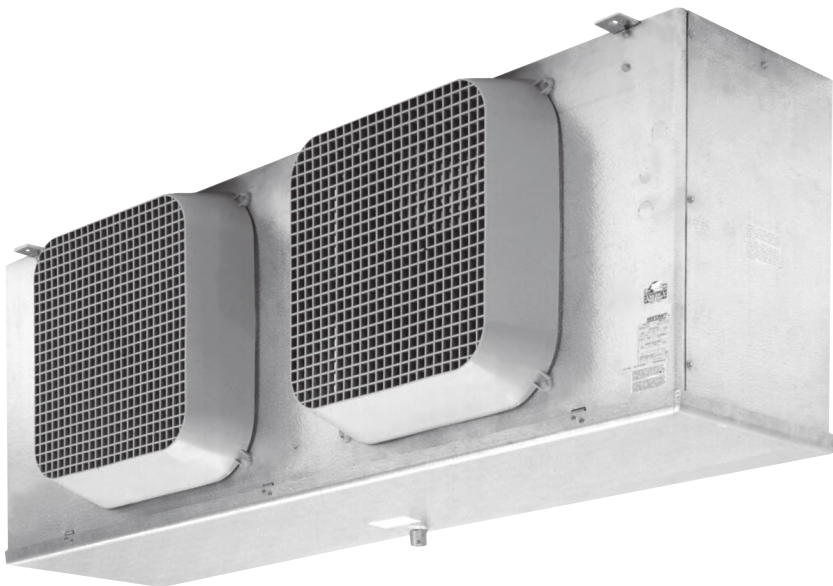




Medium Profile Unit Coolers

Technical Guide

Models CMA | CME/CML | CMG/CMF



CLIMATE

CONTROL

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Choose the most energy-efficient motor available for evaporators.



The EC motor is an energy sufficient option on Climate Control Medium Profile evaporators. Available on all new equipment or as an easy-to-install, drop-in replacement aftermarket part from InterLink™ Commercial Refrigeration Parts. Because they are a drop-in replacement for existing shaded pole and PSC motors, installation is quick and easy. It's a high impact, quick payback solution for reducing costs and achieving green initiatives without replacing the entire system.

EC motors by InterLink are up to 75% energy efficient - that's a 51-59% increase over shaded pole motors and a 30-35% increase over permanent-split capacitor (PSC) motors. With all of this added efficiency, you can count on more energy savings and lower operational costs while taking a step in the right direction toward conserving our planet's resources.

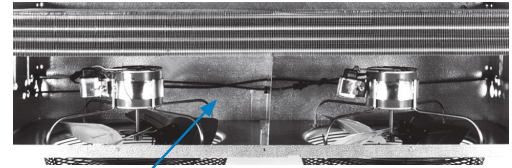
Nomenclature

CM	A	130	B	G	A
Model Series	Model Type	Capacity	Electrical Code	Control Option	Design Revision
Climate Control Medium Profile Unit Cooler	A = Air Defrost	#BTUH x 100 (R-404A)	A = 115/1/60	G = IntelliGen™	(CME and CML models are "B" revision)
	E = Electric Defrost, 6 FPI		B = 208-230/1/60		
	L = Electric Defrost, 4 FPI		C = 208-230/3/60		
	G = Hot Gas Defrost, 6 FPI		D = 460/3/60		
	F = Hot Gas Defrost, 4 FPI		M = 460/1/60		
			E = 575/3/60		
			L = 575/1/60		
			N = 110/1/50		
			Q = 220/1/50		
			R = 380/1/50		
			V = 380/3/50		
			AE = 115/1/60 (EC)		
			BE = 208-230/1/60 (EC)		
			CE = 208-230/3/60 (EC)		

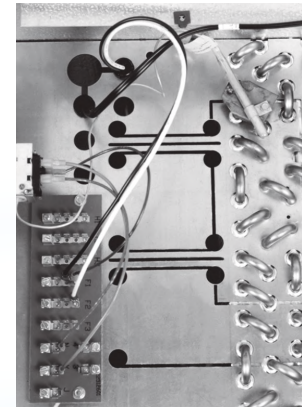
Features & Benefits

Cabinet

- Schrader valve provided for suction pressure measurement
- External equalizer connection
- Heavy-gauge textured aluminum cabinet
- All electrical components factory wired to terminal board and identified, making it easy to field wire the unit
- Sweat connections to reduce potential for leaks
- Internal panels are isolated for quiet operation
- Liquid line solenoid wire harness is factory-installed for quick installation



Factory-installed liquid line solenoid wiring harness for faster installation



Innovative Thermo-Flex™ coil

Motors

- Motors plug into wiring harness for easier servicing
- Single phase EC motors available factory-installed or as a drop-in replacement through InterLink™ Commercial Refrigeration Parts in 115 and 208-230 voltages
- Thermally protected, lifetime-lubricated single phase PSC motors

Controls Options

- intelliGen™ Refrigeration Controller (IRC) units come with factory mounted, tested and calibrated with an electronic expansion valve, pressure transducer, temperature sensors, control board and User Interface. Standard features include Door Sensor, Product Load Input and Alarm Output.
- Optional Field installable intelliGen Webserver Card (iWC) enables local and remote monitoring on any Phone, Tablet or PC.
- Optional Field installable intelliGen Integration Card (iIC) enables connectivity to BACnet and Modbus.
- Quick Response Controller units come factory mounted with an electronic expansion valve, pressure transducer, temperature sensors and control board.
- Beacon II™ units come factory mounted with an electronic expansion valve, pressure transducer, temperature sensors and control board.

