

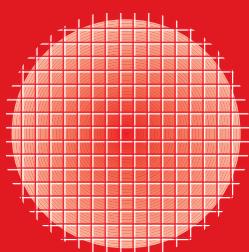
GoGas®

HEATING

WE BRING HEAT STRAIGHT TO THE POINT.

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Corporate philosophy

We have a passion: to bring heat straight to the point where it is needed. This has made us a leading manufacturer of gas-powered heating systems.

This sustained success stands on three pillars:

- Through our own research and development we can design systems with higher and higher efficiency levels.
- On the basis of a wide spectrum of products, we can supply heating systems for rooms of all sizes and types of use.
- We can offer you all of the necessary engineering services and system solutions from a single source – from planning to production.

On this basis we can tailor your heating system exactly to your requirements.

Qualitative partnerships - Our international competitiveness can be seen in the wide network of subsidiaries and cooperation partners spread over the whole of Europe.

In this way we are in constant contact with our most important innovation partners: our customers, for it is their special requirements that give us important impetus for the constant improvement of our products.

In the field of new developments, which we safeguard with a certified quality management system, we cooperate closely with universities, for example the University of Erlangen, with whom we developed the licensed porous burner RADIMAX. With this world first we were able to increase the efficiency of gas-driven infrared burners many times over.



The company headquarters of GoGaS in Dortmund

Company history

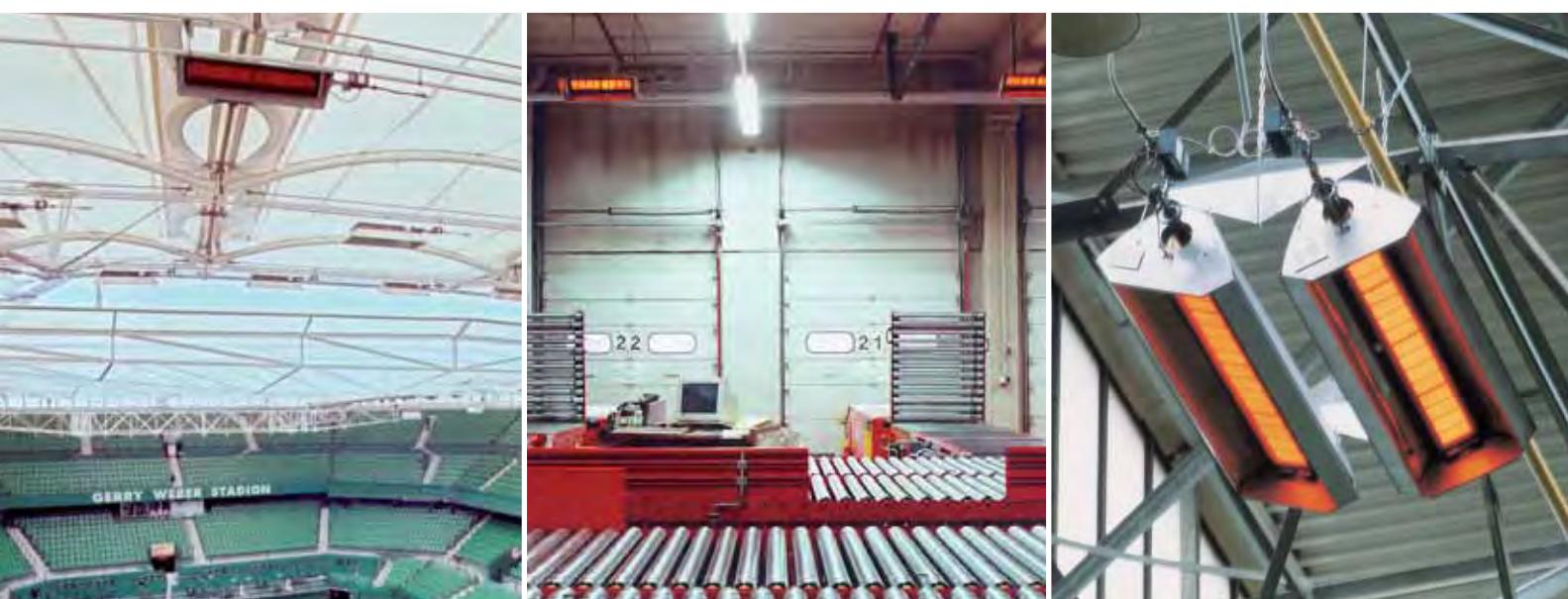
You can only understand the company GoGaS Goch GmbH & Co. KG if you know the personality of the company's founder Heinz Goch.

