FK4D
Performance™ Series
Variable Speed Fan Coil
Sizes 001 thru 006

Carrier®
Turn to the Experts℠

Product Data

FK4D
PREMIUM AIR HANDLING TECHNOLOGY

The FK4D is the latest in air handling technology. It is the perfect unit when you need a fan coil that can deliver high-tech performance, application versatility, easy installation, and high efficiency.

The FK4D achieves all this by taking full advantage of its programmable Electronically Commutating Motor (ECM). This versatile motor is completely static independent, meaning the motor will deliver the selected CFM regardless of the duct system, making it the perfect choice for both high and low static applications. Other features homeowners will appreciate are the FK4D's soft ramp up when the unit is turned on, and its soft ramp down after the thermostat is satisfied. These features increase efficiency and eliminate the annoying sounds associated with sudden changes in airflow. When the ECM is used in conjunction with specific indoor controls (such as the Thermidistat™ Control), the HVAC system can operate in comfort control modes like Super Dehumidify. This combination of Carrier products can offer unmatched comfort.

The FK4D also features Carrier's patented "Easy Select" Board™. This board streamlines installation and helps the installer to select the correct airflow. The Easy Select Board combined with the ECM truly allows dealers to customize the heating and cooling system to each home.

The FK4D is also loaded with the most advanced components, so you know it will perform like a premium fan coil should. Inside you will find grooved copper tubing and lanced sine wave aluminum fins, which contribute to the FK4D's high SEER and HSPF ratings. Carrier technology also incorporates factory washed coils for superior condensate control, dedicated refrigerant circuitry, and state-of-the-art Thermostatic Expansion Valve (TXV) refrigerant metering. These units are also designed with high-impact, polycarbonate condensate pans. The primary and secondary drain connections include brass inserts. All of this is packed in a rugged, prepainted metal cabinet that is lined with super-thick, high-density insulation. Obviously a unit built to last.

In addition to superior quality, the FK4D also offers the ultimate in versatility. Compact and designed for upflow, downflow, and horizontal applications, the FK4D fits right where it is needed. It is equipped with sweat connections and has multiple electric entries for fast, simple installations. Carrier also offers the FK4D with field-installed, electric-resistance heat kits in sizes 5- to 30-kW. When the ultimate in efficiency, comfort, and durability is needed, the FK4D is the fan coil to use.

FEATURES

- Programmable ECM blower motor
- Easy Select™ Board
- Grooved copper tube
- Lanced sine wave aluminum fin
- Discreet refrigerant circuits
- Pre-painted galvanized sheet metal cabinet
- 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
- Cooling control in every unit
- Static independent airflow
- Logarithmic spiral blower housings for blower efficiency
- All pans constructed of an injection molded glass-filled polycarbonate engineered resin material with brass drain connections.
- All units multipoise
- Cabinet construction features innovations designed to prevent cabinet sweating
- Provision made for suspending from roof or ceiling joists
- Modular cabinet design on 003 thru 006 size
- Factory-supplied, cleanable, permanent framed filter
- Easy access filter — no tools required
- Field-installed heater packages 5- to 30-kW, fused, circuit breaker, non-fused (10-kW and down)
- Low-voltage terminal block
- AMP plug connection provided for accessory heater packages
- Connections for humidistat/humidifier
- Connections for air cleaner relay
- Blower on/off-delay time selections
- Extra thick 1-in., R 4.2 high-density insulation
- Newly improved filter rack area — filter door insulation added for an improved air seal
- Tested for condensate disposal at conditions much more severe than those required by ARI
- Sweat connections
- Bi-flow, hard-shutoff TXV
- Multiple electrical entry
- Primary and secondary drain connections with brass inserts
- Inspection plate on A-coil models
- 1-1/2 - 5 ton application
- HUD approved for manufactured housing
- Replaceable 5-amp blade-type auto fuse protects against transformer secondary short
- 40 va, 208/230v transformer
- All models listed with UL (U.S. and Canada) and ARI
- Independent fan only selections

MODEL NUMBER NOMENCLATURE

1	2	3	4	5	6	7-9	10-12
F	K	4	D	N	F	002	000
Product	Type	Position	Series	Electrical	Cabinet/Insulation	Capacity	Heating Size
F - Fan Coil	K - Performance™ VS, R-22	4 - Multipoise	A	N - 208/230v, 1ph-60H z	B - Modular F - Single piece	001 - 18-36,000 002 - 18-36,000 003 - 24-42,000 005 - 30-48,000 006 - 30-60,000	000 - No Heat 005 - 5kW 075 - 7.5kW 008 - 8kW 010 - 10kW 011 - 11kW 015 - 15kW

