

FE4A, FE5A Infinity™ Series
Communicating Variable-Speed Fan Coil
Puron® Refrigerant
Sizes 002 thru 006



Product Data

PREMIUM ENVIRONMENTALLY-SOUND FAN COIL



The latest in technology makes the FE4A and FE5A fan coil models the most advanced air handlers available. With attention to quiet, efficient, and comfortable operation, Carrier has developed a new benchmark for homeowner comfort and ease of installation.

The FE4A and FE5A utilize the Infinity™ Control as a required accessory to enable state of the art smart-diagnostics capability. This enables faster troubleshooting, providing ease of service and repair. The FE4A and FE5A also provide a 4-wire hook up with matching outdoor unit and the Infinity™ Control. This makes installation simpler and a lot quicker than with conventional fan coils. The FE4A and FE5A have advanced technology that allows the fan coil to self-configure with a matching outdoor unit and the Infinity™ Control, cutting down on installation time. ArmorCoat™ provides a tin plating of the indoor coil's copper hairpins. This creates a barrier between the corrosion-causing elements and the coil.

The FE4A and FE5A feature Puron® refrigerant, the chlorine-free alternate that is the future for the residential heating and cooling industry. The FE4A and FE5A using Puron® refrigerant maximize 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 FE4A and FE5A provide these benefits due to Carrier's command of Electronically Commutating Motor (ECM) technology. These motors are extremely efficient at all speeds, and enable the FE4A and FE5A 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 an ECM can deliver. For true comfort, the homeowner can achieve command of both temperature and humidity in cooling and heating modes.

Another feature which sets the FE4A and FE5A 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 FE4A and FE5A 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, pre-painted 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 FE4A and FE5A fan coils can't be beat.

FEATURES

Smart Diagnostics

- Self configuring (ease of installation)
- Easier troubleshooting, providing faster service and repair

Environmentally-Sound Refrigerant Technology

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

Energy Efficient Operation

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

Comfort Control

- Warm, comfortable heating air temperatures
- Unmatched humidity control

Airflow and Sound Technology

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

Condensate Control and Disposal Technology

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

Heat Transfer Technology

- Grooved copper tubing
- Lanced sine wave aluminum fins
- Discreet refined counterflow refrigerant circuitry
- Bi-flow hard-shutoff TXV metering device
- ArmorCoat™ coil protection available

Quality Assisting, Ease of Installation and Service Features

- Easy 4 wire hook up: convenient and reduces installation time.
- FE4A unit is multipoise
- FE5A unit is upflow/downflow only (single drain pan).
- Provision made for suspending from roof or ceiling joints
- Modular cabinet on sizes 003 through 006
- 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 plug connection provided for quick installation of accessory heater packages
- 40VA 208/230v transformer
- Replaceable 3-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 E 4 A N B 0 0 2 0 0 0

