PACKAGED HEAT PUMP

13CHP

MERIT® SERIES

Residential - R-22

ENGINEERING DATA

Bulletin No. 210436
September 2007
Supersedes June 2007

SEER - 13.00
2 to 5 Tons
Cooling Capacity - 24,800 to 55,500 Btuh
Heating Capacity - 24,000 to 51,000 Btuh
Optional Electric Heat - 5 to 20 kW

MODEL NUMBER IDENTIFICATION

13 CHP A - 24 - P

Nominal SEER

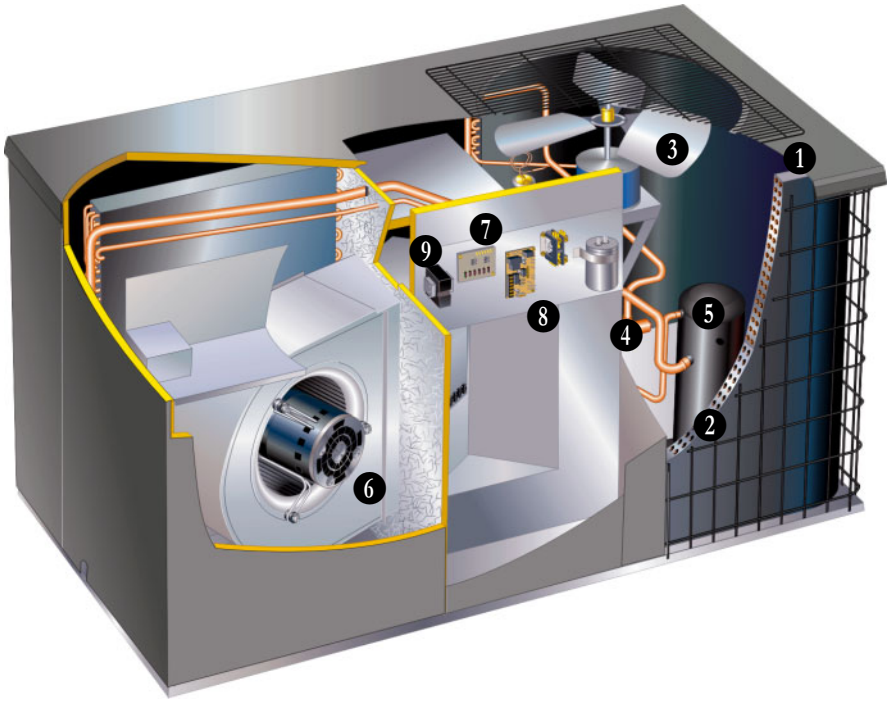
Unit Type
CHP = Package Heat Pump

Major Design Sequence
A = 1st Generation

Nominal Cooling Capacity
24 = 2 tons
30 = 2.5 tons
36 = 3 tons
42 = 3.5 tons
48 = 4 tons
60 = 5 tons

Voltage
P = 208/230V-1ph-60hz

FEATURES



CONTENTS

EQUIPMENT WARRANTY

Compressor - limited warranty for **five years** in residential installations and one year in non-residential installations.

All other covered components - **five years** in residential installations and one year in non-residential installations.

Refer to Lennox Equipment Limited Warranty certificate included with unit for specific details.

APPROVALS

Units are design certified by UL.
Units are listed by UL for the U.S. and Canada.
Cooling system rated according to DOE test procedures.
Cooling system rated in accordance with ARI standard 210/240.
Packaged unit and components within bonded for grounding to meet safety standards required by UL.
Optional electric heaters are UL and ULC listed and are rated and tested according to DOE test procedures and FTC labeling regulations.
Each unit test operated at the factory before shipment ensuring dependable operation at start-up.

APPLICATIONS

Designed for outdoor installations at ground level or rooftop for residential applications.

CABINET

1 Conditioned areas insulated with foil faced insulation to minimize heat loss and reduce operating sound levels.
Powder paint for maximum durability.
Easy service access.
PVC coated steel wire coil guard furnished as standard.
Interchangeable panels for horizontal to down-flow airflow conversion furnished (shipped for horizontal).

Electrical Inlets and Service Valves

Field wiring inlets are located in one central area of the cabinet. See dimension drawing.
Gauge ports are located inside the cabinet.

