

Data Sheet

Micro Channel Heat Exchanger
Type **MCHE D1400-C**

Condenser – standard series



D1400-C MCHE condenser is ideal for use in many different applications, such as chillers, residential AC and commercial split/roof tops.

MCHEs have an ingeniously simple all-aluminum design that is not only lightweight but also prevents galvanic corrosion.

The refrigerant-carrying tubes are formed to optimize heat transfer, enabling the production of more compact, but equally effective, cooling solutions. The smart louvered fin design maximizes surface contact, reducing the air-side pressure loss, improving efficiency and reducing noise levels.

Features:

- Reduce refrigerant system charge
- Improve efficiency – More compact/better COP/increased capacity
- Cost - Less sensitive to fluctuations in raw material prices
- Better corrosion characteristics due to all-aluminum design

Product specification

Technical data

Table 1: Technical data

| Model | Coil length | Coil height | Core depth | Fin pitch | Inlet ID diameter | Outlet ID diameter | Continuous operating temperature | Max. working pressure |
|---------|-----------------------|-----------------------|---------------------|----------------------|-----------------------|-----------------------|------------------------------------|-----------------------|
| D1400-C | 780 (mm) 30.7 (in) | 771 (mm) 30.4 (in) | 16 (mm) 0.6 (in) | 1.1 (mm) 23 (FPI) | 9.7 (mm) 0.38 (in) | 9.7 (mm) 0.38 (in) | -40 °C / 121 °C -40 °F / 250 °F | 45 (bar) 650 (psi) |

Weight / internal volume

Coil weight: 4.541 kg / 10.0 lb
Internal volume: 0.74 l / 45.16 in³

Material specification

MPE Tube: AA3102
Fins: AA3003Mod clad with AA4343
Manifold: AA3003 clad with AA4343
Side plate: AA3003
Inlet/Outlet tubes: Copper

Performance data

Table 2: Performance data of R410A and R134a

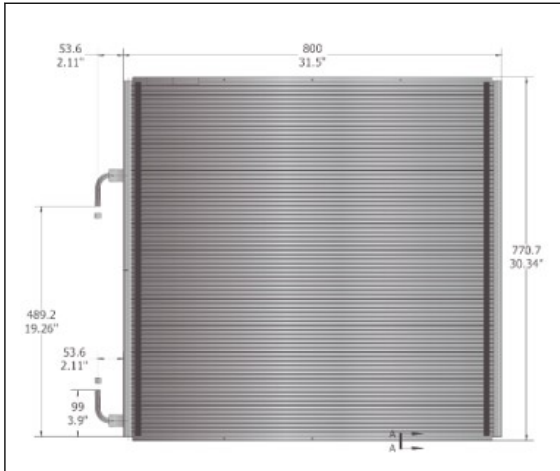
| Air Velocity [m/s] | Performance [KW/Btu/h×1000] | | | | | | | |
|-----------------------|-----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | R410A | | | | R134a | | | |
| [ft/min] | Δ=10 K / 18 °F | Δ=15 K / 27 °F | Δ=20 K / 36 °F | Δ=25 K / 45 °F | Δ=10 K / 18 °F | Δ=15 K / 27 °F | Δ=20 K / 36 °F | Δ=25 K / 45 °F |
| 1.0/197 | 5.64/19.24 | 8.69/29.65 | 11.73/40.02 | 15.15/51.69 | 5.43/18.53 | 8.36/28.52 | 11.27/38.45 | 14.17/48.35 |
| 1.5/295 | 7.79/26.58 | 12.02/41.01 | 16.76/57.19 | 21.29/72.64 | 7.43/25.35 | 11.5/39.24 | 15.55/53.06 | 19.57/66.77 |
| 2.0/394 | 9.66/32.96 | 14.93/50.94 | 21.05/71.82 | 26.75/91.27 | 9.15/31.22 | 14.2/48.45 | 19.23/65.61 | 24.77/84.52 |
| 2.5/492 | 11.32/38.62 | 18.26/62.3 | 24.93/85.06 | 31.72/108.23 | 10.65/36.34 | 16.56/56.5 | 22.49/76.74 | 29.08/99.22 |
| 3.0/591 | 12.82/43.74 | 20.86/71.17 | 28.5/97.24 | 36.26/123.72 | 11.98/40.88 | 18.69/63.77 | 26.17/89.29 | 32.96/112.46 |