<p>Product F = Fan Coil</p> <p>Type E = Infinity™, VS, Puron® Refrigerant</p> <p>Position 4 = Multi-poise 5 = Upflow / Downflow</p> <p>Series A</p> <p>Electrical N = 208/230v, 1ph-60 Hz</p>	<p>Capacity 002 = 18-36,000 003 = 24-42,000 004 = 24-42,000 005 = 30-48,000 006 = 36-60,000</p> <p>Cabinet / Insulation B = Modular F = Single piece</p>	<p>Heating Size T00 = ArmorCoat™ 000 = No Heat</p>
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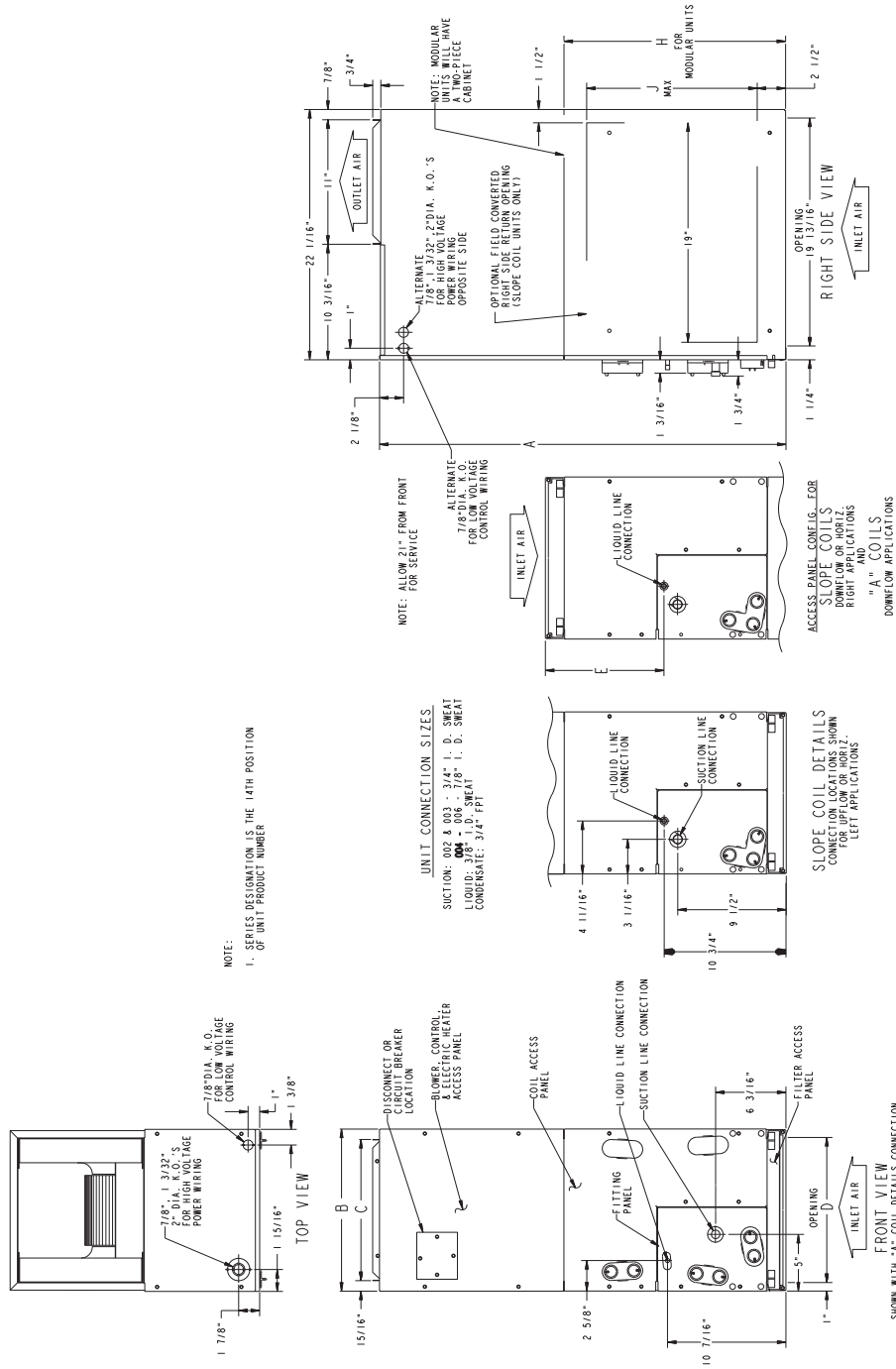
FE4A / FE5A



