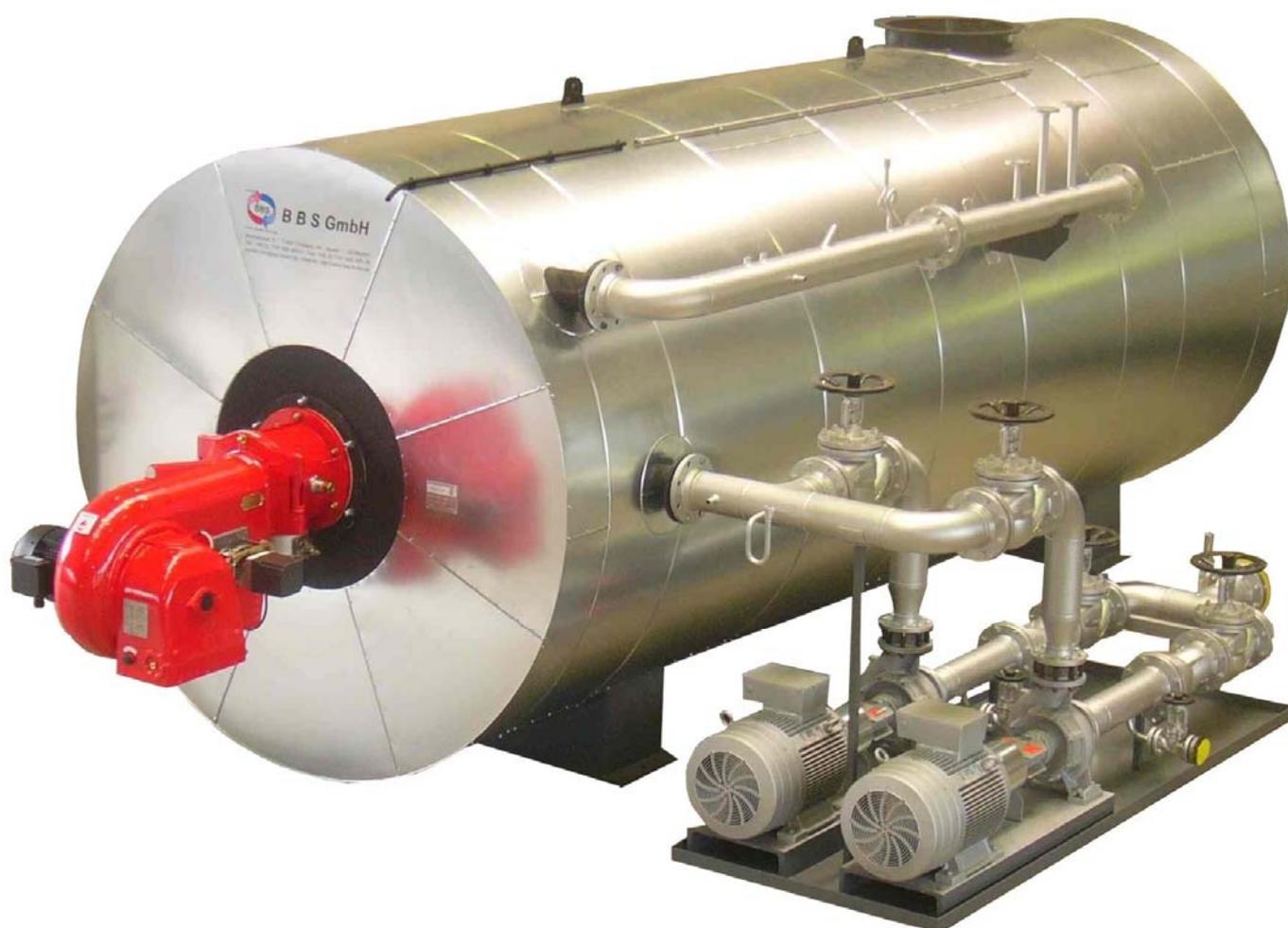


Boilers
from **Experts**
for **Professionals**



Thermal oil boiler
Type HG 50 – HG 25.000



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From the history

The BBS GmbH was founded in the summer of 2004, with the fusion of BAY Wärmetechnik GmbH and Bay Engineering and Consulting Company. The new company combines the production of industrial boiler systems with the Engineering know-how of modern energy systems and environmental technology.