Coil

- Patented Thermo-Flex™ coil design allows the coil to “flex” during periods of defrost resulting in expansion of the coil surface. By eliminating the possibility of wear at critical stress areas, the integrity and longevity of the unit are dramatically increased (Patent Number 5,584,340)
- Coil heater slots have been enlarged for easier installation and replacement
- Electric defrost models have fixed defrost termination / fan delay and heater limit thermostats
- Reliable nickel steel alloy defrost heater elements
- Heaters are coil face mounted for easy access

Drain Pan

- Front hinged drain pan for easy access
- Large diameter drain fitting (3/4" ID)

Other Options

- Totally enclosed single phase PSC motors available as an option for 208-230 and 460 voltages
- Factory installed mounted components are available in these configurations:
 - Pre-assembled units come with mounted TXV, liquid line solenoid valve and room thermostat
 - Pre-charged units come with mounted TXV, liquid line solenoid valve, room thermostat, and quick connect fittings
 - Mounted TXV
 - Mounted TXV and solenoid valve
 - Mounted room thermostat
- Most models available with glycol circuiting (see glycol product brochure)
- Units available with stainless steel housing and drain pan
- Units available with Bronze-Glow coil coating (air, electric and hot gas)
- Units available with copper fins (6 FPI models only)
- Air defrost units available with polyester coated fins, or various coil coating options
- Units available with insulated drain pan
- Ship-loose air sock collar available

Bohn offers a five-year limited guarantee against leaks at tube sheets and center supports for all medium profile unit coolers

PERFORMANCE DATA: AIR DEFROST

Model CMA Air Defrost | 60 Hz

Model	Capacity				Fan Data			Air Throw* †					
	R-404A		R-407A/C/F, R-448A/R-449A		No.	CFM	m³H	Diameter		Extended (Std.)		Diffused (Opt.)	
	10°F TD 25°F SST	6°C TD 4°C SST	10°F TD 25°F SST	6°C TD 4°C SST				in.	mm	ft.	m	ft.	m
	BTUH	Watts	BTUH	Watts									
CMA130	13,000	3,800	15,000	4,400	1	2,300	3,910	18	457	65	20	50	15
CMA155	15,500	4,500	18,000	5,300	1	2,200	3,740	18	457	65	20	50	15
CMA245	24,500	7,200	27,500	8,100	2	4,600	7,820	18	457	65	20	50	15
CMA300	30,000	8,800	34,000	10,000	2	4,400	7,480	18	457	65	20	50	15
CMA365	36,500	10,700	41,500	12,200	3	6,900	11,730	18	457	65	20	50	15
CMA450	45,000	13,200	51,500	15,100	3	6,600	11,220	18	457	65	20	50	15
CMA510	51,000	14,900	58,000	17,000	4	9,200	15,640	18	457	65	20	50	15
CMA600	60,000	17,600	68,500	20,100	4	8,800	14,960	18	457	65	20	50	15
CMA710	71,000	20,800	81,000	23,700	5	10,500	17,850	18	457	65	20	50	15

Model CMA Air Defrost | 50 Hz †

Model	Capacity				Fan Data			Air Throw* †					
	R-404A		R-407A/C/F, R-448A/R-449A		No.	CFM	m³H	Diameter		Extended (Std.)		Diffused (Opt.)	
	10°F TD 25°F SST	6°C TD 4°C SST	10°F TD 25°F SST	6°C TD 4°C SST				in.	mm	ft.	m	ft.	m
	BTUH	Watts	BTUH	Watts									
CMA130	12,400	3,600	14,300	4,200	1	2,070	3,520	18	457	60	18.5	45	13.5
CMA155	14,700	4,300	17,100	5,000	1	1,980	3,370	18	457	60	18.5	45	13.5
CMA245	23,300	6,800	26,100	7,700	2	4,140	7,040	18	457	60	18.5	45	13.5
CMA300	28,500	8,400	32,300	9,500	2	3,960	6,730	18	457	60	18.5	45	13.5
CMA365	34,700	10,200	39,400	11,600	3	6,210	10,560	18	457	60	18.5	45	13.5
CMA450	42,800	12,500	48,900	14,300	3	5,940	10,100	18	457	60	18.5	45	13.5
CMA510	48,500	14,200	55,100	16,200	4	8,280	14,080	18	457	60	18.5	45	13.5
CMA600	57,000	16,700	65,100	19,100	4	7,920	13,460	18	457	60	18.5	45	13.5
CMA710	67,500	19,800	77,000	22,500	5	9,450	16,070	18	457	60	18.5	45	13.5

* Standard molded fan guards allow for extended air throw; optional wire guards promote air diffusion

† Air throw data based on 12-ft. high ceilings with no obstructions where velocity drops to 50 FPM

‡ For EC motors, use 60 Hz capacity and airflow values (Units with EC motors operating at 50 Hz will not see a reduction in performance due to the electronic control of the motor)

SPECIFICATIONS: AIR DEFROST

Model CMA Air Defrost | 60 Hz

Model	HP*	PSC								EC Motor			
		115/1/60		208-230/1/60		460/1/60		575/1/60		115/1/60		208-230/1/60	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
CMA130	1/4	4.0	300	1.8	215	1.0	305	0.7	310	2.8	210	1.4	205
CMA155	1/4	4.0	300	1.8	215	1.0	305	0.7	310	2.8	210	1.4	205
CMA245	1/4	8.0	600	3.6	430	2.0	610	1.4	620	5.6	420	2.8	410
CMA300	1/4	8.0	600	3.6	430	2.0	610	1.4	620	5.6	420	2.8	410
CMA365	1/4	12.0	900	5.4	645	3.0	915	2.1	930	8.4	630	4.2	615
CMA450	1/4	12.0	900	5.4	645	3.0	915	2.1	930	8.4	630	4.2	615
CMA510	1/4	16.0	1,200	7.2	860	4.0	1,220	2.8	1,240	11.2	840	5.6	820
CMA600	1/4	16.0	1,200	7.2	860	4.0	1,220	2.8	1,240	11.2	840	5.6	820
CMA710	1/4	-	1,500	9.0	1,075	5.0	1,525	3.5	1,550	14.0	1,050	7.0	1,025