In 1946 the engineer Heinz Goch laid the foundation for his „Factory for Gas Lamps“ in Hamburg. Economic success came soon. In 1948 the engineer, a man who was quick to make decisions, moved with his workers from Hamburg to his Westphalian home town of Dortmund. At the same time, he began to systematically explore ways to transmit heat using infrared radiation. Soon his complete heating systems for trade and industry were ready for the market. These are the two most important characteristics of the company: the location in Dortmund and an untiring researcher's spirit, which was carried over from the company founder to the company itself as a matter of course. Westphalian innovative spirit.

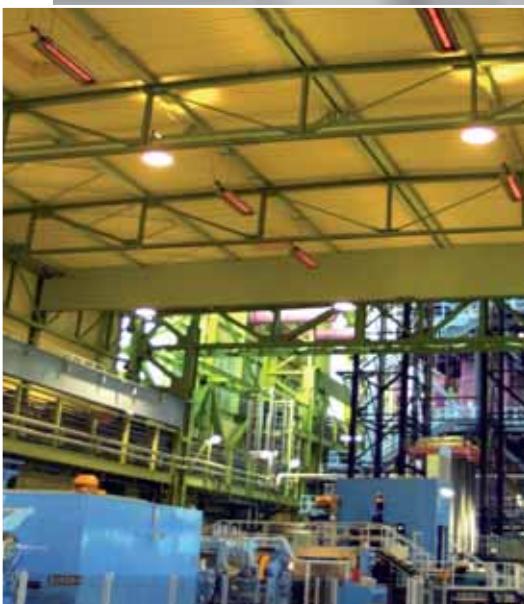
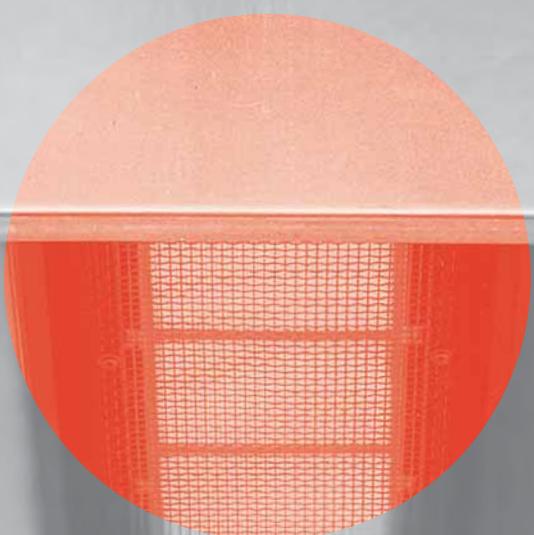
Always looking towards the future – here are only a few of the milestones in our development:

- In 1958 GoGaS establishes the „plant engineering“ department, in which we develop and produce process engineering-type installations for industry.
- In 1967 we equip the first sports facilities with gas infrared heaters.
- In 1978 we install the first continuous room temperature regulation system.
- In 1981 we open our first foreign subsidiary in Europe.
- In 1986 we establish a technical research and development centre.
- In 1998 we market the fully insulated KOMBIMAX radiant heater with an improved efficiency level.
- In 2005 we develop an infrared burner with a previously unknown level of efficiency: the RADIMAX porous burner.

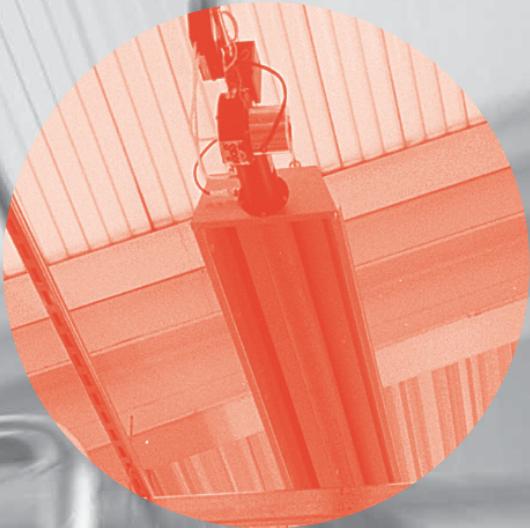
So you see: the company founder dictated the direction - towards the future. GoGaS has pursued this goal ever since.