We realize precisely fitting boiler systems, considering the given space and weather conditions, the type of heat carrier and fuel, the requirements for fire protection classes which are aligned to country-specific regulations.

BBS GmbH is a pioneer in the field of quick steam generators. We were one of the first who brought the quick steam generator after the development on the German market.

2 x HG 600 for Knorr soups in Heilbronn (Germany)



Heißöl-Kessel

The heat carrier oil technology in Europe was influenced by us. Already in 1962, the first thermal oil boilers were built, among others also for the German petroleum corporation.

So today we can look back on more than 65 years of experience in the field of industrial heating technology and boiler construction.

Why thermal oil?

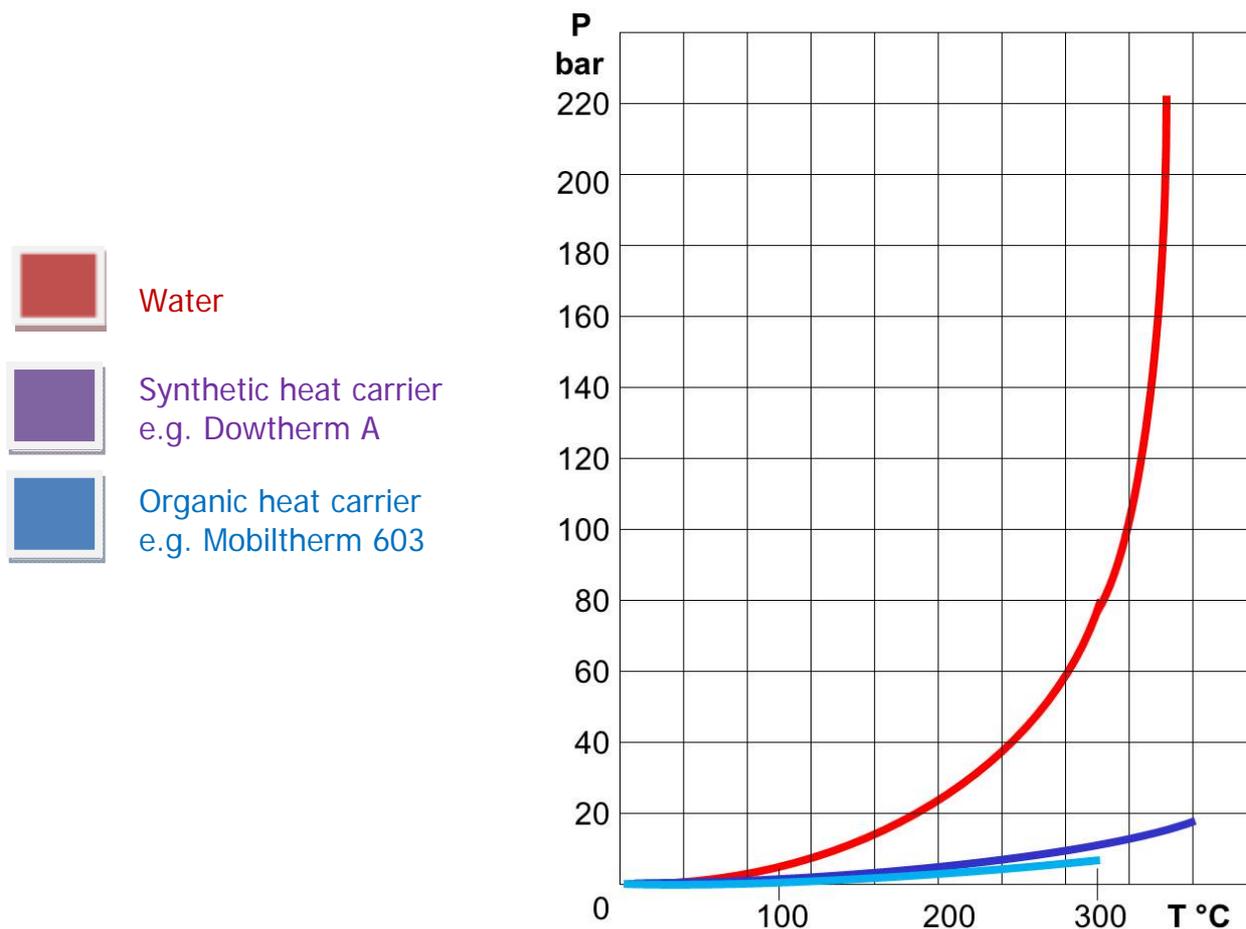
The heat supply with heat carriers can either be direct or indirect. The direct heating of a body with a direct flame is the easiest method, but not often used because of the problems with temperature control and overheating of the material.