FK4D

ARI PERFORMANCE CERTIFIED ARI Standard 210/240 Unitary Air Conditioners

ARI PERFORMANCE CERTIFIED ARI Standard 210/240 Unitary Heat Pumps

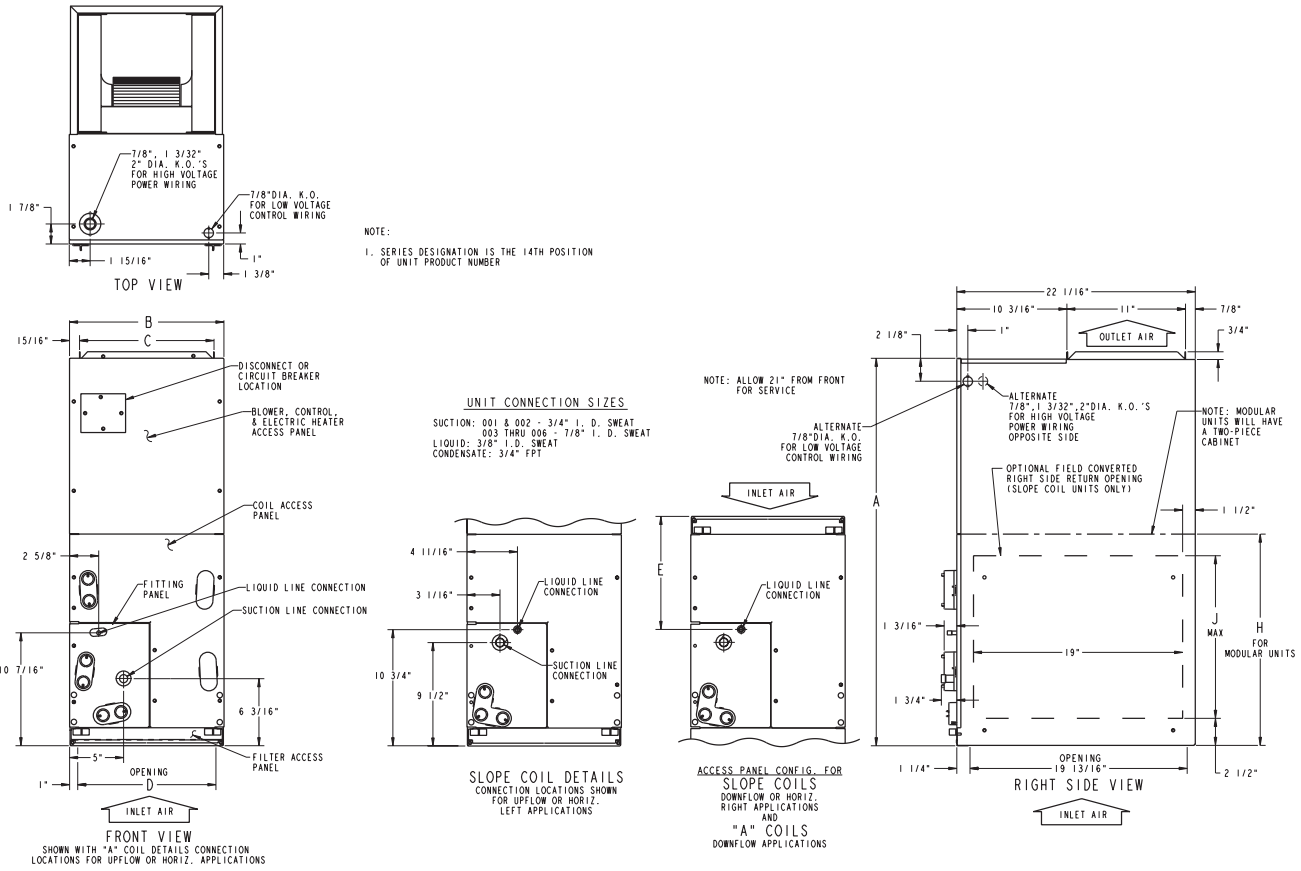
CERTIFICATION APPLIES ONLY WHEN THE COMPLETE SYSTEM IS LISTED WITH ARI

c UL us

ISO 9001:2000 QMI REGISTERED

SPECIFICATIONS

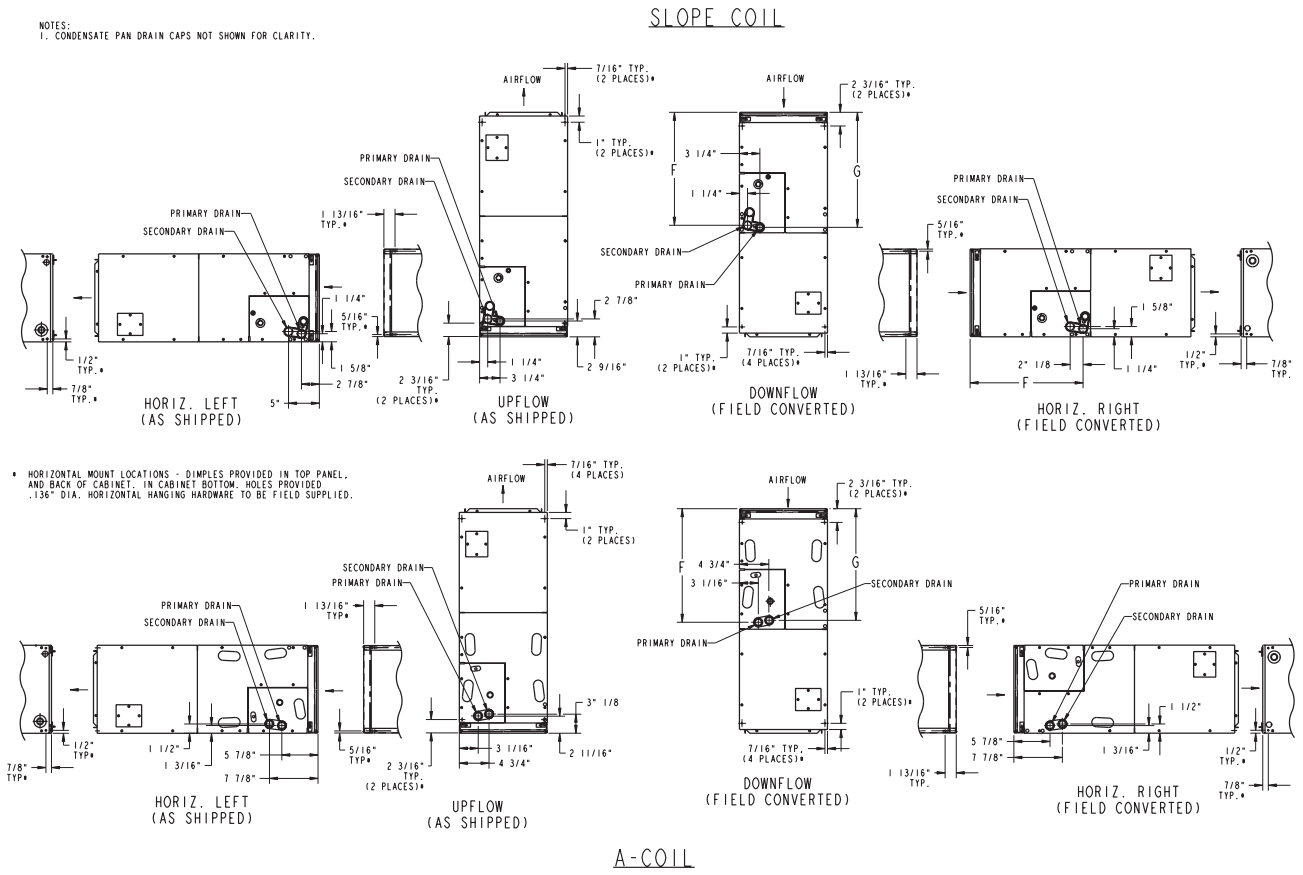
MODEL FK4D	001	002	003	005	006
COIL					
R–22 Refrigerant Metering Device	TXV – factory–installed hard–shutoff, bi–flow type for heat pump application				
TXV Size	3 ton		5 Ton		
Rows/Fins Per In.	3 – 14				
Face Area (Sq. Ft.)	2.97	3.46		5.93	7.42
Configuration	Slope	A	Slope	A	
FAN					
CFM (Nominal Clg/Htg)	525 / 470	525 / 470	700 / 630	875 / 785	1050 / 945
	700 / 630	700 / 630	875 / 785	1050 / 945	1225 / 1100
	875 / 785	875 / 785	1050 / 945	1225 / 1100	1400 / 1260
	1050 / 945	1050 / 945	1225 / 1100	1400 / 1260	1750 / 1575
Motor Hp (ECM)	1/2	1/2	1/2	1/2	3/4
FILTER* (In.)					
21 – 1/2 x	16–3/8	16–3/8	19–7/8	19–7/8	23–5/16
CABINET CONFIGURATION OPTIONS					
	1–piece		1–piece or Modular		Modular



A02302

DIMENSIONS

UNIT	SIZE	A	B	C	D	E	H	J
		In.	In.	In.	In.	In.	In.	In.
FK4DNB	003	53-7/16	21-1/8	19-1/4	19-1/8	19-3/16	28-5/16	19
FK4DNB	005	53-7/16	21-1/8	19-1/4	19-1/8	19-3/16	28-5/16	—
FK4DNB	006	59-3/16	24-11/16	22-3/4	22-11/16	25-1/4	34-1/16	—
FK4DNF	001	47-5/8	17-5/8	15-3/4	15-5/8	15-3/8	—	17
FK4DNF	002	42-11/16	17-5/8	15-3/4	15-5/8	10-3/4	—	—
FK4DNF	003	53-7/16	21-1/8	19-1/4	19-1/8	19-3/16	—	19
