

# heatXchange

THE GÜNTNER CUSTOMER MAGAZINE



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## IN THE FOCUS

GVHX: First flat-bed condenser with microox® technology



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## *Editorial*



Dear Readers,

We always aim to listen to our customers. In our eyes, it is a particular honour if they take the time to think about how we could improve our services even further. Close relations with customers are not a one-way street from which only we benefit. We consider it our duty to respond to your suggestions and come up with practical solutions. After all, it is often these suggestions that give a clear indication of trends within the market.

We therefore operate an extensive sales network to ensure we are always there for our customers – even on a local level. By maintaining close ties with you and listening carefully to what you say, we know exactly what is going on within the market and what our customers actually want.

The interesting discussions with visitors at the Chillventa confirmed this yet again. Whilst people's interest in the new products we presented showed that our development strategy is on the right track, we were also given suggestions and ideas as to how we can incorporate new innovations into our components. Whatever we do, we shall continue to focus on the environmental, energy-saving and practical credentials of our products. To give just one example, we have further developed our microox® technology to allow the use of natural refrigerants such as CO<sub>2</sub> and propane.

We have been involved in the field of refrigeration for 80 years now. As a technological pioneer, we feel it is our duty towards you to provide not only the most efficient but also the most economical technologies for your air-conditioning and refrigerating systems. Even if we have imposed this responsibility upon ourselves, this does not mean that we take it any less seriously. In reality, the opposite is true, and you can take our word for it. We hope to continue working in close partnership with you in the future.

Dirk Obländer  
Head of Sales

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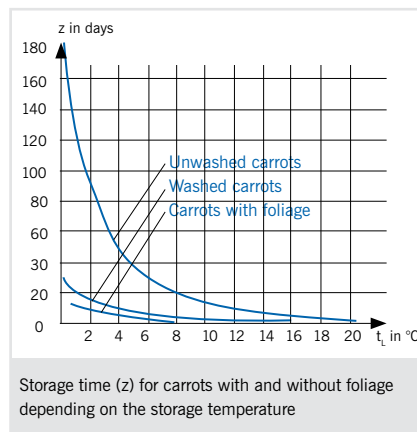
## Fresh and crunchy – Greengrow carrot storage facility, Poland

Everyone likes fresh fruit and vegetables, but hardly anyone thinks about how they can be bought fresh even in winter. The storage of fruit and vegetables requires a great deal of specialist knowledge and experience. But what information must be available in order to come up with the correct system design and equipment for a specific storage situation?

In search of a reliable partner with experience of storing perishable products, the Polish company Greengrow called on Güntner to come up with the optimum air coolers for a new fruit and vegetable storage facility. After all, the fresh fruit and vegetables should still be of top quality, even at the end of the storage period. Whilst optimum growth and the right harvesting time are important factors in achieving this quality, the correct storage technology plays a key role too. PPH Cool, another company with a reputation as a reliable partner in this field, was selected to carry out the plant engineering work.

### Selection of air coolers

The facility is divided into five rooms and designed to allow the storage of different types of fruit and vegetables. However, the fact that



mainly carrots are stored meant that the design of the facility and the air coolers were geared to this particular vegetable.

During planning, an integrated approach taking into account product requirements, storage technology (especially stacking technology), refrigeration system requirements and, in particular, the design of the air coolers was used. The fact that cooling requirements during the depositing and storage phase are different posed a further challenge as it meant that the system would need to offer appropriate control options.

### Good solution

When selecting a suitable air cooler design, various alternatives were considered beforehand (evaporators with direct evaporation, air coolers for coolants, wall and double-coil designs). After visiting a reference facility, the Polish company Greengrow decided to use DGN double-coil air coolers from Güntner. Six DGN air coolers in forced draught configuration are used in each storage area. The temperature difference of  $DT1 \leq 5$  K ensures an air humidity of at least 95 % for the storage phase.

The air coolers are suspended in the middle of the room. The advantage of positioning them in this way is that it ensures uniform air distribution on both sides with low flow velocities and low pressure losses in the stacks of goods.

In addition, four GGHN air coolers were installed in the sorting room and two in the packing room.

The carrot storage facility has been in use since autumn 2010. Since then, the refrigerating system has proved to be more than up to the job.

You will find the detailed version of this article with in-depth descriptions of the requirements when storing carrots on our new website [www.guentner.eu](http://www.guentner.eu).

### Technical data of the storage facility

The new Greengrow storage facility in Wikrowo, Gronowo Elbląskie

The facility has five individual storage areas.

