



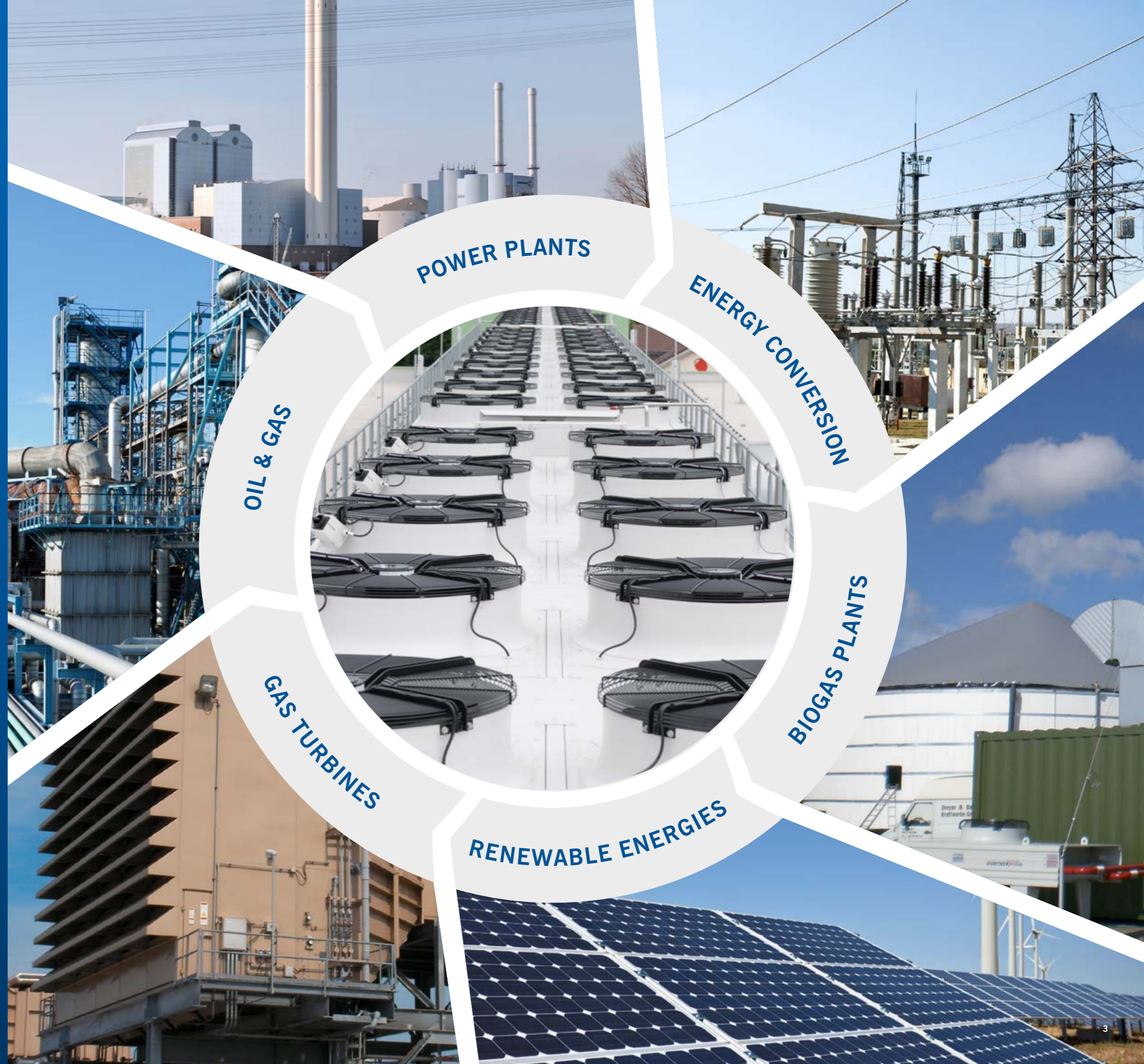
Energy & Process Cooling



Customized heat exchanger engineering

Expert know-how is required when doing calculations for and selecting heat exchangers for unique applications involving refrigeration and air conditioning technology or the cooling of processes and energy systems. Here at Guntner we have decades of experience in working in these fields and can not only provide the technical skills and personalised consultancy services required but also pride ourselves on our global production and high-quality products.