FK4DNF	005	53-7/16	21-1/8	19-1/4	19-1/8	19-1/2	—	—



A02303

DIMENSIONS

UNIT	SIZE	F	G	COIL CONFIGURATION		SHIPPING WEIGHT
		In.	In.	Slope	"A"	Lb
FK4DNB	003	26–15/16	27–1/2	Yes	—	149
FK4DNB	005	26–15/16	27–1/2	—	Yes	167
FK4DNB	006	32–15/16	32–5/8	—	Yes	202
FK4DNF	001	23–1/8	23–5/8	Yes	—	115
FK4DNF	002	18–9/16	18–1/4	—	Yes	130
FK4DNF	003	26–15/16	27–1/2	Yes	—	149
FK4DNF	005	27–1/4	26–15/16	—	Yes	202

PERFORMANCE DATA

AIRFLOW DELIVERY CHART

UNIT SIZE	OUTDOOR UNIT CAPACITY*	OPERATING MODE—COOLING						FAN ONLY Lo/Med/Hi
		Single–Speed Application		Two–Speed Application				
				High Speed		Low Speed		
		Nominal A/C Cooling	A/C Cooling Dehumidify	Nominal A/C Cooling	A/C Cooling Dehumidify	Nominal A/C Cooling	A/C Cooling Dehumidify	
001/002	018	525	420	—	—	—	—	350/350/525
	024	700	560	735	590	440	350	350/440/700
	030	875	700	—	—	—	—	440/550/875
	036	1050	840	1100	880	660	530	525/660/1050
003	024	700	560	735	590	440	415	415/440/700
	030	875	700	—	—	—	—	440/550/875
	036	1050	840	1100	880	660	530	525/660/1050
	042	1225	980	—	—	—	—	610/770/1225
005	030	875	700	—	—	—	—	440/550/875
	036	1050	840	1100	880	660	530	525/660/1050
	042	1225	980	—	—	—	—	610/770/1225
	048	1400	1120	1470	1175	880	705	700/880/1400
006	036	1050	840	1100	880	660	530	525/660/1050
	042	1225	980	—	—	—	—	610/770/1225
	048	1400	1120	1470	1175	880	705	700/880/1400
	060	1750	1400	1835	1470	1100	880	875/1100/1750

*Consult ARI ratings before matching outdoor unit with FK4D Fan Coil.

