

HEAT CONTROLLER, INC.

ELECTRIC HEAT AIR HANDLERS

208/230V

1½ to 5 TONS



HFE
SERIES



High efficiency series for R-22

- Certain models feature GE's new X-13 motor for enhanced SEER performance with most outdoor condensing units
- Multi-position design for upflow, downflow, horizontal left and horizontal right installations
- Factory-installed high efficiency indoor coil
- One inch reinforced foil-faced jacket insulation for thermal efficiency and quiet operation
- Traditional open wire element for heat applications
- Expansion valve on indoor coil for operation with air conditioning or heat pump
- Enhanced air flow up to .7" w.c. external static pressure; meets or exceeds 330 to 400 CFM per ton at .3" w.c. external static pressure
- Low voltage power connection on air handler cabinet exterior, high voltage connection inside cabinet
- Field installed auxiliary heater kits include circuit breakers to meet UL and cUL service disconnect requirements; connections can be made from either side or top
- Special floor base accessory allows all models to be installed on a combustible base

CABINET FEATURES

- Compact cabinet size
- Prepainted steel construction for strength and attractive appearance
- Supply duct flanges standard

INDOOR COILS

- Factory-installed coils are designed for high performance in a compact size
- Aluminum fins are bonded to internally grooved copper tubing for efficient operation
- Condensate drain pan is corrosion-proof

BLOWER

- Four leg blower motor mount to reduce vibration and operating sound
- Slide-out blower for fast service and easy maintenance

EASY INSTALLATION

- Front refrigerant and drain connections for convenient installation
- Concentric knock-outs for power connection to cabinet up to 2" in diameter for 1½" conduit

MODEL NUMBER IDENTIFICATION and UNIT DIMENSIONS

HFE

36

17

E

P

1

A

**Multi-Position
Air Handler**

**Nominal
Capacity**

18=18,000 BTUH 42=42,000 BTUH
24=24,000 BTUH 48=48,000 BTUH
30=30,000 BTUH 60=60,000 BUTH
36=36,000 BTUH

**Cabinet
Width**

17=17.5"
21=21"
24=24.5"