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



FE4A / FE5A



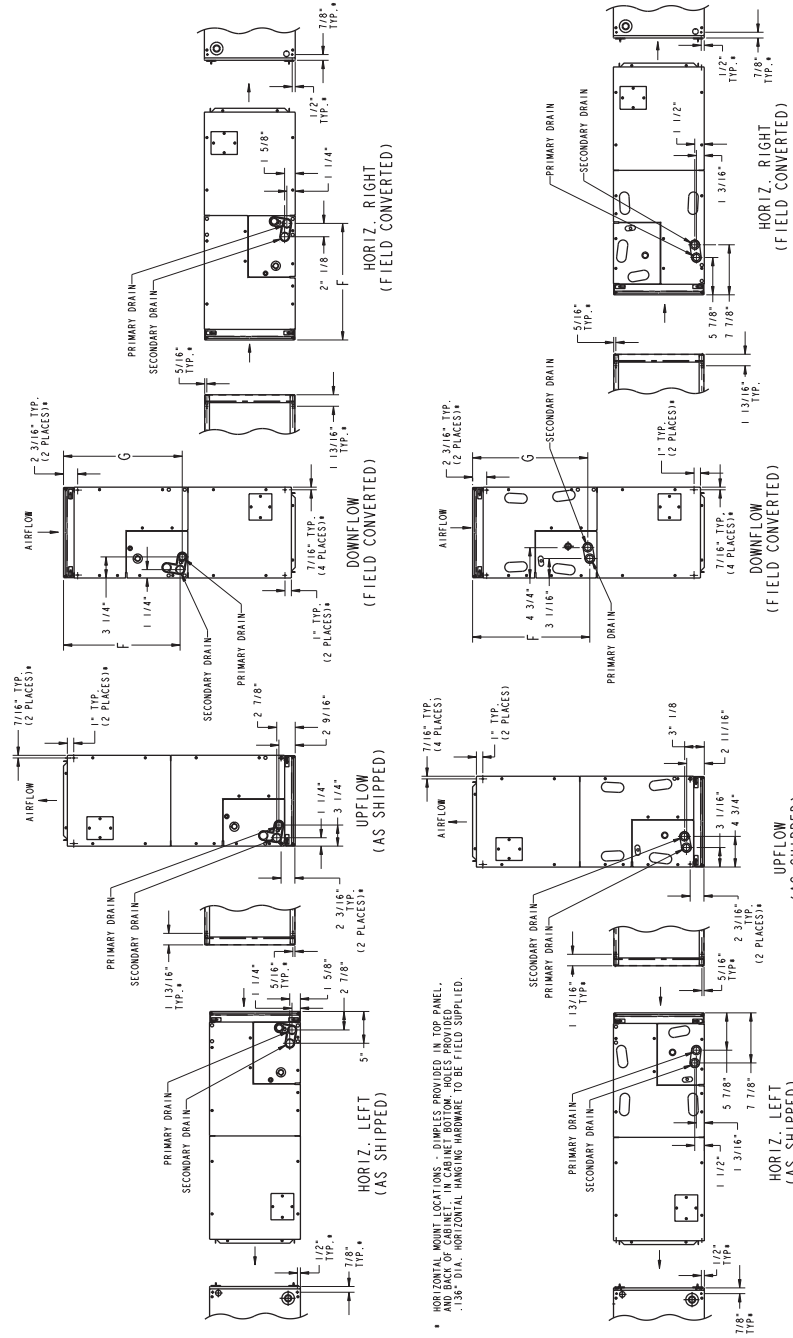
DIMENSIONS

UNIT	SIZE	A		B		C		D		E		H*	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
FE4A	002	42-11/16	1084	17-5/8	448	15-3/4	400	15-5/8	397	10-3/4	273		
FE4A	003	53-7/16	1357	21-1/8	537	19-1/4	489	19-1/8	486	19-3/16	487		
FE4A	003*	53-7/16	1357	21-1/8	537	19-1/4	489	19-1/8	486	19-3/16	487	28-5/16	719
FE4A	005	53-7/16	1357	21-1/8	537	19-1/4	489	19-1/8	486	19-1/2	495		
FE4A	005*	53-7/16	1357	21-1/8	537	19-1/4	489	19-1/8	486	19-1/2	495	28-5/16	719
FE4A	006*	59-3/16	1503	24-11/16	627	22-3/4	578	22-11/16	576	25-1/4	641	34-1/16	865
FE5A	004*	59-3/16	1503	24-11/16	627	22-3/4	578	22-11/16	576	25-1/4	641	34-1/16	865

* Modular Cabinet

SLOPE COIL

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



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

DIMENSIONS

UNIT	SIZE	F		G		COIL CONFIGURATION		SHIPPING WEIGHT
		in	mm	in	mm	Slope	"A"	
FE4A	002	18-9/16	472	18-1/4	464	—	Yes	135 / 61
FE4A	003	26-15/16	684	27-1/2	699	Yes	—	150 / 68
FE4A	003*	26-15/16	684	27-1/2	699	Yes	—	150 / 68
FE4A	005	27-1/4	692	26-15/16	684	—	Yes	172 / 78
FE4A	005*	27-1/4	692	26-15/16	684	—	Yes	172 / 78
FE4A	006*	32-15/16	837	32-5/8	829	—	Yes	207 / 94
FE5A	004*	32-15/16	837	32-5/8	829	—	Yes	200 / 91

* Modular Cabinet

FE4A / FE5A

PHYSICAL DATA

ORDERING NO.	FIELD-INSTALLED HEAT (kW)	NOMINAL COOLING CAPACITY (BTUH)	DIMENSIONS			SHIPPING WEIGHT lb / kg
			Height	Width	Depth	
FE4ANF002000 FE4ANF002T00	5, 8, 9, 10, 15, 20	18,000 to 36,000	42-11/16-in 84 mm	17-5/8-in 448 mm	22-1/16-in 560 mm	135 lb 61 kg
FE4ANF003000 FE4AN(B,F)003T00	5, 8, 9, 10, 15, 18, 20	24,000 to 42,000	53-7/16-in 1357 mm	21-1/8-in 537 mm	22-1/16-in 560 mm	150 lb 68 kg
FE4ANF005000 FE4AN(B,F)005T00	5, 8, 9, 10, 15, 18, 20, 24, 30	30,000 to 48,000	53-7/16-in 1357 mm	21-1/8-in 537 mm	22-1/16-in 560 mm	172 lb 78 kg
FE4ANB006000 FE4ANB006T00	8, 9, 10, 15, 18, 20, 24, 30	36,000 to 60,000	59-3/16-in 1503 mm	24-11/16-in 627 mm	22-1/16-in 560 mm	207 lb 94 kg
FE5ANB004T00	5, 8, 9, 10, 15, 18, 20	24,000 to 42,000	59-3/16-in 1503 mm	24-11/16-in 627 mm	22-1/16-in 560 mm	200 lb 91 kg

