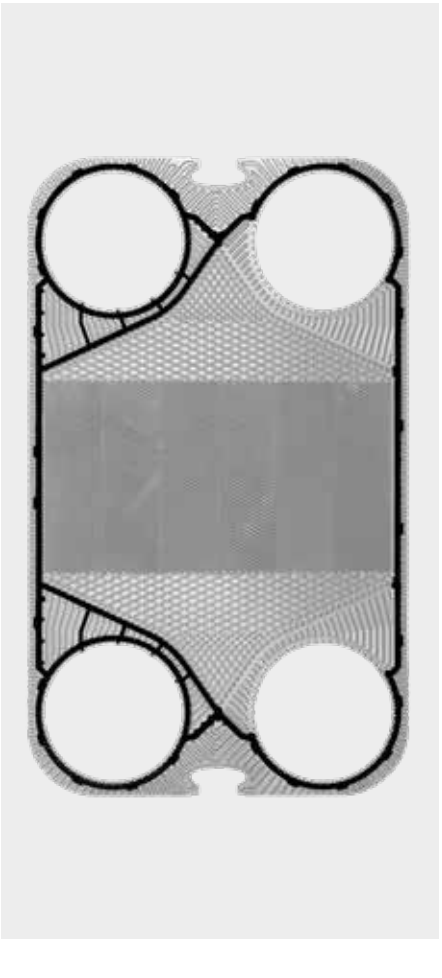
Plate Heat Exchangers

SonFlow A/S • Company Profile



About Us

SonFlow has developed an optimized and efficient range of plate heat exchangers, based on more than 45 years of experience. Our product line includes traditional, free flow, sanitary, condenser/evaporator, and brazed plate heat exchangers.

All our plate heat exchangers are customized to meet specific temperature requirements and capacities. This ensures that you will receive a plate heat exchanger tailored to your needs, regardless of the industry or process you are working with.

SonFlow Benefits:

- Founded by Aage Søndergaard, with decades of expertise in plate heat exchanger development.
- Offering a wide range of plate types.
- Engineered to match real-world operational demands.
- Aimed to optimizing efficiency and minimize energy usage.

A new brand built upon expertise since 1984.

Industries

SonFlow plate heat exchangers are solving heat transfer process challenges in many different industries:

- HVAC
- Marine
- Industrial
- Sanitary
- Wastewater
- Sugar
- Biogas
- Pulp and paper
- Mining
- Chemical
- Alcohol
- Oil and gas

Advantages of SonFlow Plate Heat Exchangers

Expandable
Saves time and money

Compact Size

High Efficiency
Due to pressed patterns in the plates and the relatively narrow gaps, very high turbulence is achieved at relatively low fluid velocity

Close Approach Temperature
Possible to achieve close approach temperatures

Multiple Duties in a Single Unit
Can be constructed with multiple sections, separated by divider plates or more complex divider frames

Less Fouling
A smooth plate surface minimizes fouling

Lower Costs

Easy to Clean
Remove the tie bolts and slide back the moveable frame part, the plate pack can be easily inspected and cleaned

