



*Güntner Info*

**GVX**

with  
microox<sup>®</sup>  
technology

6 – 525 kW



**Always a step ahead: microox<sup>®</sup> condenser system  
with maximum installation flexibility**

# The new standard for flexibility, technology and service friendliness

## Energy-saving operation

- Excellent performance per m<sup>2</sup> set-up area
- Excellent energy efficiency classification certified by Eurovent
- Reduced operating costs with GMM with highly efficient EC fans\*
- Stable operating conditions with precisely controlled condensing temperature\*

## High level of installation and service friendliness

- Aluminium heat exchanger with copper connections
- Short commissioning times\*
- Wired and preset, ready for operation\*
- High operational reliability and leak tightness
- Installation with vertical and horizontal air discharge possible
- Maximum installation flexibility: floor-mounted installation or space-saving wall mounting possible
- Mounting to walls with low load bearing capacity possible
- Simple and easy cleaning
- Large, easy to open flap for cleaning
- Cleaning of heat exchanger against air direction possible
- Swivelling fans (optional) with gas spring damper

## Modern casing construction

- Reduced unit weight with casing and heat exchanger made of aluminium
- Casing powder-coated, RAL 7035 (light grey)
- Modern, modular casing design
- No additional space required for subcooler

## Powerful and efficient

- Smaller unit, same capacity = higher power density
- Less tubing due to larger coils
- Single coil in units with up to 3 fans

## Highly efficient fans

- Maintenance-free, long service life fans
- Wired at factory
- Available in AC and EC technology
- Wide range of sizes (Ø 450, 500 and 710 mm)
- Optimum air and sound unit
- Specifically targeted sound pressure level reduction for night-time operation possible with Güntner controllers\*

## Easy integration into building management\*

- High efficiency with central motor management
- Customised and integrated control concept
- Bus-enabled system
- Remote maintenance possible
- Energy data recording
- Pre-wired and parametered fans ready for operation

## Quality assurance

- Checks of all raw materials and semi-finished products required for later production
- Check of fully automatically assembled heat exchanger coils
- Leak tightness test
- Regular burst tests with a burst pressure of far above 100 bar



microox<sup>®</sup>  
inside

## Condenser with microox<sup>®</sup> technology

- Up to 41 bar operating pressure
- Reduced refrigerant charge
- Reduced unit weight with aluminium heat exchanger

## Certified performance reliability

- Eurovent-certified performance
- Performance details confirmed by independent laboratories



\* with EC fan technology and GMM EC (optional)