Dimensions of each storage area:	35 m (L) x 19 m (W) x 8.5 m (H)
Insulation:	120 mm polyurethane panels
Floor area:	Approx. 664 m <sup>2</sup>
Building volume:	Approx. 5,640 m <sup>3</sup>
Storage capacity of each storage area:	Approx. 1,470 t
Number of crates per storage area:	2,100

Storage capacity of the storage facility (5 storage areas): Approx. 7,350 t  
Goods stored: Mainly carrots, but other types of vegetables too

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Crates arranged at the Greengrow carrot storage facility with the DGN double-coil air coolers installed in the centre of the room



Storage of carrots

## Technical data of the refrigeration system

Two liquid chillers from P.P.H. Cool, with two semi-hermetic screw compressors from RefComp. The heat extracted is discharged using air-cooled condensers with axial fans (Güntner GVH range). The compressors and condenser fans can be controlled continuously. This allows them to be set according to the various requirements.

Refrigerating capacity	950 kW
Refrigerant in the primary circuit	R404A
Coolant in the secondary circuit	Propylene glycol (30 vol. %)
Glycol temperature, inlet/outlet	-3/-7 °C

Air coolers in storage areas	5 x 6 Güntner DGN models, dual discharge design
Air coolers in sorting room	4 Güntner GGHN models
Air coolers in packing room	2 Güntner GGHN models
Air coolers in dispatch area	2 Güntner DGN models, dual discharge design

The air coolers are defrosted using a hot brine which is heated by the waste heat from the refrigerating system.

Refrigeration requirements:	Depositing phase:	250 kW/storage area
	Storage phase:	≤ 120 kW/storage area

## Storage properties of carrots

Carrots are a low-respiration product and can therefore be stored for a number of months. However, this respiration is very sensitive to fluctuations in temperature if these fluctuations occur at short intervals. This leads to a reduction in quality as a result of the additional respiration heat generated. If the carrots are stored with their leaves, the respiration heat increases considerably, thus reducing the storage period and the freshness cycle. If carrots are to be stored for long periods, the amount of foliage remaining should therefore be as small as possible (stem length ≤ 20 mm).

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## Sorting the good from the bad

Whether you are a planner, contractor or operator – with existing quotations for heat exchangers, you will often ask yourself whether the quoted unit really keeps what the quotation documents or the selection software promise. With Güntner products, the answer is simple. It is yes, for Güntner units are regularly tested by the certification programme “Eurovent Certify All”. Thus you can be sure as a Güntner customer that you receive a unit where the given data is reliable and conform to the indicated capacity specifications.

### Certified values inspire confidence

The Eurovent certification is a real benefit, but most users are not aware of this. In the initial quotation phase, certified products are often directly compared with non-certified products; in this direct comparison the non-certified products seem to have better values. But here it is often not considered that good apples are compared with bad ones, simply because the basis for comparison is not the same. An example: A planner compares the quotation for a certified condenser with the quotation of a non-certified product. Both units achieve the required capacity and prescribed sound level. But the price of the certified unit seems to be higher.

Why should the planner or contractor then decide for the seemingly more expensive unit? And why should it be disadvantageous for him if he chooses the cheaper unit?

A real comparison of quotations is only possible if the units' data for sound pressure level, capacity etc. is measured precisely in the same way.



### Measurement under realistic conditions

The actually measured sound pressure level of units certified by Eurovent may, for example, only exceed the indicated value by max. 2 dB. For indicating the correct sound pressure level, it is therefore not possible to simply “copy” the data given in the catalogues of fan manufacturers. For obtaining precise and realistic values, the fans have to be measured with original nozzle and fan guard. Pressure-side and suction-side sound pressure level as well as the actual installation situation also have to be taken into concern. Non-certified competitors often use exactly the data given by fan manufacturers and, in doing so, they do not take into consideration the additional operating noise that occurs in real conditions. Consequently, for a unit with the same fans, the total sound pressure level given by a non-certified manufacturer can be 2 to 4 dB lower

than the values measured at real installation conditions by a certified manufacturer.

Due to a very complex test procedure, the range for the tolerance values for a unit certified by Eurovent is very narrow. The compliance with this standard is strictly controlled in annually recurring test procedures.

In a test initiated by Eurovent, different units of non-certified manufacturers were measured. This test showed deficiencies in output of up to 32.5 % compared to the indications given by these manufacturers! For the operator of a plant this can get very expensive, because the deficiency in output of a heat exchanger has to be compensated by a higher power consumption of the compressor(s) or by investing in an additional unit. In the worst case, the low-capacity unit has to be exchanged if the installation area is too small for upgrading the refrigerating plant with an additional unit.

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## Further certified data

Besides the capacity and the sound pressure level, also the electric power consumption of the fans, the air volume flow, the surface and, for drycoolers, the pressure drop of the brine are certified. These certification tests are also effected to verify and confirm the reliability of the indicated capacity.