Luminous heaters by GoGaS – reasonably priced and economical, especially in high buildings



GoGaS



GoGas®

Climate- <

friendly.

Customer-

friendly.

Cost-effectiveness and climate protection

The role models for the heating systems made by our company can be found in nature. Like the sun, our infrared heaters transmit electromagnetic waves across long distances, practically without loss. The rays do not turn into heat until they strike material. This makes our radiant heaters ideal for halls and other large-volume buildings. With our air heaters it is the air that brings the heat to those who need it.

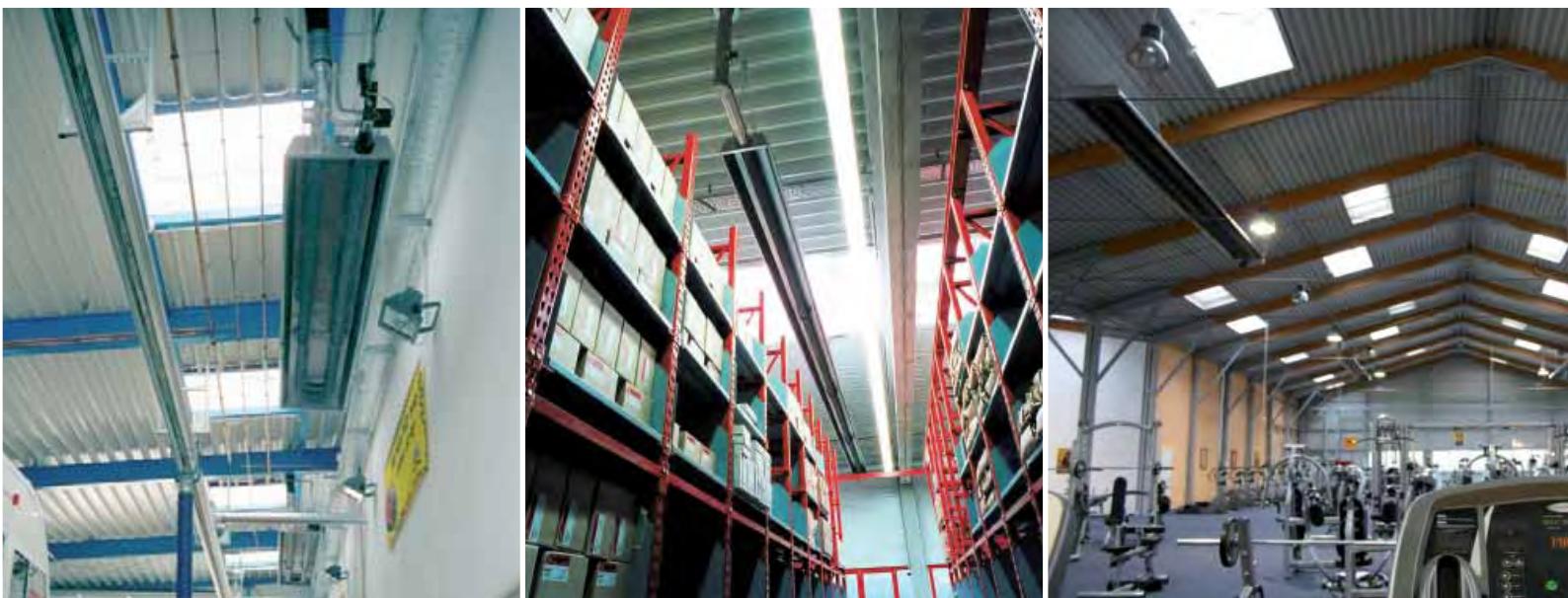
This makes them the first choice for rooms of low height. As a company with a special relationship to topics like climate and energy, we are constantly working on optimising the energy efficiency levels of our systems. Our success proves that we were right. In terms of energy efficiency and environmental friendliness, our company's heating systems are at the top of the international table.

Exemplary „climate policy“ - to name just a few examples of our „climate policy“: Whether heating or air conditioning – all systems

- have intelligent regulation systems which automatically determine, control and regulate changing heat requirements;
- return the waste heat to the heating process;
- work as decentralised systems, and can thus be cut in or cut out, as required;
- are available in various sizes as individual heating systems.

