Carrier®
HEATING & COOLING

Product Data

FB4A (50 Hz) Direct Expansion Fan Coil

Sizes 018 thru 070

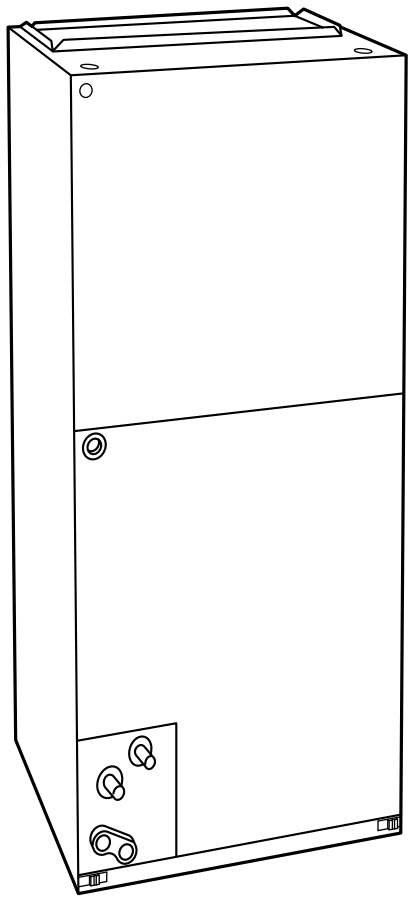
Quality Assurance

Carrier Corporation UL® REGISTERED FIRM ISO 9001 #A2983

BSI REGISTERED FIRM — NATIONAL ACCREDITATION OF CERTIFICATION BODIES

CERTIFICATE NO. FM 29652

APPROVALS
ISO 9001
EN 29001
BS 5750 PART 1
ANSI/ASQC Q91



FB4A Modular

FB4A Fan Coil — Air Handling Technology at its Finest

The FB4A fan coil is our very best fan-coil unit, the latest in air handling technology. It's the one to choose for high efficiency operation, application versatility, ease of installation, and high-tech performance. FB4A fan coils are encased, 1-piece units, designed for vertical (upflow or downflow) and horizontal installations. Downflow installations require an accessory adapter package. Sizes 042, 048, 060 and 070 are also available in ''modular'' models, to facilitate installation in tight spaces. The FB4A is compact, designed for upflow, downflow, and horizontal installations, and ready to fit right where you need it. The solid construction of the prepainted metal cabinet ensures years of rugged service, and it's packed with the most advanced components so you know it's going to perform like a deluxe fan coil should.

Inside, you'll find grooved copper tube/lanced sine wave aluminum fin coil. Solid-state cooling controls are included with every unit.

Efficient and dependable metering of the refrigerant is provided by our AccuRater®, a device which improves overall system reliability and is easily accessible for piston changeout and routine maintenance. Carrier also engineered the FB4A with dedicated refrigerant circuitry, and high-density insulation. For leak-free connections, the FB4A is equipped with sweat connections.

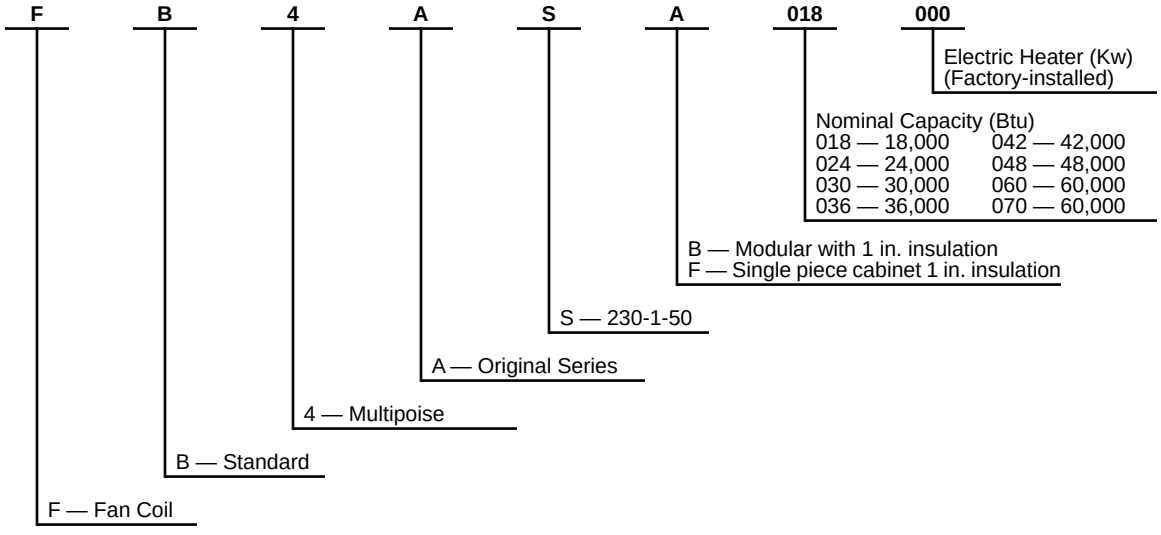
The FB4A offers superior versatility with its 3-speed PSC motor. For field installation, accessory electric heaters are available to allow up to 20 kw of supplemental heat.

Compact and attractive with a low-maintenance, easy-to-clean, permanent filter, the FB4A is a favorite for contractors and homeowners. Just consider the first-cost affordability and Carrier performance and it's easy to see why.

