

ENGINEERING
TOMORROW

Danfoss

Catalogue | Standard MCHE condenser

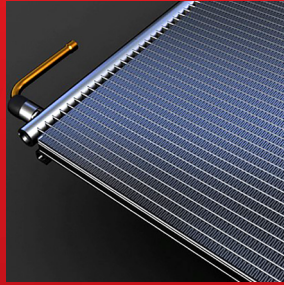
Save time and money with **MCHE** standard products

Micro-Channel Heat Exchanger

70%

Lower refrigerant
charge

Initial and lifetime
costs are significantly
reduced



ЮГОВ - Проект

інженерно-виробниче підприємство

Офіційний дистриб'ютор
Danfoss в Україні



ugov.ua

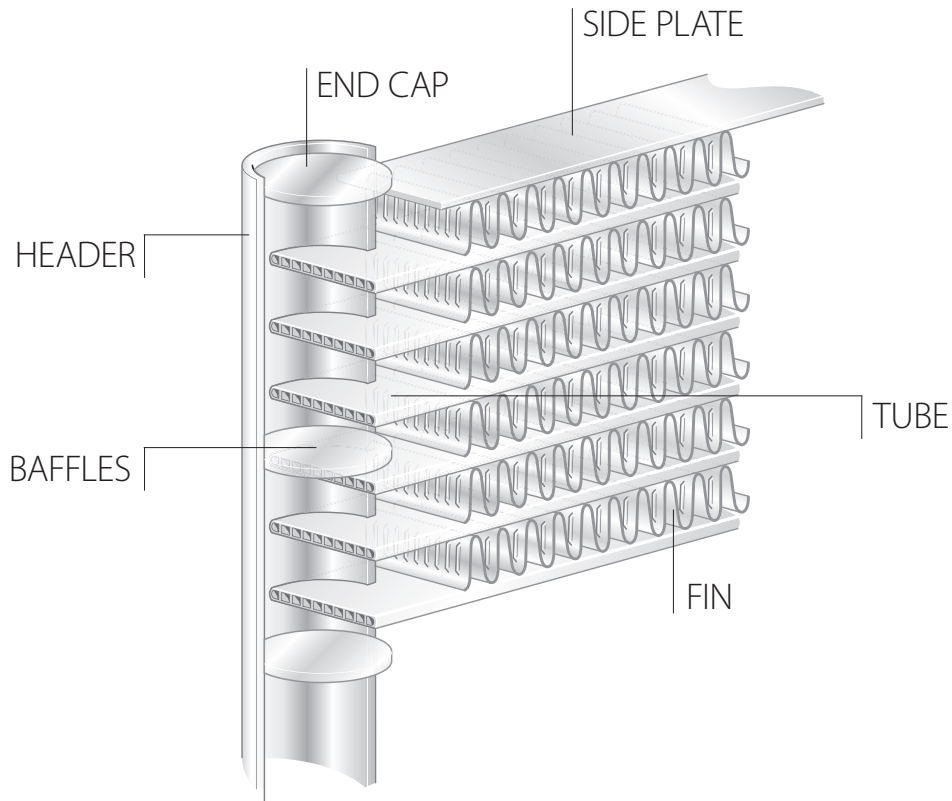
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Innovative Design



MCHEs have an ingeniously simple design - made entirely of all aluminium which is not only lightweight but also prevents galvanic corrosion. The refrigerant-carrying tubes are formed to optimise heat transfer, thus enabling the production of more compact, but equally effective cooling solutions. Meanwhile, their smart louvred fin design maximises surface contact, successfully reducing the air-side pressure loss, improving efficiency and reducing noise levels.

TUBE The ingenious design of the tubes gives superior heat transfer, which in turn enables a more compact but equally effective solution overall.

FIN A superior louvred fin design maximises the surface contact. This reduces the air-side pressure loss and improves efficiency, as well as reducing noise levels.

HEADER In combination with baffles, MCHE headers control the flow of refrigerant and enable optimisation of the velocity in all phases.

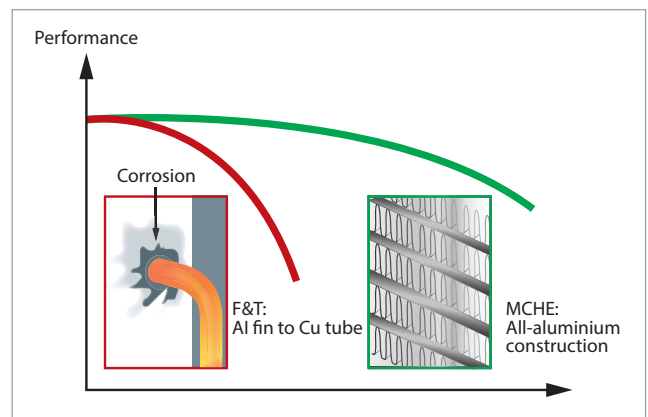
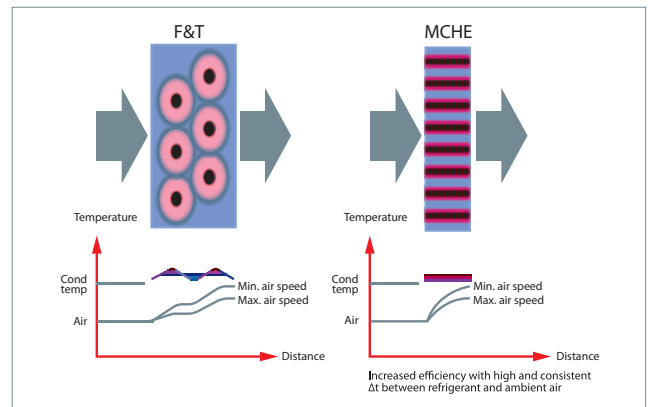
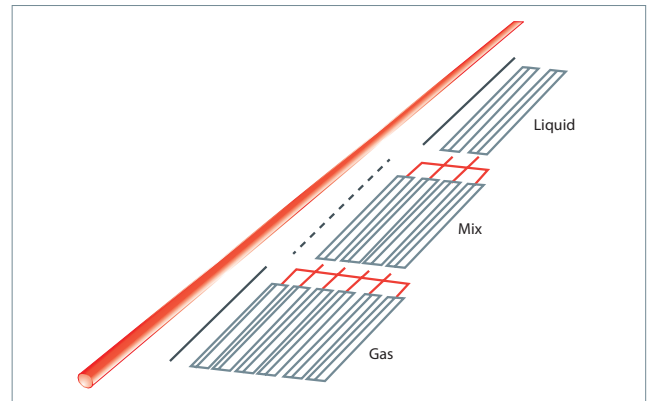
BAFFLE In combination with headers, MCHE baffles control the flow of refrigerant and enable optimisation of the velocity in all phases.

END CAP The end cap and the main body of the MCHE are brazed together to form one leak-free stable unit. Being made entirely of aluminium, the whole heat exchanger (including the end cap) is resistant to galvanic corrosion.

SIDE PLATE The side plates are used to protect the tube from being destroyed by external force and some codes are formed in a way that facilitates installation using U-bars.

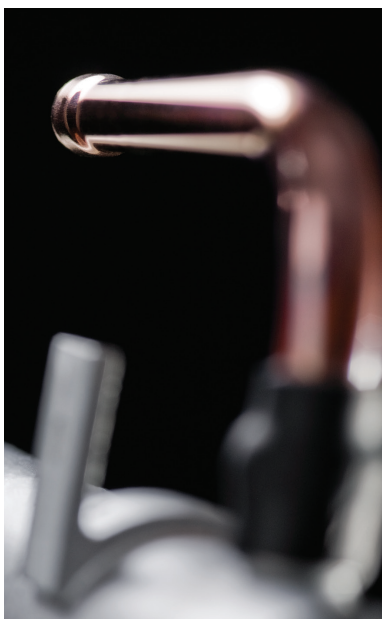
Advantages – Comparison With F&T Heat Exchanger

- 1 Greater refrigerant-side heat transfer efficiency
- 2 Greater air-side heat transfer efficiency
- 3 Lower hold-up volumes and refrigerant charge
- 4 Compact design and light weight
- 5 Better corrosion characteristic
- 6 Lower noise levels
- 7 Brazed tube to fin joint
- 8 Easy cleaning



<p>F&T</p> <ul style="list-style-type: none"> • Dust removal difficult - heat transfer loss • High risk of damage during cleaning 	<p>MCHE</p> <ul style="list-style-type: none"> • Dust removal easy • Immediate performance recovery
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Stay Safe With Our Standard



EASY FOR YOU

A quiet revolution is underway in the world of cooling. The introduction of MCHE condensers, which combine resource and energy efficiency with minimal use of refrigerants, is enabling the development of leaner, greener solutions. Understandably, MCHEs are in demand! Yet most MCHE suppliers today require a minimum order volume. What happens if you only need a few condensers, for example to try out in a prototype product or to fulfil a customised order of your own? With our standard MCHEs, it's simple.

THE SELECTED RANGE FOR COMMON APPLICATIONS

Select one of our standard MCHE products, which are optimised for specific applications, and you can buy any quantity of condensers, any time, large or small. Our factories are set up to produce a range of different application-specific MCHEs, which you can adjust to meet essential requirements with a minimum of effort.

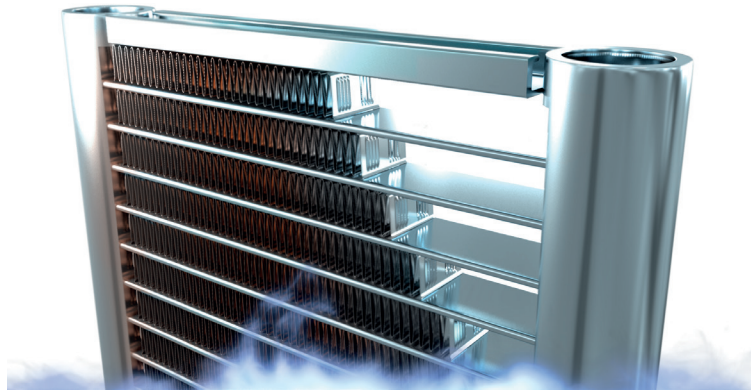
THE SIMPLE GUIDE

Our standard products are adapted for use in the areas below (see details on page 4). Select which area is most relevant to your business, choose the desired size of condenser and the capacity in kilowatts required ...then simply place your order. With logistics centres in the US, Denmark and China, and manufacturing in China and Mexico we offer fast deliveries to any country or region.

ENTIRETY

Draw on our broad experience of both the HVAC and refrigeration businesses. Our customers benefit from this knowledge in the form of superior heat exchanger products which enable the production of leaner, greener cooling systems. And we willingly share our expertise with MCHE customers around the world!

Your Demand – Our Supply



By greatly enhancing both efficiency and environmental performance, MicroChannel heat exchangers are completely changing the way we look at things. Choose from a range of standard products which give optimal results in your cooling application.

CHILLERS

MCHEx have a 70% lower refrigerant charge than F&T coils. When an MCHEx is used as your condenser, this leads to significantly more environmentally friendly systems. As a manufacturer, that means you can meet legal regulations, get environmental certification and take advantage of 'green' tax incentives.

CONDENSING UNITS

MCHEx' excellent heat transfer raises the efficiency of your products, making it possible to build a high-performance range with a slimmer design (using the same frontal area). With compact, energy-efficient products, you save on material, transport and storage costs. At the same time, you increase the attractiveness of your offering to customers.

INDOOR DISPLAYS/ICE MACHINES

In retail outlets for chilled food and drinks, every centimetre counts. Building cabinets with compact, efficient MCHEx lets you maximise the space available for product display while minimising the mechanical space requirement. Similarly, MCHEx enable a slimmer design for ice machines used in hotels or restaurants, where space is also at a premium.

RESIDENTIAL AC

MCHEx have a lower air side pressure loss than F&T coils, which means they function more quietly - as well as consuming less fan power. This is obviously a major advantage in residential applications, and ensures that as a manufacturer you are able to meet local market regulations with regard to noise levels. In addition, their 70% reduced refrigerant charge enables the design of more environmentally friendly AC systems.

AIR DRYERS

When MCHEx are used in air dryers, their high efficiency and compact nature let you reach out to new customers. MCHEx offer both lower energy consumption and lower refrigerant charge, so you can develop cost-effective solutions with a strong environmental profile.

CABINET COOLING

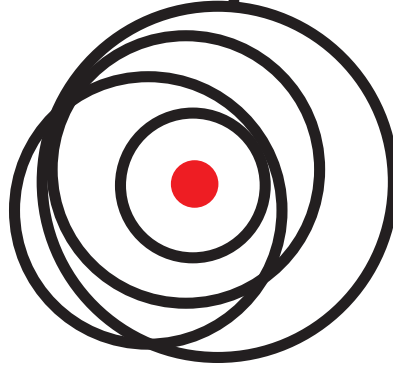
Safeguard your customers' most sensitive technologies with our innovative, reliable MCHEx. Their excellent heat transfer lets you produce compact, energy-efficient units. Combined with a low hold-up volume and reduced refrigerant charge, this also means a significant reduction in CO₂ footprint.

COMMERCIAL SPLIT/ROOF TOPS

MCHEx offer several major advantages over traditional heat exchanger technologies. Their 70% lower refrigerant charge makes your systems more cost-effective to produce and own, and reduces environmental impacts. In addition, systems using MCHEx weigh a lot less, which can make a big difference when positioning the unit on a roof top.

BizSpot

01 Choose your application



02 Define required size

03 Order from stock

The whole idea of developing standard product ranges is to help your business move swiftly and smoothly into the MCHE future. Our ready-made, optimised heat exchanger solutions help you speed up product development and streamline production. If you have any queries, please feel free to contact us and we will help you choose a product that's most suitable for your business.

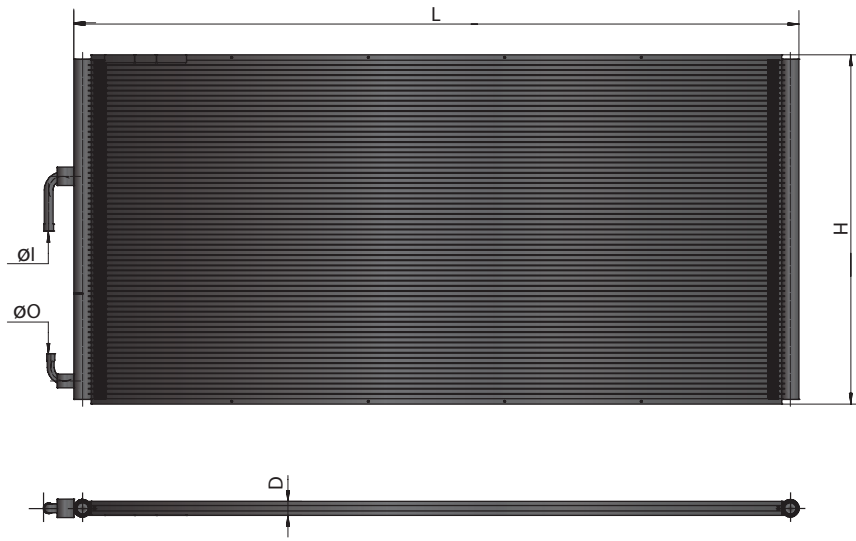
PERFORMANCE GUARANTEED

When you choose a new kind of heat exchanger for your application, you want to be sure it will perform smoothly. That's why, at our factories, we use every tool at our disposal to guarantee efficiency, quality, and ultimately the reliability of the product we deliver to you.

QUALITY ASSURED

In the production of MCHEs, we have adopted the high quality standards of the automotive industry. Every step in the production chain is quality-certified with ISO 9001 and IATF16949. All the external parts used in our products are approved by third parties such as PED and UL.