OPTIONS

Lifting Brackets

Available to facilitate rigging of the unit.

Roof Curbs

Mates to unit.
Shipped knocked down.
Available in 8 in. and 14 in. heights.

REFRIGERATION SYSTEM

2 **Indoor and Outdoor Coils**

Copper tube with aluminum fin coils.

Indoor Coil Drain Pan

Corrosion resistant plastic drain pan.

3 **Outdoor Coil Fan**

Weather protected heavy duty outdoor coil fan motor with coated steel fan blades for long life.
Internally mounted.
Totally enclosed motor.
Fan guard constructed of corrosion-resistant PVC (polyvinyl chloride) coated steel.

4 **Reversing Valves**

4-way interchange reversing valve effects a rapid change in direction of refrigerant flow resulting in quick changeover from cooling to heating and vice versa.

FEATURES

❺ SCROLL COMPRESSOR

Compressor features high efficiency with uniform suction flow, constant discharge flow and high volumetric efficiency and quiet operation.

Compressor consists of two involute spiral scrolls matched together to generate a series of crescent shaped gas pockets between them.

During compression, one scroll remains stationary while the other scroll orbits around it.

Gas is drawn into the outer pocket, the pocket is sealed as the scroll rotates.

As the spiral movement continues, gas pockets are pushed to the center of the scrolls. Volume between the pockets is simultaneously reduced.

When pocket reaches the center, gas is now at high pressure and is forced out of a port located in the center of the fixed scrolls.

During compression, several pockets are compressed simultaneously resulting in a smooth continuous compression cycle.

Continuous flank contact, maintained by centrifugal force, minimizes gas leakage and maximizes efficiency.

Scroll compressor is tolerant to the effects of slugging and contaminants. If this occurs, scrolls separate, allowing liquid or contaminants to to be worked toward the center and discharged.

Low gas pulses during compression reduces operational sound levels.

Compressor motor is internally protected from excessive current and temperature.

Compressor is installed in the unit on resilient rubber mounts for vibration free operation.

OPTIONS

Compressor Crankcase Heater

Protects against refrigerant migration that can occur during low ambient operation.

Compressor Hard Start Kit

Single-phase units are equipped with a PSC compressor motor. This type of motor normally doesn't need a potential relay and start capacitor.

In conditions such as low voltage, this kit may be required to increase the compressor starting torque.

SUPPLY AIR BLOWER

❻ Direct Drive Blower

Each blower assembly statically and dynamically balanced.

Blower assembly easily removed for servicing

Multi-speed, direct drive blower motor.

Change in blower speed is easily accomplished by simple wiring change on blower motor.

See Blower Performance tables.

AIR FILTERS (NOT FURNISHED)

Filters are not furnished - must be field provided.

OPTIONS

Internal Filter Kits

Available for 1, 2, 4, or 5 in. thick filters. Kit contains filter rails for mounting filters internal to unit. Filters must be field provided. MERV 10 and MERV 16 filters are available separately or other 1, 2, 4 or 5 inch thick filters can be used.

MERV Filters for Internal Filter Kits

Disposable, pleated MERV 10 and MERV 16 filter (Minimum Efficiency Reporting Value based on ASHRAE 52.2).

Dust mites, pollen, mold spores, pet dander and other contaminants are captured by the filter.

Double-wall beverage board frame for rigid construction.

Recommended replacement of the media depends on a variety of factors, see Specifications table.

Media is certified to UL 900 standard and UL/ULC classification - Class 2.

CONTROLS

❼ Solid-state blower control.

Single pole contactor.

Trade available components.

❽ Defrost Control

Solid-state defrost control furnished as standard equipment.

Gives a defrost cycle for every 30, 60 or 90 minutes (adjustable) of compressor "on" time at outdoor temperatures below 35°F.

Field-selectable, "quiet shift" setting reduces compressor noise during the defrost cycle.

Sensor mounted on liquid line determines when defrost cycle is required and also when to terminate cycle.

Anti-short cycle, timed-off control incorporated into the board.

❾ 24 Volt Transformer

40VA transformer furnished and factory installed in control area.

OPTIONS

Low Ambient Kit

Heat Pump units operate satisfactorily in the cooling mode down to 45°F outdoor air temperature without any additional controls.

Low Ambient Control Kit can be field installed, allowing unit operation down to 30°F.

