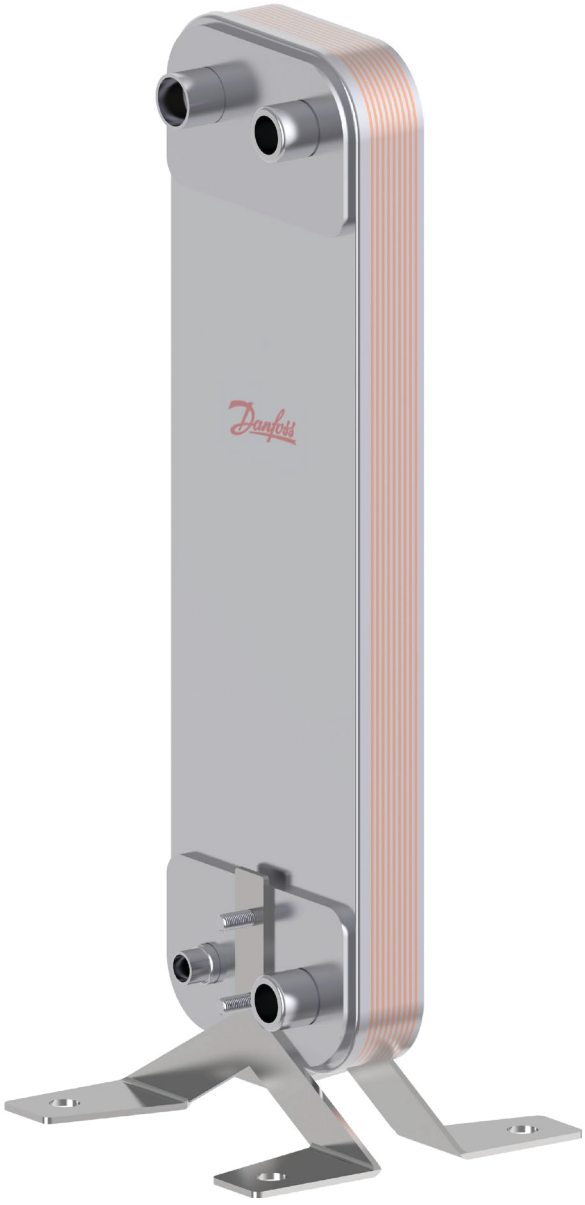
ENGINEERING TOMORROW

Data Sheet

Micro Plate Heat Exchanger Type **H118L-EZ** and **H118L-CZ**



The H118L-EZ and the H118L-CZ are condensers optimized for natural refrigerant specific to R290 for use in high-efficiency heat pumps with capacities of 30-150 kW.

The Z-pattern channel plate technology pushes the performance of heat exchangers to the limits by fully mixing the liquid and gas refrigerant through a “zigzag” flow, which increases the heat transfer coefficient. At the same time, inheriting from the dimple features, H118L-EZ/CZ reduces the water side pressure drop and the amount of material used. H118L-CZ is optimized for heating only units while H118L-EZ also has outstanding performance in the reversible mode of co-current evaporator.

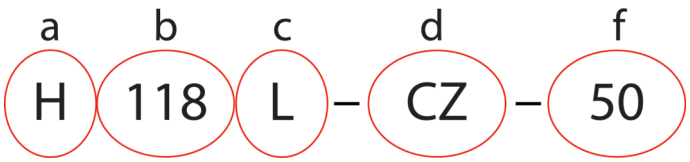
To meet demands for higher system efficiency, the H118L-EZ/CZ is designed to work efficiently and increase comfort in modern buildings without increasing the carbon footprint. Helping heat pumps perform more efficiently, it reduces both energy costs and environmental impact. The low hold-up volume reduces the system refrigerant charge and offers valuable savings.

Portfolio overview

H118L-CZ: Condenser optimized for heating only R290 heat pumps

H118L-EZ: Condenser optimized for R290 reversible heat pumps

Table 1: Designation



a **Applications** **C:** chiller **D:** universal **H:** heat pump **HDW:** heat pump double wall	**d** **Specific duty** E= evaporator C= condenser Plate design Omit	**e** **Distributor version** Omit **B** **F** ….. **Plate stacking sequence** Omit: a-b-a… **R:** b-a-b…
b **Platform*** 22,30,39,44,55,62,118… *heat exchanging surface per plate 1/1000 m^2	**L:** L-type **M:** M-type **H:** H-type **W:** W-type	
c **Pressure Service** Omit: 30bar **L:** 35/45/49bar	**X:** Asymmetric **Z:** Z flow **Configuration** Omit: single **D:** Dual circuit **U:** Mixing chamber	**f** **Number of plates**** **Rule: -Single: even number -Dual: even number not multiple of 4

Application

The H118L-EZ and H118L-CZ are single-circuit condensers engineered for high-efficiency heat pump systems that use R290 natural refrigerants. The H118L-EZ has a distribution device. It can function in reversible systems, specifically operating as an evaporator in a co-current flow setup.