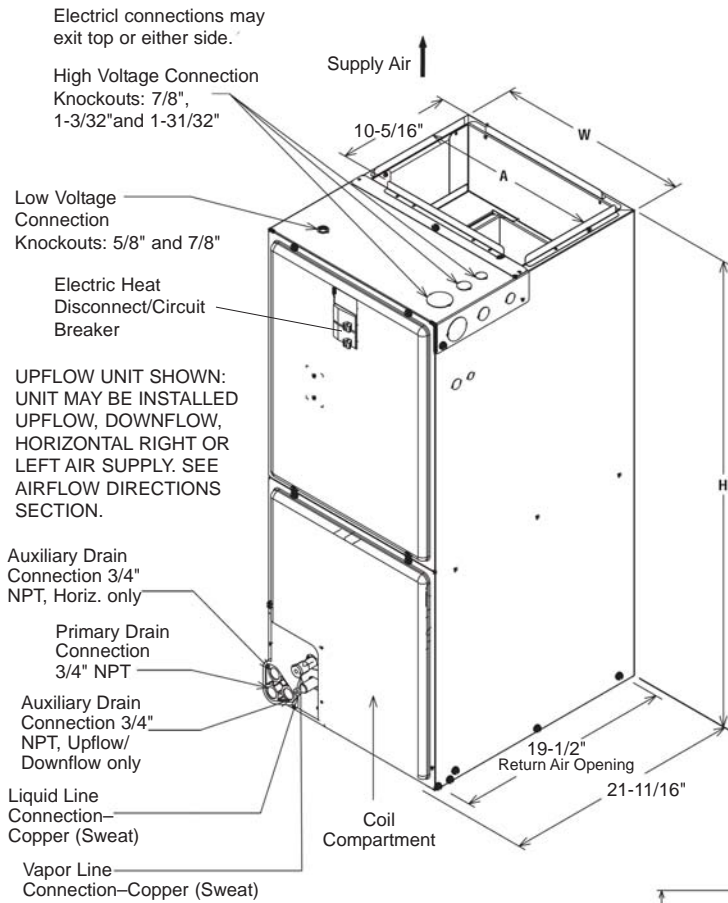
TXV
E=R-22

Motor
P=PSC
X=X Motor

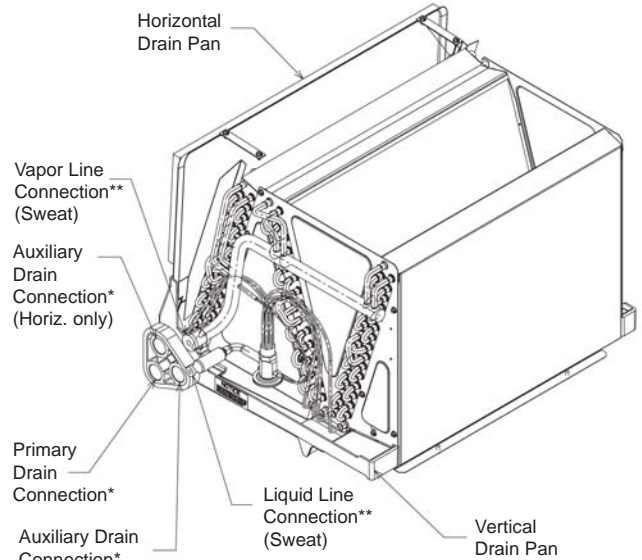
Voltage
1=208/230V-1VAC, 60 Hz

**Revision
Level**

UNIT DIMENSIONS



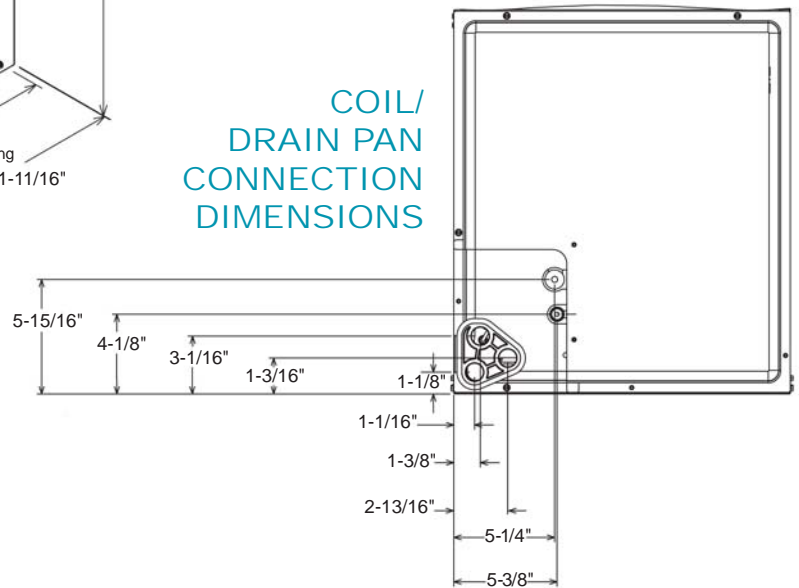
COIL DETAILS



*All drain connections 3/4" NPT (Female Pipe Thread)

**See table below for size

COIL/ DRAIN PAN CONNECTION DIMENSIONS



Line Connection Sizes

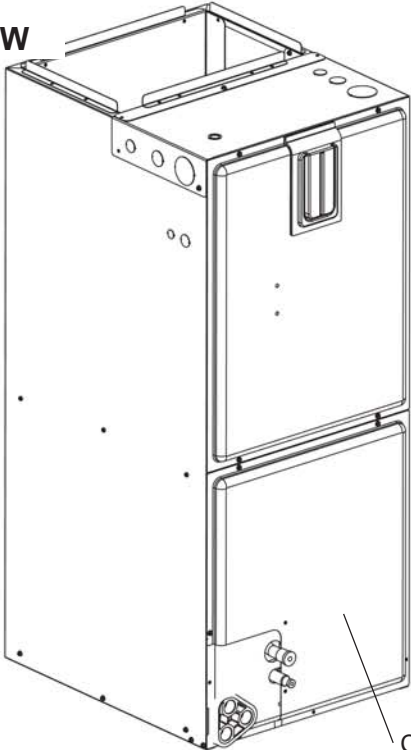
Nom. Cooling Capacity (Tons)	Liquid (inches OD)	Vapor (inches OD)
1.5 and 2.0	3/8	3/4
2.5 and 3.0	3/8	3/4
3.5 and 4.0	3/8	7/8
5.0	3/8	7/8