## What is the tangible benefit for you?

Planners and operators can be sure that the capacity and the sound pressure level of the selected units comply with the data prescribed by Eurovent. In addition, the operator can count on long-term investment reliability, because the life cycle costs can be calculated precisely with the certified data. Here especially costs for energy consumption play an important role. Also in this matter, certified units provide reliability: Certified units are categorised in the Eurovent Energy Efficiency Class, thus you can count on a high reliability for planning and consequently minimise operating costs.

Due to the precise testing conditions for units of certified manufacturers, operators and planners have a sound basis for comparing quotations of different manufacturers. All of this contributes to a fair competition and supports you in finding the unit that is best suitable for your application.

Summing up: Already in the initial phase of quotation you should only compare certified and thus comparable units.



## What is Eurovent?

Eurovent is a non-profit association that represents the interests of the refrigeration and air conditioning industry in Europe. The association was founded in 1993; today over 180 manufacturers from 23 countries are listed in the certification index.

The defined objective of the certification programme is to create a basis for fair competition with precise and tested data and to increase planning reliability for planners, engineers and plant contractors by providing comparable data, thus facilitating the selection of units.

The certification is subject to strict regulations. All data provided by a manufacturer is tested by an independent laboratory. A unit will only be certified if the test results comply with the data indicated by the manufacturer. These tests are repeated annually.

In the heat exchanger sector, the "Certify all" programme prescribes in addition that a manufacturer has to ensure that all his units are certified by Eurovent. It is not possible to certify just one product group. For the customer this is a great benefit for he can be sure that not only one unit is conform to the strict Eurovent regulations, but that the entire drycooler, HFC evaporator or HFC condenser range of this manufacturer is certified. Not contained in the Eurovent certification programme are air coolers with brine, ammonia condensers, ammonia evaporators, 60 Hz units and radial fan units.

# heat X change

## **GVHX/GVVX:** *excellent price/performance ratio with microox® technology*

Presented for the first time at the Chillventa in 2008, microox® technology has since established itself as a proven and reliable technology. At the Chillventa which took place in Nuremberg in October 2010, Güntner unveiled a new, advanced form of this technology in the form of GVHX/GVVX, the first flat-bed condenser with microox®.

By doing this, Güntner is rigorously pursuing a strategy of using environmentally friendly, efficient technology.

The model exhibited at the Chillventa – a GVHX flat-bed condenser with a microox® coil and Güntner Motor Management – was not only the highlight at the Güntner stand but also one of the key innovations at the entire trade fair.

The success of this model at the Chillventa did not happen by chance. After all, the advantages of this product speak for themselves:

- Compact, robust heat exchanger made from a top-quality aluminium alloy
- For all standard refrigerants up to 41 bar operating pressure
- Low refrigerant fill volume compared with conventional heat exchangers
- Reduced unit weight thanks to the use of aluminium as a material
- Wide range of accessories: Receiver, empty casing and subcooler

### Excellent value for money

The GVHX/GVVX offers excellent price/performance ratio in relation to its footprint.

Precisely with regard to the continuously increasing prices for raw materials, especially for copper, the GVHX/GVVX offers excellent value for money, for the heat exchanger coil is exclusively made of aluminium.

### Certified performance data

The performance data of the GVHX/GVVX have been checked and confirmed according to Eurovent Certify All requirements. As a result, you can be sure that the stated outputs will actually be achieved.

To ensure that the axial condensers have a long operating life, every GVHX/GVVX is subject to a comprehensive quality check before it leaves the factory. The heat exchangers are inspected for leaks by carrying out burst tests (alternating pressure tests) with a bursting pressure of more than 100 bar.

### Casing design optimised for transport and storage

In addition, extensive stress tests are performed on microox® heat exchangers in different transport situations. In this way, we ensure that the customer receives the device at the place of installation in exactly the same condition as when it leaves our factory.

Another advantage of the GVHX/GVVX is that the dimensions of its casing are precisely tailored for the purposes of truck and container transport. Up to three units can be stacked on top of each other to save space during storage and make maximum use of the loading area during transportation.

### Easy installation and servicing

The robust aluminium heat exchanger has a self-supporting casing. This considerably reduces the work for customers when providing a suitable base. The GVHX/GVVX is equipped with copper connections which means it can easily be installed by the customer.

Two configurations are available – the GVHX with a horizontal coil and the GVVX with a vertical coil. Both versions can also be converted at a later date.





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## Fans and control system for the GVHX/GVVX with Güntner Motor Management

AC and EC fans can be used for the GVHX/GVVX. The optional subcooler features an AC fan as standard.

Güntner Controls offers a wide range of controllers and switch cabinets for speed-controlling the fans. Developed and produced by

Güntner, these controllers and switch cabinets are tailored specifically for use with heat exchangers.