In addition we offer effective heat recycling systems. They return the heat that rises to the ceiling back to the area where people can feel it. We give the heat no chance to escape unused.

Proved to be climate-neutral - GoGaS has been a climate-neutral company since 2008. This means that with „first climate“ we compensate for our own greenhouse gas emissions by saving elsewhere – by sponsoring a biogas plant in Hennstedt in Schleswig-Holstein. This is an award we were particularly pleased to receive, because it is based on the „Greenhouse Gas Protocol“ and is internationally recognised.



Tube heaters by GoGaS – the outstanding solution for thermal comfort

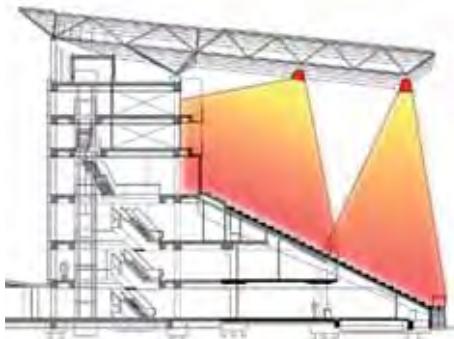
Gas infrared heaters

Wasting enormous quantities of light and heat, day in, day out – only the sun can afford to do that. We human beings have to be a good deal more economical and use the limited energy available as intelligently as possible. The solution: many small „suns“, which you can switch on or off as required. Our infrared heaters are in fact produced on a modular basis. This makes them particularly energy-friendly and costfriendly to use. You only need to switch on the heating units you require for pleasant warmth; in this way you can set up different temperatur zones. If required, the entire heating area can be operated in two stages, at 50 % or at 100 % of the maximum performance.

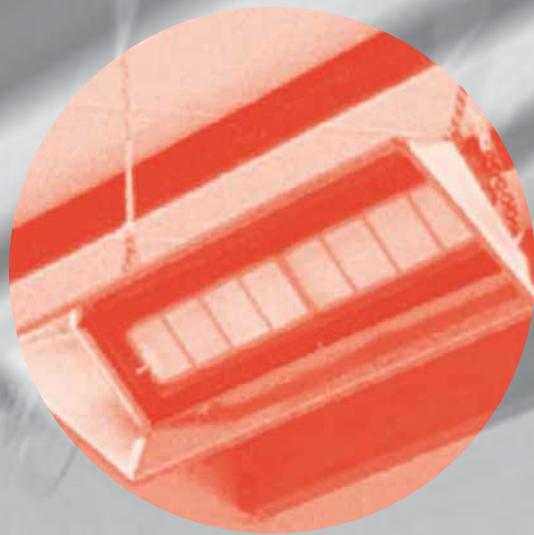
Hot. Or very hot. – In order to be able to adapt our infrared heating systems even more accurately to local conditions, you can choose between luminous and tube heaters. In our luminous heaters, the gas/air mixture burns clearly visibly on a ceramic surface. Its high temperatures of up to 950 °C are particularly suitable for heating very high, large-volume rooms. With our tube heaters, the gas/air mixture burns within a radiant tube. Here, surface temperatures of up to 500 °C can be reached. This makes tube heaters especially suitable for lower halls and well-insulated spaces.

Truly economical – on request we can equip all heating systems with intelligent regulations. In this way, target temperatures can be entered, cut-in intervals can be programmed or power adjustments can be defined accurately.

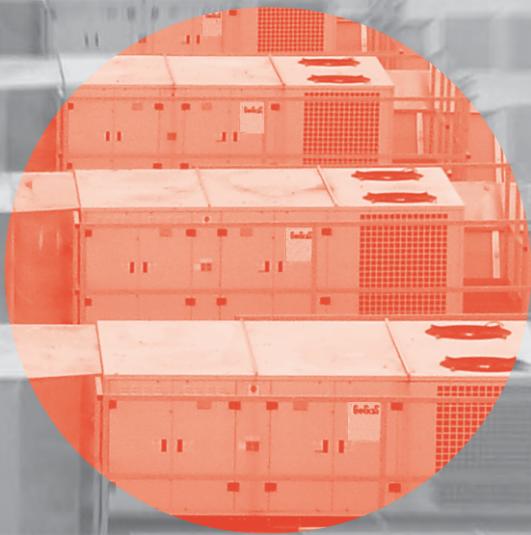
In conjunction with special sensors, which determine thermal influences such as solar radiation or waste heat from human beings and machines, your heating system can regulate everything by itself. Truly economical.



