

Quality Heat Exchangers



Heat Exchangers

Specialist's Guaranteed Quality

Our road

Founded in 1974, FUNKE established themselves quickly as experts in shell-and-tube heat exchangers. Consequently, in the following years, this product area was expanded with plate heat exchangers in bolted and soldered implementations, oil /air cooling systems as well as electric-oil preheaters. As a result, FUNKE is now one of the few manufacturers worldwide with such a comprehensive product range. FUNKE is always on expansion course; along with the expansion of the delivery programme, the manufacturing area only at the Gronau location has increased to more than 40,000 m².



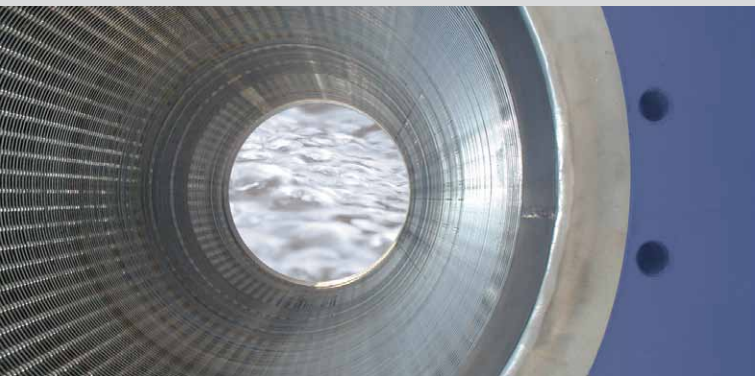
Subsidiaries with more than 400 employees worldwide and a distribution and service network around the globe stand for dynamic growth and presence of FUNKE on the international markets. The satisfied clients, with some of which

close business relationships have existed for decades, are – along with the business achievements – important evidence for the high level of recognition FUNKE enjoys domestically and internationally.

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



Competence



Our highly qualified team is always at the level of the latest state-of-the-art in the heat engineering technology and in a process of constant exchange of experience with our own research and development department. The client-specific consulting service with high-level technical knowledge and expertise has the objective to identify the heat exchangers which are optimally designed and developed thermodynamically for the respective application.

If our large and comprehensive product range does not offer an optimal design for the desired application, then we are developing together with the clients customised solutions in order to guarantee excellent results.

The professionalism is reflected also in the entire manufacturing and testing process which is characterised by the most advanced technologies. The first-class tested materials, the high-value manufacturing and the precise processing are the guarantee for our excellent quality. In this way, for example, our own tools design and manufacturing ensures that only high-quality stamping tool, which are calculated, developed and manufactured in our company, are used in the large automatic presses.

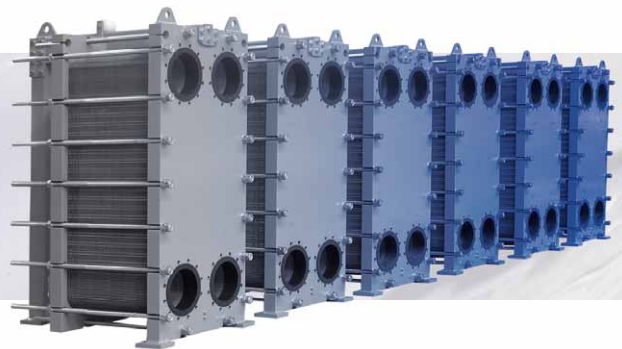
We apply at any time this bundled expert knowledge in all areas to the advantage of our clients. That is why we are today one of the leading manufacturers of heat exchangers. In addition, FUNKE has at its disposal, in a company-independent manner and with short communication lines, a flexibility in the areas of research, development, manufacturing and service which is 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 is specialised in heat exchangers for industrial applications. So the FUNKE heat exchangers are used in industries such as mechanical engineering, device engineering and shipbuilding or in the 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 for the use of the FUNKE heat exchangers – either in the utilisation of heat energy in the combined



Shell-and-tube heat exchangers

- Straight-tube/U-tube heat exchangers
- Safety heat exchangers
- All popular designs (TEMA)
- For all media in liquid or gaseous form
- Device diameter of max. 2,000 mm with installation length of about 10 m
- Operating pressure of up to 600 bar
- Inlet temperatures of up to 550°C
- As serial production devices or individual solutions

Bolted plate heat exchangers

Thermodynamically optimised “Off-Set” plate embossing for compact cost-effective solutions

- Heat exchange surface per plate: 0.04 – 3.0 m²
- Max. operating pressure: 25 bar
- Max. operating temperature: 195°C
- Delivered also as a safety heat exchanger or in titanium/special materials



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 utili-

sation of steam for district heating. The warmth of the city sewage is extracted in heat pumps by means of soldered 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.



Braze plate heat exchangers

- The GPL / GPLK series for use in the heating – air conditioning – ventilation areas
- The TPL series with turbulence devices for high-level heat transmission in the cooling of oil in mechanical engineering
- Max. operating pressure: 30 bar
- Max. operating temperature: 200°C

Oil/air cooling units

- Cooling of oil, flame retardant liquids or emulsions in the manufacturing of machines, devices and special vehicles
- 17 installation sizes with a cooling performance up to 250 kW or, respectively, 6.2 kW/K
- Cooling network face surface: 0.05 - 1.44 m²
- Max. operating pressure: up to 26 bar possible
- Max. operating temperatures: 120°C for oil / 90°C for emulsions
- Driving optionally by alternate current, direct current or hydro motors

Electric-oil preheaters

- Warming of oils, flame retardant liquids and emulsions by means of electric energy
- 11 sizes for interior and exterior installations
- Heating performance: 3 - 100 kW
- Max. operating pressure: 25 bar
- Max. end temperature: 80°C
- Special design up to 200°C is possible



Worldwide Presence

FUNKE is present everywhere in the world where heat exchangers are used. Our philosophy is "Think Globally – Act Locally". Our own branches and a worldwide network of trained sales and service partners make sure that you have a competent contact person for FUNKE heat exchangers available in every region. Fast and flexible!

See for yourself: www.funke.de

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FUNKE



Quality means safety. Each unit built by FUNKE is design and pressure tested. Additional approvals are also available in accordance with quality authorities such as:

- American Bureau of Shipping (ABS)
- Bureau Veritas (BV)
- Det Norske Veritas (DNV)
- Germanischer Lloyd (GL)
- Lloyds Register of Shipping (LRS)
- Schweizerischer Verein für technische Inspektionen (SVTI)
- Technischer Überwachungsverein (TÜV)

as well as customers' test and inspection regulations.



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

- EU Pressure Equipment Directive 97/23/EC (PED), Module H/H1
- HP0 in connection with DIN EN 729-2
- ASME U-Stamp
- GOST R (incl. RTN & hygiene certificate)
- China Certificate

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