SPECIFICATIONS

MODEL	FE4A				FE5A
SIZE	002	003	005	006	004
COIL					
Refrigerant Metering Device	Puron® Refrigerant (R-410A) TXV				
TXV Size	2 Ton	3 Ton	4 Ton	4 Ton	3 Ton
Configuration	A	Slope	A	A	A
Rows—Fins/In.	3 / 14.5				
Face Area (Sq Ft)	3.46	3.46	5.93	7.42	7.42
MATCHES OUTDOOR UNIT SIZES					
Nominal Cooling Tons	1.5, 2, 2.5, 3	2, 2.5, 3, 3.5	2.5, 3, 3.5, 4	3, 3.5, 4, 5	2, 2.5, 3, 3.5
FAN					
Air Discharge	Upflow, Downflow, Horizontal				Upflow, Downflow
CFM/Ton (Nominal Clg/Htg)	350+				
Motor HP (ECM)	1/2	1/2	1/2	3/4	3/4
Filter	16-3/8-in (417 mm)	19-7/8-in (505 mm)	19-7/8-in (505 mm)	23-5/16-in (592 mm)	23-5/16-in (592 mm)
CABINET CONFIGURATION OPTIONS					
	1-piece	1-piece / Modular	1-piece / Modular	Modular	Modular

FE4A / FE5A

PERFORMANCE DATA

AIRFLOW DELIVERY — COOLING, HEATING, ELECTRIC HEATING MODES

The FE4 and FE5A fan coils will provide airflow at a rate that is requested by the Integrated System User Interface during air conditioning or heat pump heating (without electric heat) modes. The nominal airflow for both heating and cooling modes is 350 cfm/ton nominal size of the outdoor unit installed. The airflow actually requested by the User Interface is modified by its internal algorithms for zoning, comfort or efficiency concerns. Refer to the

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

FE4A/FE5A FAN COIL AIRFLOW DELIVERY CHART (CFM) — ELECTRIC HEATING MODELS

MODEL FE4A	OUTDOOR UNIT CAPACITY BTUH	ELECTRIC HEATER kW RANGE						
		5	9	10	15	20	24	30
002	EMERGENCY	625	625	675	775	950	—	—
	18,000	625	625	675	—	—	—	—
	24,000	650	725	775	900	—	—	—
	30,000	800	875	875	925	1125	—	—
	36,000	975	975	975	1025	1125	—	—
003	EMERGENCY	675	700	775	850	1050	—	—
	24,000	675	875	875	1100	1150	—	—
	30,000	800	875	875	1100	1150	—	—
	36,000	975	975	1025	1150	1250	—	—
	42,000	1125	1125	1125	1150	1350	—	—
005	EMERGENCY	675	700	775	850	1050	1400	1425
	30,000	800	875	875	1100	1150	—	—
	36,000	975	975	1025	1150	1250	—	—
	42,000	1125	1125	1125	1150	1250	—	—
	48,000	1305	1305	1305	1305	1350	1500	1600
006	EMERGENCY	1050	1050	1050	1050	1125	1750	1750
	36,000	1050	1050	1100	1350	1350	—	—
	42,000	1125	1125	1150	1350	1350	—	—
	48,000	1300	1300	1300	1350	1500	1750	1750
	60,000	1625	1625	1625	1625	1750	1750	1750
MODEL FE5A	OUTDOOR UNIT CAPACITY BTUH	ELECTRIC HEATER kW RANGE						
		5	9	10	15	20	24	30
004	EMERGENCY	675	775	775	900	1125	—	—
	24,000	975	975	975	—	—	—	—
	30,000	1050	1050	1100	1125	—	—	—
	36,000	1050	1050	1100	1350	1350	—	—
	42,000	1125	1125	1150	1350	1350	—	—