Infrared heaters by GoGaS – creating a pleasant atmosphere in sports facilities too



GoGas®



GoGaS

Sow



the wind,
harvest
cost-
effectiveness

Air conditioning and ventilation systems

In nature, the wind goes where it wants to go. – With our air heaters, it goes where you want it to go, for all systems – from the Windor series to the TC class – offer you a maximum of flexibility.

You have a choice from a power range of between 3 and 1000 kW. Our systems can also be operated with recirculated air, mixed air or fresh air, as an insular solution or in conjunction with a ventilation channel system, and not least can be placed on the floor, on the wall, suspended from the ceiling or positioned out of doors. Whether for a social area or a production hall – they guarantee pleasant warmth in a particularly environment-friendly way, for all systems work at maximum efficiency level. In this way you are guaranteed a high level of cost-effectiveness.

You do not have to wait long for this – the CF ROOF TOP monobloc system for heating, ventilation and cooling is the champion of flexibility. It is available in seven standard sizes, and offers a wide power range with a supply air volume of between 3,500 and 23,000 m³/h. Thanks to the parallel operation of the microprocessor-controlled systems, there is practically no limit to the power level.

The system works with a high degree of reliability. This is guaranteed by a number of robust components which have proved very successful in practice. These include wear-free stainless steel heat exchangers as well as maintenance-free scroll-type compressors.

The reduced cooling circuits mean that maintenance and repair can be carried out by technicians with the „intermediate refrigeration certificate“. The compact design of the entire system and the easily accessible inspection doors also help to reduce the work involved in maintenance.



Ventilation and air conditioning by GoGaS – heat and cold under control

Project management

The requirements to be met by a heating system are as varied as the buildings themselves. In a church building, an extreme room height goes together with a short visit duration by the churchgoers. In an openplan office it is exactly the opposite.

We will use all of our energy to adapt your heating system to the individual conditions on site.

Our leitmotif is to make the most of existing savings potentials.

On request we can determine the heating requirements and draw up a utilisation profile, carry out comprehensive calculations and simulations by computer and produce all of the necessary system components on this basis. And after delivery and installation we should also be pleased to carry out the regular maintenance for you.

Effcient solutions for process engineering – industrial process engineering is a special GoGaS division. Whether drying in the paper industry, curing of powder coating, thermal forming of plastics or defrosting railcars – our „plant engineering and construction“ division can develop, produce and supply installations for your own specific plant engineering and construction requirements.



Drying technology by GoGaS – consistently innovative



GoGaS

References

Here we would like to present two projects that have gone through their practical tests. They show the precision with which we gear our systems to the specific requirements of our customers.

Example 1: How a freight forwarding company fares well – with our installations

The energy costs of the freight forwarding company were not insignificant. The company used almost 550,000 kWh to heat the offices as well as the warehouse. This was why the management was thinking about replacing the boiler system. This was a measure that would have cost approx. 20,000 euro.

The alternative was to separate the heating of the offices from that of the warehouse hall, and also to equip the hall with radiant heaters by GoGaS. Costs: 50,000 euro.

The decision was taken in favour of the solution with the higher investment. The reasons were obvious: faster provision of heat, installation of different temperature zones and significantly lower energy consumption. Consumption was cut by almost half to approx. 230,000 kWh.

The costs were paid off within three years.

Example 2: Electronics giant puts its money on the air conditioning giant

A German electronics group needed a system for the flexible air conditioning of a production facility. The catalogue of requirements was challenging. The process heat to be expected required a system with a high air exchange rate, yet at the same time this was not to give rise to unpleasant draughts and the temperature was to remain constant, especially in particularly sensitive areas.

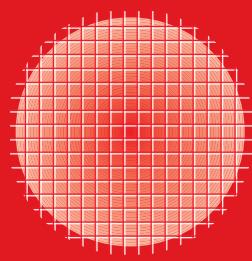
GoGaS supplied 38 systems from the CF Gas Roof Top series with a maximum air output of 514,000 m³/h. Its monobloc construction divides



Regulation equipment by GoGaS — to meet the highest demands with respect to precision, function and costeffectiveness

the hall into 38 climatic zones in which each unit works autonomously. While some units are working, others cool or run in free-cooling mode. All in all this is an extremely flexible and comfortable system, which works to the satisfaction of our customer.

GoGaS





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