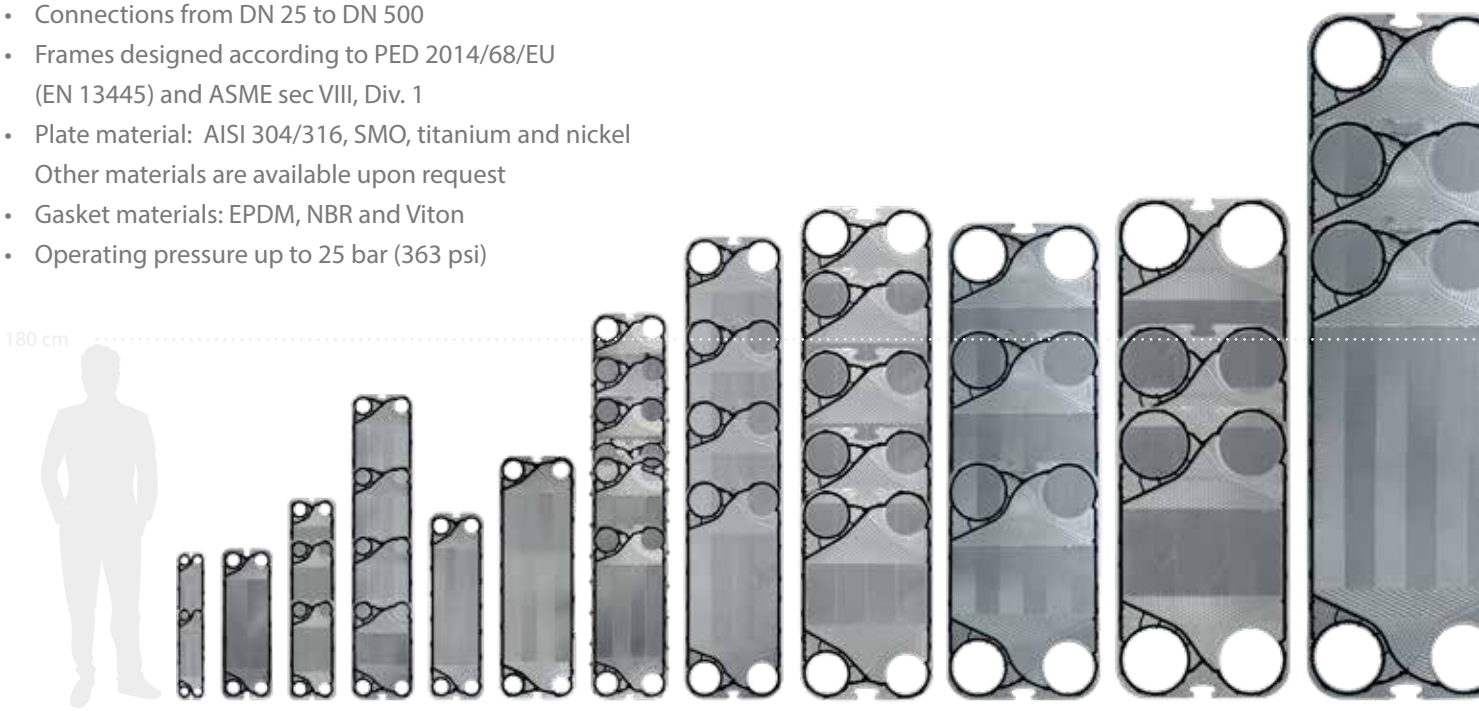
A Comprehensive Plate Program

for Optimal Performance

Plates are available in various pressing depths, chevron pattern angles, and corrugation shapes, designed and selected to deliver optimal performance. Each product range has unique plate features tailored for specific applications.

Specifikations:

- Connections from DN 25 to DN 500
- Frames designed according to PED 2014/68/EU (EN 13445) and ASME sec VIII, Div. 1
- Plate material: AISI 304/316, SMO, titanium and nickel
  Other materials are available upon request
- Gasket materials: EPDM, NBR and Viton
- Operating pressure up to 25 bar (363 psi)



1 **Plate Reinforcement for Carrying and Guiding Bar:**

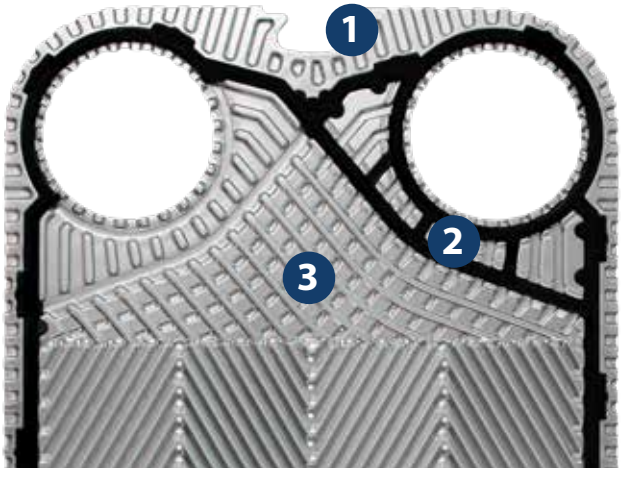
- Ensures problem-free service of the plate pack
- Prevents misalignments of the plate pack

2 **Dual Internal Seals:**

- Prevent fluid leakage

3 **A Short Design of the Inlet Area:**

- Provides an optimal distribution of the fluid over the entire heat transfer surface
- Enhances heat transmission efficiency



SonFlow benefits from decades of industry knowledge

Frame Construction

SonFlow's plate heat exchangers are constructed to be extremely sturdy and with a robust structure. We offer different frame designs depending on the task and size of the plate heat exchanger.