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

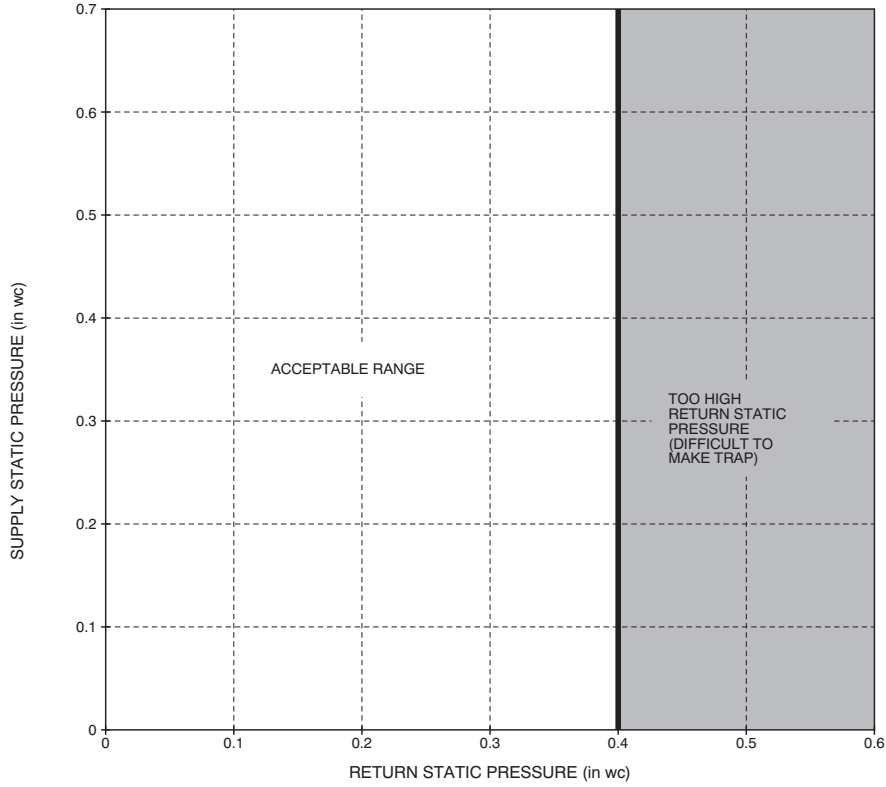
Note 2: These airflows are minimum airflows as UL listed.

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

FE4A / FE5A

ACCEPTABLE DUCT CONDITIONS

FE4A / FE5A



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.

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MINIMUM RPM TABLE

MODEL	SYSTEM SIZES	CFM RANGE	MIN RPM
FE4ANF002	018, 024, 030, 036	150 – 1200	300
FE4AN(B,F)003	024, 030, 036, 042	200 – 1400	285
FE4AN(B,F)005	030, 036, 042, 048	250 – 1600	275
FE4ANB006	036, 042, 048, 060	500 – 2000	275
FE5ANB004	024, 030, 036, 042	500 – 1400	275

MAXIMUM STATIC TABLE

MODEL	AIRFLOW DELIVERY	AVAILABLE STATIC PRESSURE
FE4ANF002	525 CFM	1.00 in wc
	700 CFM	1.00 in wc
	875 CFM	1.00 in wc
	1050 CFM	0.80 in wc
	1200 CFM	0.60 in wc
FE4AN(B,F)003	700 CFM	1.00 in wc
	875 CFM	1.00 in wc
	1050 CFM	1.00 in wc
	1225 CFM	1.00 in wc
	1400 CFM	0.80 in wc
FE4AN(B,F)005	875 CFM	1.00 in wc
	1050 CFM	1.00 in wc
	1225 CFM	1.00 in wc
	1400 CFM	1.00 in wc
	1600 CFM	0.50 in wc
FE4ANB006	1050 CFM	1.00 in wc
	1225 CFM	1.00 in wc
	1400 CFM	1.00 in wc
	1750 CFM	1.00 in wc
	2000 CFM	0.60 in wc
FE5ANB004	700 CFM	1.00 in wc
	875 CFM	1.00 in wc
	1050 CFM	1.00 in wc
	1225 CFM	1.00 in wc
	1400 CFM	1.00 in wc

CFM – Cubic Ft per Minute

EWB – Entering Wet Bulb (°F / °C)

LWB – Leaving Wet Bulb (°F / °C)

TC – Gross Cooling Capacity 1000 Btuh

SHC – Gross Sensible Capacity 1000 Btuh

BF – Bypass Factor

MBH – 1000 Btuh

NOTES:

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

SHC CORRECTION FACTOR

BYPASS FACTOR	ENTERING AIR DRY--BULB TEMPERATURE (°F)					
	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	

Interpolation is permissible.

