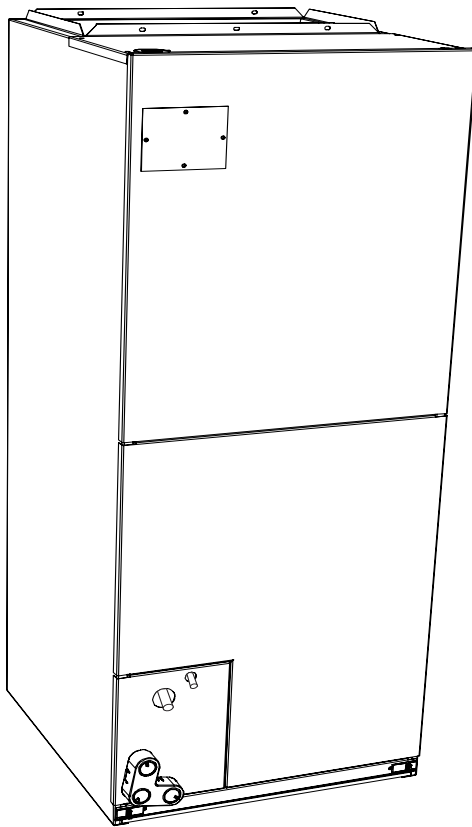




## DIRECT EXPANSION FAN COIL

**FA4B**  
**FB4B**  
**FC4C**

Sizes 018 thru 070



A02305

### Air Handling Technology At Its Finest

The FA4B, FB4B, and FC4C direct expansion fan coils are designed to cover a wide range of air handling requirements. They are compact and ready to fit where needed—in the basement, crawl-space, attic, utility room, or closet.

All units come with solid-state fan controls, 1-in. thick insulation with an R value of 4.2, super-quiet multispeed motors, and fully wettable coils. Units can accommodate factory- or field-installed heaters from 3- to 30-kw.

The FA4B is a residential new construction (RNC) model available with or without factory-installed disconnects. It has an pre-painted galvanized insulated steel casing, 2-speed motor in 018 through 036 sizes, and 3-speed motor in 042 through 060 sizes. The FA4B is equipped with a Check-Flo-Rater® metering device.

The FB4B is a standard fan coil. It comes in a pre-painted galvanized steel casing with 1-in. thick insulation and has a 3-speed motor in the full range of sizes 018 through 070. All FB4B units are equipped with a Check-Flo-Rater® metering device and are also shipped with a cleanable, permanent framed filter.

The FC4C is a deluxe design fan coil incorporating all the features found in the FB4B. In addition, it has a hard shut-off thermostatic expansion valve (TXV) metering device with internal check valve for reverse-flow bypass capability. The FC4C is available in sizes 024 through 070.

## STANDARD FEATURES

- Grooved copper tubing
- Lanced sine-wave aluminum fin
- Fully wettable coil
- High-impact thermoplastic condensate pan
- Primary and secondary drain connections with brass inserts
- Multipoise design for maximum versatility
- 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
- Field-installed heater packages from 3–30 kw (fused, circuit breaker, or non-fused)
- Control board with built-in, replaceable 5-amp blade-type auto fuse
- Cooling controls
- Time-delay relay (TDR)
- High-density, super thick R 4.2 insulation
- Newly improved filter rack area—filter door insulation added for an improved air seal
- Sweat connections
- Inspection plate for cleaning A-coil design
- HUD approved for manufactured housing
- 40-VA, 208/230v transformer
- All models listed with UL, (U.S. and Canada) and ARI
- Pre-painted galvanized steel cabinet

## ADDITIONAL FEATURES

### FA4B

- 018-060 sizes—available with and without factory-installed disconnect
- Check-Flo-Rater® metering device
- 2-speed motor in 018 through 036 sizes
- 3-speed motor in 042 through 060 sizes
- Factory-installed heaters available

### FB4B

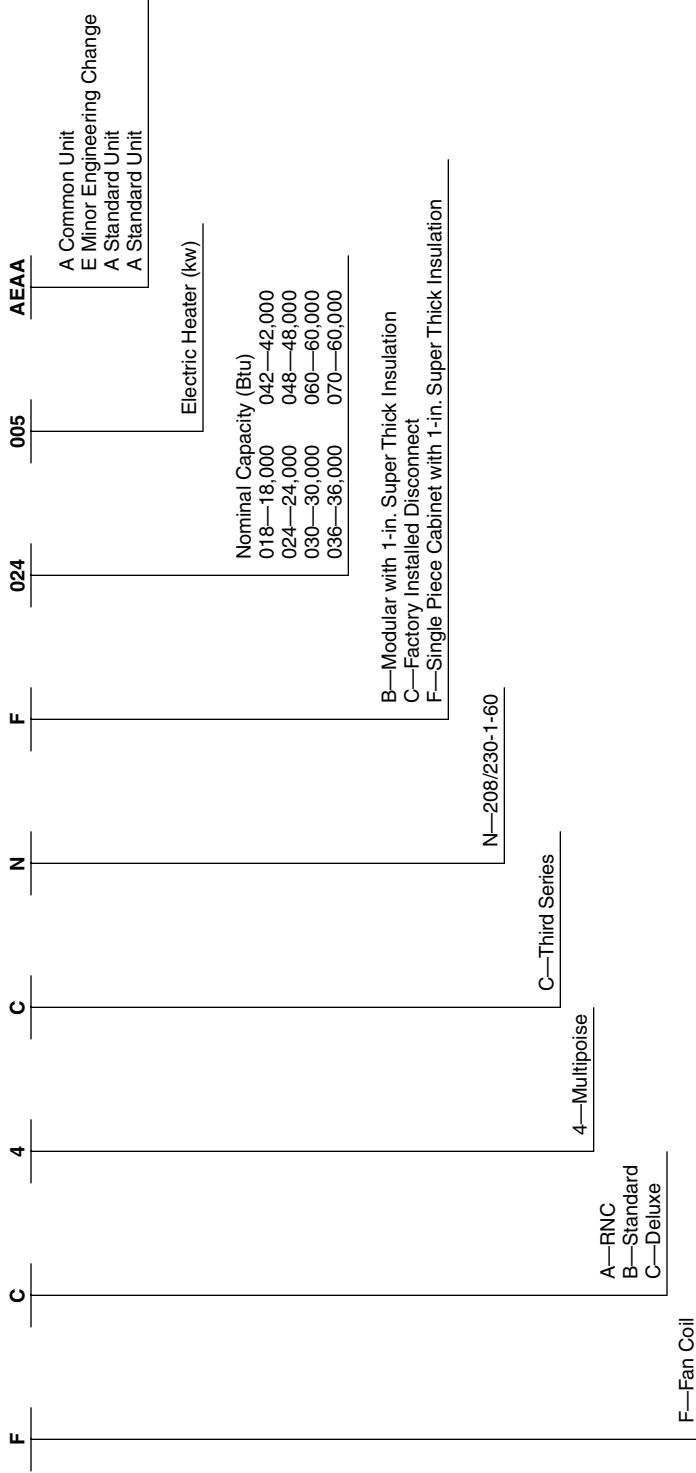
- 018-070 sizes
- Check-Flo-Rater® metering device
- 3-speed motor on all sizes 018 through 070
- Modular version available in 042 through 070 sizes\*
- Factory-supplied, cleanable, permanent framed filter
- Factory-supplied power plug
- Factory-installed heaters available
- Multiple electric entry

