

ENGINEERING
TOMORROW



Brazed Micro Plate™ heat exchangers

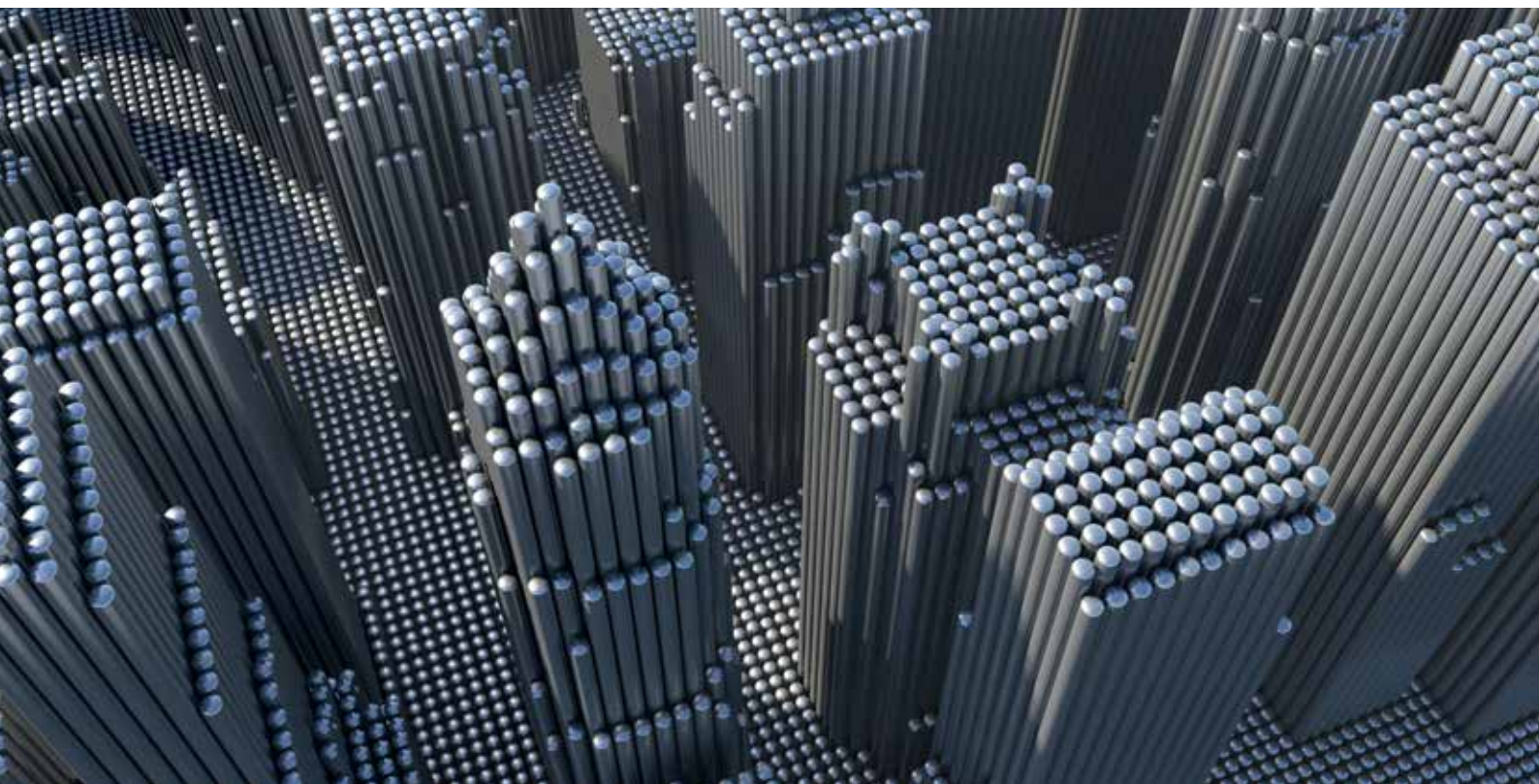
Ultra-efficient brazed heat exchangers for your district energy applications

Featuring the revolutionary Micro Plate™ technology – innovation transferred

Up to
35%

lower pressure loss
due to our patented
Micro Plate™
technology.

