

# Electric Furnace Modular Air System

EFC / EFV

Form No. JEFC/EFV-100 (01/2010)



10 year limited parts warranty available when applied with a system. See limited warranty document for details.

## Features

### Application

- 1-1/2 - 5 ton sizes
- Upflow, counterflow and horizontal positions

### Cabinet

- Cabinet dimensions match standard furnace widths
- Painted galvanized cabinet

## Components

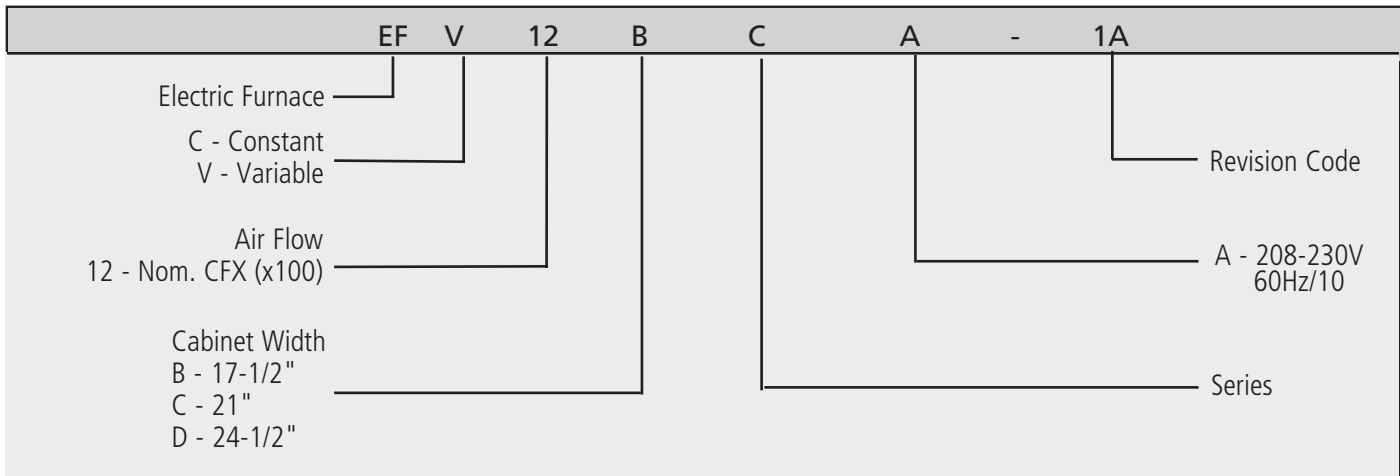
- EFC models feature PSC motors
- EFV models feature ECM™ variable speed motors
- Field installed 5 - 20 kW heat strips
- Factory installed fan relays for non-heat strip Installations



Built for life. Yours.

# Electric Furnace - Modular Air System EFC / EFV

## Model Number Guide



## Physical Data

Model	Voltage/Phase/Hz	Blower Motor (hp)	Blower Motor Speeds	Maximum Duct Static	Rated Load Amps	Nominal Tonnage	Weight (lbs.)
EFC08BC	208-230/1/60	1/4	3	.20	1.9	1-1/2 - 2	78
EFC12BC	208-230/1/60	1/3	3	.35	2.6	2-1/2 - 3	85
EFC16CC	208-230/1/60	3/4	3	.15	4.0	4	96
EFC20DC	208-230/1/60	3/4	3	.15	4.3	5	104
EFV08BC	208-230/1/60	1/3	*	.40	2.4	1-1/2 - 2	79
EFV12BC	208-230/1/60	1/2	*	.40	3.1	1-1/2 - 3	86
EFV16CC	208-230/1/60	3/4	*	.40	5.7	2 - 4	97
EFV20DC	208-230/1/60	3/4	*	.40	5.7	3 - 5	105