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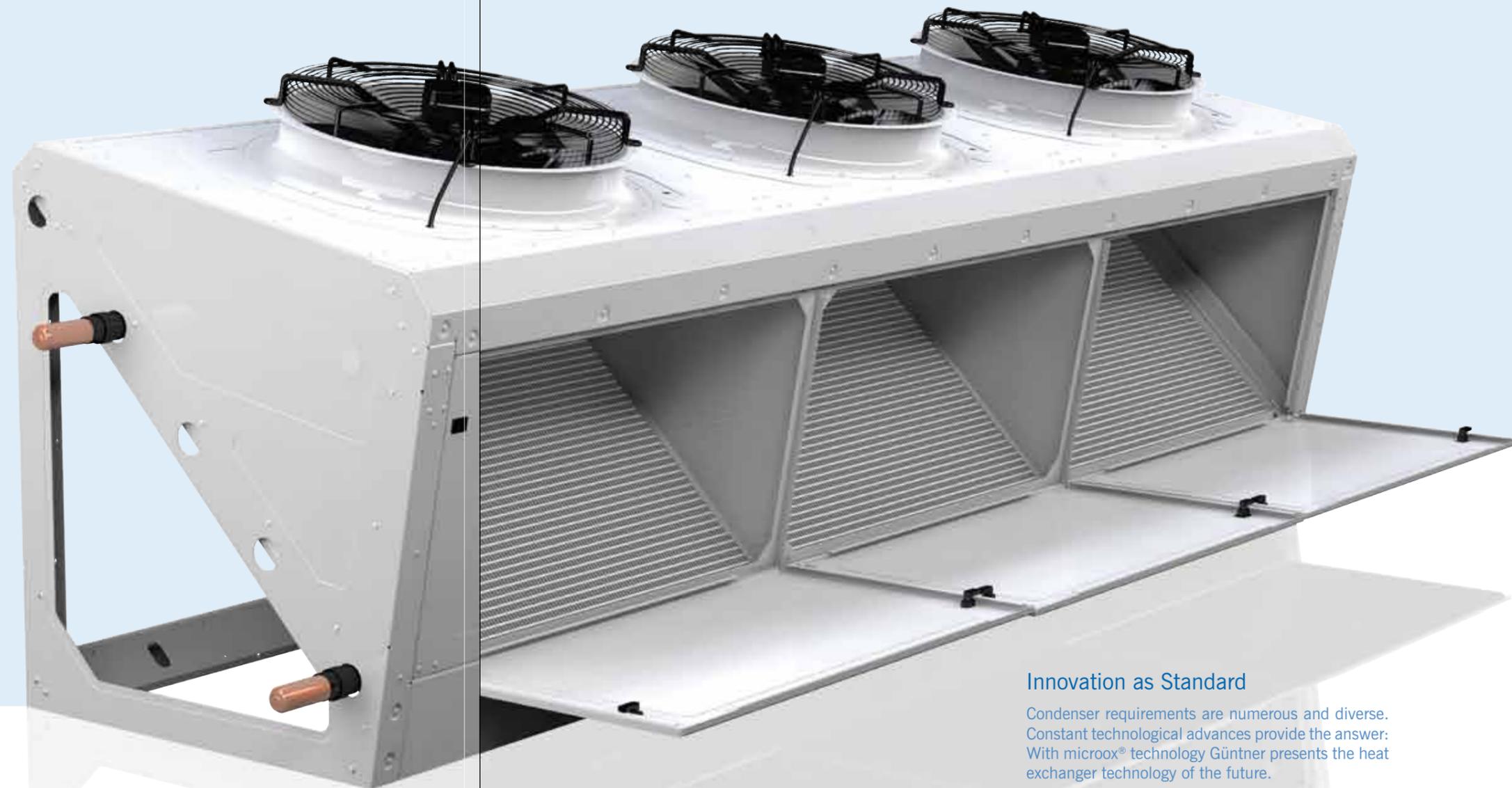
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## microox® – The technology of the future!

- Compact, robust heat exchanger made from top quality aluminium alloy
- Suitable for all standard refrigerants
- Low refrigerant charge compared with conventional heat exchangers
- Reduced unit weight with aluminium



## Innovation as Standard

Condenser requirements are numerous and diverse. Constant technological advances provide the answer: With microox® technology Güntner presents the heat exchanger technology of the future.

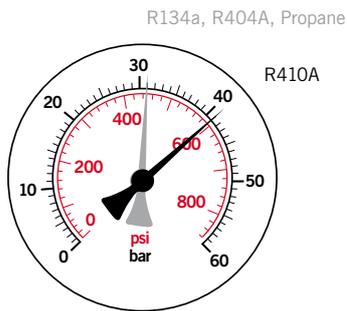
The basis for this new technology is provided by aluminium as a light, stable and recyclable material.

The microox® heat exchanger's profile, optimised for stationary refrigeration technology, and its high stability, low refrigerant charge and reduced weight are the essential benefits of this technology. The reduced refrigerant charge makes an active contribution to reducing the CO<sub>2</sub> equivalent.

# Innovative microox<sup>®</sup> technology in detail

## Suitable for all refrigerants

The microox<sup>®</sup> GVX heat exchangers can be used with all standard refrigerants. Regular burst tests with a burst pressure of far above 100 bar are run to ensure the operational reliability of the microox<sup>®</sup> heat exchangers and to guarantee leakage resistance.



## Combustible refrigerants

Due to its reduced refrigerant charge, the GVHX is the perfect condenser for all applications with combustible refrigerants. Güntner microox<sup>®</sup> approved for hydrocarbons: Propane, propene etc.

- TÜV approval for refrigerant class A1
- Propane
- Propene
- Dimethyl ether

## Fewer leak tests

The microox<sup>®</sup> heat exchanger provides up to 75 % lower refrigerant charge vis-a-vis capacity.

EU regulations 842/2006 (F-Gas Regulation) and 1005/2009 specify leak tests depending on the system's refrigerant charge (see table).