Therefore we use indirect heating with heat carriers. Water is the most commonly used heat carrier and the ideal suitable medium for temperatures from 0 to 100 ° C (with atmospheric pressure).

However, beyond these temperatures we encounter a number of problems: the characteristic of water to freeze at <0 ° C, the formation of corrosion, deposits on the heat exchange surfaces due to the lime and other minerals in the water, so a water treatment plant and dosing pumps for chemical addition are necessary, which results in high capital and operating costs.

To reach temperatures like 300 ° C for example, the heating system must be based on an operating pressure of 80 bar (see Figure 1).

This means relatively expensive expansion systems, which must operate under high pressure. And there are special rules and regulations in order to ensure the safety.



Under these circumstances, it was searched for other heat carriers. In the sixties, heat carriers based on mineral oil have been widely used in the field of industrial heating systems in Germany and Europe.

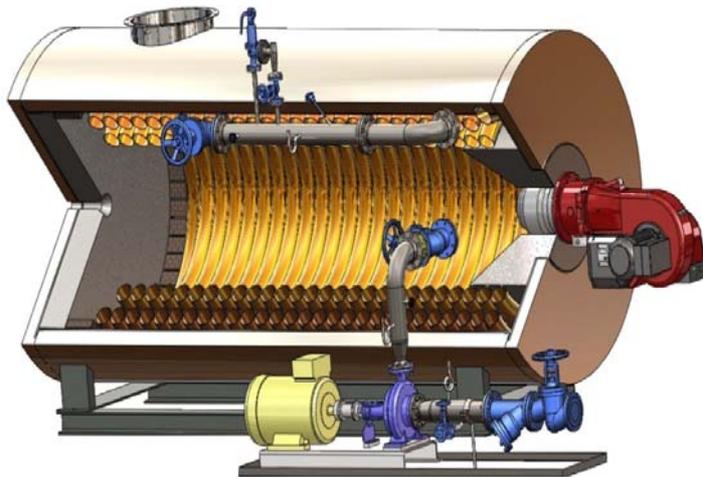
The compact and individual thermal oil boiler

BBS thermal oil boilers are equipped with single- and multiple inside lying coils in a three-pass version.

The boilers can use organic as well as synthetic heat carriers.

For thermal processes with higher temperatures up to 400 ° C, we equip our systems for the use of synthetic heat carriers.

Maximum operating pressure is up to 10 bar (at higher temperatures up to 20 bar).



The thermal oil flows with a controlled speed through the coils which ensures a long service life of the thermal oil and heater.

We use only checked furnaces, control systems and safety devices. Our thermal oil boilers achieve the highest efficiencies.

The special feature of our concept in boiler construction is to respond to the process-specific needs and requirements of the customer.