Standard Condenser Catalogue



Standard Type	Total Length	Total Height	Tube Width	Inlet ID	Outlet ID	Coil Weight [KG/LB]	Page
	[L] [mm/in]	[H] [mm/in]	[D] [mm/in]	[ΦI] [mm/in]	[ΦO] [mm/in]		
D1000-C	332/13.07	300.7/11.84	16/0.63	6.15/0.24	6.15/0.24	0.823/1.81	8
D1100-C	387/15.24	347.7/13.69	16/0.63	6.15/0.24	6.15/0.24	1.071/2.36	10
D1200-C	462/18.19	432.3/17.02	16/0.63	8.2/0.32	6.15/0.24	1.534/3.37	12
D1300-C	552/21.73	516.9/20.35	16/0.63	9.7/0.38	8.2/0.32	2.22/4.88	14
D1400-C	800/31.5	770.7/30.34	16/0.63	9.7/0.38	9.7/0.38	4.51/9.92	16
D1500-C	1074/42.28	516.9/20.35	25.4/1	12.9/0.51	12.9/0.51	6.515/14.33	18
D1600-C	1300/51.18	639.1/25.16	16/0.63	12.9/0.51	12.9/0.51	6.012/13.23	20
D1700-C	1324/52.13	639.1/25.16	25.4/1	16.1/0.63	12.9/0.51	9.777/21.51	22
D1800-C	1074/42.28	1212.5/47.74	25.4/1	22.4/0.88	22.4/0.88	15.139/33.31	24
D1900-C	1274/50.16	1362.9/53.66	25.4/1	22.4/0.88	22.4/0.88	19.88/43.74	26
D2000-C	2000/78.74	1058.3/41.67	25.4/1	25.4/1(OD)	22.4/0.88	26.273/57.8	28
D2100-C	332/13.07	240/9.45	16/0.63	6.15/0.24	6.15/0.24	0.643/0.29	30
D2200-C	552/21.73	240/9.45	16/0.63	6.15/0.24	6.15/0.24	1.011/0.46	32
D2300-C	802/31.57	240/9.45	16/0.63	9.7/0.38	8.2/0.32	1.391/0.63	34

Common Working Conditions

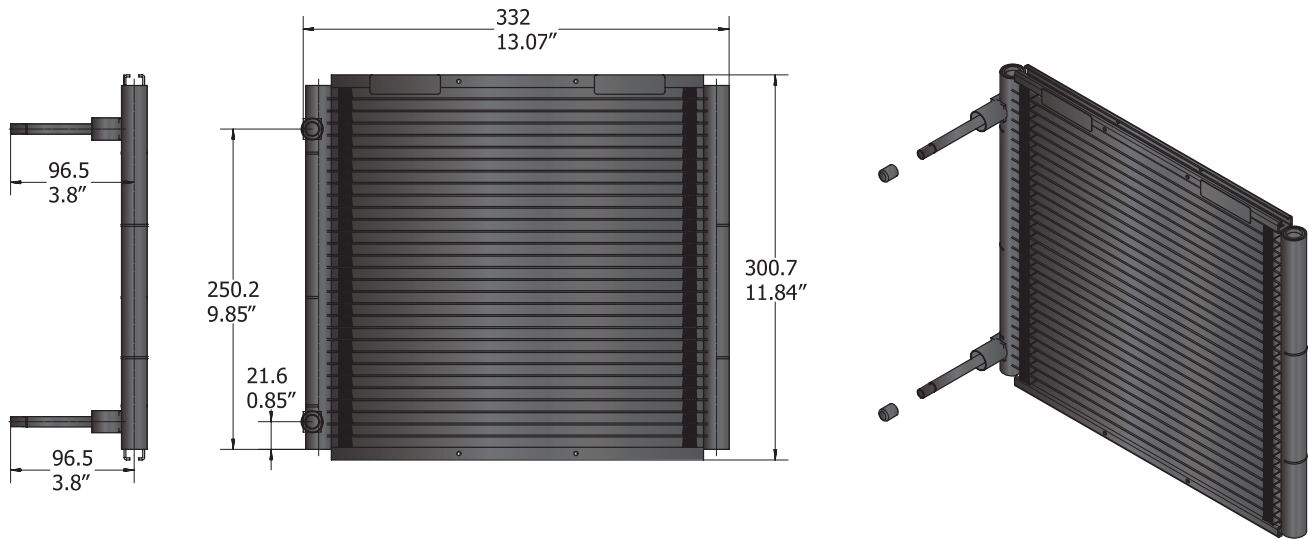
Working conditions	Units	Contents
Typical refrigerant application	/	R410A / R134a / R404A / R407C R290 / R452B / R454B
Inlet air temperature	°C / °F	35/95
Inlet relative humidity	%	50
Sub cooling	K	4
Variable1: ($\Delta T=10$ K / 18 °F)		
Condensing temperature	°C / °F	45/113
Inlet refrigerant temperature	°C / °F	75/167
Variable1: ($\Delta T=15$ K / 27 °F)		
Condensing temperature	°C / °F	50/122
Inlet refrigerant temperature	°C / °F	80/176
Variable1: ($\Delta T=20$ K / 36 °F)		
Condensing temperature	°C / °F	55/131
Inlet refrigerant temperature	°C / °F	85/185
Variable1: ($\Delta T=25$ K / 45 °F)		
Condensing temperature	°C / °F	60/140
Inlet refrigerant temperature	°C / °F	90/194
Variable2: (air velocity)	[m/s] / [ft/min]	1.0/197
		1.5/295
		2.0/394
		2.5/492
		3.0/591

Remarks: ΔT = Condense temp. – Inlet air temp.

D1000-C Condenser coil

Micro-Channel Heat Exchanger

Dimensional Drawing



Parameters Table

Danfoss code	DF0111	Platform	2G16-23FPI
Coil length	332 mm / 13.07 in	Coil height	300.7 mm / 11.84 in
Inlet connection (ID)	6.15 mm / 0.24 in	Outlet connection (ID)	6.15 mm / 0.24 in
Tube width	16 mm / 0.63 in	Tube height	1.3 mm / 0.05 in
Fin width	16 mm / 0.63 in	Fin height	8.1 mm / 0.32 in
Fin pitch	1.1 mm / 23 FPI	Manifold diameter	20 mm / 0.79 in
Num. Of tubes	29	Pass distribution	5 / 6 / 6 / 5 / 4 / 3
Internal volume	0.17 L / 10.37 in ³	Coil weight	0.823 Kg / 1.81 LB
Ps	45 bar / 652.7 psig	Ts (min ~ max)	-40 °C – 121 °C / -40 °F – 250 °F
Ambient temp. Range	-40 °C – 72 °C / -40 °F – 161.6 °F	Storage temp. Range	-40 °C – 121 °C / -40 °F – 250 °F

Material

Tube	AA3102	Manifold	AA3003 clad with AA4343
Fin	AA3003Mod clad with AA4343	Connecting tube	Cu

Approval

PED	N/A (Not needed for this product)	UL	UL 207
Refrigerant	Group 1: R290, R32, R600, R600a, R1234yf, R717, R444B, R454B, R452B, R447A, R454C, R454A Group 2: R22, R134a, R404A, R407A, R407B, R407C, R410A, R507A, R1234ze, R513A, R448A, R449A, R407F, R452A, R450A, R422B, R422D, R438A, R1233zd(E), R449B, R407H, R513B Note: R32 is available for MCHEs, but if customers request special PS & TS, please confirm with engineering team		

Package

Industrial pack	021U0087(I/48)	Multi pack	021U0080(M/24)
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Mounting Bars

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

Performance Data (Typical Refrigerant Application)

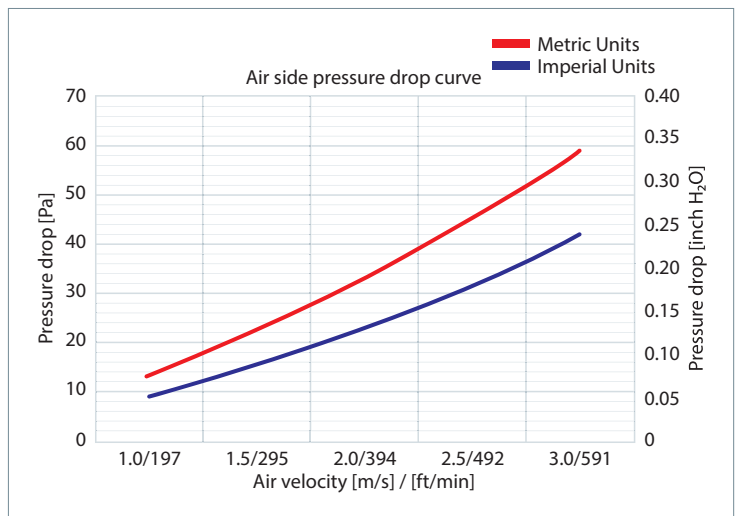
Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R410A				R134a			
	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F
1.0/197	0.8/2.73	1.22/4.16	1.69/5.77	2.14/7.3	0.76/2.59	1.17/3.99	1.58/5.39	2.02/6.89
1.5/295	1.1/3.75	1.75/5.97	2.38/8.12	3.00/10.24	1.04/3.55	1.61/5.49	2.23/7.61	2.82/9.62
2.0/394	1.36/4.64	2.2/7.51	2.98/10.17	3.77/12.86	1.28/4.37	1.99/6.79	2.77/9.45	3.5/11.94
2.5/492	1.67/5.7	2.59/8.84	3.52/12.01	4.47/15.25	1.49/5.08	2.39/8.15	3.25/11.09	4.08/13.92
3.0/591	1.9/6.48	2.96/10.1	4.02/13.72	5.11/17.44	1.67/5.7	2.71/9.25	3.67/12.52	4.61/15.73

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R404A				R407C			
	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	0.79/2.7	1.25/4.27	1.69/5.77	2.14/7.3	0.52/1.77	0.87/2.97	1.42/4.85	1.89/6.45
1.5/295	1.07/3.65	1.75/5.97	2.36/8.05	2.99/10.2	0.7/2.39	1.35/4.61	2.02/6.89	2.65/9.04
2.0/394	1.4/4.78	2.18/7.44	2.95/10.07	3.74/12.76	0.86/2.93	1.67/5.7	2.53/8.63	3.31/11.29
2.5/492	1.65/5.63	2.56/8.73	3.48/11.87	4.41/15.05	0.99/3.38	2.04/6.96	2.98/10.17	3.9/13.31
3.0/591	1.88/6.41	2.91/9.93	3.95/13.48	5.02/17.13	1.1/3.75	2.32/7.92	3.38/11.53	4.94/15.15

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R290				R452B			
	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	0.79/2.7	1.2/4.09	1.62/5.53	2.06/7.03	0.74/2.52	1.17/3.99	1.63/5.56	2.07/7.06
1.5/295	1.08/3.68	1.66/5.66	2.29/7.81	2.89/9.86	1.03/3.51	1.66/5.66	2.28/7.78	2.9/9.89
2.0/394	1.34/4.57	2.06/7.03	2.87/9.79	3.6/12.28	1.28/4.37	2.09/7.13	2.86/9.76	3.65/12.45
2.5/492	1.57/5.36	2.5/8.53	3.38/11.53	4.25/14.5	1.5/5.12	2.47/8.43	3.39/11.57	4.32/14.74
3.0/591	1.77/6.04	2.84/9.69	3.85/13.14	4.85/16.55	1.76/6.01	2.82/9.62	3.87/13.2	4.944/16.86

Air-side Pressure Drop Data

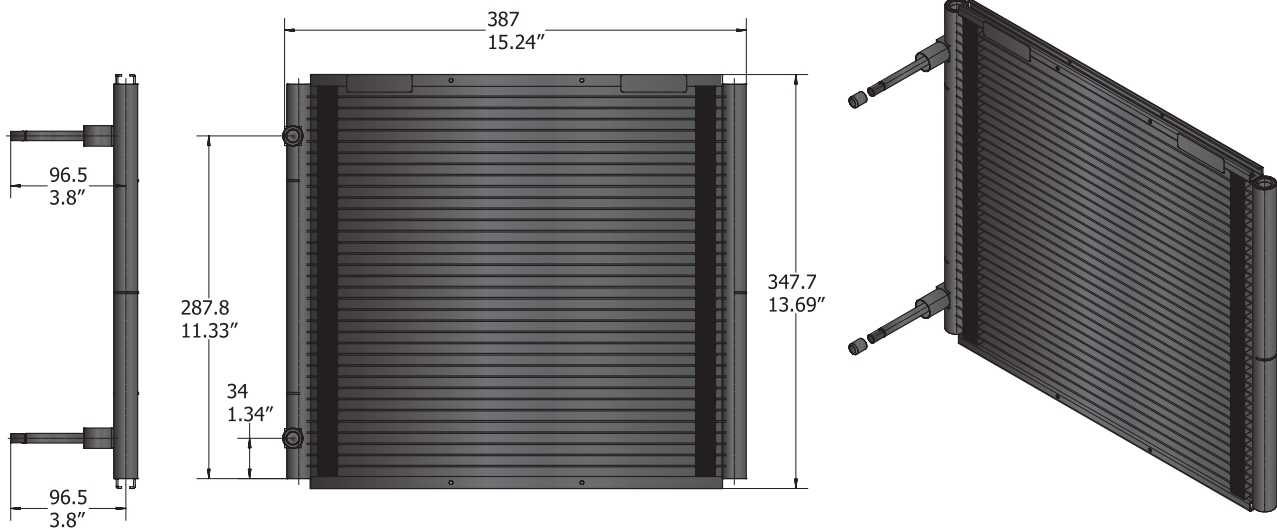
Air Velocity [m/s] / [ft/min]	Pressure drop	Flow rate
	[Pa] / [inch H ₂ O]	[m ³ /h] / [cfm]
1.0/197	13.4/0.05	284.97/167.63
1.5/295	22.5/0.09	427.45/251.44
2.0/394	33.10/0.13	569.93/335.25
2.5/492	45.2/0.18	712.42/419.07
3.0/591	58.8/0.24	854.9/502.88



D1100-C Condenser coil

Micro-Channel Heat Exchanger

Dimensional Drawing



Parameters Table

Danfoss code	DF0121	Platform	2G16-23FPI
Coil length	387 mm / 15.24 in	Coil height	347.7 mm / 13.69 in
Inlet connection (ID)	6.15 mm / 0.24 in	Outlet connection (ID)	6.15 mm / 0.24 in
Tube width	16 mm / 0.63 in	Tube height	1.3 mm / 0.05 in
Fin width	16 mm / 0.63 in	Fin height	8.1 mm / 0.32 in
Fin pitch	1.1 mm / 23 FPI	Manifold diameter	20 mm / 0.79 in
Num. of tubes	34	Pass distribution	8 / 10 / 9 / 7
Internal volume	0.22 L / 13.43 in ³	Coil weight	1.085 Kg / 2.4 LB
Ps	45 bar / 652.7 psig	Ts (min ~ max)	-40 °C – 121 °C / -40 °F – 250 °F
Ambient temp. Range	-40 °C – 72 °C / -40 °F – 161.6 °F	Storage temp. Range	-40 °C – 121 °C / -40 °F – 250 °F

Material

Tube	AA3102	Manifold	AA3003 clad with AA4343
Fin	AA3003Mod clad with AA4343	Connecting tube	Cu

Approval

PED	N/A (Not needed for this product)	UL	UL 207
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Refrigerant	Group 1 : R290, R32, R600, R600a, R1234yf, R717, R444B, R454B, R452B, R447A, R454C, R454A Group 2 : R22, R134a, R404A, R407A, R407B, R407C, R410A, R507A, R1234ze, R513A, R448A, R449A, R407F, R452A, R450A, R422B, R422D, R438A, R1233zd(E), R449B, R407H, R513B
	Note : R32 is available for MCHEs, but if customers request special PS & TS, please confirm with engineering team

Package

Industrial pack	021U0088(I/48)	Multi pack	021U0081(M/24)
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Mounting Bars

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

Performance Data (Typical Refrigerant Application)

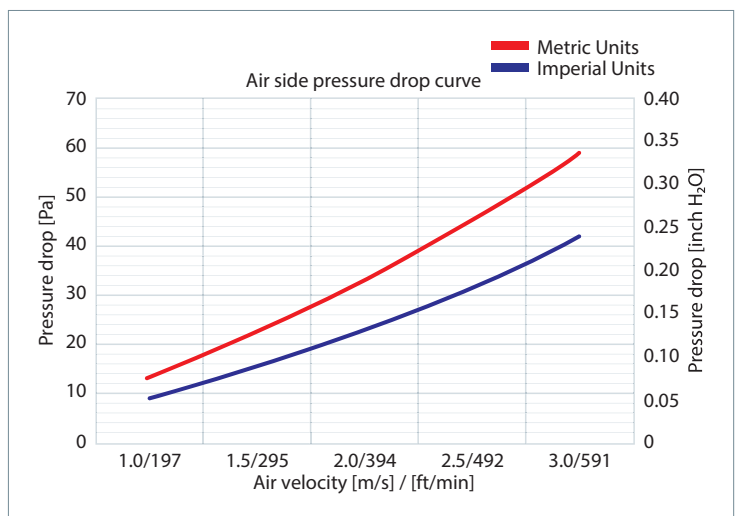
Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R410A				R134a			
	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F
1.0/197	1.1/3.75	1.69/5.77	2.29/7.81	2.96/10.1	1.05/3.58	1.63/5.56	2.2/7.51	2.77/9.45
1.5/295	1.51/5.15	2.34/7.98	3.28/11.19	4.16/14.19	1.44/4.91	2.24/7.64	3.03/10.34	3.83/13.07
2.0/394	1.87/6.38	2.98/10.17	4.11/14.02	5.24/17.88	1.77/6.04	2.76/9.42	3.75/12.8	4.88/16.65
2.5/492	2.19/7.47	3.57/12.18	4.88/16.65	6.21/21.19	2.06/7.03	3.22/10.99	4.39/14.98	5.74/19.58
3.0/591	2.48/8.46	4.07/13.89	5.58/19.04	7.11/24.26	2.32/7.92	3.64/12.42	5.14/17.54	6.49/22.14

