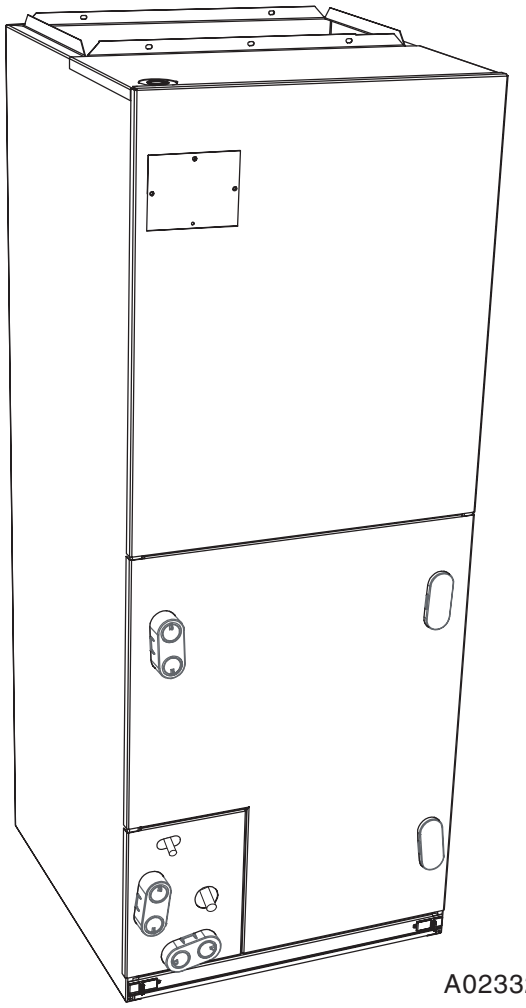
DIRECT EXPANSION FAN COIL ECM AND PURON® (R-410A) REFRIGERANT

MODEL FV4B

Sizes 002 thru 006



A02332

FV4B
PREMIUM ENVIRONMENTALLY SOUND
FAN COIL

The FV4B is the premium air handler combining the proven technology of Bryant fan coils with the environmentally sound refrigerant, Puron®. The FV4B achieves an operation advantage because the ECM (Electronically Commutated Motor) combined with a Quantum Plus heat pump with Puron is highly efficient at all possible operating speeds, and delivers the precise amount of airflow desired over a wide range of duct static pressure conditions. Humidity control and premium comfort are further improved when the FV4B is used with Bryant's Thermidistat™ Control. This combination allows the homeowner to control both temperature and humidity all year long, without the need for separate humidistats or other special components, providing simple, worry free comfort.

Other features homeowners appreciate are quiet operation of the FV4B, including the soft ramp up at the beginning of a heating or cooling cycle, and its soft ramp down when the duty cycle is complete. Annoying sounds from sudden changes in airflow are reduced for worry free comfort. When used in continuous fan mode, the FV4B can operate quietly at very low levels of airflow for gentle reduction of temperature differences between areas of the home and within each individual room from floor to ceiling. In addition, when used in conjunction with Bryant air cleaners, the FV4B provides continual cleansing of the air while quietly operating in continuous fan duty, for the best in indoor air quality.

The Easy Select™ Board simplifies selection of desired airflows for the installation technician, making the most of the ECM without complications. The time proven multipoise (horizontal left or right, upflow and downflow) design provides application versatility that makes Bryant fan coils the most popular and finest available anywhere.

The FV4B is loaded with other popular features. The Thermostatic Expansion Valve (TXV) reliably meters refrigerant at all operating conditions during cooling mode providing excellent compressor protection. Grooved copper tubing, louvered aluminum fins, and the large face areas of the FV4B refrigerant coils provide superior efficiency, for high SEER and HSPF performance. Robust, corrosion resistant and highly draining condensate pans provide for excellent condensate control. All components are protected within a rugged, prepainted metal cabinet lined with super thick, high density insulation and vapor barrier. The unit exterior features sweat refrigerant connections for simple leak free performance, multiple electrical entry for both high and low voltage service to simplify installation. Field-installed heaters are also available, ranging from 5-kw to 30-kw.

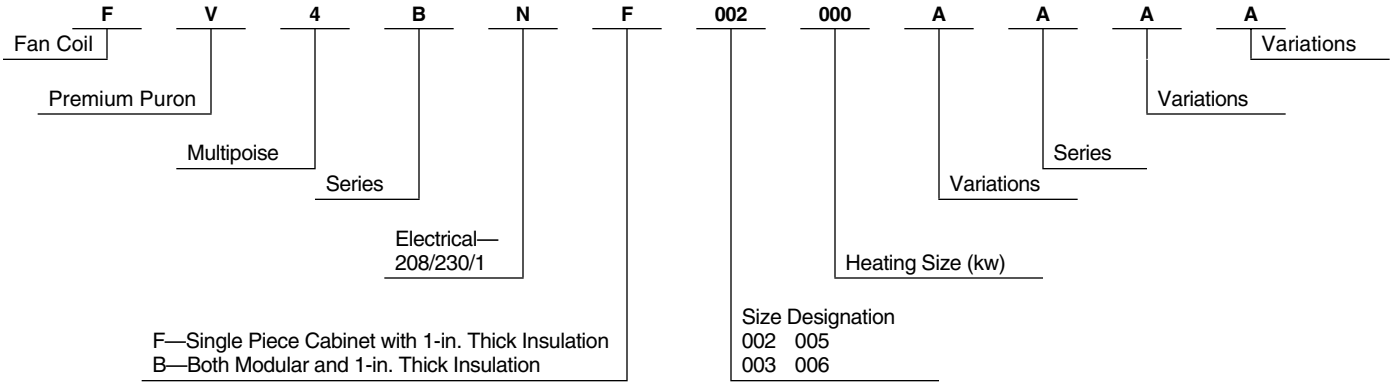
For the best in efficiency and Environmentally Sound operation, comfort, ease of installation and reliable performance, the FV4B can't be beat.

