



# HEATING & COOLING COIL PRODUCTS

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CC

CEILING MOUNTED  
COOLERS

Capacities 10-135kW  
White powder coated casing  
Aerofoil fans  
4, 6 or 8mm fin spacing



# HEATING & COOLING COIL PRODUCTS

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The CC range of ceiling mounted coolers are designed to suit a wide range of cold storage, blast freezing, blast chilling, and food processing applications. The units are rigidly constructed with draw through aerofoil fans for efficient air throw and reliable performance. The coils can be offered for DX refrigeration or secondary refrigerants.

## SPECIFICATION

### Coil

Manufactured from 5/8 " o.d. copper tube mechanically expanded into heavy gauge aluminium plate fins with fully collared holes to ensure an efficient and permanent bond. Fin spacings 4 mm, 6 mm or 8 mm. Copper tube suction headers and distributors are individually sized to suit the exact operating conditions. Brazed joints are made with silver bearing copper alloy. Coils are pressure tested to 26 bar g, vacuum dehydrated and sealed with a dry nitrogen charge.



### Casing

Galvanised sheet steel white polyester powder coated for flush ceiling mounting or base mounting onto steelwork.

### Fans

Axial flow, non overloading aerofoil fans with polypropylene variable pitch blades secured into diecast aluminium hubs, keyed and locked onto the motor shaft. The fans run in a formed bell mouth orifice for efficiency and low noise.

### Motors

Totally enclosed class F insulated metric frame, 380/420/3/50 Hz IP55.



## DEFROST OPTIONS

### Electric

For efficient defrosting low power density 200/250V 1 ph stainless steel sheathed elements are provided in the coil and draintray. Heaters are wired to a terminal box for 3 phase + neutral supply.

**ED 1** Light duty defrost for marginal room temperatures.

**ED 2** Normal duty defrost for low temperature applications.

**FP** Fan Peripheral Heaters - for applications with room temperature below zero.

### Reverse Cycle / Hot gas

Coils may be circuited for reverse cycle or hot gas defrost with electric elements or hot gas tubes in the drain pan.

**HGE** Hot gas coil, electric drain tray

**HGD** Hot gas coil and tray

**RCE** Reverse cycle coil, electric tray

**RCD** Reverse cycle coil and tray

## NOISE LEVELS

The noise levels stated are at a distance of 3 m from the unit at an angle of 45° to the horizontal in free field conditions with no reflections. These are intended to be used as a guide for comparison purposes. In practice the noise generated will be reflected off the enclosure surfaces and may be absorbed by the product within the room. For applications where noise levels are critical lower speed fans can be offered and the advice of an acoustic specialist is recommended.

## AIR THROW

Cooler air throw is dependant upon coldstore design, product loading and positioning of coolers. Generally one metre space above product with no obstructions allows the air to travel considerable distances, providing that the room is tall and adequate space is allowed to return air at low level and velocity. Low head rooms need careful cooler siting and some means of separating discharge and return air. Cooler fans suck air back as well as blow.

## OPTIONAL FEATURES

### Easy Clean Casing

Accessible clean in position drain pan with 75 mm gap under coil to allow unrestricted access for cleaning and inspection. Access to fan plenum.

### Plain Galvanised Casing

NS4 Marine Grade Aluminium Casing.

Stainless Steel Casing.

### Insulated Drain Pans

Coils circuited for chilled water / glycol

## SELECTION

Capacity tables are rated at - 8°C saturated suction temperature R22, 0° C air on temperature.

Capacities are net heat extracted by the coil not including fan heat.

### Selection Example

A cooler is required to do 56 kW with R22 evaporating @ -30°C, room temperature - 23°C with 6 mm fin spacing and heavy duty electric defrost.

1. Select correction factor from table for 7 K TD and - 30°C evaporating.
2. Factor = 0.74
3. Correct required duty to catalogue rated capacity.  $56 / 0.74 = 75.67$  kW
4. Select Model from capacity table. Model CC1606 ED2.