Table 3: Performance data of R404A and R407C

| Air Velocity [m/s] | Performance [KW/Btu/h×1000] | | | | | | | |
|-----------------------|-----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | R404A | | | | R407C | | | |
| [ft/min] | Δ=10 K / 18 °F | Δ=15 K / 27 °F | Δ=20 K / 36 °F | Δ=25 K / 45 °F | Δ=10 K / 18 °F | Δ=15 K / 27 °F | Δ=20 K / 36 °F | Δ=25 K / 45 °F |
| 1.0/197 | 5.58/19.04 | 8.62/29.41 | 11.99/40.91 | 15.2/51.86 | 3.68/12.56 | 7/23.88 | 10.13/34.56 | 13.24/45.17 |
| 1.5/295 | 7.64/26.07 | 11.82/40.33 | 16.76/57.19 | 21.26/72.54 | 5/17.06 | 9.66/32.96 | 14.01/47.8 | 18.6/63.46 |
| 2.0/394 | 9.39/32.04 | 15.35/52.37 | 20.95/71.48 | 26.63/90.86 | 6.12/20.88 | 11.94/40.74 | 17.39/59.33 | 23.44/79.98 |
| 2.5/492 | 10.91/37.22 | 18.11/61.79 | 24.72/84.34 | 31.42/107.21 | 7.1/24.23 | 13.95/47.6 | 20.87/71.21 | 27.68/94.44 |
| 3.0/591 | 12.27/41.87 | 20.6/70.29 | 28.15/96.05 | 35.78/122.08 | 7.92/27.02 | 15.79/53.88 | 23.91/81.58 | 31.53/107.58 |

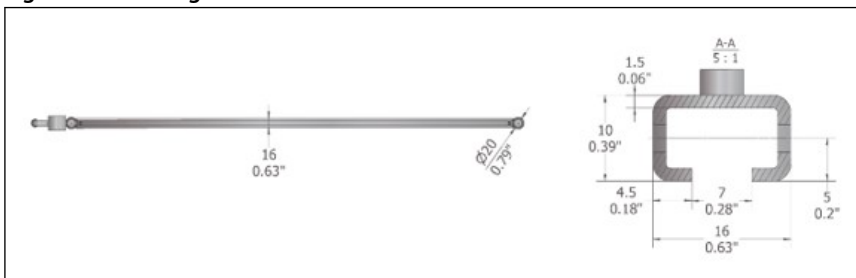
Dimensions

Figure 1: Dimensions



Mounting

Figure 2: Mounting



Aluminum MCHEs expand and contract when exposed to big temperature changes. Installation supports/brackets must allow the MCHЕ to move in two dimensions.

Standard connections

The product is equipped with standard copper pipe connections for easy mounting. Never bend or stress the inlet/outlet connections during mounting, and design installations to avoid vibration in operation.

Bending

Micro Channel Heat Exchangers can easily be bent to fit in any application. Ask your local Danfoss Sales representative for advice.

Availability

Our local stocking and distribution network allows standard MCHEs to be delivered globally with short delivery times. Contact your local Danfoss sales representative for the standard lead times in your region.

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.

Table 4: Certificates, declarations, and approvals

| File name | Document type | Document topic | Approvals Authority |
|---|-------------------------------|----------------|-----------------------------|
| UL SA33862 | Safety certificate | UL | UL-CCIC Company Limited |
| BV CE-0062-PED-H-DMC 001-20-CHN | Pressure - Safety Certificate | PED | Bureau Veritas Services SAS |
| EU Declaration Danfoss BF202010en-0001.01 | EU Declaration | PED | Danfoss |
| TSSA CRN 0H22500.512346 | Pressure - Safety Certificate | CRN | TSSA |
| EAC RU Д-DK.PA01.B.72299_20 | EAC Declaration | EAC | CU-TR |
| EAC RU Д-DK.БЛ08.B.00327_18 | EAC Declaration | EAC | CU-TR |
| EAC RU Д-DK.БЛ08.B.00162 | EAC Declaration | EAC | CU-TR |
| Certificate UA TR TOV EVRO-TYSK UA.TR.089.1122.05-19 HE 22.11.19 - 21.11.22 | UA Certificate | UA Conformity | LLC CDC EURO TYSK |
| Manufacturers Declaration Danfoss EU-ROHS-DoC-202009-01.01 | Manufacturer Declaration | EU ROHS | Danfoss |
| Manufacturers Declaration Danfoss MCHE-RoHS-DOC-201601 | Manufacturer Declaration | China RoHS | Danfoss |

3 EAC files are suitable for using different refrigerants.

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