Our frames are designed to provide easy access for inspection, maintenance, and cleaning, including CIP-cleaning. With our frames, these tasks can be carried out smoothly and quickly, minimizing downtime and increasing productivity.

Traditional Plate Heat Exchangers

Efficient and Reliable for Standard Duties

SonFlow's traditional gasketed plate heat exchangers are the ideal choice for a wide range of applications across various market segments. Featuring innovative technologies and intelligent design, our traditional plate heat exchangers are an excellent investment and the preferred choice for standard duties.

Our plate heat exchangers are engineered to meet specific temperature demands and capacities, making them ideal for HVAC, industrial, and hygienic applications.

Customized for Your Needs

We customize each heat exchanger to meet your exact requirements. The versatile design and high thermal efficiency make them the perfect solution for a wide range of applications. Trust SonFlow to provide tailored, high-performance heat exchange solutions for your specific needs.

Traditional Benefits:

- Lower operating costs
- Cost-effective
- Easy assembly
- Increased energy efficiency
- Easy cleaning
- Eliminates dead spots that cause corrosion and fouling

Industries:

- General cooling/heating
- HVAC
- Refrigeration
- Industrial
- Marine
- Food & beverages
- Chemicals
- Mining
- Electronics
- Data centres

Plate Heat Exchangers Certified by AHRI

At SonFlow, we are proud to labeling our products AHRI-Certified. Our goal is to provide our customers with the best possible solution.

The AHRI certification program provides independent assurance to our customers that our plate heat exchangers will perform exactly as specified, and that they can trust our products to deliver the performance they need.

Who is AHRI?

AHRI, or the Air Conditioning, Heating, and Refrigeration Institute is the trade association representing manufacturers of HVACR and water heating equipment. And it is the only globally recognized third-party performance certification for plate heat exchangers.

SonFlow plate heat exchanger range is certified in the following AHRI Certification Program:
Liquid to Liquid Heat Exchangers (LLHE) - ANSI/AHRI 400 Certification Program as an Original Equipment Manufacturer (OEM).

Focus on Sustainability

Another benefit of the AHRI certification program and standards is that it helps our customers save energy and promote a better environment. By making the performance standards visible, we can ensure our customers, that our plate heat exchangers will perform optimally with reduced lifetime operating costs.

At SonFlow we are dedicated to make environmentally conscious and sustainable choices, for the products we produce and at our production facilities. The AHRI certification is an important step for us in this pursuit.

AHRI Certified®

AHRI Certified® is the trusted mark of performance for heating, air conditioning, water heating, and commercial refrigeration equipment. Products earning the mark are subject to rigorous, independent, annual evaluation to ensure that they perform according to the participant's published claims. Certifying equipment and component performance allows consumers to compare products based on independently verified performance ratings. To find AHRI Certified products, go to www.ahridirectory.org.

AHRI CERTIFIED®
www.ahridirectory.org
Liquid to Liquid Heat Exchangers
AHRI Standard 400

Free Flow Plate Heat Exchangers

For Fibres, Particles and High Viscous Products

SonFlow's free flow plate heat exchanger series is specifically designed for challenging media containing solids, particles, fibers, and highly viscous products.
The unique corrugations of the free flow plates tailored for applications where the traditional plate heat exchanger has a higher risk of fouling or clogging.
For the free flow plate series, the key focus lies on reliability and high performance. When a plate heat exchanger is not suited for the operating media, it increases maintenance intervals and the risk of fouling.

Optimized Flow Distribution

The optimized flow distribution reduces fouling and minimizes uneven temperature zones, ensuring high performance over time. The design prevent unnecessary energy losses, reduces maintenance costs, and minimizes unplanned downtime.

