

# Electric Fan Coil Unit KF Series



### Model Code:

KF	48	20	1
A	B	C	D

A: Series  
 B: 48 - 480V  
 C: Kilowatts  
 D: 1 or 3-phase

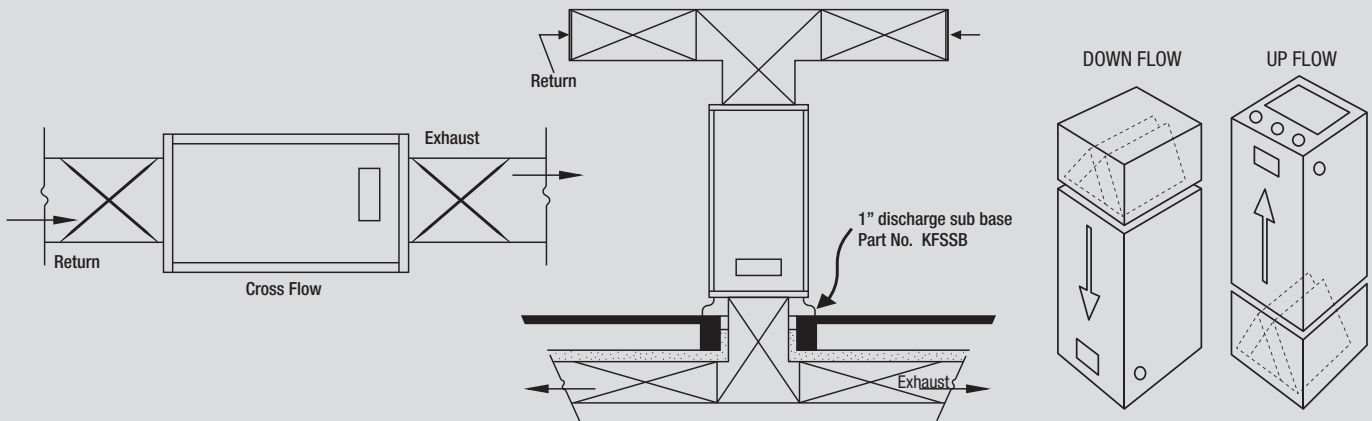


- Heavy duty open-coil element
- Direct drive motor
- Up to 3-speed motor
- Standard 24 Volt control
- Horizontal or vertical mount
- Insulated discharge cabinet
- Baked enamel finish
- Fan relay
- Silent contactors
- Sequenced elements
- Dual inlet blower
- 60 Amp disconnect protection (KFS)
- Manual reset limit on 20 kW and larger
- Welded galvanized steel construction
- Thermally protected motor
- Replaceable filter
- Mobile home approved
- 5 Year limited warranty