Unit Dimensions and Weights

Nom. Cooling Capacity (Tons)	Cabinet Size	Unit Width "W" in.	Unit Height "H" in.	Supply Duct "A" in.	Return Air Opening Width (in.)	Unit Wt./Ship Wt. (lbs) with Max. kW
1.5 and 2.0	17	17-1/2	42-1/2	16	16	82/96
2.5 and 3.0	17	17-1/2	42-1/2	16	16	92/106
3.5 and 4.0	21	21	50-1/2	19-1/2	19-1/2	150/166
5.0	24	24-1/2	55-12	23	23	181/198

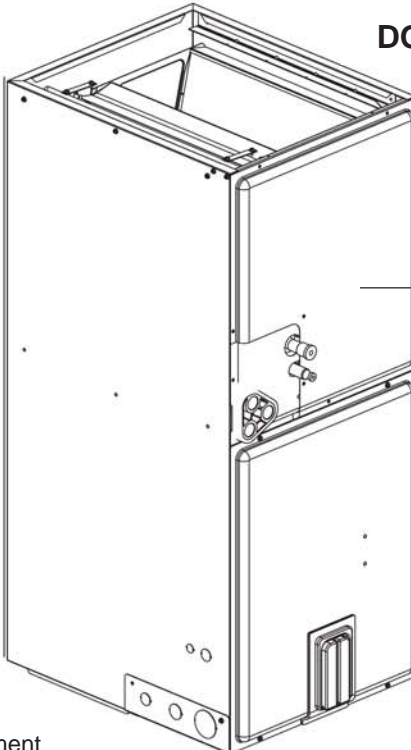
AIRFLOW DIRECTION and UNIT CONFIGURATION

UPFLOW



Coil Compartment

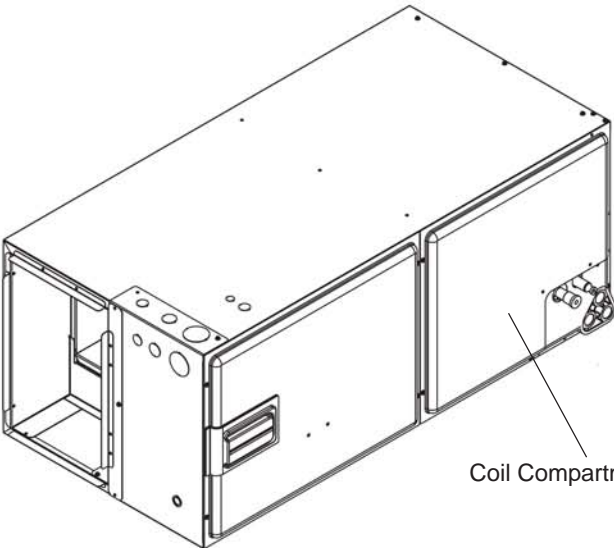
DOWNFLOW*



Coil Compartment

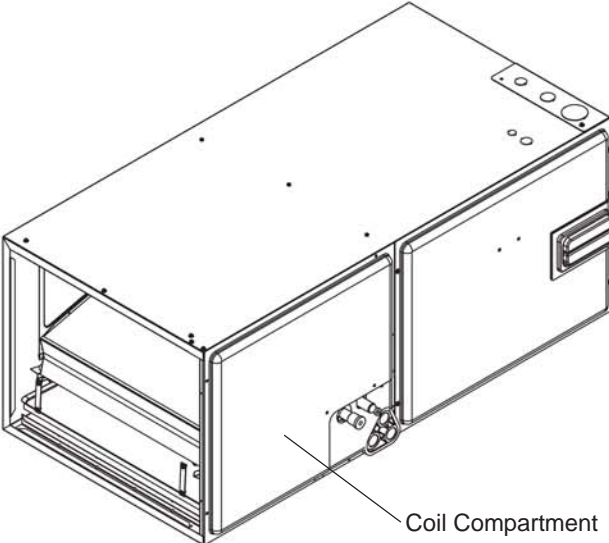
*Field modification required

**HORIZONTAL
LEFT AIRFLOW**



Coil Compartment

**HORIZONTAL
RIGHT AIRFLOW***



Coil Compartment

*Field modification required

AIRFLOW OPERATING LIMITS

Airflow performance data is based on cooling performance with dry coil and filter in place. Select performance table for appropriate unit size, voltage and number of electric heaters to be used. Make sure external static applied to unit allows operation within the

minimum and maximum limits shown in the table below for both cooling and electric heat operation. For optimum blower performance, operate the unit in the .3" to .7" w.c. external static range. Units should be applied with a minimum of .1" w.c. external static pressure.

