

## **Product Data**



A230450

# PREMIUM ENVIRONMENTALLY RESPONSIBLE FAN COIL

The FTM4 is the premium air handler combining the proven technology of ICP fan coils with environmentally balanced R-410A refrigerant. The FTM4 achieves an operational advantage when the variable speed ECM (Electronically Commutated Motor) is combined with a heat pump with R-410A refrigerant.

With attention to quiet, efficient, and comfortable operation, ICPhas developed a new benchmark for superior indoor comfort and control.

These heat pump and air conditioning systems feature R-410A refrigerant, the chlorine-free refrigerant that is the future for the residential heating and cooling industry. The FTM4 using R-410A refrigerant maximizes performance for environmentally balanced systems. In addition to environmental safety, these systems are 30 to 40% more efficient than standard heating and cooling systems, thereby combining excellence in efficiency and environmental responsibility.

The FTM4 provides these benefits due to ICP's command of ECM technology. These motors are extremely efficient at all speeds, and enable the FTM4 to operate at the correct speed to deliver airflow precisely, ensuring proper performance across a wide range of duct static pressures. This adaptive efficiency also makes installation quality easier to achieve for today's demanding homeowner.

ICP's command of ECM technology may be most evident in the comfort advantages that ECM can deliver. Operation set up steps on the Easy Select<sup>TM</sup> Board provide the installing technician with alternatives to maximize comfort and efficiency. For true indoor comfort, the homeowner can achieve command of both temperature and humidity in cooling and heating modes.

Another feature which sets the FTM4 apart is the factory-installed TXV, which enhances efficiency and provides compressor protecting operation at all recommended conditions. Grooved tubing, louvered aluminum fins, and the large face areas of the FTM4 refrigerant coils also provide superior efficiency, for high SEER and HSPF performance. ICP leads the way in condensate control, a hallmark of these multipoise fan coils. All of these featured components are protected within a rugged, prepainted metal cabinet lined with super thick, high density insulation. For neat, high quality installations the unit exterior features sweat refrigerant connections for simple leak free performance, and multiple electrical entry for both high and low voltage service.

Assembled at the factory compliant with low leak requirements of less than 2% cabinet leakage rate at 0.5 inches W.C. and 1.4% cabinet leakage rate at 0.5 inches W.C. when tested in accordance with ASHRAE 193 standard.

### **FEATURES**

# Environmentally Balanced Refrigerant Technology

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

## **Energy Efficient Operation**

- Variable Speed Constant Airflow ECM (Electronically Commutating Motor) operates efficiently at all speeds
- Maximizes efficiency of heating and cooling systems
- Ultra low power consumption during fan only operation

### **Indoor Weather Control**

- Warm, comfortable heating air temperatures
- Unmatched humidity control, especially with thermostat with relative humidity controls

## Airflow and Sound Technology

- Diffuser air discharge section for high airflow efficiency and quiet, smooth operation
- · High duct static capability
- Design meets stringent regulations for cabinet air leakage of less than 2% when tested at 0.5 inches W.C., and cabinet air leakage less than 1.4% at 0.5 inches W.C. when tested in accordance with ASHRAE 193 standard.

## **Condensate Control and Disposal Technology**

- Minimal standing waterless 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 AHRI
- · 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 tubing
- · Lanced sine wave aluminum fins
- · Discreet refined counter-flow refrigerant circuitry
- Bi-flow hard shut-off TXV metering device with mechanical fittings

# Quality Assisting, Ease of Installation and Service Features

- · All units multipoise
- Provision made for suspending from roof or ceiling joints
- Modular cabinet on 36 thru 60 size units
- · Sweat connections for leak free service
- Multiple electrical entry for application flexibility (high and low voltage)
- Low voltage terminal strip, to safely hold connections within the cabinet
- Cabinet construction features innovations designed to prevent cabinet sweating

### **Controls and Electrical Features**

 Easy Select<sup>TM</sup> Board to maximize comfort, efficiency, and safe heater airflow operation

- Easy plug connection provided for quick installation of accessory heater packages
- 40VA 208/230V transformer
- Replaceable 5A blade-type auto fuse protects against transformer secondary short

### **Filter Features**

- · Factory supplied filter
- New standard sized filter rack fits most common size replacement filters

## **Limited Warranty**

Default 5-year parts limited warranty (including compressor and coil)

- 10-year parts limited warranty with timely registration\*.
- Equipment must be registered within 90 days of original installation, except in jurisdictions where warranty benefits cannot be conditioned on registration.
- \* Applies to original purchaser/homeowner and not available to subsequent owners, except in jurisdictions where laws dictate otherwise.

See Warranty certificate for complete details and restrictions.

#### **Model Number Nomenclature** 1 2 5 10 11 12 F T M $\mathbf{X}$ 3 L 0 В В A 6 **Product Series Code** F = Fan Coil **Cabinet Width** A = 14"**Type** B = 17"T = QuietComfort Series, Variable Speed Constant Airflow (VCA) Motor C = 21"**Position** D = 24"M = MultipoiseCoil Type L = Aluminum**Major Series** Capacity Refrigerant 24 = 24,0004 = R410A36 = 36,00048 = 48,00060 = 60,000**Metering Device** B = Modular, TXVX = Singular, TXV







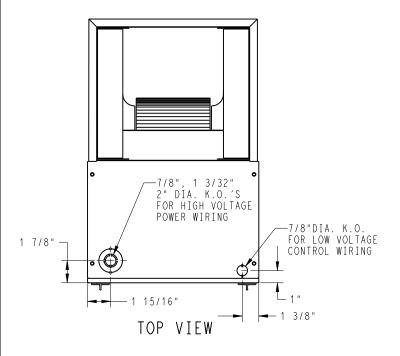
Table 1 – Models Available

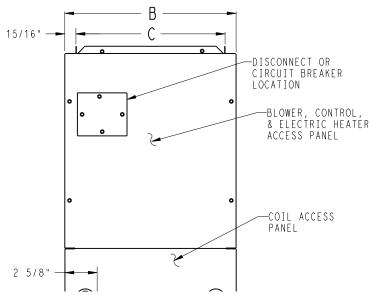
2 Ton	3 Ton	4 Ton	5 Ton
FTMA4X24L0BA	FTMA4B36L0CA	FTMA4B48L0CA	FTMA4B60L0DA

Table 2 – Specifications

	Table 2 – Specific	ations		
	EVAPORATOR	COIL		
	2 Ton	3 Ton	4 Ton	5 Ton
Face Area (sq ft)	3	.46	5.93	7.42
Configuration	Α	Slope		Α
Metering Device R-410A		1	TXV	
Refrigerant Sweat Liquid Line Connection, in (mm)		3/8	3 (9.5) ID	
Refrigerant Sweat Suction Line Connection, in (mm)	3/4 (1	9.1) ID	7.	/8 (22.2) ID
TXV Size				
Rows/Fins per Inch		3	3 / 14.5	
	BLOWER & MO	TOR		
Air Discharge		Upflow, Dov	wnflow, Horizontal	
	525	700	875	1050
CFM (Nominal Clg/Htg)	700 875	875 1050	1050 1225	1225 1400
	1050	1225	1400	1750
Motor HP (ECM)		1/2		3/4
	FILTERS			
The fan coil filter ra	ck can accommoda	te most common size	e filters.	
L x W in, (mm)	16 x 20 (406 x 508)	20 x 20 (	508 x 508)	23 x 20(584 x 508)
CAB	INET CONFIGURAT	ON OPTIONS		1
	Singular (1-piece)	Singular (1-pie	ece) or Modular	Modular
	1			

## **DIMENSIONS**





UNIT	SERIES			RICAL ERSTICS	A	В	С	D
FTMA4X24	01	χ	*		42 11/16"	17 5/8"	15 3/4"	15 5/8"
FTMA4B36	01	χ	*		53 7/16"	21 1/8"	19 1/4"	19 1/8"
FTMA4B48	01	χ	*		53 7/16"	21 1/8"	19 1/4"	19 1/8"
FTMA4B60	01	χ	*		59 3/16"	24 11/16"	22 3/4"	22 11/16"
		208/230-1-60	208/230-3-60			DUE TO AVA		LD

### NOTE:

- SERIES DESIGNATION IS THE 13TH & 14TH POSITIONS OF UNIT PRODUCT NUMBER.
- 2. ALL DIMENSIONS ARE IN "INCHES" UNLESS NOTED.

