

Heat Exchangers

for hygiene applications in food and pharmaceutical industries



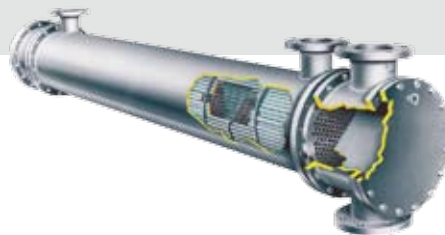
With partnership into the future

FUNKE is a leader in the development and production of quality heat exchangers with a heat transfer area of up to 2 400 m². The range of products comprises shell-and-tube heat exchangers, bolted and brazed plate heat exchangers as well as oil/air cooling units and electrical oil pre-heaters. Thus, as one of the few producers worldwide, FUNKE offers solutions with optimum thermodynamic designs for different industries and virtually all applications.

FUNKE focuses on customer orientation, highest quality standards, flexibility and advisory skills – important benefits a company of just the right size is able to offer.



Thermal treatment of sterile dialysis-solution at FRESENIUS MEDICAL CARE Deutschland GmbH, Germany



Hygienic Design (HD-) heat exchangers – highest quality through competence

For food, cosmetics, biotechnical and pharmaceutical manufacturing establishments the cleanability of the production facilities and its components is the decisive factor to ensure the product's quality.

FUNKE delivers quality heat exchangers which are designed and built in accordance with hygiene requirements. As company member of the EHEDG (European Hygienic Engineering and Design Group) we are well

aware of our responsibility. That is why our HD-plate heat exchangers and HD-shell-and-tube heat exchangers fulfil the high demands on efficiency, hygiene and safety.

HD-shell-and-tube heat exchangers are available with removable U-tube bundle or fixed straight tube bundle. As a standard, in case of leakage at the tube-to-tube sheet joint double tube sheets prevent intermixing of the two media involved in the heat exchange. Safety heat exchangers with

double tube bundles even offer highest safety by additionally using a special separating liquid between the bundles which immediately reports leakages.

Bolted HD-plate heat exchangers also fulfil highest demands on a hygienic and safety design.

Both types are available in one- or multi-pass flow and modular design, serving every application with the thermodynamically optimum heat exchanger.



Decisive advantages of FUNKE HD-heat exchangers:

- highest safety standards
- first class surface finish of materials used
- 100%-drainability possible
- gaskets according to hygienic design
- high temperature resistance (e.g. for steam sterilization)
- low delta ferrite content
- very suitable for CIP- and SIP
- durable and easy to maintain

Materials

Only stainless steels are used. On the product side only stainless steels with a very low carbon content as e.g. 1.4404 or 1.4435 are used. The adequate selection of material and a corresponding manufacturing technology guarantee for low delta ferrite contents of parts in contact with the product. On request additional insulations made from mineral wool and polished stainless steel sheets can be provided.

Connections

- Milk pipe connections
- Clamp connections
- V-flanges
- Aseptic connections
- Butt welding ends in adequate materials and surface finish
- Other connections on request

Hygienic Design – for safe and efficient production

A crucial pre-requisite for a secured product purity and quality is the cleaning of the production facility and its components. Their cleanability ensures the hygiene and therefore the success of the production. Of economic relevance also are minimized cleaning times resulting in minimized downtimes. Here FUNKE heat exchangers in easy-to-clean-design provide the reliable and efficient solution.

Bayer Schering Pharma
Boehringer Ingelheim
Fresenius
Haupt Pharma
Humana
Katjes
Linde
Lurgi
Meggle
Nestlé
Nordzucker
Dr. Oetker
NNE Pharmaplan
Pharmatec
Storck
Zentis



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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