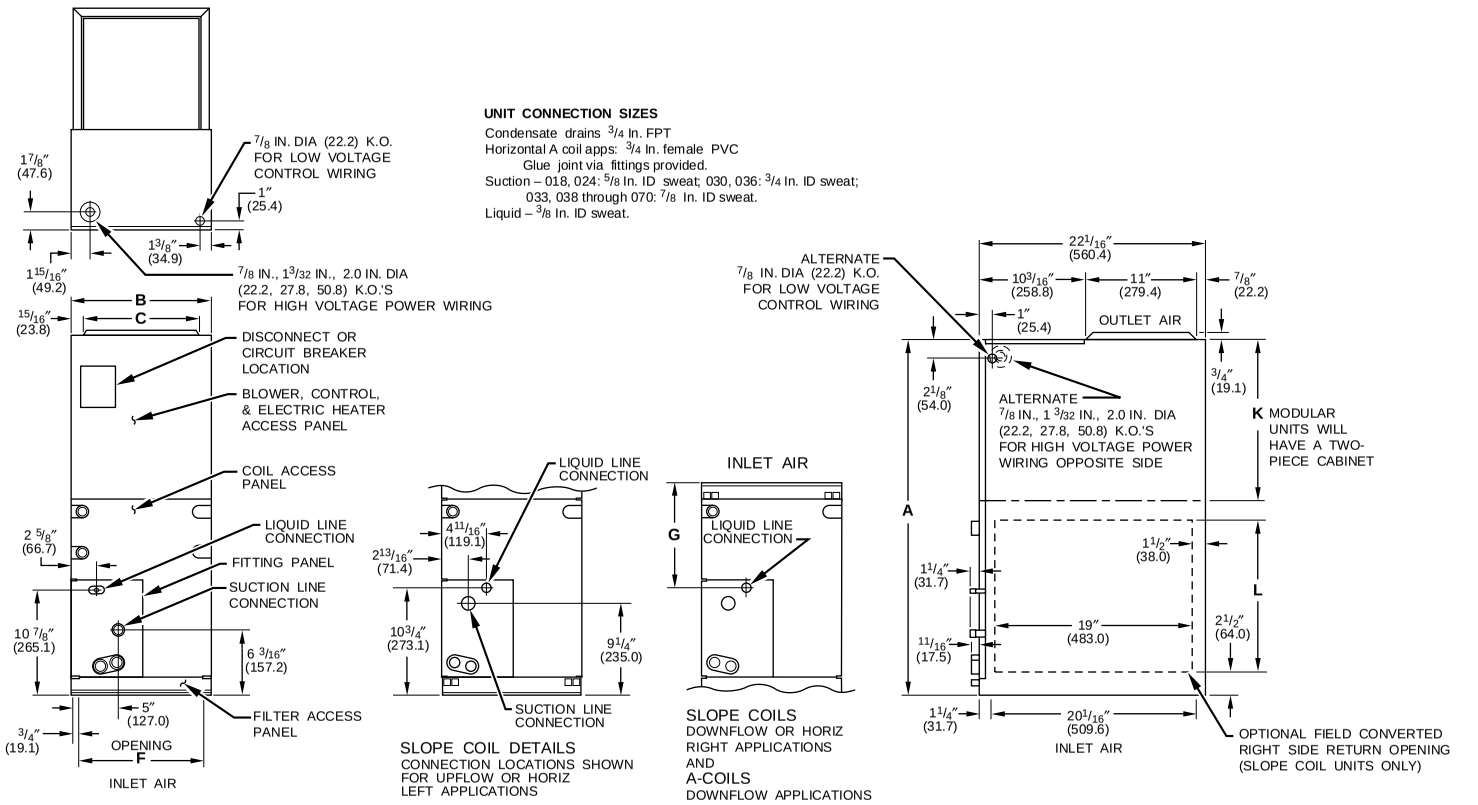
Features FB4A

- 11 models available —
  7 sizes in single-piece cabinet, 6–18.0 kw (1.5–5 ton)
  4 sizes in modular version, 14 to 18.0 kw (3.5–5 ton)
- All units multipoise — install upflow, horizontal, or downflow
- Grooved copper tubes
- Lanced sine wave aluminum fins
- Fully wetable coil
- Cooling controls on every unit
- 40va control power transformer
- Replaceable 5-amp blade-type automotive fuse protects against transformer secondary short
- Solid-state interlock control board
- 3-speed motor
- Easy access filter for cleaning — no tools required
- Inspection plate for cleaning coil face
- Field-installed heater packages, 3–30 kw (15 kw and larger are internally fused)
- Prepainted galvanized steel sheetmetal
- High-density insulation
- Sweat connections
- AccuRater® piston
- Multiple electric entry
- Reinforced plastic condensate pan with brass drain connection inserts
- Secondary drain connection

Model number nomenclature



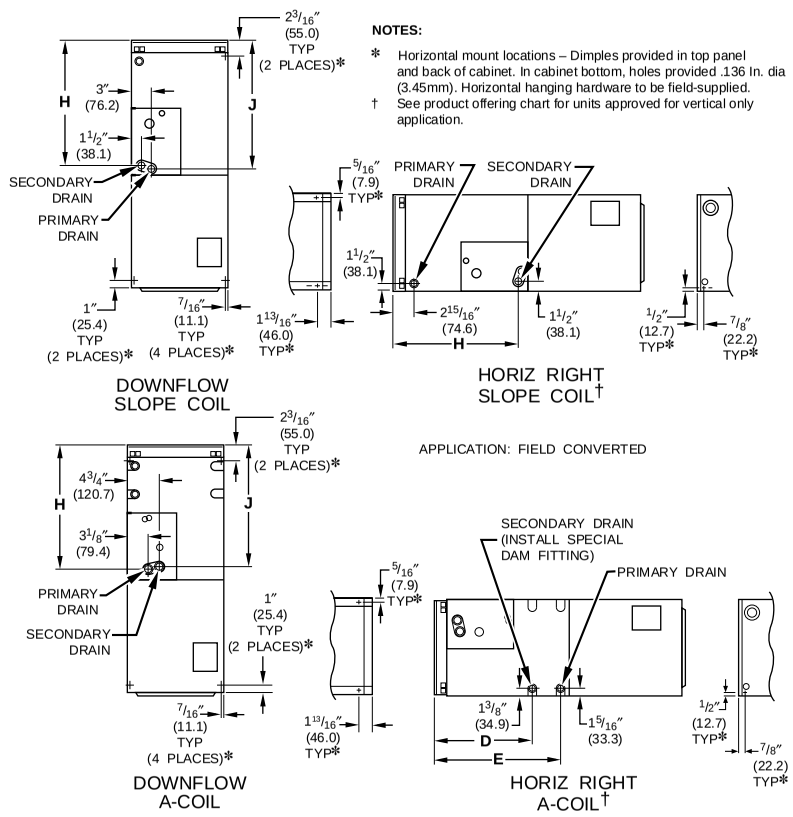
Dimensions

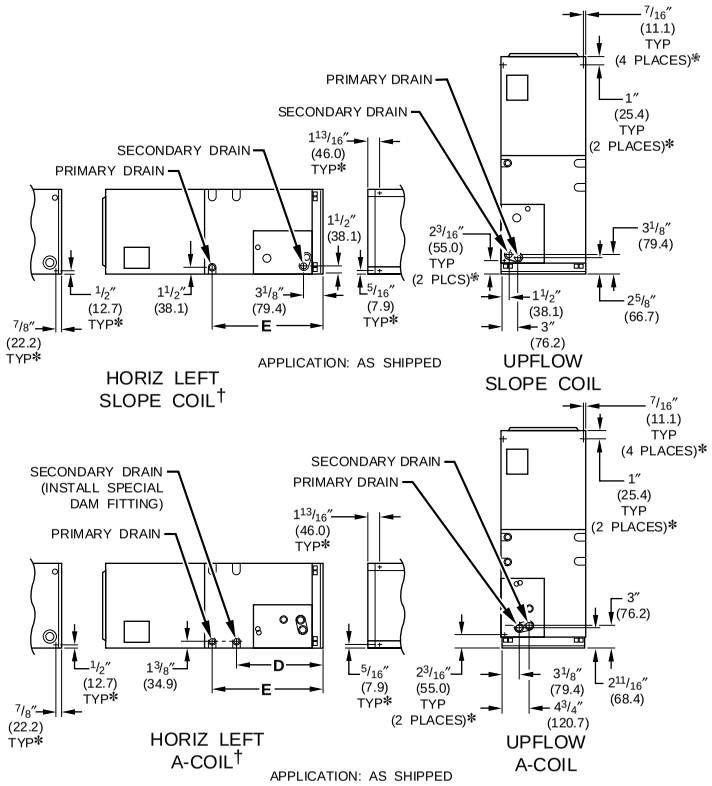


UNIT SIZE	COIL TYPE	A		B		C		F		G		K*		L	
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
018, 024	Slope	42-11/16	1084.3	14-15/16	363.5	12-7/16	316.0	12-11/16	322.3	10-7/16	265.1	—	—	12	—
030	Slope	47-11/16	1211.5	17-5/8	447.5	15-3/4	400.1	16	406.4	15-3/8	390.5	—	—	17	—
036	Slope	49-5/8	1260.5	17-5/8	447.5	15-3/4	400.1	16	406.4	15-3/8	390.5	—	—	17	—
042	Slope	53-7/16	1357.3	21-1/8	536.5	19-1/4	489.0	19-1/2	495.3	19-3/16	487.0	25	635	19	—
048 MODULAR	A	53-7/16	1357.3	21-1/8	536.5	19-1/4	489.0	19-1/2	495.3	19-1/2	495.3	25	635	—	—
048	A	49-5/8	1260.5	21-1/8	536.5	19-1/4	489.0	19-1/2	495.3	15-11/16	398.3	—	—	—	—
060	A	53-7/16	1357.3	21-1/8	536.5	19-1/4	489.0	19-1/2	495.3	19-1/2	495.3	25	635	—	—
070	A	59-3/16	1503.4	24-11/16	627.0	22-3/4	577.9	23	584.2	25-1/4	641.5	25	635	—	—

* Applicable for modular units only.

Dimensions continued





UNIT SIZE	COIL TYPE	D‡		E†		H		J	
		In.	mm	In.	mm	In.	mm	In.	mm
018, 024	Slope	—	—	18-3/16	462.0	18	457.2	18-1/2	469.9
030	Slope	—	—	23-3/16	589.0	23	584.2	23-1/2	596.9
036	Slope	—	—	23-3/16	589.0	23	584.2	23-1/2	596.9
042	Slope	—	—	27	685.8	26-13/16	681.5	27-3/8	694.5
048 Modular	A	14-15/16	379.4	27	685.8	27-1/4	692.2	26-15/16	684.2
048	A	14-3/16	376.2	23-3/16	589.0	23-7/16	593.3	23-1/8	587.4
060	A	14-15/16	379.4	27	685.8	27-1/4	692.2	26-15/16	684.2
070	A	17-13/16	452.4	32-11/16	830.3	32-5/8	828.7	32-15/16	836.6

† Applicable only to units approved for horizontal application.

