FV4C
Performance™ Series Fan Coil
Sizes 002 Thru 006

Carrier®
Turn to the Experts℠

Product Data

PREMIUM ENVIRONMENTALLY SOUND FAN COIL

The FV4C is the premium air handler combining the proven technology of Carrier fan coils with environmentally sound Puron© refrigerant. The FV4C achieves an operational advantage when the ECM (Electronically Commutated Motor) is combined with a Carrier Performance™ heat pump with Puron© refrigerant.

With attention to quiet, efficient, and comfortable operation, Carrier has developed a new benchmark for superior indoor comfort and control. ArmorCoat™ provides a tin plating of the indoor coil's copper hairpins. This creates a barrier between the corrosion-causing elements and the coil.

Carrier's heat pump and air conditioning systems now feature Puron© refrigerant (R-410A), the chlorine-free refrigerant that is the future for the residential heating and cooling industry. The FV4C using Puron© refrigerant maximizes performance for environmentally sound 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 safety.

The FV4C provides these benefits due to Carrier's command of ECM technology. These motors are extremely efficient at all speeds, and enable the FV4C 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.

Carrier'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™ 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 FV4C apart is the factory-installed TXV, which enhances efficiency and provides compressor protecting operation at all recommended conditions. Grooved copper tubing, louvered aluminum fins, and the large face areas of the FV4C refrigerant coils also provide superior efficiency, for high SEER and HSPF performance. Carrier 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.

For superior technology and unmatched comfort, the environmentally sound and efficient FV4C can't be beat.

FEATURES

Environmentally Sound Refrigerant Technology

- Puron®, chlorine-free non-ozone depleting refrigerant
- Thermostatic Expansion Valve (TXV) designed to maximize performance with Puron® refrigerant

Energy Efficient Operation

- Electronically Commutating Motor (ECM) 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 Carrier's Thermidistat™ Control

Airflow and Sound Technology

- 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 inches of static pressure

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 copper tubing
- Lanced sine wave aluminum fins
- Discreet refined counter-flow refrigerant circuitry
- Bi-flow hard shut-off TXV metering device
- ArmorCoat™ coil protection available

Quality Assisting, Ease of Installation and Service Features

- All units multipoise
- Provision made for suspending from roof or ceiling joints
- Modular cabinet on 003 thru 006 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
- 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 Select™ 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 5-amp blade-type auto fuse protects against transformer secondary short

Filter Features

- Factory supplied filter
- 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

MODEL NUMBER NOMENCLATURE

1	2	3	4	5	6	7	8	9	10	11	12
F	V	4	C	N	B	0	0	3	0	0	0

Product
F = Fan Coil

Type
V = Puron® Refrigerant

Position
4 = Multipoise

Series
C

Electrical
N = 208/230v, 1ph–60 Hz

Cabinet/Insulation
B = Modular
F = Single piece

Capacity
002 = 18–36,000
003 = 24–42,000
005 = 30–48,000
006 = 30–60,000

Heating Size
T00 = ArmorCoat™
000 = No Heat
005 = 5 kW
075 = 7.5 kW
008 = 8 kW
010 = 10 kW
011 = 11 kW
015 = 15 kW

