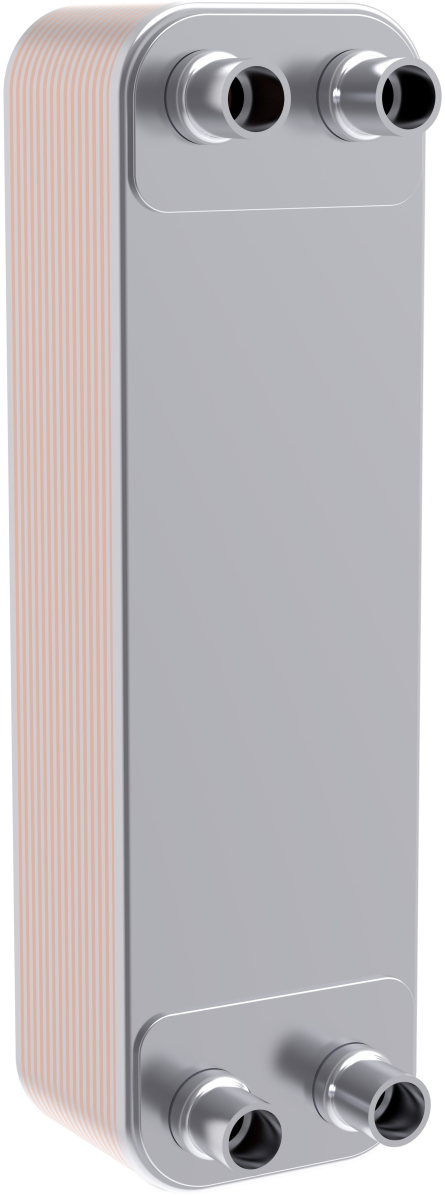
ENGINEERING TOMORROW

Data Sheet

Micro Plate Heat Exchanger Type **H30**

For more efficient Cooling & Heating systems



The H30 are condensers optimized for R410A in high efficiency residential heat pumps and semi plug-in systems with capacities between 2-25 kW.

The H30-C is the ideal choice in heat pump designs where space is limited, and high efficiency is required.

The H30-CW is the ideal solution for semi plug-in systems where extrimly low hold up volume is required.

The H30 family are designed to work efficiently with close temperature approaches to meet emands for higher COPs systems . The low hold-up volume reduces the refrigerant charge and offers valuable savings.

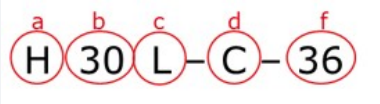
Features:

- Minimal refrigerant hold-up volume: Less refrigerant charge
- High heat transfer: For a more efficient water loop systems and heat pumps
- Smaller footprint: Enabling more compact heat pumps
- Reduced CO_2 footprint: Environmentally friendly with high heat transfer and minimal refrigerant charge

Portfolio overview

H30L-C: High efficiency condenser optimized for R410A, and other high-density refrigerants
H30-C: High efficiency condenser for medium density refrigerants
H30-CW: High efficiency condenser with extremely low hold up volume

Table 1: Designation



a **Applications** **C:** chiller **H:** heat pump **HDW:** heat pump double wall	**d** **Specific duty** **E**= evaporator **C**= condenser **Plate design** Omit **L**: L-type **M**: M-type **H**: H-type **W**: W-type **X**: Asymmetric **Z**: Z flow **Configuration** Omit: single **D**: Dual circuit **U**: Mixing chamber	**e** **Distributor version** Omit **B** **F** ….. **Plate stacking sequence** Omit: a-b-a… **R**: b-a-b…
b **Platform*** 22,30,55,62,118… *heat exchanging surface per plate 1/1000 m^2		
c **Pressure Service** Omit: 30bar **L**: 45/49bar		**f** **Number of plates**** **Rule: -Single: even number -Dual: even number not multiple of 4

Application

The H30 is a family of condensers applicable in different application like heat pump and semi plug-in systems. The H30 can operate also in evaporating mode and or de-frost mode, so it can be applicable in Air to water heat pump. Having an extremely low hold up volume, the H30 is the ideal solution for system operating with flammable gasses like propane.

Media

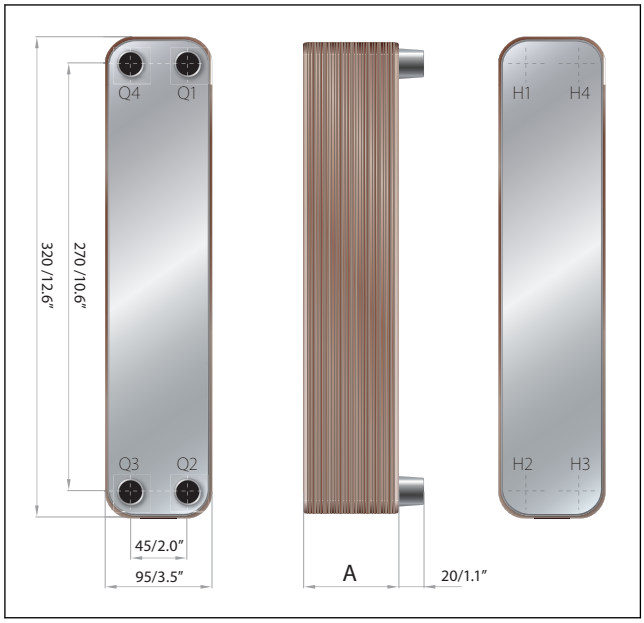
Refrigerants

R410A, R452B, R454B, R32, R407C, R290
For other refrigerants please contact your Danfoss Sales representative.