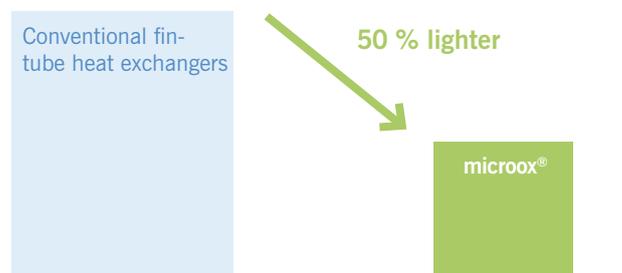
A lower refrigerant charge therefore means fewer leak tests, circumstances permitting.



System refrigerant charge in kg	3 - 30	30 - 300	> 300
Prescribed* leak tests per year	1	2	4

## Low unit weight for transport and mounting

GVX heat exchangers with microox<sup>®</sup> technology are made completely of aluminium and are up to 50 % lighter than conventional fin-tube heat exchangers.



\*EU regulations 842/2006 (F-Gas Regulation) and 1005/2009

# Modular concept for maximum installation flexibility

## Basic modules

Every building project has other requirements when it comes to integrating condensers into the existing architecture.

With its modular construction, the GVX is optimally suited for integration into various installation situations and is appropriate for floor and wall mounting. The GVX has a reduced weight and can thus also be mounted to walls with low load bearing capacity. Here we recommend using fans with vertical air discharge for ideal air guidance and pleasing integration into architectural design.

Easy and quick cleaning is no problem with the GVX: the condenser is equipped with a large flap for cleaning.

The GVX is also suitable for installations where fans with horizontal air discharge are required (e.g. roof overhang, courtyard entrance, etc.). As a standard, each GVX has fans wired to the terminal box.

- In single-row modules, all heat exchangers are connected to one input and one output at factory.
- Two-row units with two modules have two inlets and outlets.



GVX...V



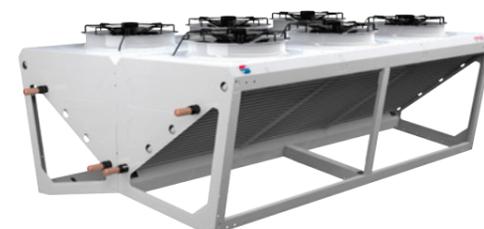
GVX...H

## Two-row design

In order to achieve a higher power density, the GVX also exists with two-row design.

### V-shape design

The V-shape design offers ideal conditions for a good air supply. For cleaning against air direction the units can be equipped with swivelling fans with gas spring dampers as option (on request).



GVX...V...V

### A-shape design

This design has a pleasing outward appearance. It requires feet for floor mounting, selectable in the GPC.

A-shape units are equipped with large flaps, thus cleaning and inspection can be carried out quickly and thoroughly.