Model CMA Air Defrost | 50 Hz

Model	HP	PSC Motor			EC Motor	
		110/1/50	220/1/50	380/1/50	110/1/50	220/1/50
		Amps	Amps	Amps	Amps	Amps
CMA130	1/4	4.0	1.8	1.0	2.8	1.4
CMA155	1/4	4.0	1.8	1.0	2.8	1.4
CMA245	1/4	8.0	3.6	2.0	5.6	2.8
CMA300	1/4	8.0	3.6	2.0	5.6	2.8
CMA365	1/4	12.0	5.4	3.0	8.4	4.2
CMA450	1/4	12.0	5.4	3.0	8.4	4.2
CMA510	1/4	16.0	7.2	4.0	11.2	5.6
CMA600	1/4	16.0	7.2	4.0	11.2	5.6
CMA710	1/4	-	9.0	5.0	14.0	7.0

* 575/1/60 motors are 1/3 HP

PERFORMANCE DATA : ELECTRIC DEFROST

Model CME/CML Electric Defrost | 60 Hz

	Model	Capacity				Fan Data			Air Throw* †					
		R-404A		R-407A/C/F, R-448A/R-449A		No.	CFM	m³H	Diameter		Extended (Std.)		Diffused (Opt.)	
		10°F TD -20°F SST	6°C TD -29°C SST	10°F TD -20°F SST	6°C TD -29°C SST				in.	mm	ft.	m	ft.	m
		BTUH	Watts	BTUH	Watts									
6 Fins Per Inch	CME101	10,100	3,000	11,200	3,300	1	2,350	4,000	18	457	65	20	50	15
	CME140	14,000	4,100	15,500	4,500	1	2,250	3,830	18	457	65	20	50	15
	CME190	19,000	5,600	20,500	6,000	2	4,700	7,990	18	457	65	20	50	15
	CME260	26,000	7,600	28,500	8,400	2	4,500	7,650	18	457	65	20	50	15
	CME310	31,000	9,100	34,000	10,000	3	7,050	11,990	18	457	65	20	50	15
	CME390	39,000	11,400	43,000	12,600	3	6,750	11,480	18	457	65	20	50	15
	CME430	43,000	12,600	46,500	13,600	4	8,800	14,960	18	457	65	20	50	15
	CME520	52,000	15,200	57,000	16,700	4	8,400	14,280	18	457	65	20	50	15
	CME620	62,000	18,200	68,000	19,900	5	10,000	17,000	18	457	65	20	50	15
4 Fins Per Inch	CML100	10,000	2,900	11,000	3,200	1	2,325	3,950	18	457	65	20	50	15
	CML165	16,500	4,800	18,000	5,300	2	4,900	8,330	18	457	65	20	50	15
	CML220	22,000	6,400	24,000	7,000	2	4,650	7,910	18	457	65	20	50	15
	CML250	25,000	7,300	27,000	7,900	3	7,350	12,500	18	457	65	20	50	15
	CML330	33,000	9,700	36,500	10,700	3	6,975	11,860	18	457	65	20	50	15
	CML370	37,000	10,800	40,000	11,700	4	9,100	15,470	18	457	65	20	50	15
	CML440	44,000	12,900	48,500	14,200	4	8,700	14,790	18	457	65	20	50	15
	CML530	53,000	15,500	58,500	17,100	5	10,350	17,600	18	457	65	20	50	15

Model CME/CML Electric Defrost | 50 Hz †

	Model	Capacity				Fan Data			Air Throw* †					
		R-404A		R-407A/C/F, R-448A/R-449A		No.	CFM	m³H	Diameter		Extended (Std.)		Diffused (Opt.)	
		10°F TD -20°F SST	6°C TD -29°C SST	10°F TD -20°F SST	6°C TD -29°C SST				in.	mm	ft.	m	ft.	m
		BTUH	Watts	BTUH	Watts									
6 Fins Per Inch	CME101	9,600	2,900	10,600	3,100	1	2,115	3,600	18	457	60	18.5	45	13.5
	CME140	13,300	3,900	14,700	4,300	1	2,025	3,440	18	457	60	18.5	45	13.5
	CME190	18,050	5,300	19,500	5,700	2	4,230	7,190	18	457	60	18.5	45	13.5
	CME260	24,700	7,200	27,100	8,000	2	4,050	6,890	18	457	60	18.5	45	13.5
	CME310	29,450	8,600	32,300	9,500	3	6,345	10,790	18	457	60	18.5	45	13.5
	CME390	37,050	10,800	40,900	12,000	3	6,075	10,330	18	457	60	18.5	45	13.5
	CME430	40,850	12,000	44,200	12,900	4	7,920	13,460	18	457	60	18.5	45	13.5
	CME520	49,400	14,400	54,200	15,900	4	7,560	12,850	18	457	60	18.5	45	13.5
	CME620	58,900	17,300	64,600	18,900	5	9,000	15,300	18	457	60	18.5	45	13.5
4 Fins Per Inch	CML100	9,500	2,800	10,500	3,000	1	2,093	3,560	18	457	60	18.5	45	13.5
	CML165	15,675	4,600	17,100	5,000	2	4,410	7,500	18	457	60	18.5	45	13.5
	CML220	20,900	6,100	22,800	6,700	2	4,185	7,120	18	457	60	18.5	45	13.5
	CML250	23,750	6,900	25,700	7,500	3	6,615	11,250	18	457	60	18.5	45	13.5
	CML330	31,350	9,200	34,700	10,200	3	6,278	10,670	18	457	60	18.5	45	13.5
	CML370	35,150	10,300	38,000	11,100	4	8,190	13,920	18	457	60	18.5	45	13.5
	CML440	41,800	12,300	46,100	13,500	4	7,830	13,310	18	457	60	18.5	45	13.5
	CML530	50,350	14,700	55,600	16,200	5	9,315	15,840	18	457	60	18.5	45	13.5

Capacity Correction Factors For Electric and Hot Gas Defrost Units

Saturated Suction Temp. °F	+20	-10	-20	-30	-40
Saturated Suction Temp. °C	-7	-23	-29	-34	-40
Multiply Capacity By	1.15	1.02	1.00	0.90	0.80

* Standard molded fan guards allow for extended air throw; optional wire guards promote air diffusion