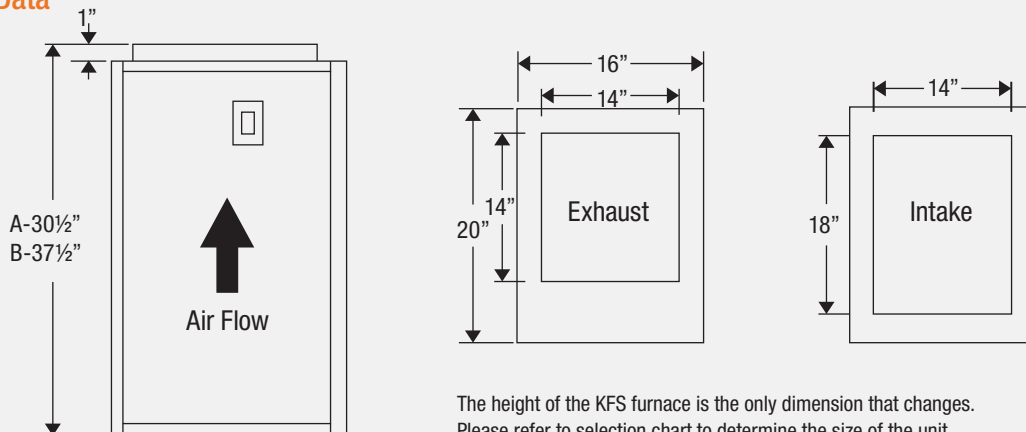


## The KF Series Electric Furnace

The KF Series furnace is the quietest and most compact unit available in its class. Ideal for residential applications, and yet powerful enough for commercial and process heating applications as well. It's the perfect choice for both new and replacement installations. The compact design allows it to be installed in either upflow, downflow or horizontal applications. Featuring a maintenance free blower, an insulated cabinet for quiet operation, and heavy gauge coiled nickel-chromium wire heating elements, the KF furnace will provide years of trouble-free operation.



### Dimensional Data



The height of the KFS furnace is the only dimension that changes. Please refer to selection chart to determine the size of the unit.

# Electric Fan Coil Unit KF Series

## Ordering Information

MODEL	PHASE	KILO WATTS	BTU (000)	VOLTS	*AMPS	CIRCUIT PROTECTION				75°C WIRE SIZING				# OF ELEMENTS	MOTOR		TEMPERATURE RISE			HEIGHT	WT. (lbs)
						L1 L2	L3 L4	L5 L6	L7 L8	L1 L2	L3 L4	L5 L6	L7 L8		VOLTS	HP	LOW	MED.	HIGH		
KF4805-1	1	5	17.1	480	12.1	15				#14				1	480	1/5	20°	18°	16°	30½"	57
KF4810-1	1	10	34.1	480	22.5	30				#10				2	480	1/5	41°	37°	32°	30½"	65
KF4812-1	1	11.5	39.2	480	25.7	40				#8				2	480	1/5	47°	42°	36°	30½"	65
KF4815-1	1	15	51.2	480	32.9	50				#6				3	480	1/5	61°	55°	47°	30½"	74
KF4818-1	1	17.25	58.8	480	37.6	50				#6				3	480	1/5	70°	63°	55°	30½"	74
KF4820A-1	1	20	68.3	480	43.4	60				#6				4	480	1/5	81°	73°	63°	37½"	76
KF4820-1	1	22.5	68.3	480	43.4	60				#6				4	480	1/3	57°	51°	41°	37½"	76
KF4822-1	1	25	76.8	480	48.6	60				#6				4	480	1/3	57°	51°	41°	37½"	76
KF4825-1	1	30	85.3	480	53.8	20	60			#12	#6			5	480	1/3	72°	63°	51°	37½"	81
KF4830-1	1	34.5	102.4	480	65.7	30	60			#10	#6			6	480	1/3	86°	76°	62°	37½"	85
KF4835-1	1	11.5	117.7	480	73.6	40	60			#8	#6			6	480	1/3	99°	87°	71°	37½"	85

MODEL	PHASE	KILO WATTS	BTU (000)	VOLTS	*AMPS	CIRCUIT PROTECTION			75°C WIRE SIZING			# OF ELEMENTS	MOTOR		TEMPERATURE RISE			HEIGHT	WT. (lbs)	
						L1 / L2 / L3	L1 / L2 / L3	L1 / L2 / L3	L1 / L2 / L3	L1 / L2 / L3	VOLTS		HP	LOW	MED.	HIGH				
KF4805-3	3	5	17.1	480	7.7			10			#14		1	480	1/5	20°	18°	16°	30½"	57
KF4810-3	3	10	34.1	480	13.7			20			#12		2	480	1/5	41°	37°	32°	30½"	74
KF4812-3	3	12	40.9	480	16.1			20			#12		3	480	1/5	47°	55°	36°	30½"	74
KF4815-3	3	15	51.2	480	21.4			30			#10		3	480	1/5	61°	63°	47°	30½"	74
KF4818-3	3	17.25	58.8	480	22.4			40			#8		3	480	1/5	70°	51°	55°	30½"	74
KF4820-3	3	20	68.3	480	25.7			30			#12		4	480	1/3	57°	56°	41°	37½"	74
KF4824-3	3	24	81.6	480	30.5			50			#6		6	480	1/3	69°	63°	49°	37½"	74
KF4825-3	3	25	85.3	480	32			50			#6		5	480	1/3	72°	76°	51°	37½"	85
KF4830-3	3	30	102.4	480	37.3			50			#6		6	480	1/3	86°	76°	62°	37½"	85
KF4835-3	3	34.5	117.7	480	43			60			#6		6	480	1/3	99°	87°	71°	37½"	85