Plate Design

The wide channels allow difficult media to flow freely. The horizontal wave pattern, which avoids contact points in the flow direction, ensures gentle treatment of the output product. Depending on the plate type, the gap between the heat transfer plates can be up to 12 mm.

If necessary, we can combine various types of heat exchangers to ensure that you receive the most suitable solution.

Free Flow Benefits:

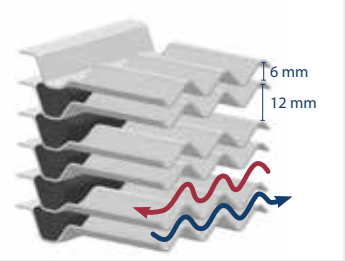
- Suitable for media containing solids, particles, fibers, and highly viscous liquids
- The wide channels enable efficient flow and heat transfer
- Free flow gap without contact points minimizes the risk of fouling and clogging

Industries:

- Dairy/food/beverage industries
- Sugar industry
- Biogas industry
- Wastewater industry
- Pulp and paper industry
- Mining industry

High and Low

The SonFlow SFF151 and SFF301 free flow Plate Heat Exchanger are designed to mix both viscosity and flow. They feature two plate patterns: "SonFlow HIGH" and "SonFlow LOW", which can be configured with a 12/6 mm or 9/9 mm plate gap.



Sanitary Plate Heat Exchangers

Exceptional Hygiene Standards and Product Quality

SonFlow offers a comprehensive range of plate heat exchangers designed for sanitary applications, all crafted from high-quality stainless steel. Our sanitary plate heat exchangers are engineered to meet the stringent hygiene standards essential in production processes. We understand the critical role of maintaining hygiene to achieve superior product quality, reduce bacterial presence, and extend product shelf life.

Gentle Handling

To preserve the quality of your final product, it is crucial to handle the medium gently throughout various processes. SonFlow's sanitary plate heat exchangers ensure that products quality is maintained during both heating and cooling phases.

Sanitary Benefits:

- Made from high-quality stainless steel
- Designed to meet stringent sanitary hygiene standards
- Ensures consistent and reliable performance, crucial for maintaining production efficiency and product quality

Industries:

- Dairies
- Food industry
- Beverage industry
- Breweries
- Pharmaceutical industry

Pasteurization and Sterilization

One of the primary applications for our sanitary plate heat exchangers is in pasteurization and sterilization processes. With precise temperature control, our heat exchangers ensure that the medium is heated to the exact temperature required to eliminate harmful microorganisms without compromising the quality of the product.

Heating and Cooling of Products

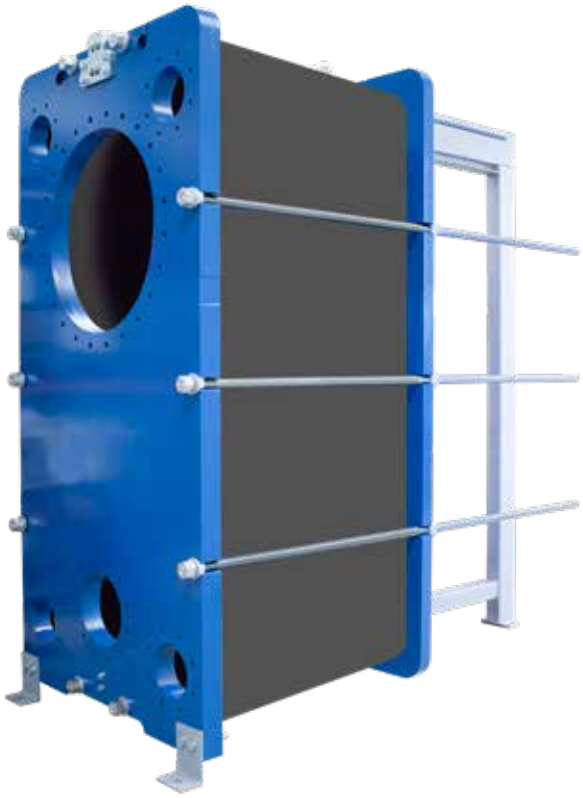
Maintaining the structure, taste, and nutritional value of your products requires uniform, rapid, and precise heating or cooling. SonFlow's sanitary plate heat exchangers offer precise temperature control, which is crucial for achieving the desired quality and taste.