Media

Refrigerants

R290

Forother refrigerants please contact your Danfoss Sales representative.

Product specification

Operating conditions

Preconditions:
N= number of plates
Maxnumber of plates: 250
Pressureand temperature data*:
Min.working temperature: -196 °C (-320 °F)
Max. working temperature: 200 °C (390°F)
Max.working pressure: 35 bar (508psi) refrigerant side / 25 bar (363psi) water side
*Fordetails, refer to the “Third-party Approvals” chapter

Weight

H118L-EZ: 7.234 + 0.275 x N[kg] // 15.948 + 0.606 x N[lb]
H118L-CZ: 7.234 + 0.264 x N[kg] // 15.948 + 0.582 x N[lb]
N:Number of Plate

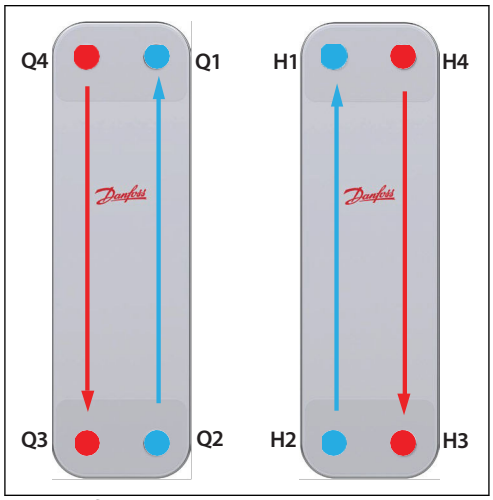
Material specification

Table 2: Standardmaterials

Item	Material	Specification
Coverplates	Stainlesssteel	AISI 304L
Plates	Stainlesssteel	AISI 316L
Connections	Stainlesssteel	AISI 304L
Brazingfiller	Purecopper	Cu