### FC4C

- 024-070 sizes
- Factory-installed TXV metering device
- 3-speed motor on all sizes 024 through 070
- Modular version available in 054 and 070 sizes\*
- Factory-supplied, cleanable, permanent framed filter
- Factory-supplied power plug
- Multiple electric entry

\* See page 6 for Cabinet Configuration Options

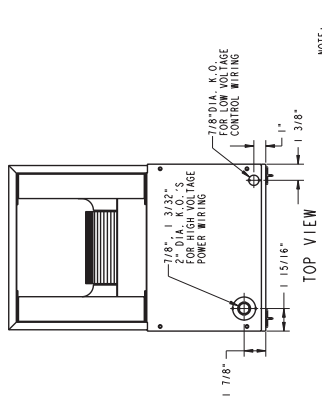
# MODEL NUMBER NOMENCLATURE



REGISTERED  
QUALITY  
SYSTEM

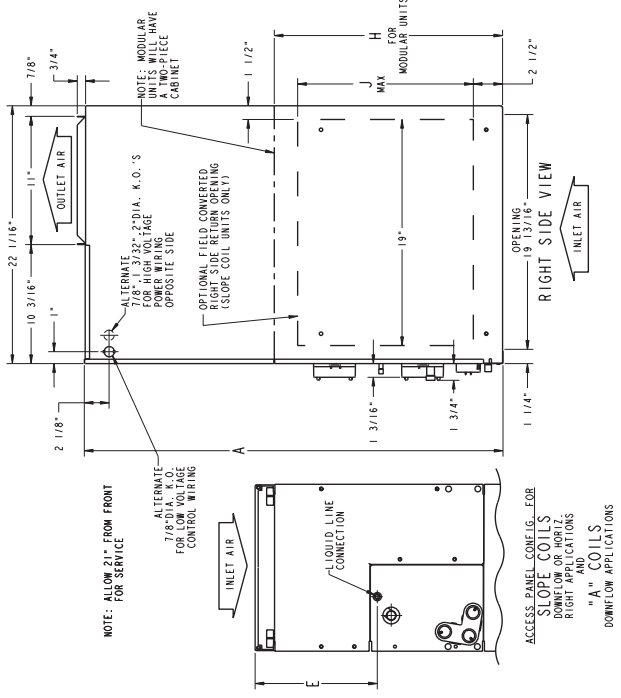


CERTIFICATION APPLIES ONLY WHEN THE COMPLETE SYSTEM IS LISTED WITH ARI.



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

**UNIT CONNECTION SIZES**  
 SUCTION: 018 & 034 - 5/8" I. D. SWEAT  
 036 & 036 - 3/4" I. D. SWEAT  
 LIQUIDS: 042 THRU 080 - 7/8" I. D. SWEAT  
 COMPRESSORS: 3/4" PPI



NOTE: ALLOW 21" FROM FRONT FOR SERVICE

ALTERNATE 7/8" DIA. K.O. FOR CONTROL WIRING

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ALTERNATE 7/8" DIA. K.O. FOR CONTROL WIRING

NOTE: MODULAR UNITS WILL HAVE A PIECE OF CABINET

OPTIONAL FIELD CONVERTED RIGHT SIDE RETURN OPENING (SLOPE COIL UNITS ONLY)