Condenser and Evaporator Plate Heat Exchanger

Advanced Plate Heat Exchanger Designed for Efficient Handling of Low-Pressure Vapour

The SonFlow condenser and evaporator are designed for handling condensing low-pressure vapour and evaporating duties. The unit is ideal for use in the food, sugar, biogas, pulp and paper, mining, petrochemical, chemical, and alcohol industries.

- Handling duties with large temperature differences between the hot and cold side
- Specially developed plate pattern for condensing and evaporating low-pressure vapour
- High thermal efficiency
- Reduced risk of fouling due to turbulence on the cooling water side
- Reduced pressure drop
- Optimized effective area thanks to ingenious design
- Extension from DN500 to DN1000



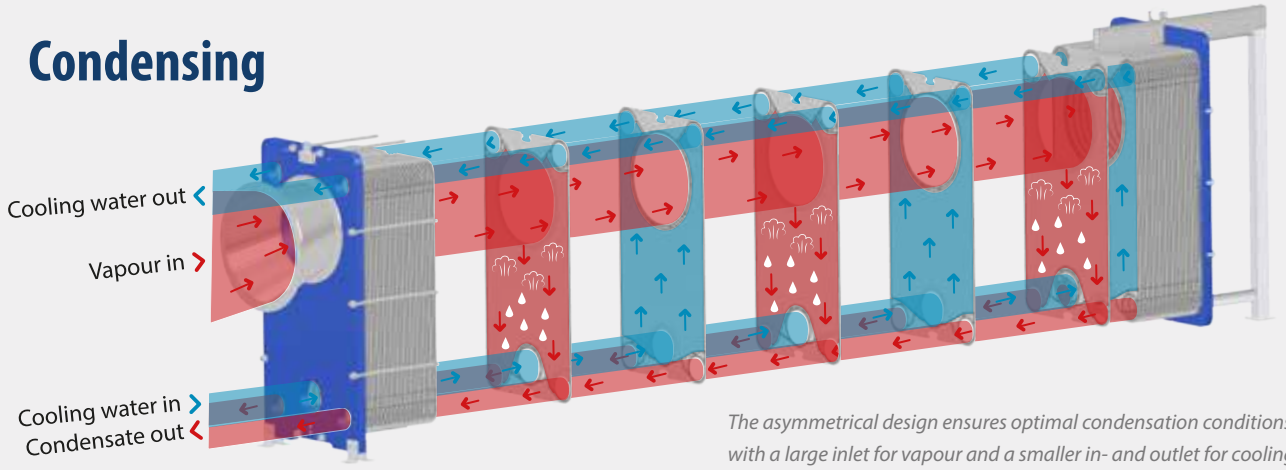
Condenser/Evaporator Benefits:

- Design pressure: 0.6 mpa
- Design temperature: 180˚
- Designed for CIP-Cleaning
- The gasket design makes it more costeffective
- Easy cleaning of both circuits (no welded plates)

Industries:

- Dairy/food/beverage industry
- Sugar industry
- Biogas industry
- Pulp and paper industry
- Mining industry
- Chemical industry
- Petrochemical industry
- Alcohol industry

Condensing



The asymmetrical design ensures optimal condensation conditions, with a large inlet for vapour and a smaller in- and outlet for cooling water and condensate.

Brazed Plate Heat Exchangers

for High Pressure and Extreme Temperature Applications

SonFlow's efficient brazed heat exchangers (SFB), are permanently sealed and suitable for various applications across multiple market segments.

The brazed heat exchanger series key focus lies in reliability and high performance. Our talented team, with more than 45 years of experience in heat exchangers, has developed and thoroughly tested these heat exchangers, using advanced heat transfer technology.

Features

Designed for optimal performance, reduced maintenance costs, and downtime. The unit are energy efficient and environmentally friendly.