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

Configuration flow

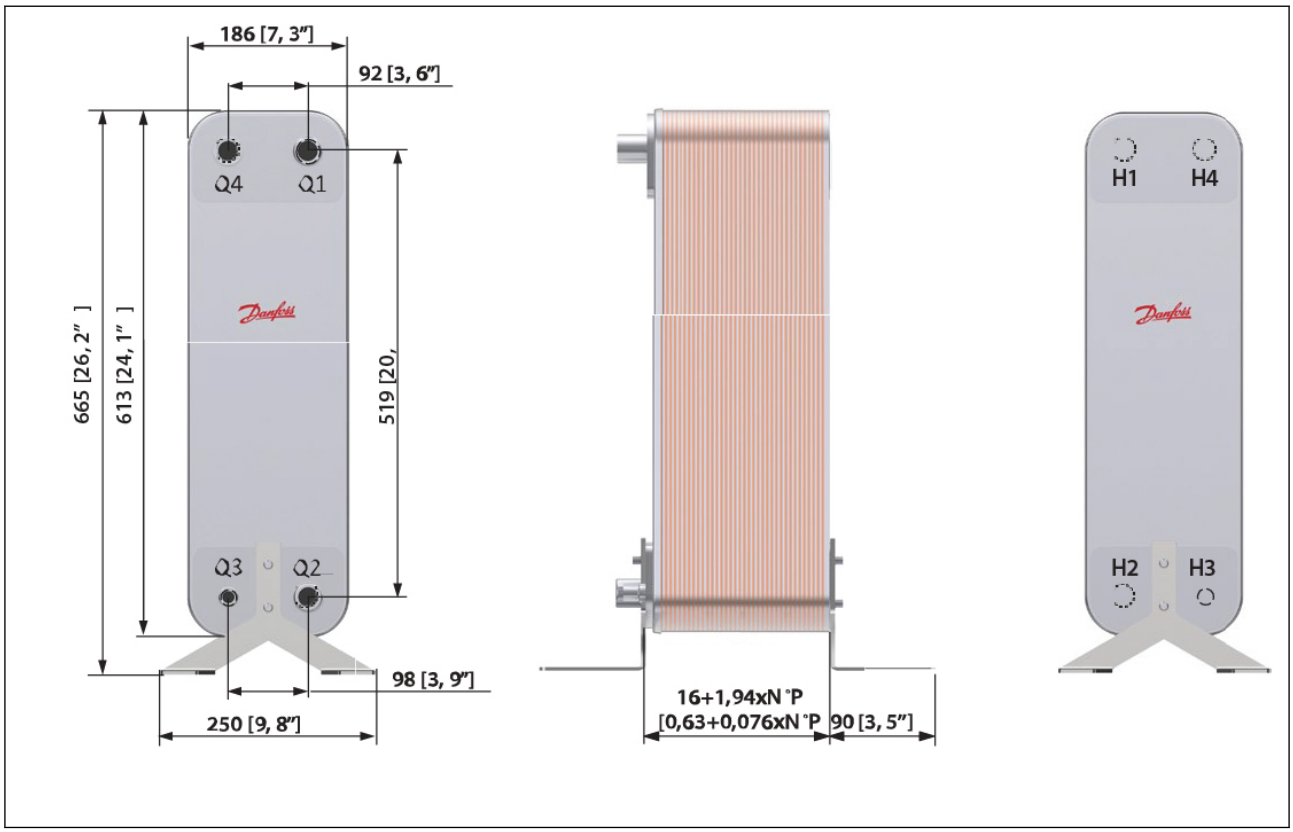


Parallel flow:
Q1 - Q2 [H1 - H2]: brine/secondary side
Q3 - Q4 [H3 - H4]: refrigerant/primary side

Hold up volume

Q1 - Q2 (l): 0.2 x N/2
Q3 - Q4 (l): 0.14 x (N-2)/2
N: Number of Plates

Dimensions


186 [7, 3"]
92 [3, 6"]
Q4
Q1
Q3
Q2
665 [26, 2"]
613 [24, 1"]
519 [20,
98 [3, 9"]
250 [9, 8"]
16+1,94xN °P
[0,63+0,076xN °P
90 [3, 5"]
H1
H4
H2
H3

Ordering

Configuring and calculating products

H118L-EZ and H118L-CZ can be easily customized based on the application needs; model size can be evaluated using HexSelector software.

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

Mechanical connections

Table 3: Mechanical connections

Circuits	Connectiontype options	Connectionsize option
Q1- Q2 (water-brine side)	BSP Gasmale	½", ¾", 1", 1 ¼", 1 ½", 2", 2 ½"
	BSP Gasfemale	½", ¾", 1"
	DIN R male	1", 1 ¼", 1 ½", 2"
	NPT	2", 2 ½"
	Victaulic	2", 2 ½"
Q3(Refrigerant inlet)	Soldering	3⁄8", ½",5⁄8", ¾", 7⁄8", 1 1⁄8"
Q4(Refrigerant outlet)	Soldering	7⁄8", 1 1⁄8", 1 3⁄8", 1 5⁄8", 2 1⁄8"

Accessories and spare parts

MPHEproducts 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 4: Stud bolts

Studbolt position	Bolt sizes
230x92mm,middle 140x100mm, middle	M8x20mm M8x25mm M8x30mm

Contactyour Danfoss sales representative for further information.

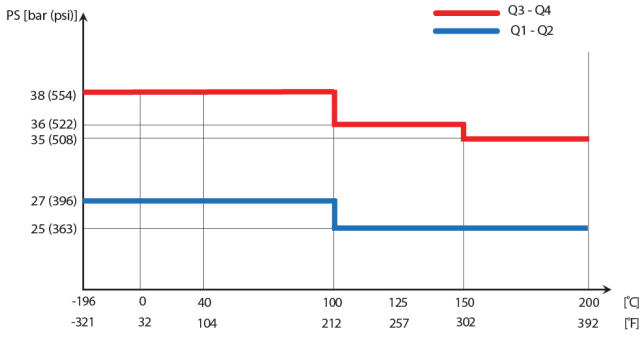
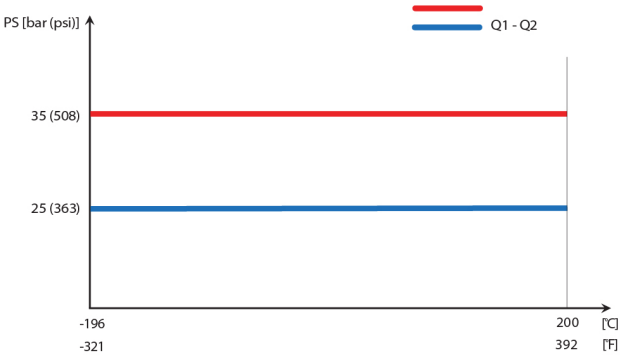
Certificates, declarations, and approvals

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

Table 5: Third party approvals

PressureEquipment Directive (PED)	Underwriters Laboratory Inc (UL)
	

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