## Electrical Data (EFC Models)

Blower Size	Electrical Heating Cap.		Blower Amps		(2) (3) Total Amps per Circuit						Total Unit Amps		Circuit Breaker	
	kW	Btuh			208v			240v					Amps per Stage	
	(1) 240v	(1) 240v	208V	240V	1	2	3	1	2	3	208	240	1	2
08 (no heat)	0	0	2.0	1.9	---	---	---	---	---	---	2.0	1.9	15	---
08	5	17,100	2.0	1.9	20.1	---	---	22.7	---	---	20.1	22.7	30	---
08	7.5	25,600	2.0	1.9	20.1	---	---	33.2	---	---	29.1	33.2	45	---
08	10	34,100	2.0	1.9	38.1	---	---	43.6	---	---	38.1	43.6	60	---
12 (no heat)	0	0	2.8	2.6	---	---	---	---	---	---	2.8	2.6	15	---
12	5	17,100	2.8	2.6	20.9	---	---	23.4	---	---	20.9	23.4	30	---
12	7.5	25,600	2.8	2.6	20.9	---	---	33.9	---	---	29.9	33.9	45	---
12	10	34,100	2.8	2.6	38.9	---	---	44.3	---	---	38.9	44.3	60	---
12	15	51,200	2.8	2.6	38.9	18.1	---	44.3	20.8	---	57.0	65.1	60	30
16 (no heat)	0	0	4.3	4.0	---	---	---	---	---	---	4.3	4.0	15	---
16	10	34,100	4.3	4.0	40.4	---	---	45.7	---	---	40.4	45.7	60	---
16	15	51,200	4.3	4.0	40.4	18.1	---	45.7	20.8	---	58.8	66.5	60	30
16	20	68,300	4.3	4.0	40.4	27.1	---	45.7	41.7	---	76.5	87.3	60	60
20 (no heat)	0	0	4.6	4.3	---	---	---	---	---	---	4.6	4.3	15	---
20	10	34,100	4.6	4.3	40.7	---	---	46.0	---	---	40.7	46.0	60	---
20	15	51,200	4.6	4.3	40.7	18.1	---	46.0	20.8	---	58.8	66.8	60	30
20	20	68,300	4.6	4.3	40.7	36.1	---	46.0	41.7	---	76.8	87.6	60	60

NOTE: If nominal CFM is 1000 (2.5 tons) with 15 kW electric heat, the motor speed must be set at medium or higher.  
 Maximum kW for units with nominal CFM set at 1400 (3.5 tons) is 15 kW.  
 For 208 volt use .751 correction factor for kW and Btuh.  
 15 and 20 kW (2 stage models) require 2 supply circuits.  
 Circuit #1 includes blower motor amps.  
 kW packages in bold indicate that these heat packages require and include circuite breakers. Optional for others.

## Blower Performance (EFC Models)

Size	Blower	External Static Pressur in W.C. - No Filter (Dry Coil)				
	Speed	.10	.20	.30	.40	.50
EFC08B	Low	590	600	590	560	510
	<i>*Med</i>	910	880	830	770	700
	High	1080	1020	950	870	770
EFC12B	Low	1090	1080	1060	1040	1010
	<i>*Med</i>	1260	1260	1250	1210	1170
	High	1340	1330	1330	1290	1250
EFC16C	Low	1510	1490	1440	1400	1320
	<i>*Med</i>	1640	1600	1590	1500	1420
	High	1730	1700	1640	1560	1470
EFC20D	Low	1600	1580	1550	1490	1420
	<i>*Med</i>	2060	1990	1910	1820	1710
	High	2220	2130	2040	1940	1830

Speeds marked in italics with an asterisk\* are the factory settings for both heating and cooling.

Cooling speeds should not be reduced below factory settings

Different speeds can be set for heating mode.

See installation instructions for changing speeds and minimum settings on electric heat.

