



FAN COILS WITH OBSERVER™ COMMUNICATING CONTROL

Smart Diagnostics

- Easier troubleshooting, providing faster service and repair

Environmentally-Sound Refrigerant Technology

- R-410A refrigerant the chlorine-free non-ozone depleting refrigerant
- Thermostatic Expansion Valve (TXV) designed to maximize performance with R-410A refrigerant

Energy Efficient Operation

- Variable speed ECM Motor operates efficiently at all speeds
- Ultra-low power consumption during fan only operation

Airflow and Sound Technology

- Logarithmic spiral blower housings for high blower efficiency and quiet operation
- Diffuser air discharge section for high airflow efficiency and quiet, smooth operation
- High duct static capability
- Unique cabinet design that meets new stringent regulations for air leakage. Meets requirements of a 2% cabinet leakage rate when tested at 1.0 in wc of static pressure.

Condensate Control and Disposal Technology

- Minimal standing water – less microbial growth for improved IAQ and reduced condensate line clogging and related condensate leakage
- Condensate fittings relocated away from turbulent airflow patterns at the blower entrance for improved condensate control performance
- Overflow feature for slope coil units allows condensate to exit the unit without damage to product under clogged primary and secondary line conditions
- Tested for condensate disposal at conditions much more severe than those required by ARI
- Primary and secondary drain connections to comply with HUD
- All pans constructed of an injection molded glass-filled polycarbonate engineered resin material, with brass drain connections
- High density, super thick cabinetry insulation with vapor barrier
- Pre-painted galvanized sheet metal cabinet

Heat Transfer Technology

- Grooved copper tubing
- Lanced sine wave aluminum fins
- Discreet refined counterflow refrigerant circuitry
- Bi-flow hard-shutoff TXV metering device
- Tin-coated copper evaporator tubes

Ease of Installation and Service Features

- Communicating, self configuring when used with Observer Communicating Wall Control
- Easy 4 wire hook up: reduces installation time.
- Multi-position installation
- Provision made for suspending from roof or ceiling joints
- Modular cabinet on 5 ton model
- Sweat connections for leak free service
- Multiple electrical entry for application flexibility
- Low voltage terminal strip, to safely hold connections within the cabinet
- Inspection plate on A-coil models for quick coil cleanliness inspection
- Cabinet construction features innovations designed to prevent cabinet sweating

Controls and Electrical Features

- Easy plug connection provided for quick installation of accessory heater packages
- Replaceable 3-amp blade-type auto fuse protects against transformer secondary short

Filter Features

- Factory supplied filter with cleanable polyester filter media
- Filter “springs” out for easy access – no tools required
- Newly improved filter rack area – filter door insulation added for an improved air seal



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahridirectory.org.



Model Series	Tons	Nom. CFM (L/s)	Dimensions H x W x D in. (mm)	Filter Size in. (mm)	Ship Wt lbs. (kg)
FCM4X2400AT	2	800 (378)	42-11/16 x 17-5/8 x 22-1/16 (1084 x 448 x 560)	16-3/8 x 21-1/2 (416 x 546)	135 (61)
FCM4X3600AT	3	1200 (566)	53-7/16 x 21-1/8 x 22-1/16 (1357 x 537 x 560)	19-7/8 x 21-1/2 (505 x 546)	150 (68)
FCM4X4800AT	4	1600 (755)	53-7/16 x 21-1/8 x 22-1/16 (1357 x 537 x 560)	19-7/8 x 21-1/2 (505 x 546)	172 (78)
FCM4X6000AT	5	1750 (826)	59-3/16 x 24-11/16 x 22-1/16 (1503 x 627 x 560)	23-5/16 x 21-1/2 (592 x 546)	207 (94)

WARRANTY*

- 10 year No Hassle Replacement™ limited warranty

- 5 year parts limited warranty

- With timely registration, an additional 5 year parts limited warranty

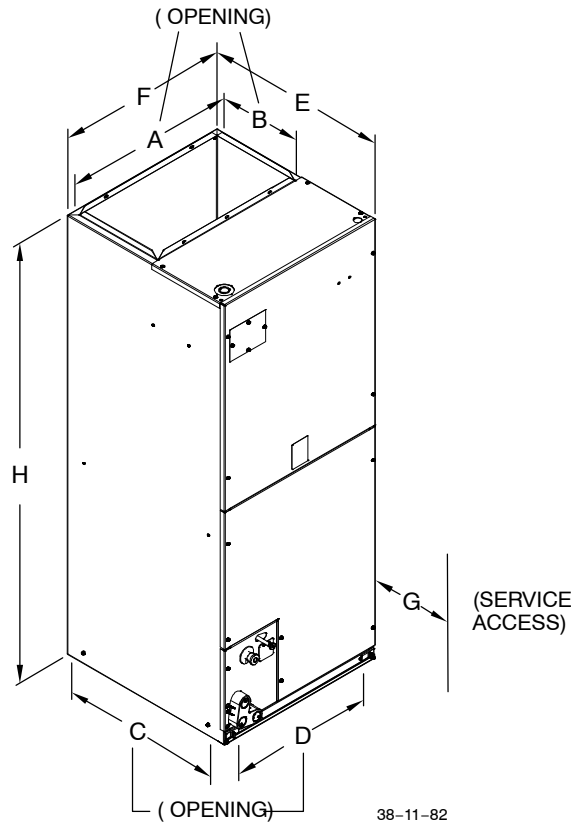
* Applies to original purchaser/homeowner, some limitations may apply. See warranty certificate for complete details.

FAN COIL MODEL NUMBER IDENTIFICATION GUIDE								
DIGIT POSITION	1	2	3	4	5	6,7,8,9	10	11
	F	C	M	4	X	1800	A	T
F = Fan Coil	UNIT							
V = Variable speed		MOTOR TYPE						
C = Communicating ECM								
M = Multiposition								
U = Upflow			INSTALLATION TYPE					
4 = Environmentally Sound R-410A				REFRIGERANT				
X = TXV					METERING DEVICE			
2400 = 24,000 BTUH = 2 tons								
3600 = 36,000 BTUH = 3 tons								
4800 = 48,000 BTUH = 4 tons								
6000 = 60,000 BTUH = 5 tons						NOMINAL CAPACITY		
A = Standard								
AT = Tin Coated Copper Tube							SALES CODE / FEATURES	

ACCESSORIES PART NUMBER IDENTIFICATION GUIDE					
	EB	AC	01	NCB	A
EB = Evaporator Blower					
AC = Accessory					
01 = Product Identifier Number					
NCB = Non-Combustible Base Kit					
DFK = Down Flow Kit					
PLG = Power Plug (no heat kit)					
SPK = Single Point Wiring Kit					
FKS = Filter Kit Small					
FKM = Filter Kit Medium					
FKL = Filter Kit Large					
FKX = Filter Kit Extra Large					
CTK = Condensate Trap Kit (PVC pipe)					
Sales Code					

ELECTRIC HEATER MODEL NUMBER IDENTIFICATION GUIDE						
	EHC	09	A	K	N	1
EHC = Communicating Electric Heater Kit						
EHK = Standard Electric Heater Kit						
05 = 5 kW						
07 = 8 kW						
09 = 9 kW						
10 = 10 kW						
15 = 15 kW						
18 = 18 kW						
20 = 20 kW						
25 = 24 kW						
30 = 30 kW						
		NOMINAL HEAT VALUE				
Sales Code						
K = 208 / 230 single-phase						
H = 208 / 230, 3-phase						
KC = 208 / 230, supplied as single phase, field convertible to 3-phase						
HC = 208 / 230 supplied as 3-phase, field convertible to single phase				VOLTAGE (60 Hz)		
N = No protection						
F = Fused						
B = Breaker						
					Electrical Protection	
Engineering Code						