Physical data

SI

UNIT SIZE		018	024	030	036	042	048	060	070
NOMINAL CAPAC	TR	1.5	2.0	2.5	3.0	3.5	4.0	5.0	5.0
KILOWATTS	*	6.4	8.2	10.2	12.3	14.1	17.3	17.6	17.6
OPERATING WEIGHT	KG	43	45	57	56	67	72	76	90
DIMENSIONS (VERT)									
HEIGHT	MM	1084	1084	1212	1260	1357	1357	1357	1503
WIDTH	MM	364	364	448	448	536	536	536	612
DEPTH	MM	560	560	560	560	560	560	560	560
REFRIGERANT		R-22							
REFRIG CONTROL		Bypass AccuRater®							
UNIT ARRANGEMENT		Upflow/Downflow/Horizontal (LH)							
FAN									
TYPE		Direct-drive Centrifugal							
WHEEL DIAMETER	MM	229	229	229	254	254	254	279	279
WIDTH	MM	152	152	178	178	178	229	229	229
AIRFLOW/NOM.	L/S	275	350	475	550	600	750	825	825
MOTOR TYPE		PSC							
NOMINAL	KW	0.15	0.15	0.24	0.24	0.24	0.56	0.56	0.56
SPEEDS	R/S	16.7/15.0/13.3							
INDOOR COIL		Copper Tube/Aluminum Fin with Lanced Sine Wave							
FACE AREA	SQ M	0.21	0.21	0.28	0.28	0.32	0.41	0.55	0.69
ARRANGEMENT		Slope	Slope	Slope	Slope	Slope	"A"	"A"	A
ROWS		2	3	3	3	3	3	3	3
FIN DENSITY	/M	551	551	551	551	551	551	551	551
FILTER		Permanent Type/25 mm (1 in.) Thick							
COIL CONNECTIONS		Sweat-Type							
VAPOR (OD)	IN.	15.9	19	19	19	22.2	22.2	22.2	22.2
LIQUID (OD)	IN.	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5

* Based on nominal airflow rates, 19.4˚C entering wet bulb and 7.2˚C sat suction temp.

