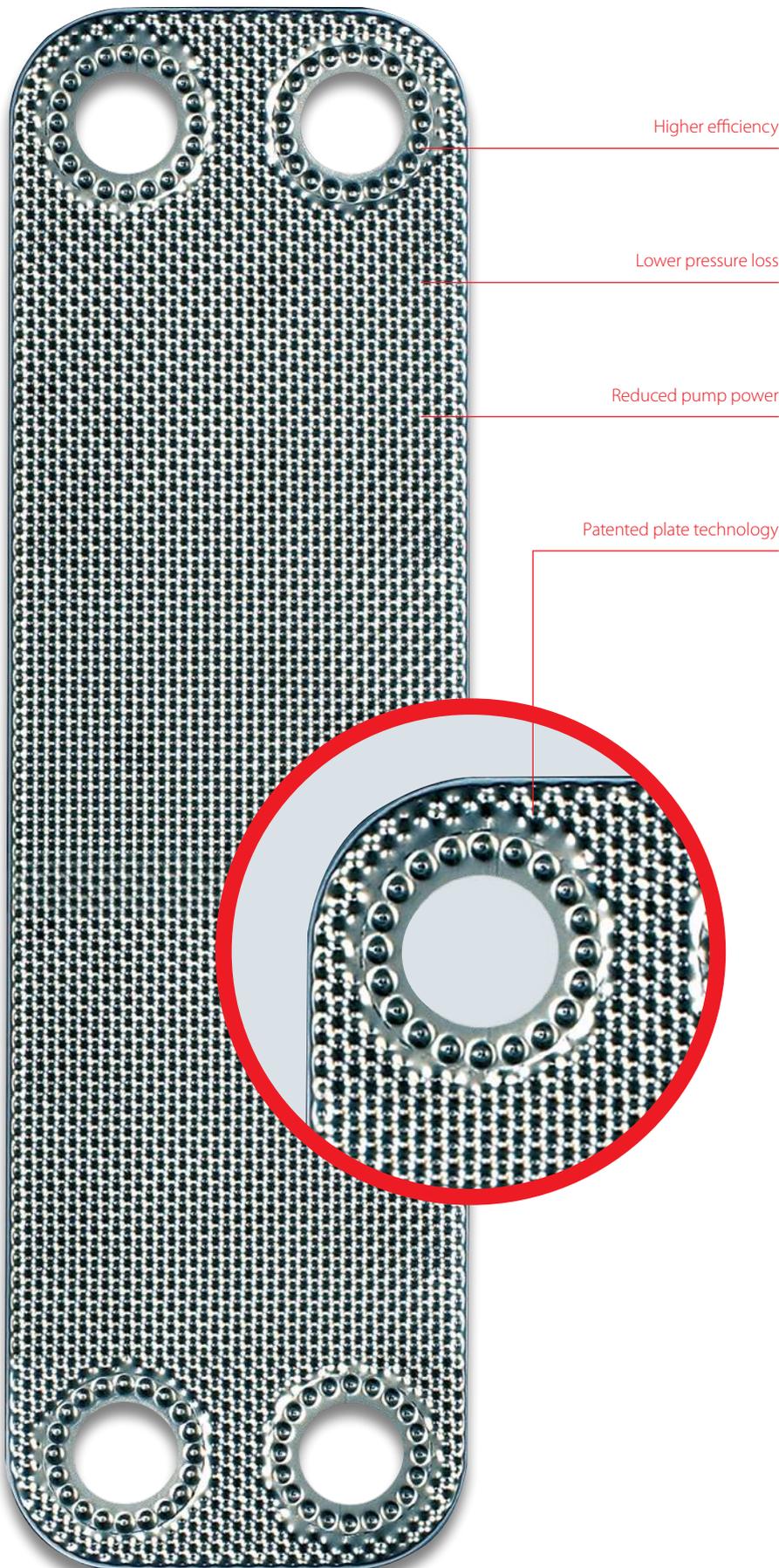


# Innovative Danfoss Micro Plate™ technology



Brazed Micro Plate™ heat exchangers are a revolutionary technology from Danfoss. Characterized by their unique pattern, our innovative new plate design outperforms other solutions on the market with significantly lower pressure loss and vastly improved heat transfer.

