



Micro channel heat exchanger

MCHE D1400-C - E-coating version

Condenser – standard series

Description

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.

Electrostatically applied epoxy coating evenly covers all exposed surface of coil under controlled direct current, an effective anticorrosion solution; used with topcoat to prevent ultraviolet (UV) irradiation.

Features & benefits

- Reduce refrigerant system charge
- Improve efficiency - More compact, better COP, increased capacity
- Cost: Less sensitive to fluctuations in raw material prices
- Better strength and better anticorrosion characteristic
- Less than 3% degradation on thermal performance compared bare coil
- High physical stability and chemical durability

Product details

General data

Table: 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	771 mm	16 mm	1.1 (m	9.7 mm	9.7 mm	-40 – 121 °C	45 bar
	30.7 in	30.4 in	0.6 in	23 FPI	0.38 in	0.38 in	-40 – 250 °F	650 psi

Weight / internal volume

Coil weight: 5.4 kg / 11.9 lb

Internal volume: 0.7 l / 42.72 in³

Materials

MPE Tube: 9153

Fins: 3003

Manifold: 3003

End plate: 3003

Inlet/Outlet tubes: Copper

Performance and environmental conditions

Table: Performance data of R410A and R134a (Bare coil Data)

Air Velocity	Performance [KW/Btu/h×1000]							
[m/s]	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: Performance data of R404A and R407C

Air Velocity	Performance [KW/Btu/h×1000]							
[m/s]	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

Table: Performance data of R290 and R452B

Air Velocity	Performance [KW/Btu/h×1000]							
[m/s]	R290				R452B			
[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	5.57/19	8.53/29.1	11.49/39.2	14.44/49.27	5.24/17.88	8.32/28.39	11.36/38.76	14.56/49.68
1.5/295	7.68/26.2	11.81/40.3	15.94/54.39	20.04/68.38	7.26/24.77	11.54/39.37	15.79/53.88	20.56/70.15
2.0/394	9.49/32.38	14.67/50.05	19.83/67.66	25.58/87.28	9.02/30.78	14.37/49.03	20.15/68.75	25.84/88.17
2.5/492	11.13/37.98	17.22/58.75	23.29/79.47	30.23/103.14	10.58/36.1	16.9/57.66	23.94/81.68	30.64/104.54
3.0/591	12.6/42.99	19.51/66.57	27.21/92.84	34.45/117.54	11.99/40.91	19.81/67.59	27.35/93.32	35.04/119.56

Dimensions

Figure: Dimensions

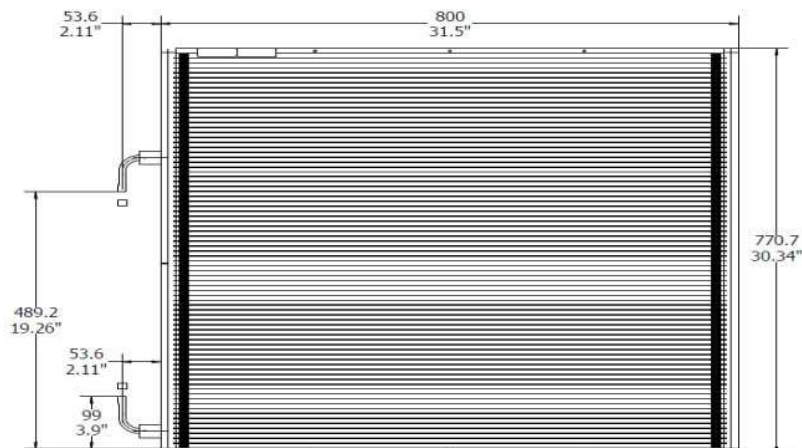


Figure: Mounting



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

Connections

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.

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
Manufacturer's Declaration	Danfoss MD CN-ROHS-DoC-202306-01.01	Danfoss	China RoHS
Export Control Declaration	Micro Channel Heat Exchanger	Danfoss	
Manufacturer's Declaration	Danfoss MD EU-ROHS-DoC-202306-01	Danfoss	EU RoHS
Manufacturer's Declaration	Danfoss MD UK-ROHS-MOD-202306-01.01	Danfoss	UK RoHS, EU RoHS

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