We have the know-how, materials and production facilities to be able to overcome any challenges involved in your projects together with you. We will provide you with a thermodynamically calculated unit tailored specifically to fulfil the requirements of your application.



Güntner technology for highly reliable and guaranteed performance



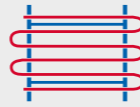
Certified capacity specifications

The Eurovent certification process prescribes that all series of a participating manufacturer shall be tested and approved by specially authorised laboratories. You can rest assured that units with the Eurovent certification seal of approval reliably achieve the specified performance and low noise levels.



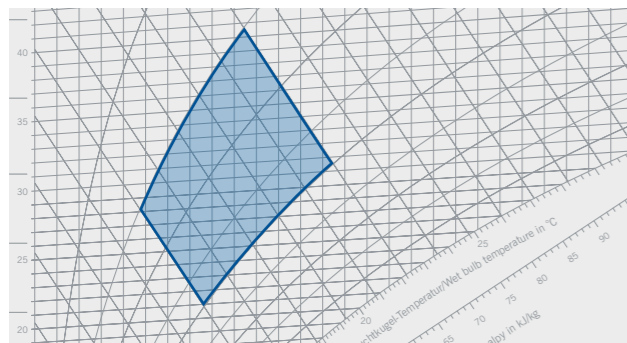
Reliable and leak-proof

- Tried-and-tested Güntner floating coil principle (the fluid-carrying tubes do not have any contact with the casing)
- During crane or fork-lift transport, the profiled side plate (Güntner profile) ensures a high level of torsional rigidity.
- Snow/wind loads taken into account statically



Maximum corrosion resistance and mechanical resistance

- High flexibility and manufacturing capability: various different materials can be combined together for your casing, tubes and fins.
- Additional coatings such as epoxy resin-coated fins or cathodic dip coating provide increased corrosion protection.



Thermodynamic calculation

Your specifications are all taken into account: installation location, capacity, medium, operating pressure, dimensions and special designs



Noise level and power consumption reduction

Depending on the application, noise level regulations may be quite strict, and the mere sight of fans in operation can lead people to perceive sound as louder than it really is. We have the expertise to help you find the optimal solution in terms of noise and energy efficiency.



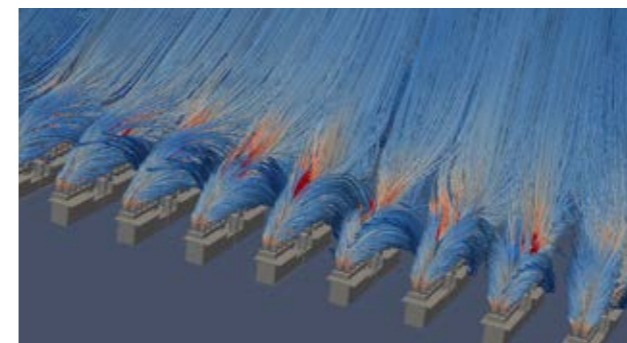
Tested performance

We use the most modern test stands for the continuous development and improvement of our products. Apart from running tests in our internal lab, our products are Eurovent-certified, that is, the specified performance data is verified by an independent body.



Güntner quality

- Tried-and-tested semi-finished products from certified manufacturers
- ISO 9001 quality management
- Supplier management
- Over 85 years' experience in building heat exchangers



CFD Simulation

As an optional service, we are able to provide you with a Computation Fluid Dynamics (CFD) simulation of your projected heat dissipation installation so that you can use your installation's potential to capacity.

What is special about your heat exchanger?