FV4C

Puron™ the environmentally sound refrigerant

ARI PERFORMANCE CERTIFIED™ ARI Standard 210/240 Unitary Air Conditioners

ARI PERFORMANCE CERTIFIED™ ARI Standard 210/240 Unitary Heat Pumps

c UL us

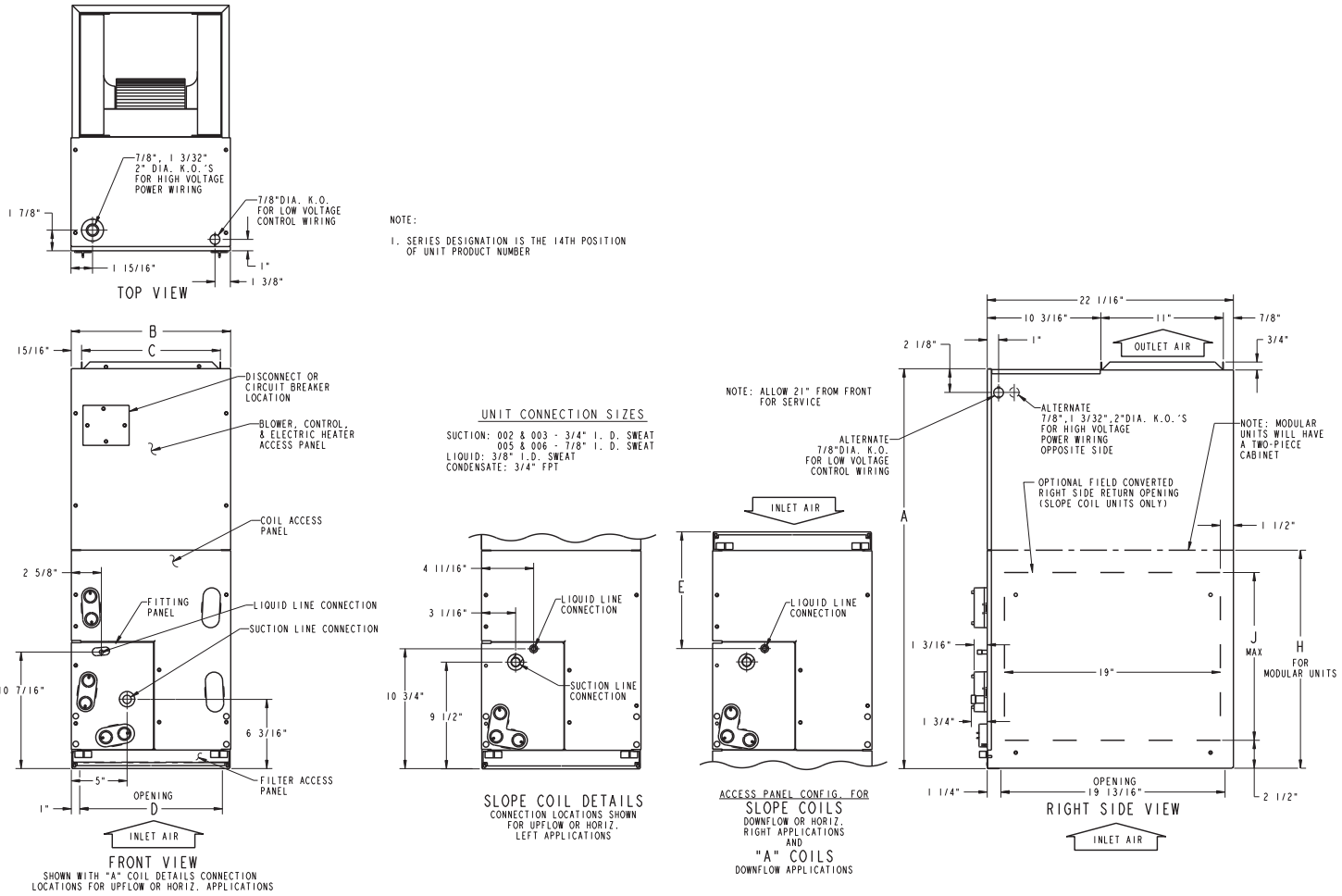
ISO 9001:2000 QMI REGISTERED

CERTIFICATION APPLIES ONLY WHEN THE COMPLETE SYSTEM IS LISTED WITH ARI

ArmorCoat™

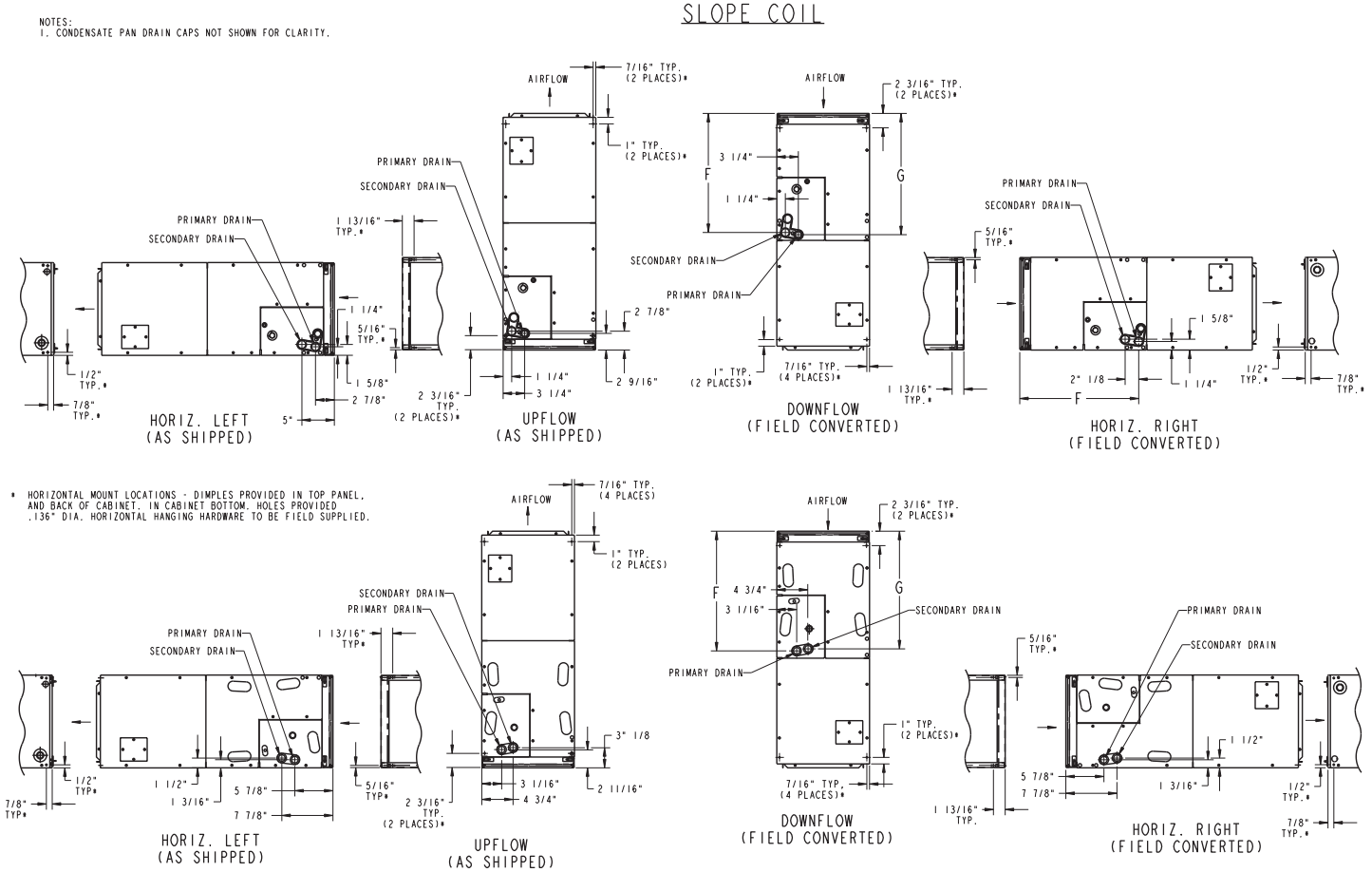
SPECIFICATIONS

MODEL FV4C	002	003	005	006
COIL				
Refrigerant Metering Device	Puron® Refrigerant (R–410A)			
TXV Size	2 Ton	3 Ton	4 Ton	
Rows/Fins Per In.	3 / 14.5			
Face Area (Sq Ft)	3.46		5.93	7.42
Configuration	A	Slope	A	
BLOWER & MOTOR				
Air Discharge	Upflow, Downflow, Horizontal			
CFM (Nominal Clg/Htg)	525 / 470 700 / 630 875 / 785 1050 / 945	700 / 630 875 / 785 1050 / 945 1225 / 1100	875 / 785 1050 / 945 1225 / 1100 1400 / 1260	1050 / 945 1225 / 1100 1400 / 1260 1750 / 1575
Motor HP (ECM)	1/2			3/4
FILTER CLEANABLE				
21–1/2" (546 mm) by	16–3/8" (417 mm)	19–7/8" (505 mm)		23–5/16" (585 mm)
CABINET CONFIGURATION OPTIONS				
	1 Piece	1 Piece or Modular		Modular



DIMENSIONS

UNIT SIZE	A		B		C		D		E		H		J	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
FV4CNB003	53–7/16	1357	21–1/8	537	19–1/4	489	19–1/8	486	19–3/16	487	28–5/16	735	19	483
FV4CNB005	53–7/16	1357	21–1/8	537	19–1/4	489	19–1/8	486	19–3/16	487	28–5/16	735	—	—
FV4CNB006	59–3/16	1503	24–11/16	627	22–3/4	578	22–11/16	576	25–1/4	642	34–1/16	865	—	—
FV4CNF002	42–11/16	1084	17–5/8	448	15–3/4	400	15–5/8	397	10–3/4	273	—	—	—	—
FV4CNF003	53–7/16	1357	21–1/8	537	19–1/4	489	19–1/8	486	19–3/16	487	—	—	19	483
FV4CNF005	53–7/16	1357	21–1/8	537	19–1/4	489	19–1/8	486	19–1/2	495	—	—	—	—



DIMENSIONS

UNIT SIZE	F		G		COIL TYPE	SHIPPING WEIGHT	
	in	mm	in	mm		lb	kg
FV4CNB003	26-15/16	684	27-1/2	699	SLOPE	150	68
FV4CNB005	26-15/16	684	27-1/2	699	A	172	78
FV4CNB006	32-15/16	837	32-5/8	829	A	207	94
FV4CNF002	18-9/16	471	18-1/4	464	A	135	61
FV4CNF003	26-15/16	684	27-1/2	699	SLOPE	150	68
FV4CNF005	27-1/4	692	26-15/16	684	A	172	78

PERFORMANCE DATA

FV4C ADVANCED FAN COIL AIRFLOW DELIVERY CHART (CFM)

OPERATING MODE										
UNIT SIZE	OUTDOOR UNIT CAPACITY	SINGLE—SPEED APPLICATION		TWO—SPEED APPLICATION				FAN ONLY		
				High Speed		Low Speed				
		Nominal A/C Cooling	A/C Cooling Dehumidity	Nominal A/C Cooling	A/C Cooling Dehumidity	Nominal A/C Cooling	A/C Cooling Dehumidity	Lo	Med	High
002	018	525	420	—	—	—	—	350	420	525
	024	700	560	700	560	560	450	350	560	700
	030	875	700	—	—	—	—	440	700	875
	036	1050	840	1050	840	840	670	525	840	1050
003	024	700	560	700	560	560	450	415	560	700
	030	875	700	—	—	—	—	440	700	875
	036	1050	840	1050	840	840	670	525	840	1050
	042	1225	980	—	—	—	—	610	980	1225
005	030	875	700	—	—	—	—	440	700	875
	036	1050	840	1050	840	840	670	525	840	1050
	042	1225	980	—	—	—	—	610	980	1225
	048	1400	1120	1400	1120	1120	895	700	1120	1400
006	036	1050	840	1050	840	840	670	540	840	1050
	042	1225	980	—	—	—	—	610	980	1225
	048	1400	1120	1400	1120	1120	895	700	1120	1400
	060	1750	1400	1750	1400	1400	1120	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.