ACCESS PANEL CONFIG. FOR SLOPE COILS DOWNFLOW OR HORIZ. APPLICATIONS

"A" COILS DOWNFLOW APPLICATIONS

SLOPE COIL DETAILS CONNECTION LOCATIONS SHOWN FOR LEFT APPLICATIONS

"A" COILS DOWNFLOW APPLICATIONS

SLOPE COIL DETAILS CONNECTION LOCATIONS SHOWN FOR LEFT APPLICATIONS

"A" COILS DOWNFLOW APPLICATIONS

SLOPE COIL DETAILS CONNECTION LOCATIONS SHOWN FOR LEFT APPLICATIONS

"A" COILS DOWNFLOW APPLICATIONS

SLOPE COIL DETAILS CONNECTION LOCATIONS SHOWN FOR LEFT APPLICATIONS

"A" COILS DOWNFLOW APPLICATIONS

## DIMENSIONS

UNIT SIZE*	COIL TYPE	A		B		C		D		E		Ht		J	
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
018, 024	Slope	42-11/16	1084.3	14-5/16	363.5	12-7/16	316.0	12-5/16	312.7	10-7/16	265.1	—	—	12.0	304.8
030	Slope	47-11/16	1211.5	17-5/8	447.5	15-3/4	400.1	15-5/8	396.9	15-3/8	390.5	—	—	17.0	431.8
036	Slope	49-5/8	1260.5	17-5/8	447.5	15-3/4	400.1	15-5/8	396.9	15-3/8	390.5	—	—	17.0	431.8
042	Slope	53-7/16	1357.3	21-1/8	536.5	19-1/4	489.0	19-1/8	485.8	19-3/16	487.0	28-5/16	719.1	19.0	482.6
048	A	49-5/8	1260.5	21-1/8	536.5	19-1/4	489.0	19-1/8	485.8	15-11/16	398.3	—	—	—	—
048 MODULAR UNITS	A	53-7/16	1357.3	21-1/8	536.5	19-1/4	489.0	19-1/8	485.8	19-1/2	495.3	28-5/16	719.1	—	—
038, 060	A	53-7/16	1357.3	21-1/8	536.5	19-1/4	489.0	19-1/8	485.8	19-1/2	495.3	28-5/16	719.1	—	—
054, 070	A	59-3/16	1503.4	24-11/16	627.0	22-3/4	577.9	22-11/16	576.2	25-1/4	641.5	34-1/16	863.2	—	—

\* Descriptions and dimensions apply to all versions (FA4B, FB4B, and FC4C), unless otherwise specified.

† Applicable to modular units only.



## SPECIFICATIONS

MODEL FA4B	018	024	030	036	042	048	060	—	—
<b>FB4B</b>	<b>018</b>	<b>024</b>	<b>030</b>	<b>036</b>	<b>042</b>	<b>048</b>	<b>060</b>	—	<b>070</b>
<b>FC4C*</b>	—	<b>024</b>	<b>030</b>	<b>036</b>	<b>042</b>	<b>048</b>	<b>060</b>	<b>054</b>	<b>070</b>
OPERATING WT (Lb) FA	92	100	117	118	137	150	167	—	—
FB/FC	96	112	120	127	146	157	175	—	201
REFRIGERANT METERING DEVICE	Bypass Check-Flo-Rater (FA4B, FB4B); TXV Factory Installed on FC4C*								
PISTON SIZE	55	63	70	76	84	88	96	—	101
TXV SIZE †	—	2 ton	2-1/2 ton	3 ton	3 ton	4 ton	5 ton	4 ton	5 ton
<b>COIL</b>									
Rows and Fins Per In.	2 and 14.5	3 and 14.5	3 and 14.5	3 and 14.5	3 and 14.5	3 and 14.5	3 and 14.5	3 and 14.5	3 and 14.5
Face Area (Sq Ft)	2.23	2.23	2.97	2.97	3.46	4.45	5.93	7.42	7.42
Configuration	Slope	Slope	Slope	Slope	Slope	A	A	A	A
<b>FAN</b>									
Air Discharge CFM (Nominal) Motor Hp (PSC)	650 1/5‡	850 1/4	1100 1/3‡	1300 1/3	1500 1/2	1700 3/4	2000 3/4	1700 1/2	2000 3/4
FILTER (In.)**	21-1/2 x 13		21-1/2 x 16-3/8		21-1/2 x 19-7/8			21-1/2 x 23-5/16	

\* Fan coil units with hard shut-off TXV may require compressor hard start components. Refer to outdoor unit specifications.

† FC4B factory-installed TXV is hard shut-off, bypass flow-type for heat pump application.

‡ FA4B018 has a 1/10 HP motor.

FA4B030 has a 1/4 HP motor.

\*\* Filters must be field supplied for FA4B products. (See Accessory Kits.)

**NOTE:** Descriptions and dimensions apply to all versions (FA4B, FB4B, FC4C, etc.), unless otherwise specified.

## CABINET CONFIGURATION OPTIONS

SIZE		018	024	030	036	042	048	060	054	070
<b>MODEL</b>	FA4B	1-piece	1 piece	1 piece	1 piece	1 piece	1 piece	1 piece	—	—
	FB4B	1 piece	1 piece	1 piece	1 piece	1 piece or Modular	1-piece or Modular	1-piece or Modular	—	Modular
	FC4C	—	1 piece	1 piece	1 piece	1 piece	1 piece	1 piece	Modular	Modular

