Data sheet



# Micro Plate heat exchanger

# MPHE C62 / H62

For more efficient Chillers & Heat Pumps

# Description

20% reduction in refrigerant charge compared with a traditional BPHE, the ideal solution to help you meet the world`s climate and energy aspirations. The C62 & H62 are families of Condensers and Evaporators optimized for high-efficiency chillers and heat pumps.

The heat exchanger features innovative Micro Plate technology that improves heat transfer and reduces the amount of material used. To meet demands for higher COPs in heat pumps, the evaporator H62(L)-C is designed to work efiiciently with close temperature approaches, while a low pressure drop on the brine side reduces the pump power and keeps the overall COP high.. H62 can cover a capacity range from 4 – 40kW.

The C62(L)-E and the C62(L)-C are respectively evaporator and condenser designed to work efficiently and increase comfort in modern buildings without increasing the carbon footprint. Helping chillers perform more efficiently achieving higher seasonal efficiency levels, it reduces both energy costs and environmental impact. C62 can cover a capacity range from 20 – 90kW. The low hold-up volume reduces the system refrigerant charge and offers valuable savings.

## Features & benefits

- Minimal hold-up volume: Less refrigerant charge
- Reduced pressure drop: For a more efficient system
- Smaller footprint: Enabling more compact system
- Reduced $CO_2$ footprint: Environmentally friendly with high heat transfer and minimal refrigerant charge

## Applications

The C62 & H62 are families of Condensers and Evaporators specifically optimized for high-efficiency chillers and heat pumps, dedicated to comfort applications, cooling-industrial process, data centers. The evaporators are design to operate also in reversable systems in condenser mode, in co or counter current flow configuration; as well as the condensers are verified with regards to the defrost operation cycle.

# Ordering

## Product code numbers

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 C62 & H62 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.

## Accessories code numbers

**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: Stud bolts**

| Stud bolt position | Bolt sizes |
|---|---|
| 327 mm, middle<br>140 x 100 mm, middle | M8 x 20 mm<br>M8 x 25 mm<br>M8 x 30 mm |

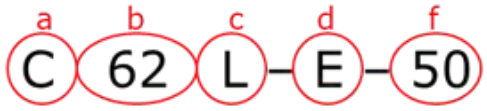
Contact your Danfoss sales representative for further information.

# Overview

## Product portfolio

**C62L-E:** Evaporator optimized for R410A in chiller application, from 20 – 90 kW.
**C62-E:** Evaporator for medium density refrigerants in chiller application, from 20 – 90 kW.
**C62L-C:** Condenser optimized for high density refrigerants in chiller application, from 20 – 90 kW.
**C62-C:** Condenser optimized for medium density refrigerants in chiller application, from 20 – 90 kW.
**H62L-C:** Condenser optimized for high density refrigerants in heat pump application, from 4 – 40 kW.
**H62-C:** Condenser optimized for medium density refrigerants in heat pump application, from 4 – 40 kW.

**Table: Designation**




| | | |
|---|---|---|
| **a**<br>**Applications**<br>**C:** chiller<br>**H:** heat pump<br>**HDW:** heat pump double wall | **d**<br>**Specific duty**<br>**E**= evaporator<br>**C**= condenser<br><br>**Plate design**<br>Omit<br>**L:** L-type<br>**M:** M-type<br>**H:** H-type<br>**W:** W-type<br>**X:** Asymmetric<br>**Z:** Z flow<br>**Configuration**<br>Omit: single<br>**D:** Dual circuit<br>**U:** Mixing chamber | **e**<br>**Distributor version**<br>Omit<br>**B**<br>**F**<br>…...<br>**Plate stacking sequence**<br>Omit: a-b-a…<br>**R:** b-a-b… |
| **b**<br>**Platform**[1] 22,30,55,62,118… | | |
| **c**<br>**Pressure Service**<br>Omit: 30bar<br>**L**: 45/49bar | | **f**<br>**Number of plates**[2] |

[1] Heat exchanging surface per plate 1/1000 m².