www.mphe.danfoss.com

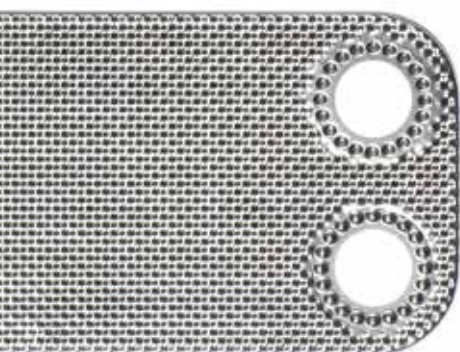


Adaptable to **you**

At Danfoss we believe in driving innovation to create heating solutions that meet your needs more closely and with greater flexibility. Today, by re-engineering the core technology that makes a real difference to performance, our new range of brazed heat exchangers delivers unmatched heat transfer and energy efficiency.

21st century performance

Even though significant improvements have been made across the district energy industry, traditional brazed heat exchanger plate design has remained the same for over 40 years. At Danfoss we recognise that times have changed and your needs have grown alongside the demands of your systems and the people they serve.



In order to provide you with better and more flexible heat exchanger solutions, we've developed an entirely new approach to plate design. Our brazed heat exchangers with new state-of-the-art Micro Plate™ technology feature next generation efficiency and performance – giving you more from your district heating and cooling applications.

The Micro Plate™ revolution

Using our new Micro Plate™ technology, Danfoss heat exchangers outperform everything else on the market with an incredible **35% lower pressure loss and 10% better heat transfer.**

The unique plate design means your district heating application can even be individually recalibrated to match your specifications – so you choose what's best for your network.



Designed for district energy

Danfoss is known worldwide as an innovation leader within the heating industry, with unrivalled expertise in district energy.

We have applied this knowledge to our new brazed heat exchangers with a complete range of types suitable for virtually every district heating application and network. Whether your system has varying or constant pressure, large temperature swings or even an untreated water supply, we have the perfect solution for you.



A world of applications

Enabling efficient heating and cooling systems

Wherever heat is exchanged from one water medium to another, Micro Plate™ brazed heat exchangers can dramatically improve system efficiency. Below are four examples of systems, which can be significantly improved by their use:

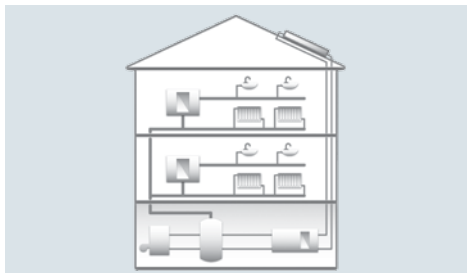
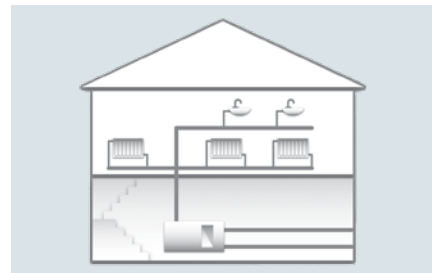


1. District heating and cooling

In district heating and cooling systems, Micro Plate™ heat exchangers are used in the hydraulic interface between the distribution network (primary side) and the building application (secondary side) in residential buildings of any size.

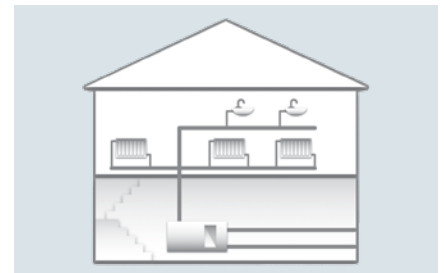
2. Decentralised heating systems

In multifamily buildings, Micro Plate™ heat exchangers are optimal for use in decentralised systems where each flat has its own hydraulic module, also known as flat stations.



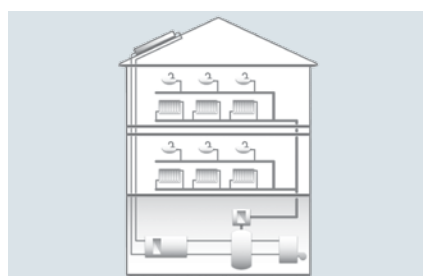
3. Biomass micro networks

Micro networks are minor district heating networks often located in rural areas and fuelled by biomass. As with district heating, Micro Plate™ heat exchangers are used in the interface between the micro network and the heating system within buildings.