Control with added value

- Stable operation in particularly low partial load ranges – Low Capacity Motor Management (LCMM)
- Continuous cooling – emergency operation function in the event of control signal failure
- Reliable operation in the event of snow and ice – tear-off function in the event that a fan is blocked

AC/EC fan technology

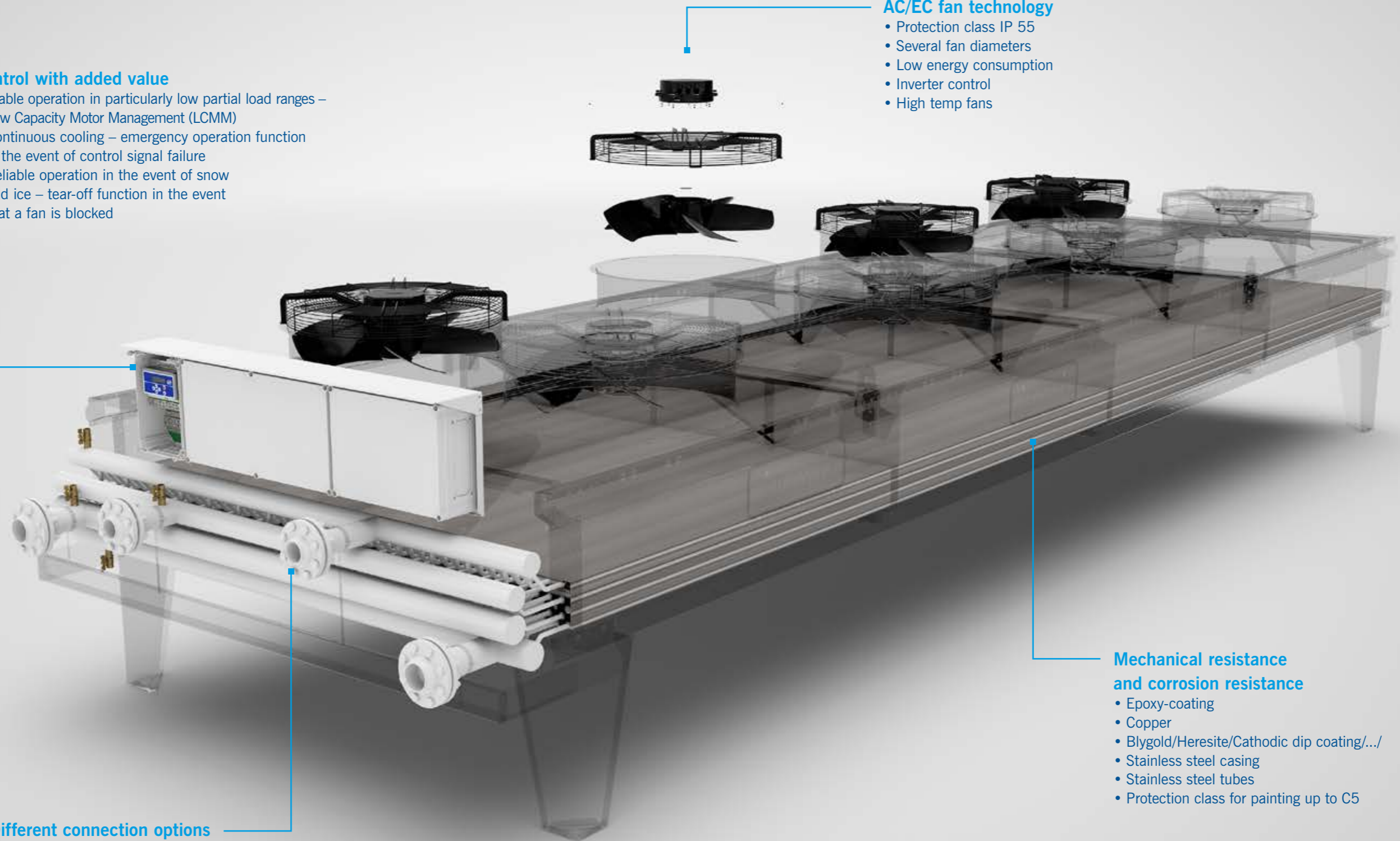
- Protection class IP 55
- Several fan diameters
- Low energy consumption
- Inverter control
- High temp fans