- **Up to 10% enhanced heat transfer rate**
- **Increased lifetime**
- **Substantial cost and energy savings**
- **Better selfcleaning**
- **More flexible and compact design**

## Asymmetric design

Micro Plate™ technology can also offer a great flexibility in designing heat exchangers for applications with highly asymmetric flow-rates on primary and secondary sides.

Using benefits of Micro Plate™ in new **XB05X** with asymmetric plate design allowed up to 15% better heat transfer compared to other asymmetric solutions.



# Designed for **high performance** and **flexibility**



## **XB71**

Designed for district cooling and heating applications, with DN100 portholes can cover higher capacities at maximum operating pressures up to 25 bar

On top of benefits of Micro Plate™ technology XB71 offers additional advantages:

### **Multiple thermal lengths**

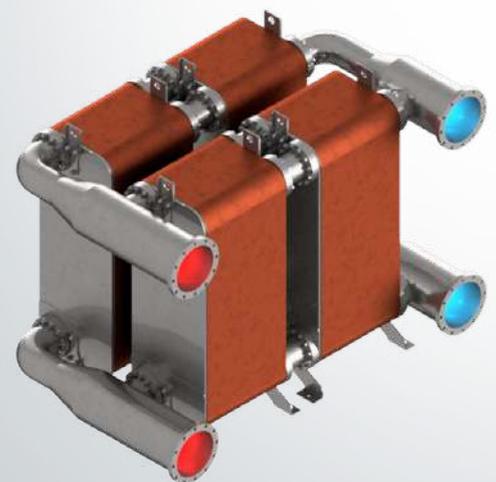
(H/M/L plate corrugations ) on one physical length of the product to suit wide variety of applications.

### **Super distribution area;**

A new feature allows us to use areas around porthole for heat transfer plate which is increasing the efficiency of the product.

### **Big capacity coverage**

Possible serial/parallel connection to extend the capacity.



### **Wide range of accessories**

Multiple insulation types (heating and cooling), variety of compact counter flange materials to fit demand of your application

# High performance and **long lifetime**

Compared to traditional heat exchangers, Micro Plate™ technology delivers exceptional performance, efficiency and flexibility.

For the first time, you can now create a system individually suited to your application. By varying the number, size and placement of dimples, Micro Plates can be adapted for optimal heat transfer and minimal pressure drop – so you decide what's best for your needs.

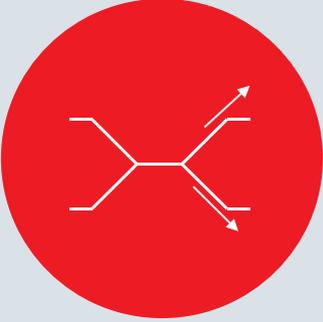
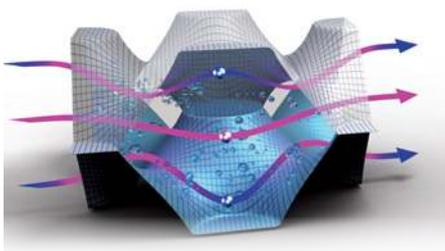
## Micro Plate™ advantages:



### 10% enhanced heat transfer

New type of plate pattern in microplate technology creates completely new type of channel. Dimple pattern makes nozzle-diffuser channel, which has bigger turbulence and less scaling than traditional fishbone channel.

In nozzle velocity of liquid increases, in diffuser it decreases. That leads to local pressure oscillations inside the channel, which helps to thin down boundary level and create bigger turbulence on the surface of heat plate, preventing dirt to stick to HEX plates.



**Longer lifetime**  
In microplate brazing points are flat, which increases the brazing area between the heat plates. This ensures all pressure loads are distributed to bigger area, which decreases the stress in the heat plate.

**Micro Plate™ heat exchangers have a broad, flat brazing surface which adds stability to their construction.**

### Better flow distribution

The improved water flow distribution in microplate leads to even velocity profile of liquid on the plate, decreasing amount of stagnation zones on the plate. Minimising stagnation zones is essential to achieve high efficiency of heat transfer with minimum loss of pressure.