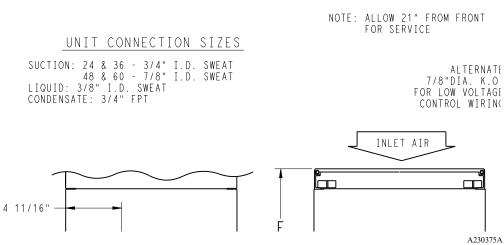
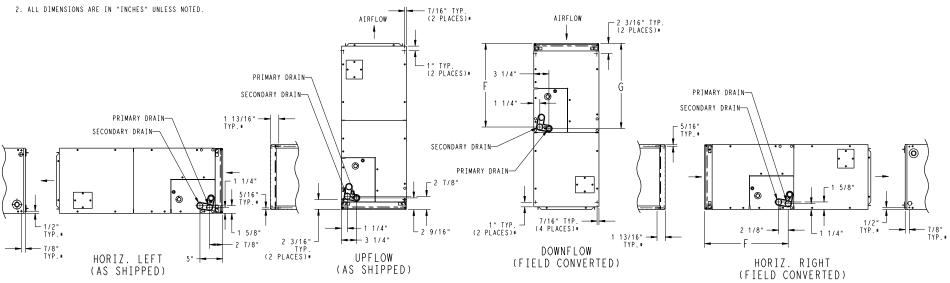


Fig. 1 – Dimensions, sheet 1

## **DIMENSIONS** (cont.)

NOTES:

1. CONDENSATE PAN DRAIN CAPS NOT SHOWN FOR CLARITY.



SLOPE COIL

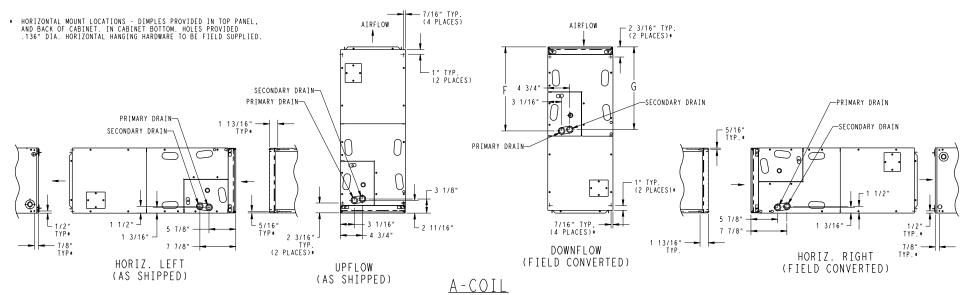
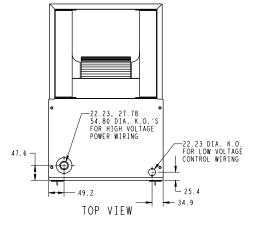
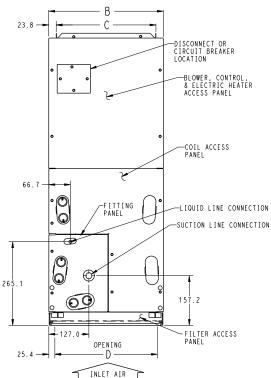


Fig. 2 – Dimensions, sheet 2

## **DIMENSIONS** (cont.)





FRONT VIEW

SHOWN WITH "A" COIL DETAILS CONNECTION LOCATIONS FOR UPFLOW OR HORIZ. APPLICATIONS

UNIT	SERIES	CHA	LECT	RICA	AL FICS	A	В	С	D	E	F	G	н	J	CONFIGU SLOPE	IL IRATION "A"	SHIPPING WT (Kgs)
FTMA4X24	01	Х				1084.3	447.7	400.0	396.9	273.0	471.5	463.6	-	-	-	χ	56.3
FTMA4B36	01	Х				1357.3	536.6	489.0	485.8	487.4	684.2	698.5	719.1	482.6	Х	-	66.3
FTMA4B48	01	Х				1357.3	536.6	489.0	485.8	495.3	692.2	684.2	719.1	-	-	χ	76.3
FTMA4B60	01	Χ				1503.4	627.1	577.8	576.3	641.4	836.6	828.7	865.2	-	-	Х	92.2

X 208/230-1-60

O=NO

\*=YES, DUE TO AVAILABLE FIELD
INSTALLED HEATERS.

#### NOTE:

- SERIES DESIGNATION IS THE 13TH & 14TH POSITIONS OF UNIT PRODUCT NUMBER.
- 2. ALL DIMENSIONS ARE IN "MM" UNLESS NOTED.

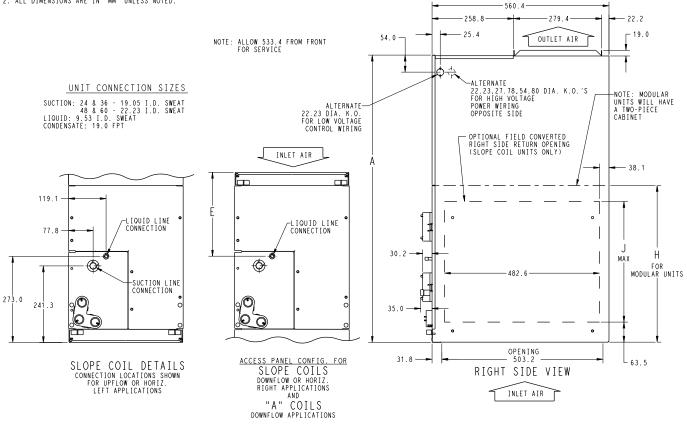


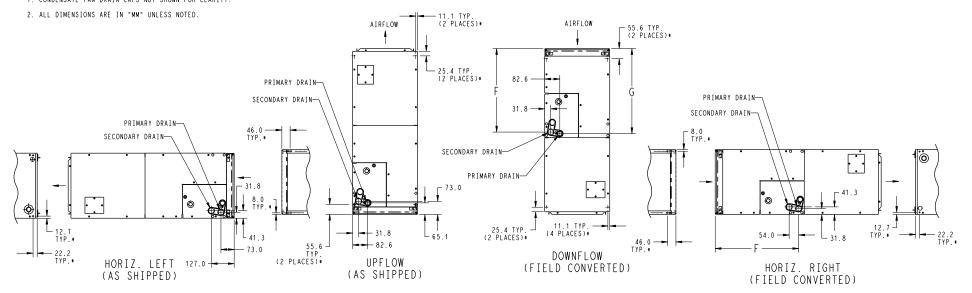
Fig. 3 – Dimensions, sheet 3

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Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

## SLOPE COIL

1. CONDENSATE PAN DRAIN CAPS NOT SHOWN FOR CLARITY.



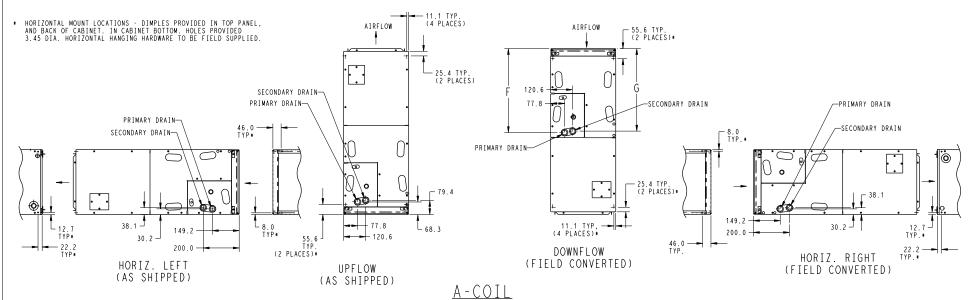


Fig. 4 – Dimensions, sheet 4

## **PERFORMANCE DATA**

Table 3 - Airflow Delivery Chart - (CFM) in Cooling Mode\*

				OF	PERATING MODE					
	OUTDOOR	SINGLE- APPLIC			TWO—SPEED	APPLICATION			FAN ONLY	,
UNIT	UNIT	Nominal	A/C	High	Speed	Low	Speed			
OIZE	CAPACITY	A/C Cooling	Cooling Dehum	Nominal A/C Cool	A/C Cool Dehum	Nominal A/C Cool	A/C Cool Dehum	Lo	Med	High
	018	525	420	_	_	_		350	420	525
24	024	700	560	700	560	560	450	350	560	700
24	030	875	700	_	_	_	_	435	700	875
	036	1050	840	1050	840	840	670	525	840	1050
	024	700	560	700	560	560	450	350	560	700
36	030	875	700	_	_	_	_	435	700	875
36	036	1050	840	1050	840	840	670	525	840	1050
	042	1225	980	_	_	_	_	610	980	1225
	030	875	700	_	_	_	_	435	700	875
48	036	1050	840	1050	840	840	670	525	840	1050
40	042	1225	980	_	_	_	_	610	980	1225
	048	1400	1120	1400	1120	1120	895	700	1120	1400
	036	1050	840	1050	840	840	670	525	840	1050
60	042	1225	980	_	_	_	_	610	980	1225
60	048	1400	1120	1400	1120	1120	895	700	1120	1400
	060	1750	1400	1750	1400	1400	1120	875	1400	1750

### NOTES:

- \* Consult ARI ratings before matching outdoor unit with fan coil.
- 1. The above airflows result with the AC, HP CFM ADJUST select jumper set on NOM.
- $2.\ Air\ flow\ can\ be\ adjusted\ +15\%\ or\ -10\%\ by\ selecting\ HI\ or\ LO\ respectively\ for\ all\ modes\ except\ fan\ only.$
- 3. Dry coil at 230 volts and with 10kW heater and filter installed.
- 4. Airflows shown are at standard air conditions.

Table 4 – Airflow Delivery Chart – (CFM) in Heat Pump Only Heating Mode

				OPI	ERATING MO	DE				
	OUTDOOR		-SPEED CATION	Т	WO—SPEED	APPLICATIO	N		FAN ONLY	
UNIT SIZE	UNIT	Heat Dumm	Llast Dumm	High S	Speed	Low S	Speed			
	CAPACITY	Heat Pump Comfort	Heat Pump Efficiency	Heat Pump Comfort	Heat Pump Efficiency	Heat Pump Comfort	Heat Pump Efficiency	Lo	Med	High
	018	470	525	_	_	_	_	350	420	525
24	024	630	700	630	700	505	560	350	560	700
24	030	785	875	_	_	_	_	435	700	875
	036	945	1050	945	1050	755	840	525	840	1050
	024	630	700	630	700	505	560	350	560	700
36	030	785	875	_	_	_	_	435	700	875
36	036	945	1050	945	1050	755	840	525	840	1050
	042	1100	1225	_	_	_	_	610	980	1225
	030	785	875	_	_	_	_	435	700	875
40	036	945	1050	945	1050	755	840	525	840	1050
48	042	1100	1225	_	_	_	_	610	980	1225
	048	1260	1400	1260	1400	1010	1120	700	1120	1400
	036	945	1050	945	1050	755	840	525	840	1050
<b>CO</b>	042	1100	1225	_	_	_	_	610	980	1225
60	048	1260	1400	1260	1400	1010	1120	700	1120	1400
	060	1575	1750	1575	1750	1260	1400	875	1400	1750

### NOTES

- 1. The above airflows result with the AC, HP CFM ADJUST select jumper set on NOM.
- 2. Air flow can be adjusted +15% or -10% by selecting HI or LO respectively for all modes except fan only.
- 3. Dry coil at 230 volts and with 10kW heater and filter installed.
- 4. Airflows shown are at standard air conditions.