Model Cabinet Size	17		17		21		24
Cooling BTUH x 1,000	18	24	30	36	42	48	60
Cooling Tons Nominal	1.5	2.0	2.5	3.0	3.5	4.0	5.0
Heat Pump or Air Conditioning Maximum Heat/Cool CFM (450 CFM/Ton Nominal)	711	897	1015	1200	1514	1665	1900
Heat Pump or Air Conditioning Nominal Heat/Cool CFM (400 CFM/Ton Nominal)	600	800	1000	1100	1400	1600	1800
Heat Pump or Air Conditioning Minimum Heat/Cool CFM (360 CFM/Ton Nominal)	500	650	865	1015	1200	1535	1739
Blower Motor Speed*	Low	Low	Low	Low	Low	4	4
Maximum kW Electric Heating & Minimum Electric Heat CFM	10 500	10 650	15 865	15 1015	20 1200	20 1535	25 1730
Maximum Electric Heat Rise °F	75	75	75	75	75	75	75

* Factory Setting

BLOWER MOTOR ELECTRICAL DATA

Cooling Capacity Tons	Voltage	Phase	Hertz	HP	RPM	Speeds	Circuit Amps	Minimum Circuit Ampacity*	Maximum Fuse or HACR Breaker
1.5	208/230	1	60	1/5	1075	2	1.4	1.8	15
2.0				1/5	1075	2	2.3	2.9	15
2.5				1/4	1075	2	2.4	3.0	15
3.0				1/3	1075	2	3.5	4.4	15
3.5				1/3	1075	2	8.3	10.3	15
4.0				3/4	300-1100	4	6.0	8.5	15
5.0				3/4	300-1100	4	6.0	8.5	15

* Supply conductor size and type in accordance with N.E.C.

208V AIRFLOW PERFORMANCE DATA

Cabinet Size	Nominal Cooling Capacity Tons	Motor Speed from Factory	Manufacturer Recommended Airflow Range (Min-Max)	Blower Size/ Motor HP & Type No. of Speeds	Motor Speeds		Air Delivery/RPM/WATTS—208V External Static Pressure—Inches w.c.						
							0.1	0.2	0.3	0.4	0.5	0.6	0.7
17	1.5	Low	523/705 CFM	10 x 6 1/5 HP PSC 2 Speeds	Low	CFM	681	636	606	567	523	—	—
					RPM	541	601	670	714	768	—	—	
	Watts	193	181	173	164	157	—	—					
	High	CFM	—	—	—	—	705	650	599				
	RPM	—	—	—	—	815	861	989					
	Watts	—	—	—	—	239	227	204					
	2.0	Low	682/897 CFM	10 x 6 1/5 HP PSC 2 Speeds	Low	CFM	875	806	787	739	682	—	—
					RPM	648	700	745	794	827	—	—	
	Watts	259	255	243	234	227	—	—					
	High	CFM	—	—	—	—	897	851	765				
	RPM	—	—	—	—	906	925	955					
	Watts	—	—	—	—	332	318	306					
2.5	Low	883/1015 CFM	10 x 8 1/4 HP PSC 2 Speeds	Low	CFM	1038	1010	976	925	883	—	—	
				RPM	721	771	799	848	880	—	—		
Watts	325	314	313	290	286	—	—						
High	CFM	—	—	—	—	1015	963	890					
RPM	—	—	—	—	928	955	974						
Watts	—	—	—	—	356	341	339						
3.0	Low	1052/1201 CFM	10 x 8 1/3 HP PSC 2 Speeds	Low	CFM	1201	1170	1141	1104	1062	—	—	
				RPM	833	872	909	951	965	—	—		
Watts	462	427	406	406	385	—	—						
High	CFM	—	—	—	—	1194	1134	1078					
RPM	—	—	—	—	1028	1042	1060						
Watts	—	—	—	—	475	454	417						
21	3.5	Low	1211/1514 CFM	10 x 10 1/2 HP PSC 2 Speeds	Low	CFM	1493	1449	1363	1287	1211	—	—
					RPM	822	858	865	931	958	—	—	
	Watts	540	519	506	484	459	—	—					
	High	CFM	—	—	—	—	1514	1411	1315				
RPM	—	—	—	—	1061	1069	1078						
Watts	—	—	—	—	710	702	677						
4.0	4	1535/1665 CFM	10 x 10 3/4 HP X-13 5 Speeds	4	CFM	1665	1631	1601	1572	1535	—	—	
				RPM	853	893	934	968	1015	—	—		
Watts	351	387	401	406	422	—	—						
5	CFM	—	—	—	—	1654	1624	1563					
RPM	—	—	—	—	1036	1078	1095						
Watts	—	—	—	—	500	513	513						
24	5.0	4	1734/1900 CFM	11 x 11 3/4 HP X-13 5 Speeds	4	CFM	1902	1862	1809	1781	1739	—	—
					RPM	712	749	787	815	856	—	—	
Watts	389	409	419	432	459	—	—						
5	CFM	—	—	—	—	1905	1888	1832					
RPM	—	—	—	—	694	924	950						
Watts	—	—	—	—	585	570	592						