Correction Factor = $1.09 \times (1 - BF) \times (db - 80)$

FE4A / FE5A

ESTIMATED SOUND POWER LEVEL (dBA)

MODEL SIZE	CONDITIONS		OCTAVE BAND CENTER FREQUENCY						
	CFM	ESP	63	125	250	500	1000	2000	4000
FE4ANF002	400	0.25	61.0	57.0	55.0	50.0	48.0	46.0	42.0
	600	0.25	62.7	58.7	56.7	51.7	49.7	47.7	43.7
	800	0.25	64.0	60.0	58.0	53.0	51.0	49.0	45.0
	1000	0.25	65.0	61.0	57.0	56.0	52.0	50.0	46.0
	1200	0.25	65.8	61.8	57.8	56.8	52.8	50.8	46.8
	1400	0.25	66.4	62.4	58.4	57.4	53.4	51.4	47.4
FE4ANF003	400	0.25	61.0	57.0	55.0	50.0	48.0	46.0	42.0
	600	0.25	62.7	58.7	56.7	51.7	49.7	47.7	43.7
	800	0.25	64.0	60.0	58.0	53.0	51.0	49.0	45.0
	1000	0.25	65.0	61.0	59.0	54.0	52.0	50.0	46.0
	1200	0.25	65.8	61.8	59.8	54.8	52.8	50.8	46.8
	1400	0.25	66.4	62.4	58.4	57.4	53.4	51.4	47.4
FE5ANB004	600	0.25	62.7	58.7	56.7	51.7	49.7	47.7	43.7
	800	0.25	64.0	60.0	58.0	53.0	51.0	49.0	45.0
	1000	0.25	65.0	61.0	59.0	54.0	52.0	50.0	46.0
	1200	0.25	65.8	61.8	59.8	54.8	52.8	50.8	46.8
	1400	0.25	66.4	62.4	60.4	55.4	53.4	51.4	47.4
	1600	0.25	67.0	63.0	61.0	56.0	54.0	52.0	48.0
FE4ANF005	400	0.25	61.0	57.0	55.0	50.0	48.0	46.0	42.0
	600	0.25	62.7	58.7	56.7	51.7	49.7	47.7	43.7
	800	0.25	64.0	60.0	58.0	53.0	51.0	49.0	45.0
	1000	0.25	65.0	61.0	59.0	54.0	52.0	50.0	46.0
	1200	0.25	65.8	61.8	59.8	54.8	52.8	50.8	46.8
	1400	0.25	66.4	62.4	58.4	57.4	53.4	51.4	47.4
FE4ANB006	600	0.25	62.7	58.7	56.7	51.7	49.7	47.7	43.7
	800	0.25	64.0	60.0	58.0	53.0	51.0	49.0	45.0
	1000	0.25	65.0	61.0	59.0	54.0	52.0	50.0	46.0
	1200	0.25	65.8	61.8	59.8	54.8	52.8	50.8	46.8
	1400	0.25	66.4	62.4	60.4	55.4	53.4	51.4	47.4
	1600	0.25	67.0	63.0	61.0	56.0	54.0	52.0	48.0
	1800	0.25	67.5	63.5	59.5	58.5	54.5	52.5	48.5
	2000	0.25	68.0	64.0	60.0	59.0	55.0	53.0	49.0
2150	0.25	68.3	64.3	60.3	59.3	55.3	53.3	49.3	

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

AIRFLOW PERFORMANCE CORRECTION FACTORS

HEATER KW	ELEMENTS	STATIC PRESSURE CORRECTION (in wc)	
		Sizes 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 FE4A airflow performance table was developed using fan coils with 10kW electric heaters (2 elements) in the units. For fan coils with heaters made up of a different number of elements, the external available static at a given CFM from the table may be corrected by adding or subtracting pressure. Use table for this correction.

FACTORY-INSTALLED FILTER STATIC PRESSURE DROP (in wc)

MODEL	CFM								
	400	600	800	1000	1200	1400	1600	1800	2000
FE4A	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	—	—	0.035	0.051	0.070	0.092	0.120	—	—
006	—	—	—	0.038	0.053	0.070	0.086	0.105	0.133
MODEL	CFM								
FE5A	400	600	800	1000	1200	1400	1600	1800	2000
004	—	0.015	0.026	0.038	0.053	0.070	—	—	—

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

MODEL	CFM										
	600	700	800	900	1000	1100	1200	1300	1400	1500	1600
FE4A	0.012	0.016	0.022	0.028	0.034	0.040	0.049	—	—	—	—
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										
006	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100
	0.013	0.016	0.018	0.020	0.023	0.027	0.030	0.034	0.039	0.044	0.048
MODEL	CFM										
FE5A	600	700	800	900	1000	1100	1200	1300	1400	1500	1600
004	0.004	0.005	0.007	0.009	0.011	0.013	0.016	0.018	0.020	0.023	—

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

UNITS WITHOUT ELECTRIC HEAT

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

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

FLA — Full Load Amps

ACCESSORY 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	—
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	—
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	—
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.

