

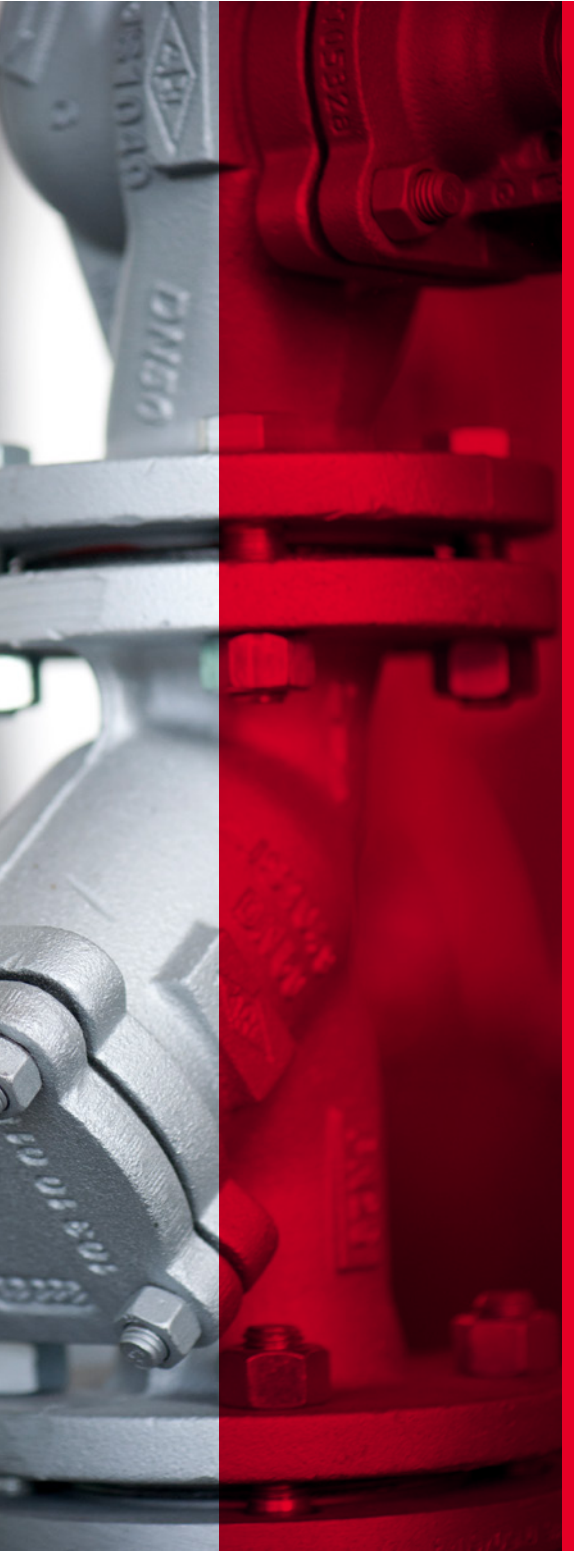


# Gekakonus®

**Customized high-temperature  
process heating plants worldwide**



**MORE THAN ENERGY**



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## Perfection with tradition

Dear readers!

When it comes to technologically sophisticated solutions for industrial process heating technology, you are in the best hands with GekaKonus®. Our experienced engineers specialize in the development of innovative, tailor-made thermal oil heaters, high-pressure and quick steam generators, steam generators and exhaust gas heaters as sources of energy for various production processes. Having an export share of almost 90 %, we offer energy solutions for the whole world!

Current developments focus on energy efficiency and a consistent reduction of pollutants. It is our aim to make the combustion of fossil fuels significantly cleaner. For this reason, we are continuously working on optimizing our processes and services. Thanks to our own production facilities within the group, we are able to perform and combine all steps necessary for this purpose. You, as our customers and partners, are the ones to benefit from that.

Find out more about our versatile portfolio on the following pages. Of course, we are also available for personal consulting and further information.

I hope you find this brochure interesting.

Yours sincerely,

Dipl.-Ing. Knut Fellbaum  
Sales Director of GekaKonus® GmbH



## Quality as top priority



We apply the highest standards for the quality of our products and services! This is why we put great emphasis on a high level of qualification of our employees. Whether in the development or sales department: Well-trained and experienced engineers are experts in their field and guarantee a reliable and high-quality execution of all work according to the customer's requirements and specifications.