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R404A				R407C			
	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	1.09/3.72	1.68/5.73	2.34/7.98	2.97/10.13	0.71/2.42	1.36/4.64	1.97/6.72	2.58/8.8
1.5/295	1.48/5.05	2.3/7.85	3.27/11.16	4.16/14.19	0.96/3.28	1.87/6.38	2.72/9.28	3.66/12.49
2.0/394	1.81/6.18	3/10.24	4.1/13.99	5.22/17.81	1.17/3.99	2.31/7.88	3.37/11.5	4.59/15.66
2.5/492	2.11/7.2	3.54/12.08	4.84/16.51	6.17/21.05	1.35/4.61	2.7/9.21	4.11/14.02	5.42/18.49
3.0/591	2.37/8.09	4.03/13.75	5.52/18.83	7.03/23.99	1.51/5.15	3.06/10.44	4.69/16	6.18/21.09

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R290				R452B			
	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	1.06/3.62	1.64/5.6	2.2/7.51	2.77/9.45	1.02/3.48	1.62/5.53	2.22/7.57	2.85/9.72
1.5/295	1.46/4.98	2.26/7.71	3.05/10.41	3.85/13.14	1.41/4.81	2.24/7.64	3.11/10.61	4.02/13.72
2.0/394	1.81/6.18	2.81/9.59	3.8/12.97	4.94/16.86	1.75/5.97	2.79/9.52	3.95/13.48	5.06/17.26
2.5/492	2.12/7.23	3.29/11.23	4.61/15.73	5.83/19.89	2.05/6.99	3.28/11.19	4.68/15.97	6/20.47
3.0/591	2.39/8.15	3.73/12.73	5.25/17.91	6.65/22.69	2.32/7.92	3.87/13.2	5.35/18.25	6.86/23.41

Air-side Pressure Drop Data

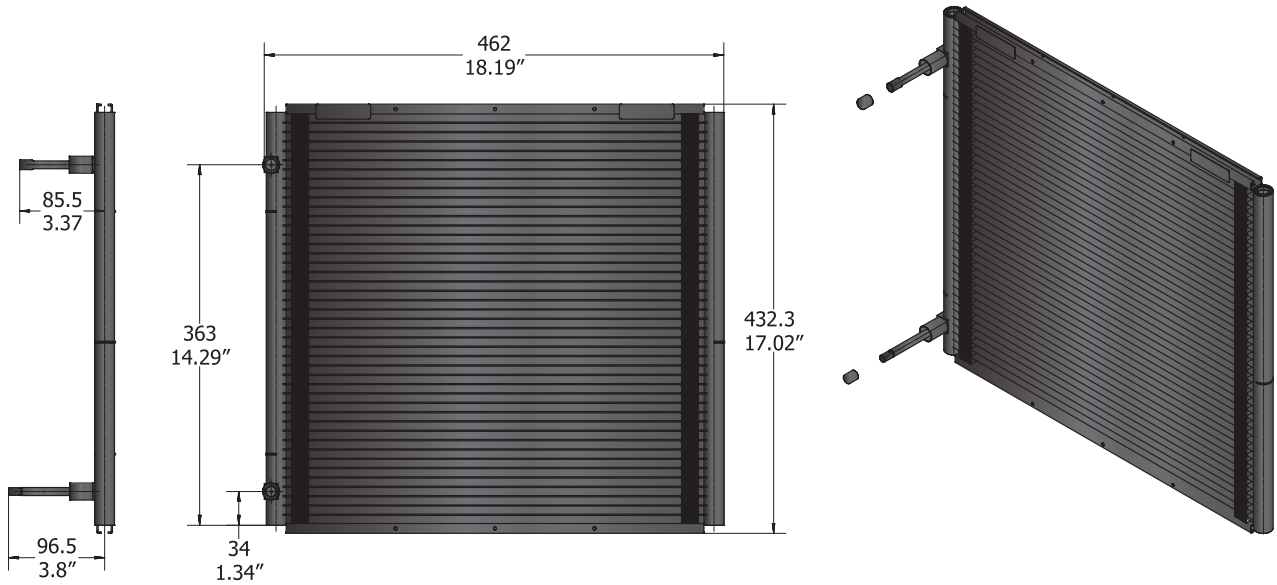
Air Velocity [m/s] / [ft/min]	Pressure drop	Flow rate
	[Pa] / [inch H ₂ O]	[m ³ /h] / [cfm]
1.0/197	13.4/0.05	397.56/233.86
1.5/295	22.5/0.09	596.35/350.79
2.0/394	33.10/0.13	795.13/467.72
2.5/492	45.2/0.18	993.91/548.65
3.0/591	58.8/0.24	1192.7/701.59



D1200-C Condenser coil

Micro-Channel Heat Exchanger

Dimensional Drawing



Parameters Table

Danfoss code	DF0131	Platform	2G16-23FPI
Coil length	462 mm / 18.19 in	Coil height	432.3 mm / 17.02 in
Inlet connection (ID)	8.2 mm / 0.32 in	Outlet connection (ID)	6.15 mm / 0.24 in
Tube width	16 mm / 0.63 in	Tube height	1.3 mm / 0.05 in
Fin width	16 mm / 0.63 in	Fin height	8.1 mm / 0.32 in
Fin pitch	1.1 mm / 23 FPI	Manifold diameter	20 mm / 0.79 in
Num. of tubes	43	Pass distribution	10 / 14 / 12 / 7
Internal volume	0.3 L / 18.31 in ³	Coil weight	1.556 Kg / 3.4 LB
Ps	45 bar / 652.7 psig	Ts (min ~ max)	-40 °C – 121 °C / -40 °F – 250 °F
Ambient temp. Range	-40 °C – 72 °C / -40 °F – 161.6 °F	Storage temp. Range	-40 °C – 121 °C / -40 °F – 250 °F

Material

Tube	AA3102	Manifold	AA3003 clad with AA4343
Fin	AA3003Mod clad with AA4343	Connecting tube	Cu

Approval

PED	N/A (Not needed for this product)	UL	UL 207
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Refrigerant	<p>Group 1: R290, R32, R600, R600a, R1234yf, R717, R444B, R454B, R452B, R447A, R454C, R454A</p> <p>Group 2: R22, R134a, R404A, R407A, R407B, R407C, R410A, R507A, R1234ze, R513A, R448A, R449A, R407F, R452A, R450A, R422B, R422D, R438A, R1233zd(E), R449B, R407H, R513B</p> <p>Note: R32 is available for MCHes, but if customers request special PS & TS, please confirm with engineering team</p>
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Package

Industrial pack	021U0089(I/32)	Multi pack	021U0082(M/16)
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Mounting Bars

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

Performance Data (Typical Refrigerant Application)

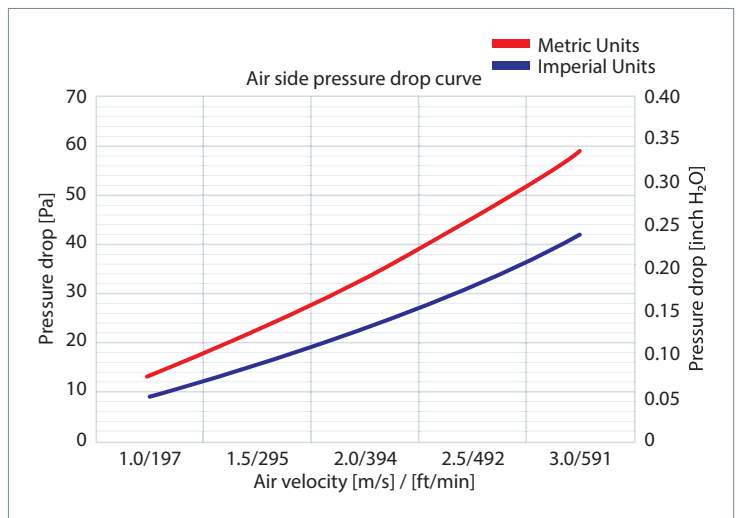
Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R410A				R134a			
	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F
1.0/197	1.72/5.87	2.64/9.01	3.63/12.39	4.59/15.66	1.64/5.6	2.53/8.63	3.4/11.6	4.34/14.81
1.5/295	2.37/8.09	3.76/12.83	5.09/17.37	6.45/22.01	2.24/7.64	3.46/11.81	4.77/16.28	6.03/20.57
2.0/394	2.93/10	4.71/16.07	6.39/21.8	8.1/27.64	2.75/9.38	4.26/14.54	5.94/20.27	7.49/25.56
2.5/492	3.58/12.21	5.58/19.04	7.57/25.83	9.6/32.76	3.19/10.88	4.96/16.92	6.94/23.68	8.73/29.79
3.0/591	4.08/13.92	6.35/21.67	8.64/29.48	10.97/37.43	3.58/12.21	5.77/19.69	7.84/26.75	9.85/33.61

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R404A				R407C			
	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	1.69/5.77	2.69/9.18	3.64/12.42	4.6/15.7	1.11/3.79	2.12/7.23	3.06/10.44	4.06/13.85
1.5/295	2.3/7.85	3.75/12.8	5.08/17.33	6.43/21.94	1.51/5.15	2.92/9.96	4.33/14.77	5.68/19.38
2.0/394	2.99/10.2	4.68/15.97	6.34/21.63	8.03/27.4	1.84/6.28	3.59/12.25	5.42/18.49	7.09/24.19
2.5/492	3.53/12.04	5.5/18.77	7.47/25.49	9.47/32.31	2.11/7.2	4.2/14.33	6.39/21.8	8.36/28.52
3.0/591	4.01/13.68	6.24/21.29	8.49/28.97	10.76/36.71	2.36/8.05	4.97/16.96	7.25/24.74	9.51/32.45

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R290				R452B			
	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	1.65/5.63	2.54/8.67	3.42/11.67	4.35/14.84	1.6/5.46	2.52/8.6	3.49/11.91	4.44/15.15
1.5/295	2.28/7.78	3.51/11.98	4.83/16.48	6.09/20.78	2.21/7.54	3.54/12.08	4.9/16.72	6.23/21.26
2.0/394	2.82/9.62	4.35/14.84	6.05/20.64	7.62/26.00	2.74/9.35	4.48/15.29	6.14/20.95	7.83/26.72
2.5/492	3.3/11.26	5.26/17.95	7.13/24.33	8.98/30.64	3.22/10.99	5.29/18.05	7.27/24.81	9.28/31.66
3.0/591	3.72/12.69	5.99/20.44	8.11/27.67	10.21/34.84	3.64/12.42	6.04/20.61	8.31/28.35	10.6/36.17

Air-side Pressure Drop Data

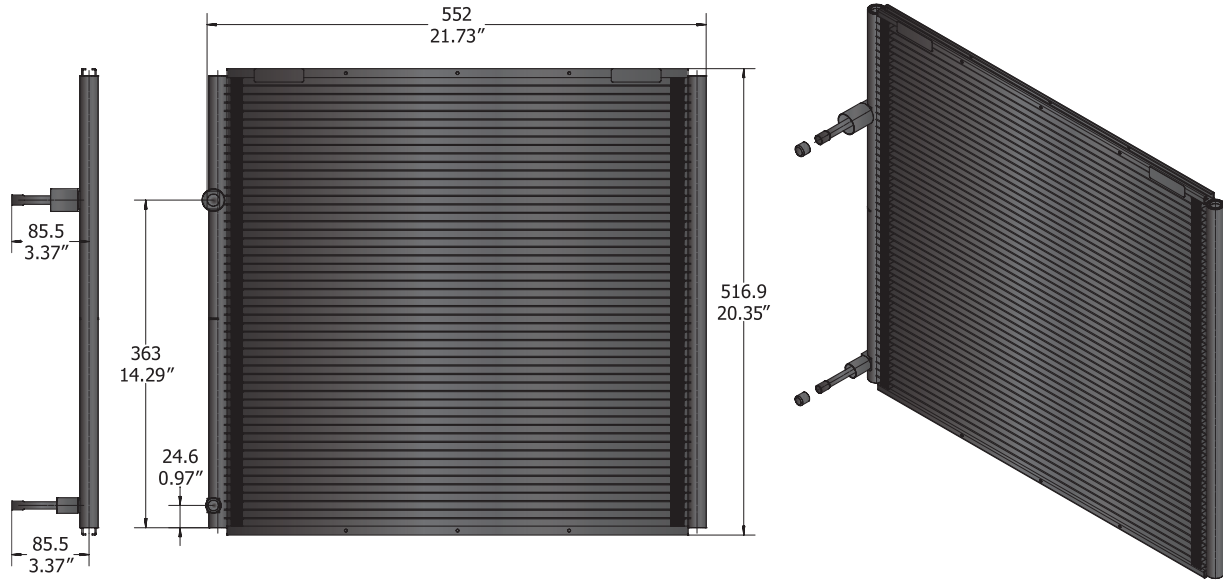
Air Velocity [m/s] / [ft/min]	Pressure drop	Flow rate
	[Pa] / [inch H ₂ O]	[m ³ /h] / [cfm]
1.0/197	13.4/0.05	611.52/359.72
1.5/295	22.5/0.09	917.29/539.78
2.0/394	33.10/0.13	1223.05/719.44
2.5/492	45.2/0.18	1528.81/899.30
3.0/591	58.8/0.24	1834.57/1079.16



D1300-C Condenser coil

Micro-Channel Heat Exchanger

Dimensional Drawing



Parameters Table

Danfoss code	DF0141	Platform	2G16-23FPI
Coil length	552 mm / 21.73 in	Coil height	516.9 mm / 20.35 in
Inlet connection (ID)	9.7 mm / 0.38 in	Outlet connection (ID)	8.2 mm / 0.32 in
Tube width	16 mm / 0.63 in	Tube height	1.3 mm / 0.05 in
Fin width	16 mm / 0.63 in	Fin height	8.1 mm / 0.32 in
Fin pitch	1.1 mm / 23 FPI	Manifold diameter	20 mm / 0.79 in
Num. of tubes	52	Pass distribution	28 / 24
Internal volume	0.4 L / 24.41 in ³	Coil weight	2.174 Kg / 4.8 LB
Ps	45 bar / 652.7 psig	Ts (min ~ max)	-40 °C – 121 °C / -40 °F – 250 °F
Ambient temp. Range	-40 °C – 72 °C / -40 °F – 161.6 °F	Storage temp. Range	-40 °C – 121 °C / -40 °F – 250 °F

Material

Tube	AA3102	Manifold	AA3003 clad with AA4343
Fin	AA3003Mod clad with AA4343	Connecting tube	Cu

Approval

PED	N/A (Not needed for this product)	UL	UL 207
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Refrigerant	Group 1: R290, R32, R600, R600a, R1234yf, R717, R444B, R454B, R452B, R447A, R454C, R454A Group 2: R22, R134a, R404A, R407A, R407B, R407C, R410A, R507A, R1234ze, R513A, R448A, R449A, R407F, R452A, R450A, R422B, R422D, R438A, R1233zd(E), R449B, R407H, R513B Note: R32 is available for MCHes, but if customers request special PS & TS, please confirm with engineering team
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Package

Industrial pack	021U0090(I/32)	Multi pack	021U0083(M/16)
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Mounting Bars

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

Performance Data (Typical Refrigerant Application)

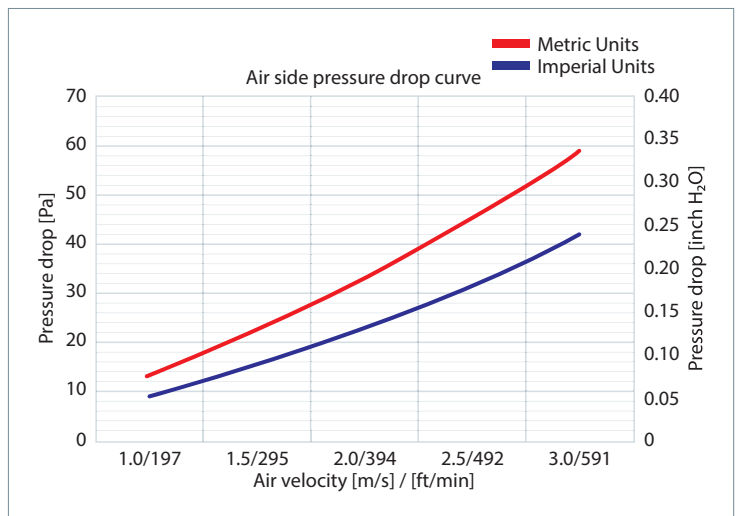
Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R410A				R134a			
	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F
1.0/197	2.08/7.1	3.73/12.73	5.08/17.33	6.42/21.91	2.3/7.85	3.61/12.32	4.91/16.75	6.2/21.15
1.5/295	3.27/11.16	5.15/17.57	7.02/23.95	9.23/31.49	3.15/10.75	4.98/16.99	6.78/23.13	8.57/29.24
2.0/394	4.05/13.82	6.39/21.8	9.04/30.84	11.61/39.61	3.89/13.27	6.16/21.02	8.41/28.69	10.65/36.34
2.5/492	4.75/16.21	7.49/25.56	10.74/36.64	13.79/47.05	4.54/15.49	7.22/24.63	9.85/33.61	12.49/42.62
3.0/591	5.37/18.32	8.49/28.97	12.49/42.62	15.79/53.88	5.13/17.5	8.16/27.84	11.18/38.15	14.41/49.17