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

‡ Blower motor heat not included.

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.

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ACCESSORY ELECTRIC HEATER ELECTRICAL DATA

HEATER PART NO.	kW		P H A S E	INTERNAL CIRCUIT PROTEC- TION	HEATER AMPS 208/230V			BRANCH CIRCUIT								
	240v	208v			Single 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)‡‡		
						L1,L2	L3,L4	L1,L2	L3,L4	Single Circuit	Dual Circuit	Single Circuit	Dual Circuit	Single Circuit	Dual Circuit	Single Circuit
KFCEH0401N03	3	2.3	1	None	10.9/12.0	—	—	12/12	—	—	20/20	—	—	67/68	—	
KFCEH0501N05†	5	3.8	1	None	18.1/20.0	—	—	10/10	—	—	30/30	—	—	66/66	—	
KFCEH0501N05‡	5	3.8	1	None	18.1/20.0	—	—	8/8	—	—	35/35	—	—	85/88	—	
KFCEH2401C08†	5	3.8	1	CKT Bkr	18.1/20.0	—	—	10/10	—	—	30/30	—	—	66/66	—	
KFCEH2401C05‡	5	3.8	1	CKT Bkr	18.1/20.0	—	—	8/8	—	—	35/35	—	—	85/88	—	
KFCEH0801N08	8	6.0	1	None	28.9/32.0	—	—	8/8	—	—	45/50	—	—	59/60	—	
KFCEH2501C08	8	6.0	1	CKT Bkr	28.9/32.0	—	—	8/8	—	—	45/50	—	—	59/60	—	
KFCEH2901N09*	9	6.8	1	None	32.8/36.0	—	—	8/6	—	—	50/60	—	—	54/67	—	
KFCEH2901N09†‡	9	6.8	3	None	18.8/20.8	—	—	8/8	—	—	35/35	—	—	85/85	—	
KFCEH0901N10	10	7.5	1	None	36.2/40.0	—	—	6/6	—	—	60/60	—	—	78/80	—	
KFCEH2601C10	10	7.5	1	CKT Bkr	36.2/40.0	—	—	6/6	—	—	60/60	—	—	78/80	—	
KFCEH3001F15*	15	11.3	1	Fuse	54.2/59.9	36.2/40.0	18.1/20.0	4/4	6/6	10/10	80/90	60/60	25/25	86/89	75/76	
KFCEH5101C15*	15	11.3	1	CKT Bkr	—	36.2/40.0	18.1/20.0	—	6/6	10/10	—	60/60	25/25	—	78/80	75/76
KFCEH1601315	15	11.3	3	None	31.3/34.6	—	—	8/6	—	—	50/60	—	—	59/60	—	
KFCEH2001318	18	13.5	3	None	37.6/41.5	—	—	55.5/60.4	—	—	60/70	—	—	76/77	—	
KFCEH3201F20*	20	15.0	1	Fuse	72.3/79.9	36.2/40.0	36.2/40.0	3/2	6/6	8/8	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	—	6/6	8/8	—	60/60	50/50	—	78/80	59/59
KFCEH3401F24††	24	18.0	3	Fuse	50.1/55.4	—	—	71.2/77.8	—	—	80/80	—	—	94/95	—	—
KFCEH3401F24††	24	18.0	1	Fuse	86.7/95.5	—	—	116.9/127.9	—	—	125/150	—	—	115/116	—	—
KFCEH3501F30††	30	22.5	3	Fuse	82.6/89.2	—	—	86.8/95.0	—	—	90/100	—	—	97/88	—	—
KFCEH3501F30††	30	22.5	1	Fuse	109.0/120.0	—	—	144.8/158.5	—	—	150/175	—	—	117/150	—	—

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

HEATER PART NO.	kW		P H A S E	HEATER AMPS 208/230V			MIN AMPACITY 208/230V**			MIN WIRE SIZE (AWG) 208/230V††			MIN GND WIRES 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	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	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	10/10	60/60	50/50	50/50	78/80	59/59	59/59	

* Heaters are Intelligent Heat capable when used with the FE 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 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 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.