CLEARANCES AND UNIT DIMENSIONS

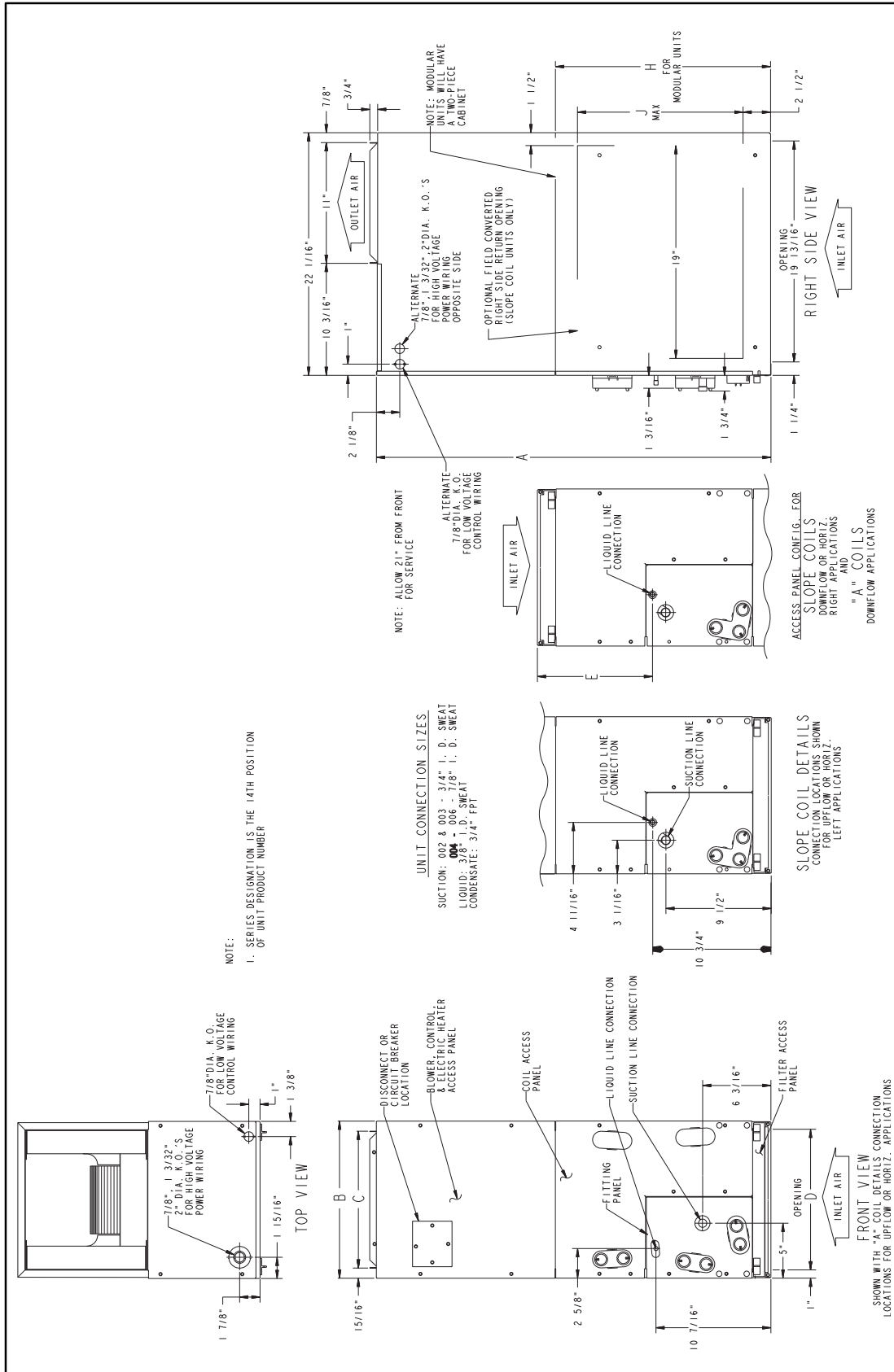


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REQUIRED CLEARANCES - ALL MODELS (inches)		
No Heaters	All Sides	0
	From Supply Duct	0
With Heaters	All Sides	0
	From First 3 feet of Supply Duct to Combustibles	1
	From Supply Duct to Combustibles after 3 feet	0

Model Size	FCM4X Inches (English)							
	A	B	C	D	E	F	G	H
FCM4X2400	15-3/4	11	19-13/16	15-5/8	22-1/16	17-5/8	21	42-11/16
FCM4X3600	19-1/4	11	19-13/16	19-1/8	22-1/16	21-1/8	21	53-7/16
FCM4X4800	19-1/4	11	19-13/16	19-1/8	22-1/16	21-1/8	21	53-7/16
FCM4X6000	22-3/4	11	19-13/16	22-11/16	22-1/16	24-11/16	21	59-3/16

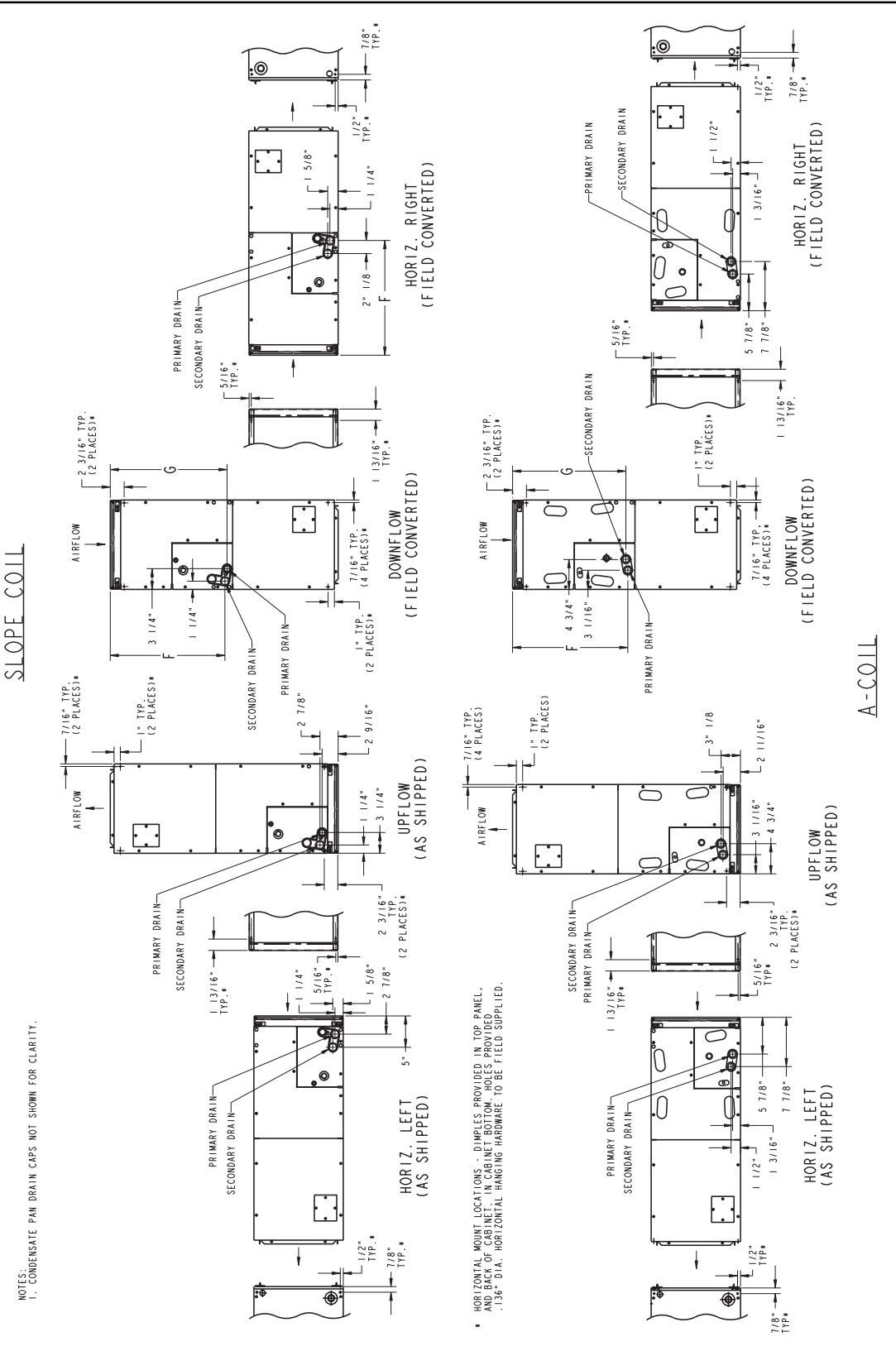
Model Size	FCM4X mm (SI Metric)							
	A	B	C	D	E	F	G	H
FCM4X2400	400	279	488	400	560	448	533	1084
FCM4X3600	489	279	488	489	560	537	533	1357
FCM4X4800	489	279	488	489	560	537	533	1357
FCM4X6000	578	279	488	578	560	627	533	1503