Performance data

COOLING CAPACITIES (Kw) SI

UNIT SIZE	L/S BPF		COIL REFRIGERANT TEMPERATURE* (˚C)																							
			2				4				6				8				10				12			
			Evaporator Air — Entering Wet-Bulb Temp (˚C)																							
			22	20	18	16	22	20	18	16	22	20	18	16	22	20	18	16	22	20	18	16	22	20	18	16
018	**225**	TC	8.6	7.6	6.7	5.8	8.1	7.0	6.0	5.2	7.4	6.3	5.4	4.5	6.7	5.6	4.7	3.9	6.1	4.8	4.0	3.3	5.1	4.0	3.4	3.0
	0.10	SC	4.2	4.6	4.8	5.1	4.0	4.2	4.5	4.8	3.7	4.0	4.2	4.5	3.4	3.6	3.9	3.9	3.1	3.3	3.5	3.3	2.9	3.0	3.1	3.0
	275	TC	9.5	8.2	7.2	6.2	8.9	7.6	6.5	5.5	8.1	7.0	5.9	4.9	7.3	6.2	5.2	4.3	6.7	5.4	4.5	3.7	5.6	4.4	3.8	3.4
	0.12	SC	4.6	5.0	5.4	5.8	4.3	4.7	5.1	5.5	4.1	4.4	4.8	4.9	3.8	4.1	4.4	4.3	3.4	3.8	3.9	3.7	3.2	3.5	3.5	3.4
	325	TC	10.2	8.9	7.8	6.7	9.6	8.3	7.1	6.1	8.7	7.4	6.4	5.5	7.8	6.5	5.6	4.9	6.9	5.6	4.9	4.3	5.9	4.8	4.3	4.0
	0.14	SC	5.1	5.5	5.9	6.3	4.6	5.3	5.6	5.7	4.3	4.9	5.2	5.3	4.1	4.5	4.7	4.9	3.9	4.0	4.3	4.3	3.4	3.6	3.9	4.0
024	**300**	TC	11.4	10.1	8.8	7.5	10.8	9.4	8.0	6.6	9.9	8.5	7.1	5.8	9.0	7.5	6.2	5.0	7.9	6.4	5.2	4.2	6.8	5.2	4.4	3.9
	0.05	SC	5.6	6.0	6.4	6.6	5.3	5.6	5.9	6.2	5.0	5.3	5.5	5.8	4.6	4.9	5.1	5.0	4.2	4.4	4.5	4.2	3.8	3.9	4.0	3.9
	350	TC	12.3	10.8	9.4	8.1	11.6	10.0	8.6	7.3	10.7	9.1	7.7	6.4	9.6	8.0	6.8	5.6	8.5	6.8	5.7	4.9	7.3	5.7	4.9	4.4
	0.06	SC	6.0	6.4	6.9	7.4	5.8	6.1	6.5	6.9	5.4	5.8	6.1	6.4	5.0	5.4	5.6	5.6	4.5	4.8	5.0	4.9	4.1	4.3	4.5	4.4
	375	TC	12.8	11.3	9.8	8.4	12.0	10.4	9.0	7.6	11.1	9.5	8.0	6.7	10.0	8.4	7.1	5.8	8.9	7.2	6.1	5.2	7.6	6.0	5.2	4.7
	0.07	SC	6.3	6.8	7.3	7.8	6.0	6.4	6.8	7.3	5.7	6.0	6.4	6.7	5.2	5.6	6.0	5.8	4.8	5.1	5.4	5.2	4.4	4.6	4.8	4.7
030	**350**	TC	13.8	12.1	10.6	9.1	12.9	11.1	9.5	8.0	11.9	10.0	8.4	7.0	10.8	8.9	7.4	5.9	9.5	7.6	6.2	4.9	8.1	6.3	5.3	4.4
	0.04	SC	6.8	7.2	7.5	7.7	6.4	6.8	7.1	7.3	5.9	6.2	6.5	6.7	5.4	5.7	5.9	5.9	4.8	5.2	5.4	4.9	4.4	4.6	4.7	4.4
	475	TC	15.9	14.0	12.1	10.3	14.8	12.8	11.0	9.3	13.6	11.6	9.8	8.1	12.3	10.3	8.6	7.0	10.9	8.9	7.4	6.1	9.2	7.2	6.1	5.5
	0.07	SC	7.7	8.3	8.9	9.4	7.3	7.8	8.3	8.8	6.9	7.3	7.7	8.1	6.4	6.8	7.1	7.0	5.7	6.1	6.4	6.1	5.2	5.5	5.7	5.5
	525	TC	16.7	14.6	12.7	10.8	15.6	13.4	11.5	9.8	14.4	12.1	10.3	8.6	13.0	10.7	9.0	7.4	11.5	9.3	7.7	6.5	9.8	7.6	6.5	5.8
	0.08	SC	8.3	8.8	9.3	9.9	7.9	8.3	8.8	9.2	7.4	7.8	8.2	8.6	6.9	7.2	7.5	7.4	6.3	6.5	6.8	6.5	5.6	5.9	6.0	5.8
036	**375**	TC	15.1	13.0	11.2	9.5	13.9	11.9	10.1	8.2	12.6	10.6	8.7	7.0	11.3	9.2	7.5	5.8	9.8	7.9	6.3	4.8	8.3	6.4	5.3	4.4
	0.05	SC	7.3	7.7	8.0	8.2	6.9	7.1	7.4	7.6	6.3	6.5	6.7	6.9	5.7	5.9	6.1	5.8	5.0	5.3	5.3	4.8	4.6	4.8	4.8	4.4
	550	TC	19.3	16.7	14.4	12.2	17.7	15.2	12.9	10.7	16.1	13.6	11.4	9.2	14.4	11.9	9.8	7.8	12.6	10.1	8.3	6.7	10.7	8.2	6.9	6.0
	0.08	SC	9.4	10.1	10.7	11.2	8.8	9.4	9.9	10.3	8.2	8.7	9.1	9.2	7.5	8.0	8.3	7.8	6.9	7.4	7.4	7.2	6.0	6.5	6.5	6.0
	600	TC	20.2	17.5	15.1	12.8	18.6	16.0	13.6	11.4	16.9	14.4	12.0	9.7	15.1	12.6	10.4	8.3	13.3	10.7	8.8	7.2	11.2	8.7	7.3	6.4
	0.09	SC	9.8	10.6	11.3	11.8	9.2	10.0	10.5	11.0	8.5	9.2	9.7	9.7	7.9	8.5	8.8	8.3	7.3	7.9	7.9	7.7	6.4	6.9	6.8	6.4
042	**475**	TC	19.8	17.2	14.7	12.2	18.3	15.6	13.1	10.8	16.6	13.9	11.5	9.3	14.9	12.1	9.9	7.9	13.0	10.2	8.2	6.6	10.9	8.3	6.9	6.0
	0.05	SC	9.4	10.0	10.5	10.9	8.8	9.2	9.7	10.1	8.1	8.6	8.9	9.2	7.4	7.8	8.1	7.9	6.6	7.0	7.1	7.1	5.9	6.2	6.3	6.0
	600	TC	22.6	19.7	17.0	14.4	21.0	18.0	15.3	12.7	19.1	16.1	13.5	11.0	17.2	14.1	11.7	9.4	15.1	12.0	9.9	8.2	12.6	9.7	8.3	7.3
	0.07	SC	11.0	11.7	12.3	13.0	10.3	10.9	11.5	12.1	9.5	10.1	10.6	11.0	8.7	9.3	9.7	9.4	7.8	8.4	8.7	8.2	7.0	7.4	7.6	7.3
	700	TC	24.5	21.4	18.6	15.8	22.8	19.7	16.8	13.9	21.0	17.6	14.8	12.1	18.9	15.4	12.8	10.5	16.6	13.2	11.0	9.3	14.0	10.8	9.2	8.3
	0.09	SC	11.9	12.9	13.7	14.5	11.3	12.1	12.8	13.4	10.4	11.2	11.8	12.1	9.6	10.3	10.8	10.5	8.7	9.4	9.7	9.3	7.9	8.4	8.5	8.3
048	**575**	TC	23.5	20.5	17.8	15.2	21.8	18.8	16.0	13.3	19.9	16.9	14.2	11.6	18.0	15.0	12.4	10.0	16.1	12.9	10.6	8.7	13.5	10.5	8.8	7.7
	0.05	SC	11.3	12.0	12.7	13.3	10.5	11.3	11.9	12.4	9.8	10.5	11.1	11.5	9.1	9.7	10.1	10.0	8.2	8.7	9.1	8.7	7.4	7.8	8.0	7.7
	750	TC	26.7	23.3	20.3	17.6	25.0	21.6	18.5	15.6	22.9	19.6	16.6	13.8	20.7	17.3	14.6	12.1	18.4	14.8	12.6	10.9	15.7	12.2	10.6	9.7
	0.07	SC	13.0	14.0	15.0	16.0	12.3	13.4	14.2	14.9	11.5	12.5	13.3	13.8	10.7	11.5	12.3	12.1	9.8	10.7	11.2	10.9	8.7	9.4	9.8	9.7
	825	TC	27.6	24.4	21.2	18.1	25.9	22.5	19.5	16.5	23.8	20.4	17.3	14.5	21.6	18.0	15.2	12.8	19.3	15.5	13.2	11.5	16.4	12.7	11.1	10.4
	0.08	SC	13.6	14.8	16.0	17.0	12.7	14.0	15.1	16.2	12.0	13.2	14.1	14.5	11.3	12.3	13.0	12.8	10.4	11.3	11.8	11.5	9.4	10.1	10.5	10.4
060	**600**	TC	25.7	22.1	19.0	16.1	23.6	20.2	17.2	14.2	21.6	18.2	15.1	12.2	19.5	16.0	13.0	10.1	17.0	13.7	10.8	8.1	14.3	11.0	9.0	7.5
	0.03	SC	12.4	13.0	13.4	13.8	11.5	12.0	12.4	12.8	10.7	11.1	11.4	11.7	9.8	10.2	10.4	10.1	8.7	9.1	9.1	8.1	7.7	8.1	8.1	7.5
	750	TC	29.6	25.8	22.3	18.9	27.5	23.7	20.2	16.8	25.2	21.3	17.7	14.2	22.8	18.8	15.2	11.8	20.2	16.2	13.0	10.0	17.1	13.1	10.8	9.2
	0.05	SC	14.4	15.3	16.0	16.6	13.4	14.2	14.9	15.6	12.5	13.2	13.7	14.1	11.6	12.2	12.4	11.8	10.5	11.1	11.2	10.0	9.2	9.9	9.9	9.2
	900	TC	32.6	28.5	24.7	21.0	30.3	26.2	22.3	18.6	27.8	23.7	19.8	16.0	25.2	21.0	17.2	13.7	22.4	18.0	14.6	11.8	19.0	14.7	12.3	10.7
	0.06	SC	15.9	17.1	18.1	19.1	14.9	16.1	16.9	17.7	13.9	14.9	15.7	16.0	12.8	13.7	14.3	13.7	11.8	12.5	12.6	11.8	10.5	11.3	11.3	10.7
070	**600**	TC	26.8	23.5	20.2	16.9	24.5	21.3	18.2	15.1	22.2	19.2	16.2	13.3	19.9	17.1	14.3	11.5	17.6	15.0	12.3	9.69	15.4	12.9	10.4	7.89
	0.04	SC	13.4	14.0	14.5	15.1	12.4	12.9	13.4	13.8	11.5	11.9	12.2	12.6	10.5	10.8	11.1	11.4	9.56	9.77	9.97	9.69	8.60	8.72	8.84	7.89
	750	TC	30.5	26.9	23.2	19.6	28.0	24.5	21.1	17.6	25.5	22.2	18.9	15.6	23.0	19.9	16.7	13.6	20.4	17.5	14.6	11.7	17.9	15.2	12.4	9.69
	0.05	SC	15.4	16.2	17.1	18.0	14.3	15.1	15.8	16.6	13.3	13.9	14.6	15.2	12.3	12.8	13.3	13.6	11.3	11.6	12.0	11.7	10.2	10.5	10.7	9.69
	950	TC	34.2	30.3	26.4	22.4	31.5	27.8	24.1	20.3	28.8	25.3	21.8	18.2	26.1	22.8	19.4	16.1	23.4	20.3	17.1	14.0	20.7	17.8	14.8	11.9
	0.06	SC	17.5	18.8	20.1	21.4	16.4	17.6	18.7	19.8	15.4	16.3	17.3	18.2	14.3	15.1	15.9	16.1	13.2	13.8	14.5	14.0	12.2	12.6	13.1	11.9

See notes on pg. 7.

LEGEND

L/S — Liters per second

BF — Bypass factor

Sensible heat capacity (kw)

1. Gross capacities shown do not include a deduction for evaporator fan motor heat.
2. Contact Carrier for cooling capacities at conditions other than shown in table.
3. Direct interpolation is permissible. Do not extrapolate.
4. SHC is based on 26.7˚C temperature of air entering the indoor unit. At any other temperature, correct the SHC read from the table of cooling capacities as follows:

   Corrected SHC_{kw} = SHC + [1.23 x 10^{-3} x (1-BF) x (Cdb-26.7) x L/s]

   Observe the rule of signs. Above 26.7˚C, SHC correction will be positive; add it to SHC. Below 26.7˚C, SHC correction will be negative; subtract it from SHC.
5. Formula:

   $$Cldb = Cedb - \frac{SHC_{kw}}{1.23 \times 10^{-3} \times (L/s)}$$

   Leaving wet bulb = wet bulb temperature corresponding to enthalpy of air leaving coil (hlwb).

   $$hlwb = hewb - \frac{TC_{kw}}{1.20 \times 10^{-3} \times (L/s)}$$

   Where hewb is enthalpy of air entering evaporator coil (kJ/kg).