Form No. PDS FV4B.03.3

FEATURES

- Puron®, Environmentally Sound Refrigerant
- Puron-ready TXV
- Efficient ECM makes the most of the outdoor unit's performance capabilities
- Static pressure-adapting ECM for dependable airflow
- Easy Select Board simplifies installation
- Easily selected options for airflow operation, including fan only mode
- Large, grooved tube, louvered fin coils
- 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
- Dedicated refrigerant circuits
- Efficient, quiet, time tested blower housings and diffusers
- Sturdy, drainable condensate pans
- Brass drain connections
- Tested for condensate disposal in conditions more rigorous than Air Conditioning and Refrigeration Institute requirements
- Super thick insulation with vapor barrier
- Galvanized, pre-painted cabinet
- Installation-flexible, multipoise units
- Horizontal hanging provisions on cabinet
- Factory-supplied, cleanable and reusable filter
- Newly improved filter rack-filter insulation added for an improved air seal.
- No tools required to service filter
- 5- through 30-kw accessory heaters
- Easy plug in heater installation
- Ready for humidistat, humidifier, and air cleaner relay
- Thermostat wire terminal strip
- Entry options for high and low voltage wiring hook-up
- Simple, 5-amp blade fuse (and a spare) to protect 40 VA transformer
- Easy coil inspection (removable, snap-in plug on A-coil models)
- Leak-preventing sweat connections
- Cabinet construction features innovations designed to prevent cabinet sweating
- 2 through 5 ton coverage

MODEL NUMBER NOMENCLATURE



REGISTERED
QUALITY SYSTEM

CERTIFICATION APPLIES ONLY WHEN THE
COMPLETE SYSTEM IS LISTED WITH ARI.

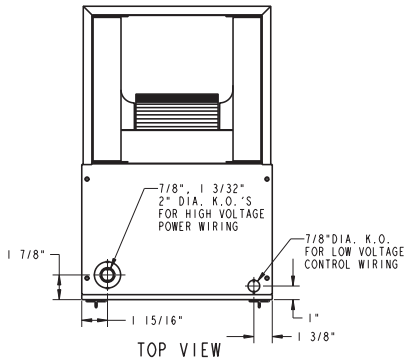
SPECIFICATIONS

MODEL FV4B

SIZE	002	003	005	006*
SHIPPING WEIGHT (Lb)	135	150	172	207
REFRIGERANT	Puron (R-410A)			
Refr. Metering Device	TXV			
Size	2-1/2 Ton	3 Ton	4 Ton	5 Ton
COIL				
Type	A	Slope	A	A
Rows - Fins/In.	3 - 14.5			
Face Area (sq-ft)	3.46	3.46	5.93	7.42
FAN				
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	1/2	1/2	3/4
FILTER	21-1/2 x 16-3/8	21-1/2 x 19-7/8	21-1/2 x 19-7/8	21-1/2 x 23-5/16

* Modular Unit

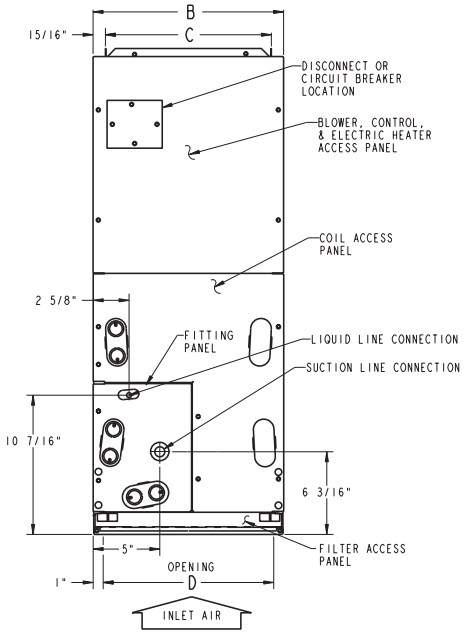
DIMENSIONS



TOP VIEW

NOTE:

1. SERIES DESIGNATION IS THE 14TH POSITION OF UNIT PRODUCT NUMBER

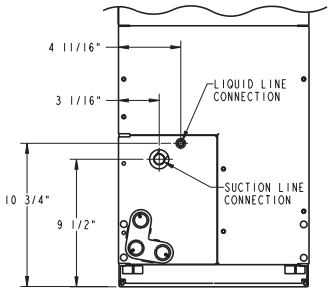


FRONT VIEW

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

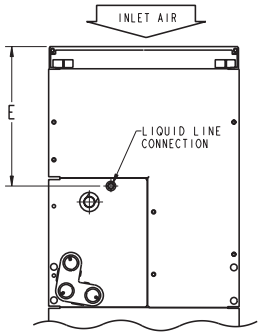
UNIT CONNECTION SIZES

SUCTION: 002 & 003 - 3/4" I. D. SWEAT
005 & 006 - 7/8" I. D. SWEAT
LIQUID: 3/8" I.D. SWEAT
CONDENSATE: 3/4" FPT



SLOPE COIL DETAILS

CONNECTION LOCATIONS SHOWN FOR UPFLOW OR HORIZ. LEFT APPLICATIONS



ACCESS PANEL CONFIG. FOR

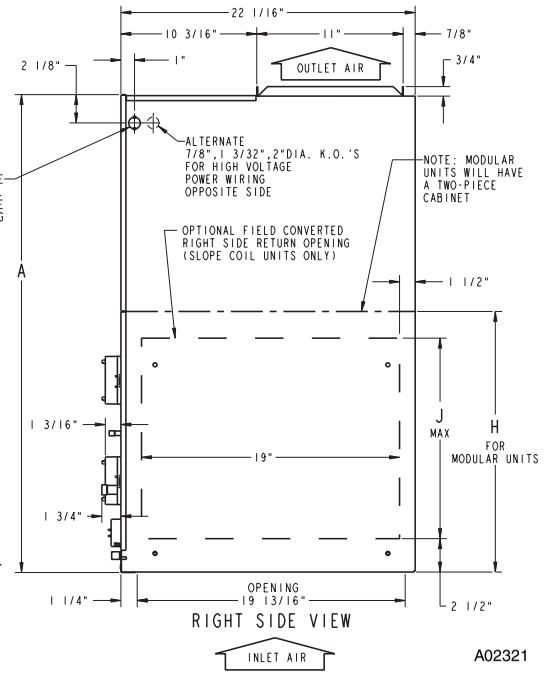
SLOPE COILS

DOWNFLOW OR HORIZ. RIGHT APPLICATIONS AND

"A" COILS

DOWNFLOW APPLICATIONS

NOTE: ALLOW 21" FROM FRONT FOR SERVICE



RIGHT SIDE VIEW

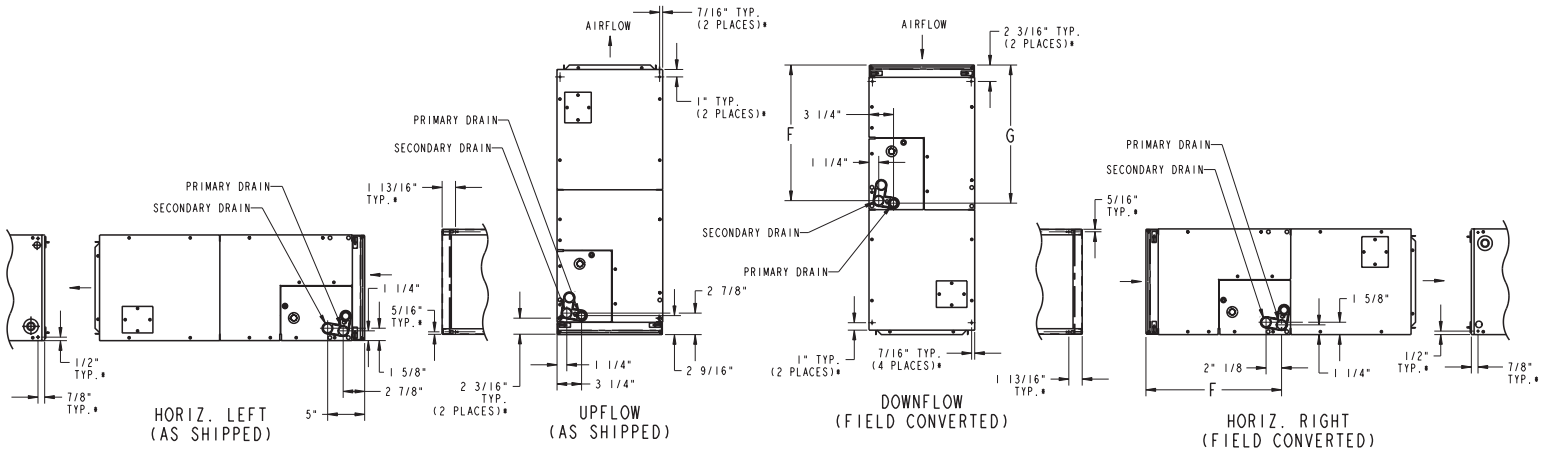
A02321

UNIT	SIZE	A	B	C	D	E	H	J
		In.	In.	In.	In.	In.	In.	In.
FV4B	002	42-11/16	17-5/8	15-3/4	15-5/8	10-3/4	—	—
	003	53-7/16	21-1/8	19-1/4	19-1/8	19-3/16	—	19
	005	53-7/16	21-1/8	19-1/4	19-1/8	19-1/2	—	—
	006	59-3/16	24-11/16	22-3/4	22-11/16	25-1/4	34-1/16	—

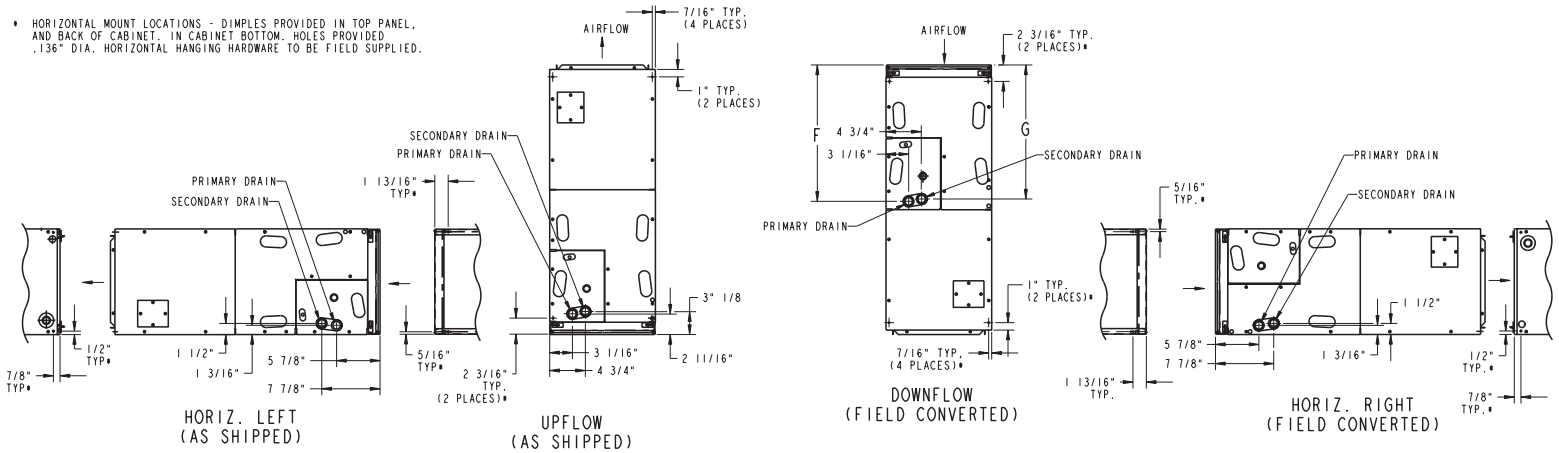
DIMENSIONS Continued

SLOPE COIL

NOTES:
1. CONDENSATE PAN DRAIN CAPS NOT SHOWN FOR CLARITY.



* HORIZONTAL MOUNT LOCATIONS - DIMPLES PROVIDED IN TOP PANEL, AND BACK OF CABINET. IN CABINET BOTTOM, HOLES PROVIDED .136" DIA. HORIZONTAL HANGING HARDWARE TO BE FIELD SUPPLIED.



A02322

A-COIL

UNIT	SIZE	F	G	COIL CONFIGURATION		SHIPPING WEIGHT
		In.	In.	SLOPE	"A"	Lb
FV4B	002	18-9/16	18-1/4	—	Yes	135
	003	26-15/16	27-1/2	Yes	—	150
	005	27-1/4	26-15/16	—	Yes	172
	006	32-15/16	32-5/8	—	Yes	207

PERFORMANCE DATA

FV4B ADVANCED FAN COIL AIRFLOW DELIVERY CHART (CFM)

UNIT SIZE	OUTDOOR UNIT CAPACITY*	OPERATING MODE—COOLING						FAN ONLY
		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 Dehumifidy	Nominal A/C Cooling	A/C Cooling Dehumidify	Lo/Med/Hi
002	018	525	420	—	—	—	—	350 / 350 / 525
	024	700	560	—	—	—	—	350 / 455 / 700
	030	875	700	—	—	—	—	440 / 570 / 875
	036	1050	840	1100	880	680	545	525 / 680 / 1050
003	024	700	560	—	—	—	—	415 / 455 / 700
	030	875	700	—	—	—	—	440 / 570 / 875
	036	1050	840	1100	880	680	545	525 / 680 / 1050
	042	1225	980	—	—	—	—	610 / 795 / 1225
005	030	875	700	—	—	—	—	440 / 570 / 875
	036	1050	840	1100	880	680	545	525 / 680 / 1050
	042	1225	980	—	—	—	—	610 / 795 / 1225
	048	1400	1120	1470	1175	910	725	700 / 910 / 1400
006	036	1050	840	1100	880	745	595	525 / 745 / 1050
	042	1225	980	—	—	—	—	610 / 870 / 1225
	048	1400	1120	1470	1175	995	795	700 / 995 / 1400
	060	1750	1400	1835	1470	1240	995	875 / 1240 / 1750

NOTE: 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 10-kw heater and filter installed.
4. Airflows shown are at standard air conditions.