DIMENSIONS

UNIT	SIZE	A		B		C		D		E		H*	
		in	mm	in	mm	in	mm	in.	mm	in	mm	in	mm
FCM4X	24	42-11/16	1084	17-5/8	448	15-3/4	400	15-5/8	397	10-3/4	273	—	—
FCM4X	36	53-7/16	1357	21-1/8	537	19-1/4	489	19-1/8	486	19-3/16	487	—	—
FCM4X	48	53-7/16	1357	21-1/8	537	19-1/4	489	19-1/8	486	19-1/2	495	—	—
FCM4X	60*	59-3/16	1503	24-11/16	627	22-3/4	578	22-11/16	576	25-1/4	641	34-1/16	865

* Modular Cabinet



DIMENSIONS

UNIT	SIZE	F			G			COIL CONFIGURATION		SHIPPING WEIGHT	
		in	mm	in	mm	Slope	"A"	lb / kg			
FCM4X	24	18-9/16	472	18-1/4	464	—	Yes	135 / 61			
FCM4X	36	26-15/16	684	27-1/2	699	Yes	—	150 / 68			
FCM4X	48	27-1/4	692	26-15/16	684	—	Yes	172 / 78			
FCM4X	60*	32-15/16	837	32-5/8	829	—	Yes	207 / 94			

* Modular

PHYSICAL DATA				
MODEL	FCM4X			
SIZE	24	36	48	60
COIL				
Refrigerant Metering Device	R-410A REFRIGERANT TXV			
TXV Size	2 Ton	3 Ton	4 Ton	5 Ton
Configuration	A	Slope	A	A
Rows—Fins/In.	3 / 14.5			
Face Area (Sq Ft)	3.46	3.46	5.93	7.42
MATCHES OUTDOOR UNIT SIZES				
Nominal Cooling Tons	1.5, 2, 2.5, 3	2, 2.5, 3, 3.5	2.5, 3, 3.5, 4	3, 3.5, 4, 5
FAN				
Air Discharge	Upflow, Downflow, Horizontal			
CFM/Ton (Nominal Clg/Htg)	350+			
Motor HP (ECM)	1/2	1/2	1/2	3/4
Filter 21-1/2-in (546 mm) x	16-3/8-in (417 mm)	19-7/8-in (505 mm)	19-7/8-in (505 mm)	23-5/16-in (592 mm)
CABINET CONFIGURATION OPTIONS				
	1-piece	1-piece	1-piece	Modular

PERFORMANCE DATA

AIRFLOW DELIVERY — COOLING, HEATING, ELECTRIC HEATING MODES

The FCM4X fan coils with the Observer™ Communicating Wall Control will provide airflow at a rate that is requested by the wall control during air conditioning or heat pump heating (without electric heat) modes. The nominal airflow for both heating and cooling modes is 350 cfm/ton nominal size of the outdoor unit installed. The airflow actually requested by the wall control is modified by its internal algorithms for comfort or

efficiency concerns. Refer to the documentation for the wall control for more information on how the wall control controls the fan coil. Safe operation of electric heaters requires airflow delivery at or above the minimum CFM for electric heater application listed in the chart below. The fan coil will adjust its airflow delivery to maintain safe airflow as operating mode and staging conditions require.