## Accessories

MODEL	UPC	DESCRIPTION	WEIGHT(lbs.)
KFS-4PJB	20185	* 4-Pole Jumper Bar - 15kW to 20kW	.05
KFS-6PJB	20184	* 6-Pole Jumper Bar - 25kW to 30kW	.05
KFSSB	20182	1" discharge sub base	5
KFS-Q02C	20181	Small Cooling Cabinet 16" L x 22" W x 19½" H - 13 lbs.	25
KFS-Q03C	20180	Large Cooling Cabinet 18" L x 22" W x 19½" H - 15 lbs.	25
KFS-DT	20186	Transition from 14" x 14" Outlet to 12" round	25

\* For single strike connection

## DIMENSIONAL CLEARANCE

Cabinet Sides	1 in.
Cabinet Front	0 in.
Exhaust duct within 3 feet of furnace	1 in.
Return Air Plenum	0 in.

## Options

ADD SUFFIX:	DESCRIPTION
-JB	15 kW to 30 kW, 1-Phase
-1/3HP	1/3 HP Motor & Blower - 3 kW to 18 kW
-2S1	Two Stage Control, 1-Phase Models (see quick selection guide)
-2S3	Two Stage Control, 3-Phase Models (5 kW increments only)
*-3S1	Three Stage Control, 1-Phase Models

## Factory Installed Options

ADD SUFFIX:	DESCRIPTION
-DS40	40 Amp, 3-Pole Disconnect Switch w/ Padlock Provision
-DS60	60 Amp, 3-Pole Disconnect Switch w/ Padlock Provision
-DS80	80 Amp, 3-Pole Disconnect Switch w/ Padlock Provision

# Electric Fan Coil Unit KF Series

## Air Flow Chart

CASE SIZE	HP	SPEED	CFM (STATIC)							
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
Small (4-18 KW) 30.5" tall	1/5	LOW	1090	980	940	890	840	920	800	760
		MED	1260	1090	1040	980	930	890	810	780
		HIGH	1370	1260	1220	1170	1120	1090	1080	990
	1/3	LOW	1700	1680	1670	1660	1650	1640	1630	1620
		MED	1810	1800	1790	1750	1740	1730	1720	1710
		HIGH	1960	1940	1930	1910	1870	1860	1850	1830
Large (20-35 KW) 37.5" tall	1/5	LOW	1160	1120	1090	1050	1020	990	960	850
		MED	1310	1230	1200	1150	1120	1050	990	910
		HIGH	1480	1410	1390	1270	1240	1180	1120	1040
	1/3	LOW	1860	1850	1840	1830	1820	1810	1790	1740
		MED	2000	1980	1960	1940	1930	1920	1910	1900
		HIGH	2120	2100	2070	2050	2030	2020	2010	2000

## Engineering Specifications

Contractor shall supply and install KF Series electric furnaces manufactured by King Electrical Mfg. Company. Furnaces shall be of the wattage and voltage as indicated on the plans.

**Transformer:** Each furnace is equipped with a heavy-duty low voltage (24 Volt) transformer for the thermostat control circuit.

**Contactors or Time Delay Sequencer:** Actuates heating element banks at random intervals to minimize electrical surges in compliance with E.E.I. and N.E.M.A. standards.

**Heating Elements:** Quick heating, long life Ni-Chrome elements are sized to provide proper watt density for maximum heat dissipation by fan-forced air convection currents.