*Consult ARI ratings before matching outdoor unit with FV4B Fan Coil.

FV4B ADVANCED FAN COIL AIRFLOW DELIVERY CHART (CFM)

UNIT SIZE	OUTDOOR UNIT CAPACITY*	OPERATING MODE—HEAT PUMP ONLY HEATING						FAN ONLY
		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	Lo/Med/Hi
002	018	470	525	—	—	—	—	350 / 350 / 470
	024	630	700	660	735	395	440	350 / 395 / 630
	030	785	875	—	—	—	—	440 / 495 / 785
	036	945	1050	990	1100	595	660	525 / 595 / 945
003	024	630	700	660	735	415	440	415 / 415 / 630
	030	785	875	—	—	—	—	440 / 495 / 785
	036	945	1050	990	1100	595	660	525 / 595 / 945
	042	1100	1225	—	—	—	—	610 / 695 / 1100
005	030	785	875	—	—	—	—	440 / 495 / 785
	036	945	1050	990	1100	595	660	525 / 595 / 945
	042	1100	1225	—	—	—	—	610 / 695 / 1100
	048	1260	1400	1320	1470	795	880	700 / 795 / 1260
006	036	945	1050	990	1100	595	660	540 / 595 / 945
	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

NOTE: 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.
3. Dry coil at 230 volts and with 10-kw heater and filter installed.
4. Airflows shown are at standard air conditions.

*Consult ARI ratings before matching outdoor unit with FV4B Fan Coil.

PERFORMANCE DATA Continued

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
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

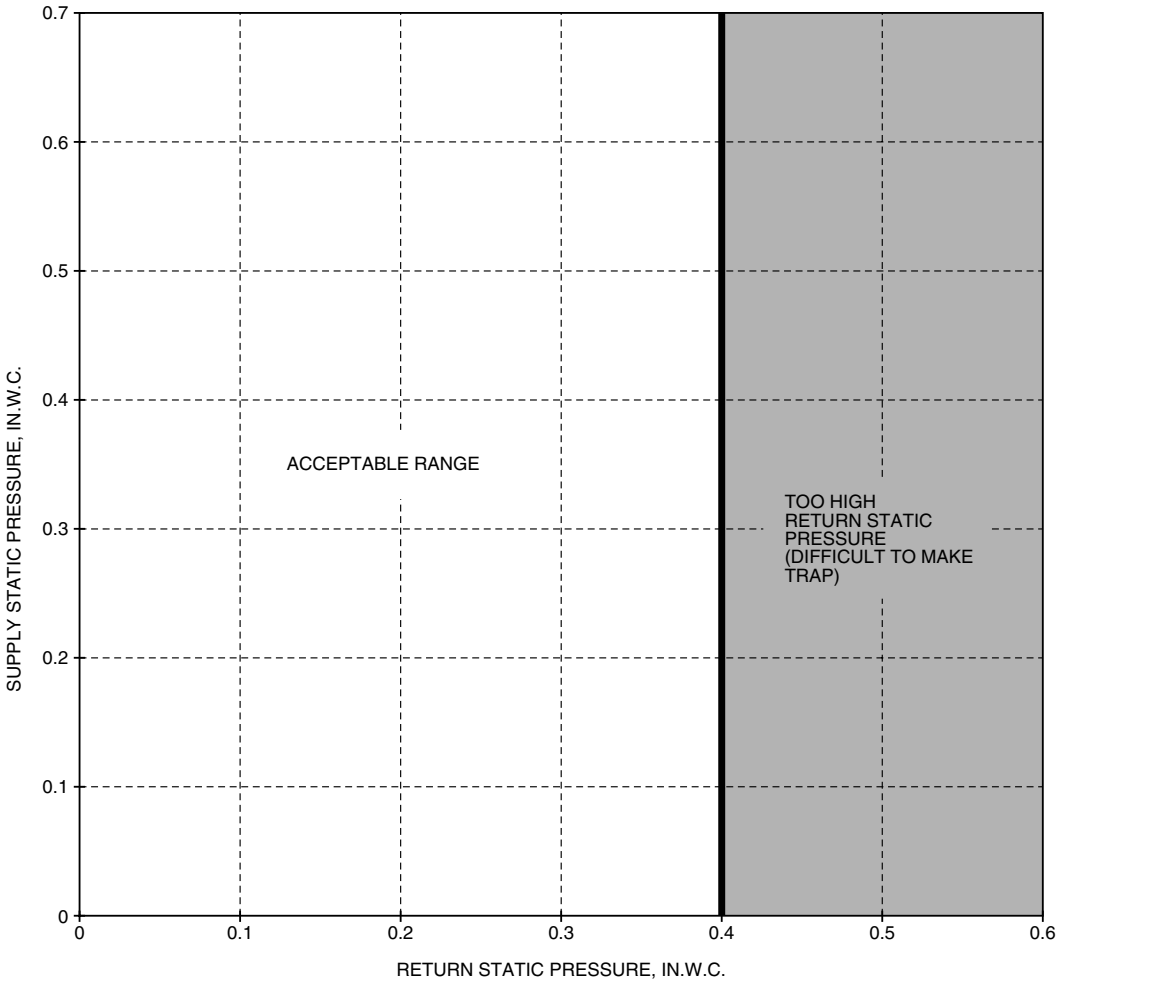
UNIT SIZE	OUTDOOR UNIT CAPACITY BtuH	ELECTRIC HEATER KW RANGE											
		0–10			0–15			0–20			0–30		
		Lo	Nom	Hi	Lo	Nom	Hi	Lo	Nom	Hi	Lo	Nom	Hi
005	30,000	975	975	1040	1100	1100	1100	—	—	—	—	—	—
	36,000	980	1085	1250	1100	1100	1250	1250	1250	1250	—	—	—
	42,000	1140	1270	1460	1140	1270	1460	1250	1270	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 recommended for heater/system size.
NOTE: LO, NOM and HI refer to the AC/HP CFM ADJUST selection.

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
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

NOTE: Heater Only—Air conditioner with electric heater application.
These airflows are the minimum acceptable air flows as U.L. listed.
Actual airflow delivered will be per the airflow delivery chart for Electric Heating Modes.