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R404A				R407C			
	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	2.37/8.09	3.71/12.66	5.04/17.2	6.55/22.35	1.44/4.91	2.98/10.17	4.37/14.91	5.74/19.58
1.5/295	3.23/11.02	5.08/17.33	6.91/23.58	9.27/31.63	1.87/6.38	4.1/13.99	6.03/20.57	7.95/27.13
2.0/394	3.96/13.51	6.26/21.36	9.07/30.95	11.65/39.75	2.51/8.56	5.08/17.33	7.49/25.56	9.88/33.71
2.5/492	4.61/15.73	7.29/24.87	10.75/36.68	13.79/47.05	2.93/10	5.93/20.23	8.78/29.96	11.67/39.82
3.0/591	5.18/17.67	8.31/28.35	12.28/41.9	15.77/53.81	3.27/11.16	6.7/22.86	9.94/33.92	13.73/46.85

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R290				R452B			
	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	2.14/7.3	3.61/12.32	4.92/16.79	6.19/21.12	2.01/6.86	3.56/12.15	4.91/16.75	6.26/21.36
1.5/295	3.18/10.85	4.99/17.03	6.8/23.2	8.59/29.31	3.03/10.34	4.93/16.82	6.81/23.24	8.69/29.65
2.0/394	3.94/13.44	6.2/21.15	8.47/28.9	10.7/36.51	3.77/12.86	6.13/20.92	8.48/28.93	11.2/38.21
2.5/492	4.63/15.8	7.28/24.84	9.95/33.95	12.58/42.92	4.43/15.12	7.21/24.6	9.97/34.02	13.29/45.35
3.0/591	5.24/17.88	8.25/28.15	11.3/38.56	14.87/50.74	5.02/17.13	8.19/27.94	11.78/40.19	15.22/51.93

Air-side Pressure Drop Data

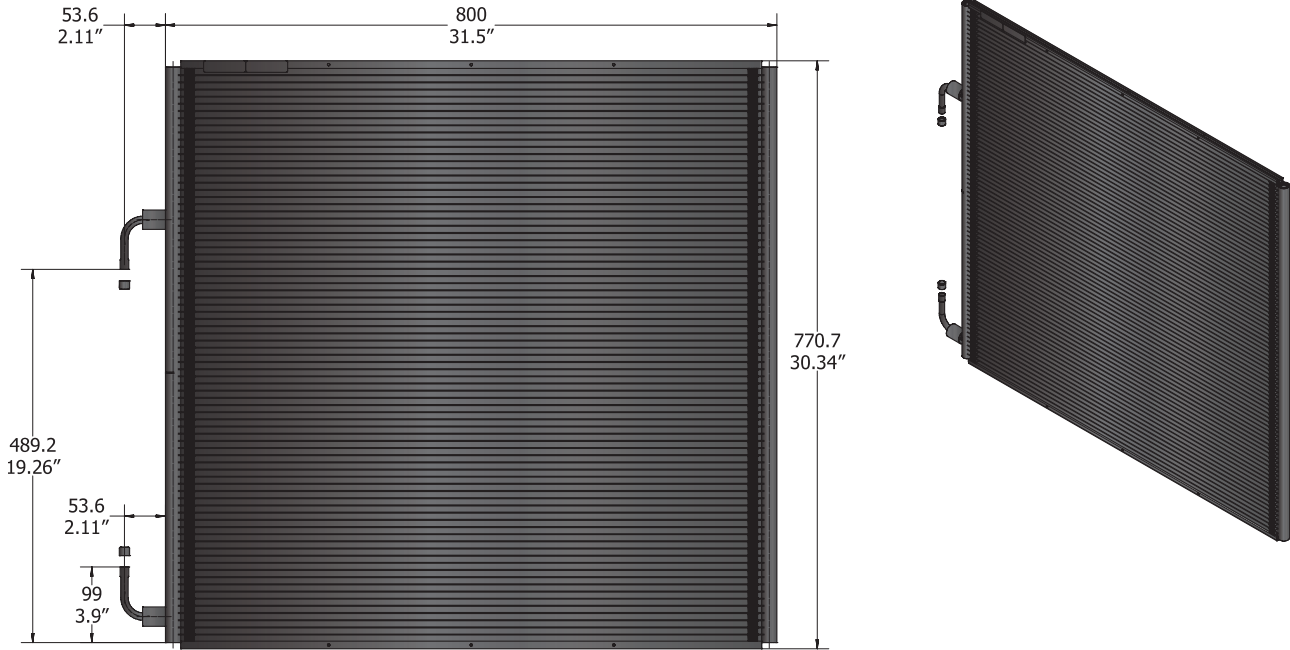
Air Velocity [m/s] / [ft/min]	Pressure drop	Flow rate
	[Pa] / [inch H ₂ O]	[m ³ /h] / [cfm]
1.0/197	13.4/0.05	898/528.24
1.5/295	22.5/0.09	1347/792.35
2.0/394	33.10/0.13	1796/1056.47
2.5/492	45.2/0.18	2245/1320.59
3.0/591	58.8/0.24	2694/1584.71



D1400-C Condenser coil

Micro-Channel Heat Exchanger

Dimensional Drawing



Parameters Table

Danfoss code	DF0151	Platform	2G16-23FPI
Coil length	800 mm / 31.5 in	Coil height	770.7 mm / 30.34 in
Inlet connection (ID)	9.7 mm / 0.38 in	Outlet connection (ID)	9.7 mm / 0.38 in
Tube width	16 mm / 0.63 in	Tube height	1.3 mm / 0.05 in
Fin width	16 mm / 0.63 in	Fin height	8.1 mm / 0.32 in
Fin pitch	1.1 mm / 23 FPI	Manifold diameter	20 mm / 0.79 in
Num. of tubes	79	Pass distribution	42 / 37
Internal volume	0.74 L / 45.16 in ³	Coil weight	4.54 Kg / 10 LB
Ps	45 bar / 652.7 psig	Ts (min ~ max)	-40 °C – 121 °C / -40 °F – 250 °F
Ambient temp. Range	-40 °C – 72 °C / -40 °F – 161.6 °F	Storage temp. Range	-40 °C – 121 °C / -40 °F – 250 °F

Material

Tube	AA3102	Manifold	AA3003 clad with AA4343
Fin	AA3003Mod clad with AA4343	Connecting tube	Cu

Approval

PED	N/A (Not needed for this product)	UL	UL 207
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Refrigerant	Group 1: R290, R32, R600, R600a, R1234yf, R717, R444B, R454B, R452B, R447A, R454C, R454A Group 2: R22, R134a, R404A, R407A, R407B, R407C, R410A, R507A, R1234ze, R513A, R448A, R449A, R407F, R452A, R450A, R422B, R422D, R438A, R1233zd(E), R449B, R407H, R513B
	Note: R32 is available for MCHes, but if customers request special PS & TS, please confirm with engineering team

Package

Industrial pack	021U0091(I/15)	Multi pack	021U0084(M/8)
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Mounting Bars

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

Performance Data (Typical Refrigerant Application)

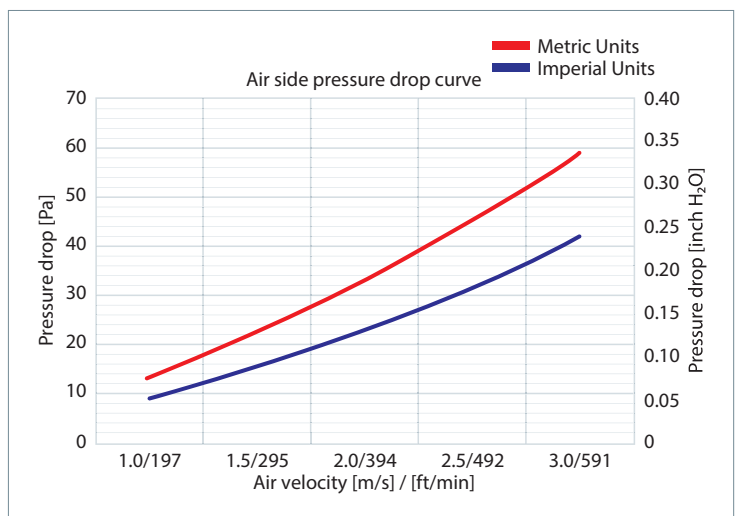
Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R410A				R134a			
	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F
1.0/197	5.64/19.24	8.69/29.65	11.73/40.02	15.15/51.69	5.43/18.53	8.36/28.52	11.27/38.45	14.17/48.35
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

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R404A				R407C			
	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

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R290				R452B			
	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

Air-side Pressure Drop Data

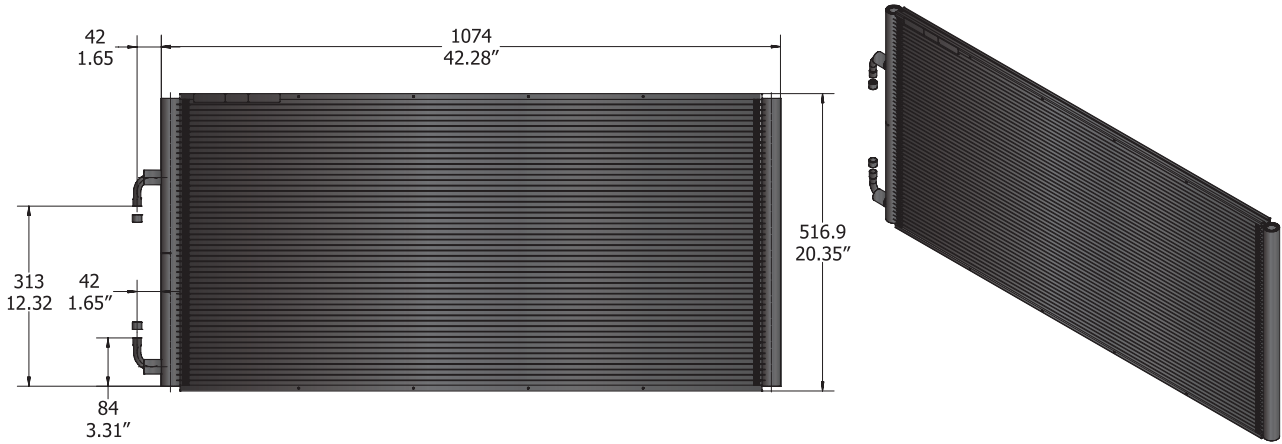
Air Velocity [m/s] / [ft/min]	Pressure drop	Flow rate
	[Pa] / [inch H ₂ O]	[m ³ /h] / [cfm]
1.0/197	13.4/0.05	2026.89/1192.29
1.5/295	22.5/0.09	3040.33/1788.43
2.0/394	33.10/0.13	4053.78/2384.58
2.5/492	45.2/0.18	5067.2/2980.72
3.0/591	58.8/0.24	6080.67/3576.86



D1500-C Condenser coil

Micro-Channel Heat Exchanger

Dimensional Drawing



Parameters Table

Danfoss code	DF0081 / DF0082	Platform	2G25-23FPI
Coil length	1074 mm / 42.28 in	Coil height	516.9 mm / 20.35 in
Inlet connection (ID)	12.9 mm / 0.51 in	Outlet connection (ID)	12.9 mm / 0.51 in
Tube width	25.4 mm / 1 in	Tube height	1.3 mm / 0.05 in
Fin width	25.4 mm / 1 in	Fin height	8.1 mm / 0.32 in
Fin pitch	1.1 mm / 23 FPI	Manifold diameter	32 mm / 1.26 in
Num. of tubes	52	Pass distribution	28 / 24
Internal volume	1.15 L / 70.18 in ³	Coil weight	6.5 Kg / 14.33 LB
Ps	45 bar / 652.7 psig	Ts (min ~ max)	-40 °C – 121 °C / -40 °F – 250 °F
Ambient temp. Range	-40 °C – 72 °C / -40 °F – 161.6 °F	Storage temp. Range	-40 °C – 121 °C / -40 °F – 250 °F

Material

Tube	AA3102	Manifold	AA3003 clad with AA4045
Fin	AA3003Mod clad with AA4343	Connecting tube	Cu

Approval

PED	PED Cat I (Group 2)/ Cat II (Group 1)	UL	UL 207
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Refrigerant	Group 1: R290, R32, R600, R600a, R1234yf, R717, R444B, R454B, R452B, R447A, R454C, R454A Group 2: R22, R134a, R404A, R407A, R407B, R407C, R410A, R507A, R1234ze, R513A, R448A, R449A, R407F, R452A, R450A, R422B, R422D, R438A, R1233zd(E), R449B, R407H, R513B Note: R32 is available for MCHes, but if customers request special PS & TS, please confirm with engineering team
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Package

DF0081 / Cat I (Group 2)	021U0098(I/24) / 021U0095(M/16)	DF0082 / Cat II (Group 1)	021U0624(I/24) / 021U0623(M/16)
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Mounting Bars

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

Performance Data (Typical Refrigerant Application)

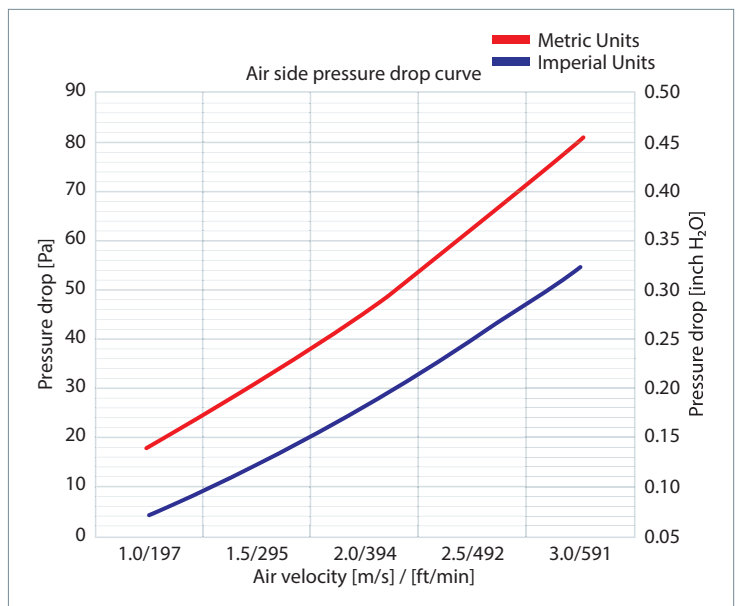
Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R410A				R134a			
	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F
1.0/197	5.54/18.9	8.24/28.11	11.33/38.66	14.41/49.17	5.31/18.12	8.1/27.64	10.85/37.02	13.62/46.47
1.5/295	7.9/26.95	12.05/41.11	16.47/56.2	20.79/70.94	7.48/25.52	11.46/39.1	15.41/52.58	19.36/66.06
2.0/394	10.03/34.22	15.33/52.31	21.12/72.06	26.68/91.03	9.4/32.07	14.45/49.3	19.49/66.5	24.86/84.82
2.5/492	11.97/40.84	18.78/64.08	25.42/86.73	32.13/109.63	11.11/37.91	17.14/58.48	23.12/78.89	29.46/100.52
3.0/591	13.75/46.92	21.73/74.14	29.41/100.35	37.22/126.99	12.67/43.23	19.58/66.81	26.92/91.85	33.71/115.02

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R404A				R407C			
	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	5.52/18.83	8.41/28.69	11.29/38.52	14.45/49.3	3.7/12.62	6.85/10.17	6.85/23.37	12.74/43.47
1.5/295	7.8/26.61	11.92/40.67	16.47/56.2	20.78/70.9	5.19/17.71	9.73/33.2	13.99/47.73	18.19/62.06
2.0/394	9.82/33.51	15.57/53.12	21.01/71.69	26.53/90.52	6.51/22.21	12.32/42.04	17.74/60.53	23.5/80.18
2.5/492	11.64/39.72	18.6/63.46	25.17/85.88	31.79/108.47	7.69/26.24	14.68/50.09	21.2/72.33	28.18/96.15
3.0/591	13.28/45.31	21.41/73.05	28.97/98.85	36.63/124.98	8.75/29.86	16.84/57.46	24.93/85.06	32.48/110.82