*Consult ARI ratings before matching outdoor unit with FV4C fan coil.

FV4C ADVANCED FAN COIL AIRFLOW DELIVERY CHART (CFM)

OPERATING MODE										
UNIT SIZE	OUTDOOR UNIT CAPACITY	SINGLE—SPEED APPLICATION		TWO—SPEED APPLICATION				FAN ONLY		
				High Speed		Low Speed				
		Heat Pump Comfort	Heat Pump Efficiency	Heat Pump Comfort	Heat Pump Efficiency	Heat Pump Comfort	Heat Pump Efficiency	Lo	Med	High
002	018	470	525	—	—	—	—	350	380	470
	024	630	700	630	700	505	560	350	505	630
	030	785	875	—	—	—	—	390	630	785
	036	945	1050	945	1050	755	840	470	755	945
003	024	630	700	630	700	415	560	415	505	630
	030	785	875	—	—	—	—	415	630	785
	036	945	1050	945	1050	755	840	470	755	945
	042	1100	1225	—	—	—	—	550	880	1100
005	030	785	875	—	—	—	—	425	630	785
	036	945	1050	945	1050	755	840	470	755	945
	042	1100	1225	—	—	—	—	550	880	1100
	048	1260	1400	1260	1400	1010	1120	630	1010	1260
006	036	945	1050	945	1050	755	840	540	755	945
	042	1100	1225	—	—	—	—	550	880	1100
	048	1260	1400	1260	1400	1010	1120	630	1010	1260
	060	1575	1750	1575	1750	1260	1400	785	1260	1575

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.

PERFORMANCE DATA (cont)

AIRFLOW DELIVERY CHART (CFM) — ELECTRIC HEATING MODES

FAN UNIT SIZE	OUTDOOR UNIT CAPACITY BTUH	ELECTRIC HEATER kW RANGE											
		0–5			0–10			0–15			0–20		
		Lo	Nom	High	Lo	Nom	High	Lo	Nom	High	Lo	Nom	High
002	18,000	625	625	625	675	675	–	–	–	–	–	–	–
	24,000	650	725	835	–	725	835	875	875	875	–	–	–
	30,000	815	905	1040	–	905	1040	900	900	1040	1100	1100	1100
	36,000	980	1085	1250	980	1085	1250	980	1085	1250	1100	1100	1250
003	24,000	675	725	835	875	875	–	–	–	–	–	–	–
	30,000	815	905	1040	875	905	1040	1100	1100	1100	–	–	–
	36,000	980	1085	1250	980	1085	1250	1100	1100	1250	1225	1225	1250
	42,000	1140	1270	1460	1140	1270	1460	1140	1270	1460	1225	1270	1460
FAN UNIT SIZE	**OUTDOOR UNIT CAPACITY BTUH**	**ELECTRIC HEATER kW RANGE**											
		0–10			0–15			0–20			0–30		
		Lo	Nom	High	Lo	Nom	High	Lo	Nom	High	Lo	Nom	High
005	30,000	975	975	1040	1100	1100	1100	–	–	–	–	–	–
	36,000	980	1085	1250	1100	1100	1250	1250	1250	1250	–	–	–
	42,000	1140	1270	1460	1140	1270	1460	1250	1270	1460	–	–	–
	48,000	1305	1450	1665	1305	1450	1665	1305	1450	1665	1500	1500	1665
006	36,000	1100	1100	1250	1350	1350	1350	–	–	–	–	–	–
	42,000	1140	1270	1460	1350	1350	1460	1525	1525	1525	–	–	–
	48,000	1305	1450	1665	1350	1450	1665	1525	1525	1665	1750	1750	1750
	60,000	1630	1810	2085	1630	1810	2085	1630	1810	2085	1750	1810	2085

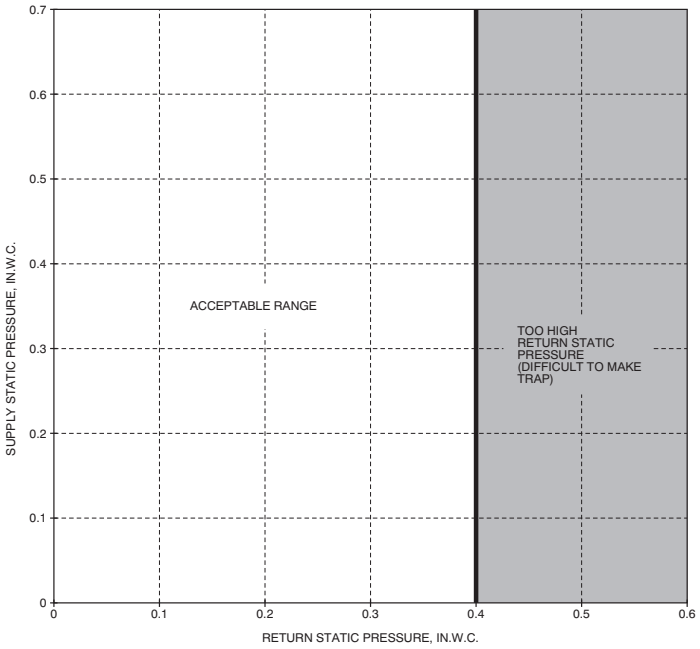
NOTE: Lo, NOM, and HI refer to AC, HP CFM ADJUST selection.
– Airflow not recommended for heater/system size.

MINIMUM CFM FOR ELECTRIC HEATER APPLICATION

FAN COIL UNIT	HEAT PUMP UNIT SIZE	CFM				
		HEATER SIZE kW				
		5	8, 9, 10	15	18, 20	24, 30
002	Heater Only	625	625	725	875	—
	018	625	625	—	—	—
	024	650	725	875	—	—
	030	800	875	875	1040	—
	036	970	970	970	1040	—
003	Heater Only	675	700	1050	1050	—
	024	675	875	—	—	—
	030	800	875	1100	—	—
	036	975	975	1100	1225	—
	042	1125	1125	1125	1225	—
005	Heater Only	675	700	1050	1050	1400
	018	800	875	1100	—	—
	036	975	975	1100	1225	—
	042	1125	1125	1125	1225	—
	048	1305	1305	1305	1305	1400
006	Heater Only	1050	1050	1050	1050	1750
	018	1100	1100	1350	1350	—
	042	1125	1125	1350	1350	—
	048	1300	1300	1350	1465	1750
	060	1625	1625	1625	1750	1750

NOTES:
1. Heater Only–Air conditioner with electric heater application.
2. These airflows are minimum acceptable airflows as UL listed. Actual airflow delivered will be per airflow delivery chart for Electric Heating Modes.