† Air throw data based on 12-ft. high ceilings with no obstructions where velocity drops to 50 FPM

‡ For EC motors, use 60 Hz capacity and airflow values (Units with EC motors operating at 50 Hz will not see a reduction in performance due to the electronic control of the motor)

SPECIFICATIONS: ELECTRIC DEFROST

Model CME/CML Electric Defrost | 60 Hz

Model	HP	PSC Motor						EC Motor		Defrost Heater						
		208-230/1/60		460/1/60		575/1/60		208-230/1/60		Watts	208-230/1/60	208-230/3/60	460/1/60	460/3/60	575/3/60	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts		Total Amps					
6 Fins Per Inch	CME101	1/4	1.8	305	1.0	305	0.7	310	1.4	215	2,730	11.9	8.2	5.9	4.1	3.3
	CME140	1/4	1.8	305	1.0	305	0.7	310	1.4	215	2,730	11.9	8.2	5.9	4.1	3.3
	CME190	1/4	3.6	610	2.0	610	1.4	620	2.8	430	5,350	23.3	16.0	11.6	8.3	6.6
	CME260	1/4	3.6	610	2.0	610	1.4	620	2.8	430	5,350	23.3	16.0	11.6	8.3	6.6
	CME310	1/4	5.4	915	3.0	915	2.1	930	4.2	645	7,750	33.7	23.2	16.8	12.0	9.6
	CME390	1/4	5.4	915	3.0	915	2.1	930	4.2	645	7,750	33.7	23.2	16.8	12.0	9.6
	CME430	1/4	7.2	1,220	4.0	1,220	2.8	1,240	5.6	860	10,200	-	30.5	22.2	15.8	12.6
	CME520	1/4	7.2	1,220	4.0	1,220	2.8	1,240	5.6	860	10,200	-	30.5	22.2	15.8	12.6
	CME620	1/4	9.0	1,525	5.0	1,525	3.5	1,550	7.0	1,075	11,600	-	34.7	25.2	18.1	14.4
4 Fins Per Inch	CML100	1/4	1.8	305	1.0	305	0.7	310	1.4	215	2,730	11.9	8.2	5.9	4.1	3.3
	CML165	1/4	3.6	610	2.0	610	1.4	620	2.8	430	5,350	23.3	16.0	11.6	8.3	6.6
	CML220	1/4	3.6	610	2.0	610	1.4	620	2.8	430	5,350	23.3	16.0	11.6	8.3	6.6
	CML250	1/4	5.4	915	3.0	915	2.1	930	4.2	645	7,750	33.7	23.2	16.8	12.0	9.6
	CML330	1/4	5.4	915	3.0	915	2.1	930	4.2	645	7,750	33.7	23.2	16.8	12.0	9.6
	CML370	1/4	7.2	1,220	4.0	1,220	2.8	1,240	5.6	860	10,200	-	30.5	22.2	15.8	12.6
	CML440	1/4	7.2	1,220	4.0	1,220	2.8	1,240	5.6	860	10,200	-	30.5	22.2	15.8	12.6
	CML530	1/4	9.0	1,525	5.0	1,525	3.5	1,550	7.0	1,075	11,600	-	34.7	25.2	18.1	14.4

Model CME/CML Electric Defrost | 50 Hz

Model	HP	PSC Motor		EC Motor	Watts	Defrost Heater		
		220/1/50	380/1/50	220/1/50		220/1/50	380/3/50	
		Amps	Amps	Amps		Total Amps		
6 Fins Per Inch	CME101	1/4	1.8	1.0	1.4	2,510	11.4	3.4
	CME140	1/4	1.8	1.0	1.4	2,510	11.4	3.4
	CME190	1/4	3.6	2.0	2.8	4,910	22.3	6.9
	CME260	1/4	3.6	2.0	2.8	4,910	22.3	6.9
	CME310	1/4	5.4	3.0	4.2	7,090	32.2	9.9
	CME390	1/4	5.4	3.0	4.2	7,090	32.2	9.9
	CME430	1/4	7.2	4.0	5.6	9,340	-	13.1
	CME520	1/4	7.2	4.0	5.6	9,340	-	13.1
	CME620	1/4	9.0	5.0	7.0	10,620	-	15.0
4 Fins Per Inch	CML100	1/4	1.8	1.0	1.4	2,510	11.4	3.4
	CML165	1/4	3.6	2.0	2.8	4,910	22.3	6.9
	CML220	1/4	3.6	2.0	2.8	4,910	22.3	6.9
	CML250	1/4	5.4	3.0	4.2	7,090	32.2	9.9
	CML330	1/4	5.4	3.0	4.2	7,090	32.2	9.9
	CML370	1/4	7.2	4.0	5.6	9,340	-	13.1
	CML440	1/4	7.2	4.0	5.6	9,340	-	13.1
	CML530	1/4	9.0	5.0	7.0	10,620	-	15.0

* 575/1/60 motors are 1/3 HP

PERFORMANCE DATA : HOT GAS DEFROST

Model CMG/CMF Hot Gas Defrost | 60 Hz

Model	Capacity				Fan Data			Air Throw* †						
	R-404A		R-407A/C/F, R-448A/R-449A		No.	CFM	m³H	Diameter		Extended (Std.)		Diffused (Opt.)		
	10°F TD -20°F SST	6°C TD -29°C SST	10°F TD -20°F SST	6°C TD -29°C SST				in.	mm	ft.	m	ft.	m	
	BTUH	Watts	BTUH	Watts										
6 Fins Per Inch	CMG190	19,000	5,600	20,500	6,000	2	4,700	7,990	18	457	65	20	50	15
	CMG260	26,000	7,600	28,500	8,400	2	4,500	7,650	18	457	65	20	50	15
	CMG310	31,000	9,100	34,000	10,000	3	7,050	11,990	18	457	65	20	50	15
	CMG390	39,000	11,400	43,000	12,600	3	6,750	11,480	18	457	65	20	50	15
	CMG430	43,000	12,600	46,500	13,600	4	8,800	14,960	18	457	65	20	50	15
	CMG520	52,000	15,200	57,000	16,700	4	10,000	17,000	18	457	65	20	50	15
4 Fins Per Inch	CMF165	16,500	4,800	18,000	5,300	2	4,900	8,330	18	457	65	20	50	15
	CMF220	22,000	6,400	24,000	7,000	2	4,650	7,910	18	457	65	20	50	15
	CMF250	25,000	7,300	27,000	7,900	3	7,350	12,500	18	457	65	20	50	15
	CMF330	33,000	9,700	36,500	10,700	3	6,975	11,860	18	457	65	20	50	15
	CMF370	37,000	10,800	40,000	11,700	4	9,100	15,470	18	457	65	20	50	15
	CMF440	44,000	12,900	48,500	14,200	4	8,700	14,790	18	457	65	20	50	15