GVX...V...A

## At a glance: What does the GVX offer?

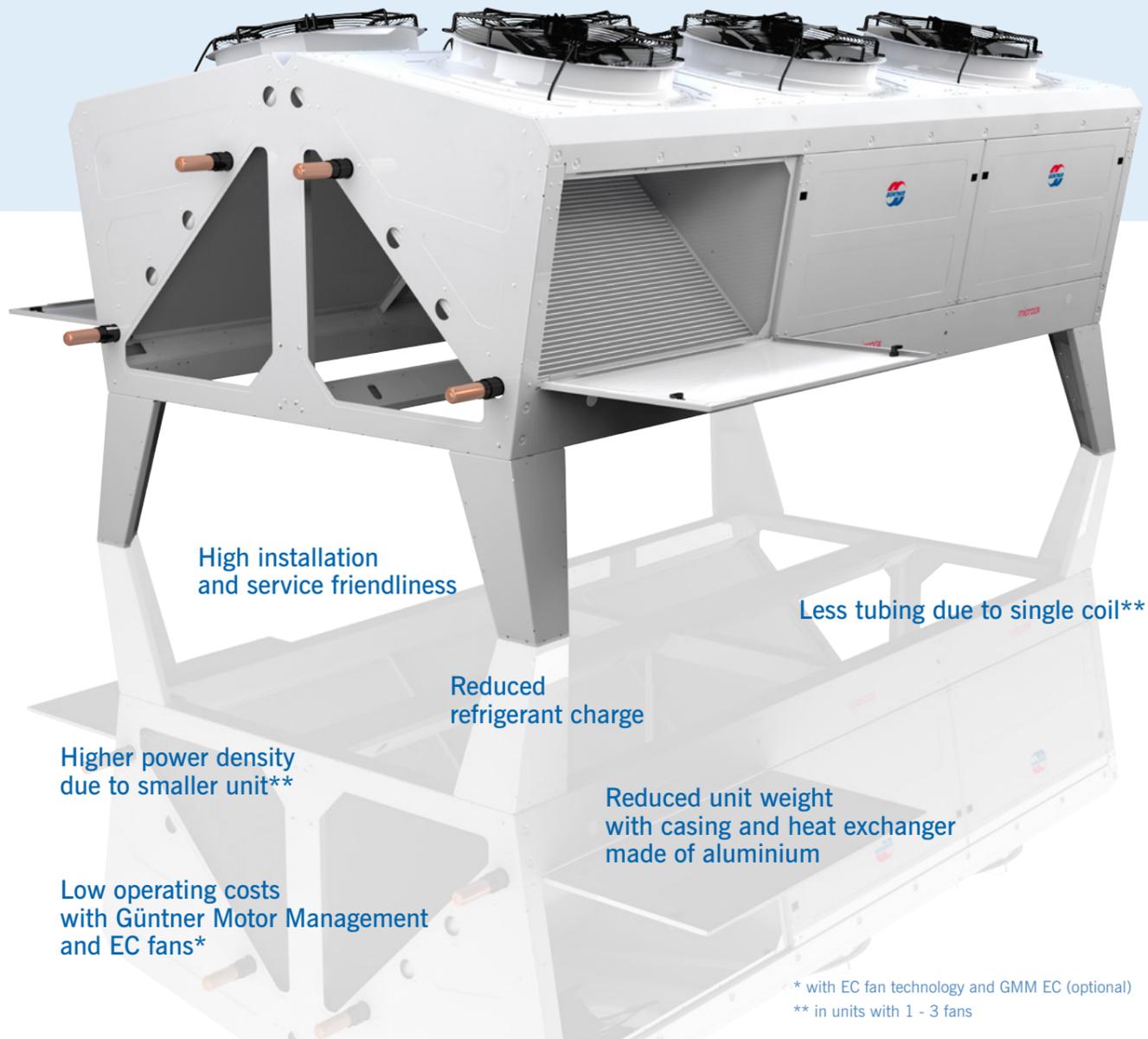
For all standard refrigerants

Modular extendable system

Fans prewired on subplate

Swivelling fans (optional)  
with gas spring damper

Easy integration  
into building management\*



High installation  
and service friendliness

Less tubing due to single coil\*\*

Reduced  
refrigerant charge

Reduced unit weight  
with casing and heat exchanger  
made of aluminium

Higher power density  
due to smaller unit\*\*

Low operating costs  
with Güntner Motor Management  
and EC fans\*

\* with EC fan technology and GMM EC (optional)

\*\* in units with 1 - 3 fans

## Leading with smart systems

Especially when time is short for mounting on site, the GVX condenser is the ideal choice. The desired assembly group can be selected quickly and easily with the Güntner Product Calculator (GPC).

For the GVX condenser series, a large offer of accessories is available ranging from controller, mounted subcooler, integrated receiver to empty casing, so the GVX provides everything required for a **ready-to-install condenser system**.

The unit variants are available with vertical and horizontal air discharge and are suitable for various installation situations: Wall or floor mounting is possible with the GVX.

With its relatively low weight, the condenser can also be installed to walls with low load bearing capacity. No additional brackets are necessary and mounting can be carried out quickly and easily.

For installations where floor mounting is required, the units can be installed to U or T beams.

So the GVX condensers can be adapted individually to almost any application.

GVX



Refrigerant	R134a, R404A, R507, R407C, R410A, Propan (R290)
Variants (fan sizes in mm)	450, 500, 710
Airflow direction in kW	vertical / horizontal
Power range in kW	6 – 525
Dimensions (in mm)	L 1139 – 5353, W 880 – 2280, H 880 – 1438
Weight in kg	88 – 826
Quality standard	ISO 9001

# Flexible assembly of components



## 1. Fans

- EC or AC fans
- For installations where the cleaning flap is not accessible, we recommend using swivelling fans as option.

## 2. Terminal box

Wired and mounted at factory

## 3. Güntner Motor Management + Weather protection roof

For continuous control of EC and AC fans

## 4. Subcooler

The GVX can be equipped with a subcooler deliverable piped or un-piped. For the piped variant, a receiver has to be selected in addition. The subcooler is fitted with an EC fan (1~, 200 – 277 V, 50/60 Hz), the air direction of the fan is forced draught.