Our engineers do not look at our catalog and try to use something appropriate, but rather design a technical solution based on the posed problem..



Underfeed furnace

The BBS thermal oil boiler with coal, wood or waste furnace are everywhere in use, where an economic heating is needed. Who wants to save heating and energy costs, can heat our thermal oil boiler with the following fuels:

- ✓ Coal
- ✓ Lignite
- ✓ Sawdust
- ✓ Shavings
- ✓ Kindling
- ✓ Waste from grain processing
- ✓ Shells of sunflower seeds
- ✓ Paper waste
- ✓ Cocoa shells
- ✓ Shells and waste from coffee beans
- ✓ Olive stones
- ✓ Rice shells
- ✓ Cottonseed shells
- ✓ Bagasse
- ✓ Other biomass

Exemplary scheme of a plant

During the underfeed furnace the degassing of the wood and oxidation of the charcoal happen in a combustion bowl, in which the fuel is inserted with a screw conveyor.

With this method, a more complete combustion can be achieved and thus also a high level of efficiency.



The fuel gases burn in the combustion chamber above the bowl. The combustion process for solid fuels can be divided into three phases: the drying, pyrolysis and burning of charcoal.

The underfeed furnace is possible for low-ash fuels or fuels with a high content of volatile ash components.

Electric thermal oil boiler

Electric thermal oil boilers are used where a direct-fired system cannot be installed due to technical reasons, where the construction of a chimney is not possible (e.g. monument protection). They can be installed in workplaces, on and next to manufacturing plants.

- Controlled amount of oil circulation
- Low temperature differences
- Space-saving compact unit
- Power control
- 2-stepped to electronically-stepless
- Temperatures up to 400°C
- Heating capacity up to 1500 kW
- Lower specific surface load



The plant engineering and construction

We build and install worldwide heating and cooling systems. These systems are used in many industries.



2x 4MW Rice factory in Bangkok



HG 3.000 Wood factory in Haifa



2x 8MW Refinery ship in Shanghai

Aircraft industry

Electroplating baths, press heating

Bitumen and bitumen processing industry

Bitumen storage tanks, mixing equipment

Chemical, chemical-engineering and plastics industry

Distillation plants, Polymerization plants and cooling of reaction plants

Construction, stone and earth industry

Aggregates for concrete production

Electrical industry

Drying chambers, press heating

Heating supply

Steam generators, hot water generators

Metal industry

Anodize bath, electroplating baths

Mineral oil industry

Heavy oil plants in process

Paper industry

Calender rolls and drying cylinders

Textile industry and laundries

Tenter, coating machines, dryers, dyeing machines, calenders, presses, washing machines

Wood industry

Clamping plates, plywood and veneer presses, coating equipment, wood drying plant

Shipping

Heavy oil and bitumen chambers on ships, heat recovery from exhaust gases of marine diesel engines

With us, you always have good cards – Worldwide

Our boilers and tanks are produced in Germany according to the highest safety standards, quality and efficiency. All of our products comply with the European **Pressure Vessel Regulations (PED 97/23/EC)** and carry the CE mark. For this, our company and our products are certified by authorities for many different markets.

Along with quality, reliability and durability of the thermal efficiency of the boiler is one of the most important parameters. Already a nominal loss of efficiency causes an enormous increase in operating costs.

The systems meet the highest requirements in terms of reliability, handling, durability and quality and comply with **DIN 4754**.

Our certified quality management system according to **DIN EN ISO 9001** is for us only one goal to meet quality standards for today and tomorrow. The rational and intelligent innovation which is based on long-term experience is the key to our success.

Our environmental management system certified according to **DIN EN ISO 14001** ensures innovative solutions for the production of our heating equipment for a thoughtful approach to environmental issues.

Our skills and professional knowledge allow us to meet the increasing demands of high-tech and environmentally friendly energy industry and to provide our customers with advanced technology solutions.

We can meet all necessary regulations and global standards thanks to our flexible production.

