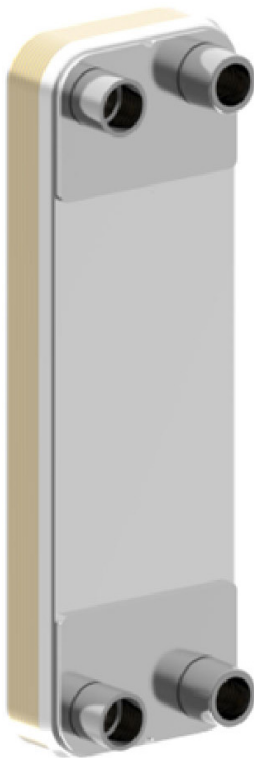


Data Sheet

Micro Plate™ Heat Exchanger Type **H48T-CL**

Brazed plate heat exchanger dedicated for transcritical CO₂ systems



Introducing H48T-CL, our new brazed plate heat exchanger featuring the patented Micro Plate™ design dedicated for 140 bar transcritical CO₂ systems.

The H48T-CL is specially developed for heat recovery applications with water and CO₂ to ensure optimum system efficiency.

The H48T-CL is optimized for heat recovery application with small brine temperature difference (e.g. sanitary water). Also H48T-CL can be used in auto-motive heat pumps, with a optimized brine side pressure drop and high reliability.

With the unique Micro Plate™ technology, the H48T-CL heat exchanger pushes the boundaries of thermal performance and makes it an unmatched and reliable heat exchanger in a CO₂ system.

A lightweight and compact design without a reinforced frame ensures easy installation and allows for more compact CO₂ systems.

Feature:

- High design pressure: enables reliable choice for transcritical CO₂ applications
- Proven reliability: enables longer lifetime and less failure rate
- High heat transfer efficiency: enables high-efficient CO₂ unit
- Small footprint: enables more compact CO₂ systems

Portfolio overview

H48T-CL:

- Gas Cooler/Condenser
- Subcooler

Product specification

Operating conditions

Max number of plates: 150

Pressure and temperature data:

Min. working temperature: -196 °C

Max. working temperature: 200 °C

Max. working pressure: 140 bar for primary side and 90 bar for secondary side

Weight

$4.4 + 0.216 \times N$ [kg]

N: Number of Plate

Material specification

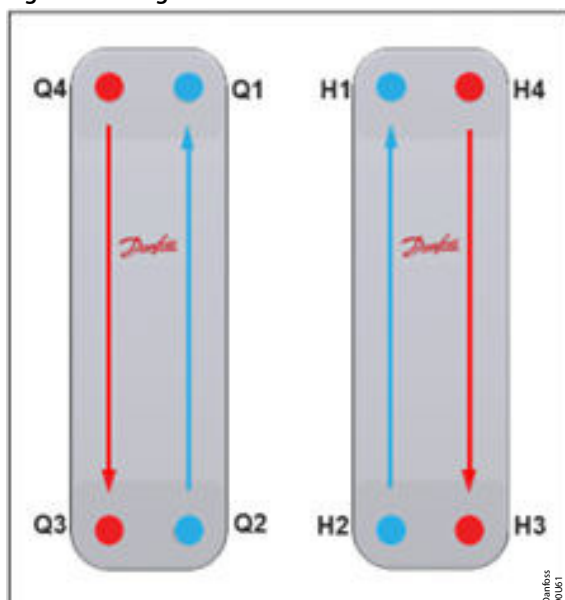
Table 1: Standard specification

Item	Material	Specification
Cover plates	Stainless steel	AISI 304L
Reinforce 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 1: Configuration flow



Parallel flow:

Q1 - Q2 [H1 - H2]: Secondary side

Q3 - Q4 [H3 - H4]: Primary side

Hold up volume

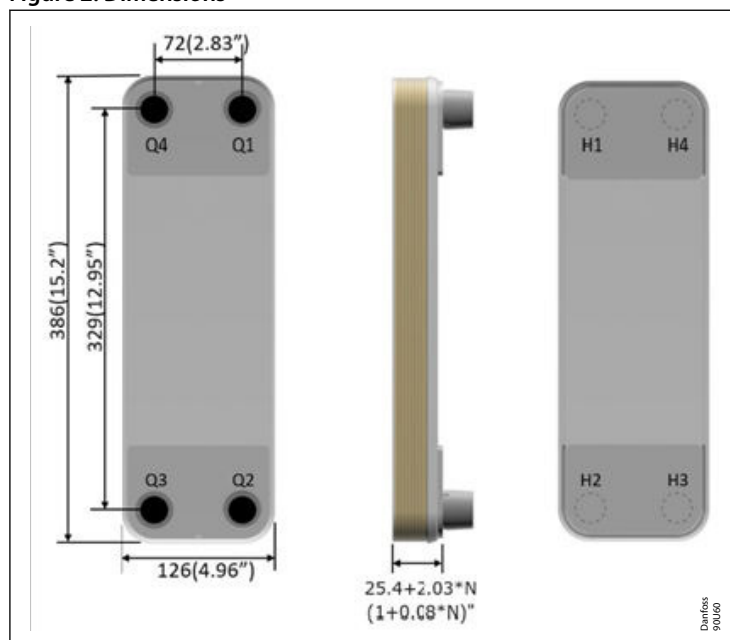
Q1 - Q2 (L): $0.074 \times N/2$

Q3 - Q4 (L): $0.058 \times (N-2)/2$

N: Number of Plate

Dimensions

Figure 2: Dimensions



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.

Configuring and calculating products

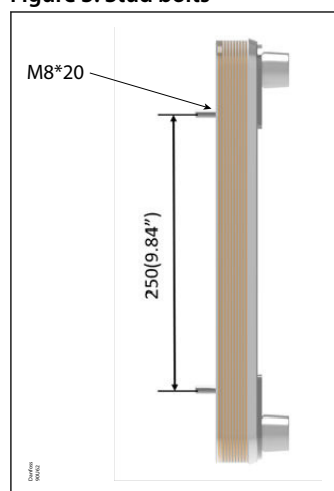
H48T-CL can be easily customized based on the application needs; model size can be evaluated using Hexselector software. For details, product configuration and code creation please contact your Danfoss Sales representative.

Mechanical connections

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	3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/8
Q4 (primary side)	Soldering	1/4, 3/8, 1/2, 7/8, 1, 1-1/8
	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 2: Stud bolts

Stud bolt position	Bolt sizes
250 mm, middle	M8x20

Contact your Danfoss sales representative for further information.

Affected products

Table 3: Affected products

Sap code	Drawing	Product	Q1/Q2	Q3/Q4	Bolts
111B7897	T24001-1964	H48T-CL-10	G1 Thread/Solder inside	Solder 7/8	M8*25
111B7898	T24001-1965	H48T-CL-16	G1 Thread/Solder inside	Solder 7/8	M8*25
111B7899	T24001-1966	H48T-CL-20	G1 Thread/Solder inside	Solder 7/8	M8*25
111B7900	T24001-1967	H48T-CL-26	G1 Thread/Solder inside	Solder 7/8	M8*25
111B7901	T24001-1968	H48T-CL-30	G1 Thread/Solder inside	Solder 7/8	M8*25
111B7902	T24001-1969	H48T-CL-40	G1 Thread/Solder inside	Solder 7/8	M8*25
111B7903	T24001-1970	H48T-CL-50	G1 Thread/Solder inside	Solder 7/8	M8*25
111B7904	T24001-1971	H48T-CL-60	G1 Thread/Solder inside	Solder 7/8	M8*25

Table 4: Affected products

Sap code	Drawing	Product	Q1/Q2	Q3/Q4	Bolts
111B7905	T24001-1972	H48T-CL-70	G1 Thread/Solder inside	Solder 1-1/8	M8*25
111B7906	T24001-1973	H48T-CL-80	G1 Thread/Solder inside	Solder 1-1/8	M8*25
111B7907	T24001-1974	H48T-CL-90	G1 Thread/Solder inside	Solder 1-1/8	M8*25
111B7908	T24001-1975	H48T-CL-100	G1 Thread/Solder inside	Solder 1-1/8	M8*25
111B7909	T24001-1976	H48T-CL-120	G1 Thread/Solder inside	Solder 1-1/8	M8*25
111B7910	T24001-1977	H48T-CL-140	G1 Thread/Solder inside	Solder 1-1/8	M8*25

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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