Brazed Benefits:

- Lower operating costs
- Cost-effective
- Easy assembly
- Increased energy efficiency
- Low weight
- Compact design
- High flexibility

Industries:

- General cooling/heating
- HVAC
- Refrigeration
- Industrial
- Marine
- Data centres
- Heat pump
- Solar heating

Construction

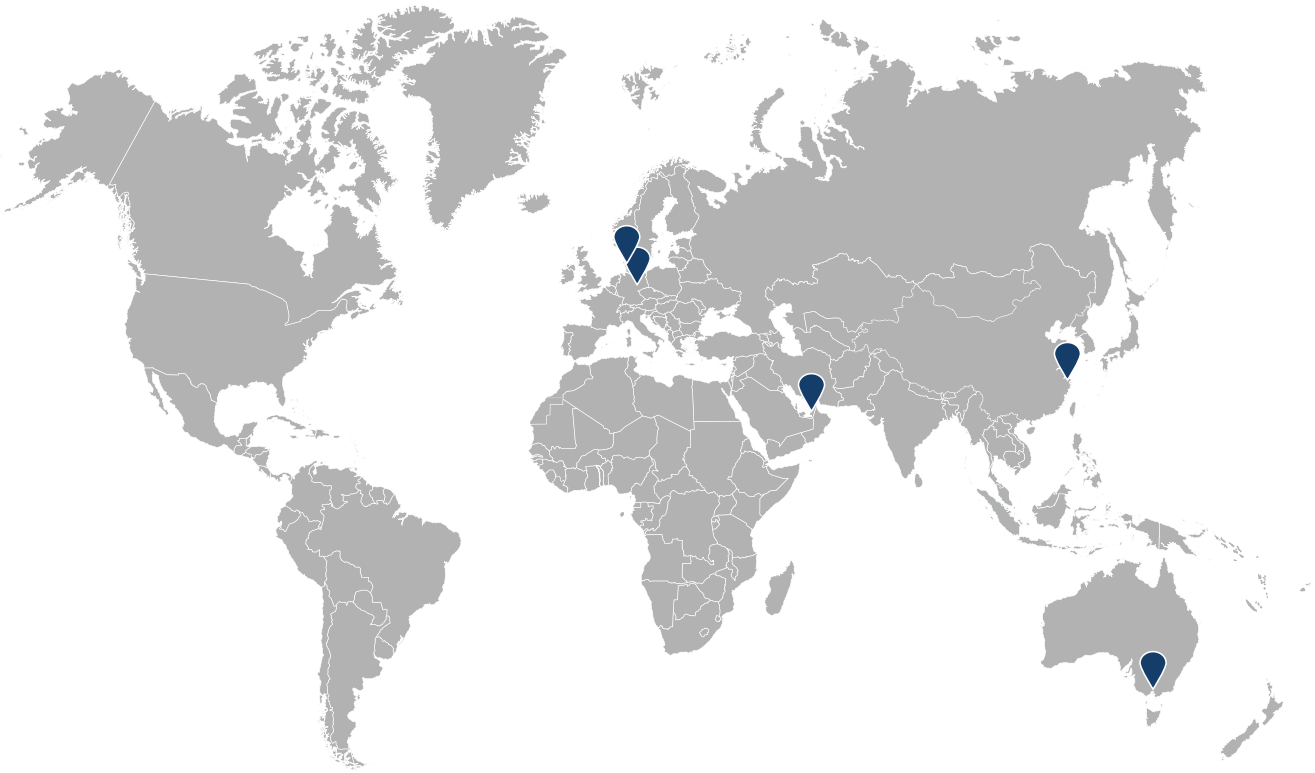
The brazed heat exchanger is constructed by a package of thin corrugated metal plates, stabilized by two thicker plates. A thin copper foil between the thin plates melts and seals the unit during a vacuum brazing process.

We customize each solution based on customer requirements for an ideal pressure drop and flow rate. We also determine the number of plates and the size of the brazed heat exchangers based on the specific task.

Plate Design

The design of the corrugated plates optimizes heat transfer with a large yet compact surface area, meeting specific temperature demands and capacities.

SFB21 SFB22 SFB31 SFB32 SFB51 SFB61 SFB81 SFB101



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