Optimised flow distribution areas allow microplate Heat exchangers to effectively use areas around porthole for heat transfer, which is increasing efficient Heat transfer area of each plate. So heat transfer area is almost equal to physical area of the heat plate.



# Innovation transferred

## Safe brazing materials for all your application demands

With arrival of the Micro Plate™ technology, we've been able to re-engineer heat exchanger performance and extend the lifetime of your system with a stronger, more durable design.

With our new brazed XB Micro Plate™ heat exchangers, with alternative brazing you can now get unmatched heat transfer results with high corrosion resistance.



You can select one of three brazing materials to fit your application demands



**Copper**  
(CU)

**Standard corrosion resistance** brazing type for clean liquids and non-corrosive or non-aggressive applications



**CoResist**

**Medium corrosion resistance** brazing type for demanding heating and domestic hot water applications



**Stainless steel**  
(StS)

The **ultimate corrosion resistance** brazing type in complete stainless steel for the most challenging applications



  
XB05



  
XB06



  
XB12



  
XB37



  
SL140

# Brazed heat exchangers

Connection size: 3/4" - 2"							
							
<b>XB05</b>	<b>XB06</b>	<b>XBDW22</b>	<b>XB25</b>	<b>XB12</b>	<b>XB37</b>	<b>XB52</b>	<b>XB59</b>
312 x 76 [mm]	320 x 95 [mm]	376 x 119 [mm]	491 x 94,5 [mm]	288 x 118 [mm]	525 x 119 [mm]	466 x 256 [mm]	613 x 186 [mm]
3/4"	3/4"	3/4"	3/4"	1" & 5/4"	1"	2"	2"
M, X	H+, H, L	DW*	H	H, M, L	H, M, L	M	M
Cu; StS	Cu; CoResist; StS	Cu; CoResist	Cu; CoResist	Cu; CoResist	Cu; CoResist; StS	Cu	Cu
Cu 25 [bar] StS 10 (X plate) [Bar]	Cu, CoResist 25 [bar] StS 16 [bar]	Cu, CoResist 16 [bar]	Cu, CoResist 25 [bar]	Cu, CoResist 25 [bar]	Cu, CoResist 25 [bar] StS 16 [bar]	Cu 25 [Bar]	Cu 25 [Bar]

Connection size: 2" - DN100"					
					
<b>SL140</b>	<b>XB61</b>	<b>XB66</b>	<b>SL222</b>	<b>XB71</b>	<b>SL333</b>
607 x 237 [mm]	525 x 243 [mm]	706 x 296 [mm]	748 x 324 [mm]	976 x 373 [mm]	1003 x 380 [mm]
2" & 2 1/2"	2"	2 1/2" & DN65	DN80	DN100	DN100
TL, TK, TM, DW*	H, M, L	H, L	TL	H, M, L	TL, TK, TM
Cu; StS	Cu	Cu	Cu	Cu	Cu
Cu 25 [Bar] StS 16 [Bar]	Cu 25 [Bar]	Cu 16 (L plate) [Bar] Cu 25 (H plate) [Bar]	Cu 25 [Bar]	Cu 25 [bar]	Cu 25 [Bar]

\*DW - Double Wall/Sonder Safe



# Dedicated to **your business**

**At Danfoss, we are committed to finding the right heat exchanger solution for your district energy system, whatever your requirements. As a one-stop supplier, you get a dedicated partner who is on-hand 24/7, with offices and trusted service partners close by, worldwide.**

### Supporting your needs

Whether you are providing complete heat transfer systems or involved in the design of low energy applications, partnering with Danfoss is the best way to find the right heat exchanger solution, whatever your requirements.

### Engineering tomorrow

We deliver superior heat exchanger solutions through a combination of best-in-class components, exceptional consultancy services and tailored support. As such we give you the tools and knowledge to deliver the best results for your customers today and to ensure that your business is best placed to meet their needs tomorrow.

### Customized plate heat exchangers

Danfoss is also able to create custom-made plate heat exchangers built to your specifications, including:

- **Sizes and heat exchanger dimensions**
- **Heat transfer capacity and number of plates**
- **Connections: number, types and positions**
- **Packaging method**

Contact us for more information about your customisation options.