# PERFORMANCE DATA

## AIRFLOW PERFORMANCE (CFM)


MODEL AND SIZE	BLOWER MOTOR SPEED	TOTAL EXTERNAL STATIC PRESSURE (IN. WC)											
		0.10		0.20		0.30		0.40		0.50		0.60	
		208V	230V	208V	230V	208V	230V	208V	230V	208V	230V	208V	230V
FA4B 018	High	660	725	615	675	565	625	500	565	405	470	—	—
	Low	585	650	540	605	490	555	420	485	345	395	—	—
FB4B 018	High	860	925	815	870	765	820	715	760	645	690	550	600
	Medium	650	740	625	705	585	660	545	620	480	555	385	450
	Low	565	650	535	620	500	590	460	545	405	480	330	385
FA4B 024	High	940	975	890	925	835	865	780	805	715	735	635	650
	Low	820	900	785	855	745	805	700	750	640	680	545	575
FB4B, FC4C 024	High	945	975	900	930	840	870	780	805	695	725	560	595
	Medium	835	900	795	855	745	800	690	740	610	650	470	510
	Low	605	695	575	665	530	625	485	580	425	510	340	395
FA4B 030	High	1075	1170	1030	1115	985	1055	920	990	850	910	750	805
	Low	825	960	810	935	790	890	750	845	690	780	590	680
FB4B, FC4C 030	High	1260	1305	1200	1245	1135	1170	1065	1110	985	1015	880	900
	Medium	1055	1170	1020	1115	980	1055	930	1000	960	920	755	810
	Low	830	950	805	925	780	890	740	850	685	790	595	700
FA4B 036	High	1320	1405	1265	1345	1205	1280	1135	1210	1060	1120	960	1025
	Low	1100	1215	1070	1170	1020	1115	960	1060	890	980	805	895
FB4B, FC4C 036	High	1485	1550	1425	1490	1365	1420	1300	1350	1230	1275	1150	1190
	Medium	1235	1380	1200	1325	1160	1265	1110	1210	1055	1140	985	1070
	Low	1035	1185	1010	1150	980	1115	940	1070	890	1010	825	935
FA4B, FB4B, FC4B 042	High	1580	1710	1540	1655	1495	1595	1440	1530	1375	1445	1290	1355
	Medium	1400	1570	1375	1525	1350	1480	1305	1425	1255	1360	1175	1280
	Low	1195	1375	1180	1350	1165	1325	1135	1285	1085	1240	1020	1160
FA4B, FB4B, FC4B 048	High	1880	1935	1785	1830	1700	1735	1615	1645	1520	1555	1430	1460
	Medium	1740	1840	1660	1750	1585	1660	1510	1575	1435	1485	1350	1390
	Low	1425	1605	1395	1555	1360	1495	1315	1430	1255	1360	1170	1270
FA4B, FB4B, FC4B 060	High	2145	2245	2085	2185	2030	2115	1965	2045	1905	1975	1830	1895
	Medium	2025	2175	1970	2110	1915	2050	1860	1980	1805	1905	1740	1830
	Low	1680	1895	1655	1855	1625	1810	1595	1765	1555	1705	1500	1645
FB4B, FC4C 070	High	2205	2285	2130	2205	2050	2120	1960	2025	1875	1930	1790	1825
	Medium	1880	2075	1845	2015	1795	1945	1745	1870	1675	1790	1595	1700
	Low	1570	1825	1560	1795	1545	1745	1520	1700	1480	1640	1420	1565
FC4C 038	High	1570	1700	1525	1645	1475	1580	1420	1515	1355	1440	1285	1360
	Medium	1215	1420	1180	1380	1150	1340	1110	1290	1060	1240	1000	1170
	Low	1020	1200	995	1185	960	1130	925	1090	880	1040	835	980
FC4C 054	High	1680	1810	1620	1740	1545	1660	1480	1580	1405	1495	1320	1405
	Medium	1475	1640	1430	1580	1360	1510	1305	1440	1240	1360	1170	1295
	Low	1260	1430	1230	1380	1190	1315	1140	1275	1100	1220	1030	1140


**NOTES:** 1. Airflow based upon dry coil at 230v with factory approved filter and electric heater (2 element heater, sizes 018 through 036; 3 element heater, sizes 042 through 060).

2. To avoid potential for condensate blowing out of drain pan prior to making drain trap:

—Return static pressure must be less than 0.4 in wc

—Horizontal applications of 048-070 sizes must have supply static greater than 0.20 in. wc.

 Airflow outside max ARI airflow of 450 cfm/ton on 081-154 sizes

 Airflow above 400 cfm/ton on 060-070 sizes. Airflow in this region could result in condensate blowing off coil or splashing out of drain pan.

## PERFORMANCE DATA Continued

### MINIMUM CFM AND MOTOR SPEED SELECTION

FAN COIL SIZES FA, FB, FC	HEATER KW									
	3	5	8	9	10	15	18	20	24	30
018	525	525	525	—	600*	—	—	—	—	—
024	700	700	700	—	700	775*	—	—	—	—
030	—	875	875	—	875	875	—	1060*	—	—
036	—	1050	970	970	970	920	—	1040	—	—
042	—	—	1225	1225	1225	1225	1225	1225	—	—
048, 054	—	—	1400	1400	1400	1400	1400	1400	1400	1400
060, 070	—	—	1750	1750	1750	1750	1750	1750	1750	1750

\* Indicates medium speed (blue). All other motor speeds at low tap.

### FACTORY-INSTALLED FILTER STATIC PRESSURE DROP (IN. WC)

UNIT SIZE	CFM								
	400	600	800	1000	1200	1400	1600	1800	2000
018	0.02	0.044	0.075	—	—	—	—	—	—
024	—	0.044	0.075	0.110	—	—	—	—	—
030	—	—	0.048	0.072	0.100	—	—	—	—
036	—	—	—	0.072	0.100	0.130	—	—	—
042	—	—	—	—	0.070	0.092	0.120	—	—
048	—	—	—	—	—	0.092	0.120	0.152	—
060	—	—	—	—	—	—	0.120	0.152	0.187
054, 070	—	—	—	—	—	—	0.086	0.105	0.130

### ELECTRIC HEATER STATIC PRESSURE DROP (IN. WC)

018–036

HEATER ELEMENTS	KW	EXTERNAL STATIC PRESSURE CORRECTION
0	0	+0.02
1	3, 5	+0.01
2	8,10	0
3	9,15	-0.02
4	20	-0.04

042–070

HEATER ELEMENTS	KW	EXTERNAL STATIC PRESSURE CORRECTION
0	0	+0.04
2	8,10	+0.02
3	9,15	0
4	20	-0.02
6	18, 24, 30	-0.10

The airflow performance data was developed using fan coils with 10-kw electric heaters (2 elements) in the 018 through 036 size units and 15-kw heaters (3 elements) in the 042 through 070 size units. For fan coils with heaters of a different number of elements, the external available static at a given CFM from the curve may be corrected by adding or subtracting available external static pressure as indicated above.

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

UNIT SIZE	CFM									
	500	600	700	800	900	1000	1100	1200	1300	1350
018	0.023	0.034	0.044	—	—	—	—	—	—	—
024	0.035	0.051	0.066	0.080	0.091	—	—	—	—	—
030	—	—	—	0.051	0.063	0.073	0.081	—	—	—
036	—	—	—	—	—	0.073	0.081	0.091	0.098	0.102

UNIT SIZE	CFM								
	1200	1300	1400	1500	1600	1700	1800	1900	2000
042	0.075	0.083	0.091	0.098	—	—	—	—	—
048	—	—	0.066	0.073	0.080	0.086	0.091	—	—
038, 060	—	—	—	—	0.051	0.057	0.063	0.069	0.073
054, 070	—	—	—	—	0.030	0.034	0.039	0.044	0.053