Model CMG/CMF Hot Gas Defrost | 50 Hz †

Model	Capacity				Fan Data			Air Throw* †						
	R-404A		R-407A/C/F, R-448A/R-449A		No.	CFM	m³H	Diameter		Extended (Std.)		Diffused (Opt.)		
	10°F TD -20°F SST	6°C TD -29°C SST	10°F TD -20°F SST	6°C TD -29°C SST				in.	mm	ft.	m	ft.	m	
	BTUH	Watts	BTUH	Watts										
6 Fins Per Inch	CMG190	19,900	5,800	21,700	6,400	2	4,230	7,190	18	457	60	18.5	45	13.5
	CMG260	22,600	6,600	24,400	7,100	2	4,050	6,890	18	457	60	18.5	45	13.5
	CMG310	29,800	8,700	33,000	9,700	3	6,345	10,790	18	457	60	18.5	45	13.5
	CMG390	33,400	9,800	36,100	10,500	3	6,075	10,330	18	457	60	18.5	45	13.5
	CMG430	39,700	11,700	43,800	12,800	4	7,920	13,460	18	457	60	18.5	45	13.5
	CMG520	47,800	14,000	52,800	15,400	4	7,560	12,850	18	457	60	18.5	45	13.5
4 Fins Per Inch	CMF165	18,100	5,300	19,500	5,700	2	4,410	7,500	18	457	60	18.5	45	13.5
	CMF220	24,700	7,200	27,100	8,000	2	4,185	7,120	18	457	60	18.5	45	13.5
	CMF250	29,500	8,600	32,300	9,500	3	6,615	11,250	18	457	60	18.5	45	13.5
	CMF330	37,100	10,800	40,900	12,000	3	6,278	10,670	18	457	60	18.5	45	13.5
	CMF370	40,900	12,000	44,200	12,900	4	8,190	13,920	18	457	60	18.5	45	13.5
	CMF440	49,400	14,400	54,200	15,900	4	7,830	13,310	18	457	60	18.5	45	13.5

Capacity Correction Factors For Electric and Hot Gas Defrost Units

Saturated Suction Temp. °F	+20	-10	-20	-30	-40
Saturated Suction Temp. °C	-7	-23	-29	-34	-40
Multiply Capacity By	1.15	1.02	1.00	0.90	0.80

* Standard molded fan guards allow for extended air throw; optional wire guards promote air diffusion

† Air throw data based on 12-ft. high ceilings with no obstructions where velocity drops to 50 FPM

‡ For EC motors, use 60 Hz capacity and airflow values (Units with EC motors operating at 50 Hz will not see a reduction in performance due to the electronic control of the motor)

SPECIFICATIONS: HOT GAS DEFROST

Model CMG/CMF Hot Gas Defrost | 60 Hz

Model	HP*	PSC Motor								EC Motor				Drain Pan Heater (Std.)					
		115/1/60		208-230/1/60		460/1/60		575/1/60		115/1/60		208-230/1/60		Watts	115/1/60	208/230/1/60	460/1/60	575/1/60	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts		Total Amps				
6 Fins Per Inch	CMG190	1/4	8.0	600	3.6	610	2.0	610	1.4	620	5.6	420	2.8	430	950	8.3	4.1	2.1	1.7
	CMG260	1/4	8.0	600	3.6	610	2.0	610	1.4	620	5.6	420	2.8	430	950	8.3	4.1	2.1	1.7
	CMG310	1/4	12.0	900	5.4	915	3.0	915	2.1	930	8.4	630	4.2	645	1,350	11.7	5.9	2.9	2.3
	CMG390	1/4	12.0	900	5.4	915	3.0	915	2.1	930	8.4	630	4.2	645	1,350	11.7	5.9	2.9	2.3
	CMG430	1/4	16.0	1,200	7.2	1,220	4.0	1,220	2.8	1,240	11.2	840	5.6	860	1,800	15.7	7.8	3.9	3.1
	CMG520	1/4	16.0	1,200	7.2	1,220	4.0	1,220	2.8	1,240	11.2	840	5.6	860	1,800	15.7	7.8	3.9	3.1
4 Fins Per Inch	CMF165	1/4	8.0	600	3.6	610	2.0	610	1.4	620	5.6	420	2.8	430	950	8.3	4.1	2.1	1.7
	CMF220	1/4	8.0	600	3.6	610	2.0	610	1.4	620	5.6	420	2.8	430	950	8.3	4.1	2.1	1.7
	CMF250	1/4	12.0	900	5.4	915	3.0	915	2.1	930	8.4	630	4.2	645	1,350	11.7	5.9	2.9	2.3
	CMF330	1/4	12.0	900	5.4	915	3.0	915	2.1	930	8.4	630	4.2	645	1,350	11.7	5.9	2.9	2.3
	CMF370	1/4	16.0	1,200	7.2	1,220	4.0	1,220	2.8	1,240	11.2	840	5.6	860	1,800	15.7	7.8	3.9	3.1
	CMF440	1/4	16.0	1,200	7.2	1,220	4.0	1,220	2.8	1,240	11.2	840	5.6	860	1,800	15.7	7.8	3.9	3.1