[2] Rule:
Single: even number
Dual: even number not multiple of 4

# Functions

## Operation

**Preconditions:**

N = number of plates
Max number of plates: 150

# Media

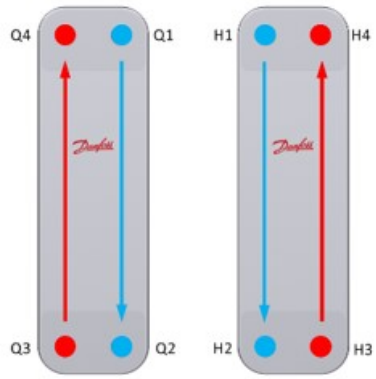
## Refrigerants

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

# Product details

## General data

**Figure: Configuration flow**




**Parallel flow:**
Q1 – Q2 [H1 – H2]: brine/secondary side
Q3 – Q4 [H3 – H4]: primary, first circuit

**Hold up volume**
**C/H62(L)-C/E:**
Q1 – Q2: 0.081xN/2 [l]
Q3 – Q4: 0.081x(N-2)/2 [l]

**H62(L)-C:**
Q1 – Q2: 0.066xN/2 [l]
Q3 – Q4: 0.066x(N-2)/2 [l]
N: Number of Plate

## Materials

**Table: 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.

## Performance and environmental conditions

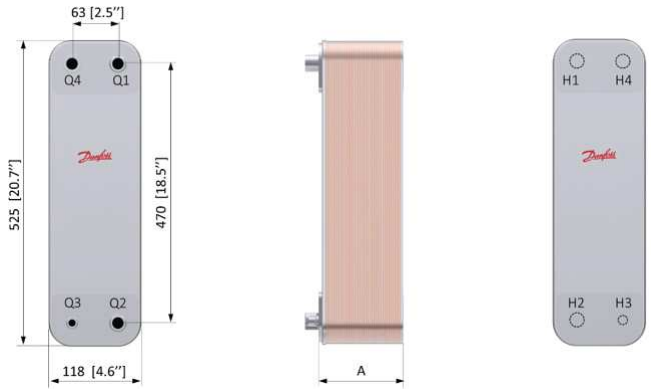
Min. working temperature: -196 °C (-320 °F)
Max. working temperature: 200 °C (390 °F)

**Max. working pressure:**
**C62-C / C62-E / H62-C:** 30 bar (435 psi)
**C62L-C / C62L-E:** 45 bar (653 psi)
**H62L-C:** 48 bar (696 psi) [UL: 45 bar (653 psi)]

**Note:**

For details, refer to the Third party approvals chapter.

## Dimensions




**A:**
C62-C / C62-E: 11.5 + 1.72xN [0.45 + 0.068xN]
C62L-C / C62L-E: 13.5 + 1.72xN [0.53 + 0.068xN]
H62-C: 11.5 + 1.44xN [0.45 + 0.057xN]
H62L-C: 13.5 + 1.44xN [0.53 + 0.057xN]
**N:** Number of Plate

### Weight*

**C62-C / C62-E:** 2.92+0.145xN [kg] / 6.44+0.32xN [lb]
**C62L-C / C62L-E:** 3.35+0.145xN [kg] / 7.39+0.32xN [lb]
**H62-C:** 2.91+0.145xN [kg] / 6.42+0.32xN [lb]
**H62L-C:** 3.35+0.145xN [kg] / 7.39+0.32xN [lb]
N: Number of Plate
*without connections

## Connections

**Table: Mechanical connections**

| Circuits | Connection type options | Connection size option |
|---|---|---|
| Q1 – Q2 (water-brine side) | BSP Gas male | ½", ¾", 1", 1 ¼", 1 ½" |
| | BSP Gas female | ½", ¾", 1" |
| | DIN R male | 1", 1 ¼" |
| | NPT | 1", 1 ¼" |
| | Victaulic | 1", 1 ¼", 1 ½" |
| Q3 – Q4 (refrigerant side) | Soldering | ⅜", ½", ⅝", ¾", ⅞", 1⅛", 1 ⅜" |