PERFORMANCE DATA (cont)



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ACCEPTABLE DUCT CONDITIONS

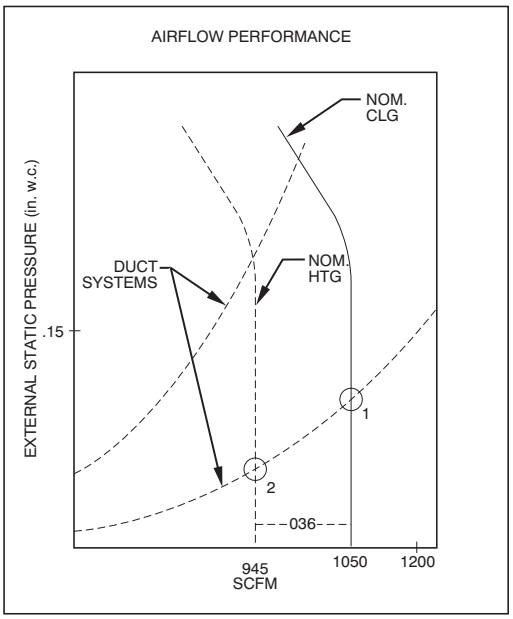
For satisfactory operation (specifically making dry secondary trap), subject fan coils must be installed with duct systems which fall within the "Acceptable Range" illustrated above.

The airflow performance charts for the FV4C 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.) 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.



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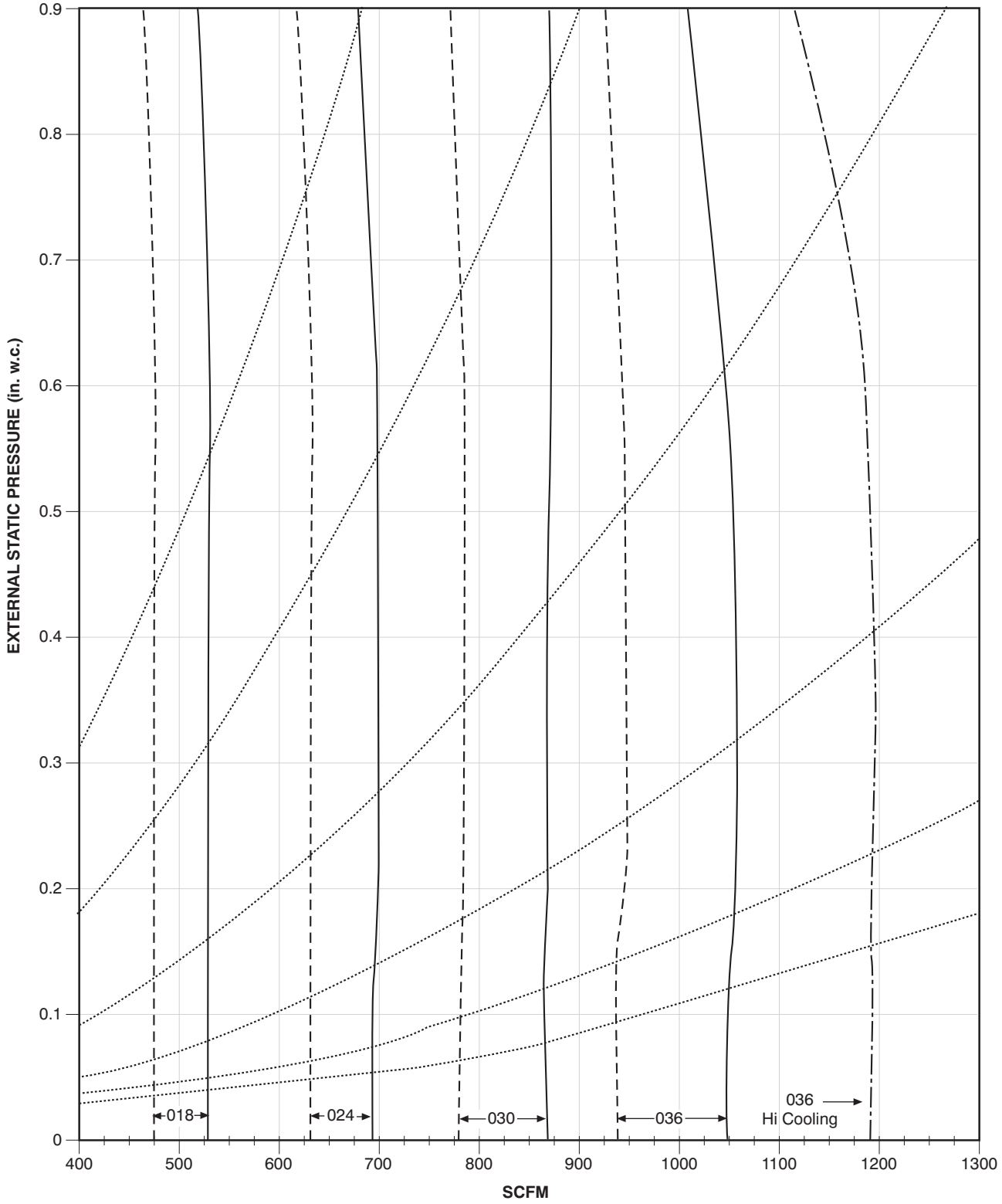
AIRFLOW PERFORMANCE



FV4CNF002

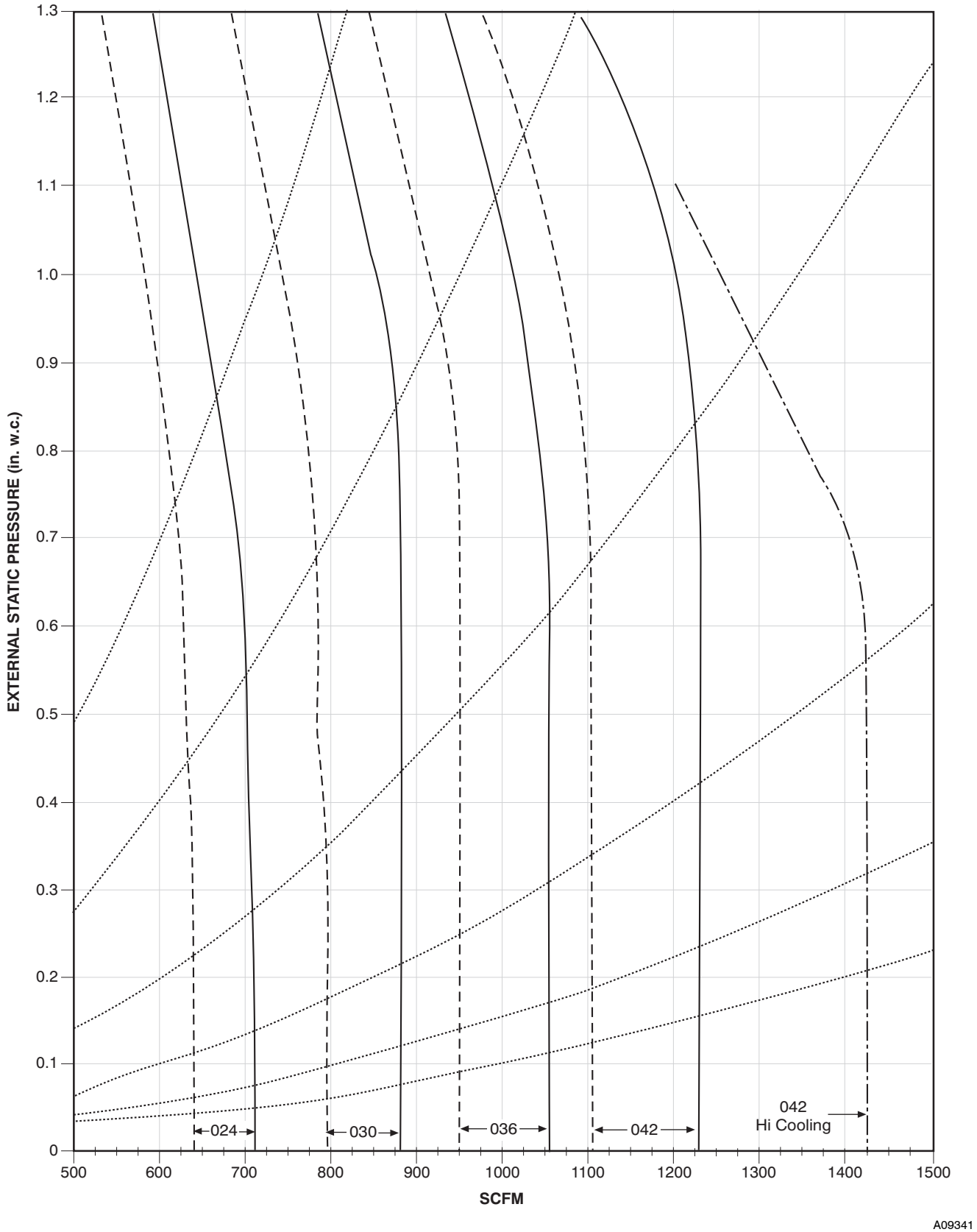
——— Nominal Cooling and Heat Pump Efficiency airflow for each size selection. Airflow can be adjusted +15% to −10%.