NOTES:
1. The above airflows result with the AC/HP CFM ADJUST select jumper set on NOM.
2. Airflow 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 10−kW heater and filter installed.
4. Airflows shown are at standard air conditions. (0.075 lb/ft^3 29.92 In−Hg)

AIRFLOW DELIVERY CHART

UNIT SIZE	OUTDOOR UNIT CAPACITY*	OPERATING MODE—HEAT PUMP ONLY HEATING						FAN ONLY Lo/Med/Hi
		Single Speed Application		Two–Speed Application				
				High Speed		Low Speed		
		Heat Pump Comfort	Heat Pump Efficiency	Heat Pump Comfort	Heat Pump Efficiency	Heat Pump Comfort	Heat Pump Efficiency	
001/002	018	470	525	—	—	—	—	350/350/1470
	024	630	700	660	735	395	40	350/395/1630
	030	785	875	—	—	—	—	440/495/1785
	036	945	1050	990	1100	595	660	525/595/1945
003	024	630	700	660	735	415	440	415/415/1630
	030	785	875	—	—	—	—	440/495/1785
	036	945	1050	990	1100	595	660	525/595/1945
	042	1100	1225	—	—	—	—	610/695/1100
005	030	785	875	—	—	—	—	440/495/1785
	036	945	1050	990	1100	595	660	525/595/1945
	042	1100	1225	—	—	—	—	610/695/1100
	048	1260	1400	1320	1470	795	880	700/795/1260
006	036	945	1050	990	1100	595	660	525/595/1945
	042	1100	1225	—	—	—	—	610/695/1100
	048	1260	1400	1325	1470	795	880	700/795/1260
	060	1575	1750	1655	1835	990	1100	875/990/1575

*Consult ARI ratings before matching outdoor unit with FK4D Fan Coil.

NOTES:
1. The above airflows result with the AC/HP CFM ADJUST select jumper set on NOM.
2. Airflow 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 10−kW heater and filter installed.
4. Airflows shown are at standard air conditions. (0.075 lb/ft^3 29.92 In−Hg)

PERFORMANCE DATA (cont)

AIRFLOW DELIVERY CHART (CFM) — ELECTRIC HEATING MODES

UNIT SIZE	OUTDOOR UNIT CAPACITY Btuh	ELECTRIC HEATER kW RANGE											
		0–5			0–10			0–15			0–20		
		Lo	Nom	Hi	Lo	Nom	Hi	Lo	Nom	Hi	Lo	Nom	Hi
001 002	18,000	625	625	625	675	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	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
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

Where dash (—) appears indicates airflow not recommend for heater/system size.
NOTE: LO, NOM and Hi refer to the AC/HP CFM ADJUST selection.

FK4D

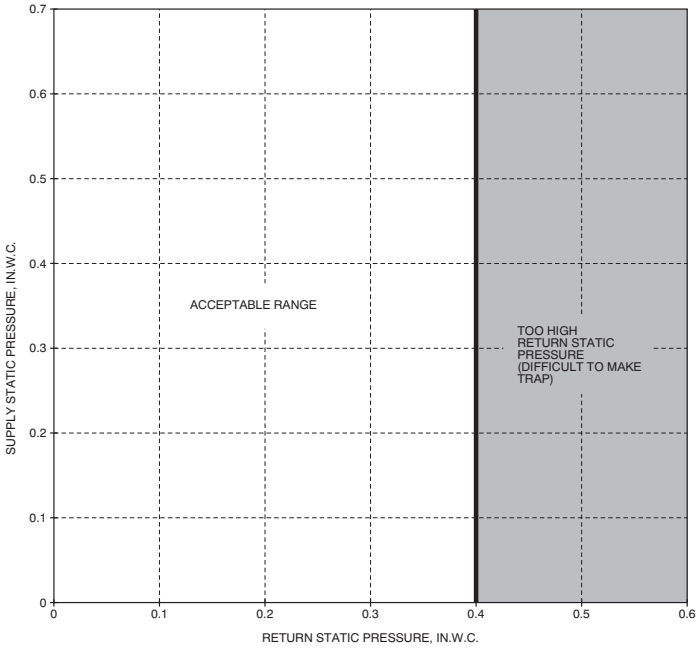
MINIMUM CFM FOR ELECTRIC HEATER APPLICATION

UNIT SIZE	HEAT PUMP UNIT SIZE	CFM				
		Heater Size kW				
		5	8, 9, 10	15	18, 20	24, 30
001 002	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
	030	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
	036	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.
3. Actual airflow delivered will be per the airflow delivery chart for Electric Heating Modes.

PERFORMANCE DATA (cont)

ACCEPTABLE DUCT CONDITIONS



A96052

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.