NOTES:

- **PSC motor speed and voltage tap changes:**
- All 208/240V PSC motors have a voltage tap for 208 and 240 volts.
- All 208/240V motors are shipped on low static speed and 240V.
- If application exceeds 0.5" of static, adjust the motor speed to the high static speed as described in the installation manual.
- Adjust the transformer tap and motor voltage tap as described in the installation manual.

• X-13 motor speed changes

(No change required between 208V to 240V)

- Motor has 5 speed taps. Speed tap 1 is for continuous fan. Speed tap 4 (low static) and Speed tap 5 (high static) are for four and five ton units.
- X-13 air handlers are shipped from factory at Speed tap 4.

240V AIRFLOW PERFORMANCE DATA

Cabinet Size	Nominal Cooling Capacity Tons	Motor Speed from Factory	Manufacturer Recommended Airflow Range (Min-Max) CFM	Blower Size/ Motor HP & Type No. of Speeds	Motor Speeds		Air Delivery/RPM/WATTS—240V External Static Pressure—Inches w.c.						
							0.1	0.2	0.3	0.4	0.5	0.6	0.7
17	1.5	Low	517/711 CFM	10 x 6 1/4 HP PSC 2 Speeds	Low	CFM	668	637	595	560	523	—	—
						RPM	541	596	657	706	761	—	—
					Watts	180	171	166	161	169	—	—	
					High	CFM	—	—	—	—	711	662	614
	RPM	—	—	—		—	812	853	890				
	Watts	—	—	—	—	243	227	210					
	2.0	Low	697/888 CFM	10 x 6 1/4 HP PSC 2 Speeds	Low	CFM	817	779	757	693	647	—	—
						RPM	616	667	715	770	808	—	—
					Watts	239	230	221	206	205	—	—	
					High	CFM	—	—	—	—	888	828	774
	RPM	—	—	—		—	875	908	958				
Watts	—	—	—	—	331	313	301						
2.5	Low	864/1004 CFM	10 x 8 1/4 HP PSC 2 Speeds	Low	CFM	1022	987	940	903	864	—	—	
					RPM	700	754	794	633	870	—	—	
				Watts	344	313	302	309	288	—	—		
				High	CFM	—	—	—	—	1004	951	883	
RPM	—	—	—		—	924	953	975					
Watts	—	—	—	—	364	352	344						
3.0	Low	1013/1178 CFM	10 x 8 1/3 HP PSC 2 Speeds	Low	CFM	1139	1114	1078	1051	1013	—	—	
					RPM	820	848	896	921	969	—	—	
				Watts	440	425	420	400	374	—	—		
				High	CFM	—	—	—	—	1178	1129	1053	
RPM	—	—	—		—	1024	1036	1060					
Watts	—	—	—	—	496	464	453						
21	3.5	Low	1241/1537 CFM	10 x 10 1/2 HP PSC 2 Speeds	Low	CFM	1526	1474	1427	1307	1241	—	—
						RPM	834	870	902	948	968	—	—
					Watts	560	549	535	476	462	—	—	
					High	CFM	—	—	—	—	1537	1418	1334
	RPM	—	—	—		—	1072	1077	1085				
	Watts	—	—	—	—	860	835	820					
4.0	4	1535/1665 CFM	10 x 10 3/4 HP X-13 5 Speeds	4	CFM	1665	1631	1601	1572	1535	—	—	
					RPM	853	893	934	968	1015	—	—	
Watts	351	387	401	406	422	—	—						
	5	CFM	—	—	—	1654	1624	1563					
RPM		—	—	—	—	1036	1078	1095					
Watts	—	—	—	—	500	513	513						
24	5.0	4	1734/1900 CFM	11 x 11 3/4 HP X-13 5 Speeds	4	CFM	1902	1862	1809	1781	1739	—	—
						RPM	712	749	787	815	856	—	—
					Watts	389	409	419	432	459	—	—	
					5	CFM	—	—	—	—	1905	1888	1832
RPM	—	—	—	—		694	924	950					
Watts	—	—	—	—	585	570	592						

