

Heat Exchangers | Z-design MPHE

Economic and environmental savings in chillers and heat pumps

The latest range of Danfoss Micro-Plate Heat Exchangers (MPHEs) Z-design evaporators for chillers and heat pumps facilitate a step change in economic and energy performance. Thanks to the innovative Z design, architects and specifiers can now take energy-efficient building design to the next level to help leading HVAC-R manufacturers meet the increasing demand for greener and more cost-effective solutions.



21%

lower hold up volume enables significant reduction in refrigerant charge

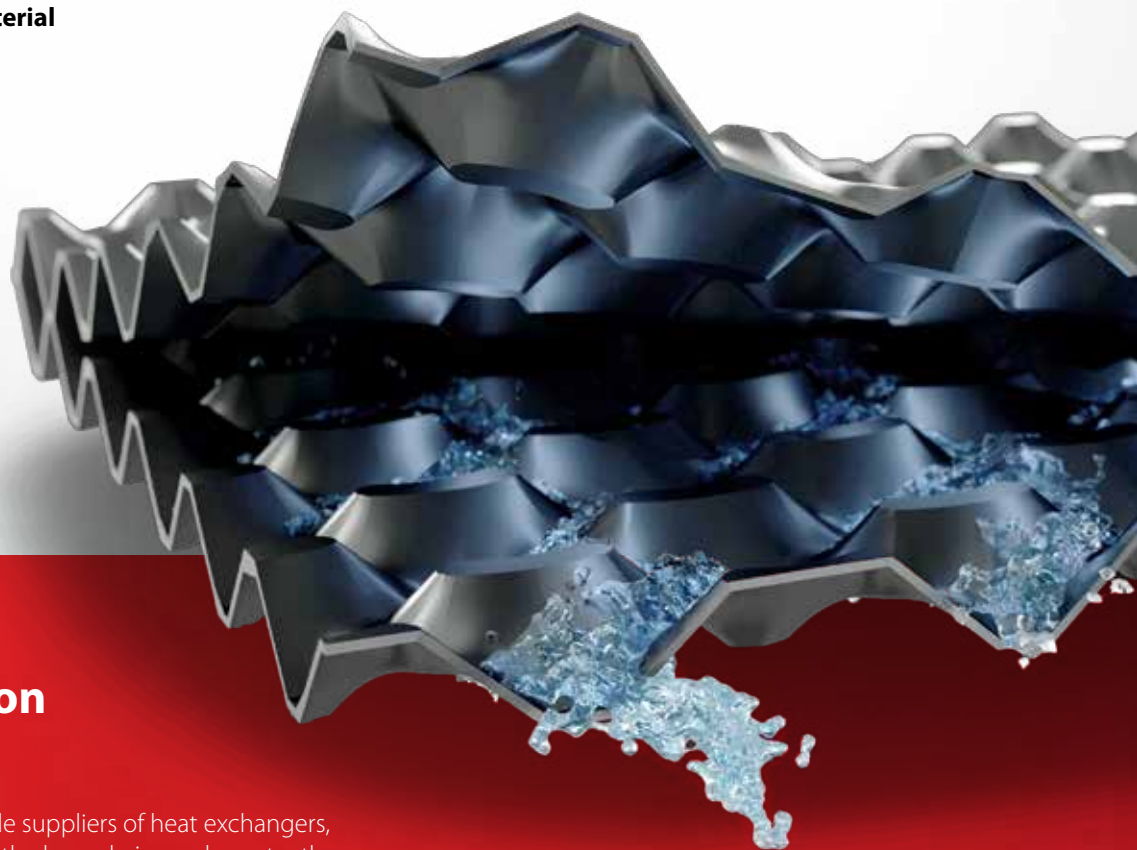
Generation Z

– a game changer

With the new and innovative Z-design heat exchanger series, HVAC-R manufacturers can achieve significantly better economic and environmental performance with high efficiency.