Different connection options

- Flange connection
- Thread connection
- Soldered and welded connection

Mechanical resistance and corrosion resistance

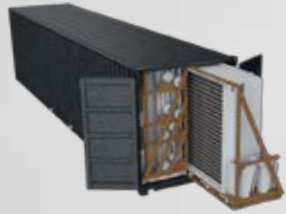
- Epoxy-coating
- Copper
- Blygold/Heresite/Cathodic dip coating/.../
- Stainless steel casing
- Stainless steel tubes
- Protection class for painting up to C5



Easy to mount and maintain

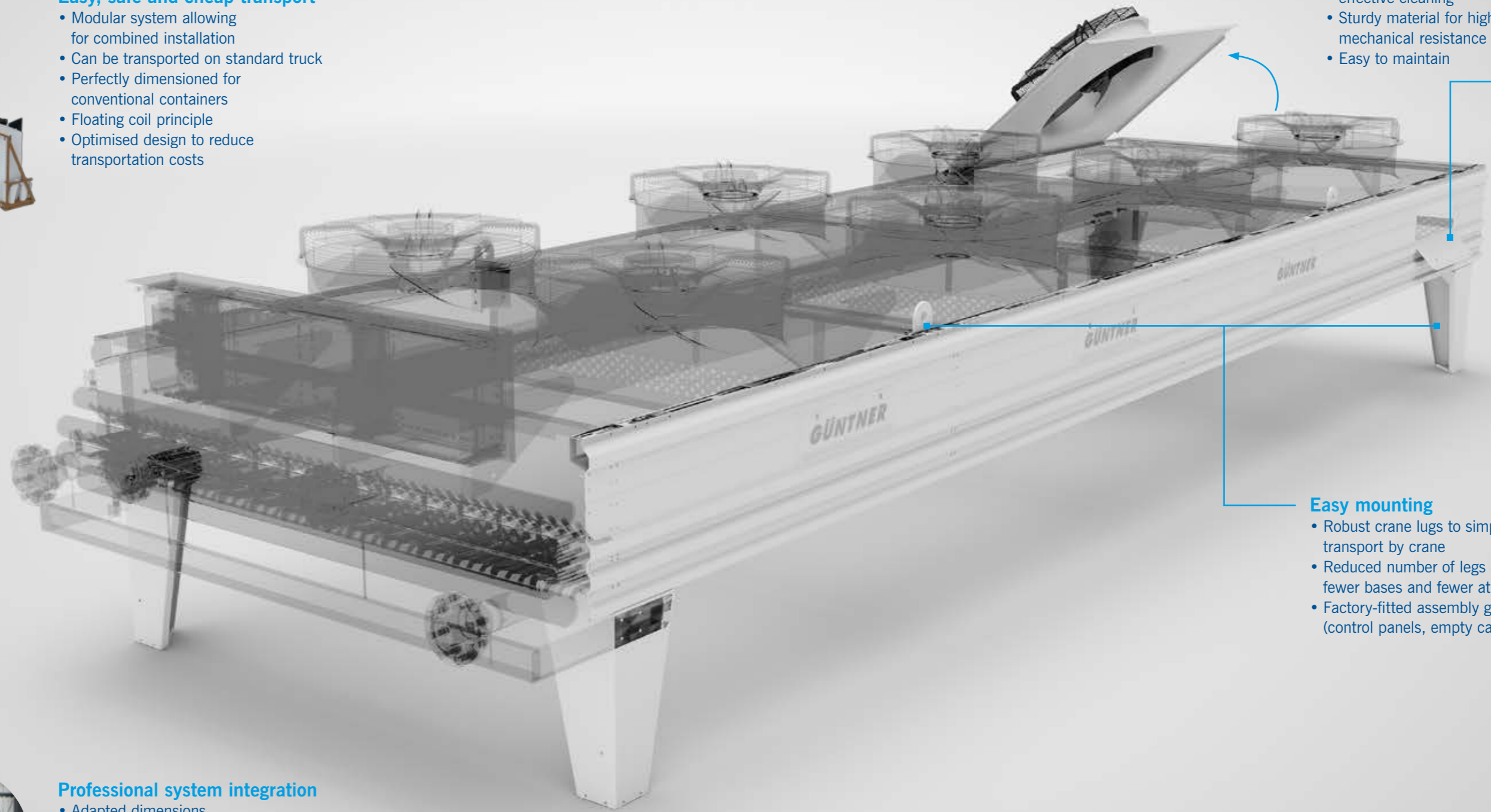
Easy, safe and cheap transport

- Modular system allowing for combined installation
- Can be transported on standard truck
- Perfectly dimensioned for conventional containers
- Floating coil principle
- Optimised design to reduce transportation costs