**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.



**PERFORMANCE DATA Continued**  
**GROSS COOLING CAPACITIES (MBH)**

UNIT	EVAPORATOR AIR CFM AND BF	COIL REFRIGERANT TEMPERATURE (°F)*														
		35			40			45			50			55		
		Evaporator Air — Entering Wet-Bulb Temp (°F)														
		72	67	62	72	67	62	72	67	62	72	67	62	72	67	62
FA4B, FB4B 018	400	28	23	19	25	21	16	22	17	13	19	14	11	15	10	9
	0.08	13	14	15	12	13	14	11	12	12	10	10	11	8	9	9
	500	31	26	21	28	23	18	25	20	15	21	16	13	17	12	11
	0.10	15	16	18	14	15	16	12	14	15	11	12	13	9	10	10
	600	33	28	23	31	25	20	27	22	17	23	17	14	19	13	12
	0.13	16	18	20	15	17	18	13	15	16	12	14	14	10	12	12
FA4B, FB4B, FC4C 024	650	34	29	24	32	26	21	28	22	18	24	18	15	19	13	13
	0.14	16	19	21	15	17	19	14	16	17	13	14	15	11	12	13
	600	39	33	27	36	29	23	31	24	18	27	19	15	21	14	12
	0.05	19	20	22	17	19	20	15	16	17	13	14	15	11	12	12
	700	42	35	29	38	31	25	34	27	20	29	21	17	23	16	14
	0.06	20	22	24	18	20	22	17	18	20	15	16	17	13	14	14
FA4B, FB4B, FC4C 030	875	47	39	32	42	35	28	38	30	23	32	24	20	26	18	17
	0.08	22	25	28	21	23	26	19	21	23	17	19	20	15	16	17
	750	48	40	32	44	35	28	38	30	23	32	24	18	26	17	15
	0.04	23	25	26	21	22	24	19	20	21	16	18	18	14	15	15
	900	53	44	36	48	39	31	42	33	25	36	27	21	28	19	17
	0.06	25	28	30	23	25	27	21	23	24	18	20	21	16	17	17
FA4B, FB4B, FC4C 036	1075	58	48	39	52	42	34	46	36	28	39	29	24	31	21	20
	0.07	27	31	33	25	28	31	23	25	27	20	22	24	17	19	20
	800	53	43	35	48	38	29	41	31	23	34	25	18	27	18	15
	0.05	25	27	28	23	24	25	20	21	22	17	19	18	15	16	15
	900	58	47	38	52	41	32	45	34	26	37	27	20	29	19	16
	0.06	27	30	31	25	27	28	22	24	25	19	21	20	16	17	16
FA4B, FB4B, FC4C 042	1100	65	54	43	58	47	36	51	39	29	43	31	24	33	22	20
	0.07	31	34	36	28	31	33	25	28	29	22	24	24	19	20	19
	1300	71	59	48	64	51	41	56	43	33	47	35	27	37	25	22
	0.09	34	38	41	31	35	37	28	31	32	25	28	27	21	23	22
	1000	69	57	46	62	50	39	54	42	31	45	33	25	35	23	20
	0.05	33	35	37	30	32	33	26	28	29	23	24	25	19	20	20
FA4B, FB4B, FC4C 048	1200	77	63	51	69	55	44	61	47	35	51	37	29	39	26	24
	0.07	36	39	42	33	36	38	29	32	34	26	28	29	22	23	24
	1350	82	68	55	74	59	46	65	50	38	54	39	31	42	28	26
	0.08	39	43	46	35	39	41	32	35	37	28	30	31	23	26	26
	1530	87	72	59	79	64	50	69	53	41	58	42	34	46	30	28
	0.09	41	46	50	38	42	45	34	38	40	30	33	34	26	28	28

See notes on page 11.

## GROSS COOLING CAPACITIES (MBH) Continued

UNIT	EVAPORATOR AIR CFM AND BF	COIL REFRIGERANT TEMPERATURE (°F)*														
		35			40			45			50			55		
		Evaporator Air—Entering Wet-Bulb Temp (°F)														
		72	67	62	72	67	62	72	67	62	72	67	62	72	67	62
FA4B, FB4B 060 FC4C 060	1300	91	74	60	81	65	51	72	55	41	60	44	31	48	31	26
	0.03	43	46	48	39	41	43	35	37	38	30	32	31	25	27	26
	1600	104	85	69	94	76	59	83	64	47	70	51	38	55	37	31
	0.05	49	53	57	45	49	51	40	44	45	35	38	38	30	32	31
	1750	109	91	73	99	80	63	87	68	51	74	54	41	58	39	33
	0.05	52	57	61	47	52	55	43	47	49	38	41	41	32	35	33
FB4B 070 FC4C 054, 070	1300	93	77	63	84	69	52	75	58	43	64	46	33	50	32	27
	0.02	44	47	50	40	43	45	36	38	39	31	33	33	26	27	27
	1600	104	87	72	95	78	61	85	67	50	73	53	40	58	38	34
	0.03	50	54	58	46	50	53	41	45	47	36	39	40	31	33	33
	1750	109	91	75	100	82	65	89	70	53	76	57	44	61	41	36
	48	52	57	62	48	53	57	43	48	51	39	42	43	33	36	36
2000	116	98	81	106	87	70	95	75	58	82	61	49	67	45	40	
	0.05	55	62	68	51	57	62	47	52	56	42	46	49	36	40	40

\* Saturated suction leaving evaporator coil.