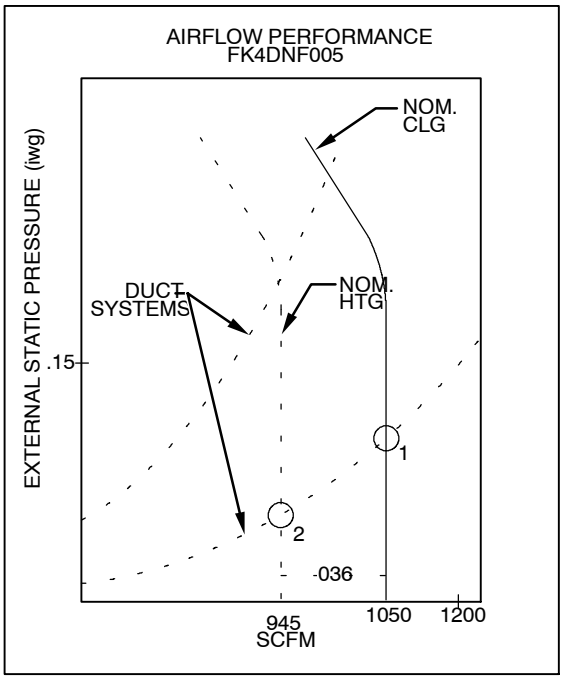
The airflow performance charts for the FK4D fan coil depict nominal airflow delivery for heating and cooling mode operation versus duct system static pressure drop. Cooling mode operation is shown as solid vertical lines for all 4 system size selections. Heating mode operation for the 4 system size selections 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 gauge (iwg) drop at 1200 CFM. The FK4DNF005 operating at nominal cooling airflow would deliver 1050 CFM with a duct system drop of 0.11 iwg. (See point 1.)

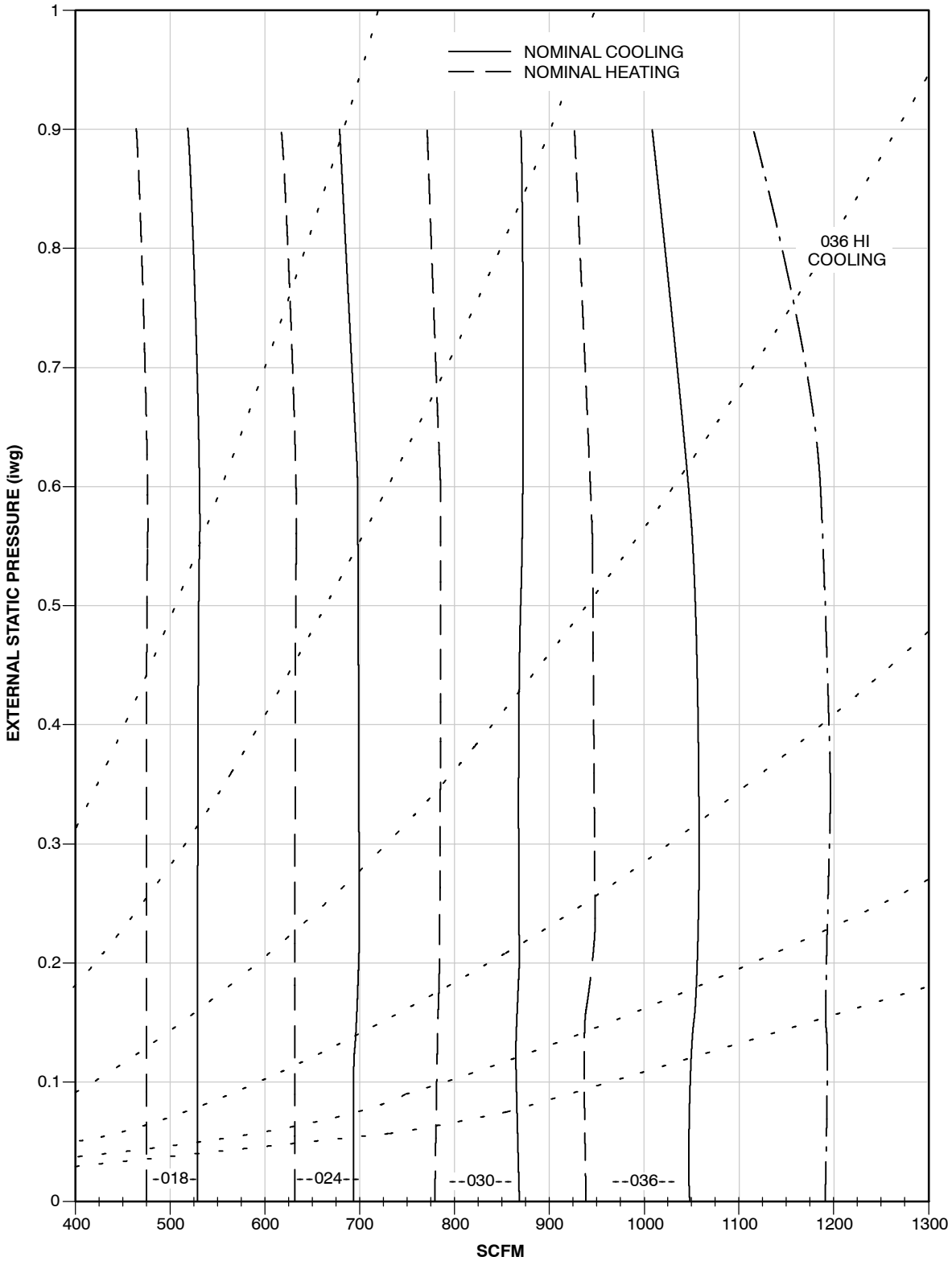
On the same duct system, the FK4DNF005 operating at nominal heating airflow would deliver 945 CFM with a duct system drop of 0.09 iwg. (See point 2.)

This example is but one of many possible duct system designs. The FK4DNF005 will deliver the above airflows against much higher static pressures.



