FUNKE

Heat Exchangers

Quality, reliability and continuity

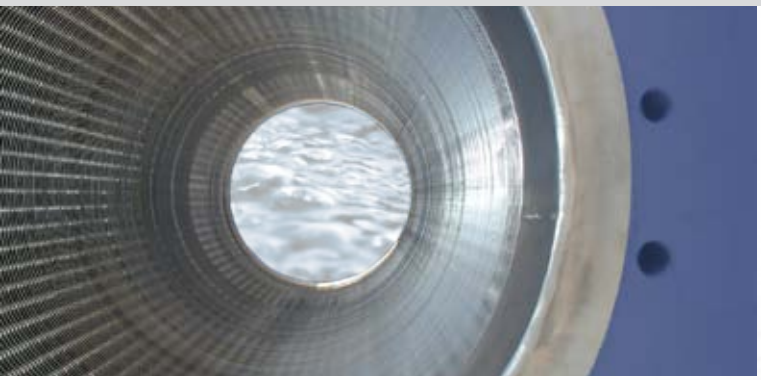
Our aims

Founded in 1974, FUNKE quickly established themselves as experts in shell and tube heat exchangers. As a consequence, during the following years the production area was expanded to incorporate plate heat exchangers in bolted and brazed designs, oil / air cooling units together with electrical oil pre-heaters. As a result, FUNKE is now one of the few manufacturers worldwide with such a comprehensive product range. FUNKE continues to expand; along with the expansion of the product range, the plant area at the Gronau location alone has increased to more than 40,000 m².

Subsidiaries with more than 400 employees worldwide and a distribution and service network around the globe have been established for dynamic growth and a FUNKE presence in the international markets. Satisfied clients, with a history of mutual co-operation spanning decades is – along with our business achievements – important evidence of the high level of recognition FUNKE enjoys both domestically and internationally.

Quality, reliability and continuity – the ingredients to the success of our company!

Competence



Our highly qualified team is always up to date with the latest state-of-the-art technology in the heat transfer world and is in constant contact with our own research and development department. The client-specific consulting service combined with a high-level of technical knowledge and expertise aims to identify the heat exchangers which are optimally designed and developed thermodynamically for each individual application.

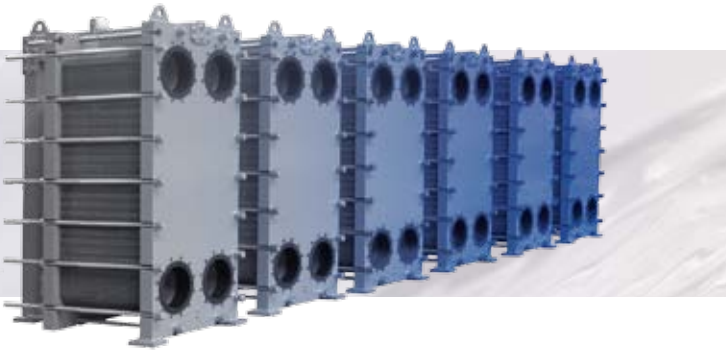
If our large and comprehensive product range does not offer an optimum design for the desired application, then together with the client we develop customised solutions to guarantee satisfactory results.

The professionalism is also reflected in the entire manufacturing and testing process which is characterised by the most advanced technology. The quality tested materials; the reliable manufacturing and the precise processing are the guarantee for the highest quality. Our in house tool design and manufacturing ensures that only high-quality stamping tools are calculated, developed and manufactured in our company and used in the large automatic presses.

We apply at any time this combined expert knowledge in all areas to the advantage of our clients. That is why today we are one of the leading manufacturers of heat exchangers. In addition, FUNKE as a company has at its disposal, direct communication lines and flexibility in the areas of research, development, manufacturing and service only rarely seen in leading companies.