## Certificates, declarations and approvals

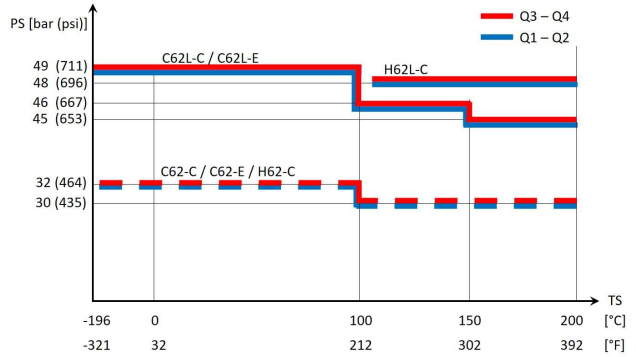
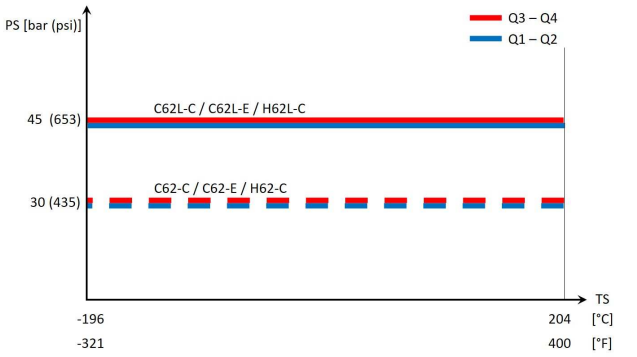
The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

When you click on the link you will be directed to the latest version of the 'Declaration of Conformity'. Products developed and sold before this date of issue conform to the directives/standards in force at the time of their sale.

| Approval type | Title | Certification body | Approval topic |
|---|---|---|---|
| Pressure Safety Certificate | BV CE-0062-PED-H-DAF 001-24-DNK | BV - Bureau Veritas | PED, Pressure |
| Pressure Safety Certificate | LLC CDC EURO TYSK UA.TR.089.0330.04.23 | LLC CDC EURO TYSK - Ukraine | PED, Pressure |
| Manufacturer's Declaration | Danfoss UK-ROHS-MOD-202304-01.01 | Danfoss | UK RoHS |
| Pressure Safety Certificate | BV CE-0062-PED-H-DMC 001-23-CHN-Rev.C | BV - Bureau Veritas | PED, Pressure |
| UA Declaration | Danfoss UA 2023-01-10 Heat Exchangers PL24 PL31 | Danfoss | PED, Pressure |
| Manufacturer's Declaration | Danfoss MD UK-ROHS-MOD-202304-02.01 | Danfoss | UK RoHS |
| Export Control Declaration | Micro Plate Heat Exchangers - Not dual use | Danfoss | |
| EU Declaration | Danfoss EU BF202604en-0002.02 | Danfoss | PED, Pressure |
| Manufacturer's Declaration | Danfoss MD EU-ROHS-MD-202404-01.01 | Danfoss | EU RoHS |
| Mechanical Safety Certificate | UL SA13363 | UL - Underwriters Laboratories inc. | |
| Manufacturer's Declaration | Danfoss MD EU-RoHS-DoC-202309-01.01 | Danfoss | EU RoHS |
| EU Declaration | Danfoss EU BF202407en-0001.01 | Danfoss | PED, Pressure |
| Manufacturer's Declaration | Danfoss MD BPHE-RoHS-DOC-201601 | Danfoss | China RoHS |

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

**Table: Third party approvals**

| Pressure Equipment Directive (PED) | Underwriters Laboratory Inc (UL) |
|---|---|
|  |  |

# Contact details

## Online support

Danfoss offers a wide range of support along with our products, including digital information, software, mobile apps and expert guidance. See the possibilities below.

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### Danfoss Partner Portal/Product Data tool

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