Güntner Motor Management not only allows precise control of the fans but also offers specially developed refrigeration functions such as set-point shifting according to the ambient temperature (see article on page 17). With products from Güntner Controls, everything is under control!

The GVHX/GVVX is now integrated in the 2011 version of the Güntner Product Calculator; here precise data can be calculated for unit design. Production started in January 2011 and units can be ordered with a short delivery time.



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## *The microox® success story continues*

### Further development of the innovative microox® technology

In recent years, conventional microchannel technology used mainly in the automotive industry has been further developed in the area of stationary refrigeration technology and adapted to suit the higher performance and pressure levels demanded in this field. For this reason, Gntner developed its microox® technology which was presented for the first time at the Chillventa 2008. The Chillventa 2010 revealed a general trend within the sector moving towards microchannel technology in stationary refrigeration systems too.

### Production procedure and checks on microox® heat exchangers

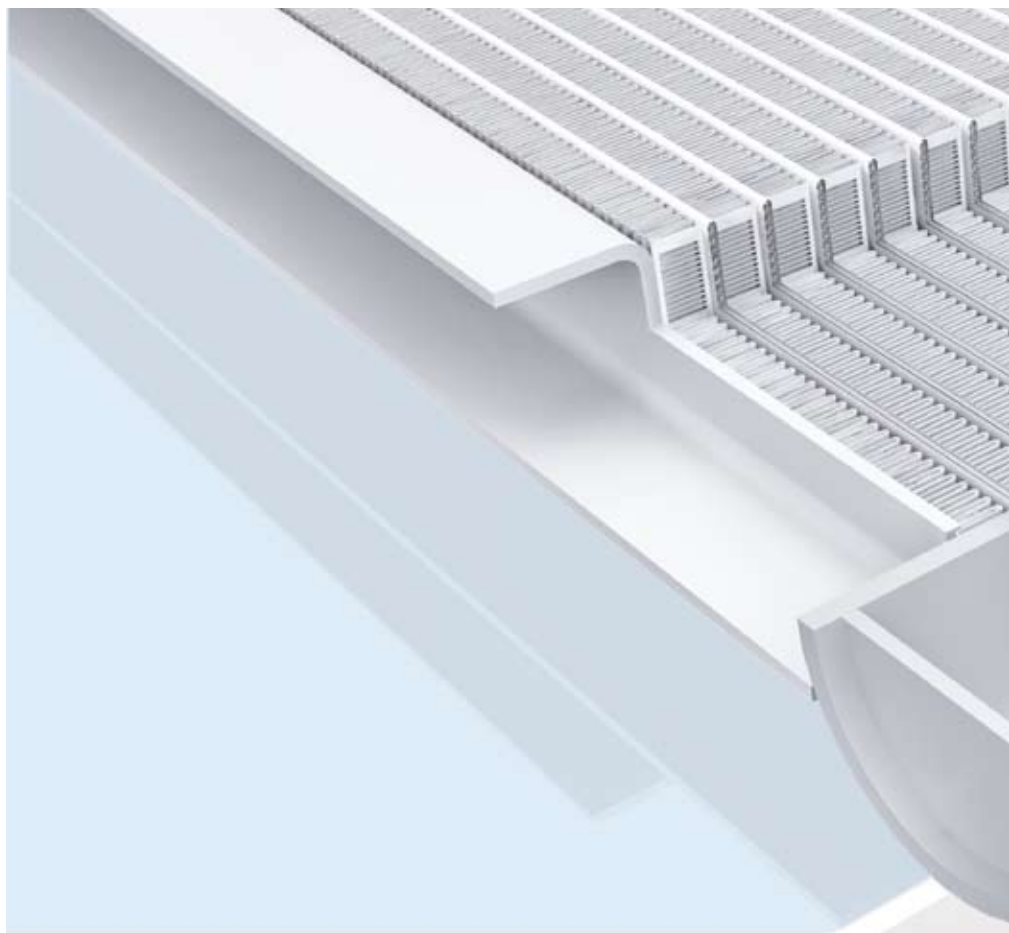
The procedure when producing microox® heat exchangers is very different to the procedure for finned heat exchangers. The microox® heat exchangers consist of extruded aluminium profiles with very small channels (diameter approx. 1 mm). Strips of aluminium sheeting are then laid between two narrowly spaced profiles (< 1 cm). Alternately arranging the metal strips and profiles in this way results in a heat exchanger coil. This coil is then completely brazed in a brazing furnace. The narrow spacing and the small channel diameters produce a heat exchanger with very high fin efficiency and a very low refrigerant fill volume.

The microox® heat exchangers are made from high-quality aluminium alloy and are manufactured at Gntner's own production facility. After brazing, they undergo pressure-testing. The finished coils are also randomly checked for leaks using a bursting pressure of well over 100 bar. At the same time, stress tests for transportation are carried out in order to ensure that our customers receive the heat exchangers in exactly the same condition as when they leave our factory.