FCM4X FAN COIL AIRFLOW DELIVERY CHART (CFM) — ELECTRIC HEATING MODELS

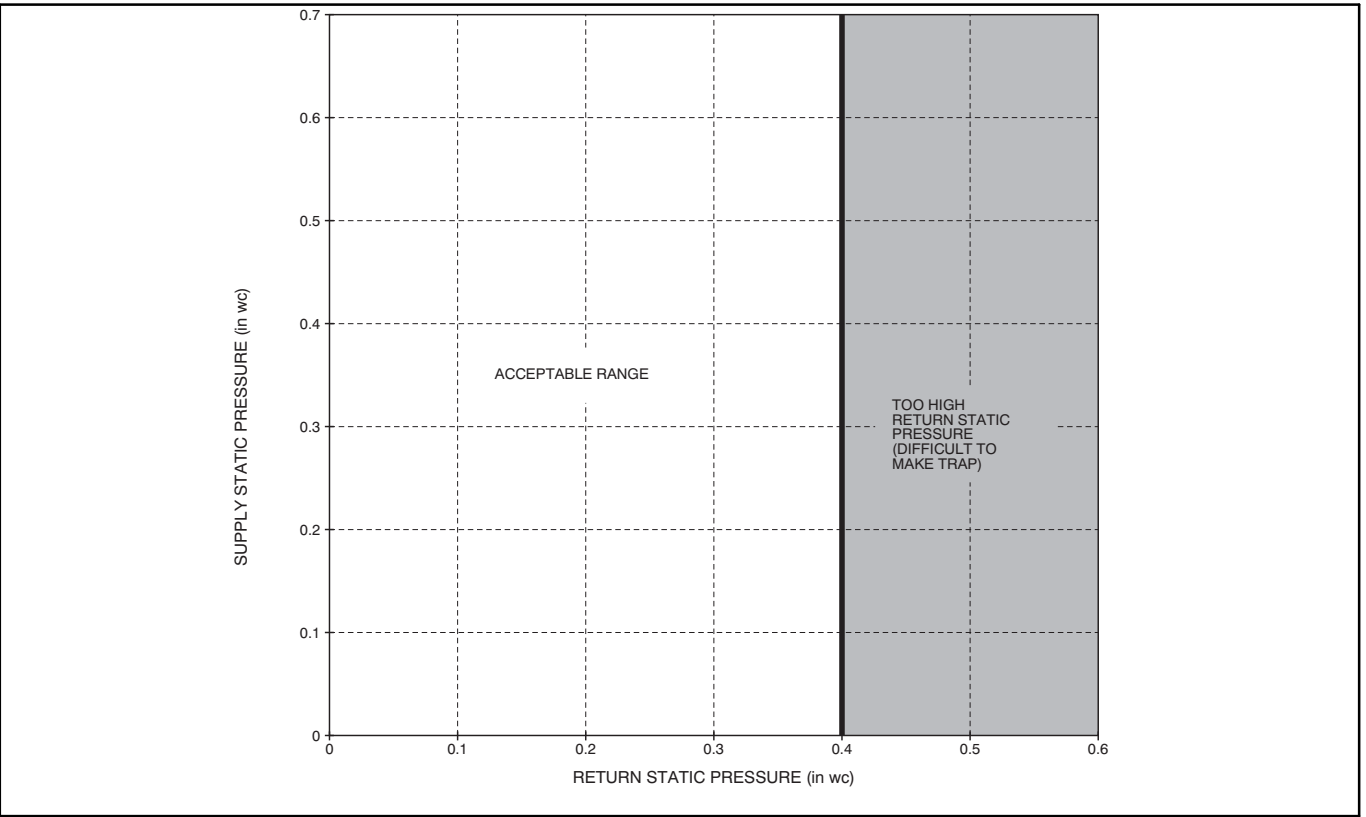
MODEL FCM4X	OUTDOOR UNIT CAPACITY BTUH	ELECTRIC HEATER KW RANGE						
		5	7-9	10	15	20	24-25	30
24	EMERGENCY	625	625	675	775	950	—	—
	18,000	625	625	675	—	—	—	—
	24,000	650	725	775	900	—	—	—
	30,000	800	875	875	925	1125	—	—
	36,000	975	975	975	1025	1125	—	—
36	EMERGENCY	675	700	775	850	1050	—	—
	24,000	675	875	875	1100	1150	—	—
	30,000	800	875	875	1100	1150	—	—
	36,000	975	975	1025	1150	1250	—	—
	42,000	1125	1125	1125	1150	1350	—	—
48	EMERGENCY	675	700	775	850	1050	1400	1425
	30,000	800	875	875	1100	1150	—	—
	36,000	975	975	1025	1150	1250	—	—
	42,000	1125	1125	1125	1150	1250	—	—
	48,000	1305	1305	1305	1305	1350	1500	1600
60	EMERGENCY	1050	1050	1050	1050	1125	1750	1750
	36,000	1050	1050	1100	1350	1350	—	—
	42,000	1125	1125	1150	1350	1350	—	—
	48,000	1300	1300	1300	1350	1500	1750	1750
	60,000	1625	1625	1625	1625	1750	1750	1750

Note 1: Emergency – Air conditioner with electric heater application, or emergency heat.

Note 2: These airflows are minimum airflows as UL listed.

Note 3: Dashed entry indicates that the heater/fan coil/outdoor unit combination is not approved. Do not apply.

ACCEPTABLE DUCT CONDITIONS



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For satisfactory operation (specifically making dry secondary trap), subject fan coils must be installed with duct systems which fall within the "Acceptable Range" illustrated above.

MINIMUM RPM TABLE

MODEL	SYSTEM SIZES	CFM RANGE	MIN RPM
FCM4X24	018, 024, 030, 036	150 – 1200	300
FCM4X36	024, 030, 036, 042	200 – 1400	285
FCM4X48	030, 036, 042, 048	250 – 1600	275
FCM4X60	036, 042, 048, 060	500 – 2000	275

MAXIMUM STATIC TABLE

MODEL	AIRFLOW DELIVERY	AVAILABLE STATIC PRESSURE
FCM4X24	525 CFM	1.00 in wc
	700 CFM	1.00 in wc
	875 CFM	1.00 in wc
	1050 CFM	0.80 in wc
	1200 CFM	0.60 in wc
FCM4X36	700 CFM	1.00 in wc
	875 CFM	1.00 in wc
	1050 CFM	1.00 in wc
	1225 CFM	1.00 in wc
	1400 CFM	0.80 in wc
FCM4X48	875 CFM	1.00 in wc
	1050 CFM	1.00 in wc
	1225 CFM	1.00 in wc
	1400 CFM	1.00 in wc
	1600 CFM	0.50 in wc
FCM4X60	1050 CFM	1.00 in wc
	1225 CFM	1.00 in wc
	1400 CFM	1.00 in wc
	1750 CFM	1.00 in wc
	2000 CFM	0.60 in wc