# Electric Furnace - Modular Air System    EFC / EFV

## Electrical Data    (EFV Models)

Blower Size	Electrical Heating Cap.		Blower Amps		(2) (3) Total Amps per Circuit						Total Unit Amps		MCA		Circuit Breaker	
	kW	Btuh			208v			240v							Amps per Stage	
	(1) 240v	(1) 240v	208V	240V	1	2	3	1	2	3	208	240	208v	240v	1	2
08 (no heat)	0	0	2.6	2.4	---	---	---	---	---	---	2.3	2.4	2.9	3.0	15	---
08	5	17,100	2.6	2.4	20.7	---	---	23.2	---	---	20.7	23.2	25.8	29.0	30	---
08	7.5	25,600	2.6	2.4	29.7	---	---	33.7	---	---	29.7	33.7	37.1	42.1	45	---
08	10	34,100	2.6	2.4	38.7	---	---	44.1	---	---	37.7	44.1	48.4	55.1	60	---
12 (no heat)	0	0	2.9	2.7	---	---	---	---	---	---	2.9	2.7	3.6	3.4	15	---
12	5	17,100	2.9	2.7	20.9	---	---	23.5	---	---	20.9	23.5	26.1	29.4	30	---
12	7.5	25,600	2.9	2.7	30.0	---	---	34.0	---	---	30.0	34.0	37.5	42.5	45	---
12	10	34,100	2.9	2.7	39.0	---	---	44.4	---	---	39.0	44.4	48.8	55.5	60	---
12	15	51,200	2.9	2.7	39.0	18.1	---	44.4	20.8	---	57.1	65.2	71.4	81.5	60	30
16 (no heat)	0	0	3.8	3.5	---	---	---	---	---	---	3.8	3.5	4.8	4.4	15	---
16	10	34,100	3.8	3.5	39.9	---	---	45.1	---	---	39.9	45.1	49.9	56.4	60	---
16	15	51,200	3.8	3.5	39.9	18.1	---	45.1	20.8	---	58.0	65.9	72.5	82.4	60	30
16	20	68,300	3.8	3.5	39.9	27.1	---	45.1	41.7	---	76.0	86.8	95.0	108.5	60	60
20 (no heat)	0	0	4.7	4.3	---	---	---	---	---	---	0.0	0.0	0.0	0.0	15	---
20	10	34,100	4.7	4.3	40.9	---	---	45.9	---	---	40.9	45.9	51.1	57.4	60	---
20	15	51,200	4.7	4.3	40.9	18.1	---	45.9	20.8	---	59.0	66.7	73.8	83.4	60	30
20	20	68,300	4.7	4.3	40.9	36.1	---	45.9	41.7	---	77.0	87.6	96.3	109.5	60	60

NOTE: If nominal CFM is 1000 (2.5 tons) with 15 kW electric heat, the motor speed must be set at medium or higher.  
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 For 208 volt use .751 correction factor for kW and Btuh.  
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 kW packages in bold indicate that these packages require and include circuit breakers. Optional for others.

## Accessories

Kit Number	Description	Used with
AEHBCC05NSA-1	5kW with Terminal Block	8, 12
AEHBCC05CSA-1	5kW with Circuit Breaker	8, 12
AEHBCC07NSA-1	7.5kW with Terminal Block	8, 12
AEHBCC07CSA-1	7.5kW with Circuit Breaker	8, 12
AEHBCC10NSA-1	10kW with Terminal Block	All
AEHBCC10CSA-1	10kW with Circuit Breaker	All
AEHBCC15CSA-1	15kW with Circuit Breaker	12, 16, 20
AEHBCC20NSA-1	20kW with Circuit Breaker	16, 20

\*C - Constant or V - Variable

1 N = No circuit breaker

1 C = Circuit breaker

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## Blower Performance (EFV Models)