– – – – 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

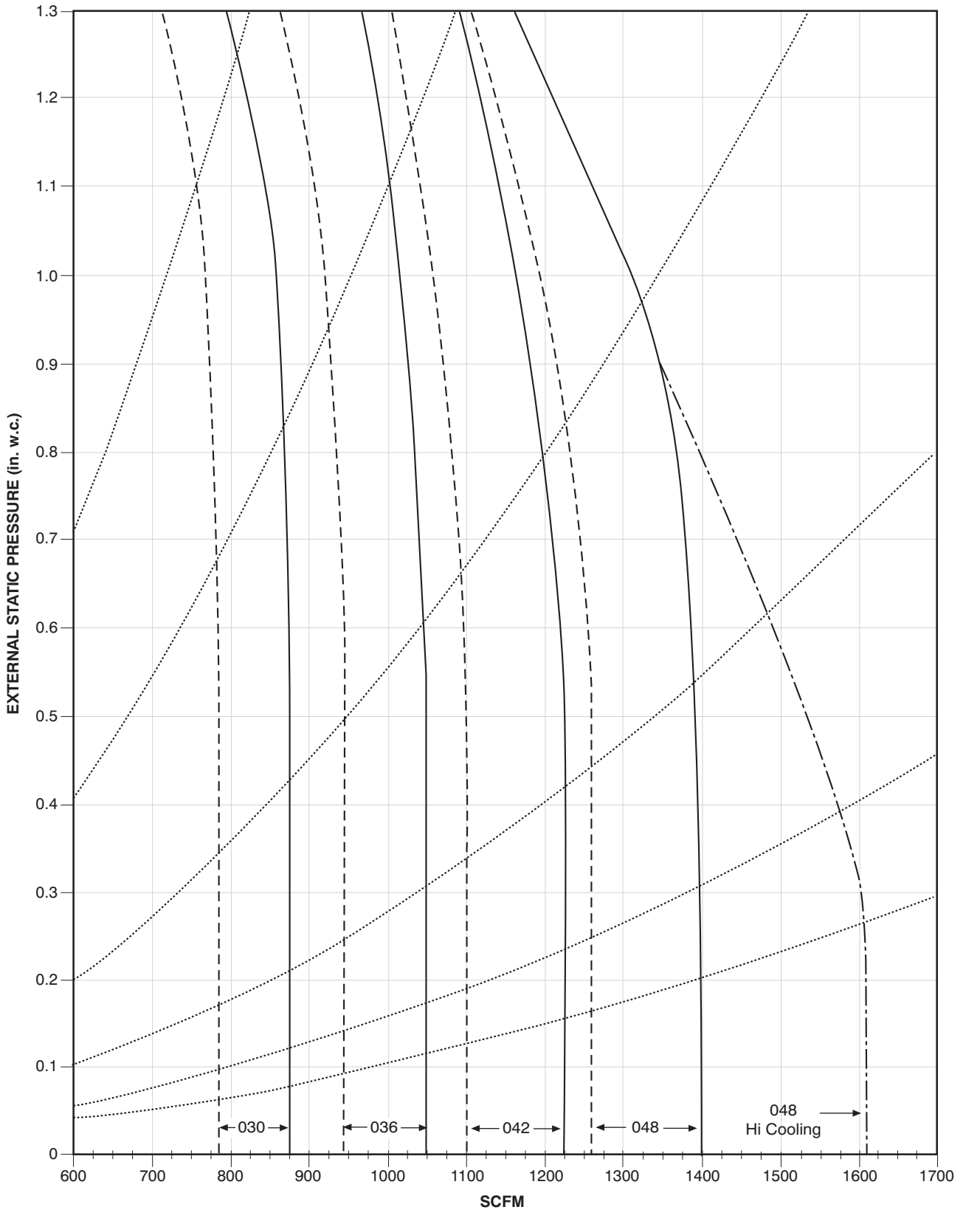


A09341

FV4CN(B,F)003

——— 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



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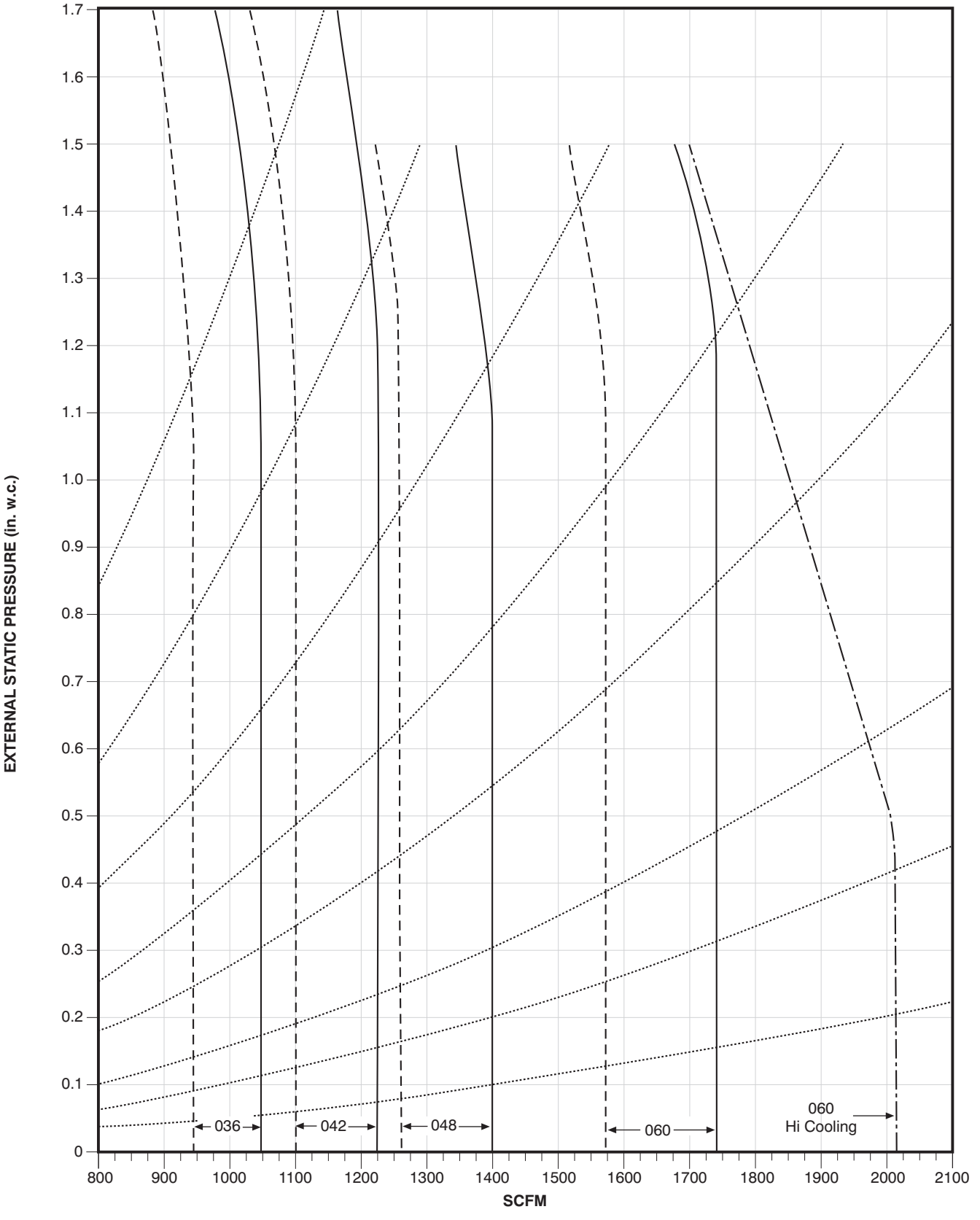
FV4CN(B,F)005

