



Güntner Competence

Industrial Refrigeration

Foodstuff industry



Fruit and vegetables



Storage and logistics



Chemicals and pharmaceutical industries



Product freezing



Wind tunnels



“Customized heat exchanger engineering with an innovative, competent and reliable partner.”

Nguyen Hong Quang, Business Line Leader Industrial



Güntner enjoys over 80 years experience in manufacturing heat exchangers for the refrigeration industry. Together with planners and contractors, our objective is to develop the optimum concept for the individual application case and to design and deliver the respective appropriate product.

The application areas in industrial refrigeration are extremely multifaceted – which is why established specialist knowledge is indispensable for planning and design. Optimum functioning, reliable cooling power, failure-safety and low operating costs play a key role for the respective operation.

We implement these factors with our know-how – from planning right through to delivery.

Our technical sales staff support you with comprehensive advice – on the phone or personally on-site.

Competent. Reliable. Personal.

The wide range of industrial refrigeration applications

Products, processes and media have to be chilled, frozen or deep-frozen in various sectors and industries. Industrial refrigeration systems are applied here, and they generally have high refrigeration capacities and are operated with natural or synthetic refrigerants.

The highest demands for cooling capacity, operational reliability and hygiene are made on refrigeration systems to guarantee maximum product quality.

Foodstuff industry

High requirements for compliance with the specified temperatures, operational reliability and hygiene are particularly important in foodstuff production. Compliance with all parameters is critical for the quality of the respective foodstuffs produced.

Application areas:

- Meat
- Fish
- Bakery products
- Dairy products
- Drinks
- Finished products
- Confectionery
- Freeze drying



Storage and logistics

Finding the optimum system concept and using reliable air coolers is indispensable for every type of cold storage room and every type of transport logistics. The most important factors when storing products are consistently even temperature distribution, high failure-safety and low operating costs.

Application areas:

- Freezing products
- Long-term storage
- Transshipment stores
- Cold storage



Fruit and vegetables

Fresh fruit and vegetable storage requires precise knowledge of the products' specific properties.

Special temperature, humidity and airflow requirements must be met to bring these products to the consumer in top quality – regardless of the season. Special air coolers are used to control the ripening process for banana ripening systems, for example.

Application areas

- Long-term stores
- Interim storage
- Ripening processes



Chemicals / pharmaceutical industries

In the chemicals and pharmaceutical industries it is not just about high failure-safety and performance compliance – special requirements must also be met.

This applies in particular to the use of special materials and the type of equipment.

Application areas:

- Explosion protection
- Corrosion protection
- Hygiene areas



Multifaceted requirements require flexible solutions

Type of cooling	Special feature / units	Application example	Application example / reference
Room cooling Cold storage	<ul style="list-style-type: none"> - Adherence to a specified room temperature - Even temperature distribution 	<ul style="list-style-type: none"> - Cold storage rooms - Interim storage 	
Room cooling Production areas	<ul style="list-style-type: none"> - Adherence to the room temperature - Aggressive atmospheres - Hygiene requirements - Reduced air draughts - Low noise emissions 	<ul style="list-style-type: none"> - Production room - Processing room - Packing room - Goods incoming/goods outgoing 	
Chilling products	<ul style="list-style-type: none"> - Room temperature > 0 °C - Fast cooling - Product quality maintenance - High air speeds 	<ul style="list-style-type: none"> - Fast cooling rooms - Cooling tunnel - Yoghurt cooling - Finished products 	
Product freezing	<ul style="list-style-type: none"> - Room temperature < 0 °C - Fast freezing - High air velocities - Fans with external pressure - Special fin spacing - Adjusted airflow routing 	<ul style="list-style-type: none"> - Freezing rooms - Freezing tunnels - Freezing equipment - Meat - Fish - Pasta - Finished products 	
Storage and logistics	<ul style="list-style-type: none"> - Different unit models for different cold storage concepts - Good temperature distribution - Low energy costs 	<ul style="list-style-type: none"> - Cold storage houses - High-bay storage - Sliding-bay storage - Fruit and vegetable storage 	
Wind tunnels Freeze drying Environmental simulation	<ul style="list-style-type: none"> - Individual requirements - Order-related construction 	<ul style="list-style-type: none"> - Production - Test stand - Air conditioning 	

Global presence

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.