## CC CAPACITIES

Model	Capacity KW 8K TD	Coil Data				Capacity KW 8K TD	Coil Data			Air Vol m3/s	Fan Data								
		4 mm		6 mm			8 mm				0 Pa ESP						120 Pa ESP		
		Surface Area m2	Internal Volume dm3	Surface Area m2	Internal Volume dm3		Surface Area m2	Internal Volume dm3	No		Dia	rpm	kW	FLC	Air Throw Nom m	Noise Level dbA@3m	rpm	kW	FLC
20	10.4	66	18.8	60	25.1	7.9	47	25.1	1.95	1	500	1400	0.55	1.6	12	75	1400	0.75	2.0
25	12.1	77	22.0	70	29.3	9.2	54	29.3	2.28	1	560	930	0.55	1.7	13	70	1400	1.1	2.9
30	14.1	90	25.5	82	34.0	10.7	63	34.0	2.65	1	630	930	0.55	1.7	13	71	1400	1.1	2.9
35	17.1	109	31.0	99	41.3	13.0	77	41.3	3.21	1	630	930	0.75	2.2	15	73	1400	1.5	3.9
40	19.1	122	34.6	111	46.2	14.5	86	46.2	3.59	1	710	930	0.75	2.2	18	74	1400	1.5	3.9
45	22.3	142	40.4	130	53.8	16.9	100	53.8	4.19	2	560	930	0.55	1.7	21	73	1400	1.1	2.9
50	23.9	152	43.2	139	57.6	18.2	107	57.6	4.49	2	560	930	0.55	1.7	25	73	1400	1.1	2.9
60	28.7	182	51.9	167	69.2	21.8	128	69.2	5.38	2	630	930	0.55	1.7	27	74	1400	1.1	2.9
70	33.5	212	60.5	194	80.7	25.4	150	80.7	6.28	2	630	930	0.75	2.2	30	76	1400	1.5	3.9
80	38.2	243	69.2	222	92.2	29.1	171	92.2	7.18	2	710	930	0.75	2.2	35	77	1400	1.5	3.9
90	43.0	273	77.8	250	103.8	32.7	192	103.8	8.07	2	710	930	1.1	2.8	37	78	1400	1.5	3.9
100	47.8	304	86.5	278	115.3	36.3	214	115.3	8.97	2	710	930	1.1	2.8	40	78	1400	2.2	5.3
120	57.3	364	103.8	333	138.4	43.6	257	138.4	10.77	3	710	930	0.75	2.2	42	79	1400	1.5	3.9
140	67.3	427	121.7	391	162.3	51.1	301	162.3	12.63	3	710	930	1.1	2.8	45	80	1400	2.2	5.3
160	76.5	486	138.3	444	184.4	58.1	342	184.4	14.35	3	710	930	1.5	3.8	50	80	1400	2.2	5.3
180	85.6	544	154.9	497	206.6	65.1	383	206.6	16.07	3	800	930	1.5	3.8	55	81	1400	3	6.9
200	97.9	622	177.1	569	236.1	74.4	438	236.1	18.37	3	800	930	1.5	3.8	55	81	1400	4	9.2
240	116.2	738	210.3	675	280.4	88.3	520	280.4	21.81	3	800	930	2.2	5.8	60	83	1400	4	9.2
280	133.9	851	242.3	778	323.1	101.8	599	323.1	25.14	4	800	930	2.2	5.8	60	85	1400	4	9.2