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R454B				R452B			
	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	5.09/17.37	7.99/27.26	10.87/37.09	13.77/46.98	5.15/17.57	8.04/27.43	10.94/37.33	13.83/47.19
1.5/295	7.27/24.81	11.44/39.03	15.58/53.16	20.01/68.27	7.36/25.11	11.52/39.31	15.66/53.43	20.11/68.62
2.0/394	9.24/31.53	14.57/49.71	20.2/68.92	25.67/87.59	9.35/31.9	14.68/50.09	20.3/69.26	25.79/88.00
2.5/492	11.05/37.7	17.46/59.57	24.28/82.84	30.91/105.46	11.18/38.15	17.59/60.02	24.44/83.39	31.08/106.04
3.0/591	12.72/43.4	20.4/69.6	28.1/95.88	35.81/122.18	12.87/43.91	20.7/70.63	28.29/96.53	35.98/122.76

Air-side Pressure Drop Data

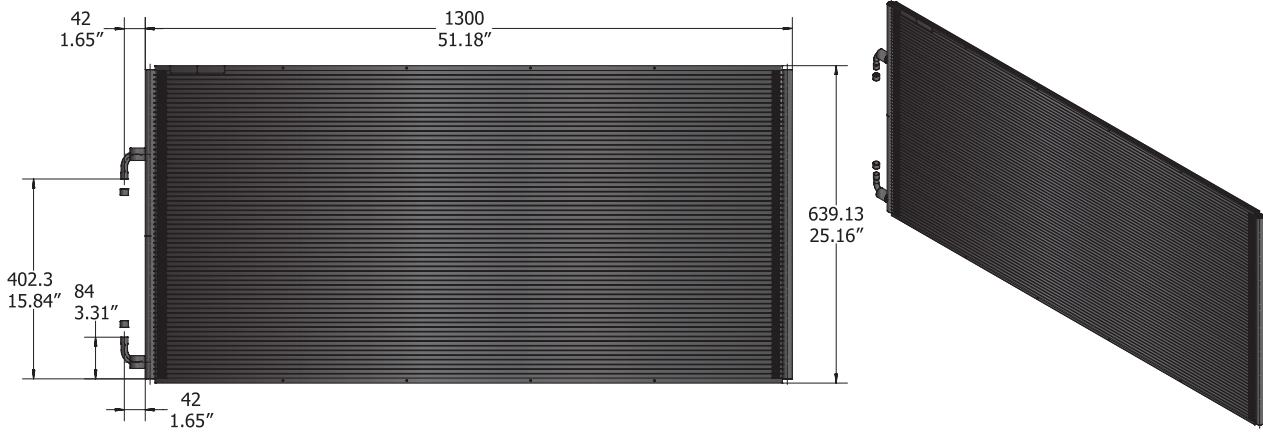
Air Velocity [m/s] / [ft/min]	Pressure drop	Flow rate
	[Pa] / [inch H ₂ O]	[m ³ /h] / [cfm]
1.0/197	18.3/0.07	1788.84/1052.26
1.5/295	30.6/0.12	2683.26/1578.39
2.0/394	45.1/0.18	3577.68/2104.52
2.5/492	61.8/0.25	4472.1/2630.65
3.0/591	80.6/0.32	5366.52/3156.78



D1600-C Condenser coil

Micro-Channel Heat Exchanger

Dimensional Drawing



Parameters Table

Danfoss code	DF0161	Platform	2G16-23FPI
Coil length	1300 mm / 51.18 in	Coil height	639.1 mm / 25.16 in
Inlet connection (ID)	12.9mm / 0.51 in	Outlet connection (ID)	12.9 mm / 0.51 in
Tube width	16 mm / 0.63 in	Tube height	1.3 mm / 0.05 in
Fin width	16 mm / 0.63 in	Fin height	8.1 mm / 0.32 in
Fin pitch	1.1 mm / 23 FPI	Manifold diameter	20 mm / 0.79 in
Num. of tubes	65	Pass distribution	35 / 30
Internal volume	0.84 L / 51.26 in ³	Coil weight	6.1 Kg / 13.5 LB
Ps	45 bar / 652.7 psig	Ts (min ~ max)	-40 °C – 121 °C / -40 °F – 250 °F
Ambient temp. Range	-40 °C – 72 °C / -40 °F – 161.6 °F	Storage temp. Range	-40 °C – 121 °C / -40 °F – 250 °F

Material

Tube	AA3102	Manifold	AA3003 clad with AA4343
Fin	AA3003Mod clad with AA4343	Connecting tube	Cu

Approval

PED	N/A (Not needed for this product)	UL	UL 207
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Refrigerant	Group 1: R290, R32, R600, R600a, R1234yf, R717, R444B, R454B, R452B, R447A, R454C, R454A Group 2: R22, R134a, R404A, R407A, R407B, R407C, R410A, R507A, R1234ze, R513A, R448A, R449A, R407F, R452A, R450A, R422B, R422D, R438A, R1233zd(E), R449B, R407H, R513B
	Note: R32 is available for MCHes, but if customers request special PS & TS, please confirm with engineering team

Package

Industrial pack	021U0099(I/15)	Multi pack	021U0096(M/8)
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Mounting Bars

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

Performance Data (Typical Refrigerant Application)

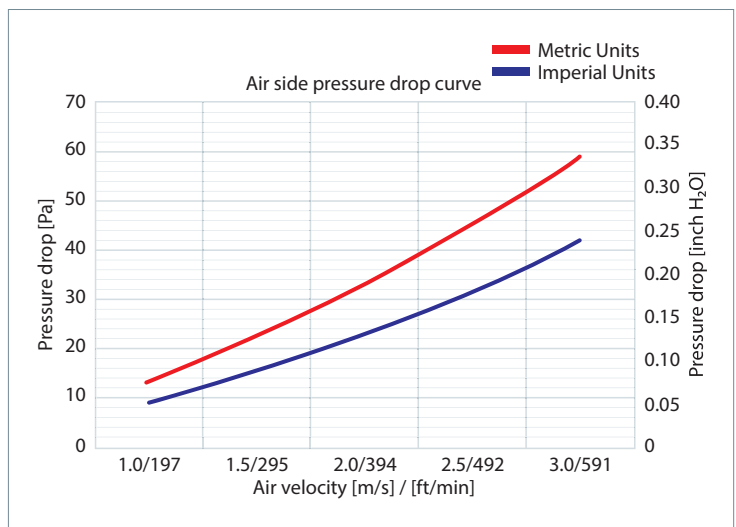
Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R410A				R134a			
	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F
1.0/197	7.99/27.26	12.15/41.46	16.6/56.64	20.93/71.41	7.42/25.32	11.33/38.66	15.26/52.07	19.4/66.19
1.5/295	11.02/37.6	17.16/58.55	23.13/78.92	29.19/99.6	10/34.12	15.36/52.41	20.98/71.58	26.13/89.16
2.0/394	13.64/46.54	21.4/73.02	28.84/98.4	36.4/124.2	12.12/41.35	18.68/63.74	25.15/85.81	31.71/108.19
2.5/492	16.41/55.99	25.12/85.71	33.89/115.63	42.78/145.97	13.91/47.46	21.48/73.29	28.81/98.3	36.32/123.92
3.0/591	18.6/63.46	28.48/97.17	38.39/130.99	48.49/165.45	15.44/52.68	24.27/82.81	31.89/108.81	40.24/137.3

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R404A				R407C			
	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	7.83/26.72	12.23/41.73	16.46/56.16	20.74/70.76	5.22/17.81	9.77/33.34	14.03/47.87	18.43/62.88
1.5/295	10.65/36.34	16.83/57.42	22.68/77.38	28.59/97.55	7.02/23.95	13.39/45.69	19.51/66.57	25.43/86.77
2.0/394	13.62/46.47	20.74/70.76	27.92/95.26	35.26/120.31	8.51/29.04	16.45/56.13	24.08/82.16	31.39/107.1
2.5/492	15.73/53.67	24.09/82.2	32.46/110.75	40.98/139.82	9.75/33.27	19.53/66.64	28.01/95.57	36.55/124.71
3.0/591	17.67/60.29	27.03/92.23	36.41/124.23	45.97/156.85	10.81/36.88	21.85/74.55	31.46/107.34	41.05/140.06

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R290				R452B			
	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	7.63/26.03	11.61/39.61	15.56/53.09	19.76/67.42	7.44/25.39	11.63/39.68	15.97/54.49	20.24/69.06
1.5/295	10.46/35.69	15.97/54.49	21.79/74.35	27.19/92.77	10.29/35.11	16.39/55.92	22.26/75.95	28.25/96.39
2.0/394	12.89/43.98	19.7/67.22	26.72/91.17	33.58/114.57	12.76/43.54	20.37/69.5	27.75/94.68	35.19/120.07
2.5/492	14.99/51.15	23.45/80.01	31.11/106.15	39.11/133.44	14.95/51.01	23.94/81.68	32.63/111.33	41.43/141.36
3.0/591	16.85/57.49	26.04/88.85	34.95/119.25	43.93/149.89	17.26/58.89	27.14/92.6	36.98/126.18	46.97/160.26

Air-side Pressure Drop Data

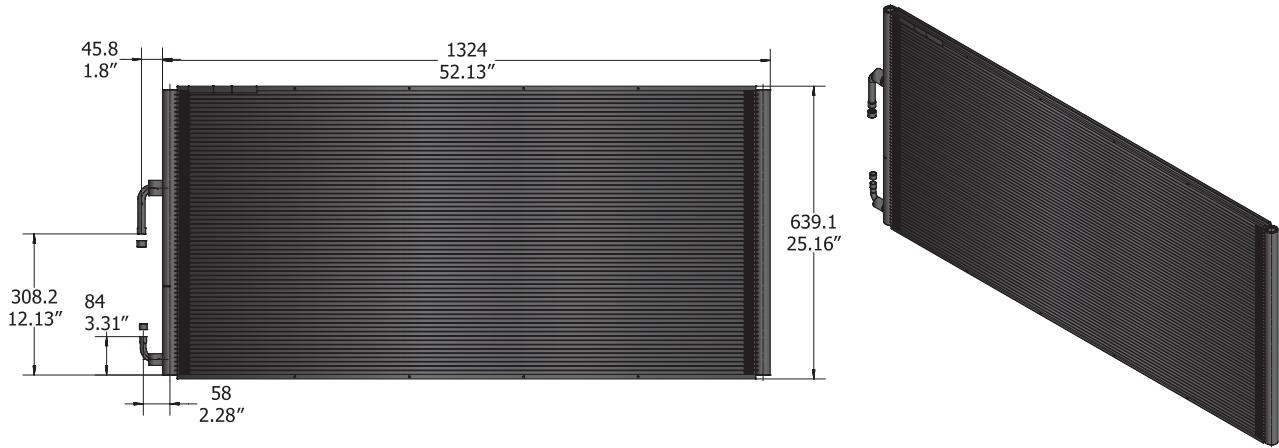
Air Velocity [m/s] / [ft/min]	Pressure drop	Flow rate
	[Pa] / [inch H ₂ O]	[m ³ /h] / [cfm]
1.0/197	13.4/0.05	2785.95/1638.79
1.5/295	22.5/0.09	4178.93/2458.19
2.0/394	33.10/0.13	5571.9/3277.59
2.5/492	45.2/0.18	6964.88/4096.99
3.0/591	58.8/0.24	8357.85/4916.38



D1700-C Condenser coil

Micro-Channel Heat Exchanger

Dimensional Drawing



Parameters Table

Danfoss code	DF0091 / DF0092	Platform	2G25-23FPI
Coil length	1324 mm / 52.13 in	Coil height	639.1 mm / 25.16 in
Inlet connection (ID)	16.1 mm / 0.63 in	Outlet connection (ID)	12.9 mm / 0.51 in
Tube width	25.4 mm / 1 in	Tube height	1.3 mm / 0.05 in
Fin width	25.4 mm / 1 in	Fin height	8.1 mm / 0.32 in
Fin pitch	1.1 mm / 23 FPI	Manifold diameter	32 mm / 1.26 in
Num. of tubes	65	Pass distribution	45 / 20
Internal volume	1.63 L / 99.47 in ³	Coil weight	9.7 Kg / 21.38 LB
Ps	45 bar / 652.7 psig	Ts (min ~ max)	-40 °C – 121 °C / -40 °F – 250 °F
Ambient temp. Range	-40 °C – 72 °C / -40 °F – 161.6 °F	Storage temp. Range	-40 °C – 121 °C / -40 °F – 250 °F

Material

Tube	AA3102	Manifold	AA3003 clad with AA4045
Fin	AA3003Mod clad with AA4343	Connecting tube	Cu

Approval

PED	PED Cat I (Group 2)/ Cat II (Group 1)	UL	UL 207
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Refrigerant	Group 1: R290, R32, R600, R600a, R1234yf, R717, R444B, R454B, R452B, R447A, R454C, R454A Group 2: R22, R134a, R404A, R407A, R407B, R407C, R410A, R507A, R1234ze, R513A, R448A, R449A, R407F, R452A, R450A, R422B, R422D, R438A, R1233zd(E), R449B, R407H, R513B Note: R32 is available for MCHes, but if customers request special PS & TS, please confirm with engineering team
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Package

DF0091 / Cat I (Group 2)	021U0092(I/12) / 021U0085(M/8)	DF0092 / Cat II (Group 1)	021U00626(I/12) / 021U00625(M/8)
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Mounting Bars

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

Performance Data (Typical Refrigerant Application)

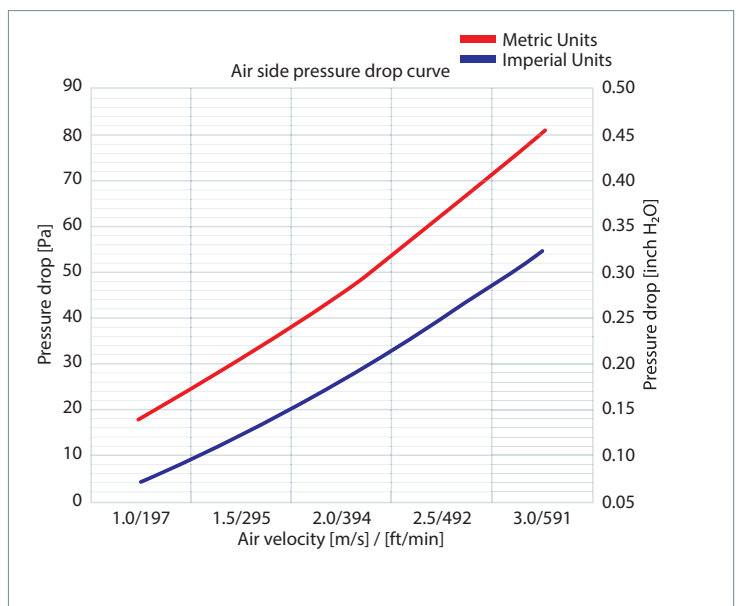
Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R410A				R134a			
	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F
1.0/197	8.66/29.55	13.17/44.94	17.88/61.01	22.5/76.77	8.31/28.35	12.64/43.13	16.94/57.8	21.37/72.91
1.5/295	12.36/42.17	19.13/65.27	25.77/87.93	32.45/110.72	11.72/39.99	17.91/61.11	24.27/82.81	30.53/104.17
2.0/394	16.01/54.63	24.53/83.7	32.98/112.53	41.6/141.94	14.74/50.29	22.6/77.11	30.76/104.95	38.75/132.22
2.5/492	19.25/65.68	29.5/100.65	39.7/135.46	50.06/170.8	17.44/59.51	27.16/92.67	36.62/124.95	45.81/156.3
3.0/591	22.26/75.95	34.03/116.11	45.89/156.58	57.95/197.73	19.88/67.83	31.08/106.04	41.98/143.24	52.35/178.62

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R404A				R407C			
	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	8.64/29.48	13.36/45.58	17.95/61.25	22.55/76.94	5.81/19.82	10.71/36.54	15.33/52.31	20.04/68.38
1.5/295	12.2/41.63	19.13/65.27	25.7/87.69	32.36/110.41	8.16/27.84	15.24/52	22.14/75.54	28.81/98.3
2.0/394	15.9/54.25	24.41/83.29	32.75/111.74	41.27/140.81	10.21/34.84	19.27/65.75	28.26/96.42	36.68/125.15
2.5/492	19.04/64.96	29.09/99.26	39.18/133.68	49.39/168.52	12.04/41.08	23.48/80.11	33.87/115.56	43.92/149.86
3.0/591	21.91/74.76	33.41/113.99	44.95/153.37	56.83/193.9	13.68/46.68	27.05/92.29	39.05/133.24	50.58/172.58

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R454B				R452B			
	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	7.98/27.23	12.5/42.65	17.08/58.28	21.67/73.94	8.06/27.5	12.58/42.92	17.19/58.65	21.78/74.31
1.5/295	11.39/38.86	18.07/61.65	24.64/84.07	31.22/106.52	11.53/39.34	18.21/62.13	24.79/84.58	31.39/107.1
2.0/394	14.5/49.47	23.15/78.99	31.59/107.79	40.05/136.65	14.67/50.05	23.34/79.64	31.77/108.4	40.25/137.33
2.5/492	17.35/59.2	27.85/95.02	37.94/129.45	48.2/164.46	17.53/59.81	28.08/95.81	38.19/130.3	48.46/165.35
3.0/591	20.39/69.57	32.24/110	43.89/149.75	55.8/190.39	20.65/70.46	32.5/110.89	44.19/150.78	56.07/191.31