SMARTSOURCE™ HYDRONIC ACCESSORY COILS

MODEL	HEATING CAP. (BTU)	NO. OF ROWS	FLOW RATE (GPM)	HEIGHT	WIDTH	DEPTH	FAN COIL SIZE USED WITH
HC2AXX017050	50,000	2	3.0 – 6.0	18–in (457 mm)	18–in (457 mm)	18–in (457 mm)	002
HC3AXX017065	65,000	3					
HC2AXX021070	70,000	2	5.0 – 8.0	18–in (457 mm)	18–in (457 mm)	22–in (559 mm)	003, 005
HC3AXX021090	90,000	3					
HC2AXX024080	80,000	2		18–in (457 mm)	18–in (457 mm)	26–in (660 mm)	004, 006
HC3AXX024100	100,000	3					
KFAIF0101HWC*	NA	NA	NA	NA	NA	NA	ALL (required)

* Relay Interface Kit – Hydronic Kit This kit provides identification of the auxiliary or primary heating devise as a boiler or hot water coil and relay to operate the boiler or hot water coil. SUGGESTED USE: All fan coils installed with SmartSource™ Hydronic coils.

REQUIRED ACCESSORY

ITEM	ACCESSORY PART NO.*	FAN COIL SIZE USED WITH
1.	Infinity™ Series User Interface	SYSTXCCUID01–B
	or	
	Infinity™ Series Zone Control	SYSTXCCUIZ01–B

ADDITIONAL ACCESSORIES

ITEM	ACCESSORY PART NO.*	FAN COIL SIZE USED WITH
2.	Infinity™ Series 4 Zone Board	SYSTXCC4ZC01
3.	Infinity™ Series Smart Sensor	SYSTXCCSMS01
4.	Infinity™ Series System Access Module	SYSTXCCSAM01
5.	Infinity™ Series Network Interface Module	SYSTXCCNIM01
6.	Disconnect Kit	KFADK0201DSC
7.	Downflow Base Kit	KFACB0201CFB
		KFACB0301CFB
		KFACB0401CFB
8.	Downflow Conversion Kit	KFADC0201SLP
		KFADC0401ACL
9.	Single–Point Wiring Kit	KFASP0101SPK
10.	Filter Kit (12 Pack)	KFAFK0212MED
		KFAFK0312LRG
		KFAFK0412XXL
11.	Filter Media Cabinet	FNCCABCC0017
		FNCCABCC0021
		FNCCABCC0024
12.	Media Filter Cartridges	FILCCFNC0017
		FILCCFNC0021
		FILCCFNC0024
13.	Infinity™ Series Air Purifier	GAPABXCC1620
		GAPABXCC2020
		GAPABXCC2024
14.	PVC Condensate Trap Kit (50 pack)	KFAET0150ETK
15.	Air Cleaner 240–volt Conversion Kit	KEAVC0201240
16.	Downflow/Horizontal Conversion Gasket Kit	KFAHD0101SLP
17.	Airflow Sensor Kit (Air Cleaner)	KEAAC0101AAA
18.	Horizontal Water Management Kit (25 pack)	KFAHC0125AAA

* Factory authorized and listed, field installed.

Accessory Kits Description Suggested and Required Use

1. Infinity™ Series User Interface

Deluxe 7–Day Programmable wall–mounted system control.

REQUIRED USE: For all single–zone systems.

or

Infinity™ Series Zone Control

Deluxe Zoning 7–Day Programmable wall–mounted control.

REQUIRED USE: For all multi–zone systems.

2. Infinity™ Series 4 Zone Board

4–Zone Damper Control Module wall–mounted control.

REQUIRED USE: For all four–zone systems. For systems with 5 to 8 zones, a second Damper Control Module is required.

3. Infinity™ Series Smart Sensor

Wall control used to monitor temperature and/or fan control.

SUGGESTED USE: For use in zone systems.

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4. **Infinity™ Series System Access Module**
Hardware for wireless access and control via phone or internet.
SUGGESTED USE: For all systems where remote access is desired.
5. **Infinity™ Series Network Interface Module**
Connects Heat Recovery and Energy Recovery Ventilators on non-zoning applications and non-communicating 2-speed units.
REQUIRED USE: For non-zoned systems installed with HRV or ERV, Hybrid Heat with non-communicating heatpumps or non-communicating 2-speed units.
6. **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.
7. **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.
8. **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.
9. **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.
10. **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.
11. **Filter Media 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.
SUGGESTED USE: All fan coils.
12. **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.
13. **Infinity™ Series Air Purifier**
The Infinity Series Air Purifier wires directly to fan coil and requires no duct transitions with Carrier units. It comes with an airflow sensor.
SUGGESTED USE: All fan coils.
14. **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.
15. **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.
16. **Downflow/Horizontal Conversion Gasket Kit**
This kit provides the proper gasketing of units when applied in either a downflow or horizontal application.
REQUIRED USE: Fan coils in either downflow or horizontal applications.
17. **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.
18. **Horizontal Water Management Kit**
This kit provides proper installation of fan coils under conditions of high static pressure and high relative humidity.
SUGGESTED USE: All fan coils (except FE5 and FF1).