Applications

Heat exchangers are part of our everyday life. They are needed everywhere where liquids or gases have to be cooled or heated. FUNKE specialises in heat exchangers for industrial applications. So the FUNKE heat exchangers are used in markets such as mechanical engineering, device engineering and shipbuilding or in compressor technology for oil cooling. In the chemical and pharmaceutical industries they are used for thermal treatment of the products or for tempering the process water. In addition, in recent years, the applications in the areas of energy use and new energy sources have attained a great significance. Every production process includes thermal reactions and thus heat transfer. Therefore, the efficient use of the energy and the energy conservation in the company is an important area today.



Shell-and-Tube Heat Exchangers

- straight tube / U-tube heat exchangers
- safety type heat exchangers
- all normal designs (TEMA) available
- for any liquid and gaseous media
- diameters of units can be up to 2 000 mm at a length of unit of approx. 10 m
- operating pressures up to 600 bar
- inlet temperatures up to 550°C
- standard units or customized solutions

Bolted Plate Heat Exchangers

- thermodynamically optimised "Off-Set" plate embossing for compact cost-effective solutions
- heat exchange area per plate: 0.04 - 3.0 m²
- max. operating pressure: 25 bar
- max. operating temperature: 195°C
- also available as safety type heat exchangers or in titanium / special materials

FUNKE heat exchangers can be used either in the utilisation of heat energy in the combined heat and power cycle or in the heat production with solar installations and geothermal power plants. The shell and tube heat exchangers serve as exhaust gas heat exchangers, for example in block heat and power plants – hot water is produced by utilisation of the waste heat. In order to supply individual households with warm water, plate heat exchangers are used in transfer stations for utilisation of steam for district heating. The warmth of the city sewage is extracted in heat pumps by means of brazed plate heat exchangers in order to heat the service water in public buildings. The FUNKE oil / air cooling units ensure the cooling of the rotor lubrication oils in onshore and offshore wind energy plants.

Brazed Plate Heat Exchangers

- A range of solders for various applications in HVAC, chemical plants and drinking water
- TPL series with exclusive turbo-plates for high thermal efficiency for oil cooling in mechanical engineering
- max. operating pressure: 36 bar
- max. operating temperature: 195°C

Oil / Air Cooling Units

- cooling of oil, liquids with low flammability or emulsions in mechanical engineering, plant engineering and special vehicle engineering
- 17 sizes available, cooling efficiency up to 6.2 kW / K
- frontal area of core: 0.05 - 1.44 m^2
- max. operating pressure: 26 bar possible
- max. operating temperatures: 120 / 90°C
- drive: optional three-phase current, direct current, or hydraulic motors

Electrical Oil Pre-heaters

- heating of oil, flame resistant liquids and emulsions by electrical energy
- 11 sizes available for internal and external use
- heating capacity: 3 - 100 kW
- max. operating pressure: 25 bar
- max. final temperature: 80°C
- special design available with max. final temp. 200°C

Quality means also safety. Every device manufactured by FUNKE is subjected to a design and pressure test. Additional tests are performed according to the respective applicable regulations and acceptance standards by the respective inspection authorities, such as:

- American Bureau of Shipping (ABS)
- Bureau Veritas (BV)
- Det Norske Veritas (DNV)
- Germanischer Lloyd (GL)
- Lloyds Register of Shipping (LRS)
- Technischer Überwachungsverein (TÜV)

as well as customers' test and inspection regulations.

LLOYD'S REGISTER · LRQA
ISO 9001
UKAS MANAGEMENT SYSTEMS
001

FUNKE has been certified according to DIN EN ISO 9001:2008, DIN EN ISO 14001:2004 and is an approved manufacturer according to:

- EU Pressure Equipment Directive 2014/68/EU (PED), Module H / H1
- HP0 in connection with DIN EN ISO 3834-2
- ASME U-Stamp & ASME R-Stamp
- Custom Union (TRTS 032/2013)
- China Certificate

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FUNKE

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