Inspection and cleaning

- Easy access for cleaning
- Optional inspection opening or hinged fan plates
- Special fin geometry for effective cleaning
- Sturdy material for high mechanical resistance
- Easy to maintain



Easy mounting

- Robust crane lugs to simplify transport by crane
- Reduced number of legs and hence fewer bases and fewer attachments
- Factory-fitted assembly groups (control panels, empty casings, etc.)

Professional system integration

- Adapted dimensions
- Static calculation
- Earthquake-proof design
- Installation service
- Start-up at power plant





German design manufactured close to you!

As your partner, we support you around the entire globe! You will find us at over 50 locations in almost every important production and trade centre in Europe, the Americas and Asia. We speak the language of the market and understand regional laws and mentalities.

9 manufacturing facilities worldwide

139,250 m² of production area

54 locations worldwide

3,100 employees

Details do matter

As a competent partner, we not only offer application know-how and well-designed, easy-to-handle units; our portfolio is complete down to the seemingly mundane matters. Accessories like air ducts or hoods, sub-constructions, hand rails, ladders... we can supply you with everything you might need for your application.

Accessories

Air ducts

With several units mounted side by side, this accessory helps keeping the air streams separate and preventing a short-circuiting of air.



Sub-construction

The sub-construction makes sure that there is sufficient face area for air intake so that the units can perform effectively.



Hand rail and ladder

On request; e.g. for cases in which the units are installed higher up (e.g. on sub-constructions); to support the operator's safety concept for maintenance and repair.



FLAT Vario
Air-cooled Condenser

ECOSS
Evaporative Condenser



Plate heat exchanger

Power Plants

Modern power plants achieve maximum output from the primary energy used. These plants cannot function without additional cooling. Güntner products are used for all plant parts that require cooling.

Tiefstack CHP *Hamburg/Germany*
Tiefstack heating and power system uses Güntner fluid coolers and products by Güntner Controls to cool all of the drives and system components.



Public utility Rosenheim

Rosenheim/Germany

The project by the public utility in Rosenheim placed high demands on performance and sound insulation. The Guntner fluid coolers used for the installation of a new gas motor power plant in a mixed residential and commercial area with residential and office buildings as near as just 25 metres were designed exactly to fit these requirements.



Cogeneration unit Adlershof

Berlin/Germany

The combined heat and power plant consists of a gas turbine, five gas gen sets and four hot-water generators for coupled electricity and heat generation. It has an electric output of 13 MW and a fossil thermal output of 96 MW. Four Guntner GFD fluid coolers, each with a capacity of 215 kW, dissipate the waste heat of the five gen sets.



Thessaloniki power plant

Thessaloniki/Greece

The Thessaloniki gas/steam turbine power plant generates 400 MW of electrical energy. Guntner smooth-tube heat exchangers without fins were installed to condition the combustion air of the GE gas turbine. The heat exchangers installed in the filter house are maintenance-free.



Vattenfall Power Plant

Hamburg/Germany

Although the power station achieves an efficiency level of more than 90 %, it still needs cooling: Guntner adapted the performance profile of 6 GFV V-shape fluid coolers to the special conditions of the heating and power station. Guntner Controls added reliable controls technology with an integrated Ethernet communication interface.



ELTECO

Siberia/Russia

The Siberian climate represents a particular challenge for refrigeration engineers when it comes to producing power from gas. The Slovakian Elteco company installed Guntner fluid coolers as well as thermowave plate heat exchangers in Siberia to dissipate heat produced by five 2 MW gas generators.