A global community of experts



Achieving objectives together with partnership-based consulting

Take advantage of Güntner's extensive experience. With specific application know-how and innovative products we can work out optimum solutions together with you.

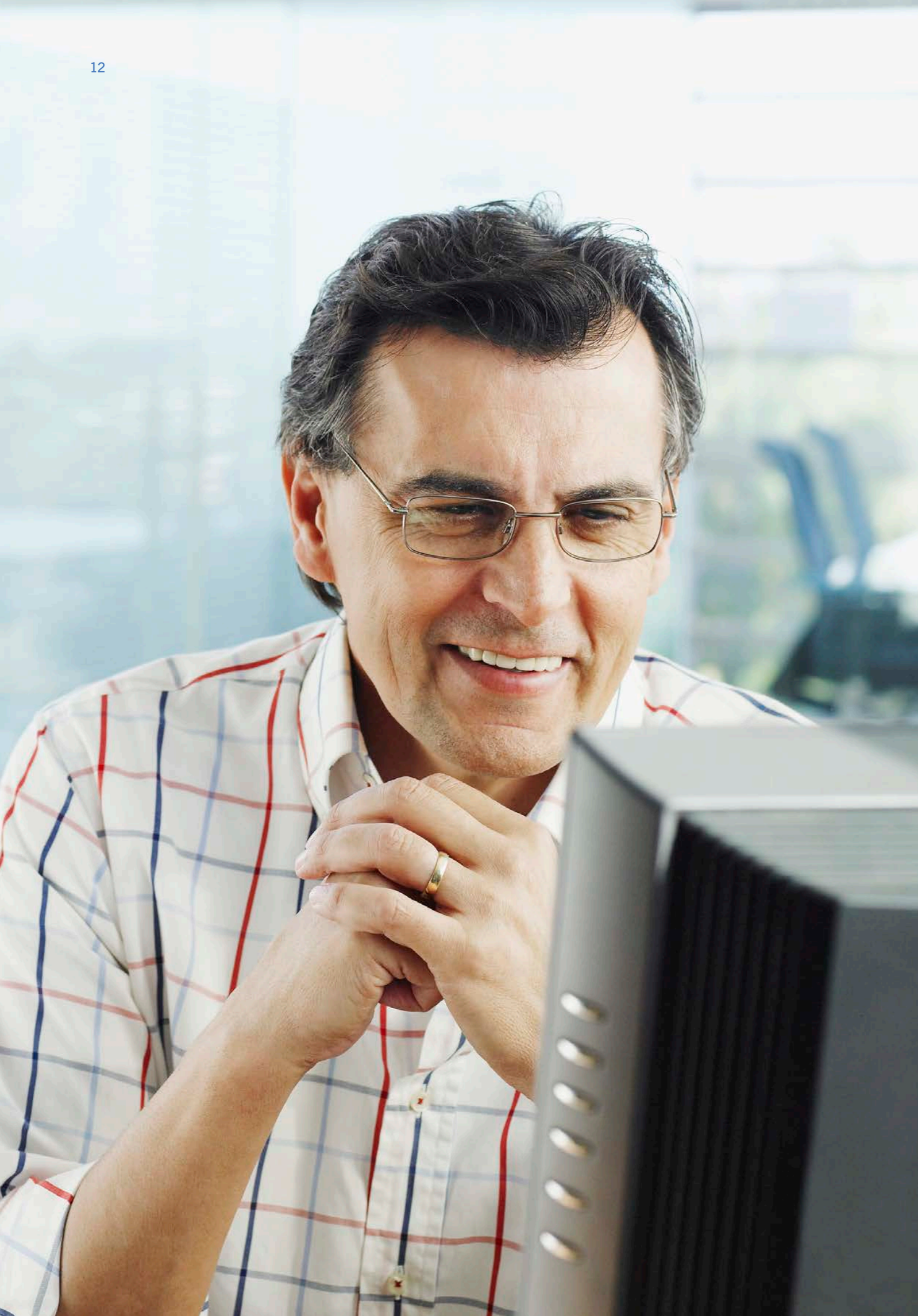
We project the heat exchangers according to your specifications with reliable data and advise you on the best possible selection, equipping and number of units.

Our technical sales staff support you with your search for the optimum concept, and also provide you with the required technical data for your planning.