Sensible Heat Capacity (1000 Btuh)

Gross Cooling Capacity (1000 Btuh)

**BF**—Bypass Factor

**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 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
	<b>Correction Factor</b>					
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)

## ELECTRIC HEATERS

HEATER PART NO.	KW @ 240V	VOLTS/PHASE	STAGES (KW OPERATING)	INTERNAL CIRCUIT PROTECTION	FAN COIL SIZE USED WITH	HEATING CAP.** @ 230V
KFCEH0401N03	3	230/1	3	None	018-024	9,400
KFCEH0501N05	5	230/1	5	None	018-060	15,700
KFCEH0801N08	8	230/1	8	None	018-070	25,100
KFCEH0901N10	10	230/1	10	None	018-070	31,400
KFCEH3201F20	20	230/1	5, 20	Fuse‡	030-070	62,800
KFCEH1601315	15	230/3	5, 15	None	036-070	47,100
KFCEH2001318	18	230/3	6, 12, 18	None	042-070	56,500
KFCEH3401F24	24	230/3*	8, 16, 24	Fuse	048, 060, 070	75,300
KFCEH3501F30	30	230/3*	10, 20, 30	Fuse	048, 060, 070	94,100
KFCEH2401C05	5	230/1	5	Circuit Breaker	018-060	15,700
KFCEH2501C08	8	230/1	8	Circuit Breaker	018-070	25,100
KFCEH2601C10	10	230/1	10	Circuit Breaker	018-070	31,400
KFCEH3301C20	20	230/1	5, 20	Circuit Breaker	030-070	62,800
KFCEH2901N09	9	230/1†	3, 9	None	036-070	28,200
KFCEH3001F15	15	230/1	5, 15	Fuse‡	024-070	47,100
KFCEH3101C15	15	230/1	5, 15	Circuit Breaker	024-070	47,100

\* Field convertible to 1 phase.

† Field convertible to 3 phase.

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

\*\* Blower motor heat not included.

## ACCESSORIES

ITEM	ACCESSORY PART NO.*	FAN COIL SIZE USED WITH
Disconnect Kit	KFADK0101DSC	Cooling controls and heaters 3- through 10-kw
Downflow Base Kit	KFACB0101CFB	018, 024
	KFACB0201CFB	030, 036
	KFACB0301CFB	038, 042, 048, 060
	KFACB0401CFB	054, 070
Downflow Conversion Kit	KFADC0201SLP	Slope Coil Units—018, 024, 030, 036, 042
	KFADC0401ACL	A-Coil Units—038, 048, 054, 060, 070
Single-Point Wiring Kit	KFASP0101SPK	Only with 15- and 20-kw Fused Heaters
Filter Kit (12 Pack)	KFAFK0112SML	018, 024
	KFAFK0212MED	030, 036
	KFAFK0312LRG	038, 042, 048, 060
	KFAFK0412XXL	054, 070
Power Plug Kit (25 Pack)	KFAPP0125PLG	FA4A 018–060
PVC Condensate Trap Kit (50 Pack)	KFAET0150ETK	All Sizes
Air Cleaner 240-volt Conversion Kit	KEAVC0201240	All Sizes
Downflow/Horizontal Conversion Gasket Kit	KFAHD0101SLP	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:** FC4, FB4, and FA4 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 FC4, FB4, and FA4 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 FC4, FB4, and FA4 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-gage, high-voltage wires into the fan coil rather than 4 light-gage, high-voltage wires.

**SUGGESTED USE:** FC4, FB4, and FA4 fan coils with 15- and 20-kw fused heaters only.

**5. Fan Coil Filter**

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 FC4, FB4, and FA4 fan coils.

**REQUIRED USE:** All FA4 units unless a filter grille is used.

**6. Power Plug Kit**

The kit consists of 25 wire harness assemblies. Each plug provides the high-voltage power connection to the fan coil in the absence of electric heat.

**REQUIRED USE:** All FA4 fan coils installed without electric heat.

**7. 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:** FC4, FB4, and FA4 fan coils.

**8. 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.

**9. Downflow/Horizontal Conversion Gasket Kit**

This kit provides the proper gasketing of units when applied in either a Downflow or Horizontal application.

**REQUIRED USE:** FA4, FB4, and FC4 fan coils.

## SMART HEAT

HEATER PART NO.	KW @ 240V	VOLTS/PHASE	STAGES (KW OPERATING)	INTERNAL CIRCUIT PROTECTION	FAN COIL SIZE USED WITH	HEATING CAP.** @ 230V
KFCEH0101H10	9	230/1	3, 6, 9	None	018–036	28,200
KFCEH0201H15	15	230/1	3, 8, 11, 15	Fuse	024–048	47,100
KFCEH0301H20	20	230/1	5, 10, 15, 20	Fuse	030–070	62,800

\* Field convertible to 1 phase.

† Field convertible to 3 phase.

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

\*\* Blower motor heat not included.

When using units with 20-, 24-, and 30-kw electric heaters, maintain a 1-in. clearance from combustible materials to discharge plenum and ductwork, and maintain a distance of 36 in. from the unit. Use an accessory downflow base to maintain proper clearance on downflow installations.

Use flexible connectors between ductwork and unit to prevent transmission of vibration. When electric heater is installed, use heat resistant material for flexible connector between ductwork and unit at discharge connection. Ductwork passing through unconditioned space must be insulated and covered with vapor barrier.

### FACTORY-INSTALLED HEATER OPTIONS\*\*

	018	024	030	036	042	048	060
FA4BNF	5, 8, 10	5, 8, 10	5, 8, 10, 15	5, 8, 10, 15	8, 10, 15	8, 10, 15	10
FA4BNC*	5, 8, 10	5, 8, 10	5, 8, 10	5, 8, 10	8, 10	8, 10	10
FB4BNF	5, 8, 10	5, 8, 10	5, 8, 10, 15	5, 8, 10, 15	8, 10, 15	8, 10, 15	10

\* U Includes factory-installed disconnect

\*\* For field-installed heater/fan coil combinations, see Electric Heaters on pg. 11.

### FAN COIL ELECTRICAL DATA (UNITS WITHOUT ELECTRICAL HEAT)

UNIT SIZE	VOLTS (1 PHASE)	FLA‡	MIN CKT AMPS	BRANCH CIRCUIT	
				Min Wire Size Awg*	Fuse Amps
018	208/230	1.5	1.9	14	15
024	208/230	1.8	2.3	14	15
030	208/230	2.4	3.0	14	15
036, 038	208/230	2.7	3.4	14	15
042, 054	208/230	2.9	3.7	14	15
048	208/230	4.3	5.4	14	15
060, 070	208/230	5.4	6.8	14	15
070	208/230	5.2	6.5	14	15

\* Use copper wire only. Use 75°C only in this application. When using non-metallic (NM) sheathed cable, wire size required should be based on that of 60°C conductors, instead of wire sizes shown in table above per NEC Article 336-26.