Table 5 – Airflow Delivery Chart (CFM) — Electric Heating Modes

	OUTDOOR					ELEC.	TRIC HEA	TER kW R	ANGE				
FAN UNIT SIZE	UNIT CAPACITY		0-5			0-10			0-15			0-20	
UNIT SIZE	BTUH	Lo	Nom	High	Lo	Nom	High	Lo	Nom	High	Lo	Nom	High
	18,000	700	700	805	750	750	863	_	_	_	_	_	-
24	24,000	700	700	805	750	750	863	1050	1050	1208	_	_	-
24	30,000	875	875	1006	875	875	1006	1050	1050	1208	1200	1200	1380
	36,000	1050	1050	1208	1050	1050	1208	1050	1050	1208	1200	1200	1380
	24,000	700	700	805	750	750	863	1050	1050	1208	1225	_	-
36	30,000	875	875	1006	875	875	1006	1050	1050	1208	1225	_	-
36	36,000	1050	1050	1208	1050	1050	1208	1050	1050	1208	1225	1225	1409
	42,000	1225	1225	1409	1225	1225	1409	1225	1225	1409	1225	1225	1409
	OUTDOOR					ELEC.	TRIC HEA	TER kW R	ANGE				
FAN UNIT SIZE	UNIT CAPACITY		0-10			0-15			0-20			0-30	
UNIT SIZE	BTUH	Lo	Nom	High	Lo	Nom	High	Lo	Nom	High	Lo	Nom	High
	30,000	1000	1000	1150	1200	1200	1380	_		_	_	_	_
48	36,000	1100	1100	1265	1200	1200	1380	1300	1300	1495	_	_	_
40	42,000	1225	1225	1409	1225	1225	1409	1350	1350	1553	_	_	_
	48,000	1400	1400	1610	1400	1400	1610	1400	1400	1610	1500	1500	1725
	36,000	1200	1200	1380	1250	1250	1438	1350	1350	1553	_	_	_
60	42,000	1225	1225	1409	1300	1300	1495	1350	1350	1553	_	_	_
OU	48,000	1400	1400	1610	14000	14000	1610	1400	1400	1610	1750	1750	2013
	60,000	1750	1750	2013	1750	1750	2013	1750	1750	2013	1750	1750	2013

NOTE: Lo, NOM, and HI refer to AC, HP CFM ADJUST selection.

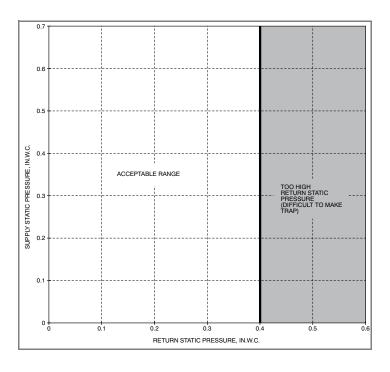
Table 6 - Minimum CFM for Electric Heater Application

				CFM		
FAN COIL UNIT SIZE	HEAT PUMP UNIT SIZE			HEATER SIZE kW		
OIZE.	OIZE	5	8, 9, 10	12, 15	18, 20	24, 30
	018	700	750	_	_	_
	024	700	750	1050	_	_
24	030	875	875	1050	1200	_
	036	1050	1050	1050	1200	_
	024	700	700	1050	_	_
36	030	875	875	1050	_	_
	036	1050	1050	1050	1225	_
	042	1225	1225	1225	1225	_
	018	_	1000	1120	_	_
48	036	_	1100	1200	1300	_
	042	_	1225	1225	1350	_
	048	_	1400	1400	1400	1500
	018	_	1200	1250	1350	_
60	042	_	1225	1300	1350	_
	048	_	1400	1400	1400	1750
	060	_	1750	1750	1750	1750

### NOTES

<sup>—</sup> Airflow not recommended for heater/system size.

<sup>1.</sup> These airflows are minimum acceptable airflows as UL listed. Actual airflow delivered will be per airflow delivery chart for Electric Heating Modes.



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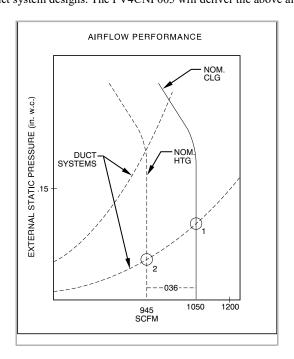
## **Acceptable Duct Conditions**

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.

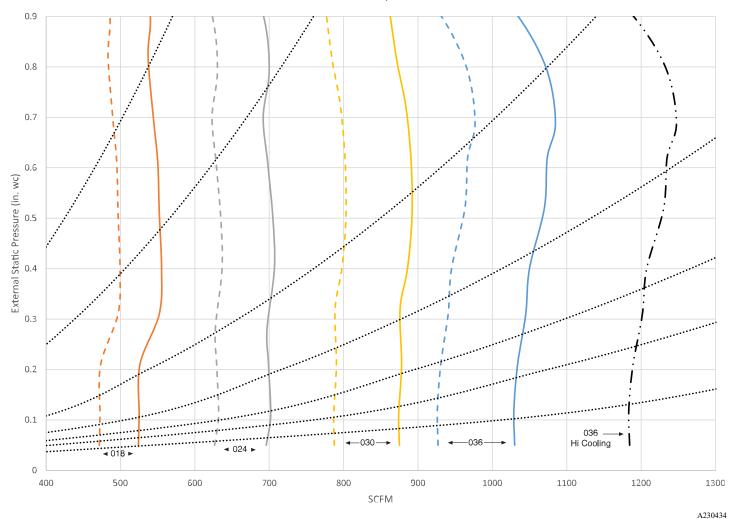
The airflow performance charts for the fan coil depict nominal airflow delivery for heating and cooling mode operation versus duct system static pressure drop. Cooling mode operation is shown as solid vertical lines for all 4 system size selections. Heating mode operation for the 4 system size selections are shown as dashed vertical lines.

The dotted curved lines are static pressure drop characteristics for several fixed-duct systems. These lines can be used to predict the system static pressure drop at any airflow given the actual drop at 1 known point.

For example, a duct system is designed for 0.15 in. water column (in. w.c.) drop at 1200 CFM. The FV4CNF005 operating at nominal cooling airflow would deliver 1050 CFM with a duct system drop of 0.11 in. w.c.. (See point 1 in the Airflow Performance/Static Pressure figure below.) On the same duct system, the FV4CNF005 operating at nominal heating airflow would deliver 945 CFM with a duct system drop of 0.09 in. w.c. (See point 2.) This example is but one of many possible duct system designs. The FV4CNF005 will deliver the above airflows against much higher static pressures.

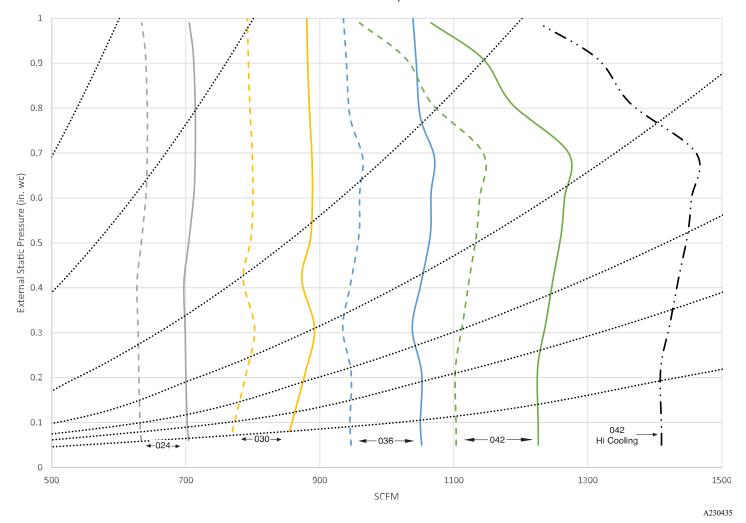


## Airflow Performance, 24 size

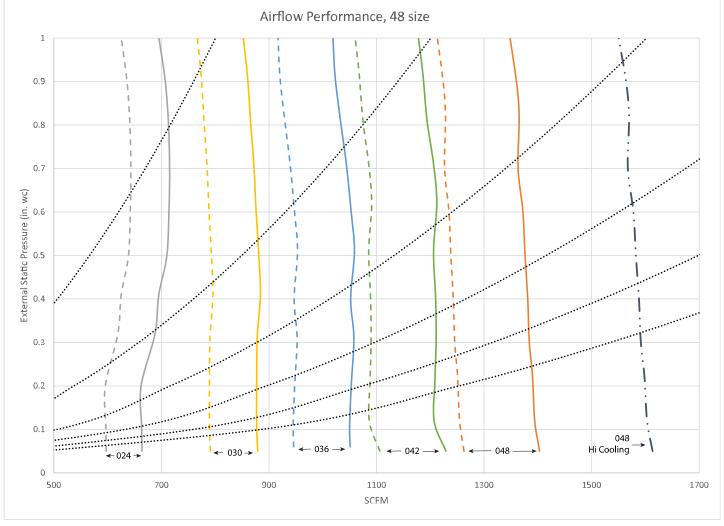


- Nominal Cooling and Heat Pump Efficiency airflow for each size selection. Airflow can be adjusted +15% to -10%. Nominal Heat Pump Comfort airflow for each size selection. Airflow can be adjusted +15% to -10%. Maximum cooling airflow for largest size selection. Adjusted +15% from nominal. Fixed Duct Systems (See description under Acceptable Duct Conditions.)