Performance data continued

AIRFLOW PERFORMANCE*
AIRFLOW RATE — L/S

SI

UNIT SIZE	BLOWER MOTOR SPEED	EXTERNAL STATIC PRESSURE (PA)				
		25	50	75	100	125
018	HIGH	389	363	317	265	—
	MED	347	320	270	—	—
	LOW	298	273	—	—	—
024	HIGH	373	345	303	238	—
	MED	340	319	269	—	—
	LOW	266	247	—	—	—
030	HIGH	519	482	431	369	299
	MED	462	429	385	321	—
	LOW	415	386	340	—	—
036	HIGH	609	571	531	486	438
	MED	529	499	468	432	394
	LOW	458	437	414	381	—
042	HIGH	692	658	619	571	478
	MED	612	581	544	496	—
	LOW	511	494	472	439	—
048	HIGH	812	765	716	661	595
	MED	770	724	678	628	—
	LOW	713	671	630	579	—
060	HIGH	885	844	800	755	706
	MED	803	767	731	690	—
	LOW	671	647	624	—	—
070	HIGH	1038	996	953	906	852
	MED	937	908	875	838	793
	LOW	781	767	748	724	—

NOTES:

Fan performance based on wet coil with factory-supplied filter; no internal heaters.

Not recommended for use above 150 Pa external static pressure.

AIR DELIVERY PERFORMANCE CORRECTION COMPONENT PRESSURE DROP AT INDICATED AIRFLOW (ELECTRIC HEATERS)

NOTE: Subtract the component pressure drop corrections from the unit airflow data when accessory electric heaters are installed. The remaining external static pressure will be available for the duct system.

Refer to table at bottom of page to determine the number of heater elements in each accessory heater package.

Units: Pa **SI**

	AIRFLOW (L/S)									
HTR QTY	**225**	**250**	**275**	**300**	**325**	**350**	**375**	**400**	**425**	**450**
1	0.4	0.5	0.6	0.7	0.8	1.0	1.1	1.3	1.4	1.6
2	0.8	1.0	1.2	1.4	1.7	2.0	2.2	2.6	2.8	3.2
3	1.2	1.5	1.8	2.1	2.5	3.0	3.4	3.8	4.3	4.8
4	1.7	2.0	2.4	2.9	3.4	3.9	4.5	5.1	5.7	6.4
6	2.5	3.0	3.6	4.3	5.1	5.9	6.7	7.7	8.5	9.6

	AIRFLOW (L/S)									
HTR QTY	**475**	**500**	**550**	**600**	**650**	**700**	**750**	**800**	**850**	**900**
1	1.8	2.0	2.4	2.8	3.3	3.8	4.4	5.0	5.6	6.2
2	3.5	3.9	4.7	5.6	6.6	7.6	8.7	10.0	11.2	12.5
3	5.3	5.9	7.1	8.4	9.9	11.5	13.1	14.9	16.8	18.7
4	7.1	7.9	9.4	11.2	13.3	15.3	17.5	19.9	22.4	24.9
6	10.6	11.8	14.2	16.9	19.9	22.9	26.2	29.9	33.6	37.4

Physical data

ENGLISH

UNIT SIZE		018	024	030	036	042	048	060	070
NOMINAL CAPAC	TR	1.5	2.0	2.5	3.0	3.5	4.0	5.0	5.0
1000 BTU/HR	**	22	26	35	42	48	59	60	60
OPERATING WEIGHT	LB	94	98	126	128	147	158	168	199
DIMENSIONS (VERT)									
HEIGHT	IN.	42-11/16	42-11/16	47-11/16	49-5/8	53-7/16	53-7/16	53-7/16	59-3/16
WIDTH	IN.	14-5/16	14-5/16	17-5/8	17-5/8	21-1/8	21-1/8	21-1/8	24-11/16
DEPTH	IN.	22-1/16	22-1/16	22-1/16	22-1/16	22-1/16	22-1/16	22-1/16	22-1/16
REFRIGERANT		R-22							
REFRIG CONTROL		Bypass AccuRater®							
UNIT ARRANGEMENT		Upflow/Downflow/Horizontal (LH)							
FAN									
TYPE		Direct-drive Centrifugal							
WHEEL DIAMETER	IN.	9	9	9	10	10	10	11	11
WIDTH	IN.	6	6	7	7	7	9	9	9
AIRFLOW/NOM.	CFM	600	750	1000	1200	1250	1600	1750	1750
MOTOR TYPE		PSC							
NOMINAL	HP	1/5	1/5	1/3	1/3	1/3	3/4	3/4	3/4
SPEEDS	RPM	1000/900/800							
INDOOR COIL		Copper Tube/Aluminum Fin with Lanced Sine Wave							
FACE AREA	SQ FT	2.23	2.23	2.97	2.97	3.46	4.45	5.93	7.42
ARRANGEMENT		Slope	Slope	Slope	Slope	Slope	"A"	"A"	A
ROWS		2	3	3	3	3	3	3	3
FIN DENSITY	/IN.	14-1/2	14-1/2	14-1/2	14-1/2	14-1/2	14-1/2	14-1/2	14-1/2
FILTER		Permanent Type/25 mm (1 in.) Thick							
COIL CONNECTIONS		Sweat-Type							
VAPOR (ODS)	IN.	5/8	3/4	3/4	3/4	7/8	7/8	7/8	7/8
LIQUID (ODS)	IN.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8

** Based on nominal airflow rates, 67˚F entering wet bulb and 45˚F sat suction temp.

Performance data

ENGLISH

COOLING CAPACITIES (MBtuh)

UNIT SIZE	CFM 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
018	450	TC	29	25	21	27	22	18	24	19	15	21	15	12	16	11	9.5
	0.09	SC	14	16	17	13	14	15	12	13	14	10	11	12	9	9.5	9.5
	600	TC	34	28	23	31	25	20	27	22	17	24	18	14	19	13	12
	0.13	SC	16	18	20	15	17	19	14	15	17	12	14	14	11	12	12
	675	TC	35	29	24	32	26	21	28	22	18	24	18	15	19	14	13
	0.14	SC	17	19	21	15	18	19	14	16	17	13	14	15	11	12	13
024	600	TC	39	33	27	36	30	23	32	25	19	27	20	15	22	14	13
	0.05	SC	19	21	22	17	19	20	16	17	18	14	15	15	12	12	13
	750	TC	43	36	30	40	32	26	35	28	21	30	22	18	24	16	15
	0.07	SC	20	23	25	19	21	23	17	19	21	15	17	18	13	14	15
	800	TC	45	37	31	41	33	27	36	29	22	31	23	19	25	17	16
	0.07	SC	21	24	26	20	22	24	18	20	22	16	18	19	14	15	16
030	750	TC	48	40	33	44	35	28	39	30	23	33	24	18	26	18	15
	0.04	SC	23	25	26	21	23	24	19	20	21	16	18	18	14	15	15
	1000	TC	55	46	38	50	41	33	44	35	27	38	28	22	30	20	18
	0.07	SC	26	29	32	24	27	29	22	24	26	19	21	22	17	18	18
	1125	TC	58	48	39	53	42	34	47	36	28	40	29	23	32	21	19
	0.09	SC	29	30	33	27	28	30	24	25	27	21	22	23	18	19	19
036	800	TC	53	43	35	47	38	29	41	31	23	34	25	18	27	18	15
	0.05	SC	25	27	28	23	24	25	20	21	22	17	18	18	15	16	15
	1200	TC	69	56	46	61	49	39	53	42	31	45	33	25	35	24	21
	0.08	SC	33	36	39	30	33	35	27	29	31	24	26	25	20	22	21
	1300	TC	72	59	48	64	52	41	56	44	33	47	35	27	37	25	22
	0.09	SC	34	38	41	31	35	37	28	31	33	25	28	27	21	23	22

See notes on pg. 10.