NOTES:

- **PSC motor speed and voltage tap changes:**
- All 208/240V PSC motors have a voltage tap for 208 and 240 volts.
- All 208/240V motors are shipped on low static speed and 240V.
- If application exceeds 0.5" of static, adjust the motor speed to the high static speed as described in the installation manual.
- Adjust the transformer tap and motor voltage tap as described in the installation manual.

- **X-13 motor speed changes**

- (No change required between 208V to 240V)
- Motor has 5 speed taps. Speed tap 1 is for continuous fan. Speed tap 4 (low static) and Speed tap 5 (high static) are for four and five ton units.
- X-13 air handlers are shipped from factory at Speed tap 4.

ELECTRIC HEAT ELECTRICAL DATA-60 Hz/Single Phase

Air Handler Model	Heater Model No.	Heater kW 208/240V	No. Elements kW/Element	Circuit Configuration	Circuit Amps	Motor Ampacity	Min. Circuit Ampacity*	Max. Fuse or HACR Breaker
HFE1817/ HFE2417 EP-1A	RXBH-17A05J	3.6/4.8	1 - 4.8	Single	17.3/20.0	1.7	24/28	25/30
	RXBH-17A07J	5.4/7.2	2 - 3.6	Single	26.0/30.0	1.7	35/40	35/40
	RXBH-17A10J	7.2/9.6	2 - 4.8	Single	34.6/40.0	1.7	46/53	50/60
HFE3017/ HFE3617 EP-1A	RXBH-17A05J	3.6/4.8	1 - 4.8	Single	17.3/20.0	2.5	25/29	25/30
	RXBH-17A07J	5.4/7.2	2 - 3.6	Single	26.0/30.0	2.5	36/41	40/45
	RXBH-17A10J	7.2/9.6	2 - 4.8	Single	34.6/40.0	2.5	47/54	50/60
	RXBH-17A15J	10.8/14.4	3 - 4.8	Single	51.9/60.0	2.5	68/79	70/80
	RXBH-17A15J	3.6/4.8	1 - 4.8	Multi-Circuit 1	17.3/20.0	2.5	25/29	25/30
7.2/9.6		2 - 4.8	Multi-Circuit 2	34.6/40.0	0.0	44/50	45/50	
HFE4221 EP-1A	RXBH-24A05J	3.6/4.8	1 - 4.8	Single	17.3/20.0	2.5	25/29	25/30
	RXBH-24A07J	5.4/7.2	2 - 3.6	Single	26.0/30.0	2.5	36/41	40/45
	RXBH-24A10J	7.2/9.6	2 - 4.8	Single	34.6/40.0	2.5	47/54	50/60
	RXBH-24A15J	10.8/14.4	3 - 4.8	Single	51.9/60.0	2.5	68/79	70/80
	RXBH-24A15J	3.6/4.8	1 - 4.8	Multi-Circuit 1	17.3/20.0	2.5	25/29	25/30
		7.2/9.6	2 - 4.8	Multi-Circuit 2	34.6/40.0	0.0	44/50	45/50
	RXBH-24A20J	14.4/19.2	4 - 4.8	Single	69.2/80.0	6.0	94/108	100/110
	RXBH-24A20J	7.2/9.6	2 - 4.8	Multi-Circuit 1	34.6/40.0	6.0	51/58	60/60
		7.2/9.6	2 - 4.8	Multi-Circuit 2	34.6/40.0	0.0	44/50	45/50
HFE4821 EX-1A	RXBH-24A05J	3.6/4.8	1 - 4.8	Single	17.3/20.0	6.0	30/33	30/35