## Airflow Performance, 36 size

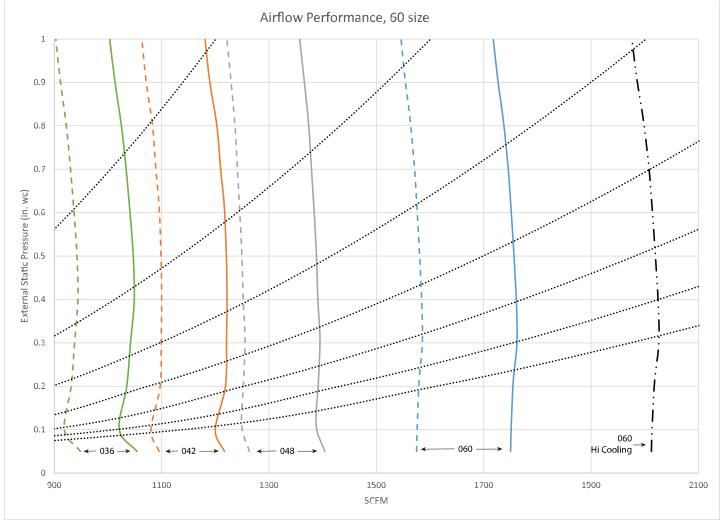


- Nominal Cooling and Heat Pump Efficiency airflow for each size selection. Airflow can be adjusted +15% to -10%. Nominal Heat Pump Comfort airflow for each size selection. Airflow can be adjusted +15% to -10%. Maximum cooling airflow for largest size selection. Adjusted +15% from nominal. Fixed Duct Systems (See description under Acceptable Duct Conditions.)



A230436

- Nominal Cooling and Heat Pump Efficiency airflow for each size selection. Airflow can be adjusted +15% to -10%. Nominal Heat Pump Comfort airflow for each size selection. Airflow can be adjusted +15% to -10%.
- · · · · Maximum cooling airflow for largest size selection. Adjusted +15% from nominal. · · · · · Fixed Duct Systems (See description under Acceptable Duct Conditions.)



A230437

- Nominal Cooling and Heat Pump Efficiency airflow for each size selection. Airflow can be adjusted +15% to -10%.
  Nominal Heat Pump Comfort airflow for each size selection. Airflow can be adjusted +15% to -10%.

  Maximum cooling airflow for largest size selection. Adjusted +15% from nominal.

  Fixed Duct Systems (See description under Acceptable Duct Conditions.)

**Table 7 – Cooling Capacities (MBtuh)** 

IND	OOR		SATURATED TEMPERATURE LEAVING EVAPORATOR (deg F)  35 40 45 50 55													
	_ AIR		35			40			45			50			55	
CFM	EWB	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	тс	SHC	BF
							SI	ZE 24								
	72	37.50	19.04	0.00	33.96	17.17	0.00	29.95	15.18	0.00	25.35	13.07	0.00	20.11	10.83	0.00
525	67	30.71	19.50	0.00	27.01	17.49	0.00	22.82	15.38	0.00	18.08	13.17	0.00	12.92	10.93	0.00
	62	24.45	19.79	0.00	20.62	17.68	0.00	16.51	15.56	0.01	12.74	12.74	0.05	10.53	10.53	0.21
	72	46.28	23.46	0.00	42.01	21.31	0.00	37.11	18.99	0.00	31.54	16.50	0.00	25.10	13.80	0.01
700	67	38.08	24.46	0.01	33.62	22.14	0.01	28.52	19.62	0.01	22.62	16.92	0.01	16.16	14.14	0.01
	62	30.57	25.26	0.01	25.94	22.75	0.01	20.81	20.13	0.02	16.58	16.58	0.08	13.73	13.73	0.23
	72	53.42	27.14	0.00	48.58	24.80	0.00	42.99	22.24	0.00	36.57	19.46	0.00	29.26	16.44	0.01
875	67	44.14	28.75	0.02	39.07	26.18	0.02	33.23	23.40	0.01	26.53	20.34	0.02	19.00	17.14	0.02
	62	35.64	30.11	0.02	30.44	27.37	0.02	24.72	24.45	0.03	20.16	20.16	0.11	16.72	16.72	0.26
	72	59.25	30.25	0.00	54.00	27.79	0.01	47.91	25.05	0.02	40.85	22.05	0.02	32.69	18.77	0.02
1050	67	49.16	32.52	0.02	43.60	29.78	0.03	37.18	26.76	0.03	29.81	23.50	0.03	21.58	19.97	0.04
	62	39.88	34.49	0.03	34.24	31.56	0.03	28.13	28.41	0.04	23.44	23.44	0.14	19.43	19.43	0.28
	72	64.10	32.93	0.02	58.53	30.39	0.02	52.02	27.54	0.03	44.44	24.38	0.03	35.61	20.89	0.03
1225	67	53.37	35.88	0.04	47.43	33.02	0.04	40.52	29.84	0.04	32.58	26.37	0.04	23.87	22.63	0.05
	62	43.50	38.51	0.04	37.52	35.42	0.04	31.22	32.09	0.06	26.46	26.46	0.17	21.98	21.98	0.31
							SI	ZE 36								
	72	46.73	23.71	0.00	42.21	21.42	0.00	37.03	18.95	0.00	31.12	16.32	0.00	24.47	13.58	0.00
700	67	38.23	24.55	0.01	33.46	22.07	0.00	28.13	19.46	0.00	22.20	16.73	0.01	15.77	13.96	0.01
	62	30.47	25.19	0.01	25.73	22.64	0.01	20.64	20.02	0.02	16.45	16.45	0.08	13.57	13.57	0.24
	72	54.14	27.50	0.00	49.01	25.01	0.00	43.08	22.29	0.00	36.32	19.31	0.01	28.48	16.14	0.01
875	67	44.54	28.96	0.01	39.13	26.21	0.02	32.90	23.21	0.02	25.90	20.10	0.01	18.55	16.94	0.02
	62	35.68	30.12	0.02	30.20	27.22	0.02	24.46	24.28	0.03	20.00	20.00	0.11	16.52	16.52	0.26
	72	60.23	30.73	0.00	54.65	28.07	0.02	48.16	25.17	0.01	40.65	21.97	0.02	31.96	18.47	0.02
1050	67	49.80	32.84	0.02	43.85	29.89	0.03	36.97	26.66	0.03	29.12	23.18	0.03	21.00	19.69	0.04
	62	40.12	34.60	0.03	34.09	31.45	0.03	27.83	28.19	0.04	23.19	23.19	0.14	19.17	19.17	0.29
	72	65.33	33.52	0.01	59.35	30.77	0.02	52.41	27.71	0.03	44.36	24.34	0.03	34.94	20.62	0.03
1225	67	54.19	36.28	0.04	47.86	33.21	0.04	40.43	29.78	0.04	31.95	26.07	0.04	23.18	22.28	0.05
	62	43.93	38.70	0.04	37.54	35.38	0.04	30.91	31.83	0.06	26.14	26.14	0.17	21.63	21.63	0.31
	72	69.64	35.98	0.03	63.37	33.15	0.04	56.04	29.99	0.04	47.51	26.47	0.04	37.51	22.57	0.04
1400	67	57.94	39.40	0.05	51.25	36.22	0.05	43.43	32.67	0.05	34.46	28.78	0.05	25.18	24.72	0.07
	62	47.26	42.51	0.05	40.58	39.04	0.06	33.84	35.26	0.08	28.85	28.85	0.20	23.92	23.91	0.34
	1			1		1		ZE 48		1		1	1	1	1	1
	72	55.50	29.11	0.00	50.59	26.54	0.00	44.88	23.71	0.00	38.24	20.63	0.00	30.68	17.36	0.00
875	67	45.72	30.33	0.00	40.45	27.50	0.00	34.52	24.46	0.00	27.67	21.20	0.00	19.98	17.78	0.00
	62	36.75	31.31	0.00	31.36	28.31	0.00	25.38	25.13	0.01	20.06	20.06	0.06	16.66	16.66	0.22
	72	62.61	32.86	0.00	57.23	30.14	0.00	50.90	27.09	0.00	43.49	23.73	0.00	34.84	20.06	0.00
1050	67	51.82	34.75	0.00	45.98	31.70	0.00	39.25	28.31	0.00	31.53	24.69	0.01	22.90	20.87	0.01
	62	41.81	36.27	0.01	35.78	32.96	0.01	29.15	29.47	0.01	23.60	23.60	0.08	19.62	19.62	0.24

Table 7 - Cooling Capacities (MBtuh)