We attach the highest importance to quality and performance, which is reflected in our approvals and certifications. These include the HP-0-approval and various procedure tests for normal and stainless steel as well as manufacture in accordance with the Pressure Equipment Directive, ASME, SELO, TR, JIS, KEA and other standards. Our numerous reference projects prove that we are on the right track with our corporate strategy which clearly focuses on compliance with the highest quality standards. Around 12,000 of the approximately 19,000 plants built are still in operation. We have securely archived all project data since the 1970s so that we are always able to supply necessary spare parts or provide alternatives.

## Your competent partner

When it comes to service, there is no room for compromises. We have developed an extensive, modularly structured range of global services for our customers. From commissioning and staff training to comprehensive maintenance work and a reliable spare parts service: On request, you'll get all services from a single source. You can choose from our range of services according to your specific needs. Of course, we always keep a close eye on all country-specific policies and safety regulations.

We implement all parameters, requirements and desired services in a customer-specific and accurate manner. Moreover, we maintain close collaborations with major plant engineering companies to achieve maximum efficiency and profitability.



# High-pressure steam boiler of the latest generation

## Natural circulation through gravity

Our natural circulation boilers NUK-HP® use the gravity circulation principle and do not require a feed water pump. In a hermetically closed circuit, in which water is used as a heat carrier, the condensate flows back to the boiler by means of gravity, while the steam flows to the heat exchanger. Capacity ranges from 150 to 7,400 kW / 95 bar. The NUK-HP® is supplied as a complete boiler system ready for commissioning so that complex assembly works are not necessary. The natural circulation boiler NUK-HP® offers several advantages:

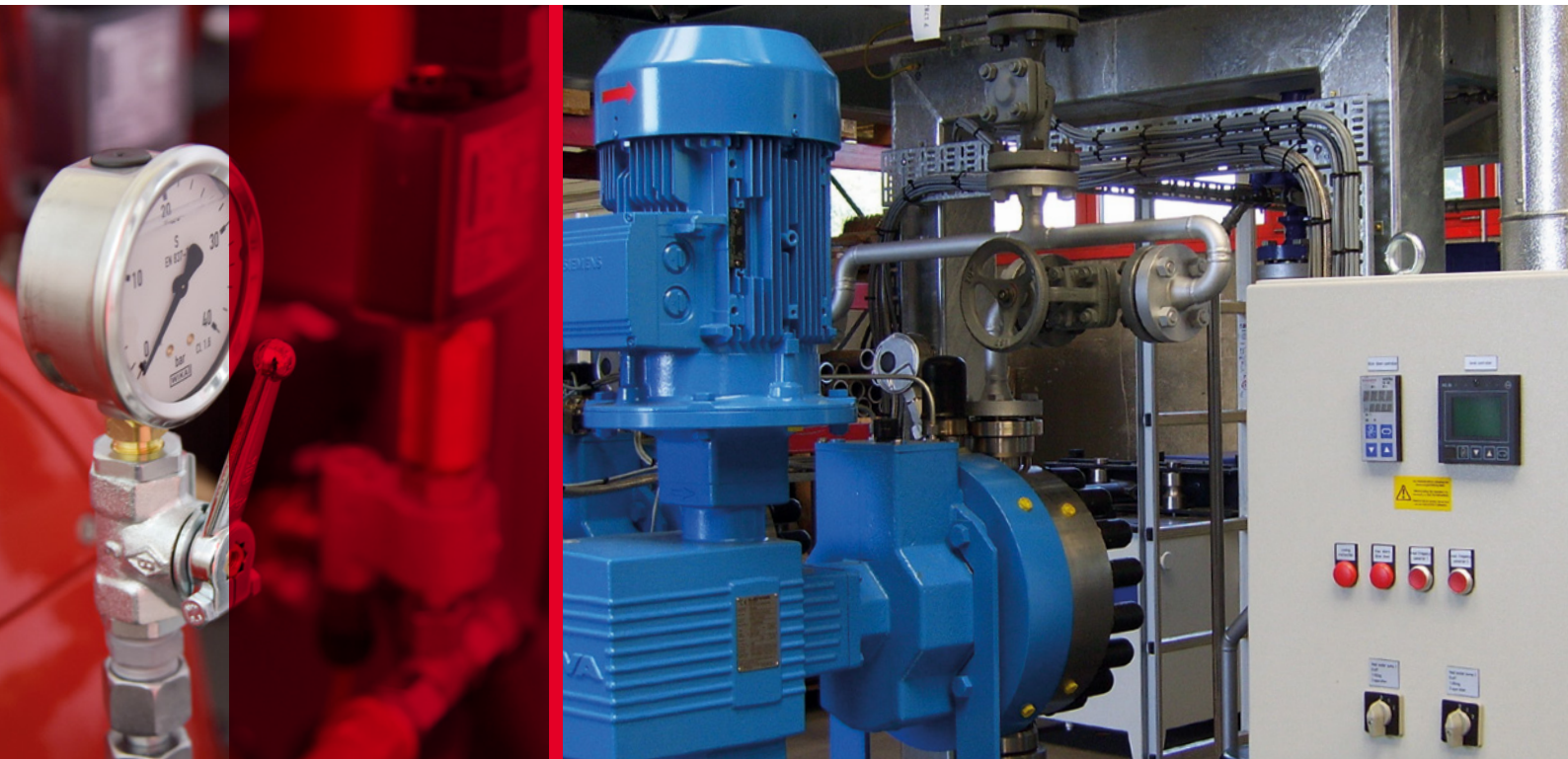
## Strong arguments

- Customer-specific performance gradations are possible
- Easy access to the burner as well as ICA technology for commissioning and maintenance purposes
- No circulation pump is necessary due to the natural circulation, which saves operating costs at the same time
- Using saturated steam results in a non-toxic and efficient process heating system
- Desludging and desalination systems – which are normally installed in steam boiler plants – are not needed due to the closed circuit, thus there are no costs for these systems
- The safety equipment allows operation without constant supervision



## Application

Food and beverage industry for the distillation and fractioning of fatty acids | Esterification of fatty acids | Distillation of glycerin | Deodorization of edible oil | Fat splitting | Applicable in all process heating plants in which a natural circulation steam boiler can be implemented in the heating system



## Natural circulation with a steam drum

Based on our natural circulation steam boiler, we have developed the high-pressure steam generator NWK-HP. It operates in open steam/condensate cycle systems with a separate steam drum. It is used in process heating systems in which the implementation of a closed steam/condensate cycle system is not possible. We thus have the right solution for every production process.



### Application

The NWK-HP is particularly used in production processes that require different steam pressures / saturated steam temperatures at different process stages or in case the condensate cannot flow back. The GekaKonus® high-pressure steam generator in open condensate cycle systems is also used for thermal high-pressure splitting processes of fats and oils to generate fatty acids and glycerin water.

# High-performance thermal oil heater

## Heat transfer units

The GekaKonus® thermal oil heater THERMOMAT® is a forced circulation heater for organic high-temperature heat transfer media on a mineral or synthetic basis. Its efficient 3-pass design leads to a defined heat transfer at any point of the heating surface. The flowing speed for the controlled forced circulation is ensured through permanent measuring and monitoring of the volume flow.

### Application

Rubber and plastics industry | Metal industry | Surface finishing |  
Soap and detergent industry | Food and beverage industry | Textile industry |  
Bitumen and tar processing industry | Oil industry | Chemical industry |  
Building materials industry | Timber industry | Paper and card industry | Laundries







## Good to know

The THERMOMAT® works with almost no pressure within a temperature range of up to 340 °C. It is operated with customary heat carriers which do not cause corrosion – neither in the heater nor the pipeline system. At a temperature range of >340 °C to 400 °C it is necessary to consider a system pressure of up to 12 bar. Nitrogen can be used in order to ensure stable and durable operation of the THERMOMAT® in combination with the added heat transfer medium. All thermotechnical control tasks can be performed with high temperature accuracy and precision. Manufacture takes place in compliance with the technical rules of the European Community (PED 2014/68/EU) and other global organizations (e.g. SELO, ASME, TR).

The THERMOMAT® also excels in terms of safety: A flow safety device enables the measuring and monitoring of the minimum volume flow rate of the heat carrier. If the flow rate drops below this value, the firing system shuts down automatically. The safety temperature limiters in the flow and flue gas prevent an inadmissible increase in the flow and flue gas temperature. All commercial gaseous and liquid products can be used as fuels, such as heavy fuel oil, medium oil, light oil, biodiesel, liquid gas, natural gas or biogas.



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[www.ksb.com/eta/syt](http://www.ksb.com/eta/syt)



## State-of-the-art steam generator

Another possibility to generate steam is the GekaKonus® steam generator. It is indirectly heated and uses a heat transfer oil as heating medium. Capacity ranges of up to 25 t/h steam with an operating overpressure of up to 20 bar can be realized by the GekaKonus® steam generator. Capacity design and technical equipment can be adapted to the customer's requirements. Equipment and manufacture comply with the technical regulations of the European Community and other international organizations.

### Application

For all processes that require consumption steam and where a primary energy center in the form of a heat transfer system as well as power reserves are already available.





