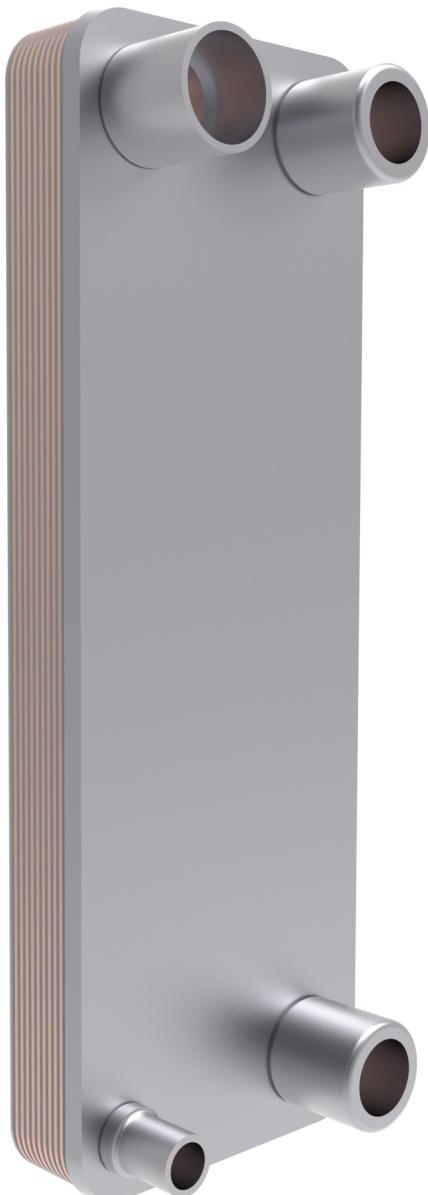


Data Sheet

# Micro Plate Heat Exchanger Type **C39L-EZ**

A new compact and high-efficient evaporator



The C39L-EZ is an evaporator designed for use in high-efficiency mini chillers with capacities up to 40kW, optimized for R410A and R32 respectively.

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 plate pattern of the previous generation of MPHE, C39L-EZ reduces the water side pressure drop and the amount of material used. C39L-EZ also has outstanding performance working as condenser.

To meet demands for higher seasonal efficiency, the C39L-EZ is designed to work efficiently and increase comfort in modern life without increasing the carbon footprint. Helping chillers 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.

## Features

- Improved heat transfer - equals higher efficiency chillers
- Reduced water side pressure drop – equals higher efficiency chillers
- Minimal hold-up volume - equals less refrigerant charge and reduced CO<sub>2</sub> footprint
- Smaller footprint - enables more compact chillers for easy installation
- Less material utilization – less weight and environment friendly

## Portfolio overview

**C39L-EZ:** Evaporator optimized for R410A, R452B and R454B

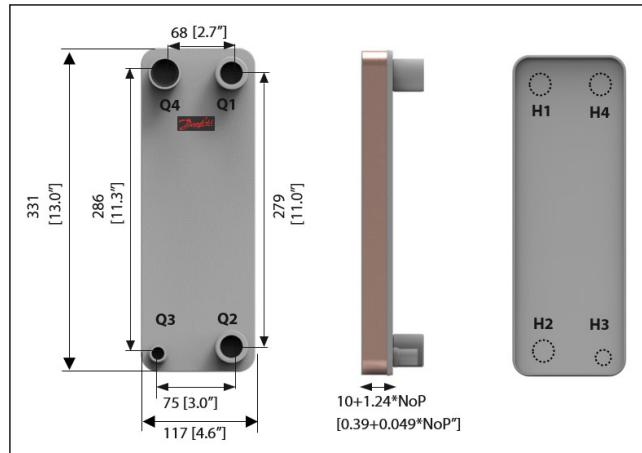
**C39L-EZ-J:** Evaporator optimized for R410A, R452B and R454B

**C39L-EZ-F:** Evaporator optimized for R32 and R454

## Product specification

### Dimensions

Figure 1: Dimensions



### Operating conditions

Max number of plates: 110

#### Pressure and temperature data:

Min. working temperature: -196 °C (-320 °F)

Max. working temperature: 200 °C (390 °F)

Max. working pressure: 49 bar (710psi) for primary side and 25 bar (363psi) for secondary side

### Weight

$1.377 + 0.089 \times N \text{ [kg]} / 3.04 + 0.20 \times N \text{ [lb]}$

N: Number of Plate

### Material specification

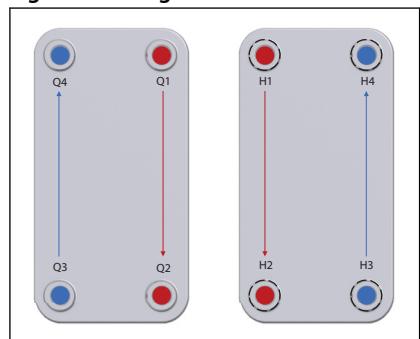
Table 1: Standard specification

Item	Material	Specification
Cover plates	Stainless steel	AISI 304L
Plates	Stainless steel	AISI 316L
Connections	Stainless steel	AISI 304L
Brazing filler	Pure copper	T2

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

### Configuration flow

Figure 2: Configuration flow



Parallel flow:

Q1 - Q2 [H1 - H2]: brine/secondary side

Q3 - Q4 [H3 - H4]: primary side

### **Hold up volume**

Q1 - Q2 (l):  $0.038 \times N/2$

Q3 - Q4 (l):  $0.030 \times (N-2)/2$

N: Number of Plate

## Ordering

Global or local standard code numbers can be accessed via [Store.Danfoss.com](http://Store.Danfoss.com) on local subsites, with full set of technical data as well as relevant assets such as documentation and drawings.

## Configuring and calculating products

C39L-EZ 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.

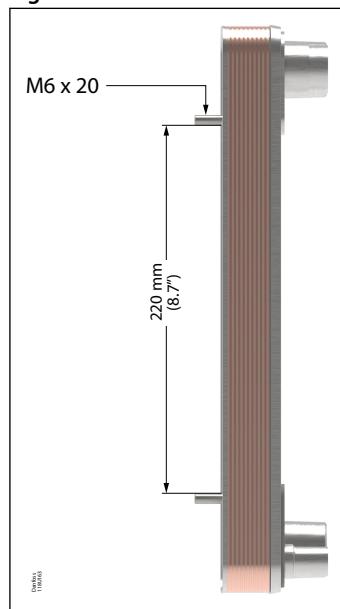
## Mechanical connections

Table 2: Mechanical connections

Circuits	Connection type options	Connection size option (in.)
Q1 - Q2 (water-brine side)	BSPP G male	3/8, 1/2, 5/8, 3/4, 7/8, 1, 1 1/4
	BSPP G female	1/4, 3/8, 1/2, 5/8, 7/8, 1
	BSPT R male	3/8, 1/2, 5/8, 3/4, 7/8, 1, 1 1/4
	BSPP R female	1/4, 3/8, 1/2, 5/8, 7/8, 1
	NPT	3/8, 1/2, 5/8, 3/4, 7/8, 1, 1 1/4
Q3 (Refrigerant inlet)	Victaulic	3/4, 1, 1 1/4
	Soldering	1/4, 3/8, 1/2, 5/8
Q4 (Refrigerant inlet)	Soldering	3/8, 1/2, 5/8, 3/4, 7/8, 1 1/8

## Accessories and spare parts

Figure 3: Stud bolts



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 and hooks 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
220 mm, middle	M6x20

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](http://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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