## 5. Empty casing

The condenser GVX is mounted together with the empty casing to a U beam. The inspection covers are equipped with quick release fasteners.

Optional:

- Sound insulation
- Bottom sheet
- Transversal supports
- Casing with doors

## 6. Liquid receiver

Different receiver sizes are available for the GVX. The condenser can be delivered with an integrated liquid receiver, piped or un-piped.

## 7. Feet for floor mounting

For optimum air supply in special installation situations.

## 8. Wall mounting beam

Easy and quick mounting to walls

# Fans and control

## AC and EC fans used

Highly efficient, direct-driven axial fans are used for the GVX. Motor, blade wheel, nozzle and protection guard form an optimum air and sound unit. These fans can be selected in two technologies – axial fans with AC motors or optionally with EC motors. All fans are wired at the factory. EC fans are also parametered ready to operate.

	AC (alternating current)	EC (electronically commutated)
Diameter	450, 500, 710 mm	450, 500, 710 mm
Protection class	IP 54, pre-wired at the factory	IP 54, pre-wired at the factory
Type	Single-phase or three-phase current 50 and 60 Hz	Single-phase or three-phase current, parametered ready to operate, 50 and 60 Hz
Continuous Control	<i>Optional:</i> Phase angle controller With or without noise filter  <i>Optional:</i> Frequency controller with all-pole sine filter, GMM sincon	Güntner Motor Management (GMM EC)
Step control	Due to the connection of the microox <sup>®</sup> modules, step-control is possible in all units with at least 2 fans per coil.	

*Other manufacturers' controllers can of course also be used. An all-pole sine filter must be installed with frequency control.*



GMM sincon  
Controller variant  
for AC fans

## Switch cabinets and control concepts for AC fans

The right switch cabinets for every GVX heat exchanger can be delivered with or without Güntner controllers. You have the choice here between standard Güntner switch cabinets and customised switch cabinets.

All switch cabinets are planned, designed, built and tested in-house at Güntner's Controls division. Together with you, we consequently create and offer the appropriate switch cabinet and control concept.

These switch cabinet concepts are then optimally tailored to the heat exchangers' set-up, capacity, energy efficiency and service life requirements, and, depending on the size, can be added on directly on the unit. Should an add-on not be possible, the switch cabinets can be delivered with the unit. Of course Güntner also offers connection and initial operation by its specialist staff on-site on request.



GMM EC  
for EC fans

## EC fans with Güntner Motor Management GMM EC

The control and regulation of the EC fans is performed with Güntner Motor Management GMM EC. EC fans have a progressive motor technology with integrated electronic components. These electronic components generate the motor's rotating field and provide enormous benefits for speed-controlled applications in particular.

Güntner Motor Management GMM EC has been specially developed for Güntner heat exchangers. Only the combination of energy-saving EC fans with GMM EC creates an intelligent heat exchanger system, which enables energy-optimised operation of the heat exchanger, as well as maximum efficiency regarding maintenance and servicing.

Want to find out more about Güntner Motor Management?  
Ask for our detailed information brochure!

## Quality, cleaning, safety

### Quality assurance

To guarantee the consistently high quality of microox® heat exchangers, the coils are produced in our own production line. Quality assurance of the microox® production is guaranteed at several test stations.

Only high-quality raw materials and semi-finished goods are used for production and these are all checked thoroughly before they enter the production process. After the brazing process, the fully automatically assembled heat exchanger coils are checked for leaks.

### Successful stress tests

Regular burst tests are performed to ensure the enduring quality of the automatic production of microox® heat exchangers and to guarantee their load capacities.



microox® heat exchangers are currently available for all standard refrigerants. With burst tests they regularly achieve values that by far exceed those required.

Transporting the unit poses serious packaging and unit stability challenges. Extensive stress tests have therefore been performed on microox® heat exchangers in different transport situations. The load rating of microox® heat exchangers during transport is consequently guaranteed, and the customer receives the unit at the set-up point in the quality that it leaves our plant with.

### Operational safety

Should there be a mechanical damage of the microox® coil, suffered unintentionally or intentionally (vandalism), a repair kit can be ordered via our service department. With the repair kit, mechanical damages may be repaired in a quick and easy way.