A02341

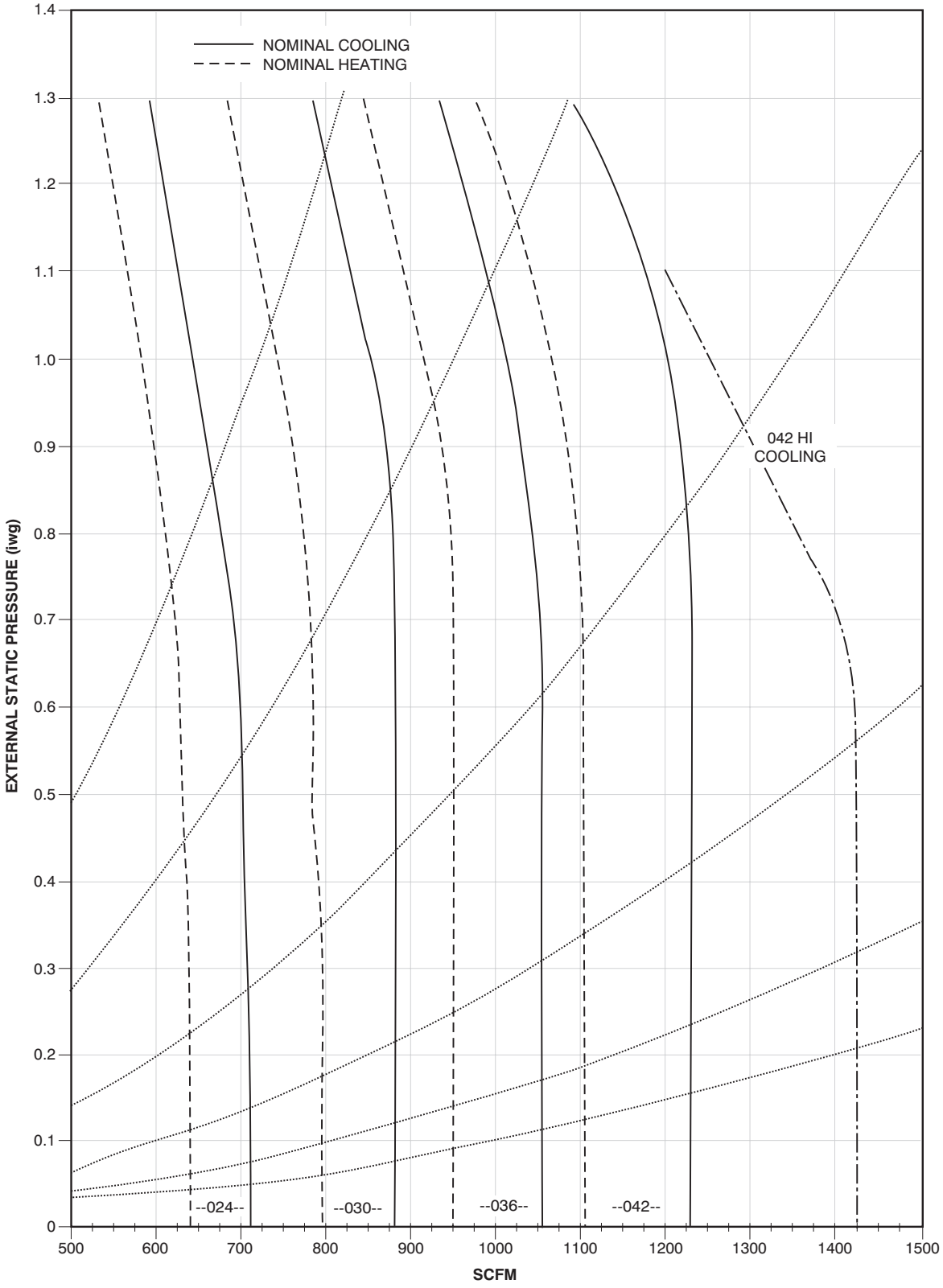
AIRFLOW PERFORMANCE
FK4DNF001, 002



A02342

——— 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.)

