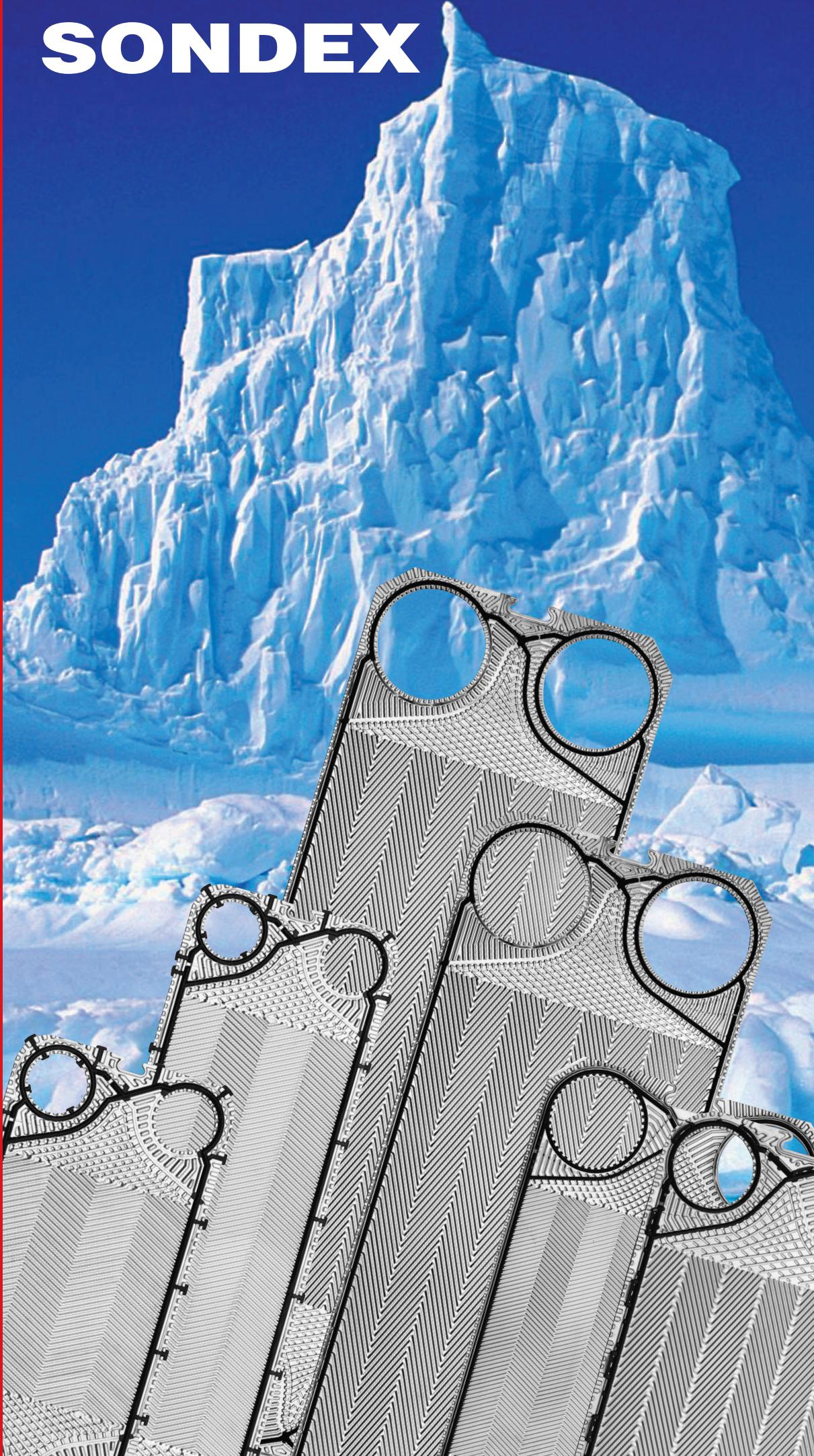




**SONDEX** »Semi-Welded  
Plate heat Exchanger

# SONDEX



**SONDEX** is a Danish company specialized in the development, design and production of **plate heat exchangers** and freshwater distillers.

Since its foundation in 1984 **SONDEX** has grown into a wide global network of branches, agencies and daughter companies, and is now considered a world leader in plate heat exchangers. **SONDEX** is solving critical and complex heat transfer solutions in any heating- and cooling-area.