	RXBH-24A07J	5.4/7.2	2 - 3.6	Single	26.0/30.0	6.0	40/45	40/45
	RXBH-24A10J	7.2/9.6	2 - 4.8	Single	34.6/40.0	6.0	51/58	60/60
	RXBH-24A15J	10.8/14.4	3 - 4.8	Single	51.9/60.0	6.0	73/83	80/90
	RXBH-24A15J	3.6/4.8	1 - 4.8	Multi-Circuit 1	17.3/20.0	6.0	30/33	30/35
		7.2/9.6	2 - 4.8	Multi-Circuit 2	34.6/40.0	0.0	44/50	45/50
	RXBH-24A20J	14.4/19.2	4 - 4.8	Single	69.2/80.0	5.2	93/107	100/110
	RXBH-24A20J	7.2/9.6	2 - 4.8	Multi Circuit 1	34.6/40.0	5.2	50/57	50/60
		7.2/9.6	2 - 4.8	Multi Circuit 2	34.6/40.0	0.0	44/50	45/50
HFE6024 EX-1A	RXBH-24A07J	5.4/7.2	2 - 3.6	Single	26.0/30.0	6.0	40/45	40/45
	RXBH-24A10J	7.2/9.6	2 - 4.8	Single	34.6/40.0	6.0	51/58	60/60
	RXBH-24A15J	10.8/14.4	3 - 4.8	Single	51.9/60.0	6.0	73/83	80/90
	RXBH-24A15J	3.6/4.8	1 - 4.8	Multi-Circuit 1	17.3/20.0	6.0	30/33	30/35
		7.2/9.6	2 - 4.8	Multi-Circuit 2	34.6/40.0	0.0	44/50	45/50
	RXBH-24A20J	14.4/19.2	4 - 4.8	Single	69.2/80.0	6.0	94/108	100/110
	RXBH-24A25J	7.2/9.6	2 - 4.8	Multi-Circuit 1	34.6/40.0	6.0	51/58	60/60
		7.2/9.6	2 - 4.8	Multi-Circuit 2	34.6/40.0	0.0	44/50	45/50
	RXBH-24A20J	15.0/24.0	6 - 4.0	Single	72.0/99.9	6.0	98/133	100/150
	RXBH-24A25J	5.0/8.0	2 - 4.0	Multi-Circuit 1	24.0/33.3	6.0	38/50	40/50
		5.0/8.0	2 - 4.0	Multi-Circuit 2	24.0/33.3	0.0	30/42	30/45
5.0/8.0		2 - 4.0	Multi-Circuit 3	24.0/33.3	0.0	30/42	30/45	

* Supply conductor size and type in accordance with N. E. C.

NOTE 1: Heater kits include circuit breakers that meet UL and cUL requirements for service disconnect.

NOTE 2: Heater kits are field installed.

NOTE 3: Multi-circuit configuration can be converted to single circuit configuration using jumper bar kit RXBJ-A21 (two circuits to one) or RXBJ-A31 (three circuits to one).

ACCESSORIES

Base for Combustible Floors

Model	Floor Base Model No.
HFE1817 thru 3617	RXHB-17
HFE4221/4821	RXHB-21
HFE6024	RXHB-24

External Filter Base

Cabinet Size	Filter Size (in.)	Part No.
17	16 x 20	RXHF-17
21	20 x 20	RXHF-21
24	25 x 20	RXHF-24

Design, specifications, performance data and materials subject to change without notice.

HEAT CONTROLLER, INC.

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www.heatcontroller.com

THE QUALITY LEADER IN CONDITIONING AIR