A96052

Acceptable Duct Conditions

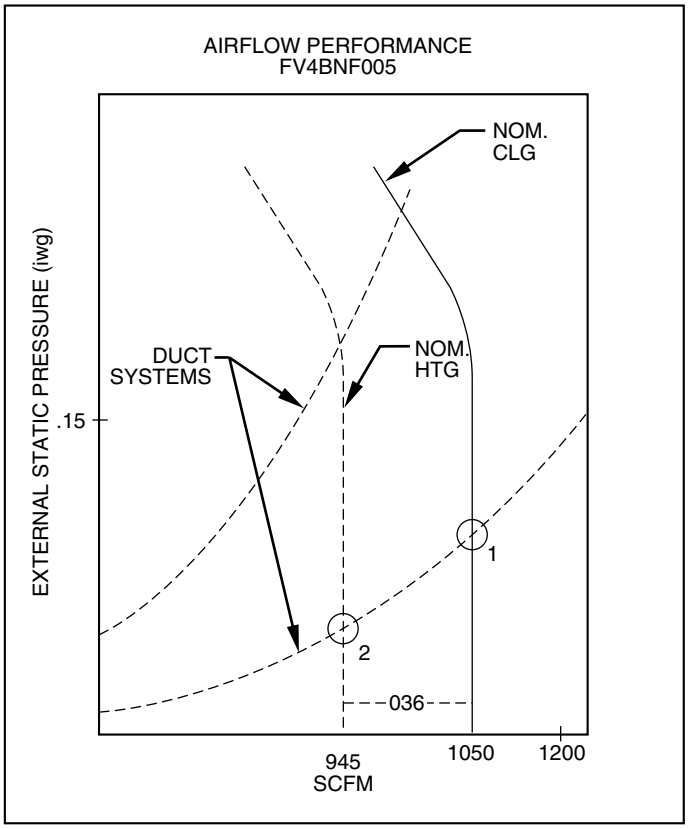
For satisfactory operation (specifically making dry secondary trap), subject fan coils must be installed with duct systems which fall within the “Acceptable Range” illustrated above.

The airflow performance charts for the FV4B 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.

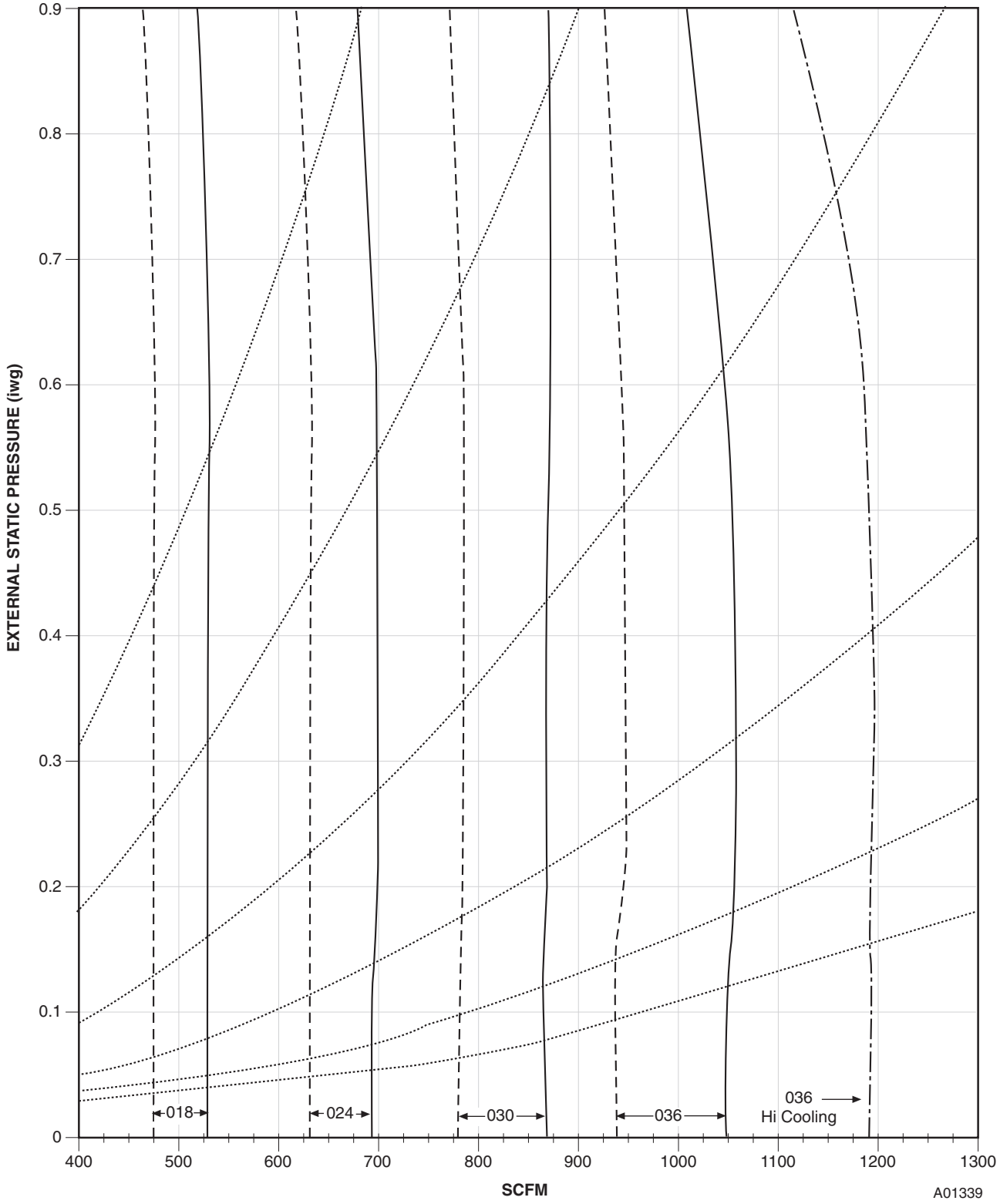
For example, a duct system is designed for 0.15 inches water gage (iwg) drop at 1200 CFM. The FV4BNF005 operating at nominal cooling airflow would deliver 1050 CFM with a duct system drop of 0.11 iwg. (See point 1.) On the same duct system, the FV4BNF005 operating at nominal heating airflow would deliver 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 FV4BNF005 will deliver the above airflows against much higher static pressures.