Besides the traditional plate heat exchangers, the product range includes free flow, semi-welded, plate and shell, all welded and brazed plate heat exchangers, as well as single- and multi-step freshwater distillers, all of which are based on the latest flow- and heat transfer technology.

Our network of highly qualified "world-wide" technicians are always available with support and advice of all **SONDEX-products**.

Effective, up-to-date product development and accurate market analysis ensures that **SONDEX** remains a market leader and maintains a strong company growth.

By means of a modern technology, **SONDEX** has created a new and effective generation of "semi-welded" plate heat exchangers, including one of the world's largest of this kind, always using modern laser welding.



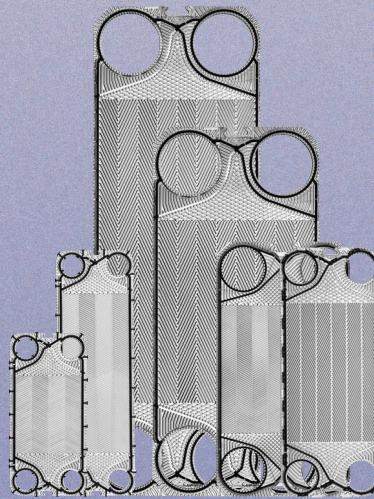
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#### APPLICATION:

The **SONDEX** "semi-welded" products grant maximum performance, especially in the cooling industry, where ammonium is in use. Further by condensing, evaporating and other tasks with aggressive and critical medias, where the safety requires absolute no leaks to the atmosphere. Also by other special tasks, including the geo thermal and heat recovery area, with working pressure up to 25 bar.

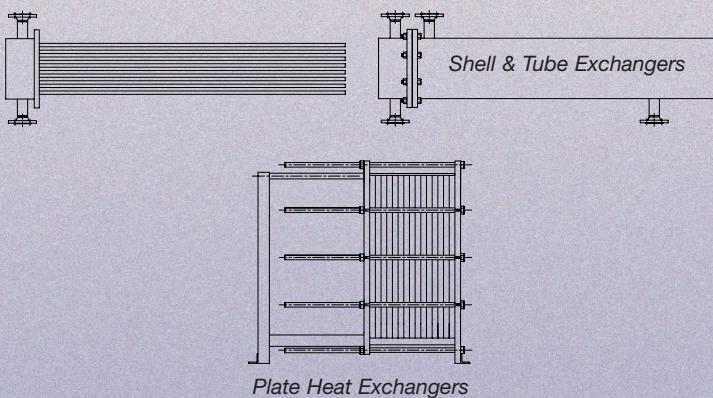
"Tube & shell" exchangers are often too expensive or physically too large compared to our "**semi-welded**" plate heat exchangers where the thermal duty is higher.

The wide **SONDEX** "semi-welded" product range with many plate sizes, can manage fluid ranges up to 1,400,000 l/h.



**"Semi-Welded"**  
Plate Programme

### Space requirement

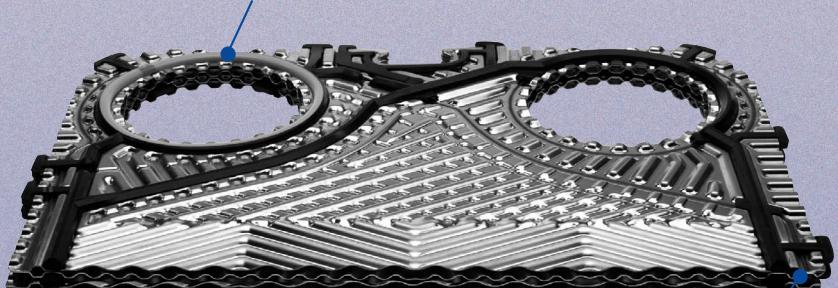


### PLATES AND GASKETS

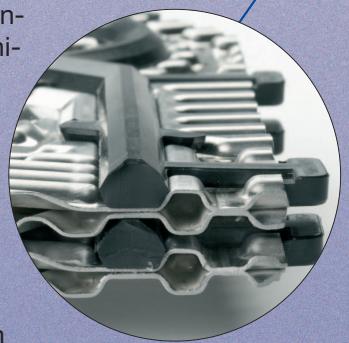
The heat transfer plates are two plates laser welded together as "cassettes" creating a hermetically sealed flow channel. This is reducing the contact between the critical media and the rubber gasket to a minimum. The media flowing inside the welded cassette is only in contact with a special designed ring gasket at the inlet and outlet of the cassette.