Thermostat

See Thermostat bulletins in Controls section and Lennox Price Book for a complete list of thermostats.

ELECTRIC HEAT (5-20 KW)

Field install internal to unit cabinet.

Available in several voltages and kw sizes.

Helix wound nichrome heating elements exposed directly in air stream resulting in instant heat transfer, low element temperatures and long service life.

Cutoff limit control provides positive protection in case of excessive temperatures.

Factory assembled with controls installed and wired.

Single Point Power Kits

Control Box used with optional electric heat when single power supply is connected to multi-circuit electric heat.

SPECIFICATIONS — 2-5 TON

General Data			13CHPA-24	13CHPA-30	13CHPA-36	13CHPA-42	13CHPA-48	13CHPA-60
		Model No.	13CHPA-24	13CHPA-30	13CHPA-36	13CHPA-42	13CHPA-48	13CHPA-60
		Nominal Tonnage	2	2.5	3	3.5	4	5
Cooling/Heating Performance	Cooling	Total Capacity - Btuh	24,800	30,000	35,400	40,000	46,000	55,500
		Total unit watts	2160	2730	3220	3570	4040	5050
		[1] SEER (Btuh/Watt)	13.0	13.0	13.0	13.0	13.0	13.0
		EER (Btuh/Watt)	11.5	11.0	11.0	11.2	11.4	11.0
	High Temp Heat	Total Capacity - Btuh	24,000	30,000	34,400	41,000	46,000	51,000
		Total unit watts	2160	2590	2970	3700	4090	4400
		COP	3.25	3.4	3.4	3.25	3.3	3.4
		HSPF - Region IV / Region V	7.7/6.7	7.7/6.7	7.7/6.7	7.7/6.7	7.7/6.7	7.7/6.7
	Low Temp Heat	Total Capacity - Btuh	14,800	18,200	20,000	24,500	28,800	31,000
		Total unit watts	1970	2320	2660	3190	3590	3950
		COP	2.2	2.3	2.2	2.25	2.35	2.3
		[2] Sound Rating Number	81	81	81	79	79	79
		Refrigerant Type	R-22	R-22	R-22	R-22	R-22	R-22
		Refrigerant Charge	8 lbs. 1 oz.	7 lbs. 9 oz.	9 lbs. 8 oz.	11 lbs. 10 oz.	11 lbs. 12 oz.	13 lbs. 0 oz.
Condensate drain size (fpt) - in. (mm)			3/4 (19)	3/4 (19)	3/4 (19)	3/4 (19)	3/4 (19)	3/4 (19)
Outdoor Coil		Net face area - sq. ft.	15.1	15.1	15.1	22	22	22
		Tube dia. - in. & No. of rows	5/16 - 2	5/16 - 2	5/16 - 2	5/16 - 2	5/16 - 2	5/16 - 2
		Fins per inch	22	22	22	22	22	22
Outdoor Coil Fan		Diam. - in. & No. of blades	22 - 2	22 - 2	22 - 2	26 - 3	26 - 3	26 - 3
		Motor horsepower	1/5	1/5	1/5	1/4	1/4	1/4
		Air Volume - cfm	2300	2300	2300	3900	3900	3900
		Motor watts	175	175	175	295	295	295
Indoor Coil		Net face area - sq. ft.	4.67	4.67	4.67	6	6	6
		Tube dia. - in. & No. of rows	3/8 - 3	3/8 - 3	3/8 - 4	3/8 - 3	3/8 - 3	3/8 - 4
		Fins per inch	14	14	14	14	14	14
Indoor Blower		Wheel size dia. x width - in.	10 x 6	10 x 6	10 x 8	10 x 10	10 x 10	10 x 10
		Motor horsepower	1/2	1/2	1/2	3/4	3/4	3/4
Net weight of basic unit			380	380	400	509	520	520
Shipping weight of basic unit (1 Pkg.)			435	435	455	595	600	600
Electrical characteristics (60 hz)			208/230V-1ph-60hz					

OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

Compressor Crankcase Heater		**93M04**	•	•	•	•	•	•
Compressor Hard Start Kit		**10J42**	•	•	•	•	•	
		81J69						•
Electric Heat Size 208/240V-1ph	5 kW - PHK05BP	**10W47**	•	•	•	•	•	•
	7.5 kW - PHK07BP	**10W48**	•	•	•	•	•	•
	10 kW - PHK10BP	**10W49**	•	•	•	•	•	•
	15 kW - PHK15CP	**10W50**	- - -	- - -	•	•	•	•
	20 kW - PHK20CP	**10W51**	- - -	- - -	- - -	•	•	•
[3] Internal Filter Kit	(1 ea) 20 x 25 filter	**X8131**	•	•	•			
	(2 ea) 16 x 25 filter	**X8132**				•	•	•
MERV Filters for Internal Filter Kit 5 in. thick	MERV 10	**X6673**	•	•	•			
		X6670				•	•	•
	MERV 16	**X6675**	•	•	•			
		X6672				•	•	•
Lifting Brackets		**92M51**	•	•	•	•	•	•
Low Ambient Kit		**27J00**	•	•	•	•	•	•
Roof Curbs	8 inch height	**92M99**	•	•	•			
		93M01				•	•	•
	14 inch height	**93M00**	•	•	•			
		93M02				•	•	•
Single Point Power Kits	ASPWR813-01 For 5 kW Electric Heat	**13W88**	•	•	•	•	•	•
	ASPWR814-01 For 7.5 kW Electric Heat	**13W89**	•	•	•	•	•	•
	ASPWR815-01 For 10 kW Electric Heat	**13W90**	•	•	•	•	•	•
	ASPWR816-01 For 15-20 kW Electric Heat	**13W91**	- - -	- - -	•	•	•	•

[1] Rated in accordance with ARI Standard 210/240;
Cooling Ratings - 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering indoor coil air.
High Temperature Heating Ratings - 47°F (8°C) db/43°F (6°C) wb outdoor air temperature and 70°F (21°C) entering indoor coil air.
Low Temperature Heating Ratings - 17°F (-8°C) db/15°F (-9°C) wb outdoor air temperature and 70°F (21°C) entering indoor coil air.
[2] Sound Rating Number rated in accordance with test conditions included in ARI Standard 270.
[3] Filters are not furnished and must be field provided. MERV 10 and MERV 16 filters can be use or other 1, 2, 4 or 5 inch thick filters can be used.

ELECTRIC HEAT CAPACITIES

Input Voltage	5 kW			7.5 kW			10 kW			15 kW			20 kW		
	No of Steps	kW input	Btuh Output	No of Steps	kW input	Btuh Output	No of Steps	kW input	Btuh Output	No of Steps	kW input	Btuh Output	No of Steps	kW input	Btuh Output
208	1	3.8	12,800	1	5.6	19,200	1	7.5	25,600	1	11.2	38,200	1	15.0	51,200
220	1	4.2	14,300	1	6.3	21,500	1	8.4	28,700	1	12.6	43,000	1	16.8	57,300
230	1	4.6	15,700	1	6.9	23,500	1	9.2	31,300	1	13.8	47,000	1	18.4	62,700
240	1	5.0	17,100	1	7.5	25,600	1	10.0	34,100	1	15.0	51,200	1	20.0	68,200