### Advantages of the microox® technology

microox® offers many other advantages for users. A microox® heat exchanger is very light and fully recyclable as it is made entirely from aluminium, thus there are no combinations of materials within the heat exchanger. Thanks to microox® technology, the refrigerant fill volume can be reduced by up to 75 % compared to conventional fin-and-tube heat exchangers. In certain cases, the reduced refrigerant fill volume also means that fewer leak checks need to be carried out on the refrigeration system.

Over the past two years, Gntner has gained valuable experience of using microox® technology. It now uses this experience in order to further develop and optimise the technology. microox® heat exchangers can be produced in lengths of up to 4 m. Currently microox® heat exchangers can be used at the high pressure levels associated with all standard refrigerants. In response to the great interest in the use of natural refrigerants, the first systems with microox® for CO<sub>2</sub> are already available.



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Güntner has further developed this technology and is now using it in the following newly developed unit series:

GVX



GVHX



GVVX



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## New website: www.guentner.eu relaunched

### Güntner website with a new design and a greater range of information

To coincide with the Chillventa 2010, we decided to change our familiar corporate design which has been in use for eight years and freshen up our public image with a more modern look.

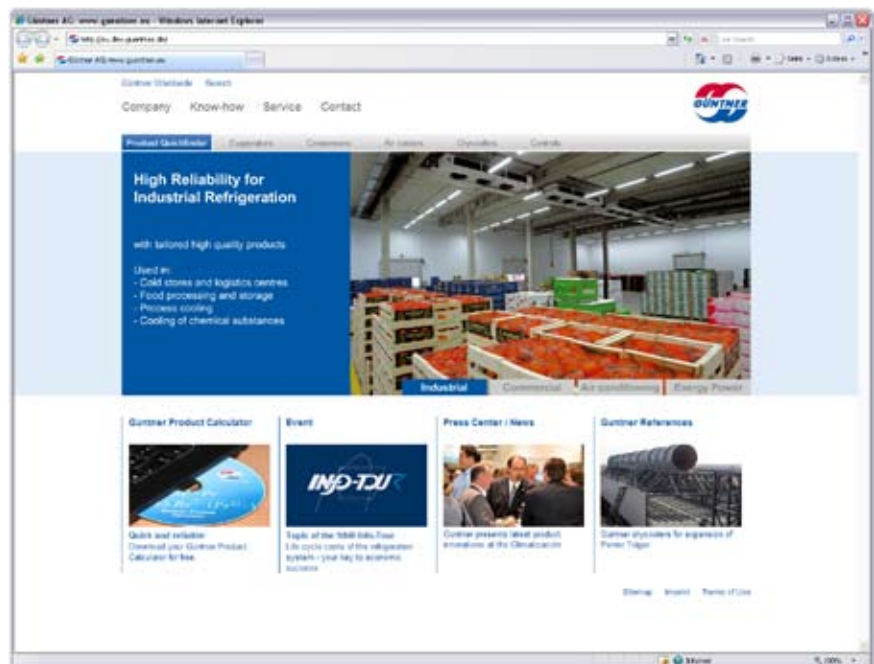
The Güntner website too has been updated to feature the new design and now offers extra content. You can visit our new website at [www.guentner.eu](http://www.guentner.eu).

In addition to general company details, news, events and career opportunities, the new website also features a wide range of technical information in the Know-how section.

Another key aim of the website is to provide easy access to all Güntner product information. A simple navigation menu takes you straight to the Products section, where the complete literature for each unit is available on each individual product page.

The Company section on the start page provides information on Güntner as a company and also includes the Press, Events and Materials Management sections. In addition, the Service section provides information on our Service After Sales and related topics such as ordering spare parts, warranties and returns.

[www.guentner.eu](http://www.guentner.eu) will initially be available in German and English. Other versions in French, Hungarian and Russian are also planned.



### Know-how section

Our Know-how section is a new, central section offering an extended range of technical information on a variety of topics.

The familiar [GPC Download](#) section featuring information on system requirements and FAQs now includes new pages with details of the latest GPC features.



The new [References](#) section gives you a varied insight into finished projects where Güntner products were used. The references are available in PDF format and can be filtered according to business sector, Güntner product and application.



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## Güntner Product Quick Finder

www.guentner.eu offers a search function for products – the Product Quick Finder. As soon as you bring up the start page, you can select the product you require and filter your search according to heat exchanger type, capacity and refrigerant. The Product Quick Finder will then show you the units which meet your criteria.



## Product pages with documentation from the central database

Güntner offers customers a wide range of heat exchangers, control components and related accessories. The new website features a page for each product with detailed information and the related documentation. A central database has now been set up for the documentation. When documentation is called up from the product page, all product-related documents from the database are displayed in all available languages.