——— 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



FV4CNB006

——— 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.)

PERFORMANCE DATA (cont)

COOLING CAPACITIES (MBtuh)

UNIT SIZE	EVAP COIL AIR Cfm BF	SATURATED TEMPERATURE LEAVING EVAPORATOR (°F / °C)														
		35 / 2			40 / 4			45 / 7			50 / 10			55 /13		
		Evaporator Air — Entering Wet–Bulb Temperature														
		72°F 22°C	67°F 19°C	62°F 17°C	72°F 22°C	67°F 19°C	62°F 17°C	72°F 22°C	67°F 19°C	62°F 17°C	72°F 22°C	67°F 19°C	62°F 17°C	72°F 22°C	67°F 19°C	62°F 17°C
002	500	40	32	26	36	28	22	32	24	18	27	19	14	21	13	11
	0.04	18	18	19	16	16	17	14	14	15	12	12	13	10	10	11
	650	50	40	32	45	36	27	39	30	22	33	24	18	26	17	14
	0.07	21	22	23	19	20	21	16	17	18	14	15	16	12	13	14
	875	58	49	38	53	42	32	46	35	27	39	28	22	31	20	18
	0.10	24	26	28	22	24	25	19	21	22	17	19	19	15	16	18
	1000	62	51	41	56	45	35	50	38	29	42	30	24	33	22	20
	0.11	26	28	31	23	26	28	21	23	25	18	20	21	16	18	20
	1250	67	55	45	61	49	39	54	42	33	46	34	28	37	25	24
	0.13	29	33	36	27	30	33	24	27	30	22	24	26	19	21	24
003	800	59	48	38	53	42	32	46	35	24	39	27	20	30	18	16
	0.20	28	29	31	25	27	28	22	23	24	19	20	20	16	16	16
	1000	68	56	45	61	49	37	54	41	29	45	32	25	35	22	20
	0.22	32	34	37	29	31	33	26	28	28	23	24	25	19	20	20
	1200	75	62	49	68	54	42	60	45	34	50	36	29	40	25	23
	0.25	35	39	42	32	36	38	29	32	33	26	28	29	22	23	23
	1400	80	67	54	73	59	46	64	49	38	54	39	32	43	28	27
	0.27	38	43	47	35	39	43	32	36	37	28	32	32	24	26	27
005	750	61	49	39	55	43	33	48	37	27	41	29	20	33	21	17
	0.04	27	27	28	24	25	25	21	22	22	18	18	18	15	15	15
	950	74	60	48	67	53	40	59	45	33	50	35	25	39	24	21
	0.06	32	34	35	29	30	31	25	26	27	22	23	23	18	18	19
	1150	89	72	57	79	63	48	69	52	38	58	41	31	44	29	25
	0.07	37	39	41	33	35	36	29	31	32	25	26	27	20	22	22
	1500	103	84	66	92	73	56	81	61	46	67	48	39	52	34	31
	0.10	43	46	49	38	41	44	34	37	39	29	32	33	25	27	27
	1700	110	89	71	99	78	60	86	65	49	72	51	42	56	37	35
	0.11	45	50	53	41	45	48	36	39	42	31	34	36	27	29	30
006	1050	77	62	50	69	55	43	61	47	35	52	38	27	41	27	22
	0.01	34	36	37	31	32	33	27	28	29	23	25	24	20	20	20
	1300	100	82	65	90	71	55	79	60	45	66	47	37	49	32	27
	0.02	42	45	47	37	40	42	33	35	37	29	31	32	23	25	24
	1750	117	96	77	106	84	65	93	71	53	78	56	46	60	40	34
	0.04	48	53	57	44	48	52	39	43	46	34	38	39	29	31	31
	2050	126	103	83	114	91	71	99	76	59	84	60	50	65	44	39
	0.05	52	58	63	48	53	57	43	47	51	37	42	43	33	35	35
	2300	132	108	87	119	95	75	105	80	63	88	63	54	70	47	42
	0.06	55	62	68	50	57	61	45	51	54	40	45	46	35	39	38

BF – Bypass Factor

– Sensible Heat Capacity (1000 Btuh)

– Gross Cooling Capacity (1000 Btuh)

NOTES:

1. Contact manufacturer for cooling capacities at conditions other than shown in table.
2. 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.
3. 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.
4. Bypass Factor = 0 indicates no psychometric solution. Use bypass factor of next lower EWB for approximation.

Interpolation is permissible.

Correction Factor = 1.09 x (1 – BF) x (db – 80)

SHC CORRECTION FACTOR

BYPASS FACTOR	ENTERING AIR DRY–BULB TEMPERATURE °F (°C)					
	79 (26)	78 (26)	77 (25)	76 (24)	75 (24)	Under 75 (24)
	81 (27)	82 (28)	83 (28)	84 (29)	85 (29)	Over 85
	Correction Factor					
0.10	.098	1.96	2.94	3.92	4.91	Use formula shown below
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	

PERFORMANCE DATA (cont)