Full **value chain** ownership



Committed to quality



Widest plate portfolio



Flexible solutions



One Danfoss synergies

# Dedicated to **you**

## A simplified, one-source solution

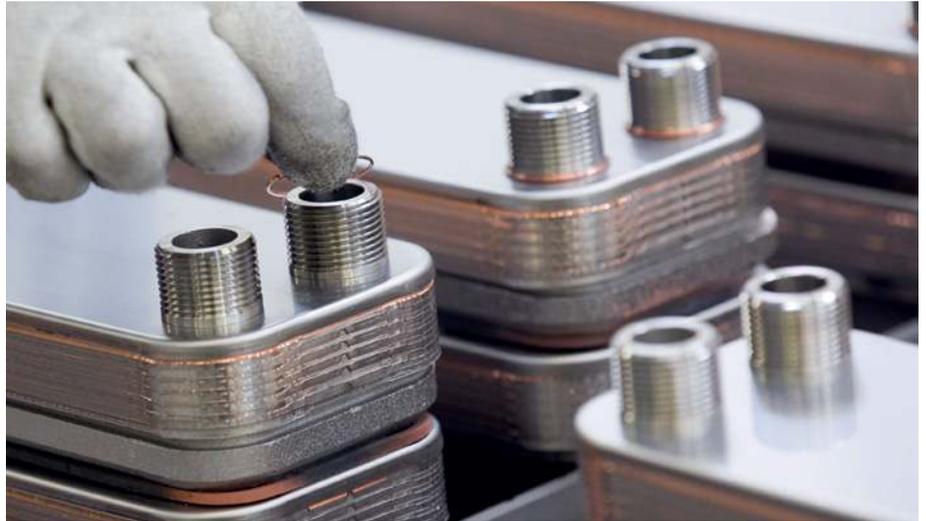
Keeping suppliers to a minimum means simpler processes and less costs. That's why we've created a comprehensive service solution where you only deal with us. And thanks to our full product range and tailored support programmes, you get all the options and choice you could want.

## A full spectrum of support

Not only do we provide the very best products in their categories, we also offer technical pre-sales support to help you to design the most efficient system for your heating network before you commit to any investment outlay.

Our comprehensive product range complies with international standards and our one-stop service means you receive value through dedicated customer care at every stage.

By integrating our processes into one solution, you get what you need, when you need it, with less time, money and management required.



### Quality first

Danfoss products are manufactured to the highest standards. Our facilities have been awarded all necessary certifications, and all our heat exchangers are performance-tested before shipment. Should you be unsatisfied with any purchase, we offer a full warranty service.

### Our quality management system certifications and compliances

- ✓ ISO 9001
- ✓ IATF 16949
- ✓ ISO 14001
- ✓ PED

Along with full compliance with EU directives and product approvals.

## Other solutions for **your applications**

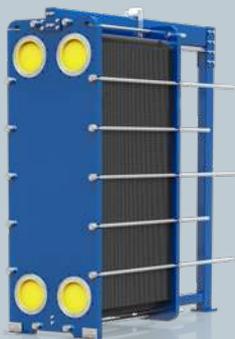
### Gasketed plate heat exchangers

#### Standard heat exchangers

##### Common applications:

- Marine applications
- District heating and cooling solutions
- Chemical applications

**Pressure rating:** Up to 25 Bar  
**Temperature:** -20°C to 180°C

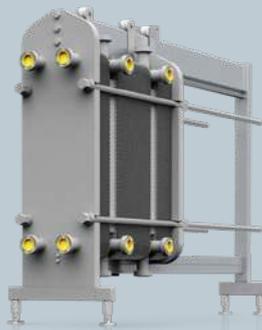


#### Sanitary heat exchangers

##### Common applications

- Dairy/food/beverage applications  
- e.g. regenerative pasteurization applications
- Industries with sanitary requirements

**Pressure rating:** Up to 25 Bar  
**Temperature:** -20°C to 180°C



#### Free Flow heat exchangers

##### Common applications:

- Sugar processing
- Grain-based ethanol production
- Cooling/heating of fibrous materials
- Heat recovery

**Pressure rating:** Up to 10 Bar  
**Temperature:** -20°C to 180°C