GROSS COOLING CAPACITIES (MBTUH)																
INDOOR COIL AIR		SATURATED TEMPERATURE LEAVING EVAPORATOR (°F / °C)														
		35 / 2			40 / 4			45 / 7			50 / 10			55 / 13		
CFM	EWB	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF
FCM4X24																
500	72/22	40.19	19.65	0.00	36.23	17.59	0.00	31.86	15.48	0.00	27.00	13.31	0.00	21.65	11.11	0.00
	67/19	32.99	19.92	0.01	28.96	17.79	0.01	24.52	15.62	0.01	19.64	13.40	0.01	14.28	11.17	0.01
	62/17	26.44	20.11	0.01	22.36	17.93	0.01	17.93	15.73	0.01	13.56	13.56	0.03	11.28	11.28	0.19
650	72/22	49.76	24.23	0.00	44.85	21.76	0.00	39.40	19.20	0.00	33.36	16.55	0.01	26.66	13.83	0.01
	67/19	40.90	24.80	0.01	35.90	22.22	0.01	30.37	19.55	0.02	24.27	16.82	0.02	17.58	14.06	0.02
	62/17	32.84	25.24	0.02	27.75	22.56	0.02	22.25	19.85	0.02	17.13	17.13	0.06	14.25	14.25	0.21
875	72/22	61.99	30.08	0.00	55.87	27.15	0.00	49.04	24.04	0.01	41.48	20.80	0.02	33.10	17.46	0.02
	67/19	51.08	31.23	0.03	44.83	28.09	0.03	37.91	24.84	0.03	30.23	21.47	0.03	21.83	18.03	0.03
	62/17	41.11	32.14	0.03	34.76	28.88	0.03	27.91	25.53	0.04	22.04	22.04	0.10	18.33	18.33	0.25
1000	72/22	67.83	32.91	0.00	61.10	29.76	0.00	53.66	26.40	0.02	45.36	22.89	0.03	36.17	19.27	0.03
	67/19	55.96	34.39	0.04	49.12	31.01	0.04	41.53	27.48	0.04	33.11	23.83	0.04	23.88	20.06	0.04
	62/17	45.09	35.62	0.04	38.13	32.08	0.04	30.69	28.43	0.05	24.54	24.54	0.12	20.40	20.40	0.27
1250	72/22	77.77	37.84	0.00	70.13	34.30	0.03	61.59	30.55	0.05	52.04	26.60	0.05	41.42	22.50	0.05
	67/19	64.36	40.02	0.06	56.52	36.24	0.06	47.77	32.27	0.06	38.04	28.12	0.06	27.46	23.81	0.07
	62/17	51.98	41.92	0.06	44.00	37.93	0.06	35.61	33.77	0.08	29.12	29.12	0.16	24.20	24.20	0.30
FCM4X36																
600	72/22	43.01	20.98	0.00	38.69	18.78	0.00	33.92	16.51	0.00	28.64	14.18	0.00	22.85	11.81	0.01
	67/19	35.27	21.34	0.01	30.88	19.04	0.01	26.07	16.71	0.01	20.79	14.34	0.01	15.03	11.95	0.01
	62/17	28.24	21.59	0.01	23.81	19.25	0.01	19.05	16.90	0.02	14.56	14.56	0.05	12.11	12.11	0.21
800	72/22	53.83	26.15	0.00	48.40	23.49	0.00	42.36	20.71	0.00	35.72	17.83	0.02	28.38	14.89	0.02
	67/19	44.23	26.92	0.02	38.71	24.10	0.02	32.61	21.20	0.03	25.91	18.24	0.03	18.65	15.26	0.03
	62/17	35.47	27.49	0.03	29.87	24.58	0.03	23.89	21.65	0.03	18.67	18.67	0.09	15.51	15.51	0.24
1000	72/22	63.07	30.60	0.00	56.66	27.57	0.00	49.58	24.36	0.02	41.76	21.04	0.03	33.10	17.62	0.03
	67/19	51.91	31.82	0.04	45.41	28.58	0.04	38.24	25.24	0.04	30.31	21.78	0.04	21.76	18.29	0.05
	62/17	41.71	32.80	0.04	35.12	29.43	0.04	28.13	26.00	0.05	22.41	22.41	0.12	18.60	18.60	0.27
1200	72/22	71.01	34.48	0.00	63.77	31.12	0.02	55.79	27.57	0.04	46.95	23.88	0.05	37.18	20.08	0.05
	67/19	58.54	36.17	0.05	51.21	32.59	0.05	43.10	28.87	0.06	34.13	25.02	0.06	24.47	21.08	0.06
	62/17	47.12	37.60	0.06	39.70	33.86	0.06	31.89	30.00	0.07	25.83	25.83	0.15	21.43	21.43	0.29
1400	72/22	77.95	37.95	0.01	70.07	34.31	0.04	61.29	30.47	0.06	51.54	26.47	0.06	40.78	22.33	0.07
	67/19	64.44	40.15	0.07	56.37	36.28	0.07	47.43	32.24	0.07	37.54	28.04	0.07	26.89	23.69	0.08
	62/17	51.95	42.08	0.07	43.78	37.99	0.08	35.30	33.73	0.09	28.95	28.95	0.19	24.01	24.01	0.32
FCM4X48																
750	72/22	57.24	28.01	0.00	51.64	25.08	0.00	45.46	22.08	0.00	38.59	19.00	0.00	30.99	15.85	0.00
	67/19	46.98	28.35	0.00	41.29	25.33	0.00	35.01	22.24	0.00	28.09	19.09	0.00	20.47	15.90	0.01
	62/17	37.67	28.59	0.01	31.89	25.50	0.01	25.61	22.37	0.01	19.28	19.28	0.02	16.05	16.05	0.19
950	72/22	69.68	33.97	0.00	62.89	30.52	0.00	55.32	26.92	0.00	46.89	23.21	0.00	37.57	19.40	0.00
	67/19	57.29	34.68	0.01	50.33	31.06	0.01	42.64	27.33	0.01	34.14	23.51	0.01	24.80	19.63	0.01
	62/17	45.99	35.21	0.01	38.92	31.47	0.01	31.24	27.68	0.01	23.90	23.90	0.04	19.89	19.89	0.20
1150	72/22	80.80	39.28	0.00	72.96	35.40	0.00	64.17	31.32	0.00	54.37	27.06	0.01	43.48	22.66	0.01
	67/19	66.56	40.46	0.02	58.50	36.34	0.02	49.54	32.05	0.02	39.60	27.64	0.02	28.70	23.15	0.02
	62/17	53.51	41.36	0.02	45.29	37.07	0.02	36.38	32.70	0.02	28.26	28.26	0.07	23.51	23.51	0.22
1500	72/22	97.47	47.29	0.00	88.05	42.83	0.00	77.49	38.05	0.01	65.68	33.04	0.02	52.41	27.78	0.02
	67/19	80.52	49.40	0.03	70.85	44.58	0.03	60.01	39.53	0.03	47.89	34.25	0.03	34.64	28.83	0.04
	62/17	64.96	51.12	0.03	55.02	46.04	0.03	44.30	40.80	0.04	35.27	35.27	0.10	29.34	29.34	0.25
1700	72/22	105.61	51.26	0.00	95.43	46.52	0.01	84.03	41.43	0.03	71.21	36.06	0.03	56.82	30.42	0.03
	67/19	87.38	53.92	0.04	76.93	48.80	0.04	65.20	43.40	0.04	52.01	37.70	0.04	37.60	31.83	0.05
	62/17	70.60	56.17	0.04	59.87	50.74	0.04	48.32	45.08	0.05	38.96	38.96	0.13	32.40	32.40	0.27
FCM4X60																
1050	72/22	76.01	37.07	0.00	68.82	33.39	0.00	60.76	29.56	0.00	51.72	25.55	0.00	41.64	21.42	0.00
	67/19	62.63	37.91	0.01	55.22	34.04	0.01	46.97	30.03	0.01	37.78	25.89	0.01	27.60	21.64	0.01
	62/17	50.40	38.54	0.01	42.81	34.53	0.01	34.49	30.41	0.01	26.28	26.28	0.03	21.90	21.90	0.19
1300	72/22	89.66	43.58	0.00	81.26	39.43	0.00	71.77	35.02	0.00	61.13	30.39	0.00	49.17	25.55	0.01
	67/19	74.04	45.04	0.01	65.36	40.60	0.01	55.62	35.94	0.01	44.72	31.09	0.01	32.62	26.09	0.01
	62/17	59.73	46.18	0.01	50.78	41.52	0.02	40.97	36.70	0.02	31.77	31.77	0.06	26.48	26.48	0.21
1750	72/22	110.09	53.41	0.00	99.92	48.64	0.00	88.41	43.46	0.01	75.38	37.95	0.02	60.66	32.13	0.02
	67/19	91.28	56.16	0.02	80.74	50.96	0.03	68.83	45.42	0.03	55.35	39.55	0.03	40.35	33.42	0.03
	62/17	73.94	58.45	0.03	63.04	52.91	0.03	51.08	47.08	0.03	40.82	40.82	0.10	34.04	34.04	0.24
2050	72/22	121.19	58.89	0.00	110.14	53.79	0.01	97.57	48.25	0.02	83.25	42.30	0.03	67.02	35.98	0.03
	67/19	100.75	62.56	0.04	89.24	56.99	0.04	76.15	51.01	0.04	61.30	44.63	0.04	44.72	37.88	0.04
	62/17	81.81	65.71	0.04	69.88	59.72	0.04	56.88	53.37	0.05	46.27	46.27	0.12	38.60	38.60	0.26
2200	72/22	126.10	61.36	0.00	114.71	56.14	0.02	101.67	50.45	0.03	86.78	44.32	0.03	69.87	37.76	0.04
	67/19	104.99	65.51	0.04	93.05	59.79	0.04	79.44	53.62	0.04	63.97	47.02	0.04	46.71	40.00	0.05
	62/17	85.35	69.12	0.04	72.98	62.94	0.05	59.55	56.35	0.06	48.85	48.85	0.14	40.75	40.75	0.27

CFM – Cubic Ft per Minute EWB – Entering Wet Bulb (°F / °C) LWB – Leaving Wet Bulb (°F / °C) TC – Gross Cooling Capacity 1000 Btuh
 SHC – Gross Sensible Capacity 1000 Btuh BF – Bypass Factor MBH – 1000 Btuh
 See Notes on following page.