STEAG Biomass Power Plant

Warndt/Germany

The plant at the site of the former "Warndt" mine uses ORC (Organic Rankine Cycle) technology and has an electrical output of 1.8 MW and a thermal output of 8 MW. Guntner delivered 4 low-noise GFV fluid coolers with a total capacity of 5 MW and a control cabinet.



EBS Waste incineration power plant

Knapsack/Germany

In this waste incineration power plant, a total of 8 Guntner low-noise fluid coolers with a capacity of 6.6 MW are used for heat dissipation. 3 flatbed units with 8 fans each are used as grate coolers for high temperature levels; 5 special flatbed units with 10 fans each are used for secondary cooling.



Biok Biomass Heizkraftwerk

Frankenthal/Germany

In Frankenthal, Guntner helped re-equip the power plant by delivering 6 of their largest GFD fluid coolers, each with 18 fans and a capacity of 1.46 MW and equipped with vibration dampers.

Containerized engine gen sets for biogas plants

Bioenergy is booming. Renewable energies are more than simply the key to sustainable climate protection on our planet. Biogas combustion engines are mostly installed in space-saving containers and delivered as complete systems. Guntner meets the requirement of making heat exchangers as compact, modular and high performance as possible.

ElektraTherm Biogas Plant *Trechwitz/Germany*

In the village of Trechwitz, a rural area not far from the city of Potsdam in Germany, one of the most modern biogas plants in Europe is in operation because of the vast energy potential from manure.



Schmack Biogas

Germany

Schmack Biogas AG is among the pioneers of the German biogas industry and a turnkey supplier of biogas plants. To dissipate the surplus heat, they use highly efficient Guntner double-coil fluid coolers of the GFD series.



Biogas setup

Germany

This configuration is a setup suitable for serial execution: Two separate gen sets are used, each equipped with a mixture cooler and an emergency cooler. The four Guntner flatbet coolers are mounted on top of the containers.



Baita del Latte Farm Biogas

Limena, Italy

This gas engine with a Guntner GFD fluid cooler (casing made of galvanized steel, painted) is used in a biogas plant at a commercial farm. The biogas plant is run on a wet mixture of animal waste and agricultural biomass materials, thus reducing ecological concerns (e.g. the proper disposal of animal manure).



Myanmar Plant

Myanmar

The power generation plant in Myanmar with a total capacity of 100 MW uses 64 MTU gen sets with the like number of Guntner flatbed fluid coolers.



Benlesa Landfill

Monterrey, Mexico

At the Benlesa landfill, 7 biogas engines with a capacity of 1 MWe each are used to produce energy. A total of 12 Guntner V-shape fluid coolers (GFD) in painted, galvanized-steel casing, each with 6 fans with IPP 66 protection, are used for efficient heat dissipation.



Lendava Biogas

Slovenia

The Lendava plant is a mesophilic biogas plant with three biogas engines, one of which is using ORC technology. This enhances the electrical efficiency by an estimated 5%. The engines are equipped with 4 vertical Guntner GFV fluid coolers with casings made of galvanized steel (painted green) and a total capacity of over 4 MW.



NEA Wurzen MoBio

Wurzen/Germany

The continual feeding of biogas into the natural gas network significantly improves the efficiency of biogas facilities. The piston compressor manufacturer NEUMAN & ESSER developed a mobile biogas system for this purpose and relies on a Guntner FLAT Vario S-GFH fluid cooler for cooling the compressors.



Caterpillar gen set

Guangxi/China

Caterpillar is the world's leading manufacturer in diesel and natural gas engines and industrial turbines, among other products. In this project, two Guntner GFD fluid coolers are used to dissipate the waste heat of 2 Caterpillar gen sets with a capacity of 1.5 MW each.

Energy conversion

Energy transport and energy conversion play an important role in modern economic systems. The high demand that this infrastructure responsibility entails also applies to the necessary plant components. Güntner heat exchangers, which are used for cooling processes, are reliable and fail-safe.