‡ Based on FB4B.

FLA — Full Load Amps

NOTE: If branch circuit wire length exceeds 100 ft, consult NEC 215-2 to determine maximum wire length. Use 2% voltage drop.

### ELECTRIC HEATER INTERNAL PROTECTION\*

HEATER KW	PHASE	FUSE QTY/SIZE	CKT BKR QTY/SIZE†
3	1	—	—
5	1	—	1/60
8	1	—	1/60
10	1	—	1/60
15	1	2/30–2/60	2/60
20	1	4/60	2/60
24	3/1	6/60	—
30	3/1	6/60	—
9	1/3	—	—
15	3	—	—
18	3	—	—

\* 5-, 8-, 10-kw factory-installed heat has no internal protection. 15-kw factory-installed heat is internally protected with fuses.

† Circuit breakers are 2 pole.

### ESTIMATED SOUND POWER LEVEL (dBA)

UNIT SIZE	CONDITIONS		OCTAVE BAND CENTER FREQUENCY*						
	CFM	Ext Static Pressure	63	125	250	500	1000	2000	4000
FA, FB, FC-018	600	0.25	64.7	60.7	56.7	53.7	51.7	49.7	45.7
FA, FB, FC-024	800	0.25	66.0	62.0	58.0	55.0	53.0	51.0	47.0
FA, FB, FC-030	1000	0.25	67.0	63.0	59.0	56.0	54.0	52.0	48.0
FA, FB, FC-036	1200	0.25	67.8	63.8	59.8	56.8	54.8	52.8	48.8
FA, FB, FC-042	1400	0.25	68.4	64.4	60.4	57.4	55.4	53.4	49.4
FA, FB, FC-048	1600	0.25	69.0	65.0	61.0	58.0	56.0	54.0	50.0
FA, FB, FC-060	2000	0.25	70.0	66.0	62.0	59.0	57.0	55.0	51.0
FA, FB, FC-070	2000	0.25	70.0	66.0	62.0	59.0	57.0	55.0	51.0

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

# ACCESSORY ELECTRIC HEATER ELECTRICAL DATA

HEATER PART NO.	KW		PHASE	INTERNAL CIRCUIT PROTECTION	HEATER AMPS 208/230V			Min Ampacity 208/230V**			Min Wire Size (AWG) 208/230V††			Min Grd Wire Size 208/230V			Max Fuse/Ckt Brk Amps 208/230V			Max Wire Length 208/230V (Ft)‡‡		
	240v	208v			Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit	
						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	—	—	20/20	—	—	67/68	—	—	—	—	
KFCEH0501N05 <sup>1</sup>	5	3.8	1	None	18.1/20.0	—	—	26.0/28.4	—	—	10/10	—	—	30/30	—	—	66/66	—	—	—	—	
KFCEH0501N05 <sup>2</sup>	5	3.8	1	None	18.1/20.0	—	—	31.2/33.5	—	—	10/10	—	—	35/35	—	—	85/88	—	—	—	—	
KFCEH2401C05 <sup>1</sup>	5	3.8	1	CKt Brk	18.1/20.0	—	—	26.0/28.4	—	—	10/10	—	—	30/30	—	—	66/66	—	—	—	—	
KFCEH2401C05 <sup>2</sup>	5	3.8	1	CKt Brk	18.1/20.0	—	—	31.2/33.5	—	—	8/8	—	—	35/35	—	—	85/88	—	—	—	—	
KFCEH0801N08	8	6.0	1	None	28.9/32.0	—	—	44.7/48.5	—	—	8/8	—	—	45/50	—	—	59/60	—	—	—	—	
KFCEH2501C08	8	6.0	1	CKt Brk	28.9/32.0	—	—	44.7/48.5	—	—	8/8	—	—	45/50	—	—	59/60	—	—	—	—	
KFCEH2901N09***	9	6.8	1	None	32.8/36.0	—	—	49.5/53.5	—	—	8/8	—	—	50/60	—	—	54/87	—	—	—	—	
KFCEH2901N09†††	9	6.8	3	None	18.8/20.8	—	—	32.0/34.5	—	—	8/8	—	—	35/35	—	—	83/85	—	—	—	—	
KFCEH0901N10	10	7.5	1	None	36.2/40.0	—	—	53.8/58.5	—	—	6/6	—	—	60/60	—	—	78/80	—	—	—	—	
KFCEH2601C10	10	7.5	1	CKt Brk	36.2/40.0	—	—	53.8/58.5	—	—	6/6	—	—	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	80/90	60/60	25/25	88/89	78/80	75/76	75/76	—	
KFCEH3101C15***	15	11.3	1	CKt Brk	—	36.2/40.0	18.1/20.0	—	53.8/58.5	22.7/25.0	—	6/6	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	—	—	50/60	—	—	56/90	—	—	—	—	
KFCEH2001318	18	13.5	3	None	37.6/41.5	—	—	55.5/60.4	—	—	6/6	—	—	60/70	—	—	76/77	—	—	—	—	
KFCEH201F20***	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	100/110	60/60	50/50	85/109	78/80	59/59	59/59	—	
KFCEH3301C20***	20	15.0	1	CKt Brk	—	36.2/40.0	36.2/40.0	—	53.8/58.5	45.3/50.0	—	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	—	—	4/4	—	—	80/80	—	—	94/95	—	—	—	—	
KFCEH3401F24†††	24	18.0	1	Fuse	86.7/95.5	—	—	116.9/127.9	—	—	1/1	—	—	125/150	—	—	115/116	—	—	—	—	
KFCEH3501F30†††	30	22.5	3	Fuse	62.6/69.2	—	—	86.8/95.0	—	—	3/3	—	—	90/100	—	—	97/98	—	—	—	—	
KFCEH3501F30†††	30	22.5	1	Fuse	109.0/120.0	—	—	144.8/158.5	—	—	0/00	—	—	150/175	—	—	117/150	—	—	—	—	