NOTES:

- Contact manufacturer for cooling capacities at conditions other than shown in table.
- Formulas:
 Leaving db = entering db - $\frac{\text{sensible heat cap.}}{1.09 \times \text{CFM}}$
 Leaving wb = wb corresponding to enthalpy of air leaving coil (h_{lwb})
 $h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{CFM}}$
 where h_{ewb} = enthalpy of air entering coil. Direct interpolation is permissible. Do not extrapolate.
- SHC is based on 80°F db temperature of air entering coil. Below 80°F db, subtract (Correction Factor x CFM) from SHC. Above 80°F db, add (Correction Factor x CFM) to SHC.
- Bypass Factor = 0 indicates no psychometric solution. Use bypass factor of next lower EWB for approximation.

SHC CORRECTION FACTOR

BYPASS FACTOR	ENTERING AIR DRY-BULB TEMPERATURE (°F)						Use formula shown below
	79	78	77	76	75	Under 75	
	81	82	83	84	85	Over 85	
	Correction Factor						
0.10	.098	1.96	2.94	3.92	4.91		
0.20	0.87	1.74	2.62	3.49	4.36		
0.30	0.76	1.53	2.29	3.05	3.82		

Interpolation is permissible.
 Correction Factor = $1.09 \times (1 - \text{BF}) \times (\text{db} - 80)$

ESTIMATED SOUND POWER LEVEL (dBA)

MODEL SIZE	CONDITIONS		OCTAVE BAND CENTER FREQUENCY						
	CFM	ESP	63	125	250	500	1000	2000	4000
FCM4X24	400	0.25	61.0	57.0	55.0	50.0	48.0	46.0	42.0
	600	0.25	62.7	58.7	56.7	51.7	49.7	47.7	43.7
	800	0.25	64.0	60.0	58.0	53.0	51.0	49.0	45.0
	1000	0.25	65.0	61.0	57.0	56.0	52.0	50.0	46.0
	1200	0.25	65.8	61.8	57.8	56.8	52.8	50.8	46.8
FCM4X36	1400	0.25	66.4	62.4	58.4	57.4	53.4	51.4	47.4
	400	0.25	61.0	57.0	55.0	50.0	48.0	46.0	42.0
	600	0.25	62.7	58.7	56.7	51.7	49.7	47.7	43.7
	800	0.25	64.0	60.0	58.0	53.0	51.0	49.0	45.0
	1000	0.25	65.0	61.0	59.0	54.0	52.0	50.0	46.0
FCM4X48	1200	0.25	65.8	61.8	59.8	54.8	52.8	50.8	46.8
	1400	0.25	66.4	62.4	58.4	57.4	53.4	51.4	47.4
	1600	0.25	67.0	63.0	59.0	58.0	54.0	52.0	48.0
	400	0.25	61.0	57.0	55.0	50.0	48.0	46.0	42.0
	600	0.25	62.7	58.7	56.7	51.7	49.7	47.7	43.7
FCM4X60	800	0.25	64.0	60.0	58.0	53.0	51.0	49.0	45.0
	1000	0.25	65.0	61.0	59.0	54.0	52.0	50.0	46.0
	1200	0.25	65.8	61.8	59.8	54.8	52.8	50.8	46.8
	1400	0.25	66.4	62.4	60.4	55.4	53.4	51.4	47.4
	1600	0.25	67.0	63.0	61.0	56.0	54.0	52.0	48.0
FCM4X60	1800	0.25	67.5	63.5	59.5	58.5	54.5	52.5	48.5
	2000	0.25	68.0	64.0	60.0	59.0	55.0	53.0	49.0
	2150	0.25	68.3	64.3	60.3	59.3	55.3	53.3	49.3

*Est. sound power levels have been derived using the method described in the 1987 ASHRAE HVAC Systems & Applications Handbook, chapter 52, p. 52.7.

AIRFLOW PERFORMANCE CORRECTION FACTORS

HEATER KW	ELEMENTS	STATIC PRESSURE CORRECTION (in wc)	
		Sizes 24-48	Size 60
0	0	+02	+03
5	1	+01	+02
8, 10	2	0	0
9, 15	3	-02	-03
20	4	-04	-06
18, 24, 30	6	-06	-10

The FCM4X airflow performance table was developed using fan coils with 10kW electric heaters (2 elements) in the units. For fan coils with heaters made up of a different number of elements, the external available static at a given CFM from the table may be corrected by adding or subtracting pressure. Use table for this correction.

FACTORY-INSTALLED FILTER STATIC PRESSURE DROP (in wc)

MODEL FCM4X	CFM								
	400	600	800	1000	1200	1400	1600	1800	2000
24	0.020	0.044	0.048	0.072	0.100	—	—	—	—
36	—	0.020	0.035	0.051	0.070	0.092	—	—	—
48	—	—	0.035	0.051	0.070	0.092	0.120	—	—
60	—	—	—	0.038	0.053	0.070	0.086	0.105	0.133

AIR DELIVERY PERFORMANCE CORRECTION COMPONENT PRESSURE DROP (in wc) AT INDICATED AIRFLOW (DRY TO WET COIL)											
MODEL FCM4X	CFM										
	600	700	800	900	1000	1100	1200	1300	1400	1500	1600
24	0.012	0.016	0.022	0.028	0.034	0.040	0.049	—	—	—	—
36	—	0.026	0.034	0.042	0.052	0.063	0.075	0.083	0.091	0.098	0.110
48	—	0.006	0.008	0.010	0.012	0.015	0.017	0.020	0.023	0.027	0.030
60	CFM										
	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100
60	0.013	0.016	0.018	0.020	0.023	0.027	0.030	0.034	0.039	0.044	0.048

NOTE: Subtract the above pressure drop corrections from unit airflow data when that component or condition is used. The remaining external static pressure will be available for the duct system.

UNITS WITHOUT ELECTRIC HEAT					
UNIT SIZE FCM4X	VOLTS-PHASE	FLA	MIN CKT AMPS	BRANCH CIRCUIT	
				Min Wire Size Awg*	Fuse/Ckt Bkr Amps
24	208/230-1	4.3	5.4	14	15
36	208/230-1	4.3	5.4	14	15
48	208/230-1	4.3	5.4	14	15
60	208/230-1	6.8	8.5	14	15

* Use copper wire only to connect unit. If other than uncoated (non-plated) 75°C ambient, copper wire (solid wire for 10 AWG and smaller, stranded wire for larger than 10 AWG) is used consult applicable tables of the National Electric Code (ANSI/NFPA 70).

NOTE: If branch circuit wire length exceeds 100 ft / 30.5 m, consult NEC 210-19a to determine maximum wire length. Use 2% voltage drop.

FLA — Full Load Amps

ELECTRIC HEATER INTERNAL PROTECTION			
HEATER kW	PHASE	FUSES QTY / SIZE	CKT BKR QTY / SIZE*
5	1	—	1/60
8	1	—	1/60
9	1/3	—	—
15	1	2/30, 2/60	2/60
15	3	—	—
18	3	—	—
20	1	4/60	2/60
24	3/1	6/60	—
30	3/1	6/60	—

* All circuit breakers are 2 pole.