Individual
project situation

Decision on
requests / offering

Sales strategy
Product strategy



Quick & safe: Configure thermodynamically & prepare offers

The Güntner Product Calculator GPC configuration software allows you to quickly and easily configure the right unit for your individual application. Simply enter the required parameters in the convenient entry screen on the GPC.

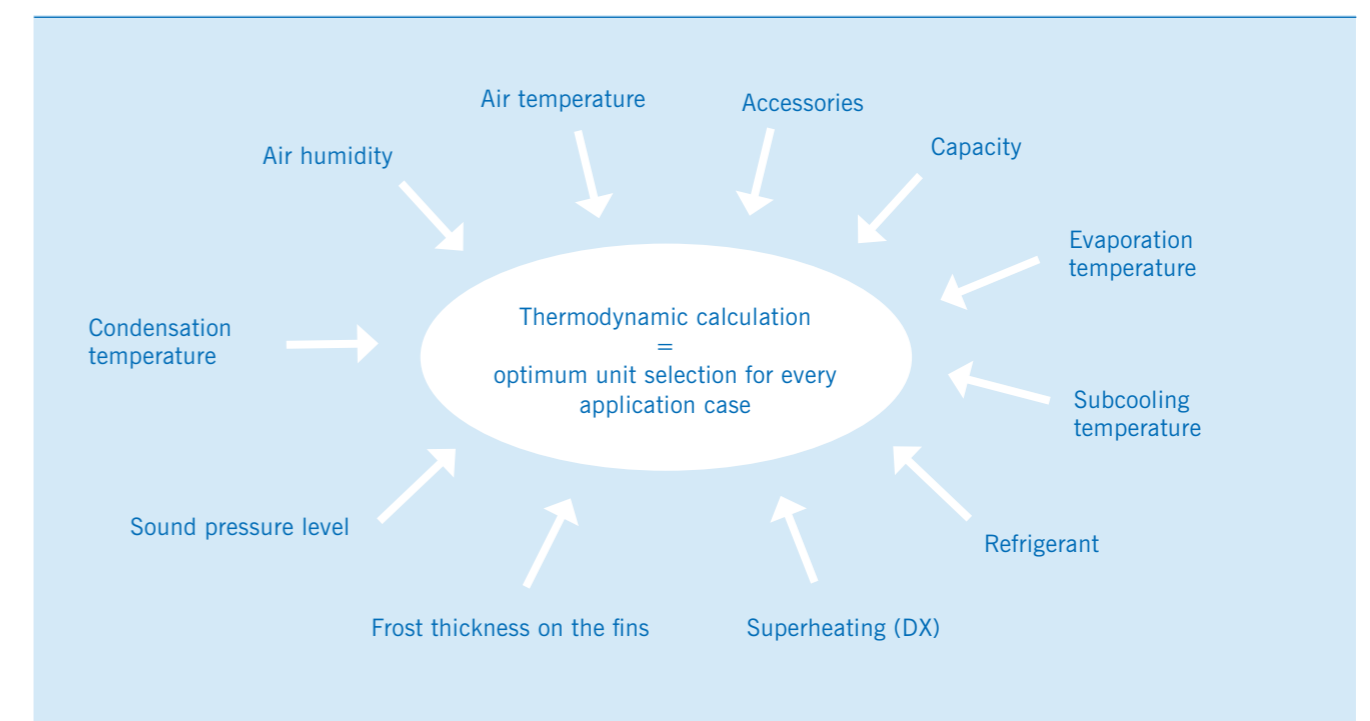
An exact thermodynamic configuration is performed and a selection of the suitable units is provided while considering your selected operating conditions and selected accessories. After selecting the optimum unit, the GPC generates a data sheet with technical data, dimensions, weights and prices for you.

Use our GPC for selecting evaporators, condensers, air coolers, drycoolers, control units and switch cabinets!

Your free Güntner Product Calculator (GPC) to download:

www.guentner.asia

Possible input data:



High demand – reliable products

Güntner only uses the high-grade materials of certified manufacturers in producing its heat exchangers. These are processed on modern machinery into high-quality and optically appealing products.

In addition to cost-effectiveness, safety of staff and environmental protection are also high priority Güntner corporate goals.

Supplier management

The selection of qualified suppliers is a decisive criterion for Güntner in producing its top quality products. Only the tested products of certified manufacturers are used.

Quality management


Comprehensive quality management is applied at all our production sites. We consequently guarantee that the production process and the end products are continuously checked.