ELECTRICAL/ELECTRIC HEAT DATA

			Model No.	13CHPA-24		13CHPA-30		13CHPA-36	
			Line voltage data - 60hz 1 phase	208/230V		208/230V		208/230V	
Compressor			Rated Load Amps	10.4		13.4		14.7	
			Locked Rotor Amps	56		73		83	
Outdoor Fan Motor			Full Load Amps	1.1		1.1		1.1	
			Locked Rotor Amps	2.2		2.2		2.2	
Indoor Blower Motor			Rated Load Amps	2.2		2.2		2.2	
			Locked Rotor Amps	3.8		3.8		3.8	
[1] **Maximum Overcurrent Protection**			Voltage	**208V**	**240V**	**208V**	**240V**	**208V**	**240V**
			Unit Only Circuit 1	25	25	30	30	35	35
	Electric Heat & Blower Motor Circuit	**5 kW**	Circuit 2	30	35	30	35	30	35
		7.5 kW	Circuit 2	40	45	40	45	40	45
		10 kW	Circuit 2	60	60	60	60	60	60
		15 kW	Circuit 2	- - -	- - -	- - -	- - -	60	60
			Circuit 3	- - -	- - -	- - -	- - -	25	30
[1] **Maximum Overcurrent Protection with Optional Single Point Power Supply**			**5 kW**	50	50	50	60	60	60
			7.5 kW	60	70	60	70	70	70
			10 kW	70	80	70	80	80	80
			15 kW	- - -	- - -	- - -	- - -	100	110
[2] **Minimum Circuit Ampacity**			Unit Only Circuit 1	18	18	22	22	24	24
	Electric Heat & Blower Motor Circuit	**5 kW**	Circuit 2	27.8	31.3	27.8	31.3	27.8	31.3
		7.5 kW	Circuit 2	39.1	44.3	39.1	44.3	39.1	44.3
		10 kW	Circuit 2	50.4	57.3	50.4	57.3	50.4	57.3
		15 kW	Circuit 2	- - -	- - -	- - -	- - -	50.4	57.3
			Circuit 3	- - -	- - -	- - -	- - -	22.6	26.0
[2] **Minimum Circuit Ampacity with Optional Single Point Power Supply**			**5 kW**	44.7	48.2	45.5	49.0	48.6	52.1
			7.5 kW	56.0	61.2	56.8	62.0	59.9	65.1
			10 kW	67.3	74.3	68.1	75.0	71.2	78.1
			15 kW	- - -	- - -	- - -	- - -	93.8	104.2

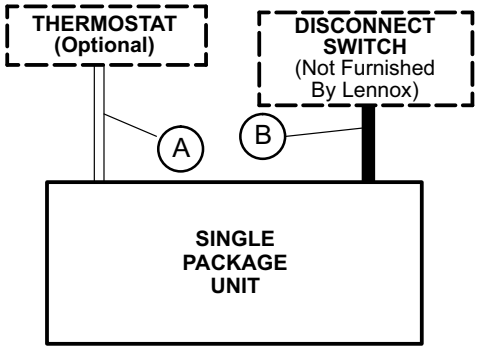
NOTE - Circuit 1 Minimum Circuit Ampacity includes the Blower Motor Full Load Amps.
NOTE - Extremes of operating range are plus and minus 10% of line voltage.
1 HACR type breaker or fuse.
2 Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL/ELECTRIC HEAT DATA

			Model No.	**13CHPA-42**		**13CHPA-48**		**13CHPA-60**	
			Line voltage data - 60hz 1 phase	208/230V		208/230V		208/230V	
Compressor			Rated Load Amps	16.6		21.1		26.6	
			Locked Rotor Amps	95		109		137	
Outdoor Fan Motor			Full Load Amps	1.7		1.7		1.7	
			Locked Rotor Amps	4		4		4	
Indoor Blower Motor			Rated Load Amps	3.6		3.6		3.6	
			Locked Rotor Amps	11		11		11	
[1] **Maximum Overcurrent Protection**			Voltage	**208V**	**240V**	**208V**	**240V**	**208V**	**240V**
		Unit Only	Circuit 1	40	40	50	50	60	60
	Electric Heat & Blower Motor Circuit	**5 kW**	Circuit 2	30	35	30	35	30	35
		7.5 kW	Circuit 2	45	50	45	50	45	50
		10 kW	Circuit 2	60	60	60	60	60	60
		15 kW	Circuit 2	60	60	60	60	60	60
			Circuit 3	25	30	25	30	25	30
		20 kW	Circuit 2	60	60	60	60	60	60
			Circuit 3	50	60	50	60	50	60
[1] **Maximum Overcurrent Protection with Optional Single Point Power Supply**			**5 kW**	60	60	70	70	80	80
			7.5 kW	70	70	80	80	90	90
			10 kW	80	90	90	90	90	100
			15 kW	100	110	110	125	110	125
			20 kW	125	150	125	150	150	150
[2] **Minimum Circuit Ampacity**		Unit Only	Circuit 1	28	28	34	34	41	41
	Electric Heat & Blower Motor Circuit	**5 kW**	Circuit 2	29.6	33.0	26.9	33.0	26.9	33.0
		7.5 kW	Circuit 2	40.9	46.1	40.9	46.1	40.9	46.1
		10 kW	Circuit 2	52.1	59.1	52.1	59.1	52.1	59.1
		15 kW	Circuit 2	52.1	59.1	52.1	59.1	52.1	59.1
			Circuit 3	22.6	26.0	22.6	26.0	22.6	26.0
		20 kW	Circuit 2	52.1	59.1	52.1	59.1	52.1	59.1
			Circuit 3	45.1	52.1	45.1	52.1	45.1	52.1
[2] **Minimum Circuit Ampacity with Optional Single Point Power Supply**			**5 kW**	52.2	55.7	57.1	60.6	62.9	66.3
			7.5 kW	63.5	68.7	68.4	73.6	74.2	79.9
			10 kW	74.8	81.8	79.7	86.6	85.4	92.4
			15 kW	97.4	107.8	102.3	112.7	108.0	118.4
			20 kW	120.0	133.8	124.8	138.7	130.6	144.5