Air-side Pressure Drop Data

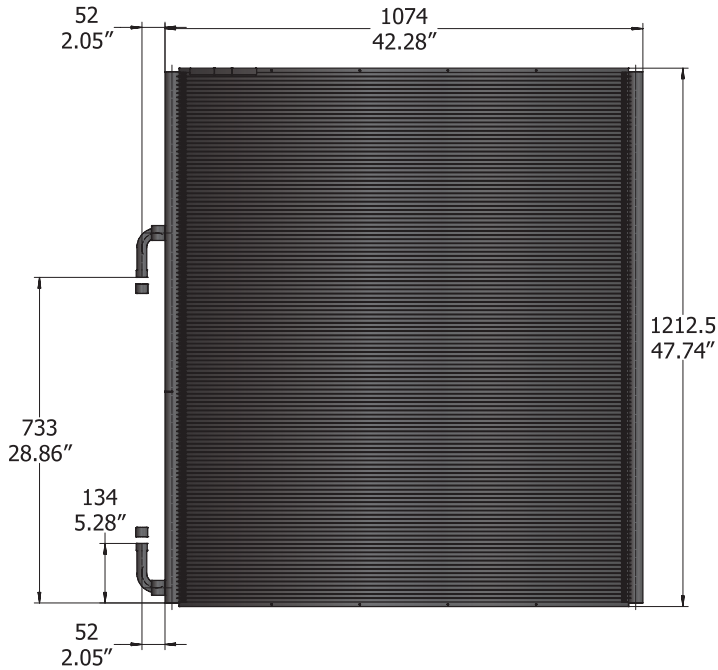
Air Velocity [m/s] / [ft/min]	Pressure drop	Flow rate
	[Pa] / [inch H ₂ O]	[m ³ /h] / [cfm]
1.0/197	18.3/0.07	2785.9/1638.76
1.5/295	30.6/0.12	4178.93/2458.19
2.0/394	45.1/0.18	5571.9/3277.59
2.5/492	61.8/0.25	6964.88/4096.99
3.0/591	80.6/0.32	8357.85/4916.38



D1800-C Condenser coil

Micro-Channel Heat Exchanger

Dimensional Drawing



Parameters Table

Danfoss code	DF0071 / DF0072	Platform	2G25-23FPI
Coil length	1074 mm / 42.28 in	Coil height	1212.5 mm / 47.74 in
Inlet connection (ID)	22.4 mm / 0.88 in	Outlet connection (ID)	22.4 mm / 0.88 in
Tube width	25.4 mm / 1 in	Tube height	1.3 mm / 0.05 in
Fin width	25.4 mm / 1 in	Fin height	8.1 mm / 0.32 in
Fin pitch	1.1 mm / 23 FPI	Manifold diameter	32 mm / 1.26 in
Num. of tubes	126	Pass distribution	76 / 50
Internal volume	2.79 L / 170.26 in ³	Coil weight	15.1Kg / 33.29 LB
Ps	45 bar / 652.7 psig	Ts (min ~ max)	-40 °C – 121 °C / -40 °F – 250 °F
Ambient temp. Range	-40 °C – 72 °C / -40 °F – 161.6 °F	Storage temp. Range	-40 °C – 121 °C / -40 °F – 250 °F

Material

Tube	AA3102	Manifold	AA3003 clad with AA4045
Fin	AA3003Mod clad with AA4343	Connecting tube	Cu

Approval

PED	PED Cat I (Group 2) / Cat II (Group 1)	UL	UL 207
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Refrigerant	Group 1: R290, R32, R600, R600a, R1234yf, R717, R444B, R454B, R452B, R447A, R454C, R454A Group 2: R22, R134a, R404A, R407A, R407B, R407C, R410A, R507A, R1234ze, R513A, R448A, R449A, R407F, R452A, R450A, R422B, R422D, R438A, R1233zd(E), R449B, R407H, R513B Note: R32 is available for MCHes, but if customers request special PS & TS, please confirm with engineering team
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Package

DF0071 / Cat I (Group 2)	021U0097(I/12) / 021U0094(M/8)	DF0072 / Cat II (Group 1)	021U00622(I/12) / 021U0621(M/8)
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Mounting Bars

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

Performance Data (Typical Refrigerant Application)

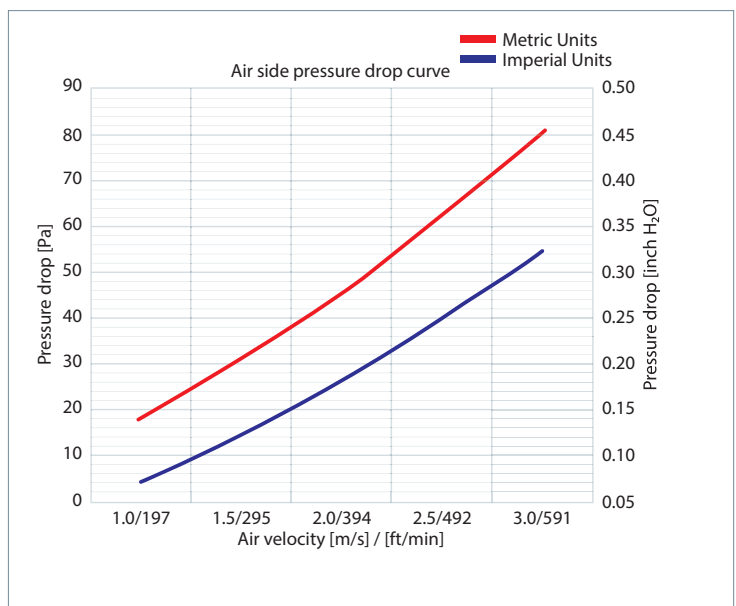
Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R410A				R134a			
	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F
1.0/197	13.27/45.28	20.25/69.09	27.19/92.77	34.64/118.19	12.81/43.71	19.5/66.53	26.16/89.26	32.8/111.91
1.5/295	18.92/64.56	28.92/98.68	39.64/135.25	49.98/170.53	18.09/61.72	27.66/94.38	37.2/126.93	46.72/159.41
2.0/394	24.03/81.99	37.61/128.33	50.8/173.33	64.18/218.98	22.79/77.76	34.97/119.32	47.12/160.77	60.21/205.44
2.5/492	28.69/97.89	45.3/154.56	61.18/208.75	77.34/263.88	27.02/92.19	41.56/141.8	57.01/194.52	71.99/245.63
3.0/591	32.99/112.56	52.36/178.65	70.86/241.77	89.68/305.99	30.84/105.23	47.55/162.24	65.58/223.76	82.09/280.09

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R404A				R407C			
	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	13.26/45.24	20.25/69.09	27.59/94.14	34.79/118.7	8.5/29	16.47/56.2	23.57/80.42	30.6/104.41
1.5/295	18.74/63.94	29.08/99.22	39.65/135.29	50.02/170.67	12.51/42.68	23.42/79.91	33.65/114.81	44.36/151.36
2.0/394	23.6/80.52	37.59/128.26	50.68/172.92	63.97/218.27	15.69/53.53	29.62/101.06	42.75/145.86	56.8/193.8
2.5/492	27.99/95.5	44.95/153.37	60.77/207.35	76.77/261.94	18.5/63.12	35.39/120.75	52.21/178.14	68.03/232.12
3.0/591	33.02/112.66	51.83/176.84	70.12/239.25	88.59/302.27	21.07/71.89	40.65/138.7	60.34/205.88	78.55/268.01

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R454B				R452B			
	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	12.19/41.59	19.19/65.48	26.12/89.12	33.33/113.72	12.34/42.1	19.31/65.89	26.27/89.63	33.49/114.27
1.5/295	17.44/59.51	27.48/93.76	37.72/128.7	48.15/164.29	17.65/60.22	27.65/94.34	38.07/129.89	48.34/164.94
2.0/394	22.18/75.68	35.02/119.49	48.61/165.86	61.75/210.69	22.46/76.63	35.25/120.27	48.88/166.78	62.05/211.71
2.5/492	26.53/90.52	42.65/145.52	58.49/199.57	74.42/253.92	26.86/91.65	43.04/146.85	58.84/200.76	74.8/255.22
3.0/591	30.55/104.24	49.44/168.69	67.75/231.16	86.26/294.32	30.91/105.46	49.87/170.16	68.13/232.46	86.68/295.75

Air-side Pressure Drop Data

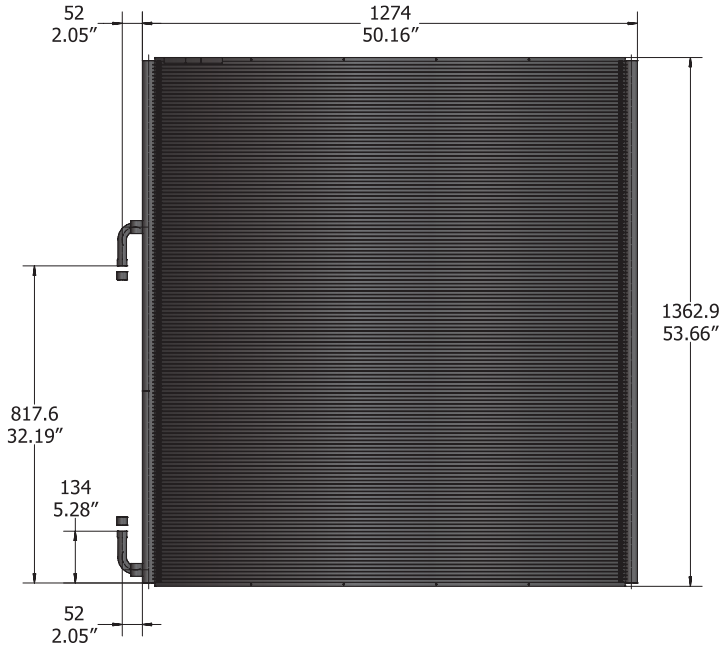
Air Velocity [m/s] / [ft/min]	Pressure drop	Flow rate
	[Pa] / [inch H ₂ O]	[m ³ /h] / [cfm]
1.0/197	18.3/0.07	4293/2525.29
1.5/295	30.6/0.12	6439.5/3787.94
2.0/394	45.1/0.18	8586/5050.59
2.5/492	61.8/0.25	10732.5/6313.24
3.0/591	80.6/0.32	12879/7575.88



D1900-C Condenser coil

Micro-Channel Heat Exchanger

Dimensional Drawing



Parameters Table

Danfoss code	DF0101 / DF0102	Platform	2G25-23FPI
Coil length	1274 mm / 50.16 in	Coil height	1362.9 mm / 53.66 in
Inlet connection (ID)	22.4 mm / 0.88 in	Outlet connection (ID)	22.4 mm / 0.88 in
Tube width	25.4 mm / 1 in	Tube height	1.3 mm / 0.05 in
Fin width	25.4 mm / 1 in	Fin height	8.1 mm / 0.32 in
Fin pitch	1.1 mm / 23 FPI	Manifold diameter	32 mm / 1.26 in
Num. of tubes	142	Pass distribution	90 / 52
Internal volume	3.49 L / 212.97 in ³	Coil weight	19.8 Kg / 43.8 LB
Ps	45 bar / 652.7 psig	Ts (min ~ max)	-40 °C – 121 °C / -40 °F – 250 °F
Ambient temp. Range	-40 °C – 72 °C / -40 °F – 161.6 °F	Storage temp. Range	-40 °C – 121 °C / -40 °F – 250 °F

Material

Tube	AA3102	Manifold	AA3003 clad with AA4045
Fin	AA3003Mod clad with AA4343	Connecting tube	Cu

Approval

PED	PED Cat I (Group 2) / Cat II (Group 1)	UL	UL 207
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Refrigerant	Group 1: R290, R32, R600, R600a, R1234yf, R717, R444B, R454B, R452B, R447A, R454C, R454A Group 2: R22, R134a, R404A, R407A, R407B, R407C, R410A, R507A, R1234ze, R513A, R448A, R449A, R407F, R452A, R450A, R422B, R422D, R438A, R1233zd(E), R449B, R407H, R513B Note: R32 is available for MCHes, but if customers request special PS & TS, please confirm with engineering team
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Package

DF0101 / Cat I (Group 2)	021U0093(I/12) / 021U0086(M/8)	DF0102 / Cat II (Group 1)	021U00628(I/12) / 021U0627(M/8)
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Mounting Bars

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

Performance Data (Typical Refrigerant Application)

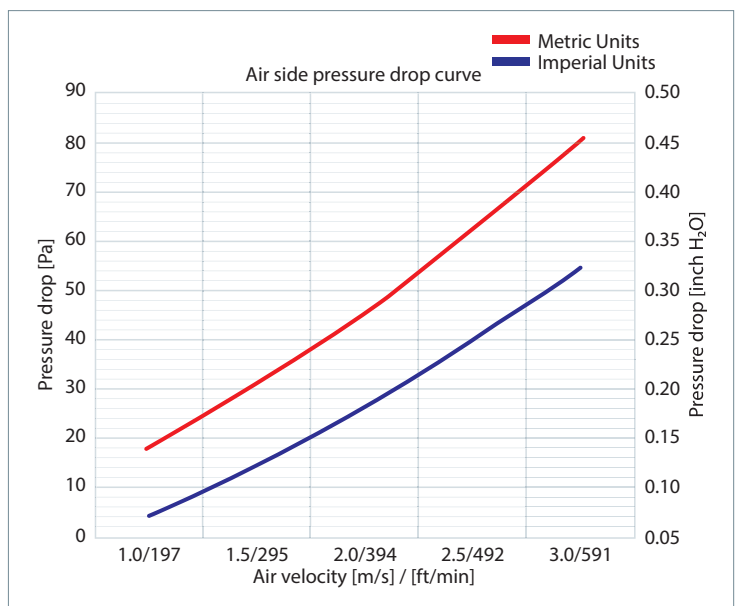
Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R410A				R134a			
	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F
1.0/197	18.1/61.76	27.5/93.83	37.27/127.17	46.91/160.06	17.33/59.13	26.34/89.87	35.31/120.48	44.27/151.05
1.5/295	25.81/88.06	39.93/136.24	53.68/183.16	67.65/230.82	24.42/83.32	37.28/127.2	50.11/170.98	63.59/216.97
2.0/394	32.78/111.85	51.12/174.42	68.76/234.61	86.71/295.85	30.68/104.68	47/160.36	64.08/218.64	80.63/275.11
2.5/492	40.18/137.09	61.34/209.29	82.7/282.17	104.36/356.08	36.25/123.69	55.72/190.12	76.24/260.13	95.23/324.92
3.0/591	46.35/158.15	70.93/242.01	95.65/326.36	120.72/411.9	41.28/140.85	64.53/220.18	87.27/297.77	108.75/371.06

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R404A				R407C			
	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	18.03/61.52	27.42/93.56	37.41/127.64	46.99/160.33	12.12/41.35	22.36/76.29	31.94/108.98	41.54/141.73
1.5/295	25.47/86.9	39.86/136	53.59/182.85	67.45/230.14	17.05/58.17	31.77/108.4	45.55/155.42	60.06/204.92
2.0/394	32.06/109.39	50.67/172.89	68.24/232.83	85.97/293.33	21.35/72.85	40.24/137.3	58.83/200.73	76.46/260.88
2.5/492	39.61/135.15	60.59/206.73	81.61/278.45	102.88/351.03	25.11/85.68	47.92/163.5	70.51/240.58	91.53/312.3
3.0/591	45.6/155.59	69.65/237.65	93.84/320.18	118.42/404.05	28.57/97.48	56.28/192.03	80.89/276	105.35/359.45

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R454B				R452B			
	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	16.63/56.74	26.05/88.88	35.41/120.82	45.17/154.12	16.84/57.46	26.25/89.57	35.61/121.5	45.39/154.87
1.5/295	23.82/81.27	37.31/127.3	51.38/175.31	65.1/222.12	24.07/82.13	37.58/128.22	51.69/176.37	65.45/223.32
2.0/394	30.24/103.18	48.23/164.56	65.76/224.37	83.48/284.83	30.61/104.44	48.63/165.93	66.16/225.74	83.9/286.27
2.5/492	36.19/123.48	58.05/198.07	79.12/269.96	100.47/342.8	36.61/124.91	58.52/199.67	79.59/271.56	100.97/344.51
3.0/591	41.64/142.08	67.18/229.22	91.51/312.23	116.26/396.68	42.11/143.68	67.74/231.13	92.05/314.07	116.88/398.79