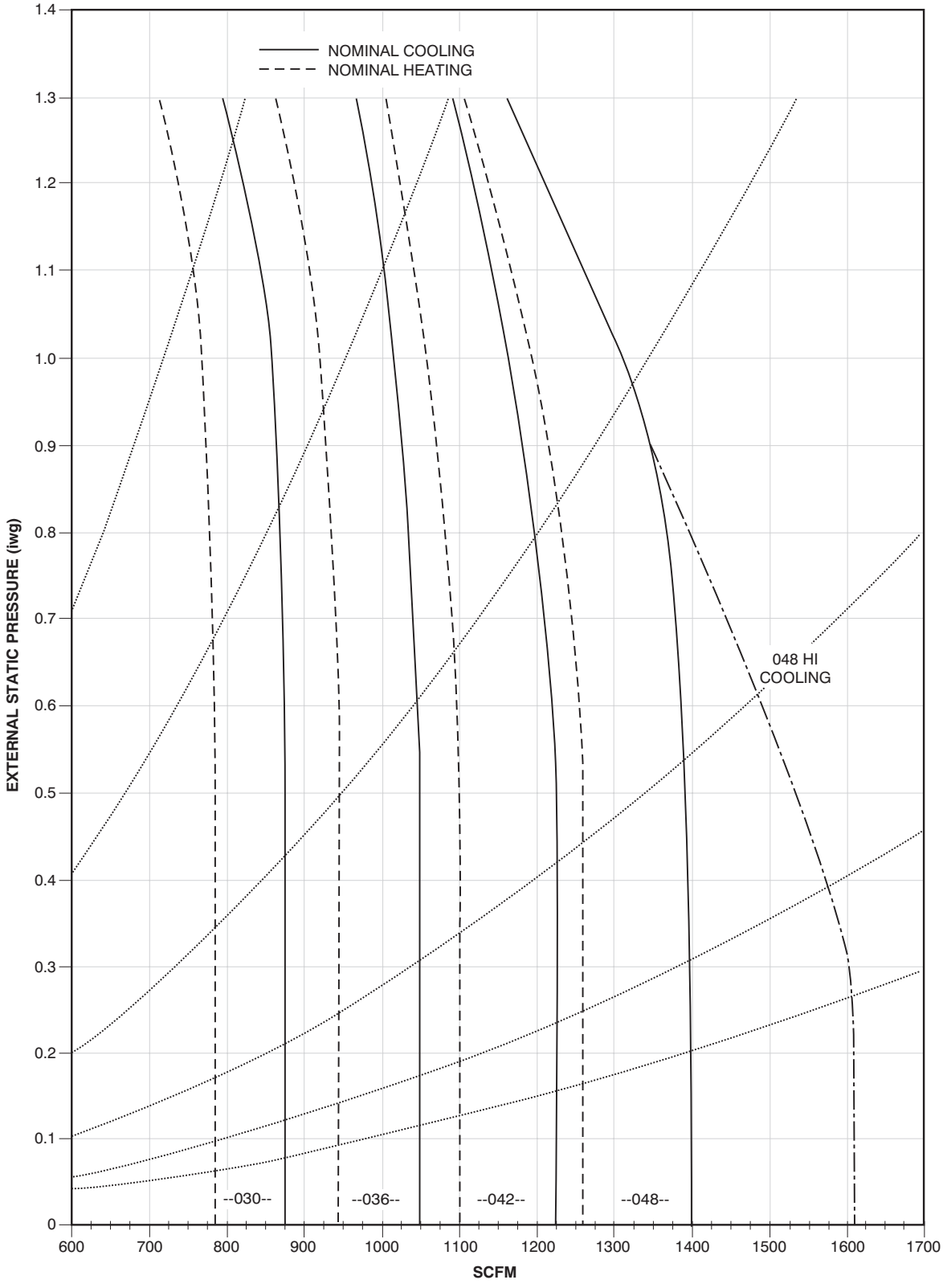
AIRFLOW PERFORMANCE
FK4DN(B,F)003



A06610

——— 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.)