This ring gasket can be supplied in other special materials than that of the traditional gasket on the outside of the cassette, where the opposite media is flowing.

Here the ring gaskets is supplied with TEFLON layer.



The "herringbone" plate pattern grants optimal turbulent flow, which increases the efficiency and minimizes fouling. An important advantage compared with heat exchangers of the past.



The size of the flow plates can be chosen up to  $1,9 \text{ m}^2$  per plate. The slender design of the plates creates a high thermal efficiency gaining high "thermal length".

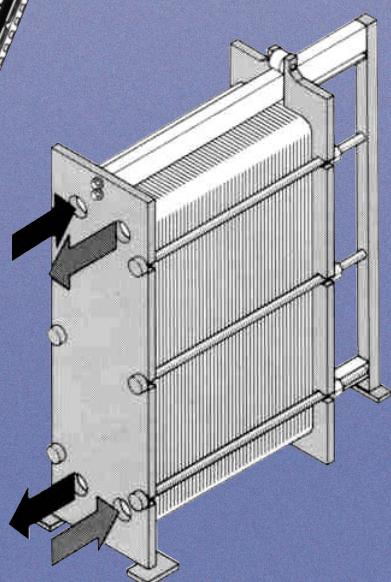
This often results in a "single pass" solution for solving many tasks, and allows for all the connections to be located on the head of the frame.

This makes pipe- and service work easier and exchange of flow plates takes place without removing any pipes. Further easy draining, effective and easy CIP-cleaning and the possibility of "back-flushing" for cleaning purposes.

The high thermal efficiency of the Sondex semi-welded plate heat exchanger results in a tremendously reduced volume inside the heat exchanger compared with other heat exchangers. This means less refrigerants and other critical medias in the system.

### EXPERIENCE:

During many years of operational experience, we have proved that "semi-welded" plate heat exchangers from SONDEX surpass other semi-welded exchangers, especially concerning duty and operation safety.



### FLOW PRINCIPLE

"1 PASS"

# It is wise to choose SONDEX solutions!

Well known for:

- High operation safety
- Exact energy-transfer
- Low running costs
- Environmentally acceptable
- Energy saving

## Gasketed Plate Heat Exchangers

## Free Flow Plate Heat Exchangers

## Brazed Plate Heat Exchangers

## Plate and Shell Heat Exchangers

### Gasketed Plate Heat Exchangers

Gasketed plate heat exchangers are applicable in many areas for heating/cooling i.e. in the food industry, the chemical area, by heat recovery, in HVAC units and many other areas.

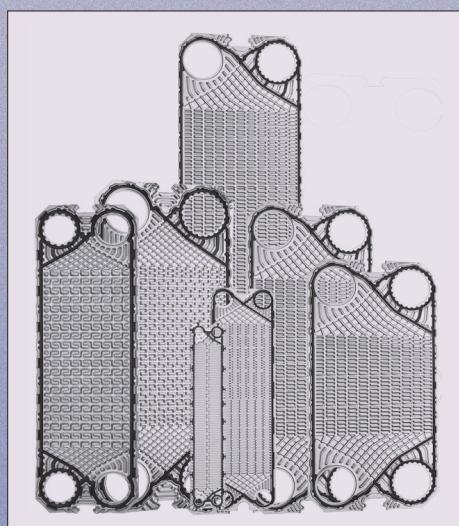
Pressure rating up to 25 bar.  
Temperature up to 200°C.



### Free Flow Plates

Can be used for fibrous and viscous food products.

CIP cleaning is possible.  
Very high thermal performances.  
Strong and rigid plate design.  
SONDEX patented hanging system which ensures correct assembling of the plate pack year after year.  
The plates and gaskets fully comply with the US 3A sanitary standard.



### Brazed Plate Heat Exchangers

Contrary to the traditional plate heat exchanger, the brazed plate heat exchanger does not contain rubber gaskets and can thus operate continuously at temperatures from minus 180°C up to plus 200°C. The operating pressure can be as high as 30 bar.



### Plate and Shell Heat Exchangers

This heat exchanger works in the same way as an ordinary tubular unit. However, it is more efficient because plates have been used instead of tubes. The plates are laser/TIG welded to form a plate pack which is then mounted inside a traditional cylindrical shell.

Pressure rating: PN16/PN25.  
Max temp.: Up to 250°C.



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