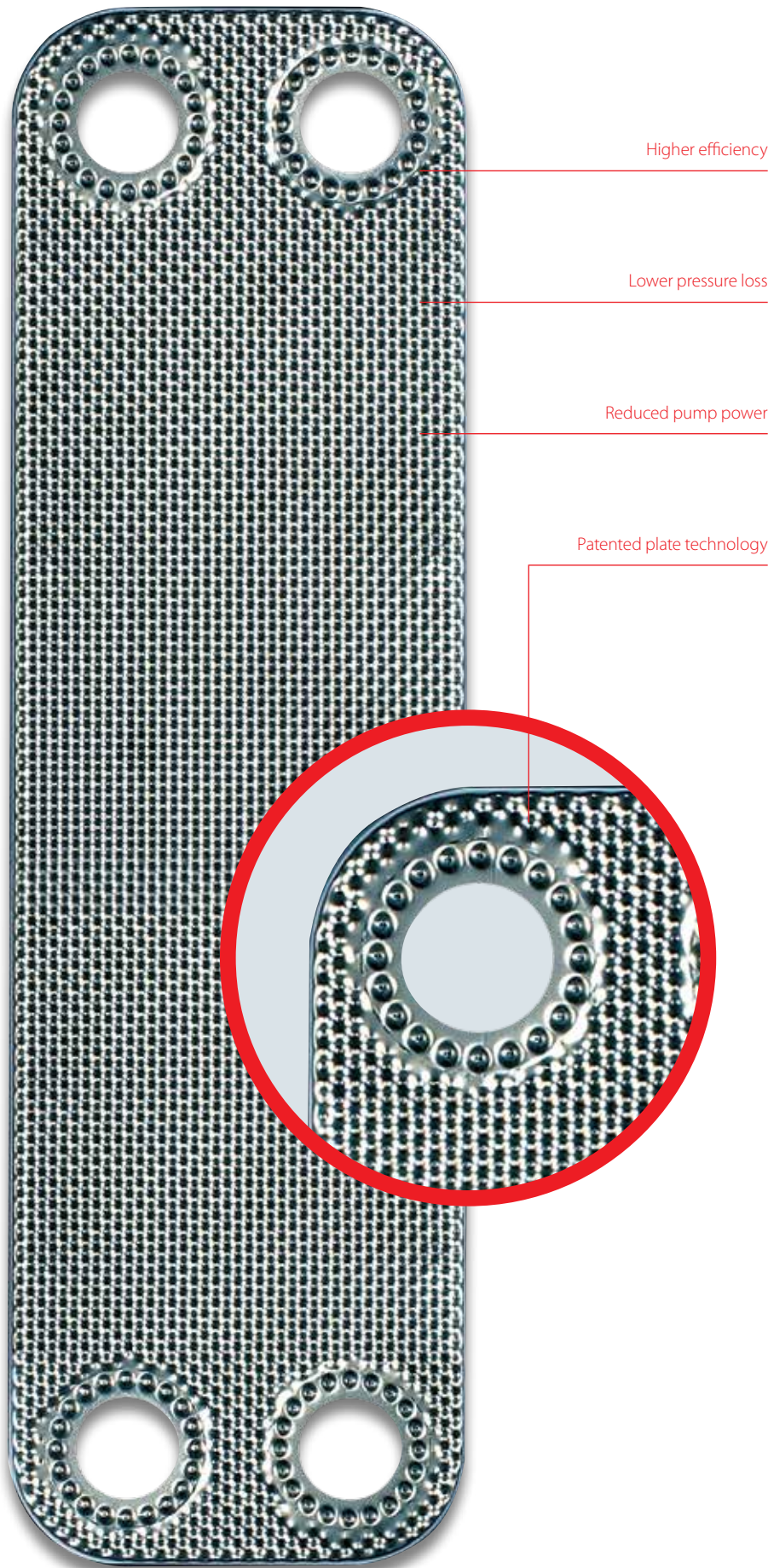


4. Solar combi systems

Micro Plate™ heat exchangers are perfect for systems where thermal solar heating is the primary energy source backed up by an auxiliary heat source, such as a gas boiler or district heating.