A02296

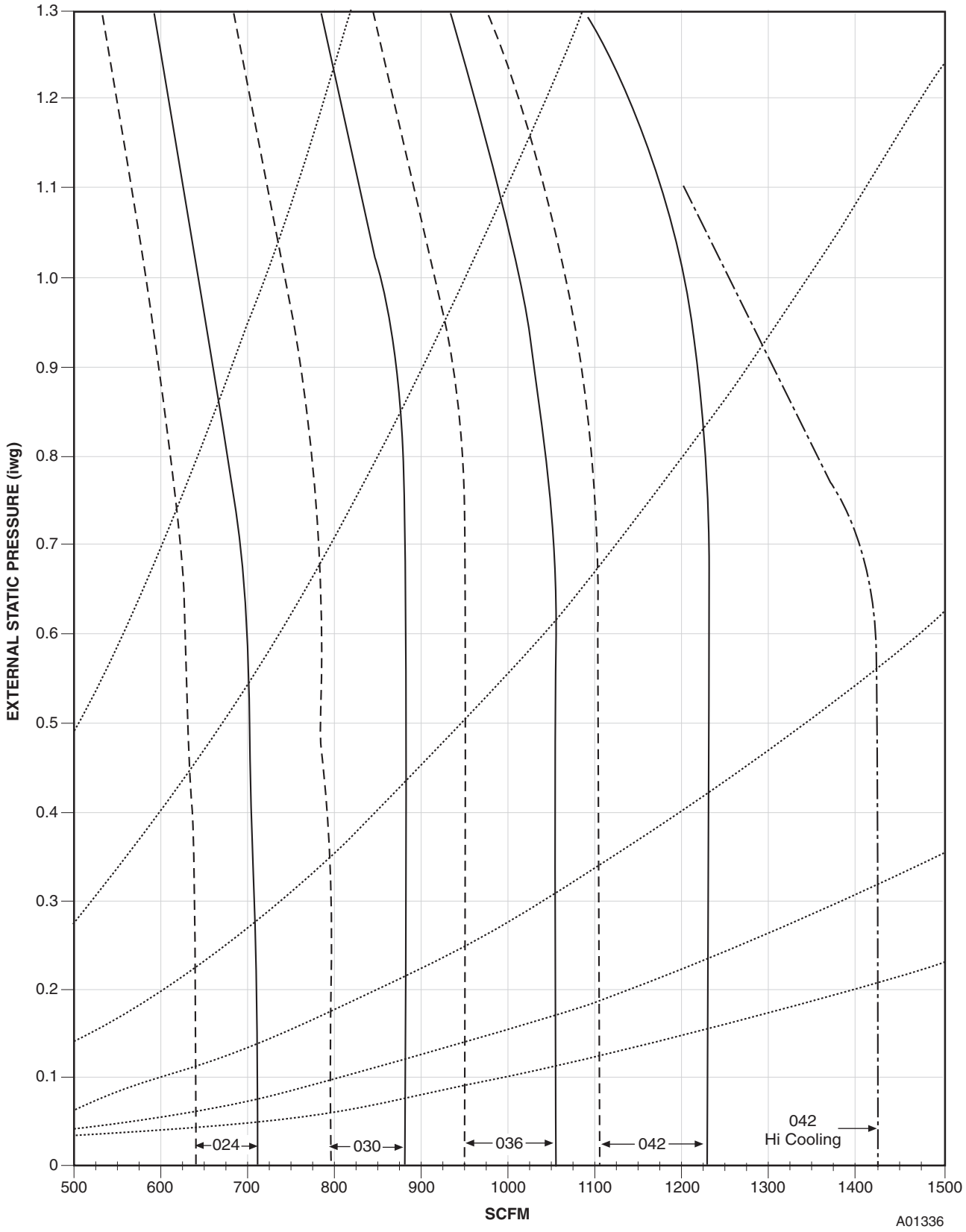
AIRFLOW PERFORMANCE



FV4BNF002

——— 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 on page 8.)

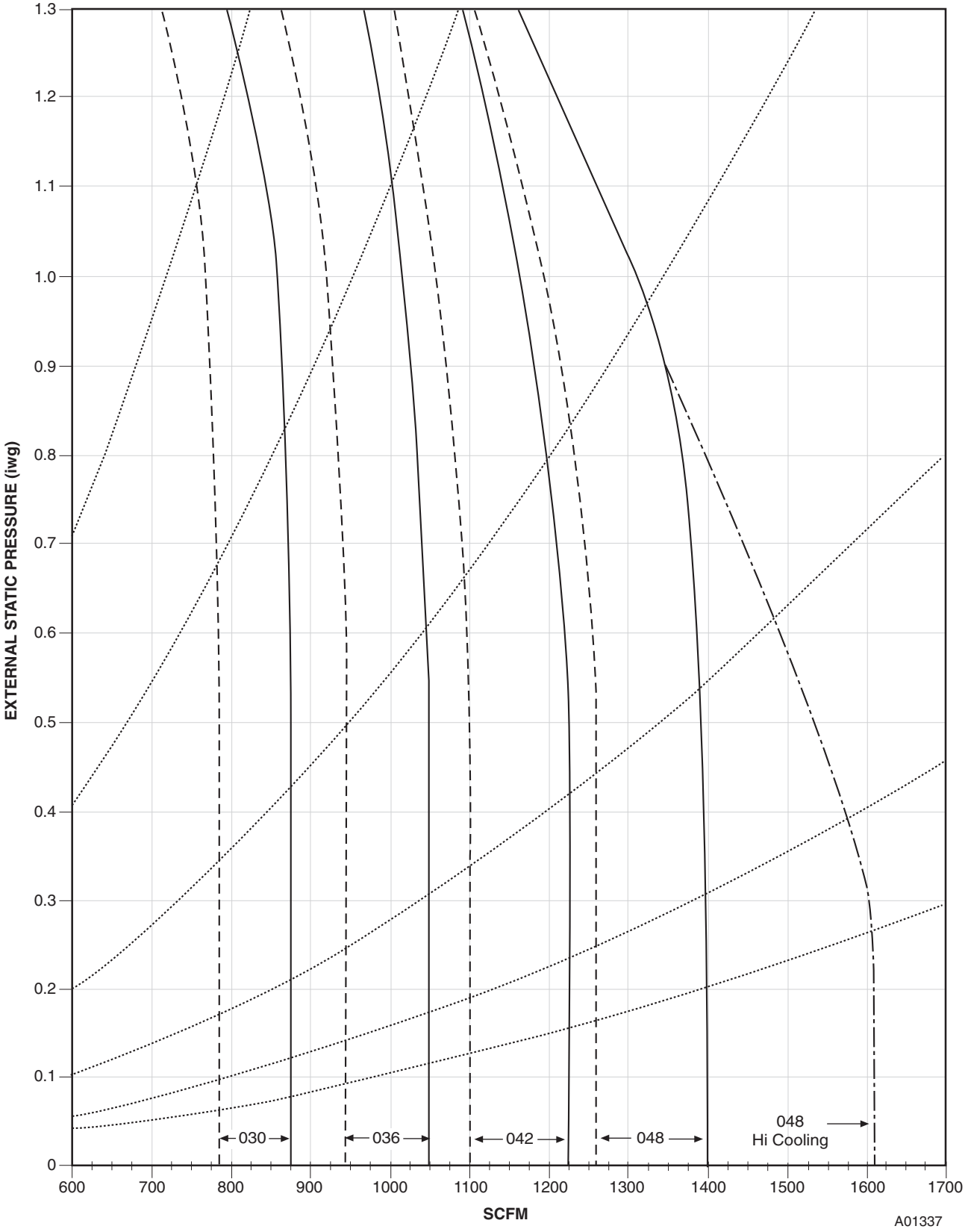
AIRFLOW PERFORMANCE



FV4BNF003

——— 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 on page 8.)