Quality claim

The Güntner quality claim covers all work steps – from planning to development, right through to production. The customer orientation of every Güntner employee is a critical Güntner product quality factor.

Tests

Güntner heat exchangers are continuously tested and certified by independent institutions:

DIN ISO 9001		Eurovent	
GOST		VDE	
UL		TÜV HACCP	
CE			





Basic research for practice

Our R&D department and our testing department equipped with the most modern test stands are responsible for the continuous development and improvement of our products. Standard-compliant capacity measurements are run in our internal lab on condensers, evaporators and drycoolers.

The developer can therefore access the measurements directly and quickly and apply new findings and know-how with product development.

Measuring the flow-related and thermodynamic properties of heat exchangers provides the basis required for developing the software for configuring heat exchangers.



Optimum solutions for every cold storage room

A modern cold storage room's set-up is determined by its storage logistics. There are, for example, stores for forklifts, with fixed bays or sliding bays and a height of 8 to 12 meters, or high bays with automatic conveyor systems with a height of 30 to 40 meters.

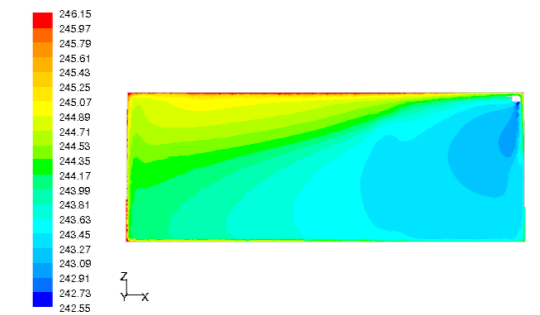
The type of structural set-up and store usage mean different system concepts where different cooler arrangements and types of air coolers are required.

The energy-saving and temperature distribution issue in the stores must also be considered to design the optimum system.

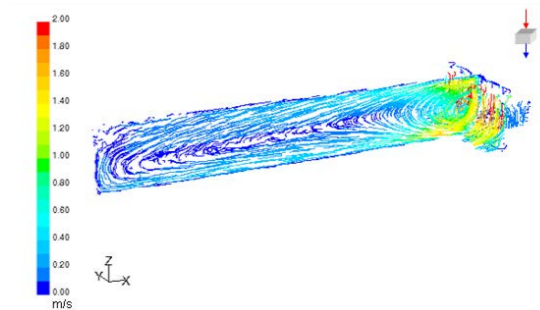
We have gained experiences which we apply with the development of our products and in advising our customers by analysing various stores with theoretical flow simulation and practical measurements over recent years.

Güntner produces all standard air cooler construction types for refrigeration and logistics stores. We are consequently able to advise you neutrally and find the best possible concept together with you.

Take advantage of our experience – we will be happy to advise you!



Example of a temperature distribution computer simulation in a high-bay store with air coolers and 90° down-blow



Air flow lines

Different air cooler construction types for refrigeration and logistics stores

Ceiling-mounted air cooler		Floor-mounted air coolers	
Insulated unit coolers, centrifugal fans		Insulated unit coolers, axial fans	
Cold storage room coolers		Penthouse cooler	



Optimum air coolers for production rooms

Aggressive atmospheres

Production rooms for foodstuffs make high demands on air coolers. Rooms and air coolers are frequently cleaned with aggressive cleaning agents in hygiene areas. The cleaning agent or even production materials, such as salt, vinegar or smoke, can make even higher demands on the materials used.

Pleasant working climate

Rooms that people must stay in for longer periods are sensitive areas when it comes to air draughts and noise emission. The difference must be made here between areas in which people only stay occasionally and areas where people must remain constantly and where they have a fixed workstation.

We provide specially constructed air coolers for these kinds of production rooms.

Procedure-related requirements

In fast-cooling rooms or freezing systems the products have to be chilled or frozen quickly. Air coolers for these applications frequently require special fin spacing and external-pressure fans.

Requirements for selecting heat exchangers

Aggressive substances

Hygiene regulations

Cleaning agent

Preventing draughts

Noise requirements

Procedure-related requirements

Material diversity for every application case

The right material for every application

The material's resistance in a heat exchanger is put to the test from both inside and outside. From inside the refrigerant applies the effects of its chemical properties, pressure and temperature on the tubes or profiles; from the outside come the effects of the more or less aggressive ambient air (ammonia, sulphuric acid, salt, vinegar, etc.).