Model CMG/CMF Hot Gas Defrost | 50 Hz

Model	HP	PSC Motor		EC Motor	Drain Pan Heater (Std.)			
		220/1/50	380/1/50	220/1/50	Watts	220/1/50	380/3/50	
		Amps	Amps	Amps		Total Amps		
6 Fins Per Inch	CMG190	1/4	3.6	2.0	2.8	860	3.9	1.7
	CMG260	1/4	3.6	2.0	2.8	860	3.9	1.7
	CMG310	1/4	5.4	3.0	4.2	1,230	5.6	2.4
	CMG390	1/4	5.4	3.0	4.2	1,230	5.6	2.4
	CMG430	1/4	7.2	4.0	5.6	1,650	7.5	3.2
	CMG520	1/4	7.2	4.0	5.6	1,650	7.5	3.2
4 Fins Per Inch	CMF165	1/4	3.6	2.0	2.8	860	3.9	1.7
	CMF220	1/4	3.6	2.0	2.8	860	3.9	1.7
	CMF250	1/4	5.4	3.0	4.2	1,230	5.6	2.4
	CMF330	1/4	5.4	3.0	4.2	1,230	5.6	2.4
	CMF370	1/4	7.2	4.0	5.6	1,650	7.5	3.2
	CMF440	1/4	7.2	4.0	5.6	1,650	7.5	3.2

* 575/1/60 motors are 1/3 HP

Model CMA Air Defrost

Model	No. of Fans	Connections (in.)				Approx. Net Wt.	
		Coil Inlet ODF	Suction ODF	External Equalizer ODF	Drain FPT	lbs.	kg
CMA130	1	1/2	7/8	1/4	3/4	115	52
CMA155	1	1/2	1-1/8	1/4	3/4	123	56
CMA245	2	7/8	1-1/8	1/4	3/4	134	61
CMA300	2	7/8	1-1/8	1/4	3/4	148	67
CMA365	3	7/8	1-3/8	1/4	3/4	200	91
CMA450	3	1-1/8*	1-3/8	1/4	3/4	227	103
CMA510	4	1-1/8*	1-5/8	1/4	3/4	230	104
CMA600	4	1-1/8*	1-5/8	1/4	3/4	255	116
CMA710	5	1-1/8*	1-5/8	1/4	3/4	285	129

Model CME/CML Electric Defrost

Model	No. of Fans	Connections (in.)				Approx. Net Wt.		
		Coil Inlet ODF	Suction ODF	External Equalizer ODF	Drain FPT	lbs.	kg	
6 Fins Per Inch	CME101	1	1/2	7/8	1/4	3/4	118	54
	CME140	1	1/2	7/8	1/4	3/4	126	57
	CME190	2	7/8	1-1/8	1/4	3/4	138	63
	CME260	2	1-1/8*	1-3/8	1/4	3/4	153	69
	CME310	3	1-1/8*	1-3/8	1/4	3/4	210	95
	CME390	3	1-1/8*	1-3/8	1/4	3/4	237	108
	CME430	4	1-1/8*	1-5/8	1/4	3/4	267	121
	CME520	4	1-1/8*	1-5/8	1/4	3/4	300	136
	CME620	5	1-1/8*	1-5/8	1/4	3/4	338	153
4 Fins Per Inch	CML100	1	1/2	7/8	1/4	3/4	125	56
	CML165	2	7/8	1-1/8	1/4	3/4	136	62
	CML220	2	1-1/8*	1-3/8	1/4	3/4	151	68
	CML250	3	1-1/8*	1-3/8	1/4	3/4	207	94
	CML330	3	1-1/8*	1-3/8	1/4	3/4	234	106
	CML370	4	1-1/8*	1-5/8	1/4	3/4	262	119
	CML440	4	1-1/8*	1-5/8	1/4	3/4	295	134
	CML530	5	1-1/8*	1-5/8	1/4	3/4	332	151