NOTE - Circuit 1 Minimum Circuit Ampacity includes the Blower Motor Full Load Amps.
NOTE - Extremes of operating range are plus and minus 10% of line voltage.
1 HACR type breaker or fuse.
2 Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

FIELD WIRING



A- Four Wire Low Voltage (Electro-mechanical)
- Five Wire Low Voltage (Electronic)
B- Two Wire Power (See Electrical Data Table)
If multiple disconnects are used on units with electric heat, there must be two-wire power provided for each disconnect
- Field Wiring Not Furnished -

NOTE - All wiring must conform to NEC or CEC and local electrical codes.

BLOWER DATA

13CHPA-24-30 BLOWER PERFORMANCE
[1] Horizontal Air Flow

External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
0.2	50	1470	695	1070	505	880	415
0.3	75	1420	670	1060	500	870	410
0.4	100	1360	640	1020	480	850	400
0.5	125	1290	610	1000	470	820	385
0.6	150	1220	575	950	450	790	370
0.7	175	1140	535	900	425	740	350
0.8	200	1050	495	830	390	690	325

NOTE - All air data is measured external to unit without air filters.
[1] For down-flow air volume, add 0.05 in. w.g. (12 Pa) to duct static.

13CHPA-36 BLOWER PERFORMANCE
[1] Horizontal Air Flow

External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
0.2	50	1510	740	1060	520	870	425
0.3	75	1460	715	1050	515	860	420
0.4	100	1400	690	1030	505	840	415
0.5	125	1330	655	990	485	820	405
0.6	150	1250	615	950	465	790	390
0.7	175	1180	580	900	440	750	370
0.8	200	1100	540	850	415	680	335

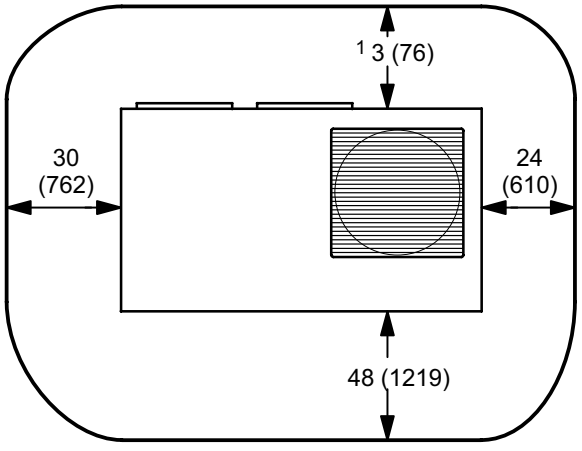
NOTE - All air data is measured external to unit without air filters.
[1] For down-flow air volume, add 0.05 in. w.g. (12 Pa) to duct static.

13CHPA-42-48-60 BLOWER PERFORMANCE
[1] Horizontal Air Flow

External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
0.2	50	2090	1025	1820	895	1520	745
0.3	75	2000	985	1780	875	1480	725
0.4	100	1930	950	1730	850	1450	710
0.5	125	1820	895	1650	810	1440	710
0.6	150	1710	840	1570	770	1410	695
0.7	175	1590	780	1480	725	1360	670
0.8	200	1480	725	1370	675	1260	620