The versatile material combination options at Güntner are based on experience and comprehensive tests and analyses. Every heat exchanger can be configured for the respective use by selecting the appropriate materials. Just ask us – we'll be happy to advise you!

Powder coating

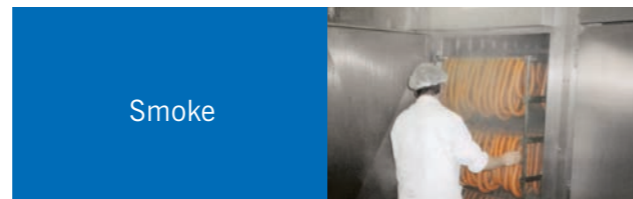
Güntner evaporator casings are powder-coated. The high-quality electrostatic powder coating has a high application effect level and is environmentally friendly. The surfaces of the powder-coated units are optically appealing and scratch, impact and corrosion-resistant.



Salt



Vinegar



Smoke



Cleaning agent

Table of semi-finished products used

Tube

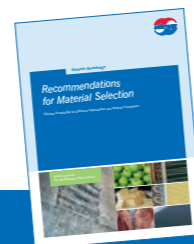
Copper
Hot-galvanised steel
Stainless steel V2A (AISI/304)
Stainless steel V4A (AISI/316)

Fin

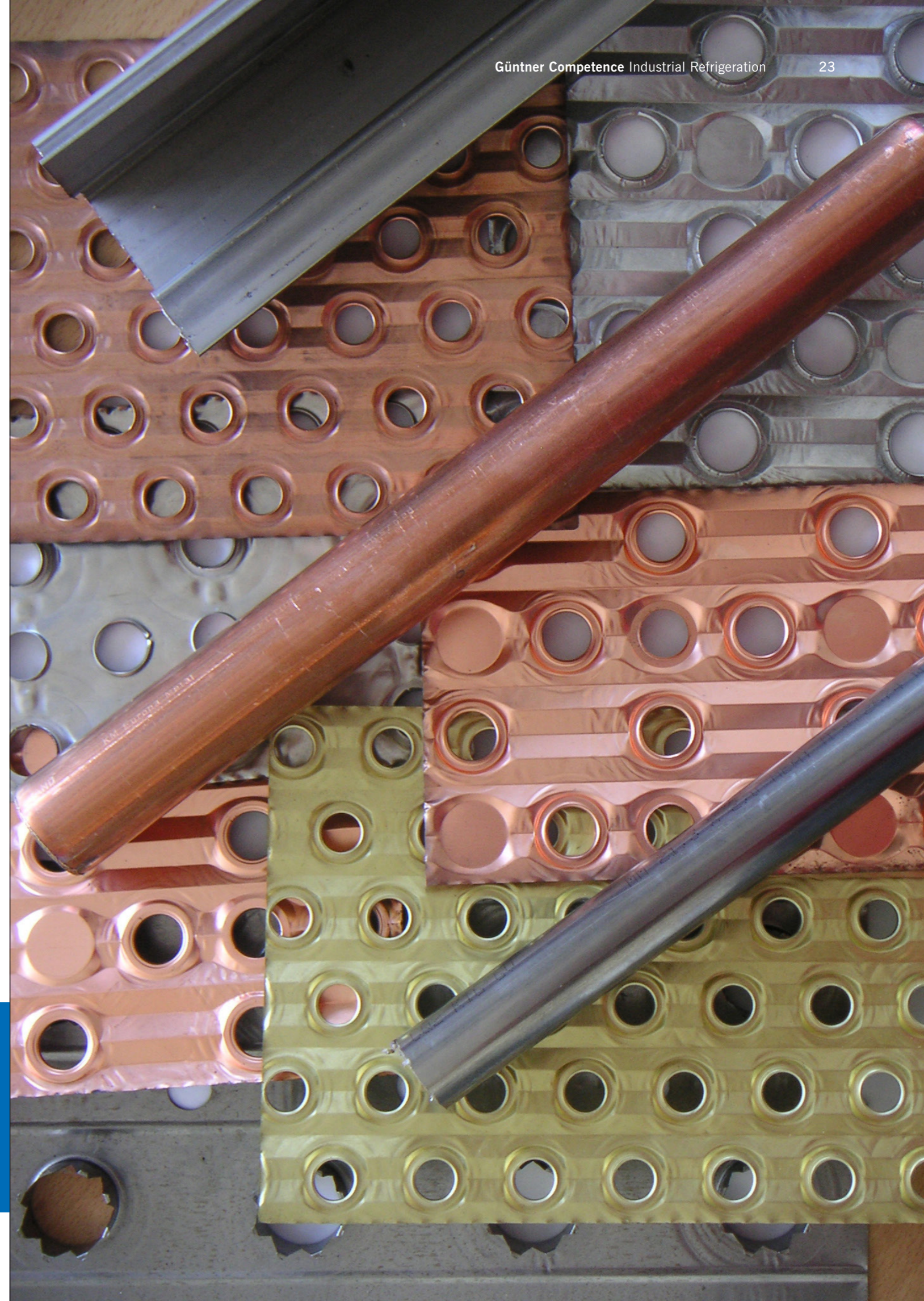
Aluminium
Epoxy resin-coated aluminium
Copper
Hot-galvanised steel
Stainless steel V2A (AISI/304)
Stainless steel V4A (AISI/316)