ESTIMATED SOUND POWER LEVEL (dBA)*

UNIT SIZE	CONDITIONS		OCTAVE BAND CENTER FREQUENCY						
	CFM	ESP	63	125	250	500	1000	2000	4000
FV–002	400	0.25	63.0	59.0	55.0	52.0	50.0	48.0	44.0
	600	0.25	64.7	60.7	56.7	53.7	51.7	49.7	45.7
	800	0.25	66.0	62.0	58.0	55.0	53.0	51.0	47.0
	1000	0.25	67.0	63.0	59.0	56.0	54.0	52.0	48.0
	1200	0.25	67.8	63.8	59.8	56.8	54.8	52.8	48.8
	1400	0.25	68.4	64.4	60.4	57.4	55.4	53.4	49.4
FV–003	400	0.25	63.0	59.0	55.0	52.0	50.0	48.0	44.0
	600	0.25	64.7	60.7	56.7	53.7	51.7	49.7	45.7
	800	0.25	66.0	62.0	58.0	55.0	53.0	51.0	47.0
	1000	0.25	67.0	63.0	59.0	56.0	54.0	52.0	48.0
	1200	0.25	67.8	63.8	59.8	56.8	54.8	52.8	48.8
	1400	0.25	68.4	64.4	60.4	57.4	55.4	53.4	49.4
	636	0.25	65.0	61.0	57.0	54.0	52.0	50.0	46.0
FV–005	400	0.25	63.0	59.0	55.0	52.0	50.0	48.0	44.0
	600	0.25	64.7	60.7	56.7	53.7	51.7	49.7	45.7
	800	0.25	66.0	62.0	58.0	55.0	53.0	51.0	47.0
	1000	0.25	67.0	63.0	59.0	56.0	54.0	52.0	48.0
	1200	0.25	67.8	63.8	59.8	56.8	54.8	52.8	48.8
	1400	0.25	68.4	64.4	60.4	57.4	55.4	53.4	49.4
	1600	0.25	69.0	65.0	61.0	58.0	56.0	54.0	50.0
FV–006	600	0.25	64.7	60.7	56.7	53.7	51.7	49.7	45.7
	800	0.25	66.0	62.0	58.0	55.0	53.0	51.0	47.0
	1000	0.25	67.0	63.0	59.0	56.0	54.0	52.0	48.0
	1200	0.25	67.8	63.8	59.8	56.8	54.8	52.8	48.8
	1400	0.25	68.4	64.4	60.4	57.4	55.4	53.4	49.4
	1600	0.25	69.0	65.0	61.0	58.0	56.0	54.0	50.0
	1800	0.25	69.5	65.5	61.5	58.5	56.5	54.5	50.5
	2000	0.25	70.0	66.0	62.0	59.0	57.0	55.0	51.0
	2150	0.25	70.3	66.3	62.3	59.3	57.3	55.3	51.3

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

CFM – Cubic Ft Per Minute

ESP – External Static Pressure (in. w.c.)

RPM – Revolutions Per Minute

AIRFLOW PERFORMANCE CORRECTION FACTORS

HEATER kW	ELEMENTS	STATIC PRESSURE CORRECTION (in. wc)	
		Sizes 002–005	Size 006
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 FV4C 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.

FACTORY-INSTALLED FILTER STATIC PRESSURE DROP (in. wc)

UNIT SIZE	CFM								
	400	600	800	1000	1200	1400	1600	1800	2000
002	0.020	0.044	0.048	0.072	0.100	—	—	—	—
003	—	0.020	0.035	0.051	0.070	0.092	—	—	—
005	—	—	0.035	0.051	0.070	0.092	0.120	—	—
006	—	—	—	0.038	0.053	0.070	0.086	0.105	0.133

PERFORMANCE DATA (cont)

AIR DELIVERY PERFORMANCE CORRECTION COMPONENT PRESSURE DROP (IN. WC) AT INDICATED AIRFLOW (DRY TO WET COIL)

UNIT SIZE	CFM										
	600	700	800	900	1000	1100	1200	1300	1400	1500	1600
002	0.012	0.016	0.022	0.028	0.034	0.040	0.049	—	—	—	—
003	—	0.026	0.034	0.042	0.052	0.063	0.075	0.083	0.091	0.098	0.110
005	—	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
006	0.013	0.016	0.018	0.020	0.023	0.027	0.030	0.034	0.039	0.044	0.048

UNITS WITHOUT ELECTRICAL HEAT

UNIT SIZE	VOLTS–PHASE	FLA	MIN CKT AMPS	BRANCH CIRCUIT	
				Min Wire Size Awg*	Fuse/Ckt Bkr Amps
002	208/230–1	4.3	5.4	14	15
003	208/230–1	4.3	5.4	14	15
005	208/230–1	4.3	5.4	14	15
006	208/230–1	6.8	8.5	14	15

* 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

ELECTRIC HEATERS

HEATER PART NO.	kW @ 240V	VOLTS/ PHASE	STAGES (kW OPERATING)	INTERNAL CIRCUIT PROTECTION	FAN COIL SIZE USED WITH	HEATING CAP. @ 230V‡	INTELLIGENT HEAT CAPABLE†† (kW OPERATING)
KFCEH0501N05	5	230/1	5	None	All	15,700	—
KFCEH0801N08	8	230/1	8	None	All	25,100	—
KFCEH0901N10	10	230/1	10	None	All	31,400	—
KFCEH3001F15	15	230/1	5, 15	Fuses**	All	47,100	5, 10, 15
KFCEH3201F20	20	230/1	5, 20	Fuses**	All	62,800	5, 10, 15, 20
KFCEH2901N09	9	230/1*	3, 9	None	All	28,300	3, 6, 9
KFCEH1601315	15	230/3	5, 15	None	All	47,100	—
KFCEH2001318	18	230/3	6, 12, 18	None	All	56,500	—
KFCEH3401F24	24	230/3†	8, 16, 24	Fuses	005, 006	78,500	8, 16, 24
KFCEH3501F30	30	230/3†	10, 20, 30	Fuses	005, 006	94,200	10, 20, 30
KFCEH2401C05	5	230/1	5	Ckt Bkr	All	15,700	—
KFCEH2501C08	8	230/1	8	Ckt Bkr	All	25,100	—
KFCEH2601C10	10	230/1	10	Ckt Bkr	All	31,400	—
KFCEH3101C15	15	230/1	5, 15	Ckt Bkr	All	47,100	5, 10, 15
KFCEH3301C20	20	230/1	5, 20	Ckt Bkr	All	62,800	5, 10, 15, 20

* Field convertible to 3 phase.

† These heaters field convertible to single phase.

‡ Blower motor heat not included.

** Single point wiring kit required for these heaters in Canada.

†† Heaters designated with kW Operating Values are Intelligent Heat capable when used with corporate 2–speed programmable thermosta), Thermidistat™ Control, or Comfort Zone II.

ELECTRIC HEATER INTERNAL PROTECTION

HEATER kW	FUSES QTY/SIZE	CKT BKR QTY/SIZE*
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	—

* All circuit breakers are 2 pole.

