

What happens to all of the heat?

Plate or tube heat exchangers – customized heat exchangers



A heat exchanger is a device that can transfer heat from one medium to another. During a visit to the Funke site in Gronau, Germany, we learned how much specialist knowledge goes into the processed components that look rather unspectacular from the outside.

When you get off the train in Banteln in Niedersachsen, Germany, and continue your journey to Gronau an der Leine in a taxi, you do not expect to find an international company with 280 employees when you arrive. Funke is one of the leading manufacturers of heat exchangers that are produced for customers in the chemical, pharmaceutical, food, and increasingly in the energy sector.

During our tour of the company's production facilities, that were founded in 1974 by Karl-Heinz Funke, it immediately becomes apparent that no bulk goods are produced here. In every corner, individual components are almost lovingly being bolted and painted. Managing Director, Peter Streit, explains: "Our employees play a significant role in our quality policy. With a high level of professional expertise in all of the company's divisions and an innovative research and development department, we reinforce our claim of supplying high-quality heat exchangers. We focus on customer-specific, tailored solutions

and are proud of the quality of our products Made in Germany."

Karl-Heinz Funke started out more than 45 years ago with small tube heat exchangers. The product portfolio now comprises sealed and soldered plate heat exchangers, tube heat exchangers, and standard industrial heat exchangers. 1000 tons of steel are processed every year. Customers are from the heating, air-conditioning and ventila-

Our employees are all very committed and passionate – this is the only way we can work with our customers to shape the future.

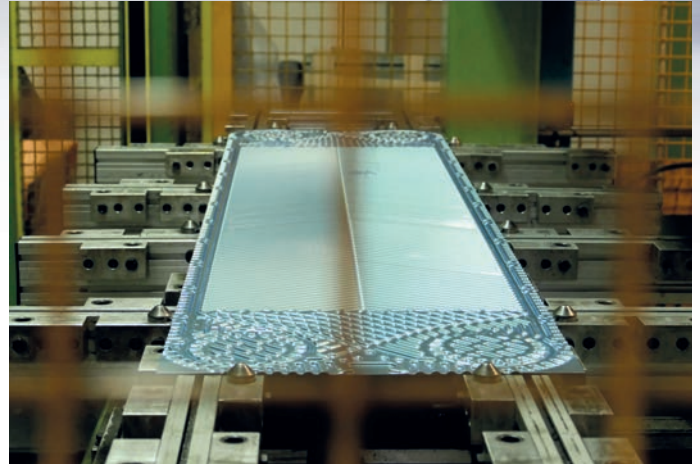
Peter Streit, , Managing Director



tion, hydraulic, chemical, petrochemical, process gas technology, and ship building industry sectors. The production of safety heat exchangers and sterile instruments in accordance with the FDA standard meet the requirements of the pharmaceutical



01 In tube heat exchangers, up to 700 tubes are manually inserted and soldered into the tube plate



02 There are approx. 800 different types of plates that are used for heat exchangers

and food industry. Customers are currently focusing on the transformation of energy systems with markets growing in the geo-thermal, Power-to-x, storage and transport, CNG/LNG and H₂ sectors.

Optimized processes

“We predominantly focus on our customers’ problems and discuss how to optimize the process with them. In the end, everyone receives their own customized solution,” explains Sales Manager, Jörg Hinz. The series produced devices are manufactured in a modular system design, while all of the international standards and norms are adhered to. Hinz confirms that the company can deliver the heat exchangers produced in Germany to any country because the company has more than 22 certificates. Although this is very complex, it is required by customers. The introduction of lean production has reduced wait times and increased the production capacity by 25 %. Maintenance hardly ever needs to be considered for Funke heat exchangers. “Tube heat exchangers never break,” guarantees Hinz.

The international Funke Group has 450 employees around the world, 280 of them work at the production site in Germany, while there are other production sites in China, India and Russia. International subsidiaries and sales partners ensure that the company is represented in 39 countries.

Hinz explains that the company delivers everything from a single source, providing comprehensive advice through to the perfect service. The company focuses on innovative first class products rather than standardized mass production. 45 engineers at Funke focus on the engineering and optimum design of the heat exchangers. Managing Director, Peter Streit, explains: “Our employees are very committed and passionate and are very flexible thanks to our short decision-making processes.”

20% more efficient

Funke introduced two new plate series in July. The objective was to improve the performance in the areas of heat transfer and pressure loss. At the same time, the challenge was to meet the requirement of customers to maintain the same geometry of the plates, so that existing frames for plate heat exchangers could be used with the new generation of plates. Hinz explains: “For the main application areas and stability criteria of the new range, the support points on the plates and seals have been arranged to provide a more stabilizing effect between one another, while the geometric synchronization of the stamping depth, shaft length, and shaft angle have also been optimized to increase the

performance. Reducing bypasses and dead spaces has helped to achieve the objectives that had been set out.”

Various inspections and tests were completed at the test facility and the result was convincing. The pressure stability is excellent, the performance has improved by a double-digit percentage, and all of the simulated values were achieved in full.

Heat exchangers are used everywhere, however, our customer focus is currently in the future energy market and the chemical, pharmaceutical, and food industries.

Jörg Hinz, Sales Manager



The Managing Director, Peter Streit, explains: “With the new range of plates, we are supplying heat exchangers that meet state-of-the-art technological standards and look forward to benefitting from the success of this development along with customers.” (eli)

Photos: d1sk/stock.adobe.com, Funke, Eva Linder

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