Performance data continued

UNIT SIZE	CFM 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
042	1000	TC	69	57	45	62	49	38	54	41	31	45	32	24	35	23	20
	0.05	SC	32	35	37	29	31	33	26	28	29	22	24	24	19	20	20
	1250	TC	78	65	53	71	57	45	62	48	36	52	38	30	41	27	24
	0.07	SC	37	41	44	34	37	40	30	33	35	26	29	30	22	24	24
	1500	TC	86	71	58	78	63	50	69	53	41	58	42	34	46	31	28
	0.09	SC	41	46	49	38	42	45	34	38	40	30	33	34	26	28	28
048	1200	TC	82	68	56	74	60	47	65	51	39	56	41	32	44	30	26
	0.05	SC	39	42	45	35	39	41	32	35	37	28	30	32	24	26	26
	1600	TC	93	77	64	85	69	55	75	59	46	64	47	39	51	35	32
	0.07	SC	44	49	54	41	46	49	37	41	45	33	37	39	28	31	32
	1750	TC	96	81	66	88	72	58	78	61	48	67	49	41	53	36	34
	0.08	SC	46	52	57	42	48	53	39	44	47	35	39	41	30	33	34
060	1300	TC	91	74	60	81	65	51	72	55	41	60	44	31	47	31	26
	0.03	SC	43	46	48	39	41	43	35	37	38	30	32	31	25	27	26
	1600	TC	104	86	70	94	76	60	83	64	47	71	52	38	56	37	32
	0.05	SC	50	54	57	45	49	52	41	44	45	36	39	38	30	33	32
	1900	TC	114	95	77	103	84	66	91	72	53	78	57	43	62	42	36
	0.06	SC	54	60	65	50	55	59	45	49	52	40	43	43	34	37	36
070	1300	TC	91	75	61	83	67	51	73	57	41	62	44	32	48	31	26
	0.02	SC	42	45	48	39	41	43	34	37	38	30	31	31	25	25	26
	1600	TC	102	85	70	93	76	59	83	65	48	71	51	38	56	36	31
	0.03	SC	47	52	56	43	48	51	39	43	45	34	37	38	29	31	31
	2000	TC	113	95	78	104	85	68	93	73	55	80	58	46	64	42	38
	0.05	SC	53	59	65	49	55	60	44	50	53	39	44	46	34	37	38

LEGEND

BF — Bypass factor

Sensible heat capacity (1000 Btuh)

1. Gross capacities shown do not include a deduction for evaporator fan motor heat.
2. Contact Carrier for cooling capacities at conditions other than shown in table.
3. Direct interpolation is permissible. Do not extrapolate.
4. SHC is based on 80˚F db temperature of air entering the indoor unit. At any other temperature, correct the SHC read from the table of cooling capacities as follows:

   Corrected $SHC_{Btu/h}$ = SHC + [1.10 x (1-BF) + (Fdb-80) x cfm]

   Observe the rule of signs. Above 80˚F, SHC correction will be positive; add to it SHC. Below 80˚F, SHC correction will be negative; subtract it from SHC.
5. Formula:

$$Fldb = Fedb - \frac{SHC_{Btu/h}}{1.10 \times (cfm)}$$

Leaving wet bulb = wet bulb temperature corresponding to enthalpy of air leaving coil (hlwb).

$$hlwb = hewb - \frac{TC_{Btu/h}}{4.50 \times (cfm)}$$

Where hewb is enthalpy of air entering evaporator coil (Btu/pound).

Performance data continued

AIRFLOW PERFORMANCE*
AIRFLOW RATE—CFM

ENGLISH

UNIT SIZE	BLOWER MOTOR SPEED	EXTERNAL STATIC PRESSURE—In. wc				
		0.10	0.20	0.30	0.40	0.50
018	HIGH	825	770	672	562	—
	MED	736	678	573	—	—
	LOW	631	579	—	—	—
024	HIGH	791	731	643	504	—
	MED	720	677	570	—	—
	LOW	564	523	—	—	—
030	HIGH	1100	1022	914	782	634
	MED	980	910	815	680	—
	LOW	880	818	720	—	—
036	HIGH	1290	1210	1125	1030	928
	MED	1122	1058	992	916	835
	LOW	970	925	878	808	—
042	HIGH	1466	1394	1312	1210	1012
	MED	1296	1232	1152	1050	—
	LOW	1082	1046	1000	930	—
048	HIGH	1720	1622	1518	1400	1260
	MED	1632	1535	1436	1330	1212
	LOW	1510	1422	1334	1226	—
060	HIGH	1876	1788	1696	1600	1496
	MED	1702	1625	1548	1462	—
	LOW	1422	1372	1322	—	—
070	HIGH	2200	2110	2020	1920	1805
	MED	1985	1925	1855	1775	1680
	LOW	1655	1625	1585	1535	—

NOTES:
Fan performance based on wet coil with factory-supplied filter; no internal heaters.
Not recommended for use above 0.60-in. wg external static pressure.

AIR DELIVERY PERFORMANCE CORRECTION COMPONENT PRESSURE DROP AT INDICATED AIRFLOW (ELECTRIC HEATERS)

Units: In. w.c. **ENGLISH**

HTR QTY	AIRFLOW (CFM)										
	450	500	550	600	650	700	750	800	860	900	950
1	0.002	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.005	0.006	0.006
2	0.003	0.004	0.004	0.005	0.006	0.007	0.008	0.009	0.010	0.011	0.013
3	0.005	0.005	0.006	0.008	0.009	0.011	0.012	0.014	0.015	0.017	0.019
4	0.006	0.007	0.009	0.010	0.012	0.014	0.016	0.018	0.021	0.023	0.026
6	0.009	0.011	0.013	0.015	0.018	0.021	0.024	0.027	0.031	0.034	0.039

HTR QTY	AIRFLOW (CFM)										
	1000	1050	1100	1200	1300	1400	1500	1600	1700	1800	1900
1	0.007	0.008	0.009	0.010	0.012	0.014	0.016	0.018	0.020	0.023	0.025
2	0.014	0.016	0.017	0.020	0.024	0.028	0.031	0.036	0.040	0.045	0.050
3	0.021	0.023	0.026	0.030	0.035	0.041	0.047	0.053	0.060	0.068	0.075
4	0.028	0.031	0.034	0.040	0.047	0.055	0.063	0.071	0.080	0.090	0.100
6	0.042	0.047	0.051	0.060	0.071	0.083	0.094	0.107	0.120	0.135	0.150

NOTES:
Subtract the component pressure drop corrections from the unit airflow data when accessory electric heaters are installed. The remaining external static pressure will be available for the duct system.
Refer to table at bottom of page 8 to determine the number of heater elements in each accessory heater package.

Carrier accessories

ITEM	ACCESSORY PART NO.*	FAN COIL SIZE USED WITH
Disconnect Kit	KFADK0101DSC	Cooling controls and heaters 3 kw through 10 kw
Downflow Base Kit	KFACB0101CFB	018, 024
	KFACB0201CFB	030, 036
	KFACB0301CFB	042, 048, 060
	KFACB0401CFB	070
Downflow Conversion Kit	KFADC0201SLP	Slope Coil Units — 018, 024, 030, 036, 042
	KFADC0301ACL	A-Coil Units — 048, 060, 070
Return-Air Duct-Flange Kit	KFARF0101RAF	All
Single-Point Wiring Kit	KFASP0101SPK	15 and 20 kw Fused
Filter Kit (6 Pack)	KFAFK0106SML	018, 024†
	KFAFK0206MED	030, 036†
	KFAFK0306LRG	042–060†

* Factory authorized and listed, field installed.
† Can also be used as a replacement for FB4A.