Electric Defrost					
Model	Coil & Drain Pan kW				Fan Periphery kW
	4mm ED1	4mm ED2	6&8mm ED1	6&8mm ED2	
20	3.9	4.8	4.5	5.7	0.4
25	4.5	5.7	4.8	6.3	0.5
30	4.6	5.7	5.4	6.9	0.6
35	5.4	6.9	6.3	8.0	0.6
40	6.3	8.0	7.2	9.2	0.7
45	9.0	11.2	10.6	13.4	1.0
50	10.1	12.3	11.8	14.6	1.0
60	12.3	15.7	13.4	17.4	1.1
70	12.9	16.2	15.1	19.0	1.1
80	14.3	18.0	18.0	21.0	1.3
90	16.5	21.0	18.8	24.0	1.3
100	17.3	21.8	20.3	25.5	1.3
120	20.3	25.5	22.5	30.0	2.0
140	19.6	24.5	22.0	27.7	2.0
160	22.0	27.7	24.5	32.6	2.0
180	24.5	31.0	26.9	35.9	1.7
200	26.9	34.2	29.3	39.1	1.7
240	29.3	37.5	32.6	42.4	1.7
280	33.5	42.8	37.2	48.4	2.2

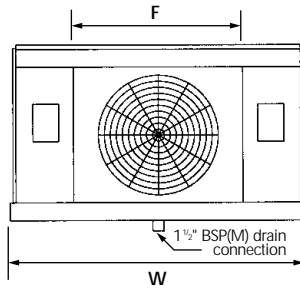
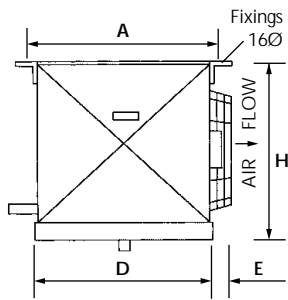
Total Fan Heat Input		
Model	0 ESP kW	120 Pa ESP kW
20	0.76	1
25	0.8	1.4
30	0.8	1.4
35	1.1	1.9
40	1.1	1.9
45	1.6	2.8
50	1.6	2.8
60	1.6	2.8
70	2.2	3.8
80	2.2	3.8
90	3	3.8
100	3	5.2
120	3.3	5.7
140	4.5	7.8
160	5.4	7.8
180	5.4	11
200	5.4	14
240	7.8	14
280	10.4	18

Capacity Correction Factors										
TD DT1	R22 Evaporating Temperature °C									
	-40	-35	-30	-23	-18	-12	-8	-7	-1	+ 5
6	0.57	0.60	0.64	0.66	0.70	0.72	0.75	0.76	0.79	0.8
7	0.67	0.70	0.74	0.77	0.81	0.84	0.88	0.88	0.92	0.9
8	0.76	0.80	0.85	0.88	0.93	0.96	1.00	1.01	1.05	1.1
9	0.86	0.90	0.96	0.99	1.05	1.08	1.13	1.14	1.18	1.2
10	0.95	1.00	1.06	1.10	1.16	1.20	1.25	1.26	1.31	1.4

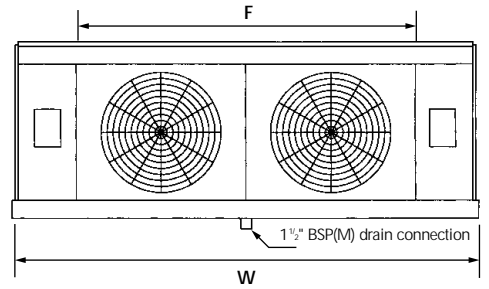
# CC DIMENSIONS AND WEIGHTS

Dimensions								Weights kg			
Model	**H	W	D	E Aerofoil	E Ducted Axial	A	F	8 & 6 mm		4 mm	
								Al Fins	Cu Fins	Al Fins	Cu Fins
20	708	1486	775	95	330	825	1100	206	240	197	235
25	810	1486	775	95	355	825	1100	224	264	214	259
30	810	1656	775	100	360	825	1270	248	294	237	289
35	962	1656	775	100	360	825	1270	277	333	265	327
40	1064	1656	775	100	435	825	1270	299	361	285	355
45	810	2366	775	95	355	825	1980	346	418	331	413
50	861	2366	775	95	355	825	1980	358	435	342	430
60	1013	2366	775	100	360	825	1980	405	498	387	492
70	1165	2366	775	100	360	825	1980	444	553	424	547
80	958	3431	970	100	435	1020	1472	523	669	523	662
90	1060	3431	970	100	435	1020	1472	552	716	552	709
100	1162	3431	970	100	435	1020	1472	580	762	580	755
120	1365	3431	970	100	435	1020	981	684	900	684	894
140	1263	4241	970	100	435	1020	1251	761	1015	761	1008
160	1416	4241	970	100	435	1020	1251	837	1122	837	1116
180	1568	4241	970	100	435	1020	1251	870	1189	870	1183
200	1771	4241	970	100	435	1020	1251	937	1301	937	1295
240	2076	4241	970	100	435	1020	1251	1091	1520	1091	1516
280	2076	4806	970	100	435	1020	1080	1256	1750	1256	1746