			1														
		72	68.60	36.10	0.00	62.85	33.28	0.00	56.08	30.11	0.00	48.02	26.55	0.00	38.54	22.55	0.00
1400	1225	67	57.05	38.72	0.01	50.81	35.50	0.01	43.41	31.92	0.00	34.94	27.95	0.01	25.54	23.82	0.01
1400   67		62	46.23	40.86	0.01	39.68	37.32	0.01	32.60	33.60	0.02	26.95	26.95	0.10	22.46	22.46	0.25
		72	73.71	38.97	0.00	67.64	36.08	0.00	60.51	32.80	0.00	52.06	29.07	0.01	41.85	24.88	0.01
1600	1400	67	61.55	42.32	0.01	54.96	38.99	0.01	47.17	35.23	0.01	37.95	31.04	0.01	27.97	26.64	0.02
1600   66		62	50.14	45.16	0.02	43.27	41.48	0.02	35.80	37.53	0.03	30.14	30.14	0.12	25.15	25.15	0.27
		72	78.67	41.89	0.00	72.30	38.96	0.00	64.83	35.58	0.01	55.92	31.76	0.01	45.16	27.34	0.02
T2	1600	67	65.91	46.06	0.02	59.04	42.67	0.02	50.80	38.77	0.02	41.09	34.39	0.02	30.45	29.70	0.03
1750   67		62	54.03	49.74	0.02	46.89	45.95	0.03	39.16	41.76	0.04	33.49	33.49	0.15	28.02	28.02	0.29
		72	81.90	43.87	0.01	75.39	40.88	0.01	67.68	37.48	0.02	58.47	33.58	0.02	47.34	29.06	0.02
1050	1750	67	68.76	48.66	0.02	61.68	45.22	0.02	53.22	41.25	0.02	43.19	36.78	0.02	32.18	31.88	0.04
1050		62	56.62	52.98	0.03	49.32	49.11	0.03	41.57	41.19	0.05	35.82	35.82	0.17	30.02	30.02	0.30
1050   67   65.98   40.54   0.00   58.84   37.05   0.00   50.47   33.18   0.00   40.84   28.98   0.00   29.88   24.50   0.00     62   53.30   42.23   0.00   45.80   38.43   0.00   37.36   34.36   0.01   29.92   29.92   0.07   24.95   24.95   0.02     72   87.50   42.31   0.00   80.43   39.08   0.00   72.12   35.46   0.00   62.20   31.35   0.00   50.39   26.76   0.00     62   59.18   47.71   0.01   50.98   43.61   0.01   41.86   39.23   0.01   34.26   34.26   0.08   28.63   28.63   0.23     72   94.29   45.76   0.00   86.84   42.45   0.00   78.04   38.71   0.00   67.56   34.46   0.00   54.92   29.60   0.00     62   64.33   52.82   0.01   55.68   48.55   0.01   45.98   43.88   0.02   38.38   38.38   0.10   32.14   32.14   0.25     72   100.91   49.28   0.00   93.10   45.91   0.00   83.86   42.08   0.00   72.84   37.68   0.00   59.46   32.60   0.01     62   69.49   58.29   0.01   76.18   50.22   0.01   66.02   45.76   0.01   53.86   40.66   0.01   40.02   35.07   0.26     72   105.21   51.67   0.00   97.24   48.25   0.01   87.70   44.38   0.01   56.75   43.55   0.01   42.37   37.74   0.02     62   72.94   62.18   0.02   63.73   57.71   0.02   53.59   52.69   0.03   46.02   46.02   0.14   38.71   38.71   0.28     72   111.40   55.29   0.01   103.09   51.86   0.01   93.23   47.91   0.01   81.31   43.32   0.01   66.94   38.00   0.01     72   111.40   55.29   0.01   103.09   51.86   0.01   93.23   47.91   0.01   81.31   43.32   0.01   66.94   38.00   0.01     74   101.40   55.29   0.01   103.09   51.86   0.01   93.23   47.91   0.01   81.31   43.32   0.01   66.94   38.00   0.01     75   101.40   55.29   0.01   103.09   51.86   0.01   93.23   47.91   0.01   81.31   43.32   0.01   66.94   38.00   0.01     75   101.40   55.29   0.01   103.09   51.86   0.01   93.23   47.91   0.01   81.31   43.32   0.01   66.94   38.00   0.01								S	ZE 60								
		72	79.55	38.39	0.00	72.99	35.30	0.00	65.21	31.82	0.00	56.07	27.96	0.00	45.28	23.69	0.00
1225         87.50         42.31         0.00         80.43         39.08         0.00         72.12         35.46         0.00         62.20         31.35         0.00         50.39         26.76         0.00           1225         67         72.90         45.29         0.00         65.20         41.61         0.00         56.12         37.49         0.00         45.43         32.88         0.00         33.42         28.01         0.01           62         59.18         47.71         0.01         50.98         43.61         0.01         41.86         39.23         0.01         34.26         34.26         0.08         28.63         28.63         0.23           1400         67         78.85         49.60         0.01         70.71         45.82         0.00         61.08         41.50         0.01         49.58         36.61         0.01         36.65         31.38         0.01           62         64.33         52.82         0.01         55.68         48.55         0.01         45.98         43.88         0.02         38.38         38.38         0.10         32.14         32.14         0.25           1600         67         84.67         54.09	1050	67	65.98	40.54	0.00	58.84	37.05	0.00	50.47	33.18	0.00	40.84	28.98	0.00	29.88	24.50	0.00
1225         67         72.90         45.29         0.00         65.20         41.61         0.00         56.12         37.49         0.00         45.43         32.88         0.00         33.42         28.01         0.01           62         59.18         47.71         0.01         50.98         43.61         0.01         41.86         39.23         0.01         34.26         34.26         0.08         28.63         28.63         0.23           1400         67         78.85         49.60         0.01         70.71         45.82         0.00         61.08         41.50         0.01         49.58         36.61         0.01         36.65         31.38         0.01           62         64.33         52.82         0.01         55.68         48.55         0.01         45.98         43.88         0.02         38.38         38.38         0.10         32.14         32.14         0.25           1600         67         84.67         54.09         0.01         76.18         50.22         0.01         66.02         45.76         0.01         53.86         40.66         0.01         40.02         35.97         0.26           62         69.49         58.29		62	53.30	42.23	0.00	45.80	38.43	0.00	37.36	34.36	0.01	29.92	29.92	0.07	24.95	24.95	0.22
62         59.18         47.71         0.01         50.98         43.61         0.01         41.86         39.23         0.01         34.26         34.26         0.08         28.63         28.63         0.23           1400         72         94.29         45.76         0.00         86.84         42.45         0.00         78.04         38.71         0.00         67.56         34.46         0.00         54.92         29.60         0.00           67         78.85         49.60         0.01         70.71         45.82         0.00         61.08         41.50         0.01         49.58         36.61         0.01         36.65         31.38         0.01           62         64.33         52.82         0.01         55.68         48.55         0.01         45.98         43.88         0.02         38.38         38.38         0.10         32.14         32.14         0.25           1600         67         84.67         54.09         0.01         76.18         50.22         0.01         66.02         45.76         0.01         53.86         40.66         0.01         40.02         35.97         35.97         0.26           1750         69.49         58.29		72	87.50	42.31	0.00	80.43	39.08	0.00	72.12	35.46	0.00	62.20	31.35	0.00	50.39	26.76	0.00
1400         72         94.29         45.76         0.00         86.84         42.45         0.00         78.04         38.71         0.00         67.56         34.46         0.00         54.92         29.60         0.00           67         78.85         49.60         0.01         70.71         45.82         0.00         61.08         41.50         0.01         49.58         36.61         0.01         36.65         31.38         0.01           62         64.33         52.82         0.01         55.68         48.55         0.01         45.98         43.88         0.02         38.38         38.38         0.10         32.14         32.14         0.25           1600         67         84.67         54.09         0.01         76.18         50.22         0.01         66.02         45.76         0.01         53.86         40.66         0.01         40.02         35.07         0.02           62         69.49         58.29         0.01         60.49         53.89         0.01         50.41         49.00         0.02         42.85         42.85         0.13         35.97         35.97         0.26           1750         67         88.49         57.22	1225	67	72.90	45.29	0.00	65.20	41.61	0.00	56.12	37.49	0.00	45.43	32.88	0.00	33.42	28.01	0.01
1400         67         78.85         49.60         0.01         70.71         45.82         0.00         61.08         41.50         0.01         49.58         36.61         0.01         36.65         31.38         0.01           62         64.33         52.82         0.01         55.68         48.55         0.01         45.98         43.88         0.02         38.38         38.38         0.10         32.14         32.14         0.25           72         100.91         49.28         0.00         93.10         45.91         0.00         83.86         42.08         0.00         72.84         37.68         0.00         59.46         32.60         0.01           667         84.67         54.09         0.01         76.18         50.22         0.01         66.02         45.76         0.01         53.86         40.66         0.01         40.02         35.07         0.02           62         69.49         58.29         0.01         60.49         53.89         0.01         87.70         44.38         0.01         76.28         39.90         0.01         62.50         34.70         0.01           1750         67         88.49         57.22         0.01		62	59.18	47.71	0.01	50.98	43.61	0.01	41.86	39.23	0.01	34.26	34.26	0.08	28.63	28.63	0.23
62         64.33         52.82         0.01         55.68         48.55         0.01         45.98         43.88         0.02         38.38         38.38         0.10         32.14         32.14         0.25           72         100.91         49.28         0.00         93.10         45.91         0.00         83.86         42.08         0.00         72.84         37.68         0.00         59.46         32.60         0.01           60         84.67         54.09         0.01         76.18         50.22         0.01         66.02         45.76         0.01         53.86         40.66         0.01         40.02         35.07         0.02           62         69.49         58.29         0.01         60.49         53.89         0.01         50.41         49.00         0.02         42.85         0.13         35.97         35.97         0.26           72         105.21         51.67         0.00         97.24         48.25         0.01         87.70         44.38         0.01         76.28         39.90         0.01         62.50         34.70         0.01           1750         67         88.49         57.22         0.01         79.74         53.27		72	94.29	45.76	0.00	86.84	42.45	0.00	78.04	38.71	0.00	67.56	34.46	0.00	54.92	29.60	0.00
1600         72         100.91         49.28         0.00         93.10         45.91         0.00         83.86         42.08         0.00         72.84         37.68         0.00         59.46         32.60         0.01           67         84.67         54.09         0.01         76.18         50.22         0.01         66.02         45.76         0.01         53.86         40.66         0.01         40.02         35.07         0.02           62         69.49         58.29         0.01         60.49         53.89         0.01         50.41         49.00         0.02         42.85         42.85         0.13         35.97         35.97         0.26           72         105.21         51.67         0.00         97.24         48.25         0.01         87.70         44.38         0.01         76.28         39.90         0.01         62.50         34.70         0.01           67         88.49         57.22         0.01         79.74         53.27         0.01         69.29         48.78         0.01         56.75         43.55         0.01         42.37         37.74         0.02           62         72.94         62.18         0.02         63.73	1400	67	78.85	49.60	0.01	70.71	45.82	0.00	61.08	41.50	0.01	49.58	36.61	0.01	36.65	31.38	0.01
1600         67         84.67         54.09         0.01         76.18         50.22         0.01         66.02         45.76         0.01         53.86         40.66         0.01         40.02         35.07         0.02           62         69.49         58.29         0.01         60.49         53.89         0.01         50.41         49.00         0.02         42.85         42.85         0.13         35.97         35.97         0.26           1750         67         88.49         57.22         0.01         79.74         53.27         0.01         69.29         48.78         0.01         56.75         43.55         0.01         42.37         37.74         0.02           62         72.94         62.18         0.02         63.73         57.71         0.02         53.59         52.69         0.03         46.02         46.02         0.14         38.71         38.71         0.28           2000         67         93.99         62.07         0.02         84.88         58.05         0.02         74.05         53.44         0.02         61.00         48.09         0.02         46.00         41.99         0.03		62	64.33	52.82	0.01	55.68	48.55	0.01	45.98	43.88	0.02	38.38	38.38	0.10	32.14	32.14	0.25
62         69.49         58.29         0.01         60.49         53.89         0.01         50.41         49.00         0.02         42.85         42.85         0.13         35.97         35.97         0.26           1750         67         88.49         57.22         0.01         79.74         53.27         0.01         69.29         48.78         0.01         56.75         43.55         0.01         42.37         37.74         0.02           62         72.94         62.18         0.02         63.73         57.71         0.02         53.59         52.69         0.03         46.02         0.14         38.71         38.71         0.28           2000         67         93.99         62.07         0.02         84.88         58.05         0.02         74.05         53.44         0.02         61.00         48.09         0.02         46.00         41.99         0.03		72	100.91	49.28	0.00	93.10	45.91	0.00	83.86	42.08	0.00	72.84	37.68	0.00	59.46	32.60	0.01
1750         105.21         51.67         0.00         97.24         48.25         0.01         87.70         44.38         0.01         76.28         39.90         0.01         62.50         34.70         0.01           67         88.49         57.22         0.01         79.74         53.27         0.01         69.29         48.78         0.01         56.75         43.55         0.01         42.37         37.74         0.02           62         72.94         62.18         0.02         63.73         57.71         0.02         53.59         52.69         0.03         46.02         46.02         0.14         38.71         38.71         0.28           72         111.40         55.29         0.01         103.09         51.86         0.01         93.23         47.91         0.01         81.31         43.32         0.01         66.94         38.00         0.01           2000         67         93.99         62.07         0.02         84.88         58.05         0.02         74.05         53.44         0.02         61.00         48.09         0.02         46.00         41.99         0.03	1600	67	84.67	54.09	0.01	76.18	50.22	0.01	66.02	45.76	0.01	53.86	40.66	0.01	40.02	35.07	0.02
1750     67     88.49     57.22     0.01     79.74     53.27     0.01     69.29     48.78     0.01     56.75     43.55     0.01     42.37     37.74     0.02       62     72.94     62.18     0.02     63.73     57.71     0.02     53.59     52.69     0.03     46.02     46.02     0.14     38.71     38.71     0.28       72     111.40     55.29     0.01     103.09     51.86     0.01     93.23     47.91     0.01     81.31     43.32     0.01     66.94     38.00     0.01       67     93.99     62.07     0.02     84.88     58.05     0.02     74.05     53.44     0.02     61.00     48.09     0.02     46.00     41.99     0.03		62	69.49	58.29	0.01	60.49	53.89	0.01	50.41	49.00	0.02	42.85	42.85	0.13	35.97	35.97	0.26
62       72.94       62.18       0.02       63.73       57.71       0.02       53.59       52.69       0.03       46.02       46.02       0.14       38.71       38.71       0.28         72       111.40       55.29       0.01       103.09       51.86       0.01       93.23       47.91       0.01       81.31       43.32       0.01       66.94       38.00       0.01         2000       67       93.99       62.07       0.02       84.88       58.05       0.02       74.05       53.44       0.02       61.00       48.09       0.02       46.00       41.99       0.03		72	105.21	51.67	0.00	97.24	48.25	0.01	87.70	44.38	0.01	76.28	39.90	0.01	62.50	34.70	0.01
72     111.40     55.29     0.01     103.09     51.86     0.01     93.23     47.91     0.01     81.31     43.32     0.01     66.94     38.00     0.01       2000     67     93.99     62.07     0.02     84.88     58.05     0.02     74.05     53.44     0.02     61.00     48.09     0.02     46.00     41.99     0.03	1750	67	88.49	57.22	0.01	79.74	53.27	0.01	69.29	48.78	0.01	56.75	43.55	0.01	42.37	37.74	0.02
<b>2000</b> 67 93.99 62.07 0.02 84.88 58.05 0.02 74.05 53.44 0.02 61.00 48.09 0.02 46.00 41.99 0.03		62	72.94	62.18	0.02	63.73	57.71	0.02	53.59	52.69	0.03	46.02	46.02	0.14	38.71	38.71	0.28
		72	111.40	55.29	0.01	103.09	51.86	0.01	93.23	47.91	0.01	81.31	43.32	0.01	66.94	38.00	0.01
62 77.95 68.26 0.02 68.57 63.72 0.03 58.99 58.28 0.06 51.02 51.02 0.17 42.96 42.96 0.30	2000	67	93.99	62.07	0.02	84.88	58.05	0.02	74.05	53.44	0.02	61.00	48.09	0.02	46.00	41.99	0.03
		62	77.95	68.26	0.02	68.57	63.72	0.03	58.99	58.28	0.06	51.02	51.02	0.17	42.96	42.96	0.30