### Quick and easy to clean

Just like all other heat exchangers, the microox® heat exchangers also have to be cleaned regularly. The unique profile, the low coil depth and high stability of the microox® heat exchanger enable thorough cleaning with normal water pressure or a high-pressure cleaner with a pressure of up to 50 bar.

With regular and thorough removal of paper, dust, pollen and exhaust air deposits, unnecessary high condensing temperatures can be avoided, which in turn has a positive effect on the systems' energy consumption, and therefore on the operating costs.



## Quick and safe Calculate thermodynamically & prepare offers

The Güntner Product Calculator GPC calculation software allows you to quickly and easily configure the right unit for your **individual application**.

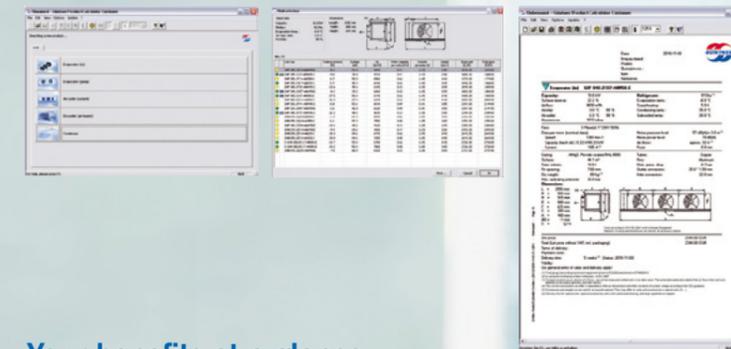
Simply enter the required basic data in the convenient entry screen of the GPC, and while considering your selected operating conditions, i.e. according to refrigerant or coolant, air humidity, evaporation temperature and selected accessories, an **exact thermodynamic calculation** will be performed.

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

Download your  
Güntner Product Calculator (GPC) for free.  
[www.guentner.eu](http://www.guentner.eu)



Numerous functions for quick and precise configuration  
– from series selection to options, through to control:



### 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



# Our expertise is your advantage!

## Application advice

Our specialists are your contact partners waiting to help you. They will advise you in detail and configure the best unit for your application case in accordance with your requirements, or develop a complete concept for a ready-to-operate solution straight away.



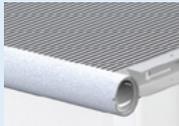
## Fans

We use highly-efficient, directly-driven, brand name fans for continuous control, balanced in two planes. With balancing quality Q 6.3 they comply with DIN ISO 1940 Part 1. The fans are maintenance-free and extremely long-life.



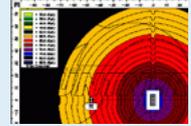
## Technology of the future

microox<sup>®</sup> technology is a further development of the microchannel technology; microox<sup>®</sup> heat exchangers are made completely of aluminium and are optimally adjusted to stationary refrigeration engineering requirements. All microox<sup>®</sup> heat exchangers are produced in modern production lines at Güntner.



## Sound

The extensive test runs in our internal test laboratories enable the optimum fans to be selected for the sound requirements of your application – starting with configuration with the Güntner Product Calculator.



## Certified performance reliability

As a member of the Eurovent Certification Programme we guarantee you our products' performance. As part of the certification all series of a participating manufacturer are tested and approved by specially approved laboratories. With units certified by Eurovent you can be assured that the specified capacity values are actually achieved.



## Quality assurance

Quality assurance of the microox<sup>®</sup> production is guaranteed at several test stations. Only high-quality raw materials and semi-finished goods are used for production and these are all checked thoroughly before they enter the production process. After the brazing process, the fully automatically assembled heat exchanger coils are checked for leaks. Regular burst tests with a burst pressure of far above 100 bar are another important part of our quality assurance.



## Control

Güntner Controls is an independent department which has been delivering efficient and top quality controllers and switch cabinets for many years now. Our experts work out project-specific solutions for you for the highest demands in all areas. We have an individual switch cabinet solution for all your applications – regardless of whether it involves AC or EC fans. We control everything!



## Service After Sales

Our Service After Sales department supports our customers with problems and questions they may have. If there are any doubts at all, a colleague is quickly on-site to take care of your issues and interests directly there with you. Our employees are not only refrigeration technology experts – they are also qualified in many other specific areas. We also keep spare parts at the ready for you.



If interested, please contact our Sales department:  
[sales@guentner.de](mailto:sales@guentner.de)



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