We have put together and presented our experiences of various applications in the [Application tips](#) section. The application tips too are available in PDF format.

Specialists from various areas play an active role in our company and regularly share their knowledge during specialist presentations and association meetings. These [Technical Articles](#) are available in PDF format from the Know-how section.



In the [Innovation & technology](#) section, we provide regular updates regarding the latest developments and technologies at Güntner. This is underlined with current videos to special topics.

In the [Certificates](#) section, the current certificates awarded to Güntner products (TÜV HACCP, TÜV Pressure Equipment Directive, DIN ISO 9001 and eurovent) are available for downloading.

You can visit our new website at: [www.guentner.eu](http://www.guentner.eu)

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## GPC 1/2011:

### Additional content and functions for carrying out quick and precise thermodynamic calculations

For 2011, we have made available a new version of the GPC. This new version features the latest prices for your particular heat exchanger design. The GPC also offers new programme functions as well as extra functions for carrying out thermodynamic calculations.

On this page, you will find information about the most important changes. You can also visit our website for detailed information on the GPC.

#### What is new?

The following additional functions have been incorporated into the GPC 2011:

- Partial load calculation for condensers and drycoolers (capacity and noise at reduced fan speed)
- The distance for sound pressure calculation can now also be entered directly for "Recalculate unit"

#### New refrigerants and coolants

- New refrigerants: R401A, R402A, R407A, R408A, R409A, R417A, R422A, R422D, R245fa and R1270
- New coolant: "Temper-15"

#### Expansions, revisions:

- Expanded GFD/GVD series
- GHK stainless steel cooler to complement the new GHN family
- GHF, GGHF, GDF, GGDF series revised

#### New series:



GVHX/GVXX condenser range with microox® technology



CXGHF, CXGDF, GDM evaporator series

#### New accessories:

- EC fans with Güntner Motor Management GMM EC integrated into control systems dialogue
- Accessories for microox® GVX condenser: Base for floor installation, wall mounting beams with/without vibration dampers, subcooler attached to the side, attached switch cabinet with numerous control options, empty casing and swivelling fans

#### New specifications for the GFD double-coil drycooler and the GVD double-coil condenser

The specifications of the GFD and GVD ranges have been improved considerably. These new unit specifications have been incorporated into the existing ranges. As a result, more than 60,000 different units are available, and you choose from different fin intervals, the number of tube rows and various tube geometries.

This significantly increases the drycoolers' area of use, making them suitable for typical applications even at high temperatures.

#### R410A refrigerant now an option for condensers

The R410A refrigerant is now an option for condensers in the GPC. All HFC condensers with F fin spacing, with the exception of the GVD, can now be configured to use the R410A refrigerant at an operating pressure of 41 bar. 41 bar-rated accessories are available too.

#### GPC user survey at [www.guentner.eu](http://www.guentner.eu)

Your opinion matters to us!

To enable us to improve the GPC on an ongoing basis, we would like to know more about your needs and wishes.

We will therefore be carrying out a user survey from 01 January 2011 until 31 March 2011.

By giving us your feedback and ideas, you can help us to further develop the GPC to meet your needs.

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## Your benefits at a glance:

- Precise thermodynamic calculation, even with unusual usage areas
- Quick and safe configuration
- Individual setting of different units possible for every entry field
- 15 languages can be set
- Current prices and delivery times can be called up
- Display of quickly deliverable units in storage
- Automatic coordination of individual unit components



Quick and safe  
Calculate thermodynamically  
& prepare offers



Here you can download your GPC (Güntner Product Calculator) free of charge:

[www.guentner.eu](http://www.guentner.eu)

## Massive price increases on the raw materials market

Prices on the international raw materials markets have risen considerably since 2005. In particular, the price of metals such as copper, steel and aluminium which play a key role in the manufacture of heat exchangers has increased dramatically. Not even the financial crisis was able to correct prices on a long-term basis. Indeed, prices began rising even before the crisis was over. They quickly increased to reach levels similar to those in 2008, and have never stopped rising since. In the meantime, the price of copper has reached a new all-time high on several occasions. For a number of years now, the price of copper and aluminium has been influenced not only by supply and demand but also by raw materials speculators in particular. The resulting unpredictability in the prices of raw materials is making life difficult for all manufacturers of

heat exchangers and may well result in sales prices having to be adjusted over the course of the year.

This new version of GPC now features the prices which are currently valid. To ensure you are always up to date, we recommend that you use the GPC's update function. The software will then remind you at regular intervals to carry out an update via the Internet. One click is all it takes to make sure you have the very latest information!

If you do not yet have the new 2011 version on your computer, you can download it here: [www.guentner.eu](http://www.guentner.eu)



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## heatXchange enjoys great popularity

Readers appear to be very happy with the information offered by Güntner's customer magazine.