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pressure ranges 0 - 60 mbar upto 0 - 400 bar

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VdTÜV-Merkblatt Druck 100

DIN EN 12952-11 / DIN EN 12953-9

PED 2014/68/EU: Category IV

ATEX 2014/34/EU: Exi/Exd/pneumatic for Zones 1, 2, 21, 22



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## Exhaust gas heater with heat recovery

We have developed the GekaKonus® exhaust gas heater so that gases, which are produced in the process, do not remain unexploited but can be reused in an economically and ecologically viable way. The heater design can be adapted to individual requirements. The useful heat generated by the exhaust gas heater can be used to heat various heat carriers, such as heat transfer oils (100 °C – 400 °C), warm water (70 °C – 90 °C) and hot water (up to 265 °C). The following capacity ranges can be realized: a flue gas volume of up to 80,000 Nm<sup>3</sup>/h as well as flue gas temperatures of up to 1200 °C. Capacity design and technical equipment are based on the technical requirements of the customer.





## A good alternative: Quick steam generators

Should a closed natural steam / condensate cycle system not be possible due to the required process technology, we recommend our LSG-HP quick steam generator. It consists of two cylindrical pipe systems arranged in series. The feed water is pumped into the pipe system by a piston pump.

The quick steam generator was specially designed for production processes that require different steam pressures / saturated steam temperatures at different stages in the production, or in processes where the condensate is completely or partially lost. Due to the low water content, the LSG-HP quick steam generator can help achieve fast operational availability. Low water content and low mass, combined with a high heat transfer rate, make the full steam quantity available shortly after burner start-up. The saturated steam flow is largely free of residual moisture and dissolved salts.



***So bringen Sie Ihre Produkte sicher ans Ziel!***

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## Thermal oil heater THE

The GekaKonus® thermal oil heater ELEKTROTHERMOMAT (THE) is a forced circulation heater for organic high-temperature heat carriers on a mineral or synthetic basis. The GekaKonus® THE is used wherever sufficient electrical energy is available as well as in rooms where it is not possible to dissipate the flue gases from gas or oil burners, where open flame firing is prohibited or where no fuel, e.g. oil or gas, is available.

When designing the systems, it is considered that the circulation is interrupted in the event of a power failure and the reheating of the heat transfer medium remains in the range of the maximum permissible heat carrier temperature. In order to achieve this, heating elements with a relatively low heating surface power are used. The heating surface load is chosen in such a way that it does not exceed the highest permissible film temperature of the heat carrier.



### Application

The THE can be used in various production environments, such as the rubber, plastics, metal, soap, detergent, food and beverage, oil, building material, timber, paper, textile, chemical, or bitumen and tar processing industry as well as in laundries or companies specializing in surface finishing.



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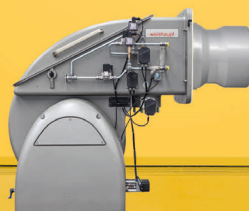
## GekaKonus® thermal oil heater for a reason

The ELEKTROTHERMOMAT works with almost no pressure within a temperature range of up to 340 °C. At a temperature range of > 340 °C to 400 °C it is necessary to consider a system pressure of up to 12 bar. It is operated with customary heat carriers which do not cause corrosion – neither in the heater nor the pipeline system. Nitrogen can be used in order to ensure stable and durable operation of the thermal oil heater for many years. With the GekaKonus® thermal oil heater ELEKTROTHERMOMAT, all thermotechnical control tasks can be performed with a high level of temperature accuracy. A particular advantage is that the flow temperature of the heat transfer medium can be controlled very precisely for a given heat output. Depending on the technical requirements, a multi-stage control of the heat output – being subject to the flow temperature – is possible so that optimal output control is always achieved in case of need. Another advantage is the large control range which can be further improved by installing a thyristor control, thus making it infinitely variable. As the electrical energy is converted directly into heat, efficiency is higher than with a comparable direct-fired thermal oil heater.



Das ist Zuverlässigkeit.