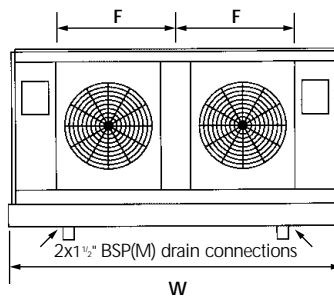
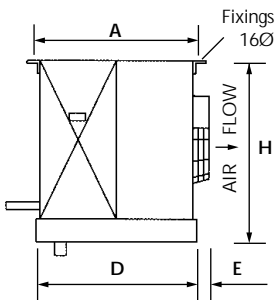
\*\* Easy Clean Drain Pan + 110 mm



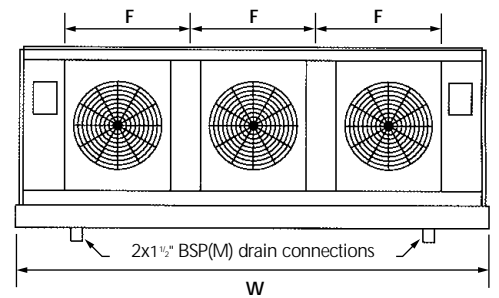
Models  
CC 20-40



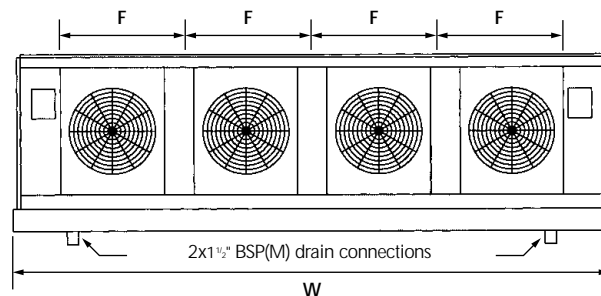
Models  
CC 45-70



Models  
CC 80-100



Models  
CC 120-240



Models  
CC 280

## HOW TO ORDER.

CC 160 6 ED2 PH AE CU/AL WP

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**Model** CC

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**No**

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**Fin spacing** 4, 6, 8mm

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**Defrost**

ED 1

ED 2

HGE

HGD

RCE

RCD

PH

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**Fans** AE Standard Aerofoils 0 ESP  
DA Shortcase Axial 120 Pa ESP

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**Tube / Fin Material**

Cu/Al Copper Tubes with Aluminium Fins

Cu/Al Copper Tubes with Polyester Coated  
Aluminum Fins

Cu/Cu Copper Tubes with Copper Fins

Cu/Cu/Et Copper Tubes with Copper Fins Electrotinned

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**Casing**

WP White Powder Coated Galvanised Sheet Steel

PG Plain Galvanised Sheet Steel

ST T304 Watch Case Stainless Steel

EC Easy Clean

AL NS4 Marine Grade Aluminium

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### When ordering we need to know the following:

Evaporator Duty

Refrigerant

Evaporating Temperature

Room Temperature

Liquid temperature before TEV.

Connection Handing - looking  
in direction of airflow

(LIDOAF)

Connection Termination -  
Vertical or Horizontal

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Bulletin CC 1/3/07

We reserve the right to change in whole, or in part, the specification detailed in this brochure without prior notice, and when necessary, to achieve continuous production, to use alternative competitive designs of sub contract components made by various manufacturers.