Danfoss Micro Plate™ heat exchangers



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

- **Up to 10% enhanced heat transfer rate**
- **Up to 35% reduced pressure loss**
- **Substantial cost and energy savings**
- **More flexible and compact design**

Embedded in our new range of brazed heat exchangers, Micro Plate™ technology is designed for smaller, lower duty applications with relatively constant pressures, temperatures and treated water supplies.



High performance and flexibility

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

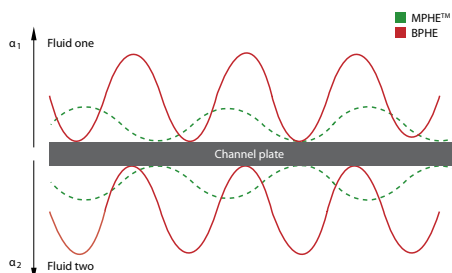
For the first time, you can now create a system individually suited to your network. By varying the number, size and placement of dimples, Micro Plates can be adapted for optimal heat transfer and minimal pressure drop – so you decide what's best for your district heating and cooling applications.

Micro Plate™ advantages:

10% enhanced heat transfer

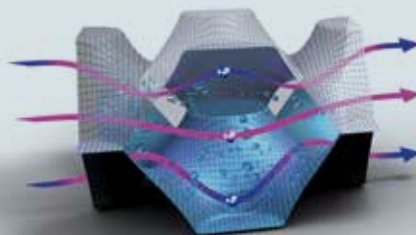


By allowing water to flow more evenly, the Micro Plates™ make better use of their surface area to generate maximum turbulence to improve overall system efficiency. Between the fastest and slowest flowing areas, the difference is only x 3, as opposed to x 10 in older heat exchanger models, which distributes and mixes fluid better to maximise heat transfer.



35% lower pressure loss

The improved water flow also means pressure loss is kept to a minimum. With less energy required to pump water around the system, running costs are significantly reduced with less wear and tear on your network.



Lower carbon footprint

By increasing the system's efficiency, less energy is required for the same result. The application can therefore be housed in a more compact design with fewer plates, so construction materials are kept to a minimum. Better operational efficiency and a longer lifespan also help to reduce waste, all of which results in significant savings and a lower carbon footprint.



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

Innovation transferred.

Brazed Micro Plate™ heat exchangers

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, you can now get unmatched heat transfer results with a lower weight and size.



XB12 – the ideal business choice

CAPACITY RANGE
MEDIUM



PERFORMANCE
HIGH



OPERATIONAL COST
LOW



The compact **XB12** brazed Micro Plate™ heat exchanger is the ideal solution to keep your business profitable with superior performance and lower costs, compared to competitors' models. Perfect for heating and domestic hot water, it is also suitable for HVAC, cooling and industrial applications.

- **Better heat transfer performance**
- **Capacities up to 250 kw**
- **Compact size with lower weight and depth compared to competing models**
- **1 frame = 3 plate corrugations = 3x the performance**
- **2-pass versions are available for all plate types**
- **Advantages for piping design on stations with both DHW and DH applications**

XB06 – compact performance

CAPACITY RANGE
MEDIUM



PERFORMANCE
HIGH



OPERATIONAL COST
LOW



The small **XB06** copper brazed stainless steel heat exchanger with one pass is designed for district heating systems with varying supply temperatures, high and varying differential pressure and where a high idle temperature is required.

- Optimised for heating and domestic hot water applications, and an excellent solution for HVAC, cooling and industrial use
- Available in 3 plate corrugations mainly for small flat stations
- Wide range of plate types for maximum performance
- PN 25 as standard
- Extremely low pressure loss and high heat transfer
- "Best in class" performance compared to size and weight

XB37 – exceptional efficiency

CAPACITY RANGE
HIGH



PERFORMANCE
HIGH



OPERATIONAL COST
LOW



The **XB37** copper brazed stainless steel heat exchanger comes in a larger size than the XB06 and XB12, giving you even greater application flexibility with the same high system efficiency and excellent heat transfer properties.