**Terminal Block:** For field wiring (optional special order) KFSTB

**Air Filter:** Convenient access for replacement of standard 16" x 20" x 1" filter.

**Motor:** Long life, 48 frame capacitor run, thermally protected, permanently lubricated, direct drive motor (no belts to adjust or slip). This low noise, up to 3-speed motor is designed for maintenance-free operation.

**Overcurrent Protection:** 480, KF models have terminal blocks. Internal 60 amp fusing is provided for KF models over 48 amps.

**Limit Control:** Integral automatic high temperature limit control in each heating element bank prevents the delivery of air at unsafe temperatures. 20-35 kW use a manual reset limit control to completely shut the furnace off should an over temperature occur.

**Fan Relay:** Heavy-duty dual speed fan relay is standard with furnaces for air conditioning or summer fan operation.

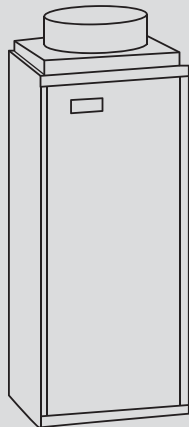
**Low Voltage Terminal Block:** 24 Volt control screw terminals

**Approvals:** UL (E48864)

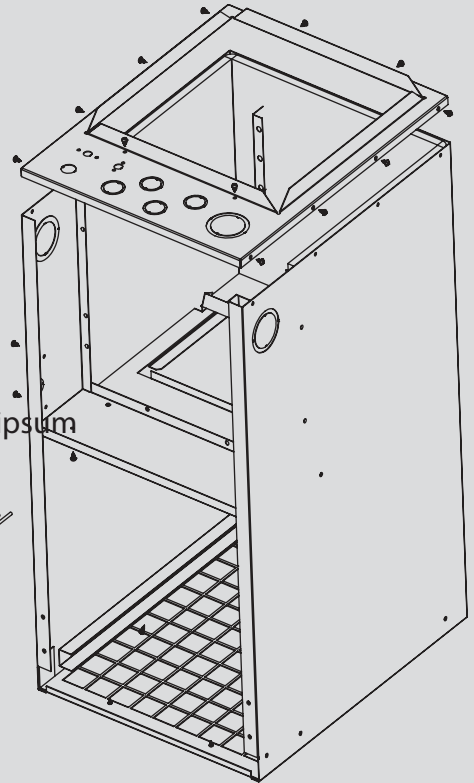
# Electric Fan Coil Unit KF Series

## Internal Diagram - *exploded view*

### Smart Heating Solutions



12" Round KFS-DT  
Duct Transition



Lorem ipsum

Heating Elements

**Transformer**

Each furnace is equipped with a 40VA low voltage (24 volt) transformer for the thermostat control circuit.

**Low Voltage Terminal Block**

Comes standard. With aux 24V access for dampers & air conditioning

**Heating Elements**

Quick heating long life nichrome elements are sized to provide proper watt density for maximum heat dissipation by fan forced air convection currents

**Terminal Block**

For Field Wiring (Optional Special Order)  
For single strike

**Fan Relay**

Heavy duty dual speed fan relay comes standard with furnaces for air conditioning or summer fan

**Time Delay / Contactor Sequencer**

Actuates heating element banks at random intervals to minimize electrical surges in compliance with EEI and NEMA standards.

**Limit Control**

Integral automatic high temperature limit control in each heating element bank prevents the delivery of air at unsafe temperatures. 20-35 KW also use a manual reset limit control to completely shut the furnace off should an overtemperature condition occur.

**Jumper Bar**

for circuit breaker-JB

**KF Model**

has terminal block only, used when total current is under 48 amps.

**Overcurrent Protection**

60 Amp circuit breakers may be built in to comply with code requirements and offer ultimate safety in overcurrent protection. Front mounted for easy reset. Multiple circuits or single power source points

**Motor**

Long life thermally protected, permanently lubricated, direct drive motor - no belts to adjust or slip. This low noise three speed motor is designed for use with air conditioning capability as well as heating.

**Air Filter**

Convenient access for replacement of standard 16" x 20" x 1"  
Do not use pleated filters.