves as a cooling buffer – can offer valuable benefits. Energy loss due to circulating air exchange in the storerooms themselves is significantly reduced. As a result, the time between defrost is longer. Since some fruit and vegetables must be stored at relative humidities of up to 98 percent, GEA offers high-performance evaporators. Optimal air circulation with consistent frosting of the fins guarantees quick and even cooling. This, in turn, prevents moisture loss in the refrigerated goods. Air straighteners lead to a more even distribution of cooled air in large storage areas.



Carrots are very sensitve and demand careful cooling



The air throw of cooled air is crucial in large and long storage areas



GEA air cooler height is a minimal, which means more storage space

Food processing and freezing

Cooling and freezing for best product quality, freshness, texture and taste



An unbroken cooling chain is essential for juicy and tender meat



Today's convenience food sector expects freshness, flavour and appearance



Meat storage must ensure low dehumidification

Robust coolers for the slaughterhouse

GEA coolers are part of the process as soon as the just-slaughtered animals are transported into the chilling or freezing tunnel. Slaughterhouse cooling technology has benefited from extensive developments over the last decade. Various material choices have extended equipment lifetime, reduced energy costs and provided higher resistance to the detergents used today. Low dehumidification results in juicy steaks on the one hand and a high return on the customer's investments on the other.

Corrosion-resistant equipment for fish processing

Fish and seafood are expensive, especially in processing. When processing fish, additional investment costs of 25 to 40 percent must be expected from the very beginning in comparison to meat. Raw fish must be processed at an ambient temperature of 2 to 4 °C within three hours. Cooling takes place within circulating cold air. The circulating air flows, draft-free, through the production hall. Particles of defrosting water, salt and dust are absorbed there and deposited on the walls and the floor, as well as on the fins of air coolers. To prevent corrosion, the casing must be completely powder-coated to be 100 percent food-safe. Corrosion-resistant insulation with PVC coating is necessary for the refrigeration tubes, usually made of copper, and for the condensate water lines. An epoxy resin varnish is applied to the aluminum fin belt in the manufacturing process and reliably prevents corrosive attack. This epoxy paint is resistant to the aggressive circulated air and satisfies the requirements of the safety process. Regular cleaning and the strictest possible hygienic measures are required here.

Cutting-edge diversity for the food industry

GEA coolers are available to meet all food-processing requirements, including regulations such as the International Food Standard. Many defrost options can be specified and units can be used with various refrigerants. Operating costs remain considerably lower in any configuration.

Hygienic solutions for safe product handling

With slaughtering or fishing, the cold chain begins – and, with it, GEA responsibility. Effective cooling and freezing of meat and fish are essential for flawless and tasty food to become successfully marketable merchandise.



Immediately after the catch the fish must be kept fresh without harming the thin, delicate skin



The special properties of raw seafood require the use of corrosion-resistant materials in the processing area



GEA engineering preserves the characteristics of a really fresh fish – glossy skin, firm and rounded lenses, and bright-red gills

GEA solutions for all kinds of storage

Quiet operation, low energy consumption, no failures, long operating times between defrosting intervals, reliable solutions for every size. Welcome to the perfect cooling chain







Distribution and retail

Effective cold storage has a crucial effect on the quality and value of your merchandise

The convenience food sector has experienced significant growth over the last few years, which has created an ever-increasing demand for refrigeration equipment. Consumers are insisting on much higher levels of convenience and quality from their food – with the emphasis on immediate consumption – which means more chilled snacks, cold beers, wines, soft drinks and fresh produce. Today's supermarkets can be supplied only by large-scale distribution centres with cooling and freezing departments, where all articles can be stored and transferred at the right temperature. In addition, for producers of chip potatoes, deep-frozen vegetables and ice cream (for example) need cold stores for deep-frozen bulk storage.

GEA solutions for distribution centres

Supermarkets and distribution centres have often been run "on the cheap". GEA's experience over recent years has proved this strategy not to be very effective. Off-the-shelf coolers, which after a while become fully clogged with dirt from carton boxes and fork lift trucks, give poor performance. This constantly reduces the efficiency and reliability of the total plant and increases sound level, energy costs and total operating expenses. GEA has designed air coolers especially for distribution centres with ultra-low sound emission and energy consumption. Hinged panels are provided on the enclosures for quick and thorough cleaning. For the deep-freeze rooms of distribution centres, GEA has developed an array of accessories to reduce energy loss while defrosting. This allows store operators to concentrate on their core competence: supplying just-in-time.