### NOTES:

Contact manufacturer for cooling capacities at conditions other than shown in table.

Formulas:

Leaving db = entering db -  $\frac{\text{sensible heat cap.}}{1.09 \text{ x CFM}}$ 

Leaving wb = wb corresponding to enthalpy of air leaving coil  $(h_{\mathrm{l}wb})$ 

 $h_{lwb} = h_{ewb} - \underline{total \ capacity \ (Btuh)}$ 

4.5 x CFM

where  $h_{\text{ewb}}$  = enthalpy of air entering coil. Direct interpolation is permissible. Do not

- 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)
- Bypass Factor = 0 indicates no psychometric solution. Use bypass factor of next lower EWB for approximation.

## SHC CORRECTION FACTOR

	ENTE	RING AIR	DRY-BUL	В ТЕМРЕ	RATURE	°F (°C)
BYPASS FACTOR	79 (26)	78 (26)	77 (25)	76 (24)	75 (24)	Under 75 (24)
IACION	81 (27)	82 (28)	83 (28)	84 (29)	85 (29)	Over 85
		•	Correction	n Factor	•	•
0.10	.098	1.96	2.94	3.92	4.91	Use
0.20	0.87	1.74	2.62	3.49	4.36	formula
0.30	0.76	1.53	2.29	3.05	3.82	shown below

Interpolation is permissible. Correction Factor = 1.09 x (1 - BF) x (db - 80)

Table 8 – Estimated Sound Power Level of Airflow from Duct (dB)