Air-side Pressure Drop Data

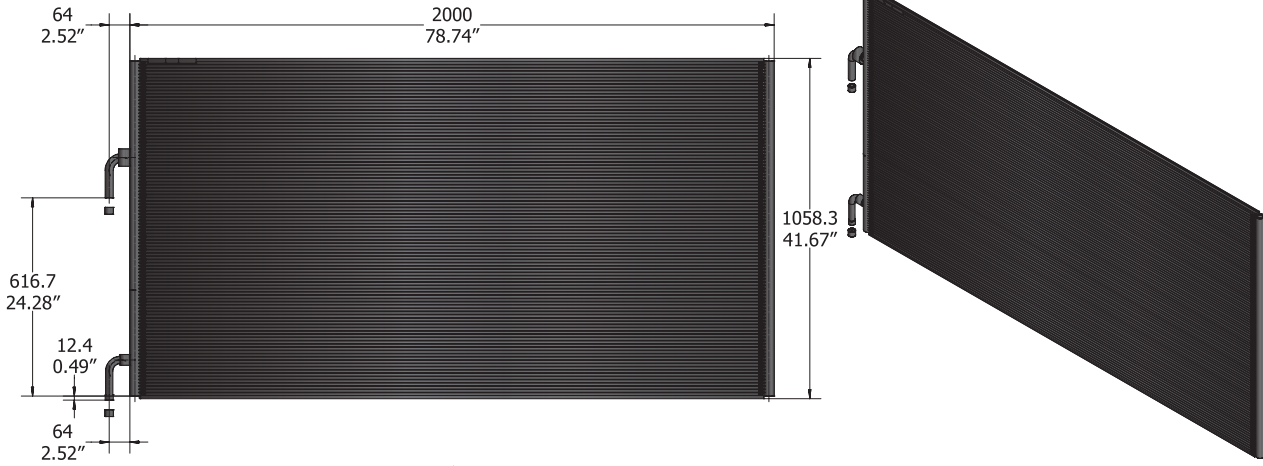
Air Velocity [m/s] / [ft/min]	Pressure drop	Flow rate
	[Pa] / [inch H ₂ O]	[m ³ /h] / [cfm]
1.0/197	18.3/0.07	5801.33/3412.55
1.5/295	30.6/0.12	8701.99/5118.82
2.0/394	45.1/0.18	11602.66/6825.09
2.5/492	61.8/0.25	14503.32/8531.36
3.0/591	80.6/0.32	17403.98/10237.64



D2000-C Condenser coil

Micro-Channel Heat Exchanger

Dimensional Drawing



Parameters Table

Danfoss code	DF0321 / DF0322	Platform	4G25-23FPI
Coil length	2000 mm / 78.74 in	Coil height	1058.3 mm / 41.67 in
Inlet connection (ID)	25.4 mm / 1 in	Outlet connection (ID)	22.4 mm / 0.88 in
Tube width	25.4 mm / 1 in	Tube height	2 mm / 0.08 in
Fin width	25.4 mm / 1 in	Fin height	8.1 mm / 0.32 in
Fin pitch	1.1 mm / 23FPI	Manifold diameter	32 mm / 1.26 in
Num. of tubes	102	Pass distribution	70 / 32
Internal volume	5.44 / 332 in ³	Coil weight	26.4 Kg / 58.2 LB
Ps	45 bar / 652.7 psig	Ts (min ~ max)	-40 °C – 121 °C / -40 °F – 250 °F
Ambient temp. Range	-40 °C – 72 °C / -40 °F – 161.6 °F	Storage temp. Range	-40 °C – 121 °C / -40 °F – 250 °F

Material

Tube	LLA9153	Manifold	AA3003 clad with AA4045
Fin	AA3003Mod clad with AA4343	Connecting tube	Cu

Approval

PED	PED Cat II (Group 2) / Cat III (Group 1)	UL	UL 207
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Refrigerant	<p>Group 1: R290, R32, R600, R600a, R1234yf, R717, R444B, R454B, R452B, R447A, R454C, R454A</p> <p>Group 2: R22, R134a, R404A, R407A, R407B, R407C, R410A, R507A, R1234ze, R513A, R448A, R449A, R407F, R452A, R450A, R422B, R422D, R438A, R1233zd(E), R449B, R407H, R513B</p> <p>Note: R32 is available for MCHes, but if customers request special PS & TS, please confirm with engineering team</p>
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Package

DF0321 / Cat II (Group 2)	021U0265(I/12) / 021U0264(M/8)	DF0322 / Cat III (Group 1)	021U1201(I/12) / 021U1200(M/8)
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Mounting Bars

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

Performance Data (Typical Refrigerant Application)

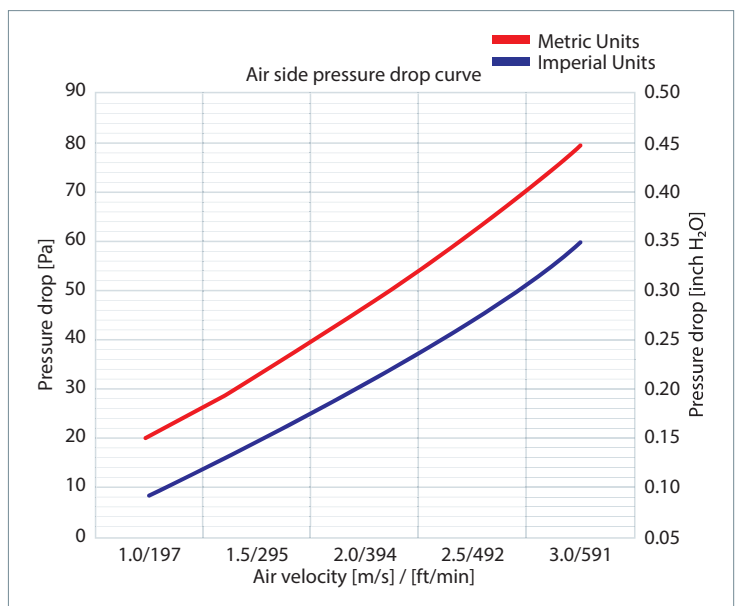
Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R410A				R134a			
	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F
1.0/197	22.66/77.32	34.85/118.91	46.82/159.75	58.88/200.9	21.92/74.79	33.22/113.35	44.83/152.96	56.24/191.89
1.5/295	33.06/112.8	50.49/172.27	67.85/231.5	85.42/291.45	31.13/106.22	48.02/163.84	64.5/220.07	80.99/276.34
2.0/394	42.5/145.01	64.89/221.4	87.4/298.21	110.18/375.93	39.36/134.3	61.3/209.16	82.37/281.05	102.95/351.27
2.5/492	51.27/174.93	78.32/267.23	105.58/360.24	133.2/454.48	46.77/159.58	73.36/250.3	97.98/334.31	123.15/420.19
3.0/591	59.52/203.08	90.96/310.36	122.63/418.41	154.83/528.28	55.06/187.86	84.43/288.08	112.51/383.88	141.52/482.87

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R404A				R407C			
	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	22.51/76.8	35.06/123.2	47.04/165.3	59.11/207.71	15.26/53.62	28.04/98.53	40.51/142.35	52.57/184.73
1.5/295	33.08/112.87	50.5/177.46	67.86/238.46	85.43/300.2	21.44/75.34	40.57/142.56	58.53/205.67	75.92/266.78
2.0/394	42.35/144.5	64.63/227.11	87.06/305.93	109.66/385.35	26.89/94.49	52.25/183.61	75.17/264.15	97.44/342.4
2.5/492	50.86/173.53	77.81/273.42	104.73/368.02	131.99/463.81	31.78/111.67	62.87/220.93	90.17/316.86	117.32/412.26
3.0/591	58.57/199.84	89.79/315.52	121.08/425.48	152.69/536.55	36.18/127.14	72.78/255.75	104.24/366.3	135.74/476.99

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R454B				R452B			
	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	20.87/71.21	32.74/111.71	44.76/152.72	56.67/193.36	21.13/72.1	33.16/113.14	45.05/153.71	56.97/194.38
1.5/295	29.92/102.09	47.67/162.65	64.87/221.34	82.24/280.6	30.26/103.25	48.04/163.91	65.28/222.74	82.67/282.07
2.0/394	38.95/132.9	61.37/209.39	83.56/285.11	106.03/361.77	39.47/134.67	61.85/211.03	84.09/286.92	106.61/363.75
2.5/492	47/160.36	74.02/252.56	101.08/344.88	128.22/437.49	47.61/162.45	74.6/254.54	101.61/346.69	128.9/439.81
3.0/591	54.56/186.16	85.9/293.09	117.29/400.19	148.96/508.25	55.24/188.48	86.54/295.27	118.04/402.75	149.79/511.08

Air-side Pressure Drop Data

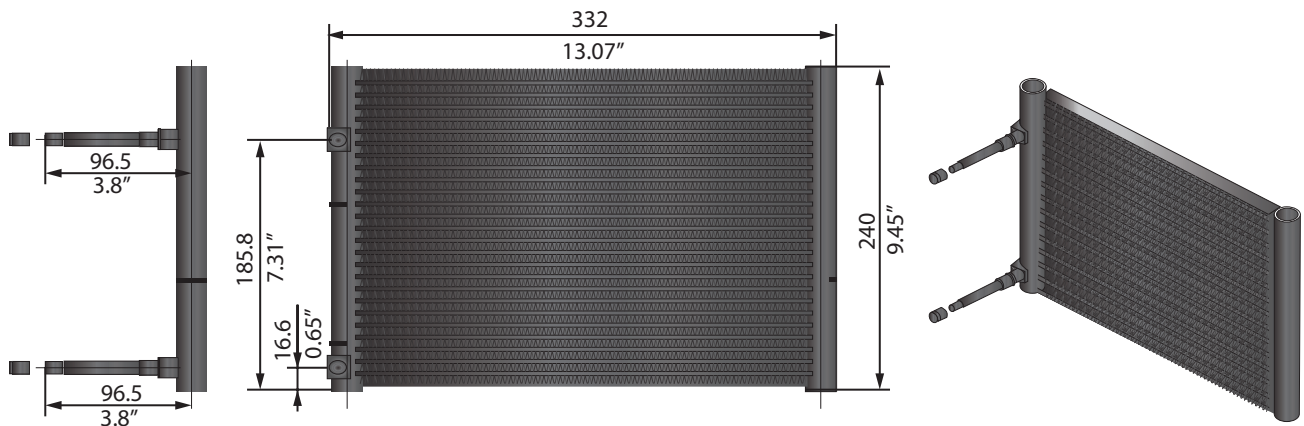
Air Velocity [m/s] / [ft/min]	Pressure drop	Flow rate
	[Pa] / [inch H ₂ O]	[m ³ /h] / [cfm]
1.0/197	20.9/0.08	7199.16/4234.8
1.5/295	34.7/0.14	10798.74/6352.2
2.0/394	50.7/0.2	14398.31/8469.59
2.5/492	68.9/0.28	17997.89/10586.99
3.0/591	89.4/0.36	21597.47/12704.39



D2100-C Condenser coil

Micro-Channel Heat Exchanger

Dimensional Drawing



Parameters Table

Danfoss code	DM0010	Platform	2G16-23FPI
Coil length	332 mm / 13.07 in	Coil height	240 mm / 9.45 in
Inlet connection (ID)	6.15 mm / 0.24 in	Outlet connection (ID)	6.15 mm / 0.24 in
Tube width	16 mm / 0.63 in	Tube height	1.3 mm / 0.05 in
Fin width	16 mm / 0.63 in	Fin height	8.1 mm / 0.32 in
Fin pitch	1.1 mm / 23 FPI	Manifold diameter	20 mm / 0.79 in
Num. of tubes	24	Pass distribution	10 / 6 / 5 / 3
Internal volume	0.15 L / 9.15 in ³	Coil weight	0.643 Kg / 1.41 LB
Ps	45 bar / 652.7 psig	Ts (min ~ max)	-40 °C – 121 °C / -40 °F – 250 °F
Ambient temp. Range	-40 °C – 72 °C / -40 °F – 161.6 °F	Storage temp. Range	-40 °C – 121 °C / -40 °F – 250 °F

Material

Tube	AA3102	Manifold	AA3003 clad with AA4343
Fin	AA3003Mod clad with AA4343	Connecting tube	Cu

Approval

PED	N/A (Not needed for this product)	UL	UL 207
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Refrigerant	Group 1: R290, R32, R600, R600a, R1234yf, R717, R444B, R454B, R452B, R447A, R454C, R454A Group 2: R22, R134a, R404A, R407A, R407B, R407C, R410A, R507A, R1234ze, R513A, R448A, R449A, R407F, R452A, R450A, R422B, R422D, R438A, R1233zd(E), R449B, R407H, R513B
	Note: R32 is available for MCHes, but if customers request special PS & TS, please confirm with engineering team

Package

Industrial pack	021U0341(I/48)	Multi pack	021U0510(M/24)
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Mounting Bars

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

Performance Data (Typical Refrigerant Application)

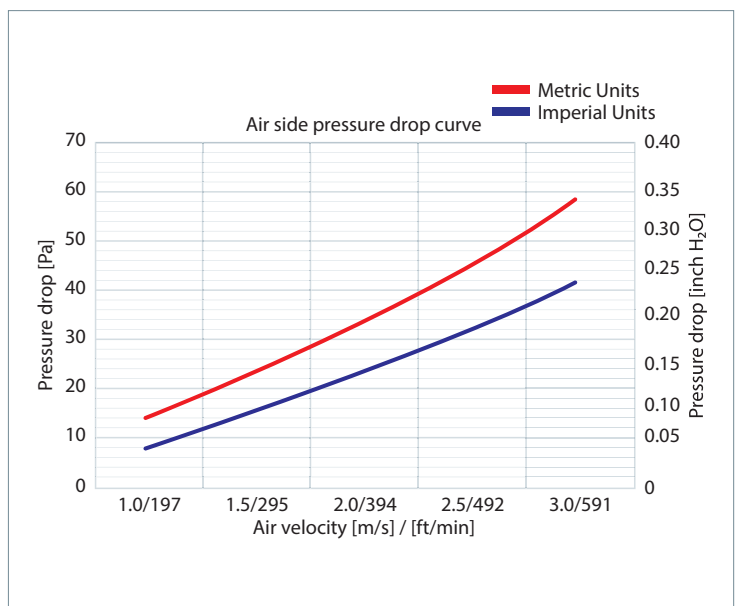
Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R410A				R134a			
	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F
1.0/197	0.55/1.88	0.95/3.24	1.34/4.57	1.71/5.83	0.54/1.84	0.93/3.17	0.93/3.17	1.61/5.49
1.5/295	0.71/2.42	1.36/4.64	1.88/6.41	2.41/8.22	0.81/2.76	1.29/4.4	1.75/5.97	2.29/7.81
2.0/394	1.02/3.48	1.71/5.83	2.36/8.05	3.02/10.3	1.01/3.45	1.59/5.43	2.25/7.68	2.88/9.83
2.5/492	1.2/4.09	2.03/6.93	2.81/9.59	3.59/12.25	1.18/4.03	1.87/6.38	2.66/9.08	3.42/11.67
3.0/591	1.54/5.25	2.32/7.92	3.21/10.95	4.11/14.02	1.33/4.54	2.16/7.37	3.04/10.37	3.91/13.34

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R404A				R407C			
	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	0.54/1.84	0.94/3.21	1.33/4.54	1.7/5.8	0.37/1.26	0.75/2.56	1.11/3.79	1.49/5.08
1.5/295	0.82/2.8	1.36/4.64	1.87/6.38	2.38/8.12	0.48/1.64	1.04/3.55	1.54/5.25	2.1/7.17
2.0/394	0.99/3.38	1.7/5.8	2.34/7.98	2.99/10.2	0.57/1.94	1.28/4.37	1.98/6.76	2.64/9.01
2.5/492	1.24/4.23	2/6.82	2.77/9.45	3.54/12.08	0.62/2.12	1.5/5.12	2.35/8.02	3.11/10.61
3.0/591	1.42/4.85	2.29/7.81	3.18/10.85	4.05/13.82	0.81/2.76	1.7/5.8	2.68/9.14	3.56/12.15

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R290				R452B			
	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	0.56/1.91	0.93/3.17	1.27/4.33	1.61/5.49	0.53/1.81	0.79/2.7	1.26/4.3	1.65/5.63
1.5/295	0.74/2.52	1.29/4.4	1.76/6.01	2.29/7.81	0.68/2.32	1.26/4.3	1.8/6.14	2.32/7.92
2.0/394	1.01/3.45	1.61/5.49	2.27/7.75	2.88/9.83	0.95/3.24	1.62/5.53	2.27/7.75	2.92/9.96
2.5/492	1.19/4.06	1.89/6.45	2.68/9.14	3.42/11.67	1.12/3.82	1.92/6.55	2.69/9.18	3.47/11.84
3.0/591	1.34/4.57	2.23/7.61	3.06/10.44	3.91/13.34	1.28/4.37	2.2/7.51	3.08/10.51	3.97/13.55