Reliable distribution and retails

Investment in long-life, cost-effective and compact cooling systems for storage and sales areas pays off from the very start. Equipment 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. The need for convenience has also dictated that the location of stores be changed, with greater demand for neighbourhood stores and filling station outlets. These trends place particular demands on the type of refrigeration equipment needed – and GEA offers a wide range of solutions for supermarket and convenience store refrigeration.



Exactly what your customers expect from you



Advanced GEA solutions for supermarkets and their customers



GEA refrigeration components makes such vegetables possible



GEA takes care

Each of us has certain needs – basic requirements as well as expectations with regard to lifestyle, leisure and food quality. GEA stands for safe and sustainable energy supply, reliable cold chains, convenient room climate – and much more.

Many and various applications

Wherever you go, GEA is already there to meet your expectations



Leisure

More and more, indoor ice rinks and ski domes will become part of modern leisure centres – also in countries where the outside temperature rarely drops below freezing. This requires special performance by refrigeration systems with high-grade components. GEA air coolers refrigerate most of the artificial ski slopes around the globe. You can find our air coolers benefitting enthusiastic skiers from Germany to Spain and from Benelux to even Dubai. Coolers for ski slopes satisfy very special demands on air throw, frost accumulation and sound level.

Test facilities

Air coolers for test facilities are tailored to the exact and sometimes extreme needs of the customer. Temperatures can range from -60 to +100 °C in test chambers for the automotive industry. GEA has likewise delivered air coolers for special test and scientific facilities in the food industry. Food testing engineers study the behaviour of food in relation to various freezing methods, down to -70 °C and lower. For studying the human body during sports activities, GEA has designed special air coolers to be installed in running chambers for athletes. Under varying conditions, the athletes perform and the results are measured and analysed. This data is a valuable contribution in their search for success in important competition.



Energy

Green electricity can now be generated from wood. GEA heat exchangers are used for wood drying and dry cooling processes in innovative wood gas production plants. Latest environment-friendly gasification technology efficiently produces combustible gas from fresh wood. The CO_2-neutral gas fires a block heating power station that co-generates heat and electricity. Wood gasifiers went on line in Dortmund (Germany) in June 2008.



Cooling of flowers

The flower market is blooming. To meet increasing demand, storage capacities are being continually expanded. Cut flowers are perishable goods and place special demands on refrigeration engineering. Directly after picking, the flowers are taken to draft-free cold storage, where they are stored at a relative humidity of 80 percent.



Marine solutions

Great variety for your specific requirements. In the maritime industry, where precision is of the very essence, GEA is proud of its achievements. In the fishing industry, for example, vessels have turned into sailing fish-processing plants with freezing tunnels for individual quick freezing (IQF). Typical carriers of juice, bananas, and citrus transport huge quantities and require sophisticated air circulation, humidity, distribution, and cooling systems.



Catering

Soccer makes people hungry and thirsty: including the fans. Sharing the thrill also takes energy. The operators of the Allianz Arena in Munich, for example, were well rewarded in making sure that fans had enough good food and drink. The stadium can accommodate up to 70,000 people, and they want to eat and drink. GEA units are used in all areas: in the large-scale kitchens, the food-preparation rooms, open cooling rooms, deep-freeze rooms and the kiosk areas.



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.

GEA Heat Exchangers

GEA Küba GmbH

Oberdiller Straße 23, 82065 Baierbrunn, Germany
Phone: +49 89 744 73 0, Fax: +49 89 744 73 107
kueba.hx.de@gea.com, www.gea.com

GEA Goedhart B.V.

Nijverheidsweg 6, 4695 RC Sint Maartensdijk, The Netherlands
Phone: +31 166 665 665, Fax: +31 166 663 698
goedhart.hx.nl@gea.com, www.gea.com

GEA Heat Exchangers Ltd.

GEA Searle Systems
20 Davis Way, Newgate Lane, Fareham, PO14 1AR, Great Britain
Phone: + 44 1329 8233 44, Fax: + 44 1329 8212 42
searle.hx.uk@gea.com, www.gea.com

© GEA Heat Exchangers. Subject to modification. 8/2012 – CS-2012-0041-GB