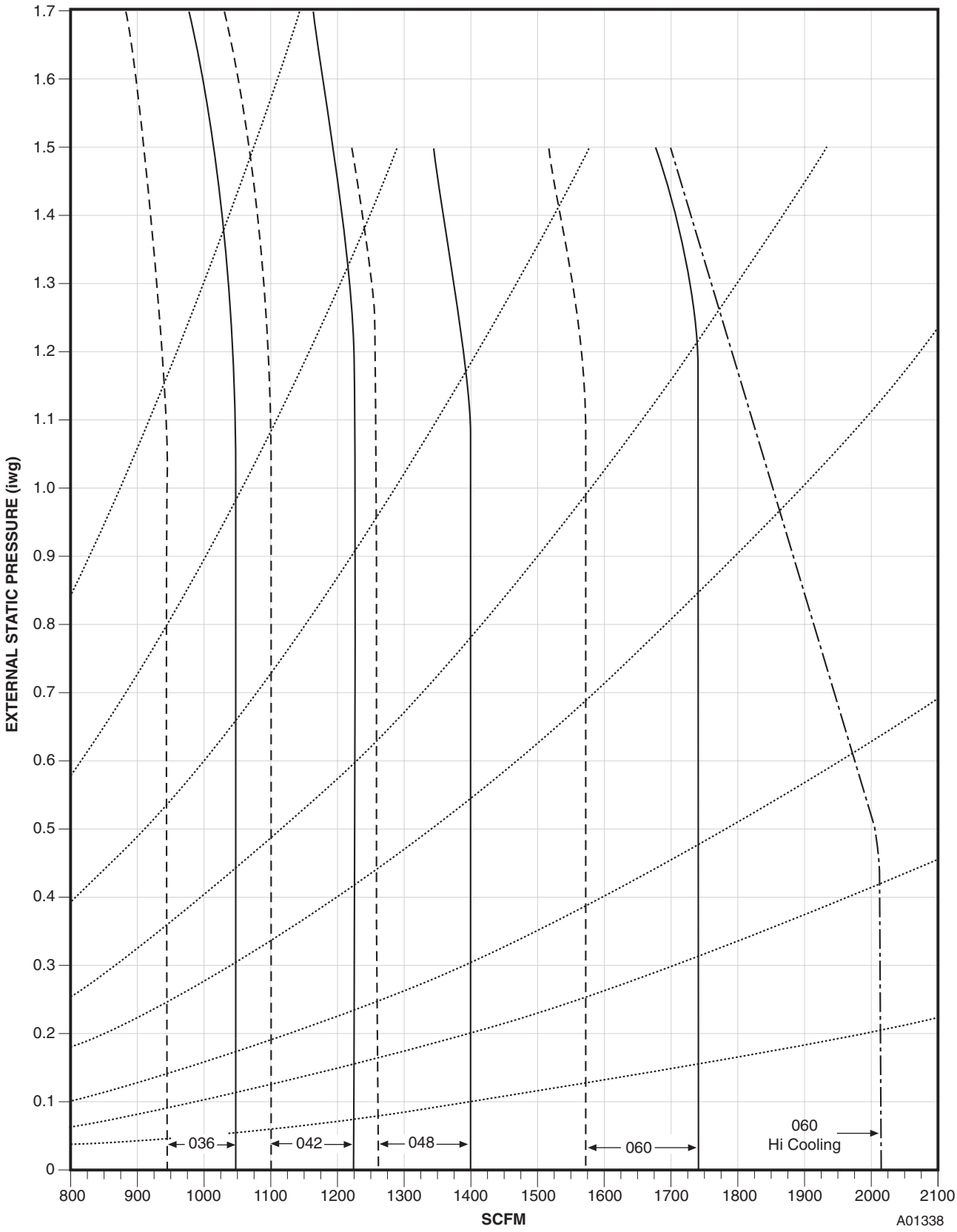
AIRFLOW PERFORMANCE



FV4BNF005

——— 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 on page 8.)

AIRFLOW PERFORMANCE



FV4BNB006

——— 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 on page 8.)

PERFORMANCE DATA Continued

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
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

See notes on page 15.

* Saturated suction leaving evaporator coil.

Sensible Heat Capacity (1000 Btuh)

Gross Cooling Capacity (1000 Btuh)

BF—Bypass Factor

NOTES:

1. Net capacities shown include a deduction for evaporator fan motor heat.
2. Contact manufacturer for cooling capacities at conditions other than shown in table.
3. 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.
4. Direct interpolation is permissible. Do not extrapolate.
5. SHC is based on 80°F db temperature of air entering coil. Below 80°F subtract (corr factor x CFM) from SHC. Above 80°F db, add (corr factor x CFM) to SHC.

SHC CORRECTION FACTOR

BYPASS FACTOR	ENTERING AIR DRY-BULB TEMP (°F)					
	79	78	77	76	75	Under 75
	81	*82*	*83*	*84*	*85*	*Over 85*
	Correction Factor					
0.10	0.98	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	

Interpolation is permissible.

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

PERFORMANCE DATA Continued

ESTIMATED SOUND POWER LEVEL (dBA)*

UNIT SIZE	CONDITIONS		OCTAVE BAND CENTER FREQUENCY						
	CFM	ESP	63	125	250	500	1000	2000	4000
FV4-002	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
FV4-003	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
FV4-005	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
FV4-006	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 Continued

AIRFLOW PERFORMANCE CORRECTION FACTORS

The FV4B 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 correction.

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

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

MODEL FV4B	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	—	—	—	—	0.070	0.092	0.120	0.152	0.187

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

MODEL FV4B	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

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.