Casing

AlMg
Galv. steel
+ powder-coating
Stainless steel V2A (AISI/304)
Stainless steel V4A (AISI/316)



Different applications with aggressive atmospheres require specific material selection. For detailed information, consult our brochure with recommendations for material selection (sorted according to applications) at www.guentner.eu/know-how/application-tips/





Tested hygienic safety

High hygiene requirements must be met in many areas of the foodstuff industry. Numerous Güntner evaporators and air coolers have already been certified with HACCP Hygiene Certificate. HACCP stands for Hazard Analysis and Critical Control Point.

Evaporator and air cooler design features with the certification include:

- Material harmlessness
 - Accessibility for cleaning
 - Good condensation water drain
 - No nooks or gaps
- => no dirt traps



Operating instructions with cleaning suggestions
Choose your product at www.guentner.eu



Units with HACCP TÜV certificate:
GHN, GHF, GDF, GDM

Condensation water drain with large diameter and 45° incline	
Tray hinged for thorough cleaning	
No condensation water formation with thermally-decoupled tray	
Powder coating for optimum edge protection	
Stainless steel model for demanding hygienic areas	



Long-life brand name fans

Versatile application adjustment options

Güntner uses highly-efficient, direct-driven, brand name fans that can be speed-controlled and are balanced in two planes. The fans are maintenance-free and long-life.

Many products can be equipped with EC fans on request.

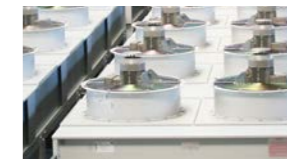
For special industrial refrigeration requirements, such as external compression, aggressive ambient air, noise, explosion protection, etc., we use selected fans from leading manufacturers for the application case.



Ziehl-Abegg



EBM-papst



Condensers with explosion-proof fans



Centrifugal fans in RVH for high external pressure

Streamer

High air penetration depths are required to provide high air cooler efficiency. This prevents air short circuiting and long rooms are evenly ventilated.

Use of the Güntner Streamer achieves high penetration depths, even at low fan speed. This saves energy and sets new standards in air cooler technology.



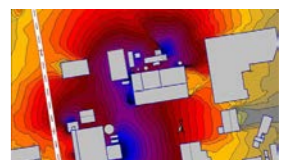
People and noise protection standards

The GPC helps provide detailed statements on the sound propagation of GVH series condensers and GFH series drycoolers:

- Compliance with sound protection standards
- Specific adjustments to the surroundings environment
- Unit sound data can be provided for planning



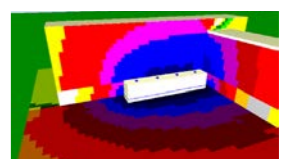
GVH sound pressure level distribution



Sound pressure level distribution at a factory site



Measurement area definition, Enveloping measurement surface method



Sound pressure level distribution on building walls



Optimum coordinated regulation

Güntner Controls has been delivering efficient and top quality controllers and switch cabinets, which are continuously further developed in accordance with the requirements of the refrigeration industry, for many years now.

The units used are developed and produced in-house. They are therefore harmonized with the Güntner drycoolers and condensers and form a very important element of the intelligent Güntner heat exchanger systems.

Why control?