* Supplied with adapter to 7/8 ODF

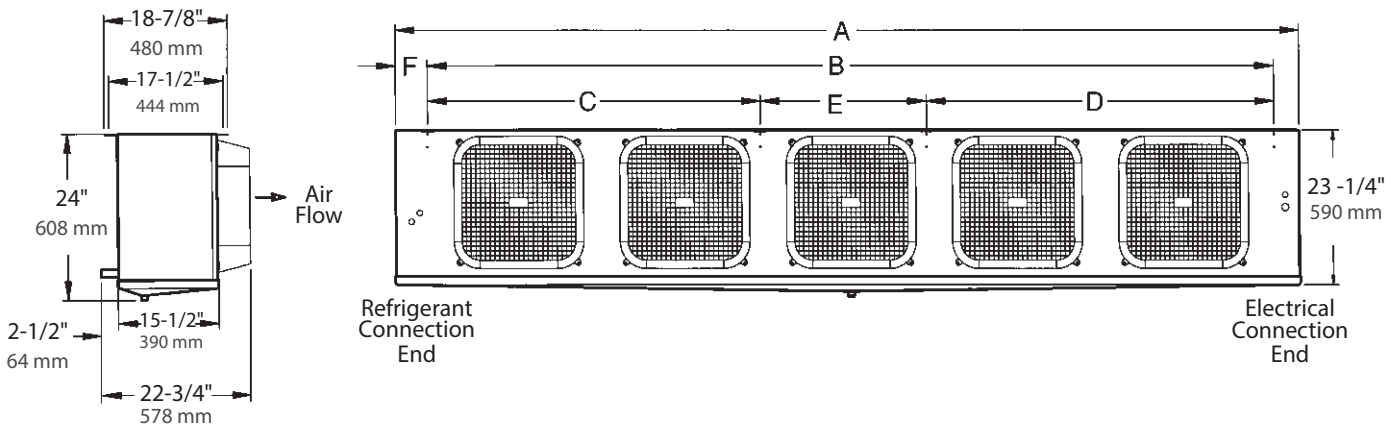
Model CMG/CMF Hot Gas Defrost

Model	No. of Fans	Connections (in.)						Approx. Net Wt.		
		Coil Inlet ODF	Suction ODF	External Equalizer ODF	Drain FPT	Side Port ODF	Hot Gas Pan Conns.** ODF	lbs.	kg	
6 Fins Per Inch	CMG190	2	1-1/8*	1-1/8	1/4	3/4	5/8	7/8	175	79
	CMG260	2	1-1/8*	1-3/8	1/4	3/4	5/8	7/8	190	86
	CMG310	3	1-1/8*	1-3/8	1/4	3/4	5/8	7/8	210	95
	CMG390	3	1-1/8*	1-3/8	1/4	3/4	5/8	7/8	237	108
	CMG430	4	1-1/8*	1-5/8	1/4	3/4	5/8	7/8	267	121
	CMG520	4	1-1/8*	1-5/8	1/4	3/4	5/8	7/8	300	136
4 Fins Per Inch	CMF165	2	1-1/8*	1-1/8	1/4	3/4	5/8	7/8	173	78
	CMF220	2	1-1/8*	1-3/8	1/4	3/4	5/8	7/8	188	85
	CMF250	3	1-1/8*	1-3/8	1/4	3/4	5/8	7/8	207	94
	CMF330	3	1-1/8*	1-3/8	1/4	3/4	5/8	7/8	234	106
	CMF370	4	1-1/8*	1-5/8	1/4	3/4	5/8	7/8	262	119
	CMF440	4	1-1/8*	1-5/8	1/4	3/4	5/8	7/8	295	134

* Supplied with adapter to 7/8 ODF

** Supplied with electric drain pan heater as standard, hot gas pan is optional

DIMENSIONAL DATA



Dimensional Data For All Models

Model	6 FPI Models		4 FPI Models		Dimensions											
	Defrosts		Defrosts		A		B		C		D		E		F	
	Elec.	Hot Gas	Elec.	Hot Gas	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
HMA130	HME101	-	-	-	39-5/16	1,000	30-1/4	745	-	-	-	-	-	-	5-7/16	138
HMA155	HME140	-	HML100	-	39-5/16	1,000	30-1/4	745	-	-	-	-	-	-	5-7/16	138
HMA245	HME190	HMG190	HML165	HMF165	67-5/16	1,710	58-1/4	1,455	-	-	-	-	-	-	5-7/16	138
HMA300	HME260	HMG260	HML220	HMF220	67-5/16	1,710	58-1/4	1,455	-	-	-	-	-	-	5-7/16	138
HMA365	HME310	HMG310	HML250	HMF250	95-5/16	2,420	86-1/4	2,165	-	-	-	-	-	-	5-7/16	138
HMA450	HME390	HMG390	HML330	HMF330	95-5/16	2,420	86-1/4	2,165	-	-	-	-	-	-	5-7/16	138
HMA510	HME430	HMG430	HML370	HMF370	123-5/16	3,130	114-1/4	2,875	56	1,420	58-1/4	1,480	-	-	5-7/16	138
HMA600	HME520	HMG520	HML440	HMF440	123-5/16	3,130	114-1/4	2,875	56	1,420	58-1/4	1,480	-	-	5-7/16	138
HMA710	HME620	-	HML530	-	138-13/16	3,530	129-3/4	3,275	51	1,300	53-1/4	1,350	25-1/2	650	5-7/16	138

NOTE: Evaporator mounting brackets accept up to 1/2" hanger rod

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Motor/Fan Blade/Fan Guards

Part #	Description
5020-S	PSC Motor 115V
5020-T	PSC Motor 208-230V
4567-T	Motor 208-230V PSC Totally Enclosed
25302201	Motor 460V PSC
25304601*	Motor 460V Low Temp PSC Totally Enclosed
25308101*	Motor 208-230V Low Temp PSC Totally Enclosed
25317501	Motor 208-230V EC Totally Enclosed
25317601	Motor 115V EC Totally Enclosed
5599-M	Run Capacitor (5 MFD) - Used with most PSC Motors
5779-G	Run Capacitor (7.5 MFD) - Used with 25304601 Motor Only
22511601	Run Capacitor (7.5 MFD) - Used with 25399301
25399301	Motor 575V Low Temp PSC Totally Enclosed
5064-E	Motor Mount
5130-C	Fan Blade
5054F	Fan Guard Molded
23101802	Fan Guard Blue Wire

* Special motors to be used in room ambients -31°F to -50°F

Cabinet Components

Part #	Description	No. of Fans
40491902	Drain Pan*	1
40492102	Drain Pan*	2
40492302	Drain Pan*	3
40492502	Drain Pan*	4
40492702	Drain Pan*	5
40830101	Header Side Panel	1-5
40830201	Electrical Side Panel	1-5
40830901	Header Connection Panel	1-5
92864003	Drain Fitting	1-5

* Includes provision to mount drain pan heater

Electrical Components

Part #	Description
2891040	Room Thermostat
2890109	Defrost Term. / Fan Delay Thermostat

NOTE: Contact factory for hot gas defrost components not listed

Drain Pan Defrost Heater (1 per unit)

Part #	Description	Voltage	Color Code
24710301	1 Fan Unit, 530W	208-230V	Black
24710302	2 Fan Unit, 950W	208-230V	Black
24710303	3 Fan Unit, 1350W	208-230V	Black
24710304	4 Fan Unit, 1800W	208-230V	Black
24710305	5 Fan Unit, 2000W	208-230V	Black
24710401	1 Fan Unit, 530W	460V	Red
24710402	2 Fan Unit, 950W	460V	Red
24710403	3 Fan Unit, 1350W	460V	Red
24710404	4 Fan Unit, 1800W	460V	Red
24710405	5 Fan Unit, 2000W	460V	Red
24710502	2 Fan Unit, 950W	115V	Black, White
24710503	3 Fan Unit, 1350W	115V	Black, White
24710504	4 Fan Unit, 1800W	115V	Black, White

* Includes provision to mount drain pan heater

Coil Defrost Heater (4 per unit)