EHC ELECTRIC HEATER ELECTRICAL DATA

Heater Model	Heater kW		Internal Circuit Protection	HEATER AMPS 208/230V			Min Ampacity ☆ 208/230V			Min Wire Size (AWG) 208/230V ¹			Min Gnd Wire Size 208/230V			Max Fuse/Ckt Bkr Amps 208/230V			Max Wire Length 208/230V (FT)††			
	230v	208v		Phase	Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit				
						L1, L2	L3, L4		L1, L2	L3, L4		L1, L2	L3, L4		L1, L2	L3, L4		L1, L2	L3, L4	L1, L2	L3, L4	
EHC09AKC†	9	6.8	1	32.8/36.0	—	—	49.5/53.5	—	—	8/6	—	—	10/10	—	—	50/60	—	—	54/87	—	—	L3, L4
EHC15AKF	9	6.8	3	18.8/20.8	—	—	32.0/34.5	—	—	8/8	—	—	10/10	—	—	35/35	—	—	83/85	—	—	L3, L4
EHC15AKB	15	11.3	1	54.2/59.9	36.2/40.0	18.1/20.0	76.3/83.4	53.8/58.5	22.7/25.0	4/4	6/6	10/10	8/8	10/10	10/10	80/80	60/60	25/25	88/89	78/80	75/76	L3, L4
EHC20AKF	15	11.3	1	—	36.2/40.0	18.1/20.0	—	53.8/58.5	22.7/25.0	—	6/6	10/10	—	10/10	10/10	—	60/60	25/25	—	78/80	75/76	L3, L4
EHC20AKB	20	15.0	1	72.3/79.9	36.2/40.0	36.2/40.0	98.9/108.4	53.8/58.5	45.3/50.0	3/2	6/6	8/8	8/6	10/10	10/10	100/110	60/60	50/50	85/109	78/80	59/59	L3, L4
EHC20AKB	20	15.0	1	—	36.2/40.0	36.2/40.0	—	53.8/58.5	45.3/50.0	—	6/6	8/8	—	10/10	10/10	—	60/60	50/50	—	78/80	59/59	L3, L4
EHC25AHCF†	24	18.0	3	50.1/55.4	—	—	71.2/77.8	—	—	4/4	—	—	8/8	—	—	80/80	—	—	94/95	—	—	L3, L4
EHC25AHCF†	24	18.0	1	86.7/95.5	—	—	116.9/127.9	—	—	1/1	—	—	6/6	—	—	125/150	—	—	115/116	—	—	L3, L4
EHC30AHCF†	30	22.5	3	62.6/69.2	—	—	86.8/95.0	—	—	3/3	—	—	8/8	—	—	90/100	—	—	97/98	—	—	L3, L4
EHC30AHCF†	30	22.5	1	109.0/120.0	—	—	144.8/158.5	—	—	0/00	—	—	6/6	—	—	150/175	—	—	117/1150	—	—	L3, L4

FIELD MULTIPOINT WIRING OR 24 AND 30 KW SINGLE PHASE

Heater Model	Heater kW		Heater Amps 208/230V	Minimum Circuit Ampacity 208/230V ☆			Minimum Wire Size (AWG) 208/230V†			Min Gnd Wire Size 208/230V	Max Fuse/Ckt Bkr Amps 208/230V			Max Wire Length (FT)††					
	230V	208V		L1, L2	L3, L4	L5, L6	L1, L2	L3, L4	L5, L6		L1, L2	L3, L4	L5, L6	L1, L2	L3, L4	L5, L6	L1, L2	L3, L4	L5, L6
EHC30AHCF†	30	22.5	1	36.2/40.0	36.2/40.0	36.2/40.0	53.8/58.5	45.3/50.0	8/8	8/8	8/8	60/60	50/50	78/80	59/59	59/59	59/59	59/59	

Notes:

- 1 Copper wire must be used. If other than uncoated (non-plated), 75° C ambient, copper wire (solid wire for 10 AWG and smaller, stranded wire for larger than 10 AWG) is used, consult applicable tables of the National Electric Code (ANSI/NFPA 70).
- ☆ Includes blower motor amps of largest Fan Coil used with heater.
- † Supplied as single phase, field convertible to 3-phase.
- ‡ Supplied as 3-phase, field convertible to single phase, single or multiple supply circuits.
- †† Length shown is as measured one way along wire path between unit and service panel for a voltage drop not to exceed 2%.

EHK ELECTRIC HEATER ELECTRICAL DATA

Heater Model	Heater kW		Phase	Internal Circuit Protection	HEATER AMPS 208/230V				Min Ampacity ☆ 208/230V				Min Wire Size (AWG) 208/230V †				Min Gnd Wire Size 208/230V				Max Fuse/Ckt Bkr Amps 208/230V				Max Wire Length 208/230V (FT) ††			
	230v	208v			Dual Circuit		Single Circuit		Dual Circuit		Single Circuit		Dual Circuit		Single Circuit		Dual Circuit		Single Circuit		Dual Circuit		Single Circuit		Dual Circuit		Single Circuit	
					L1,L2	L3,L4	L1,L2	L3,L4	L1,L2	L3,L4	L1,L2	L3,L4	L1,L2	L3,L4	L1,L2	L3,L4	L1,L2	L3,L4	L1,L2	L3,L4	L1,L2	L3,L4	L1,L2	L3,L4	L1,L2	L3,L4	L1,L2	L3,L4
EHK05AKN*	5	3.8	1	None	18.1/20.0	—	—	—	26.0/28.4	—	—	10/10	—	—	10/10	—	—	30/30	—	—	66/66	—	—	—	—			
EHK05AKN**	5	3.8	1	None	18.1/20.0	—	—	—	31.2/33.5	—	—	8/8	—	—	10/10	—	—	35/35	—	—	85/88	—	—	—	—			
EHK05AKB*	5	3.8	1	CH Bkr	18.1/20.0	—	—	—	26.0/28.4	—	—	10/10	—	—	10/10	—	—	30/30	—	—	66/66	—	—	—	—			
EHK05AKB**	5	3.8	1	CH Bkr	18.1/20.0	—	—	—	31.2/33.5	—	—	8/8	—	—	10/10	—	—	35/35	—	—	85/88	—	—	—	—			
EHK07AKN	8	6.0	1	None	28.9/32.0	—	—	—	44.7/48.5	—	—	8/8	—	—	10/10	—	—	45/50	—	—	59/60	—	—	—	—			
EHK07AKB	8	6.0	1	CH Bkr	28.9/32.0	—	—	—	44.7/48.5	—	—	8/8	—	—	10/10	—	—	45/50	—	—	59/60	—	—	—	—			
EHK09AKCN†	9	6.8	1	None	32.8/36.0	—	—	—	49.5/53.5	—	—	8/6	—	—	10/10	—	—	50/60	—	—	54/87	—	—	—	—			
EHK10AKN	9	6.8	3	None	18.8/20.8	—	—	—	32.0/34.5	—	—	8/8	—	—	10/10	—	—	35/35	—	—	83/85	—	—	—	—			
EHK10AKB	10	7.5	1	None	36.2/40.0	—	—	—	53.8/58.5	—	—	6/6	—	—	10/10	—	—	60/60	—	—	78/80	—	—	—	—			
EHK10AKN	10	7.5	1	CH Bkr	36.2/40.0	—	—	—	53.8/58.5	—	—	6/6	—	—	10/10	—	—	60/60	—	—	78/80	—	—	—	—			
EHK15AKF	15	11.3	1	Fuse	54.2/59.9	36.2/40.0	18.1/20.0	18.1/20.0	76.3/83.4	53.8/58.5	22.7/25.0	4/4	6/6	10/10	8/8	10/10	80/90	60/60	25/25	88/88	78/80	75/76	75/76	75/76				
EHK15AKB	15	11.3	1	CH Bkr	—	36.2/40.0	18.1/20.0	18.1/20.0	—	53.8/58.5	22.7/25.0	—	6/6	10/10	—	10/10	—	60/60	25/25	—	78/80	75/76	75/76	75/76				
EHK15AHN	15	11.3	3	None	31.3/34.6	—	—	—	47.7/51.8	—	—	8/6	—	—	10/10	—	—	50/60	—	—	56/90	—	—	—	—			
EHK18AHN	18	13.5	3	None	37.6/41.5	—	—	—	55.5/60.4	—	—	6/6	—	—	10/8	—	—	60/70	—	—	76/77	—	—	—	—			
EHK20AKF	20	15.0	1	Fuse	72.3/79.9	36.2/40.0	36.2/40.0	36.2/40.0	98.9/108.4	53.8/58.5	45.3/50.0	3/2	6/6	8/8	8/6	10/10	100/110	60/60	50/50	85/109	78/80	59/59	59/59	59/59				
EHK20AKB	20	15.0	1	CH Bkr	—	36.2/40.0	36.2/40.0	36.2/40.0	—	53.8/58.5	45.3/50.0	—	6/6	8/8	—	10/10	—	60/60	50/50	—	78/80	59/59	59/59	59/59				
EHK25AHC†	24	18.0	3	Fuse	50.1/55.4	—	—	—	71.2/77.8	—	—	4/4	—	—	8/8	—	—	80/80	—	—	94/95	—	—	—	—			
EHK25AHC†	24	18.0	1	Fuse	86.7/95.5	—	—	—	116.9/127.9	—	—	1/1	—	—	6/6	—	—	125/150	—	—	115/116	—	—	—	—			
EHK30AHC†	30	22.5	3	Fuse	62.6/69.2	—	—	—	86.8/95.0	—	—	3/3	—	—	8/8	—	—	90/100	—	—	97/98	—	—	—	—			
EHK30AHC†	30	22.5	1	Fuse	109.0/120.0	—	—	—	144.8/158.5	—	—	0/00	—	—	6/6	—	—	150/175	—	—	117/150	—	—	—	—			