The secret behind the game-changing advantages of the series lies in the use of a dimple-based design, which promotes an asymmetric Z-shaped flow of fluid across the plates. Not only does this maximize the heat transfer surface, but the liquid and vapor phases of the refrigerant also remain well mixed, ensuring even thermal contact with the water side of the system.

As a result, the same heat transfer capacity can be achieved with fewer plates, which reduces both raw material needs and product weight.



A new generation with big impact

As one of the leading worldwide suppliers of heat exchangers, Danfoss takes pride in pushing the boundaries and constantly setting new standards for tomorrow. Therefore, with every new generation of heat exchangers, we improve the overall efficiency – and the new generation Z is no different.

The range of Z-design heat exchangers sets out to disrupt the status quo within the industry with a minimum of 20% more efficient heat transfer, 20% lower refrigerant charge, and 20% lower raw material weight.

All in all, the new generation Z heat exchangers will enable the creation of a new generation of heat pumps, chillers, and other refrigeration applications for new-build or renovation projects.

40%

heat transfer
increase compared
to traditional
fishbone design

A wide family of **Z-design products**



Z-design MPHEs offer high efficiency performance and are designed for chiller and heat pump applications with single or dual circuits for medium to large commercial buildings such as hotels, offices, and data centers ranging from 3 to 450 kW.

Using the same innovative technology, all Z-design evaporator models have been created with both new buildings and retrofits in mind, anticipating rooftop and cellar-compact installations. In addition, the series is also suitable for new waste-heat recovery applications, such as heat transfer from data center chillers to district heating systems.

Key benefits include:

- Higher heat transfer and energy efficiency
- Minimal hold-up volume leading to less refrigerant charge and savings on installation costs
- Reduction in both raw material needs and product weight
- Lower CO₂ emissions and reduced carbon footprint
- Compatible with other Danfoss products and suitable for use in oil-free systems

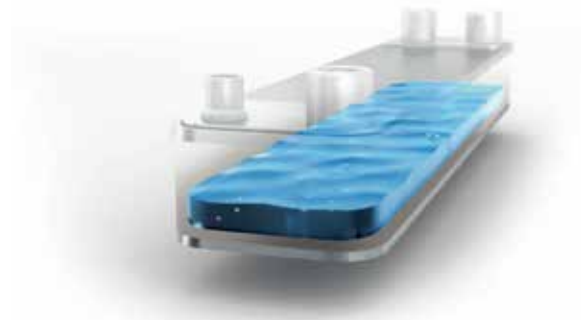
Compatible with many refrigerants

MPHEs are optimized for R410A air conditioning systems and are compatible with other refrigerants such as R410A replacements (R32, R452B, R454B) and with other refrigerants for commercial refrigeration including R134a, R448A, R449a, R452A, R290 etc.

Please visit hexact.danfoss.com for more information.

A system design for tomorrow

The Z-design series for HVAC-R applications enables the creation of a new generation of highly efficient and compact systems, ultimately contributing to the development of highly efficient building concepts that are set to become the norm in tomorrow's sustainable cities.



Air-Source

Water-Source

Capacity	Evaporator	Condenser	Evaporator	Condenser
----------	------------	-----------	------------	-----------

Chillers

20-90 kW	C62L-EZ	MCHE**	C62L-EZ	C62L-CX
70-250 kW	C118L-EZ	MCHE**	C118L-EZ	C118L-C
70-250 kW	C117L-EZD*	MCHE**	C117L-EZD*	C117L-EZD*
200-450 kW	C212L-EZD*	MCHE**	C212L-EZD*	C212L-EZD*

Heat Pumps

3-50 kW	N/A	H62L-CX	H62L-EZU	H62L-CX
---------	-----	---------	----------	---------

* Dual Circuit
** Cooling only

Please contact your local Danfoss representative for more information about other refrigeration applications.



Danfoss A/S Nordborgvej 81, 6430 Nordborg, Denmark.
Telephone: +45 74 88 22 22. Fax: +45 7449 0949.

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.