# SMART HEAT ELECTRICAL DATA

HEATER PART NO.	KW		PHASE	INTERNAL CIRCUIT PROTECTION	HEATER AMPS 208/230V			Min Ampacity 208/230V**			Min Wire Size (AWG) 208/230V††			Min Grd Wire Size 208/230V			Max Fuse/Ckt Brk Amps 208/230V			Max Wire Length 208/230V (Ft)‡‡		
	240v	208v			Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit	
						L1,L2	L3,L4		L1,L2	L3,L4		L1,L2	L3,L4		L1,L2	L3,L4		L1,L2	L3,L4		L1,L2	L3,L4
KFCEH0101H10	9	6.8	1	None	32.5/35.9	—	—	44.0/48.3	—	—	8/8	—	—	45/50	—	—	60/61	—	—	—	—	
KFCEH0201H15	15	11.3	1	Fuse	54.2/59.9	39.7/43.9	14.4/16.0	73.2/80.3	49.7/54.9	23.4/25.4	4/4	8/6	10/10	80/90	50/60	25/30	92/92	53/85	73/74	73/74	—	
KFCEH0301H20	20	15.0	1	Fuse	72.3/79.9	36.2/40.0	36.2/40.0	97.2/106.7	52.0/56.8	45.3/50.0	3/2	6/6	8/8	100/110	60/60	50/50	87/111	81/82	59/59	59/59	—	

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

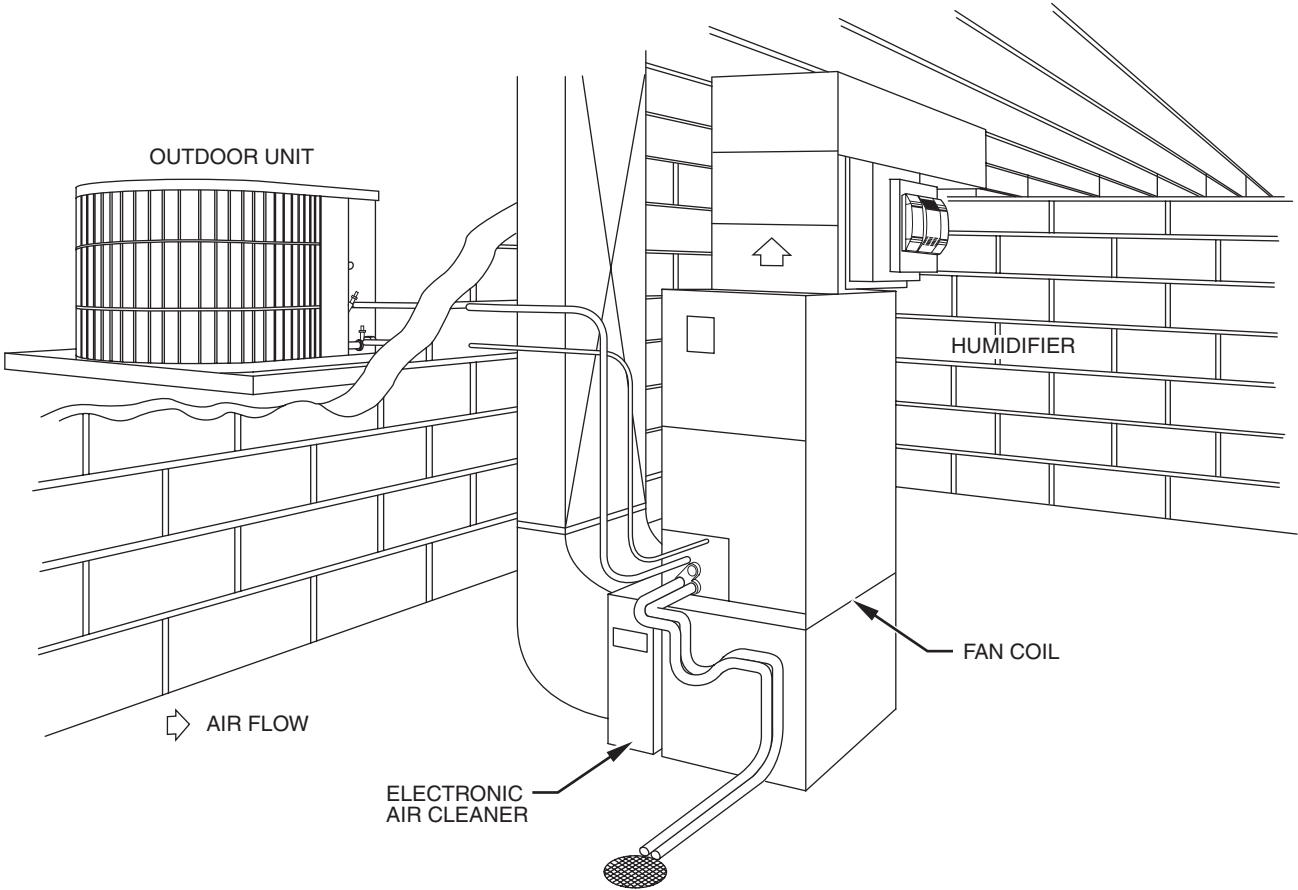
HEATER PART NO.	KW		PHASE	HEATER AMPS 208/230V			MIN AMPACITY 208/230V**			MIN WIRE SIZE (AWG) 208/230V††			MIN GRD WIRE SIZE 208/230V			MAX FUSE/CKT BRK AMPS 208/230V			MAX WIRE LENGTH 208/230V (FT)‡‡		
	240V	208V		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit	
					L1,L2	L3,L4		L1,L2	L3,L4		L1,L2	L3,L4		L1,L2	L3,L4		L1,L2	L3,L4		L1,L2	L3,L4
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	59/60	73/73	73/73	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	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), Thermidstat™ Control (TSTATBBRH01-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



A02306



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

UNIT MUST BE INSTALLED IN ACCORDANCE WITH INSTALLATION INSTRUCTIONS

Cancels: PDS FA4B.18.2  
Form PDS FA4B.18.3