We enclosed a questionnaire along with some of the copies of the most recent edition in order to find out whether you as readers are satisfied with the information on offer. After all, heatXchange is now in its ninth year and the last survey was carried out three years ago.

### International feedback

To be honest, we never expected to receive so much feedback from our international customers. The replies came not only from the EU but also from places as far afield as the USA, the Middle East, Russia and Australia. As it turns out, it would appear that our readership is even bigger than we thought. Indeed, just under 75 % of those surveyed stated that between two and five people at their company read the magazine.

### Top marks for satisfaction

Satisfied readers: 87.6 % of those surveyed rated the heatXchange as "very good" or "good". What is more, 88 % were of the opinion that there is no other customer magazine for the refrigeration and air conditioning sector which is as good!



### Great interest in specialist topics

We try to select as wide a range of topics for heatXchange as possible. Our choice of topics seems to go down well with readers. 91 % find our topics interesting or very interesting. This even applies to the various fields of activities in which our readers are involved. From training companies and planners to manufacturers, 79.5 % of those surveyed felt that the choice of topics took their specialist area into account.

However, what impressed us most was how carefully people actually read heatXchange. We received numerous personal comments and suggestions which we may well act on if possible.

Anyone who completed the survey was given the chance to take part in a competition. On 11 November, the winners were drawn under notarial supervision.

The lucky winner of the first prize, a portable DVD player, was Jens Eidner from Stulz GmbH.

The external hard drive went to Bodo Ahlers from Bodo Ahlers Kälte- & Klimatechnik, whilst Andreas Fisser from Heifo Rüter Gones GmbH & Co. KG, Alexander Oeckl from IABG mbH and Frank Seidemann from Uhde GmbH each received a laser pointer. Congratulations to all our winners!

We would once again like to thank everyone who took the time to complete our survey. It will make it easier for us to provide exactly the information you need in the future. After all, your opinion matters to us!



Doing the honours: Our trainee Sandra Corvin and notarial assistant Boris Pulyer drew the winners.



The portable DVD player went to Jens Eidner.



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## Ambient temperature-dependent set-point shifting

Güntner Motor Management GMM offers a function which reduces operating costs by accurately regulating the minimum condensing temperature.

For years now, people have been talking about energy efficiency and energy savings. However, the popular belief was that the investment costs for refrigeration systems are too high. This is not the case from a long-term perspective, as appropriate measures to optimise individual components can considerably reduce the costs of operating an overall system. Naturally, this applies to control systems too. Güntner Controls has now developed a new function specially for the high-pressure side which shifts the set-point value depending on the ambient temperature.

The efficiency of a refrigeration system depends to a large extent on the condensing temperature. After all, the lower the condensing temperature, the less mechanical compression work is needed. Minimising the electrical load which results from driving the compressor can considerably reduce system operating costs. Optimising the way in which the condensers on the high-pressure side are regulated can have a significant effect here. In specific cases, e.g. where there are high evaporating temperatures, very small partial loads or condensers with a high electricity consumption, it can be a good idea to shift

the condensing set-point value according to the ambient temperature. Güntner Motor Management offers a control function which allows you to do just that.

### An example:

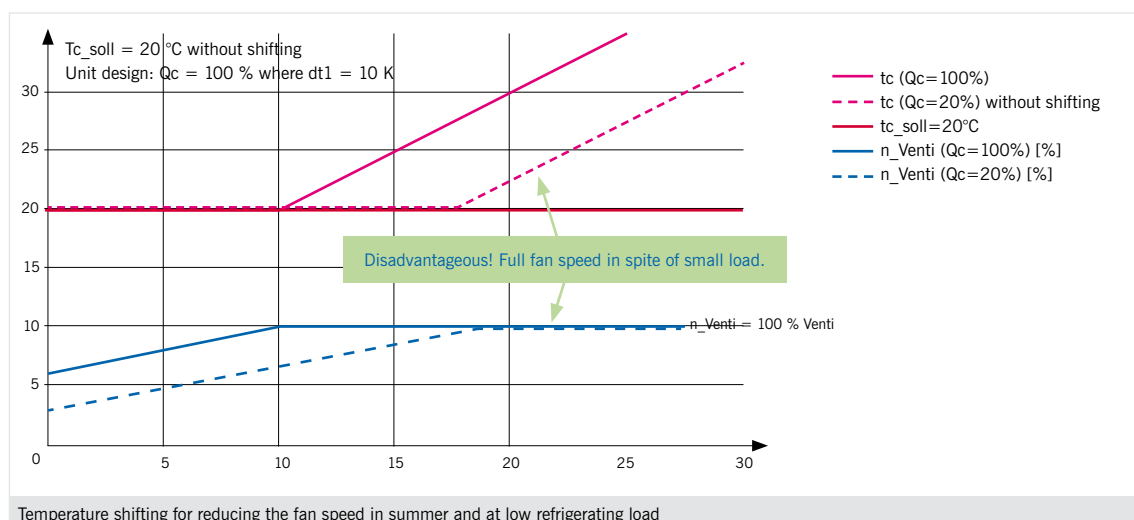
If the ambient temperature approaches or exceeds the specified condensing set-point value, this value can no longer be achieved. The fans will then run at full speed. This is all well and good when the refrigeration system is operating at full load as the power consumption of the fans is much lower than that of the compressor. If, however, the refrigeration system is operating at partial load, the balance between the power consumption levels shifts. In this case, the amount of energy required to drive the condenser fans would be disproportionately high.

