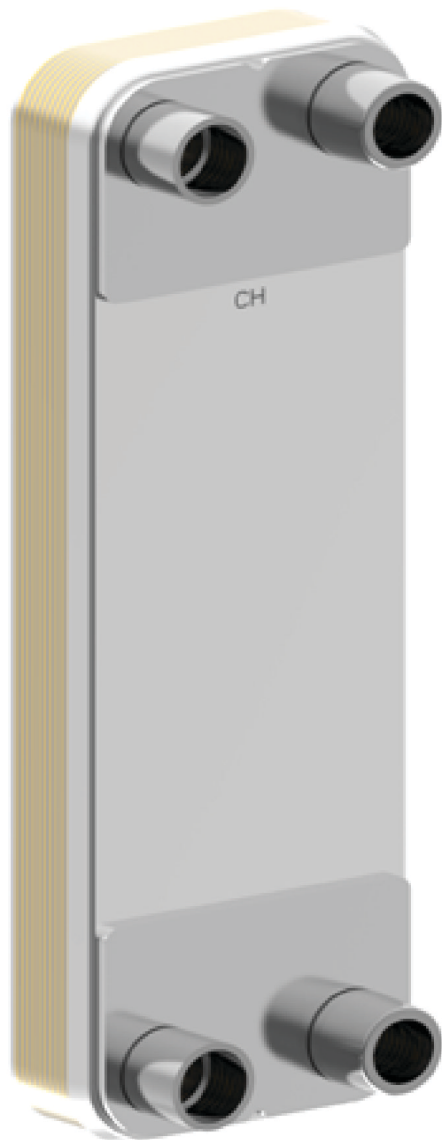


## Data Sheet

# MicroPlate™ HeatExchanger Type **H48T-CH**

Brazed plate heat exchanger dedicated for transcritical CO<sub>2</sub> systems



Introducing H48T-CH, our new brazed plate heat exchanger featuring the patented Micro Plate™ design dedicated for 140 bar transcritical CO<sub>2</sub> systems.

H48T-CH is optimized for commercial refrigeration (e.g. food retail, transport refrigeration, heat recovery) and heat pump with capacity up to 150kW . Having a secondary side pressure at 90bar, it is also an excellent choice to run as suction gas heat exchanger.

With the unique Micro Plate™ technology, the H48T-CH heat exchanger pushes the boundaries of thermal performance and makes it an unmatched and reliable heat exchanger in a CO<sub>2</sub> system.

A lightweight and compact design without a reinforced frame ensures easy installation and allows for more compact CO<sub>2</sub> systems.

## Features

- High design pressure: enables reliable choice for transcritical CO<sub>2</sub> applications
- Proven reliability: enables longer lifetime and less failure rate
- High heat transfer efficiency: enables high-efficient CO<sub>2</sub> unit
- Small footprint: enables more compact CO<sub>2</sub> systems and reduced CO<sub>2</sub> emission

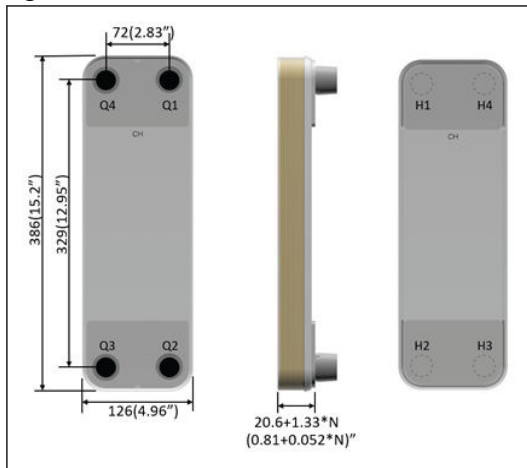
## Portfolio overview

- **H48T-CH**
  - Gas Cooler/Condenser
  - Subcooler/Superheater
  - Economizer

**Product specification**

**Dimensions**

Figure 1: Dimensions



**Operating conditions**

- 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: 140 bar(2030psi) for primary side and 90 bar (1305 psi) for secondary side

**Weight**

- $3.9 + 0.182 \times N$  [kg] /  $8.6 + 0.40 \times N$  [lb]
- N: Number of Plate

**Material specification**

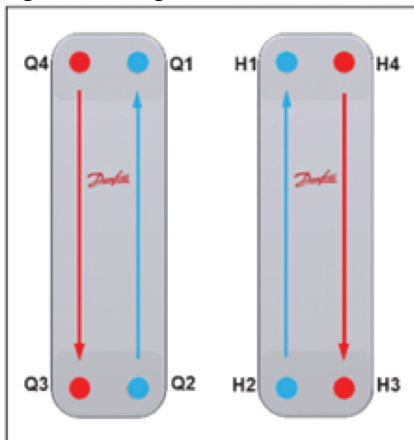
Table 1: Material specification

Item	Material	Specification
Cover plates	Stainless steel	AISI 304L
Reinforce plates		
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]: Secondary side

Q3 - Q4 [H3 - H4]: Primary side

## Hold up volume

Q1 - Q2:  $0.039 \times N/2$  (L) /  $0.0103 \times N/2$  (gal)

Q3 - Q4:  $0.039 \times (N-2)/2$  (L) /  $0.0103 \times (N-2)/2$  (gal)

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**

The H48T-CH can be easily customized based on the application needs; model size can be evaluated using Hexselector software. For details, product configuration and code creation please contact your Danfoss Sales representative.

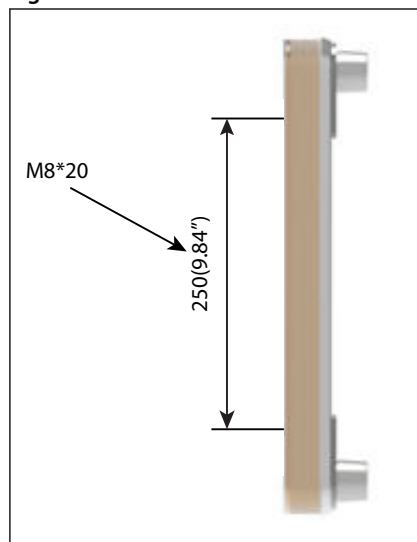
### **Mechanical connections**

**Table 2: Mechanical connections**

Circuits	Connection type options	Connection size option (in.)
Q1 - Q2 (secondary side)	BSPP G male	1/2, 3/4, 1
	BSPP G female	1/2, 3/4
	BSPT R male	1/2, 3/4, 1
	BSPP R female	1/2, 3/4
	NPT Male	1/2, 3/4, 1
	NPT Female	1/2, 3/4
	Welding	1/2, 3/4, 1 (thread size)
	Victaulic	3/4, 1
Q3 (primary side)	Soldering	3/4, 1/2, 5/8, 3/4, 7/8, 1, 1-1/8
	Soldering	1/4, 3/8, 1/2, 7/8, 1, 1-1/8
Q4 (primary side)	Soldering	3/8, 1/2, 5/8, 3/4, 7/8, 1, 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
250 mm, middle	M8x20

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](https://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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