UNIT SIZE		CONDITIONS			OCTAVE BAI	ND CENTER F	REQUENCY*	ı	
	CFM	Ext Static Pressure	63	125	250	500	1000	2000	4000
	400	0.50	69.0	65.0	61.0	58.0	56.0	54.0	50.0
	600	0.50	70.8	66.8	62.8	59.8	57.8	55.8	51.8
0.4	800	0.50	72.0	68.0	64.0	61.0	59.0	57.0	53.0
24	1000	0.50	73.0	69.0	65.0	62.0	60.0	58.0	54.0
	1200	0.50	73.8	69.8	65.8	62.8	60.8	58.8	54.8
	1400	0.50	74.4	70.4	66.4	63.4	61.4	59.4	55.4
	400	0.50	69.0	65.0	61.0	58.0	56.0	54.0	50.0
	600	0.50	70.8	66.8	62.8	59.8	57.8	55.8	51.8
	800	0.50	72.0	68.0	64.0	61.0	59.0	57.0	53.0
36	1000	0.50	73.0	69.0	65.0	62.0	60.0	58.0	54.0
	1200	0.50	73.8	69.8	65.8	62.8	60.8	58.8	54.8
	1400	0.50	74.4	70.4	66.4	63.4	61.4	59.4	55.4
	1600	0.50	75.0	71.0	67.0	64.0	62.0	60.0	56.0
	400	0.50	69.0	65.0	61.0	58.0	56.0	54.0	50.0
	600	0.50	70.8	66.8	62.8	59.8	57.8	55.8	51.8
	800	0.50	72.0	68.0	64.0	61.0	59.0	57.0	53.0
48	1000	0.50	73.0	69.0	65.0	62.0	60.0	58.0	54.0
	1200	0.50	73.8	69.8	65.8	62.8	60.8	58.8	54.8
	1400	0.50	74.4	70.4	66.4	63.4	61.4	59.4	55.4
	1600	0.50	75.0	71.0	67.0	64.0	62.0	60.0	56.0
	600	0.50	70.8	66.8	62.8	59.8	57.8	55.8	51.8
	800	0.50	72.0	68.0	64.0	61.0	59.0	57.0	53.0
	1000	0.50	73.0	69.0	65.0	62.0	60.0	58.0	54.0
	1200	0.50	73.8	69.8	65.8	62.8	60.8	58.8	54.8
60	1400	0.50	74.4	70.4	66.4	63.4	61.4	59.4	55.4
	1600	0.50	75.0	71.0	67.0	64.0	62.0	60.0	56.0
	1800	0.50	75.5	71.5	67.5	64.5	62.5	60.5	56.5
	2000	0.50	76.0	72.0	68.0	65.0	63.0	61.0	57.0
	2150	0.50	76.3	72.3	68.3	65.3	63.3	61.3	57.3

<sup>\*</sup> Estimated sound power levels have been derived using the method described in the 1987 ASHRAE Systems & Applications Handbook, chapter 52, p. 52.7.

**Table 9 – Airflow Performance Correction Factors** 

HEATER kW	ELEMENTS	STATIC PRESSURECORRECTION (in. wc)						
HEATER KVV	ELEMEN I S	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	<b>-</b> .10					

The airflow performance table was developed using fan coils with 10-kW 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.

Table 10 - Air Delivery Performance Correction Component Pressure Drop (in. wc) at Indicated Airflow (Dry to Wet Coil)

UNIT						CFM					
SIZE	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
						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

Table 11 - Factory-Installed Filter Static Pressure Drop (in. wc)

UNIT					CFM				
SIZE	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

Table 12 – Units without Electrical Heat

				SI	NGLE CIRCUIT	BRANCH CIRCUIT		
UNIT SIZE	MTR HP	VOLTS/PH/HZ	MTR FLA	MCA	MOCP	Min Wire Size Awg <sup>*</sup>		
24	1/2		4.0	5.0				
36	1/2	208/230/1/60	4.0	3.0	15	14		
48	3/4	200/230/1/00	5.7	7.1	10	17		
60	5/4		5.1	7.1				

<sup>\*.</sup> Use copper wire only to connect unit. If other than uncoated (non-plated) 75°C 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, consult NEC 210-19a to determine maximum wire length. Use 2% voltage drop. FLA = Full Load Amps; MCA = Minimum Circuit Ampacity; MOCP = Maximum Overcurrent Protection

### Table 13 - Electric Heaters

HEATER PART NO.	kW @ 240 V	VOLTS/PH	STAGES (kW OPERATING)	INTERNAL CIRCUIT PROTECTION	FAN COIL SIZE USED WITH	HEATING CAP. <sup>‡</sup> @ 230V	INTELLIGENT HEAT CAPABLE* (kW)
EHC05BKN	5	230/1	5	None	All	15,700	-
EHC07BKN	8	230/1	8	None	All	25,100	-
EHC10BKN	10	230/1	10	None	All	31,400	-
EHC15BKF	15	230/1 5, 15 Fuse <sup>†</sup> All		All	47,100	5, 10, 15	
EHC20BKF	20	230/1	230/1 5, 20 Fuse <sup>†</sup> All		All	62,800	5, 10, 15, 20
EHC09BKCN	9	230/1 <sup>‡</sup>	3, 9	3, 9 None All		28,200	3, 6, 9
EHC15BHN	EHC15BHN 15		5, 15	None	All	47,100	-
EHC18BHN	18	230/1	6, 12, 18	None	All	56,500	-
EHC25BHCF	24	230/1**	8, 16, 24	Fuse	48, 60	78,300	8, 16, 24
EHC30BHCF	30	230/1**	10, 20, 30	Fuse	48, 60	94,100	10, 20, 30
EHC05BKB	5	230/1	5	Circuit Breaker	All	15,700	-
EHC07BKB	8	230/1	8	Circuit Breaker	All	25,100	-
EHC10BKB	10	230/1	10	Circuit Breaker	All	31,400	-
EHC15BKB	15	230/1	5, 15	Circuit Breaker	All	47,100	10, 20, 30
EHC20BKB	20	230/1	5, 20	Circuit Breaker	All	62,800	5, 10, 15, 20

<sup>\*.</sup> Heaters designed with kW operating values are intelligent heat capable when used with compatible thermostat.

NOTE: for 240 volts, multiply 230V heater amps by 1.04.

Table 14 - Electric Heater Internal Protection

HEATER kW	FUSES QTY/SIZE	CKT BKR QTY/SIZE (all are 2-pole)
5	_	1/60
8	_	1/60
9	_	_
10	_	1/60
15	2/30, 2/60	2/60
15	_	_
18	_	_
20	4/60	2/60
24	6/60	_
30	6/60	_

Single circuit application of F15 and F20 heaters requires Single-point wiring kit accessory.

Field convertible to 3 phase.

<sup>‡.</sup> Field convertible to 3 phase.\*\*. These heaters are field convertible to 1 phase, single or multiple supply circuit.

Table 15 – Electric Heater Electrical Data

							Р		UE	ATER AMP		MI	N AMPACIT	v				BRA	NCH CIR	CUIT			
	FC Size	MOTOR FLA	HEATER PART NO.		kW		H A	Internal Circuit Protec-		208/230V*	•		208/230V*	•		re Size ( 08/230V <sup>1</sup>			3nd Wire 208/230V			use/Ckt s 208/23	
	Size	USED	NO.				S	tion	Single	Dual C	Circuit	Single	Dual (	Circuit	Single			Single	Dual 0	Circuit	Single	Dual C	ircuit
				240V	230V	208V	_		Circuit	L1,L2	L3,L4	Circuit	L1,L2	L3,L4	Circuit	L1,L2	L3,L4	Circuit	L1,L2	L3,L4	Circuit	L1,L2	L3,L4
	24-36	4.0	EHC05BKN1					None		-	-	27.3/29.6	-	_	10/10				_		30/30	_	_
	24-36	4.0	EHC05BKB1	5	4.6	3.8	1	Ckt Bkr	17.8/19.7	_	_	27.0/20.0	_	_	10/10	_	_	10/10	_	_	00/00	_	_
	48-60	5.7	EHC05BKN1	ľ	1.0	0.0		None	17.0/10.7	_	_	29.4/31.8		_	10/8	_	_	10, 10	_		30/35	_	_
	48-60	5.7	EHC05BKB1					Ckt Bkr		_	_	20/ 0 1.0	_	_	.0,0	_	_		_	_	00,00	_	
-	24-60	4.0	EHC07BKN1					None			_	40.6/44.4	_	_		_	_			_		_	
-	24-60	4.0	EHC07BKB1	8	7.4	6.0	1	Ckt Bkr	28.5/31.5						8/8	_	_	10/10			45/50	_	
1 1	48-60	5.7	EHC07BKN1					None				42.8/46.5				_	_				40/00	_	
	48-60	5.7	EHC07BKB1					Ckt Bkr		_	_		_	_		_	_			_		_	
⊢⊢	24-60	4.0	EHC10BKN1					None		_	_	49.5/54.3	_	_	8/6	_	_			_		_	_
1 1	24-60	4.0	EHC10BKB1	10	9.2	7.5	1	Ckt Bkr	35.6/39.4	_	_		_	_		_	_	10/10		_	60/60	_	_
	48-60	5.7	EHC10BKN1					None		_		51.6/56.4			6/6	_	_			_		_	_
=	48-60	5.7	EHC10BKB1					Ckt Bkr		_			_	_		_	_			_		_	_
	36-60	5.7	EHC09BKCN1 <sup>‡</sup>	9	8.3	6.8	1	None	32.2/35.6	_	_	47.4/51.6	_		8/6	_	_	10/10		_	50/60	_	_
Ļ	36-60	5.7	EHC09BKCN1				3	None	18.6/20.6	_	-	30.4/32.9	_	_	8/8	_	_		_	_	35/35	_	_
	24-36	5.7	EHC15BKF1**					Fuse					49.5/54.3	4/4	8/6		8/8			80/90			
	24-36	5.7	EHC15BKB1				1	Ckt Bkr	53.4/59.1	35.6/39.4	17.8/19.7	73.9/81.0	10.0/01.0	22.3/24.6	_	0/0	10/10	_	10/10	10/10		60/60	25/25
	24-60	5.7	EHC15BKF1**	15	13.8	11.3	'	Fuse	33.4/33.1	33.0/33.4	17.0/13.7	73.3/01.0	51.6/56.4	22.3/24.0	4/4	6/6	10/10	8/8	10/10	10/10	80/90	00/00	23/23
	24-60	5.7	EHC15BKB1					Ckt Bkr					31.0/30.4		_	0/0		_			_		
	36-60	5.7	EHC15BHN1				3	Fuse	30.8/34.1	_	-	45.6/49.8		_	8/6			10/10	_	-	50/60	_	_
	48-60	5.7	EHC18BHN1	18	16.6	13.5	3	None	37.2/41.2	_	_	53.6/58.6	_	_	6/6	_	_	10/10	_	_	60/70	_	_
	36-60	5.7	EHC20BKF1**	20	18.4	15.0	4	Fuse	71.2/78.8	25 0/20 4	25 6/20 4	00 0405 0	E4 0/E0 4	44.5/40.0	3/2	6/6	8/8	8/6	10/10	10/10	100/110	60/60	45/50
	36-60	5.7	EHC20BKB1	20	18.4	15.0	1	Ckt Bkr	/1.2//8.8	35.6/39.4	35.6/39.4	96.3/105.6	51.6/56.4	44.5/49.3	_	6/6	8/8	_	10/10	10/10	_	60/60	45/50
	48-60	5.7	E11005B110E :++	0.4	00.4	40.0	3	Fuse	49.3/54.6	_	_	68.8/75.4	_	_	4/4	_	_	8/8	_	_	80/80	_	_
	48-60	5.7	EHC25BHCF1 <sup>††</sup>	24	22.1	18.0	1	Fuse	85.5/94.5	1	I	114.0/125.3	l	_	2/1			6/6	_	_	125/150	_	
	48-60	5.7	ELIONOPI IOE4 <sup>‡‡</sup>	20	27.6	22.5	3	Fuse	61.7/68.2	_	_	84.3/92.4	_	_	4/3	_	_	8/8	_	_	90/100	_	_
	48-60	5.7	EHC30BHCF1 <sup>††</sup>	30	27.6	22.5	1	Fuse	106.8/118.1	_		140.6/154.8		_	0/00	I	I	6/6	_	_	150/175		