Air-side Pressure Drop Data

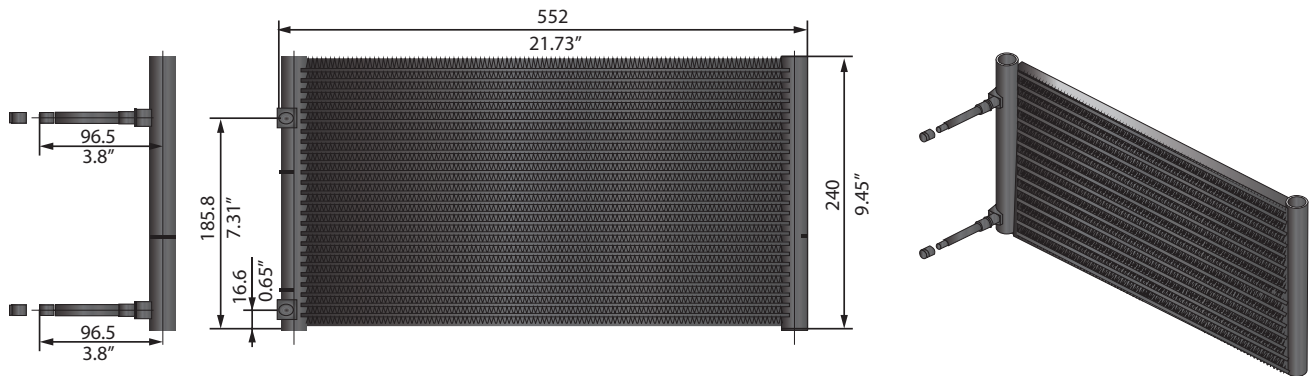
Air Velocity [m/s] / [ft/min]	Pressure drop	Flow rate
	[Pa] / [inch H ₂ O]	[m ³ /h] / [cfm]
1.0/197	13.4/0.05	235.57/138.57
1.5/295	22.5/0.09	353.35/207.85
2.0/394	33.10/0.13	471.14/277.14
2.5/492	45.2/0.18	588.92/346.42
3.0/591	58.8/0.24	706.71/415.71



D2200-C Condenser coil

Micro-Channel Heat Exchanger

Dimensional Drawing



Parameters Table

Danfoss code	DM0020	Platform	2G16-23FPI
Coil length	552 mm / 21.73 in	Coil height	240 mm / 9.45 in
Inlet connection (ID)	6.15 mm / 0.24 in	Outlet connection (ID)	6.15 mm / 0.24 in
Tube width	16 mm / 0.63 in	Tube height	1.3 mm / 0.05 in
Fin width	16 mm / 0.63 in	Fin height	8.1 mm / 0.32 in
Fin pitch	1.1 mm / 23 FPI	Manifold diameter	20 mm / 0.79 in
Num. Of tubes	24	Pass distribution	10 / 6 / 5 / 3
Internal volume	0.19 L / 11.59 in ³	Coil weight	1.011 Kg / 2.22 LB
Ps	45 bar / 652.7 psig	Ts (min ~ max)	-40 °C – 121 °C / -40 °F – 250 °F
Ambient temp. Range	-40 °C – 72 °C / -40 °F – 161.6 °F	Storage temp. Range	-40 °C – 121 °C / -40 °F – 250 °F

Material

Tube	AA3102	Manifold	AA3003 clad with AA4343
Fin	AA3003Mod clad with AA4343	Connecting tube	Cu

Approval

PED	N/A (Not needed for this product)	UL	UL 207
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Refrigerant

Group 1: R290, R32, R600, R600a, R1234yf, R717, R444B, R454B, R452B, R447A, R454C, R454A
 Group 2: R22, R134a, R404A, R407A, R407B, R407C, R410A, R507A, R1234ze, R513A, R448A, R449A, R407F, R452A, R450A, R422B, R422D, R438A, R1233zd(E), R449B, R407H, R513B

Note: R32 is available for MCHEs, but if customers request special PS & TS, please confirm with engineering team

Package

Industrial pack	021U0342(I/32)	Multi pack	021U0509(M/16)
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Mounting Bars

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

Performance Data

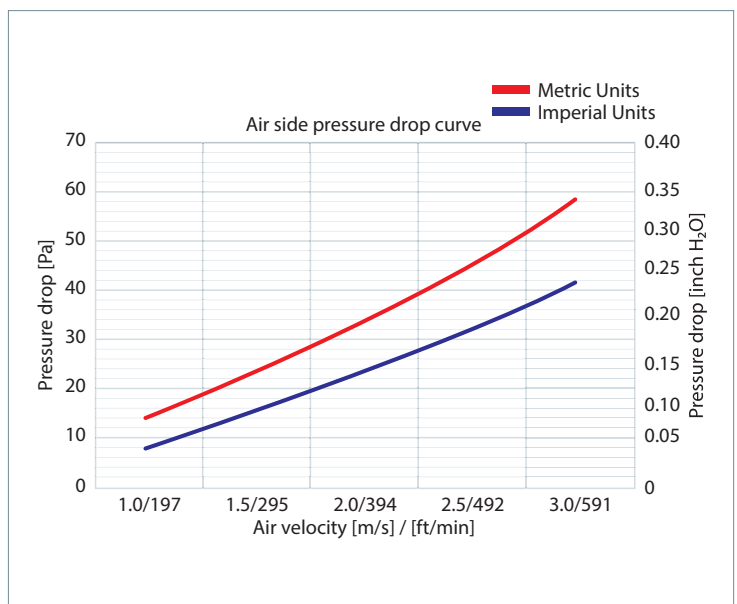
Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R410A				R134a			
	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F
1.0/197	1.17/3.99	1.85/6.31	2.5/8.53	3.15/10.75	1.11/3.79	1.74/5.94	2.38/8.12	2.96/10.1
1.5/295	1.67/5.7	2.59/8.84	3.51/11.98	4.42/15.08	1.54/5.25	2.44/8.33	3.3/11.26	4.09/13.96
2.0/394	2.1/7.17	3.24/11.05	4.39/14.98	5.56/18.97	1.9/6.48	3.04/10.37	4.09/13.96	5.09/17.37
2.5/492	2.48/8.46	3.84/13.1	5.2/17.74	6.59/22.49	2.21/7.54	3.57/12.18	4.78/16.31	5.94/20.27
3.0/591	2.82/9.62	4.37/14.91	5.93/20.23	7.53/25.69	2.55/8.7	4.03/13.75	5.41/18.46	6.71/22.89

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R404A				R407C			
	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	1.14/3.89	1.82/6.21	2.46/8.39	3.1/10.58	0.75/2.56	1.43/4.88	2.11/7.2	2.76/9.42
1.5/295	1.64/5.6	2.53/8.63	3.42/11.67	4.33/14.77	1.02/3.48	2.03/6.93	2.95/10.07	3.85/13.14
2.0/394	2.04/6.96	3.15/10.75	4.27/14.57	5.41/18.46	1.25/4.27	2.54/8.67	3.68/12.56	4.81/16.41
2.5/492	2.39/8.15	3.71/12.66	5.03/17.16	6.37/21.73	1.44/4.91	2.99/10.2	4.34/14.81	5.67/19.35
3.0/591	2.72/9.28	4.21/14.36	5.71/19.48	7.24/24.7	1.61/5.49	3.41/11.63	4.93/16.82	6.45/22.01

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R290				R452B			
	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	1.14/3.89	1.75/5.97	2.39/8.15	3.01/10.27	1.09/3.72	1.75/5.97	2.4/8.19	3.05/10.41
1.5/295	1.57/5.36	2.48/8.46	3.34/11.4	4.2/14.33	1.52/5.19	2.46/8.39	3.37/11.5	4.29/14.64
2.0/394	1.95/6.65	3.1/10.58	4.17/14.23	5.27/17.98	1.94/6.62	3.08/10.51	4.23/14.43	5.38/18.36
2.5/492	2.36/8.05	3.66/12.49	4.92/16.79	6.2/21.15	2.29/7.81	3.64/12.42	5.01/17.09	6.37/21.73
3.0/591	2.71/9.25	4.15/14.16	5.6/19.11	7.06/24.09	2.62/8.94	4.16/14.19	5.71/19.48	7.28/24.84

Air-side Pressure Drop Data

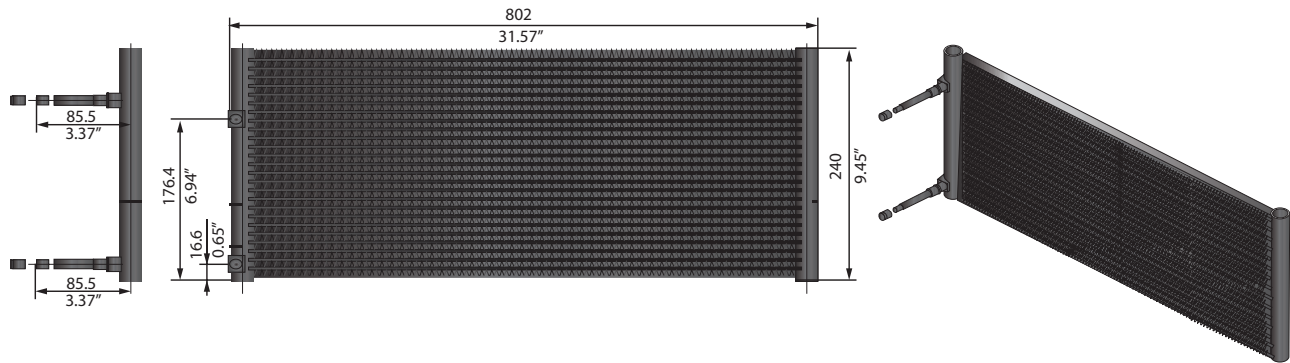
Air Velocity [m/s] / [ft/min]	Pressure drop	Flow rate
	[Pa] / [inch H ₂ O]	[m ³ /h] / [cfm]
1.0/197	13.4/0.05	422.34/248.44
1.5/295	22.5/0.09	633.51/372.65
2.0/394	33.10/0.13	844.68/496.87
2.5/492	45.2/0.18	1055.86/621.09
3.0/591	58.8/0.24	1267.03/745.31



D2300-C Condenser coil

Micro-Channel Heat Exchanger

Dimensional Drawing



Parameters Table

Danfoss code	DM0030	Platform	2G16-23FPI
Coil length	802 mm / 31.57 in	Coil height	240 mm / 9.45 in
Inlet connection (ID)	9.7 mm / 0.38 in	Outlet connection (ID)	8.2 mm / 0.32 in
Tube width	16 mm / 0.63 in	Tube height	1.3 mm / 0.05 in
Fin width	16 mm / 0.63 in	Fin height	8.1 mm / 0.32 in
Fin pitch	1.1 mm / 23 FPI	Manifold diameter	20 mm / 0.79 in
Num. of tubes	24	Pass distribution	16 / 8
Internal volume	0.23 L / 14.04 in ³	Coil weight	1.391 Kg / 3.06 LB
Ps	45 bar / 652.7 psig	Ts (min ~ max)	-40 °C – 121 °C / -40 °F – 250 °F
Ambient temp. Range	-40 °C – 72 °C / -40 °F – 161.6 °F	Storage temp. Range	-40 °C – 121 °C / -40 °F – 250 °F

Material

Tube	AA3102	Manifold	AA3003 clad with AA4343
Fin	AA3003Mod clad with AA4343	Connecting tube	Cu

Approval

PED	N/A (Not needed for this product)	UL	UL 207
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Refrigerant	Group 1: R290, R32, R600, R600a, R1234yf, R717, R444B, R454B, R452B, R447A, R454C, R454A
	Group 2: R22, R134a, R404A, R407A, R407B, R407C, R410A, R507A, R1234ze, R513A, R448A, R449A, R407F, R452A, R450A, R422B, R422D, R438A, R1233zd(E), R449B, R407H, R513B
Note: R32 is available for MCHEs, but if customers request special PS & TS, please confirm with engineering team	

Package

Industrial pack	021U0609(I/32)	Multi pack	021U0689(M/16)
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Mounting Bars

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

Performance Data

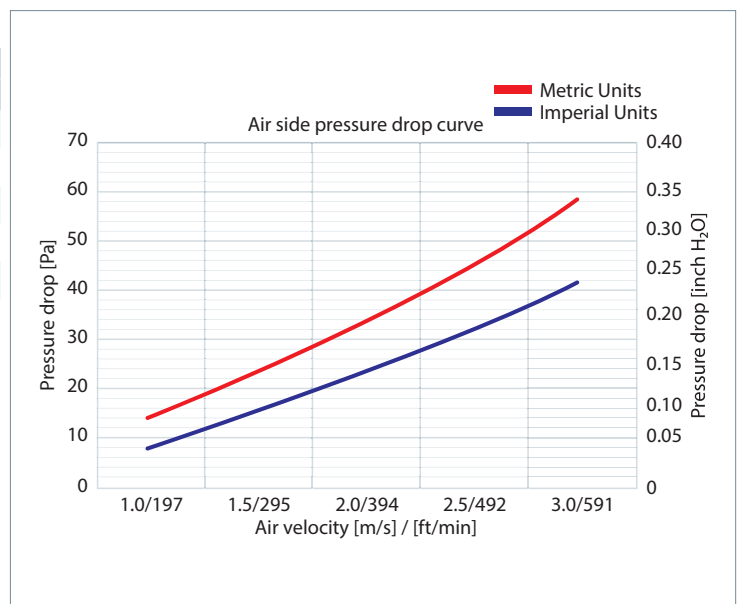
Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R410A				R134a			
	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F	Δ=10 K / 18 °F	Δ=15 K / 27 °F	Δ=20 K / 36 °F	Δ=25 K / 45 °F
1.0/197	1.71/5.83	2.66/9.08	3.68/12.56	4.67/15.93	1.64/5.6	2.53/8.63	3.55/12.11	4.32/14.74
1.5/295	2.37/8.09	3.78/12.9	5.15/17.57	6.55/22.35	2.25/7.68	3.49/11.91	4.72/16.1	6.11/20.85
2.0/394	2.93/10	4.74/16.17	6.47/22.08	8.23/28.08	2.77/9.45	4.32/14.74	6.02/20.54	7.65/26.1
2.5/492	3.43/11.7	5.61/19.14	7.66/26.14	9.76/33.3	3.23/11.02	5.05/17.23	7.09/24.19	9/30.71
3.0/591	4.08/13.92	6.42/21.91	8.76/29.89	11.16/38.08	3.65/12.45	5.89/20.1	8.06/27.5	10.18/34.73

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R404A				R407C			
	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	1.67/5.7	2.58/8.8	3.62/12.35	4.6/15.7	1.03/3.51	2.11/7.2	3.06/10.44	4.06/13.85
1.5/295	2.28/7.78	3.72/12.69	5.06/17.26	6.43/21.94	1.5/5.12	2.91/9.93	4.26/14.54	5.7/19.45
2.0/394	2.79/9.52	4.66/15.9	6.34/21.63	8.06/27.5	1.82/6.21	3.6/12.28	5.43/18.53	7.16/24.43
2.5/492	3.48/11.87	5.48/18.7	7.49/25.56	9.53/32.52	2.12/7.23	4.21/14.36	6.45/22.01	8.43/28.76
3.0/591	3.96/13.51	6.24/21.29	8.54/29.14	10.87/37.09	2.37/8.09	4.78/16.31	7.32/24.98	9.62/32.82

Air Velocity [m/s] / [ft/min]	Performance [KW/Btu/h×1000]							
	R290				R452B			
	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	1.69/5.77	2.62/8.94	3.53/12.04	4.45/15.18	1.57/5.36	2.5/8.53	3.46/11.81	4.51/15.39
1.5/295	2.34/7.98	3.63/12.39	4.9/16.72	6.31/21.53	2.17/7.4	3.47/11.84	4.87/16.62	6.33/21.6
2.0/394	2.9/9.89	4.51/15.39	6.26/21.36	7.92/27.02	2.7/9.21	4.44/15.15	6.13/20.92	7.95/27.13
2.5/492	3.39/11.57	5.29/18.05	7.41/25.28	9.37/31.97	3.17/10.82	5.26/17.95	7.26/24.77	9.43/32.18
3.0/591	3.84/13.1	6.2/21.15	8.45/28.83	10.67/36.41	3.59/12.25	6.02/20.54	8.31/28.35	10.78/36.78

Air-side Pressure Drop Data

Air Velocity [m/s] / [ft/min]	Pressure drop	Flow rate
	[Pa] / [inch H ₂ O]	[m ³ /h] / [cfm]
1.0/197	13.4/0.05	630.99/371.17
1.5/295	22.5/0.09	946.48/556.75
2.0/394	33.10/0.13	1255.67/738.63
2.5/492	45.2/0.18	1577.45/927.91
3.0/591	58.8/0.24	1892.97/1113.51



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