Accessory electric heaters

ELECTRIC HEATERS

HEATER PART NO.	KW @ 240V	VOLTS/PH	KW/STAGE	INTERNAL CIRCUIT PROTECTION	FAN COIL SIZE USED WITH	HEATING CAP.† @ 230V
KFAEH0101N03	3	230/1	3	None‡	018, 024	9420
KFAEH0201N05	5	230/1	5	None‡	018 through 036	15700
KFAEH0301N08	8	230/1	8	None‡	018 through 070	25100
KFAEH0401N10	10	230/1	10	None‡	018 through 070	31400
KFAEH0501F15	15	230/1	10, 5	Fuses	024 through 070	47100
KFAEH0601F20	20	230/1	10, 10	Fuses	030 through 070	62800
KFAEH0701309	9	230/3	6, 3	None‡	036 through 070	28300
KFAEH0801315	15	230/3	10, 5	None‡	036 through 070	47100
KFAEH0901318	18	230/3	6, 6, 6	None‡	042, 048, 070	56500
KFAEH1001F24	24	230/3*	8, 8, 8	Fuses	048, 060, 070	78500
KFAEH1101F30	30	230/3*	10, 10, 10	Fuses	048, 060, 070	94200
KFAEH1201C03	3	230/1	3	Ckt Bkr‡	018, 024	9420
KFAEH1301C05	5	230/1	5	Ckt Bkr‡	018 through 036	15700
KFAEH1401C08	8	230/1	8	Ckt Bkr‡	018, 024, 030, 036	25100
KFAEH1501C10	10	230/1	10	Ckt Bkr‡	018 through 070	31400
KFAEH1601C15	15	230/1	10, 5	Ckt Bkr‡	024 through 070	47100
KFAEH1701C20	20	230/1	10, 10	Ckt Bkr‡	030 through 070	62800
KFAEH1801S15	15	230/1	10, 5	Fused‡	024 through 070	47100
KFAEH1901S20	20	230/1	10, 10	Fused‡	030 through 070	62800
KFAEH2001S24	24	230/3*	8, 8, 8	Fused‡	048, 060, 070	78500
KFAEH2101S30	30	230/3*	10, 10, 10	Fused‡	048, 060, 070	94200

* These heaters field convertible to single phase.
† Blower motor heat not included.
‡ CSA approved.

FAN COIL ELECTRICAL DATA (UNITS WITHOUT ELECTRICAL HEAT)

UNIT SIZE	VOLTS (1-PHASE)	FLA	MCA	BRANCH CIRCUIT			
				Min Wire Size* AWG	Max Wire Length (Ft/M)†		Fuse Amps
					208V	230V	
018	230	1.3	1.7	14	325/99	350/107	15
024	230	0.8	1.0	14	250/76	275/84	15
030	230	1.5	1.9	14	210/64	225/69	15
036	230	1.9	2.4	14	150/46	175/53	15
042	230	1.8	2.3	14	125/38	150/46	15
048	230	2.7	3.4	14	90/27	100/30	15
060	230	3.6	4.5	14	90/27	100/30	15
070	230	3.6	4.5	14	90/27	100/30	15

* Use copper wire only to connect unit. If other than uncoated (nonplated), 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, U.S.A.).
† Length shown is as measured 1 way along wire path between unit and service panel for a maximum 2% voltage drop.
FLA — Full Load Amps; Rated in accordance with UL/U.S.A. Standard 465.
MCA — Minimum Circuit Amps; Calculated in accordance with NEC/U.S.A. Article 430.

ELECTRIC HEATER (kw)/ELEMENTS

PHASE	KW	ELEMENT QTY.
1	3	1
1	5	1
1	8	2
1	10	2
1	15	3
1	20	4
3	9	3
3	15	3
3	18	6
3	24	6
3	30	6

ELECTRIC HEATER ELECTRICAL DATA

HEATER PART NO.	KW		PHASE	INTERNAL CIRCUIT PROTECTION	HEATER AMPS 208/230V			BRANCH CIRCUIT													
								MIN AMPACITY 208/230V*			MIN WIRE SIZE (AWG) 208/230V†			MIN GND WIRE SIZE 208/230V			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
KFAEH0101N03	3	2.3	1	—	10.9/12.0	—	—	16.2/17.5	—	—	12	—	—	12	—	—	20	—	—	63/65	—	—
KFAEH1201C03	3	2.3	1	Ckt Bkr	10.9/12.0	—	—	16.2/17.5	—	—	12	—	—	12	—	—	20	—	—	63/65	—	—
KFAEH0201N05	5	3.8	1	—	18.1/20.0	—	—	26.7/29.0	—	—	10	—	—	10	—	—	25/30	—	—	61/62	—	—
KFAEH1301C05	5	3.8	1	Ckt Bkr	18.1/20.0	—	—	26.7/29.0	—	—	10	—	—	10	—	—	25/30	—	—	61/62	—	—
KFAEH0301N08	8	6.0	1	—	28.9/32.0	—	—	43.0/46.9	—	—	8	—	—	10	—	—	45/50	—	—	61/62	—	—
KFAEH1401N08	8	6.0	1	Ckt Bkr	28.9/32.0	—	—	43.0/46.9	—	—	8	—	—	10	—	—	45/50	—	—	61/62	—	—
KFAEH2501N09	9	6.8	1	—	32.8/36.0	—	—	47.9/51.9	—	—	6	—	—	10	—	—	50/60	—	—	94/96	—	—
KFAEH2501N09**	9	6.8	3	—	18.8/20.8	—	—	30.4/32.9	—	—	8	—	—	10	—	—	35/35	—	—	108/111	—	—
KFAEH0401N10	10	7.5	1	—	36.2/40.0	—	—	52.2/56.9	—	—	6	—	—	10	—	—	60/60	—	—	78/79	—	—
KFAEH1501C10	10	7.5	1	Ckt Bkr	36.2/40.0	—	—	52.2/56.9	—	—	6	—	—	10	—	—	60/60	—	—	78/79	—	—
KFAEH2601F15	15	11.3	1	FUSE	54.2/59.9	36.2/40.0	18.1/20.0	74.7/81.8	52.2/56.9	22.7/25.0	4	6	10	8	10/10	10/10	80/90	60/60	25/25	86/87	78/79	78/79
KFAEH2701S15	15	11.3	1	FUSE††	54.2/59.9	36.2/40.0	18.1/20.0	74.7/81.8	52.2/56.9	22.7/25.0	4	6	10	8	10/10	10/10	80/90	60/60	25/25	86/87	78/79	78/79
KFAEH2801C15	15	11.3	1	Ckt Bkr	—	36.2/40.0	18.1/20.0	—	52.2/56.9	22.7/25.0	—	6	10	—	10/10	10/10	—	60/60	25/25	—	78/79	78/79
KFAEH0801315	15	11.3	3	—	31.3/34.6	—	—	46.0/50.2	—	—	8/6	—	—	10	—	—	50/50	—	—	71/112	—	—
KFAEH0901318	18	13.5	3	—	37.6/41.5	—	—	53.9/58.8	—	—	6	—	—	10	—	—	60/60	—	—	94/95	—	—
KFAEH0601F20	20	15.0	1	FUSE	72.3/79.9	36.2/40.0	36.2/40.0	97.3/106.8	52.2/56.9	45.3/50.0	3/2	6	8	6	10/10	10/10	100/110	60/60	50/50	84/106	78/79	58/58
KFAEH1901S20	20	15.0	1	FUSE††	72.3/79.9	36.2/40.0	36.2/40.0	97.3/106.8	52.2/56.9	45.3/50.0	3/2	6	8	6	10/10	10/10	100/110	60/60	50/50	84/106	78/79	58/58
KFAEH1701C20	20	15.0	1	Ckt Bkr	—	36.2/40.0	36.2/40.0	—	52.2/56.9	45.3/50.0	—	6	8	—	10/10	10/10	—	60/60	50/50	—	78/79	58/58
KFAEH1001F24	24	18.0	3	FUSE	50.1/55.4	—	—	69.5/76.2	—	—	4	—	—	8	—	—	70/80	—	—	116/117	—	—
	24	18.0	1	FUSE	86.7/95.9	—	—	116/127.0	—	—	1	—	—	6	—	—	125/150	—	—	112/113	—	—
KFAEH2001S24	24	18.0	3	FUSE††	50.1/55.4	—	—	69.5/76.2	—	—	4	—	—	8	—	—	70/80	—	—	116/117	—	—
	24	18.0	1	FUSE††	86.7/95.9	—	—	116/127.0	—	—	1	—	—	6	—	—	125/150	—	—	112/113	—	—
KFAEH1101F30	30	22.5	3	FUSE	62.6/69.2	—	—	85.2/93.4	—	—	3	—	—	8	—	—	90/100	—	—	120/121	—	—
	30	22.5	1	FUSE	109.0/ 120.0	—	—	143/ 157.0	—	—	0/00	—	—	6	—	—	150/175	—	—	114/145	—	—
KFAEH2101S30	30	22.5	3	FUSE††	62.6/69.2	—	—	85.2/93.4	—	—	3	—	—	8	—	—	90/100	—	—	120/121	—	—
	30	22.5	1	FUSE††	109.0/ 120.0	—	—	143/ 157.0	—	—	40/00	—	—	6	—	—	150/175	—	—	114/145	—	—