Part #	Description	Voltage
24710201	1 Fan Unit, 550W	230-460V
24710202	2 Fan Unit, 1100W	230-460V
24710203	3 Fan Unit, 1600W	230-460V
24710204	4 Fan Unit, 2100W	230-460V
24710205	5 Fan Unit, 2400W	230-460V
23308001	Heater Clip (1-3 fans)	-
23308101	Heater Clip (4-5 fans)	-

STANDARD NOZZLE SELECTION

Model CMA Air Defrost

Model	No. of Fans	Distributor Tube (in.)		No. of Circuits	R-404A, R-507A Nozzle	R-407A, R-407F, R-407C Nozzle	R-448A, R-449A Nozzle	R-22 Nozzle (Ref. Only)
		OD	Length					
CMA130	1	3/16	21-1/2	3	L-1	L-3/4	L-1	L-3/4
CMA155	1	3/16	21-1/2	5	L-1	L-1	L-1-1/2	L-1
CMA245	2	3/16	21-1/2	9	G-2	G-2	G-2-1/2	G-1-1/2
CMA300	2	3/16	21-1/2	9	G-2	G-2	G-2-1/2	G-2
CMA365	3	3/16	21-1/2	9	G-2-1/2	G-2-1/2	G-3	G-2
CMA450	3	3/16	21-1/2	12	E-3	E-3	E-4	E-2-1/2
CMA510	4	3/16	21-1/2	13	E-4	E-4	E-5	E-2-1/2
CMA600	4	3/16	21-1/2	18	E-4	E-4	E-6	E-3
CMA710	5	3/16	21-1/2	18	E-5	E-5	E-6	E-4

Model CME/CML Electric Defrost

Model	No. of Fans	Distributor Tube (in.)		No. of Circuits	R-404A, R-507A Nozzle	R-407A, R-407F, R-407C Nozzle	R-448A, R-449A Nozzle	R-22 Nozzle (Ref. Only)	
		OD	Length						
6 Fins Per Inch	CME101	1	3/16	21-1/2	5	L-1-1/2	L-1	L-1-1/2	L-3/4
	CME140	1	3/16	21-1/2	6	L-1-1/2	L-1-1/2	L-2	L-1-1/2
	CME190	2	3/16	21-1/2	9	G-2-1/2	G-2	G-2-1/2	G-2
	CME260	2	3/16	21-1/2	12	E-3	E-3	E-4	E-2-1/2
	CME310	3	3/16	21-1/2	13	E-4	E-4	E-5	E-2-1/2
	CME390	3	3/16	21-1/2	18	E-5	E-5	E-6	E-3
	CME430	4	3/16	21-1/2	12	E-5	E-5	E-6	E-3
	CME520	4	3/16	21-1/2	17	E-6	E-6	E-8	E-4
	CME620	5	3/16	21-1/2	17	E-8	E-8	E-10	E-5
4 Fins Per Inch	CML100	1	3/16	21-1/2	6	L-1-1/2	L-1	L-1-1/2	L-3/4
	CML165	2	3/16	21-1/2	9	G-2	G-2	G-2-1/2	G-1-1/2
	CML220	2	3/16	21-1/2	12	E-2-1/2	E-2-1/2	E-4	E-2
	CML250	3	3/16	21-1/2	13	E-3	E-3	E-4	E-2-1/2
	CML330	3	3/16	21-1/2	18	E-4	E-4	E-5	E-3
	CML370	4	3/16	21-1/2	12	E-4	E-4	E-5	E-3
	CML440	4	3/16	21-1/2	17	E-5	E-5	E-8	E-4
	CML530	5	3/16	21-1/2	17	E-6	E-6	E-8	E-4

Note: Nozzles sized for 90-100°F liquid temperature at expansion valve.

Contact Application Engineering for guidance if:

- Liquid temperature is not 90-100°F
- Evaporator TD is not 10°-15°F (room temperature – saturated suction temperature)
- Electric defrost and hot gas models with a saturated suction temperature of 10°F or higher

Caution:

Refrigeration system will not perform properly without correct nozzle!

STANDARD NOZZLE SELECTION

Model CMG/CMF Hot Gas Defrost

Model	No. of Fans	Distributor Tube (in.)		No. of Circuits	R-404A, R-507A Nozzle	R-407A, R-407F, R-407C Nozzle	R-448A, R-449A Nozzle	R-22 Nozzle (Ref. Only)	
		OD	Length						
6 Fins Per Inch	CMG190	2	3/16	21-1/2	9	E-2-1/2	E-2-1/2	E-3	E-1-1/2
	CMG260	2	3/16	21-1/2	12	E-4	E-3	E-4	E-2-1/2
	CMG310	3	3/16	21-1/2	13	E-4	E-4	E-5	E-3
	CMG390	3	3/16	21-1/2	18	E-5	E-5	E-6	E-4
	CMG430	4	3/16	21-1/2	12	E-5	E-5	E-6	E-4
	CMG520	4	3/16	21-1/2	17	E-6	E-6	E-8	E-5
4 Fins Per Inch	CMF165	2	3/16	21-1/2	9	E-2-1/2	E-2	E-2-1/2	E-1-1/2
	CMF220	2	3/16	21-1/2	12	E-3	E-3	E-4	E-2-1/2
	CMF250	3	3/16	21-1/2	13	E-3	E-3	E-4	E-2-1/2
	CMF330	3	3/16	21-1/2	18	E-4	E-4	E-5	E-3
	CMF370	4	3/16	21-1/2	12	E-4	E-4	E-5	E-3
	CMF440	4	3/16	21-1/2	17	E-5	E-5	E-6	E-4

Note: Nozzles sized for 90-100°F liquid temperature at expansion valve.

Contact Application Engineering for guidance if:

- Liquid temperature is not 90-100°F
- Evaporator TD is not 10°-15°F (room temperature – saturated suction temperature)
- Electric defrost and hot gas models with a saturated suction temperature of 10°F or higher

Caution:

Refrigeration system will not perform properly without correct nozzle!



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CLIMATE

CONTROL

Since product improvement is a continuing effort, we reserve the right to make changes in specifications without notice.

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