–weishaupt–



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[www.weishaupt.de](http://www.weishaupt.de)



**OCCHIPINTI** GMBH

## We manufacture ourselves!

Our production, OCCHIPINTI GmbH, is a medium-sized company specializing in the manufacture of steam boilers, thermal oil heaters, plant accessories and tanks according to customer specifications. It is located right next to our headquarters. We benefit from the synergies of a strong company group and can thus offer our customers tailor-made solutions from a single source. OCCHIPINTI GmbH follows the same quality strategy and is certified in accordance with the following guidelines and standards:

- HP-0-approval in accordance with EN 729, Part 3
- AD-2000 data sheet HP 0 / DIN EN ISO 3834-3 /
- HP 100 R / TRD 201
- Capacity Certificate in accordance with DIN 18 800, Part 7
- Certified welders in accordance with EN 287 for normal and stainless steel
- Procedure tests in accordance with EN 288 for normal and stainless steel
- Certified Welding Engineer
- Germanischer Lloyd factory acceptance
- DNV- and GL-approval
- Bureau Veritas certification
- SELO certificates
- ASME approvals
- National Board approval
- TÜV agreements
- Re-stamping of products with certificate of material testing according to DIN EN 10204
- Water Resources Act







## High-performance manufacturing

Thanks to regular qualifications as well as investments in the modernization and extension of its machinery and equipment, OCCHIPINTI GmbH is up to date when it comes to state-of-the-art technology.

### Manufacturing possibilities

- Mechanical production (pipe bending, milling, drilling, turning, grinding)
- Welding (MAG, MIG, TIG, SMAW)
- Cutting (autogenous, plasma)
- Sheet metal forming (shearing, chamfering, rolling)
- Assembly (steel construction, machine construction)

### Hall equipment

- Hall 1 and 2 floor load capacity of up to 20 t per m<sup>2</sup>
- Hall 3 floor load capacity of up to 30 t per m<sup>2</sup>
- Hall size Hall 1: 1,670 m<sup>2</sup>
- Hall size Hall 2: 750 m<sup>2</sup>
- Hall size Hall 3: 650 m<sup>2</sup> + 100 m<sup>2</sup>
- Hall gate size: W x H = 5 m x 6 m
- 800 m<sup>2</sup> of roofed open space with a 12.5 t crane system
- Remaining open space: 1,000 m<sup>2</sup>
- Indoor crane: 5 x 12.5 t, hook height: 10 m
- Indoor crane: 2 x 25 t, hook height: 12.7 m

### Machine park – Mechanics (conventional)

- Column drill
- Drill press
- Tube bending machine Ø 33.7-60.3 mm
- Tube bending machine Ø 33.7-168.0 mm
- Pipe re-forming machine
- 2 small pipe forming machines
- 1 large coil straightening machine
- 1 small coil straightening machine

### Machine park – Sheet metal forming

- Bending machine, max. sheet thickness: 14 mm Processing width: 3000 mm
- Bending machine, max. sheet thickness: 5 mm Processing width: 2000 mm
- Guillotine shears, max. sheet thickness: 12 mm/10 mm Width: 3000 mm

### Machine park – Welding

- 21 welding units for MAG, MIG, TIG, SMAW
- 3 plasma cutting machines
- 1 submerged arc welding unit

## Convincing references



### Industry for rubber, plastics and for the production of flooring materials

Heating of calendars, melting pots, etc., heating of plastic presses, automatic injection molders (also with cooling).

### Metal industry and surface finishing

For coating machines, for the heating of phosphatizing and washing baths.

### Soap and detergent industry

Heating of autoclaves, cooking pots, continuous saponification plants, drying towers for washing powder, etc.

### Food and beverage industry

For the distillation and fractioning of fatty acids, esterification of fatty acids, distillation of glycerin, deodorization of edible oil, fat splitting, cooking pots.

### Textile industry

For thermosol processes, fiber and dye fixation, fabric drying, coating and impregnation of fabrics and plastics, heating of winch dyeing machines (including HT design).

### Oil and gas industry, bitumen and tar processing industry

Heating of tank farms, handling and mixing facilities, tankers and tank trucks, bitumen and tar supply to large construction sites.

### Chemical industry

Heating of autoclaves, grease cooking pots and stirrers, reaction containers, dryers, etc.

### Building materials industry

Heating of drying chambers, steel formwork, silo heating, etc.

### Timber industry

Heating of wood presses, wood drying plants, coating systems, multi-daylight presses (also with cooling).

### Paper and board industry

Heating of drying cylinders, calendar rollers and drying chambers.

### Laundries

Heating of washing machines, tumble dryers.

# SES

SCHALTANLAGEN &  
PROZESSLEITTECHNIK GMBH



SES Schaltanlagen und Prozessleittechnik  
Handelsgesellschaft mbH

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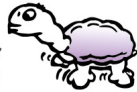
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Whatever dimensions or destinations you require: We take care of on-time, punctual and safe logistics. All products are professionally and properly packed, loaded and transported. At the same time, our experienced specialists take all guidelines and air-technical provisions into consideration.

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