ACCESSORY ELECTRIC HEATER ELECTRICAL DATA

HEATER PART NO.	kW		PHASE	INTERNAL CIRCUIT PROTECTION	HEATER AMPS 208/230V			BRANCH CIRCUIT													
								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)‡‡		
					Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit	
	240v	208v				L1,L2	L3,L4		L1,L2	L3,L4		L1,L2	L3,L4		L1,L2	L3,L4		L1,L2	L3,L4		L1,L2	L3,L4
KFCEH0401N03	3	2.3	1	None	10.9/12.0	—	—	15.9/17.3	—	—	12/12	—	—	12/12	—	—	20/20	—	—	67/68	—	—
KFCEH0501N05[1]	5	3.8	1	None	18.1/20.0	—	—	26.0/28.4	—	—	10/10	—	—	10/10	—	—	30/30	—	—	66/66	—	—
KFCEH0501N05[2]	5	3.8	1	None	18.1/20.0	—	—	31.2/33.5	—	—	8/8	—	—	10/10	—	—	35/35	—	—	85/88	—	—
KFCEH2401C05[1]	5	3.8	1	Ckt Bkr	18.1/20.0	—	—	26.0/28.4	—	—	10/10	—	—	10/10	—	—	30/30	—	—	66/66	—	—
KFCEH2401C05[2]	5	3.8	1	Ckt Bkr	18.1/20.0	—	—	31.2/33.5	—	—	8/8	—	—	10/10	—	—	35/35	—	—	85/88	—	—
KFCEH0801N08	8	6.0	1	None	28.9/32.0	—	—	44.7/48.5	—	—	8/8	—	—	10/10	—	—	45/50	—	—	59/60	—	—
KFCEH2501C08	8	6.0	1	Ckt Bkr	28.9/32.0	—	—	44.7/48.5	—	—	8/8	—	—	10/10	—	—	45/50	—	—	59/60	—	—
KFCEH2901N09*	9	6.8	1	None	32.8/36.0	—	—	49.5/53.5	—	—	8/6	—	—	10/10	—	—	50/60	—	—	54/87	—	—
KFCEH2901N09*‡	9	6.8	3	None	18.8/20.8	—	—	32.0/34.5	—	—	8/8	—	—	10/10	—	—	35/35	—	—	83/85	—	—
KFCEH0901N10	10	7.5	1	None	36.2/40.0	—	—	53.8/58.5	—	—	6/6	—	—	10/10	—	—	60/60	—	—	78/80	—	—
KFCEH2601C10	10	7.5	1	Ckt Bkr	36.2/40.0	—	—	53.8/58.5	—	—	6/6	—	—	10/10	—	—	60/60	—	—	78/80	—	—
KFCEH3001F15*	15	11.3	1	Fuse	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	80/90	60/60	25/25	88/89	78/80	75/76
KFCEH3101C15*	15	11.3	1	Ckt Bkr	—	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
KFCEH1601315	15	11.3	3	None	31.3/34.6	—	—	47.7/51.8	—	—	8/6	—	—	10/10	—	—	50/60	—	—	56/90	—	—
KFCEH2001318	18	13.5	3	None	37.6/41.5	—	—	55.5/60.4	—	—	6/6	—	—	10/8	—	—	60/70	—	—	76/77	—	—
KFCEH3201F20*	20	15.0	1	Fuse	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
KFCEH3301C20*	20	15.0	1	Ckt Bkr	—	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
KFCEH3401F24*†	24	18.0	3	Fuse	50.1/55.4	—	—	71.2/77.8	—	—	4/4	—	—	8/8	—	—	80/80	—	—	94/95	—	—
	24	18.0	1	Fuse	86.7/95.5	—	—	116.9/127.9	—	—	1/1	—	—	6/6	—	—	125/150	—	—	115/116	—	—
KFCEH3501F30*†	30	22.5	3	Fuse	62.6/69.2	—	—	86.8/95.0	—	—	3/3	—	—	8/8	—	—	90/100	—	—	97/98	—	—
	30	22.5	1	Fuse	109.0/120.0	—	—	144.8/158.5	—	—	0/00	—	—	6/6	—	—	150/175	—	—	117/150	—	—

FIELD MULTIPOINT WIRING OF 24-AND 30-kW SINGLE PHASE

HEATER PART NO.	kW		PHASE	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)‡‡		
	240V	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
KFCEH3401F24*†	24	18.0	1	28.9/32.0	28.9/32.0	28.9/32.0	44.7/48.5	36.2/40.0	36.2/40.0	8/8	8/8	8/8	10/10	45/50	40/40	40/40	59/60	73/73	73/73
KFCEH3501F30*†	30	22.5	1	36.2/40.0	36.2/40.0	36.2/40.0	53.8/58.5	45.3/50.0	45.3/50.0	6/6	8/8	8/8	10/10	60/60	50/50	50/50	78/80	59/59	59/59

* Heaters are Intelligent Heat capable when used with the FV fan coil and Comfort Zone II™ or Infinity Control™.

† Field convertible to 1 phase, single or multiple supply circuit.

‡ Field convertible to 3 phase.

** Includes blower motor amps of largest fan coil used with heater.

†† Copper wire must be used. 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).

‡‡ Length shown is as measured 1 way along wire path between unit and service panel for a voltage drop not to exceed 2%.

NOTES:

1. For fan coil sizes 018–037.
2. For fan coil sizes 042–061 and all FE, FK and FV models.
3. Single circuit application of F15 and F20 heaters requires single–point wiring kit accessory.

ACCESSORIES

ITEM		ACCESSORY PART NO.*	FAN COIL SIZE USED WITH
1.	Disconnect Kit	KFADK0201DSC	Cooling controls and heaters 3– through 10–kW
2.	Downflow Base Kit	KFACB0201CFB	002
		KFACB0301CFB	003, 005
		KFACB0401CFB	006
3.	Downflow Conversion Kit	KFADC0201SLP	003
		KFADC0401ACL	002, 005, 006
4.	Single–Point Wiring Kit	KFASP0101SPK	Only with 15– and 20–kW Fused Heaters
5.	Filter Kit (12 Pack)	KFAFK0212MED	002
		KFAFK0312LRG	003, 005
		KFAFK0412XXL	006
6.	Fan Coil Filter Cabinet (Fan Coil Filter Media)	FNCCABCC0017 (FILCCFNC0017)	002
		FNCCABCC0021 (FILCCFNC0021)	003, 005
		FNCCABCC0024 (FILCCFNC0024)	006
7.	Infinity™ Air Purifier (Infinity™ Purifier Replacement Cartridge)	GAPABXCC1620 (GAPCCCAR1620)	002
		GAPABXCC2020 (GAPCCCAR2020)	003, 005
		GAPABXCC2420 (GAPCCCAR2420)	006
8.	PVC Condensate Trap Kit (50 pack)	KFAET0150ETK	All
9.	Air Cleaner 240–volt Conversion Kit	KEAVC0201240	All
10.	Downflow/Horizontal Conversion Gasket Kit	KFAHD0101SLP	All
11.	Airflow Sensor Kit (Air Cleaner)	KEAAC0101AAA	All
12.	ECM Motor Test	KFASD0301VSP	All
13.	Horizontal Water Management Kit (25 pack)	KFAHC0125AAA	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. **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 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.
5. **Filter Kit (12 pack)**
   The kit consists of 12 fan coil framed 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.
6. **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 FILCCFNC00(14, 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.
7. **Infinity™ Air Purifier**
   The Infinity Air Purifier wires directly to fan coil and requires no duct transitions with Carrier units. These purifiers both capture and kill airborne viruses, bacteria, mold spores, and allergens. It comes with an airflow sensor. Maintenance is limited to replacement of the purification cartridge, GAPCCAR (1620/2020 or 2420), and inspection/brush cleaning of the ionization array.
   SUGGESTED USE: All fan coils.
8. **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.

ACCESSORIES (cont)

9. **Air Cleaner 240-volt Conversion Kit**
   The AIRA electronic air cleaner comes ready for 115-v operation.
   REQUIRED USE: This kit is required when running 240-volt circuit to air cleaner.
10. **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.
11. **Airflow Sensor Kit (Air Cleaner)**
    The AIRA electronic air cleaner comes ready for 115-v operation
    REQUIRED USE: This kit is required whenever an electronic air cleaner is used.
12. **ECM Motor Test Kit**
    Operates variable speed blower at several speeds independent of circuit board and wiring harness.
13. **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.

 Printed in U.S.A. Edition Date: 06/09 **Catalog No: FV4C–01PD**

 Replaces: NEW