FIELD MULTIPOINT WIRING OR 24 AND 30 KW SINGLE PHASE

Heater Model	Heater kW		P	H	A	S	Heater Amps 208/230V				Minimum Circuit Ampacity 208/230V *				Minimum Wire Size (AWG) 208/230V †				Min Gnd Wire Size 208/230V				Max Fuse/Ckt Bkr Amps 208/230V				Max Wire Length 208/230V (FT) ††									
	230V	208V					L1, L2		L3, L4		L5, L6		L1, L2		L3, L4		L5, L6		L1, L2		L3, L4		L5, L6		L1, L2		L3, L4		L5, L6		L1, L2		L3, L4		L5, L6	
							24	30	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0		
EHK25AHC†	24	30	18.0	1	1	1	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0	28.9/32.0	36.2/40.0						
EHK30AHC†	30	30	22.5	1	1	1	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0	36.2/40.0					

Notes:

- 1 Copper wire must be used. If other than uncoated (non-plated), 75° C ambient, copper wire (solid wire for larger than 10 AWG) is used, stranded wire for larger than 10 AWG) is used, consult applicable tables of the National Electric Code (ANSI/NFPA 70).
- * When used with Fan Coil model sizes 2400, 3600.
- ** When used with Fan Coil model sizes 4200, 4800.
- † Includes blower motor amps of largest Fan Coil used with heater.
- † Supplied as single phase, field convertible to 3-phase.
- ‡ Supplied as 3-phase, field convertible to single phase, single or multiple supply circuits.
- †† Length shown is as measured one way along wire path between unit and service panel for a voltage drop not to exceed 2%.

ACCESSORIES

Part Number	Description	Use with Model Sizes
		FCM4X
EBAC01DSC	Disconnect Kit	Use with All Heaters 5kW thru 10kW
EBAC01NCB	Downflow Base Kit	24, 36, 48
EBAC04NCB		60
EBAC01DFS	Downflow Conversion Kit Slope Coil	36
EBAC02DFA	Downflow Conversion Kit A-Coil	24, 48, 60
EBAC01SPK	Single Point Wiring Kit	Only for use with 15kW and 20kW fused heaters
EBAC01FKM	Filter Kit (washable, box of 12)	24†, 36†, 48†
EBAC01FKL		36†, 48†
EBAC01FKX		60†
EBAC01PLG	Power Plug Kit	ALL (Factory Installed)
EBAC01GSK	Horizontal & Downflow Gasket Kit	ALL (required for horizontal right and downflow)
TSTAT0101SC	Observer Self Configuring Communicating Wall Control	ALL
EBAC01CTK	PVC Condensate Trap Kit (box of 50)	ALL

†Factory supplied

SELF CONFIGURING COMMUNICATING ELECTRIC HEATERS for FCM4X

Part Number	Description	Use with Model Sizes
EHC09AKCN	9 kW, single phase, no internal circuit protection	ALL
EHC15AKF	15 kW, single phase, with fuses	ALL
EHC15AKB	15 kW, single phase, with circuit breakers	ALL
EHC20AKF	20 kW, single phase, with fuses	ALL
EHC20AKB	20 kW, single phase, with circuit breakers	ALL
EHC25AHCF	24 kW, supplied as 3 phase, field convertible to single phase, with fuses	ALL
EHC30AHCF	30 kW, supplied as 3 phase, field convertible to single phase, with circuit breakers	48 – 60

STANDARD ELECTRIC HEATERS

Part Number	Description	Use with Model Sizes
EHK05AKN	5 kW, single phase, no internal circuit protection	ALL
EHK05AKB	5 kW, single phase, with circuit breakers	ALL
EHK07AKN	8 kW, single phase, no internal circuit protection	ALL
EHK07AKB	8 kW, single phase, with circuit breakers	ALL
EHK09AKCN	9 kW, supplied as single phase, field convertible to 3-phase, no internal circuit protection	3600, 4800, 6000
EHK10AKN	10 kW, single phase, no internal circuit protection	ALL
EHK10AKB	10 kW, single phase, with circuit breakers	ALL
EHK15AKF	15 kW, single phase, with fuses	ALL
EHK15AKB	15 kW, single phase, with circuit breakers	ALL†
EHK15AHN	15 kW, 3-phase, no internal circuit protection	ALL†
EHK18AHN	18 kW, 3-phase, no internal circuit protection	4800, 6000
EHK20AKF	20 kW, single phase, with fuses	ALL†
EHK20AKB	20 kW, single phase, with circuit breakers	ALL†
EHK25AHCF	24 kW, supplied as 3-phase, field convertible to single phase, with fuses	4800, 6000
EHK30AHCF	30 kW, supplied as 3-phase, field convertible to single phase, with fuses	4800, 6000

† 15kW & 20kW are not recommended for specific heat pump applications, see AIRFLOW DELIVERY (CFM)