White City shopping center

London/Great Britain

The design and the features of our excellent products are based on our experience which extends also to fields such as HVDC (High Voltage Direct Current), SVG (Static Var Generator), SVC (Static Var Compensator) and UPFC (Unified Power Flow Controller).





Nine Mile Porter Transformer station

New Orleans/USA

At the Nine Mile project, about 0.68 MW waste heat generated by the rectifiers have to be dissipated by 4 Güntner S-GFH flatbed fluid coolers. The large number of fans in the fluid coolers (4 x 4 axial fans including 2 spares in the Nine Mile system) allows the heat removal to be almost continuously adapted to the rectifier heat emission.



HVDC Transbay

New Orleans/USA

An approximately 88 km long high voltage direct current transmission link transmits up to 400 MW electrical power at a DC voltage of 200 kV from Pittsburg, California, to San Francisco. For two converter stations, Güntner delivered 10 flatbed GFH fluid coolers with epoxy-coated fins.



HVDC project

Funing/China

In the province of Yunnan, at an altitude of 1,400 meters above sea level, a total of 14 drainable GFHE fluid coolers are used for two gen sets of 4.4 MW capacity each, leaving one unit as redundant reserve. The units are made of stainless steel with aluminium fins.



SylWin Alpha

Germany

The electric energy generated by windparks off the German coast is being transformed in a substation on land. To dissipate the waste heat of the transformation process, 13 Güntner GFD V-shaped fluid coolers, each with epoxy-coated fins and 16 fans, are being used.



Peiner Träger steelworks

Salzgitter/Germany

For the expansion of the steelworks, a second production line with an electric arc furnace and two pan furnaces were planned. For two of the three cooling water circuits of the smelting furnace, Güntner delivered 64 drainable GFW fluid coolers with hinged fans, with a total capacity of 113 MW.



SVC Harker

Harker, UK

In this project for the UK National Grid, a total of 5 MSCDN (type 225 Mvar – 400 kV) with a total rated power of 1,459 Mvar, Güntner GFH flatbed fluid coolers are used for a Thyristor cooling system.



HVDC Bipole III

Manitoba, Canada

For two stations of a classic HVDC converter system, Güntner delivered a total of 34 special flatbed fluid coolers of the GFH series designed for an ambient temperature range of -50 °C and +40 °C. There are 4 groups per station; per group 1.65 MW + 1 redundant cooler (3 + 1 fluid coolers per group).



Energy transmission

Lingzhou/China

In this HVDC project at an altitude of 1,000 meters above sea level, 4 converters sets with 4.8 MW each are equipped with 44 drainable fluid coolers of the GFHE series. The special version of the units is made of stainless steel tubes with aluminium fins.

Broad range of other applications

Güntner is an innovative, competent and reliable partner when it comes to customized heat exchanger engineering. The projects depicted in this brochure show only a fraction of our expertise. We consequently meet the highest demands.



Gas turbines

The importance of gas as a global economy fuel is constantly growing. Gas turbines are increasingly used for power generation in developing regions in particular. Frequently high ambient temperatures mean that these gas turbines require a cooled charge airflow. Güntner produces heat exchanger coils as OEM units for installation in filter houses in customer-specific dimensions and materials.



Offshore wind farm

North Sea, Germany

Baltic 2 is an offshore wind farm owned by EnBW; it generates green energy from 80 wind turbines over an area of 27 km² with a total output of 288 MW. 41 Güntner GGHF cubic air coolers with capacities between 10 and 70 kW are used to cool the machine rooms. The units have special coils and fans and are equipped with heating rods.



Malt drying

Heidenau/Germany

In Heidenau, Saxony, the Malteurop malthouse operates a plant with a capacity of 60,000 tons of malt per year. Güntner GCO heat exchangers are used as air heaters in the production process. These GCO were constructed in stainless steel in order to meet the challenging corrosion protection and cleaning requirements.



Wind tunnel

Vienna/Austria

The largest wind tunnel in the world is operated in Vienna; it is used to test sensitive technical systems in extreme climatic conditions. The plant has two wind tunnels (100 and 31 m long) and operates with 2 Güntner GCO heat exchangers with a total capacity of 3 MW.

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