Product specification

Dimensions

Figure 1: Dimensions



A:
H30L-C: 8 + 1.24 x N [0.31+0.05 x N]
H30-C: 6 + 1.24 x N [0.24 + 0.064 x N]
H30-CW: 6 + 1.24 x N [0.24 + 0.05 x N]
N: Number of Plate

Operating conditions

Preconditions:
N = number of plates
Max number of plates: 150

Pressure and temperature data:
Min. working temperature: -196 °C (-320 °F)
Max. working temperature: 200 °C (390 °F)

Max. working pressure:
H30L-C: 48 bar (696psi)
H30-C: 30 bar (435psi)
H30-CW: 30 bar (435psi)

Weight*

H30L-C: 0.89 + 0.073xN [kg] / 1.96 + 0.16xN [lb]
H30-C: 0.66 + 0.073xN [kg] / 1.46 + 0.16xN [lb]
H30-CW: 0.66 + 0.073xN [kg] / 1.46 + 0.16xN [lb]
N: Number of Plate
*Excluding connections and accessories.

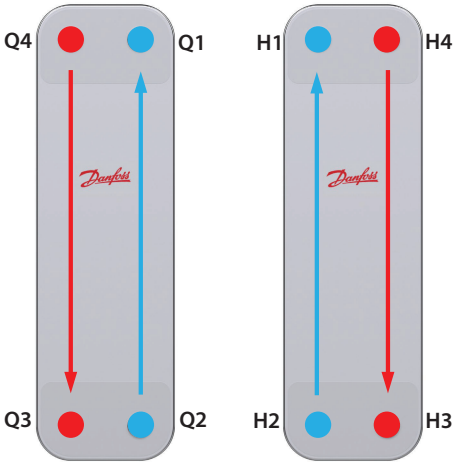
Material specification

Table 2: Standard materials

Item	Material	Specification
Cover plates	Stainless steel	AISI 304L
Plates	Stainless steel	AISI 316L
Connections	Stainless steel	AISI 304L
Brazing filler	Pure copper	Cu

Other material combinations are available on request. Please contact your Danfoss sales representative for more information.

Configuration flow



Parallel flow:
Q1 - Q2 [H1 - H2]: brine/secondary side
Q3 - Q4 [H3 - H4]: refrigerant/primary side

Hold up volume

H30(L)-C:
Q1-Q2: 0.027xN/2 [l]
Q3-Q4: 0.027x(N-2)/2 [l]
H30-CW:
Q1-Q2: 0.018xN/2 [l]
Q3-Q4: 0.018x(N-2)/2 [l]
N: Number of Plate

Ordering

Global or local standard code numbers can be accessed via Store.Danfoss.com on local subsites, with full set of technical data as well as relevant assets such as documentation and drawings. Since the portfolio may contain different types depending on country, this document contains only a summarized list of standard code numbers with a few data relevant for the product selection.

Configuring and calculating products

The H30(L)-C and H30-CW can be easily customized based on the application needs; model size can be evaluated using Hexact software.

For details, product configuration and code creation please contact your Danfoss Sales representative.

Mechanical connections

Circuits	Connection type options	Connection size option [in.]
Q1 - Q2 (water-brine side)	BSP Gas male	¾, 1
	BSP Gas female	½
	DIN R male	¾, 1
	NPT	¾, 1
Q3 - Q4 (Refrigerant side)	Soldering	¼, ⅜, ½, ⅝, ¾, ⅞

Accessories and spare parts

MPHE products are not serviceable, i.e. cannot be taken apart and repaired, and there are no spare parts program. As for accessories, stud bolts, feet on front and/or back cover plates for mounting support and handling are available upon request.

Table 3: Stud bolts

Stud bolt position	Bolt sizes
120mm, middle 160mm, middle	M8x20mm M8x25mm M8x30mm

Contact your Danfoss sales representative for further information.

Certificates, declarations, and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

Some approvals may change over time. You can check the most current status at danfoss.com or contact your local Danfoss representative if you have any questions.

Third party approvals

All MPHE and BPHE are certified to European Pressure Equipment Directive (PED) and are approved by Underwriters Laboratories (UL).

Other certifications are available upon request: Kraia, EAC, UA, AS; for others and more details please contact your local Danfoss representative.

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