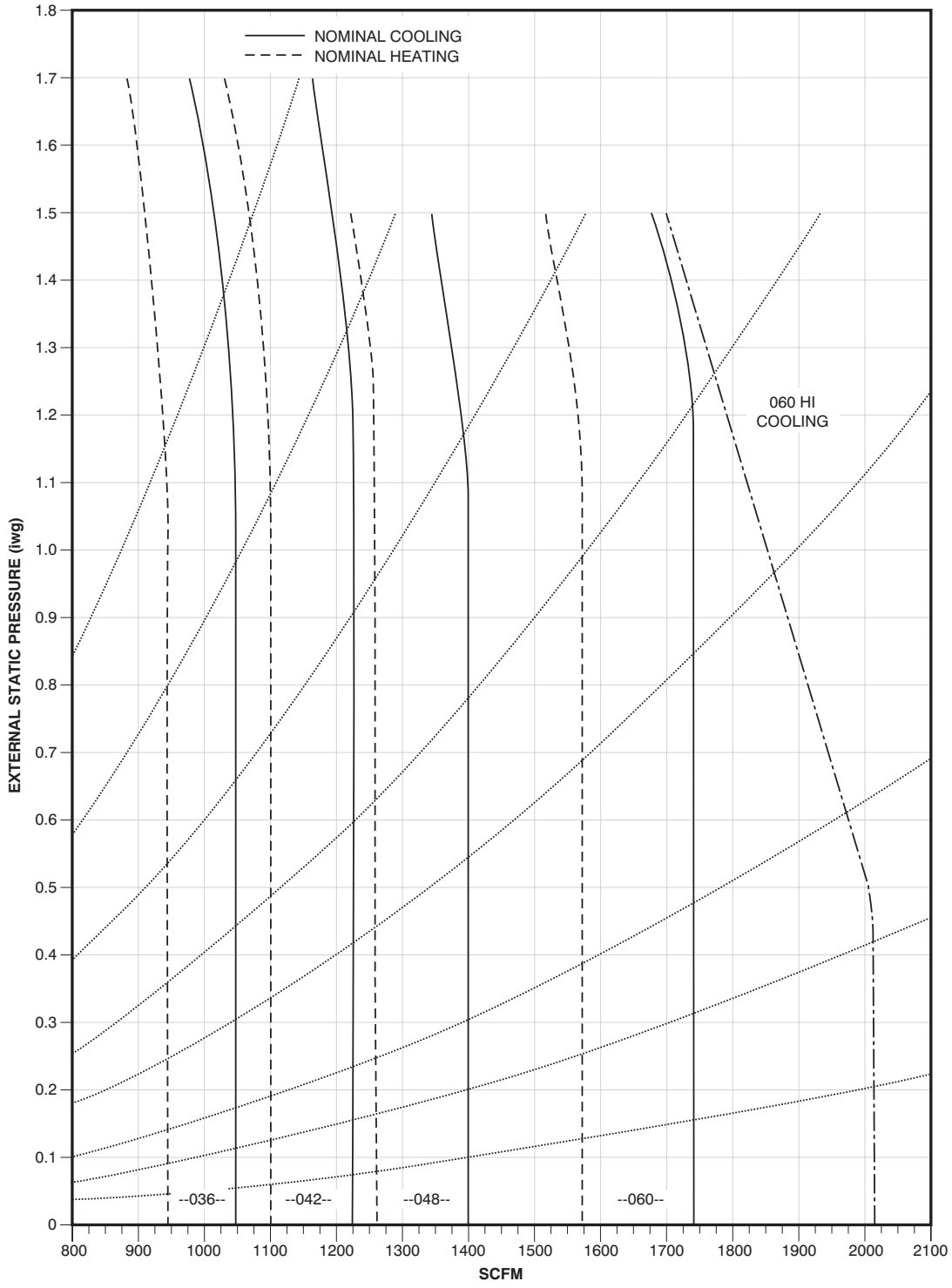
AIRFLOW PERFORMANCE
FK4DN(B,F)005



A06611

——— 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
FK4DNB006



A06612

——— 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	EVAPORATOR AIR Cfm BF	COIL REFRIGERANT TEMPERATURE (°F)*														
		35			40			45			50			55		
		Evaporator Air —Entering Wet–Bulb Temperature (°F)														
		72	67	62	72	67	62	72	67	62	72	67	62	72	67	62
001	600	43	34	27	38	30	23	33	25	19	28	20	14	22	14	12
	0.03	19	20	21	17	18	19	15	16	16	13	14	13	11	11	12
	800	52	42	34	46	37	28	40	30	22	33	24	17	26	17	14
	0.05	24	26	27	22	23	24	19	20	21	16	17	17	14	15	14
	900	56	46	37	50	40	31	44	33	24	36	26	19	28	18	15
	0.06	26	28	30	24	25	27	21	22	23	18	19	19	15	16	15
	1100	64	52	42	57	45	35	49	38	28	41	29	22	32	21	18
	0.07	30	33	35	27	29	31	24	26	27	21	23	22	17	19	18
	1300	70	57	46	62	50	39	54	42	31	45	33	25	35	23	20
	0.09	32	36	39	29	33	35	26	29	31	23	26	25	19	21	20
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	56	46	36	50	40	31	44	34	25	37	27	19	29	19	16
	0.04	27	29	30	24	26	27	21	22	23	18	19	19	15	16	16
	1000	68	56	44	61	48	37	53	40	30	44	31	23	34	22	19
	0.05	31	34	36	28	30	32	25	27	28	21	23	23	18	19	19
	1200	75	62	50	68	54	42	59	45	34	49	35	27	38	25	22
	0.07	35	38	41	32	34	37	28	31	32	24	26	27	20	22	22
	1350	80	66	53	72	58	45	63	48	36	53	38	30	41	27	24
	0.08	37	41	44	34	37	40	30	33	35	26	29	30	22	24	24
	1530	85	70	57	77	62	48	68	51	39	57	40	32	44	29	26
	0.09	39	44	48	36	40	43	32	36	38	28	31	32	24	26	26
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

See Notes next page.

Sensible Heat Capacity (1,000 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)					
	79	78	77	76	75	Under 75
	81	82	83	84	85	Over 85
	Correction Factor					
0.10	.098	1.96	2.94	3.92	4.91	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	

ESTIMATED SOUND POWER LEVEL (dBA)*

UNIT SIZE	CONDITIONS		OCTAVE BAND CENTER FREQUENCY						
	CFM	ESP	63	125	250	500	1000	2000	4000
001	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
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
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
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
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
RPM – Revolutions Per Minute

PERFORMANCE DATA (cont)

AIRFLOW PERFORMANCE CORRECTION FACTORS

HEATER KW	ELEMENTS	STATIC PRESSURE CORRECTION (in. wc)	
		Sizes 001–005	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 FK4D 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
001	0.020	0.044	0.048	0.072	0.100	—	—	—	—
002	0.020	0.044	0.048	0.072	0.100	—	—	—	—
003	—	0.020	0.035	0.051	0.070	0.092	—	—	—
005	—	0.020	0.035	0.051	0.070	0.092	0.120	—	—
006	—	—	—	0.038	0.053	0.070	0.086	0.105	0.133

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

UNIT SIZE	CFM										
	600	700	800	900	1000	1100	1200	1300	1400	1500	1600
001	0.031	0.040	0.051	0.063	0.073	0.081	0.092	—	—	—	—
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

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

UNITS WITHOUT ELECTRICAL HEAT

UNIT SIZE	VOLTS–PHASE	FLA	MIN CKT AMPS	BRANCH CIRCUIT	
				Min Wire Size Awg*	Fuse Amps
001	208/230–1	4.3	5.4	14	15
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°F ambient, copper wire (solid wire for 10 AWG and smaller, stranded wired 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

PERFORMANCE DATA (cont)

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	—
KFCEH2901N09	9	230/1*	3, 9	None	All	28,300	3, 6, 9
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
KFCEH1601315	15	230/3	5, 15	None	All	47,100	—
KFCEH2001318	18	230/3	6, 12, 18	None	003, 005, 006	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 staging ratings are Intelligent Heat capable when used with corporate 2−speed programmable thermostat (TSTATCCP2S01−B), Thermidistat™ Control (TSTATCCPRH01−B), or Comfort Zone II.

ELECTRIC HEATER INTERNAL PROTECTION

HEATER kW	PHASE	FUSES QTY/SIZE	CKT BKR QTY/SIZE*
5	1	—	1/60
8	1	—	1/60
9	1/3	—	—
10	1	—	1/60
15	1	2/30, 2/60	2/60
15	3	—	—
18	3	—	—
20	1	4/60	2/60
24	3/1	6/60	—
30	3/1	6/60	—

* All Circuit breakers are 2 pole.

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 FE, FK and FV fan coils and corporate 2–speed programmable thermostat (TSTATCCP2S01–B), Thermidistat™ Control (TSTATCCPRH01–B), 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 ambient, copper wire (solid wire for 10 AWG and smaller, stranded wire for larger than 10 AWG) is used, consult applicable tables of the National Electric Code (ANSI/NFPA 70).

‡‡ 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 001–003.
2. For fan coil sizes 004–006.
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. 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.

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.

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