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	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
KFAEH1001F24 KFAEH2001S24‡‡	24	18	1	28.9/32.0	28.9/32.0	28.9/32.0	43.0/46.9	36.1/40.0	36.1/40.0	8	8	8	10	45/50	40/45	40/45	61/62	73/73	73/73
KFAEH1101F30 KFAEH2101S30‡‡	30	22.5	1	36.2/40.0	36.2/40.0	36.2/40.0	52.2/56.9	45.1/50.0	45.1/50.0	6	8	8	10	60/60	50/60	50/60	78/79	58/58	58/58

Ckt Bkr –Circuit Breaker

* 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%.

** The 9-kw heater is convertible to 3 phase.

†† CSA fused with single-point wiring adaptor.

‡‡ The 24- and 30-kw heaters are convertible to 1-phase, single or multiple supply circuit.

NOTE: Single circuit application of F15 and F20 heaters requires single-point wiring kit accessory.

A93458

ESTIMATED SOUND POWER LEVEL FOR FB4A FAN COILS*

UNIT SIZE	SPEED SETTING	Lw (dB)											MINOR CHANGES IN:	
		English		SI		Octave Band Center Frequency (HZ)							Airflow	Ext Static
		CFM	ESP	L/S	ESP	63	125	250	500	1000	2000	4000	EN: +/–50 SI: +/–24	+/–0.05 +/–12.5
-018	MED	600	0.29	283	72	74	70	66	65	61	59	55	0.4	0.3
-024	HIGH	750	0.17	354	42	76	72	68	67	63	61	57	0.3	0.7
-030	HIGH	1000	0.23	472	57	77	73	69	68	64	62	58	0.2	0.8
-036	HIGH	1200	0.44	566	110	80	76	72	69	69	65	61	0.2	0.6
-042	MED	1250	0.37	590	92	78	74	70	69	65	63	59	0.2	0.5
-048	HIGH	1600	0.22	755	55	83	79	75	72	72	68	64	0.1	0.4
-060	MED	1600	0.36	755	90	77	73	69	68	63	61	57	0.1	0.4
-070	HIGH	2000	0.37	944	92	75	71	67	64	62	60	56	0.1	0.4

METHOD: Estimated Fan Sound Power (in decibels 10E-12 watts) is calculated in accordance with procedure described in ASHRAE 1987 HVAC ‘‘Systems and Applications Handbook,’’ Chapter 52, ‘‘Sound and Vibration Control,’’ using the ‘‘Specific Sound Power Level’’ approach.

ACCURACY: This is a prediction method, based on an accepted method which has demonstrated satisfactory results in field applications. However, field test results may generate sound pressure values which differ from these predicted values, as the current state of the art in determining sound power varies in accuracy from 0.2 db in mid-range (250 to 4000 Hz bands) to 3 to 4 db in 125 and 8000 Hz bands and up to 6 to 8 db in 63 Hz band.

MINOR CHANGES: Use for estimating sound power at other conditions of airflow and external static pressure.

Conversion factors

METRIC TECH	X =	ENGLISH UNIT	X =	SI UNIT
Area				
cm			100	mm
cm	0.1550	in.	645.2	mm
m			1.0	m
m	10.76	ft	0.09290	m
Length				
µm			1.0	µm
µm	39.37	micro-in.	0.0254	µm
mm			1.0	mm
mm	0.03937	in.	25.4	mm
mm	0.003281	ft	304.8	mm
m			1.0	m
m	3.281	ft	0.3048	m
m	1.094	yd	0.9144	m
Mass				
g			1.0	g
g	0.03527	oz	28.35	g
kg			1.0	kg
kg	2.205	lb	0.4536	kg
tonne. Mg			1.0	tonne. Mg
tonne. Mg	1.102	U.S. ton (2000 lb)	0.9072	tonne. Mg
Power				
kcal/h			1.163	W
kcal/h	3.968	Btu/h	0.2931	W
HP metric			0.7355	kW
HP metric	0.9863	HP (550 $\frac{ft \cdot lb}{s}$)	0.7457	kW
Mcal/h			1.163	kW
Mcal/h	0.3307	Ton ref.	3.517	kW
Pressure				
mm w.g 4˚C			9.806	Pa
mm w.g 4˚C	0.03937	in H_2O 39.2˚F	249.1	Pa
mm Hg 0˚C			0.1333	kPa
mm Hg 0˚C	0.03937	in Hg 32˚F	3.386	kPa
kg_f/cm^2			98.07	kPa
kg_f/cm^2	14.22	psi	6.895	kPa
mH_2O	3.281	ft H_2O	2.989	kPa

METRIC TECH	X =	ENGLISH UNIT	X =	SI UNIT
Temperature				
Interval				
˚C			1.0	k
˚C	1.8	˚F	0.5556	˚C
Velocity				
m/s			1.0	m/s
m/s	3.281	ft/s	0.3048	m/s
m/s	196.9	ft/min	0.00508	m/s
Volume				
mm			1.0×10^{-6}	L
mm	6.102×10^3	in.	0.01639	L
L			1.0	L
L	0.03531	ft	28.32	L
m			1.0	m
m	1.308	yd	0.7646	m
L	0.2642	U.S. gal	3.785	L
L	2.113	U.S. pint	0.4732	L
mL . cm			1.0	mL
mL . cm	0.03381	U.S. oz	29.57	mL
Volume/Time				
m^3/h			0.2778	L/s
m^3/h	0.5886	ft^3/min	0.4719	L/s
m^3/h	4.403	U.S. gal/min	0.06309	L/s
L/h			2.778×10^{-4}	L/s
L/h	4.303×10^3	U.S. gal/min	0.06309	L/s
(m^3/h)/ (1000 kcal/h)	1.780	cfm/ton	0.1342	L/s • kW

METRIC TECH	CONVERSION FACTOR	ENGLISH UNIT	CONVERSION FACTOR	SI UNIT
Temperature				
˚C			˚C + 273.15 K	
˚C	(˚Cx1.8) + 32	˚F	(˚F–32) ÷ 1.8˚C	

Applications

All FB4A units with electric heaters are suitable for installation with 25-mm (1-in.) clearance from unit casing, discharge plenum and ductwork to combustible materials. On these systems, maintain 25-mm (1-in.) minimum clearance between unit discharge air duct and combustible materials for a distance of 914 mm (36 in.) from unit. Refer to electrical data table in this booklet for minimum fan speed required for safe electric heater operation.

Install these units in the conditioned space or in an unconditioned space. They are tested and approved for installation in unconditioned space per ARI Standards (27˚C; 80˚F db, 24˚C; 75˚F wb indoor temperature; 27˚C; 80˚F db outdoor temperature).

Insulate supply and return air ductwork in unconditioned space. It is recommended that insulation with vapor barrier be used.

Sound—For acoustical treatment of ductwork, see FB4A Installation, Start-Up, and Service Instructions.

Matched system