Air Handler Model	Energized Thermostat Terminal	Control Board Tap	CFM @ ESP. in W.C.							
			.10	.20	.30	.40	.50	.60	.70	.80
EFV08BC	Y1	A	710	690	680	690	690	690	690	690
		B	560	560	560	570	560	560	570	570
		C	490	490	500	500	500	500	490	490
		D	430	430	430	430	440	440	440	440
	Y1 / Y2	A	1010	980	970	980	980	980	980	970
		B	800	800	800	810	800	800	810	810
		C	700	700	710	710	710	710	700	700
		D	610	610	620	620	630	630	630	630
	G	A	510	490	480	490	490	490	490	490
		B	400	400	400	410	400	400	410	410
		C	350	350	360	360	360	360	350	350
		D	310	310	310	310	320	320	320	320
EFV12BC	Y1	A	850	860	860	870	880	880	880	880
		B	710	720	730	740	740	750	730	730
		C	620	600	600	600	610	600	610	610
		D	500	480	470	470	460	450	440	420
	Y1 / Y2	A	1,220	1,220	1,210	1,210	1,210	1,210	1,200	1,200
		B	1,000	1,010	1,040	1,040	1,040	1,040	1,040	1,020
		C	820	820	830	830	840	840	840	840
		D	650	640	640	650	650	660	660	640
	G	A	640	620	640	640	640	640	630	630
		B	570	560	560	550	560	550	520	520
		C	510	500	490	480	470	460	440	430
		D	470	450	440	410	400	400	390	380
EFV16CC	Y1	A	1,130	1,120	1,120	1,110	1,100	1,090	1,080	1,070
		B	990	970	960	950	940	920	910	910
		C	850	830	810	790	780	750	740	710
		D	690	660	650	620	610	580	560	530
	Y1 / Y2	A	1,680	1,660	1,640	1,620	1,610	1,610	1,610	1,600
		B	1,440	1,400	1,400	1,400	1,390	1,380	1,380	1,360
		C	1,230	1,220	1,210	1,210	1,200	1,180	1,170	1,160
		D	1,000	990	980	980	960	950	950	940
	G	A	800	790	760	750	720	710	680	660
		B	680	670	650	630	610	580	550	520
		C	580	540	510	480	460	430	390	370
		D	480	430	390	410	400	400	400	400

## Blower Performance (EFV Models) continued

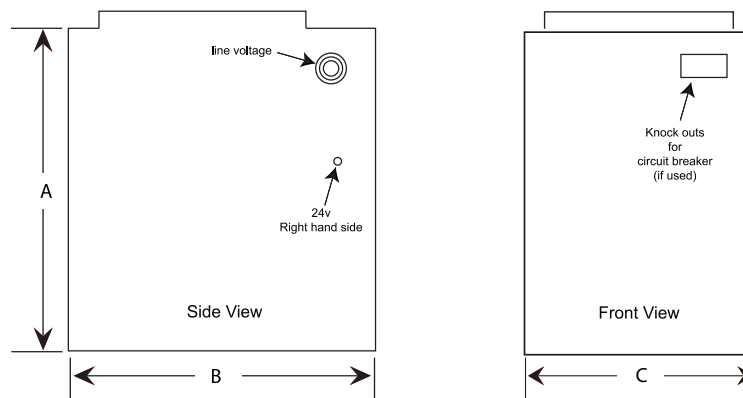
Air Handler Model	Energized Thermostat Terminal	Control Board Tap	CFM @ ESP. in W.C.							
			.10	.20	.30	.40	.50	.60	.70	.80
EFV20DC	Y1	A	1,250	1,230	1,210	1,180	1,140	1,100	1,070	1,050
		B	1,120	1,100	1,080	1,040	990	970	940	930
		C	980	950	900	860	840	820	810	800
		D	860	810	760	740	720	710	700	680
	Y1 / Y2	A	1,840	1,830	1,810	1,790	1,780	1,760	1,730	1,690
		B	1,640	1,640	1,620	1,610	1,600	1,570	1,540	1,490
		C	1,390	1,380	1,370	1,360	1,322	1,296	1,255	1,220
		D	1,210	1,190	1,180	1,140	1,100	1,040	1,030	1,000
	G	A	910	870	830	790	770	760	740	730
		B	840	790	740	710	710	690	680	660
		C	740	690	640	640	620	610	600	590
		D	680	610	580	570	560	550	530	500

Notes: Humidistat will reduce colling airflow by 10% in high humidity.  
 Adjust tap (+) will increase airflow by 10%, while tap (-) will decrease airflow by 12%  
 Adjust tap test will cause the motor to run at 70% of full airflow. Use this for troubleshooting only.  
 At the start of a call for cooling, there is a blower delay of 1 minute.

## Dimensions (in.)

Unit Size	A	B	C	Supply Duct Opening		Return Duct Opening	
				Depth	Width	Depth	Width
EFV / EFC08	25	21	17-1/2	16-1/2	15-1/2	19-1/2	16
EFV / EFC12	25	21	17-1/2	16-1/2	15-1/2	19-1/2	16
EFV / EFC16	26	21	21	16-1/2	19	19-1/2	19-1/2
EFV / EFC20	26	21	24-1/2	16-1/2	22-1/2	19-1/2	23

Optional line voltage on top or right side of blower.



# AIREASE™

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