ACCESSORY LIST

ITEM	ACCESSORY PART NO.	FAN COIL SIZE USED WITH FV4B
Disconnect Kit	KFADK0101DSC	Cooling controls and heaters through 10-kw
Downflow Conversion Kit (Slope)	KFADC0201SLP	003
Downflow Conversion Kit (A-coil)	KFADC0401ACL	002, 005, 006
Downflow Base Kit	KFACB0201CFB	002
	KFACB0301CFB	003, 005
	KFACB0401CFB	006
Filter Kit (12 Pack)	KFAFK0212MED	002
	KFAFK0312LRG	003, 005
	KFAFK0412XXL	006
Single-Point Wiring Kit	KFASP0101SPK	Only with 15- and 20-kw Fused Heaters
Airflow Sensor Kit (Air Cleaner)	KEAAC0101AAA	All
Air Cleaner 240-Volt Conversion Kit	KEAVC0201240	All
PVC Condensate Drain Trap Kit (50 Pack)	KFAET0150ETK	All
ECM Motor Tester Kit	KFASD0301VSP	All
Downflow/Horizontal Conversion Gasket Kit	KFAHD0101SLP	All

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: FV4 units with 3- through 10-kw electric resistance heaters and cooling controls.

2. **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 FV4 fan coils are used in downflow applications.

3. **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 FV4 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 L2 and L4 lugs. This allows the installer to run 2 heavy-gage, high-voltage wires into the fan coil rather than 4 light-gage, high-voltage wires.

SUGGESTED USE: FV4 fan coils with 15- and 20-kw fused heaters only.

5. **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.

6. **Airflow Sensor Kit (Air Cleaner)**
   The airflow sensor kit ensures the FV4 fan coil and electronic air cleaner work as a system.

REQUIRED USE: This kit is required whenever an electronic air cleaner is used with an FV4 fan coil.

7. **Fan Coil Filter**
   Kit shipped from factory with 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: For replacing factory-supplied filters (same filters).

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: FV4 fan coils.

9. **ECM Motor Tester**
   Operates variable speed blower at several speeds independent of circuit board and wiring harness.

SUGGESTED USE: FV4 fan coils.

10. **Downflow/Horizontal Conversion Gasket Kit**
    This kit provides the proper gasketing of units when applied in either a Downflow or Horizontal application.

REQUIRED USE: FV4 fan coils.

ELECTRICAL DATA

UNITS WITHOUT ELECTRIC HEATER

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 (nonplated) 75°F ambient, copper wire (solid wire for 10 AWG and smaller, stranded wire for larger than 10 AWG) is used consult applicable tables of the National Electric Code (ANSI/NFPA 70).

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

FLA — Full Load Amps

ACCESSORY ELECTRIC HEATERS

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	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 convertable to 3 phase.

† These heaters field convertable 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 thermostat (TSTATBBP2S01-B), Thermidistat™ Control (TSTATBBPRH01-B), or Zone Perfect Plus.

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.

Electric Heater Electrical Data

HEATER PART NO.	KW		PHASE	INTERNAL CIRCUIT PROTECTION	BRANCH CIRCUIT																	
					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)‡‡		
					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	—	—
	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	—	—

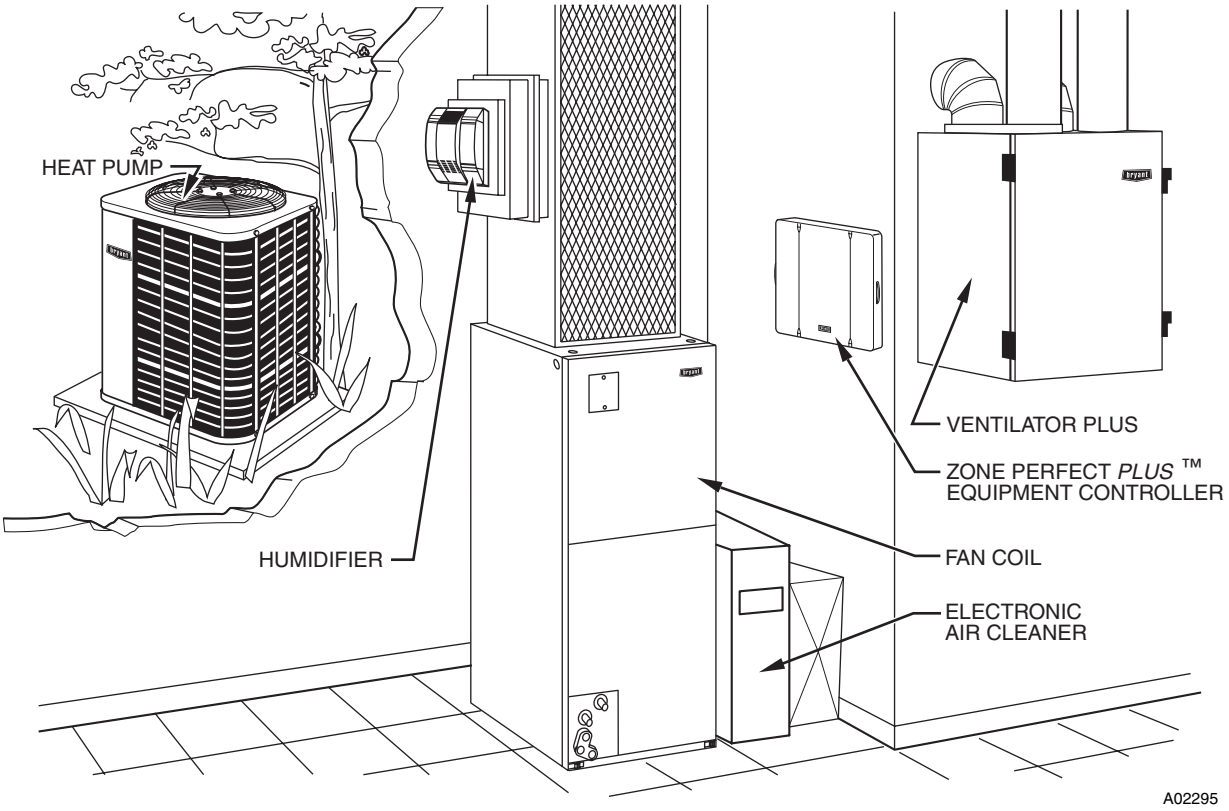
Field Multipoint Wiring of 24-and 30-Kw Single Phase

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

† 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%.
*** Heaters are Intelligent Heat capable when used with the FK, FV fan coils and corporate 2-speed programmable thermostat (TSTATBBP2S01-B), Thermidistat™ Control (TSTATBBPRH01-B), or Zone Perfect Plus.

NOTES: 1. For fan coil sizes 018-036.
2. For fan coil sizes 042-060 and all FK4D, FV4B sizes.
3. Single circuit application of F15 and F20 heaters requires single-point wiring kit accessory.

MATCHED SYSTEM



bryant
Heating & Cooling Systems

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

UNIT MUST BE INSTALLED IN ACCORDANCE
WITH INSTALLATION INSTRUCTIONS

Cancels: PDS FV4B.03.2
Form FV4B.03.3

PRINTED IN U.S.A. Catalog No. 12FV-4B2 9-03