The condensation temperature in a compression refrigeration system should be as low as possible to minimize compressor operating costs, but high enough to guarantee the system's proper functioning at all times.

Fan control is the most technically feasible method to achieve this objective.

How to control?

The basis for fan speed control is the recording of the actual values, such as pressure or temperature. The required control signals (fan speed) are calculated in the controller using the setpoint. Depending on the motor technology this setpoint is forwarded via the bus system to the fans directly or to a power unit. The bus system also enables constant communication with the fan or the power unit to be able to respond to incidents, such as operating information or faults, for example.

The difference is made here between continuous and step control. Güntner controllers are available for both control principles and have been specially developed for Güntner condensers and drycoolers, and adapted to AC or EC fan technology.



Innovative speed controllers

Güntner controllers are delivered as per design with the extended functions of Güntner Motor Management (GMM). This provides the contractor with additional benefits:

- BUS interface in master control systems, e.g. for integration into remote maintenance systems
- Monitoring functions of important operation components
- Operations and fault reports on the display
- Bypass function to increase operational reliability
- All-pole sine filter with the GMM sincon for max. AC fan service life
- Setpoint shifting for max. energy efficiency






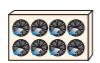
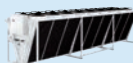


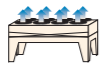
Controller technologies at a glance

Control principle	AC fans		EC fans	
	Step	Continuous	Continuous	Continuous
Technology	Step controller	Phase angle controller	FC with sine filter	EC technology
Type	GSTS	GDRD	GMM sincon	GMM EC
Low investment costs	+++	++	+	+
Precise control	+	++	+++	+++
Noise-sensitive application	+	+	+++	+++
Energy efficiency	+	+	++	+++
Low installation costs	+	+	+	+++

Diversity – from one single source

Every application is different, so too are the requirements for airflow routing and heat exchanger construction and dimensions. Güntner's range features numerous different heat exchanger designs to provide you with the best possible unit for every application. You consequently get the right cooler for every application. The following overview shows you a selection of units for industrial refrigeration.










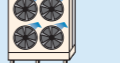












Condenser / Drycooler Series

Product	Capacity*	Direction of airflow	Designation	HFC	NH ₃	CO ₂	Coolant
	70 - 850 kW		Condensers/drycoolers (W-shape)	GVW	GVW	GVW	GFW
	8 - 1320 kW		Axial fan condensers/drycoolers	GVH	AGVH	GVH	GFH
	8 - 1320 kW		Axial fan condensers/drycoolers	GVV	AGVV	GVV	GFV
	125 - 2000 kW		Condensers/drycoolers (V-shape)	GVD	GVD	GVD	GFD
	70 - 800 kW		Axial fan condensers/drycoolers				GFHE

* depending on selected refrigerant

xxx unit deliverable on request

Evaporator / Air Cooler Series

Product	Capacity*	Direction of airflow	Designation	HFC	NH ₃	CO ₂	Coolant
	2 - 15 kW		Ceiling unit coolers	DHF		DHF	DHF
	8 - 42 kW		Processing room unit coolers	GBK	AGBK		GBK
	4 - 60 kW		Ceiling unit coolers	DHN	ADHN GDS	DHN	DGN
	4 - 60 kW		Ceiling unit coolers	DHN-S	ADHN-S GDS-S	DHN-S	DGN-S
	9 - 72 kW		Blast freezers	GFN	GFN	GFN	
	0.5 - 82 kW		Wall/ceiling unit coolers	GHF		CXGHF	GGHF
	15 - 100 kW		Coolers for storage rooms	GHN	AGHN	GHN	GHN
	50 - 200 kW		Floor-mounted air coolers	GSN	GSSA	GSN	GSN
	50 - 200 kW		Insulated unit coolers	GIKS	GIKS	GIKS	
	4 - 220 kW		Wall/ceiling unit coolers	GHN	AGHN GHK	CPGHN CXGHN	GGHN
	50 - 350 kW		Penthouse coolers	GHN	AGHN	GHN	GHN

* depending on selected refrigerant

xxx unit deliverable on request



Individual solutions for special application cases

Should the available series products not be suitable for your application case, we will build you a special unit! An experienced team of engineers is at your disposal for your special application case. This also applies to technical advice, project planning and construction, right through to delivery.

We have the right solution for every application case. If it doesn't fit – we'll make it fit.



Fan



Güntner Heat Exchanger