- \*. For 240V, multiply 230V heater amps by 1.04. Wire sizing and over-current protection may need adjustment per local code requirements.
- †. Copper wire must be used. If other than uncoated (non-plated), 75°C ambient, copper wire (solid wire for smaller, and stranded wire for larger than 10 AWG) is used, consult applicable tables of the National Electric Code (ANSI/NFPA 70).
- Field convertible to 3 phase.

  \*\*. Single circuit application of F15 and F20 heaters requires single-point wiring kit accessory.
- ††. Field convertible to 1 phase, single or multiple supply circuit.

Table 16 - Field Multipoint Wiring or 24- and 30-kW Single Phase

FC Size	HEATER PART NO.	kW		PHASE	HEATER AMPS 208/230V			MIN AMPACITY 208/230V <sup>*</sup>			MIN WIRE SIZE (AWG) 208/230V <sup>†</sup>			WIRE SIZE	MAX FUSE/CKT BKR AMPS 208/230V		
Size		240V	208V		L1,L2	L3,L4	L5,L6	L1,L2	L3,L4	L5,L6	L1,L2	L3,L4	L5,L6	208/230V	L1,L2	L3,L4	L5,L6
48-60	EHC25BHCF <sup>‡</sup>	24	18.0	1	28.5/31.5	28.5/31.5	28.5/31.5	42.8/46.5	35.6/39.4	35.6/39.4	8/8	8/8	8/8	10/10	50/50	40/40	40/40
48-60	EHC30BHCF <sup>‡</sup>	30	22.5	1	35.6/39.4	35.6/39.4	35.6/39.4	51.6/56.4	44.5/49.3	44.5/49.3	6/6	8/8	8/8	10/10	60/60	45/50	45/50

- \*. Includes blower motor amps of largest fan coil used with heater.
  †. 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 NEC (ANSI/NFPA 70).
  ‡. Field convertible to 1 phase, single or multiple supply circuit.

### **ACCESSORIES**

Table 17 - Accessories

	ITEM	ACCESSORY PART NO.*	FAN COIL SIZE USED WITH						
1.	Disconnect Kit	EBAC01DSC3	All single phase 3kW - 10kW heaters						
		EBAC02NCB	24, 36						
2.	Downflow Base Kit	EBAC03NCB	48						
		EBAC04NCB	60						
3.	Downflow Conversion Kit †	EBAC01DFS	Slope Coil Units—24						
Э.	Downllow Conversion Kit '	EBAC02DFA	A-Coil Units—36, 48, 60						
4.	Downflow/Horizontal Conversion Gasket Kit	EBAC01GSK	All						
5.	Horizontal Water Management Kit (25 pack) <sup>‡</sup>	NAMA00125HC	A-Coil Units—36, 48, 60						
6.	Single-Point Wiring Kit	EBAC01SPK	Only with 15- and 20-kW Fused Heaters						
7.	Filter	See Table 2 for filter dimensional details.							
	F 0 115111 0 1 1 1	AHIC0017A (FAIC0017A2)	24, 36						
8.	Fan Coil Filter Cabinet (Fan Coil Filter Media)	AHIC0021A (FAIC0021A2)	48						
	(i an con i mona)	AHIC0024A (FAIC0024A2)	60						
9	PVC Condensate Trap Kit (50 pack)	EBAC01CTK	All						
	TXV Kit with Brazed Inlet Connection,	NAEB40501TX	24L, 36L						
	R-410A Refrigerant,	NAEB40601TX	48L						
	Aluminum Coils Only	NAEB40701TX	60L						
10		NAEC40101TX	24						
	TXV Kit with Mechanical Fitting, R-410A Refrigerant,	NAEC40401TX	36						
	Aluminum Coils Only	NAEC40501TX	48						
		NAEC40601TX	60						
11	Door Gasket Kit **	1191140	All						
12	Accessory Quick Connect Kit	NAMA00110QC	All						

Factory authorized and listed, field-installed.

## **Accessory Kits Description Suggested and Required Use**

### 1. Disconnect Kit

The kit is used to disconnect electrical power to the fan coil so service or maintenance may be performed safely.

SUGGESTED USE: Units for 3- through 10-kW electric resistance heaters and cooling controls.

### 2. Downflow Base Kit

This kit is designed to provide a 1-in. (25MM) minimum clearance between unit discharge plenum, ductwork, and combustible materials. It also provides a gap-free seal with the floor.

REQUIRED USE: This kit must be used whenever fan coils are used in downflow applications.

## 3. Downflow Conversion Kit

Fan coils are shipped from the factory for upflow or horizontal-left applications. Downflow conversion kits provide proper condensate water drainage and support for the coil when used in downflow applications. Separate kits are available for slope coils and A-coils.

REQUIRED USE: This kit must be used whenever fan coils are used in downflow applications.

### 4. Downflow/Horizontal Conversion Gasket Kit

This kit provides the proper gasketing of units when applied in either a downflow (FE4A or FE5A) or horizontal (FE4A only) application.

REQUIRED USE: Fan coils in either downflow or horizontal applications.

### 5. Horizontal Water Management Kit

This kit provides proper installation of fan coils under conditions of high static pressure and high relative humidty.

SUGGESTED USE: All fan coils.

## 6. Single Point Wiring Kit

The single point wiring kit acts as a jumper between L1 and L3 lugs, and between the L2 and L4 lugs. This allows the installer to run 2

<sup>\*\*</sup> This kit is for replacement of factory installed gaskets if they are damaged or removed from the fan coil.

<sup>†</sup> EBAC01GSK must also be purchased for down flow applications.

<sup>‡</sup> EBAC01GSK must also be purchased for down flow or horizontal applications.

heavy-gauge, high-voltage wires into the fan coil rather than 4 light-gauge, high-voltage wires.

SUGGESTED USE: Fan coils with 15- and 20-kW fused heaters only.

### 7. Filters

These filters collect large dust particles from the return air entering the fan coil and prevents them from collecting on the coil. This process helps to keep the coil clean, which increases heat transfer and, in turn, the efficiency of the system.

SUGGESTED USE: To replace filters in fan coils. REQUIRED USE: All units unless a filter grille is used.

### 8. Fan Coil Filter Cabinet

This cabinet is mounted to the fan coil on the return air end and designed to slip over the outer fan coil casing. The cabinets are insulated using the same insulation as production fan coils. They are designed for the removal of particulates from indoor air using FAIC00XXA2 (17, 21, 24) media filter cartridges. These fan coil media filter cartridge kits are designed for the removal of particles from indoor air. The cartridge is installed in the return air duct next to the air handler or further upstream.

SUGGESTED USE: All fan coils.

### 9. Condensate Drain Trap Kit

This kit consists of 50 PVC condensate traps. Each trap is pre-formed and ready for field installation. This deep trap helps the system make and hold proper condensate flow even during blower initiation.

SUGGESTED USE: All fan coils.

### 10. TXV Kit

These kits are designed to add TXVs to piston fan coils or convert R-22 fan coils to R-410A TXVs.

### 11. Door Gasket Kit

This kit consists of specific adhesive-backed foam strips which are applied to the unit door and frame, limiting air leakage.

### 12. Accessory Quick Connect Kit

This kit enables the installer to easily connect a 230V IAQ accessory (air purifier, electronic air cleaner, UV light, etc.) kit to a fan coil unit, eliminating the need to run a separate power supply to the accessory. Use of this kit may eliminate the requirement for a licensed electrician to complete the job (check local codes).

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