In a scenario such as this, raising the set-point value in a controlled manner would make it possible to regulate the system again. This would allow the speed of the fans to be reduced during partial-load operation, which in turn would reduce the amount of energy required to drive the fans. The amount of

extra energy needed to power the compressor would then be smaller than the amount saved by slowing down the fans.

The Güntner Motor Management GMM menu allows you to set the minimum and maximum values for the ambient temperature. Set-point value shifting is then possible anywhere between these two values. An offset value between the ambient temperature and the set-point value can be freely defined. If, for example, the offset value is set to 5 K, the set-point value must always be 5 K above the ambient temperature. Set-point shifting would therefore begin as soon as the ambient temperature is 0.1°C above the set minimum value.

Of course, selecting the right fans helps to protect the environment too. The environment also benefits from the use of highly efficient condensers with a high energy efficiency rating – not only because they reduce energy consumption and operating costs but also because they always result in lower levels of noise pollution.



# heatXchange

## *New appointments within the sales organisation*

In recent decades, the number of areas where heat exchangers are used has grown. At the same time, people's requirements as regards refrigeration, air conditioning and process systems have become more and more specific.

During its 80-year company history, Gntner has always looked to tailor its products and services to the changing needs of the market.

Gntner's aim is to cater for the various market segments by offering specific know-how and customer-oriented products. To ensure that it can do so even better in the future, its sales structure now focuses even more on the requirements of the different sales regions.



After a long stint as sales director at Gntner Asia Pacific Pte. Ltd., Axel Scherrieble took over as head of the Southern Europe and Scandinavia sales region on 1 December 2010.



Martin Kurz remains responsible for business development in the South Eastern Europe sales area.



Thomas Penning has been responsible for the German-speaking D, A, CH sales region (Germany, Austria, Switzerland) since 1 December 2009.



Adel Kamel remains sales manager for the Middle East and Turkey sales area.



Dariusz Binczyk took over as sales manager for the Eastern Europe region on 1 November 2010.



Rust Saral



Patric Gullberg

### *New offices opened in Sweden and Turkey*

Maintaining a local presence is the only way to properly cater for regional needs and deal with increasingly complex sales tasks. Gntner is now closer to its customers after opening two new sales offices in Istanbul (Rust Saral) and Skvde in Sweden (Patric Gullberg).

You will find the contact details for our sales offices on the Internet at: [www.guentner.eu/contact](http://www.guentner.eu/contact)

# heatXchange

## Further additions to the service team

We introduce the new spare parts team within our Service department

In order to deal with customers' requests for spare parts, we have put together an expert spare parts team headed by Robert Menter within the Service After Sales department.

You will find all contact details for the team as well as further information in the Service section of our new website [www.guentner.eu](http://www.guentner.eu).

For example, the new trilingual version of the spare parts price list is available for downloading.

If you have any questions or wish to place a direct order, simply use our new e-mail address: [spareparts@guentner.de](mailto:spareparts@guentner.de)

Our new download form for fax orders is also available. Our direct fax number is +49 8141 242-422.

You can also call us on:  
0800-48368637 or +49 8141 242-473

Visit our website – we are always there for you!



Our spare parts team headed by Robert Menter

## Impressum

### heatXchange

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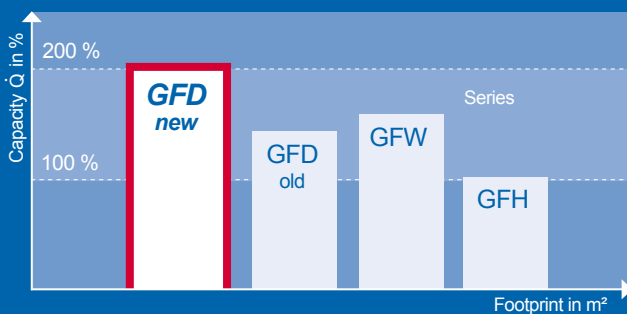
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