- Designed and optimised for heating and domestic hot water applications, and also ideal for HVAC, Heat-pumps and fresh water applications
- Available in 3 plate corrugations
- Wide range of plate types for maximum performance and minimum pressure loss
- Capacity 10 - 300 kW
- PN 25 as standard
- Dimensions: 525 x 119

Brazed Micro Plate™ heat exchangers – now and for the future

Within our growing portfolio of brazed heat exchangers, we are confident that you will find a type to suit your business and application needs.

If not, please don't hesitate to contact us to discuss options for a customised solution.



Height	Type	XB04	XB05	XB06	XB12	XB22DW	XB25
1050 mm							
900 mm							
750 mm							
600 mm							
450 mm							
300 mm							
150 mm							
0 mm							

Connection size: 3/4" 3/4" 3/4" 1 & 1 1/4" 3/4" 1"

Specs.	Type	XB04	XB05	XB06	XB12	XB22DW	XB25
Connection size:		3/4"	3/4"	3/4"	1 & 1 1/4"	3/4"	1"
Connection type:		Ext. Thread	Ext. Thread	Ext. Thread	Ext. Thread	Ext. Thread	Ext. Thread
Height, mm:		~296	~312	~320	~289	~375	~490
Width, mm:		~93	~76	~95	~118	~118	~93
Pass number		1	1	1	1 & 2	1 & 2	1
Plate variants:		1	1	3	3	1	1

Main data – BRAZED RANGE (XB)

Design pressure:

PN 25 bar

Max. working temperature:

180°C

Min. working temperature:

-10°C

Materials

Flow plates:







Stainless steel, EN 1.4404 (AISI 316L)

Brazing:

Copper

Approval:

Pressure Equipment Directive (PED) 97/23/EC.

XB37	XB52	XB59	XB61	XB66	XB70
					
1"	2"	2"	2"	65 mm	65/100 mm

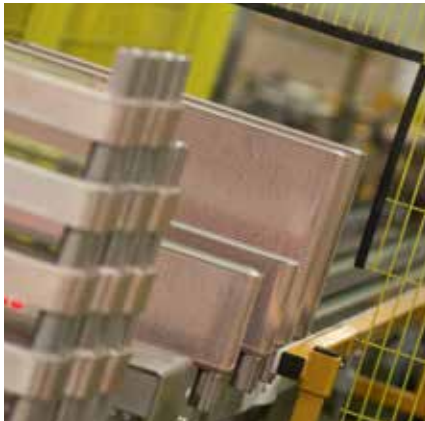
XB37	XB52	XB59	XB61	XB66	XB70
1"	2"	2"	2"	DN65	DN65/100
Ext. Thread	Ext. Thread	Ext. Thread	Ext. Thread	Flange	Flange
~525	~466	~613	~525	~706	~991
~119	~256	~186	~243	~296	~365
1	1 & 2	1	1	1	1
3	3	1	3	1	3

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.

Customised 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.



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, including **ISO 9001/14001 and ISO/TS 16949**, and all our heat exchangers are performance-tested before shipment. Should you be unsatisfied with any purchase, we offer a full warranty service.



Find the perfect match with 2nd generation Hexact

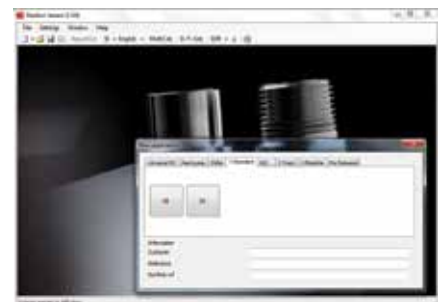
Now in its user-friendly second generation, Hexact makes it faster and easier than ever to find the right Danfoss heat exchanger for your needs.

Our intelligent software will help you to discover the most appropriate and competitive solution for your district heating applications and network. A range of new features mean you can order tailor-made heat exchangers, control order handling and even print out tender documentation.

Simply follow the step-by-step guide and Hexact does the rest.

Start saving energy today at:
www.hexact.danfoss.com

- Quick and easy to use
- Define your own profile, including temperature and pressure, connection sizes/types, delivery options and more
- Create tailor-made calculations for fishbone and Micro Plate™ solutions
- Wide range of print options, including Datasheets, Drawing, Punch List, BOM and tender text



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