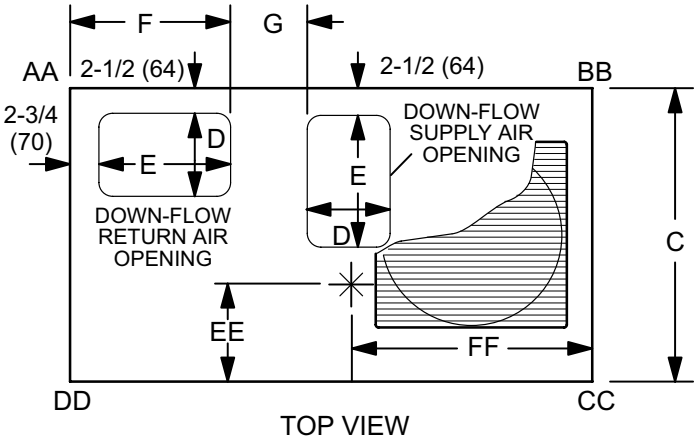
NOTE - All air data is measured external to unit without air filters.
[1] For down-flow air volume, add 0.05 in. w.g. (12 Pa) to duct static.

INSTALLATION CLEARANCES - INCHES (MM)



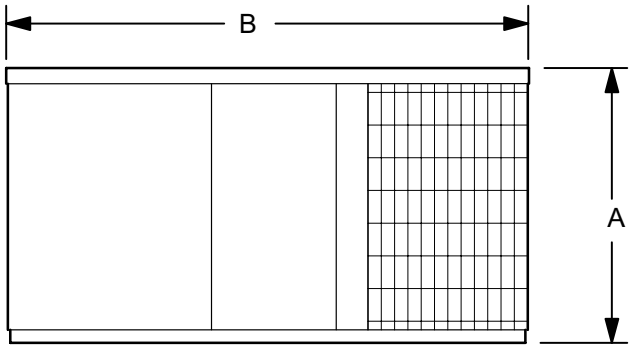
NOTE - Top Clearance - 36 in. (914 mm)
NOTE - Entire perimeter of unit base requires support when elevated above mounting surface.
[1] Maintain 18 in. (457 mm) service clearance for accessory maintenance if equipped.

DIMENSIONS - INCHES (MM)

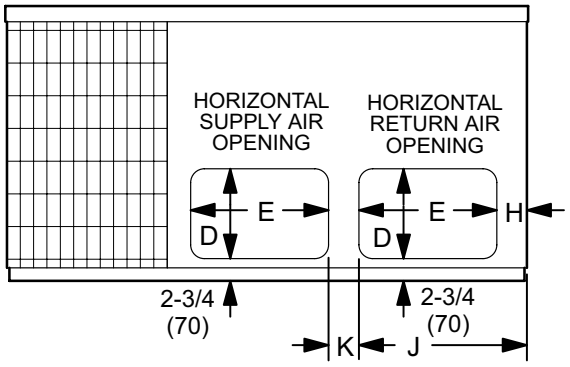


TOP VIEW

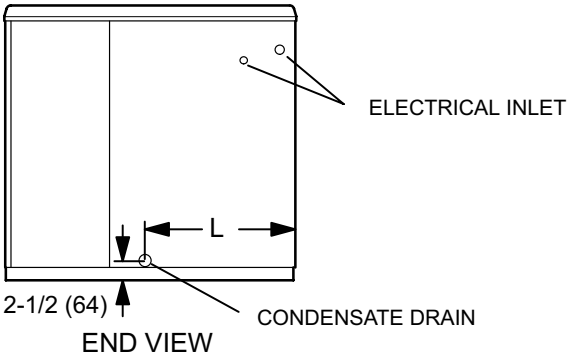
Model Number	Corner Weights				Center Of Gravity	
	AA	BB	CC	DD	EE	FF
	lbs.	lbs.	lbs.	lbs.	in.	in.
13CHPA-24	74	94	125	97	15.5	28.5
13CHPA-30	74	94	125	97	15.5	28.5
13CHPA-36	84	101	126	105	16	29.5
13CHPA-42	108	136	176	140	20	33
13CHPA-48	112	137	177	144	20	33.5
13CHPA-60	117	143	184	151	20	33.5



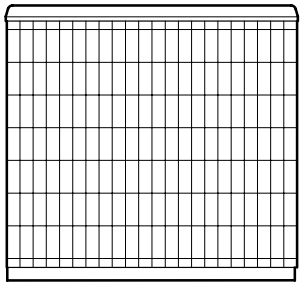
FRONT VIEW



BACK VIEW



END VIEW



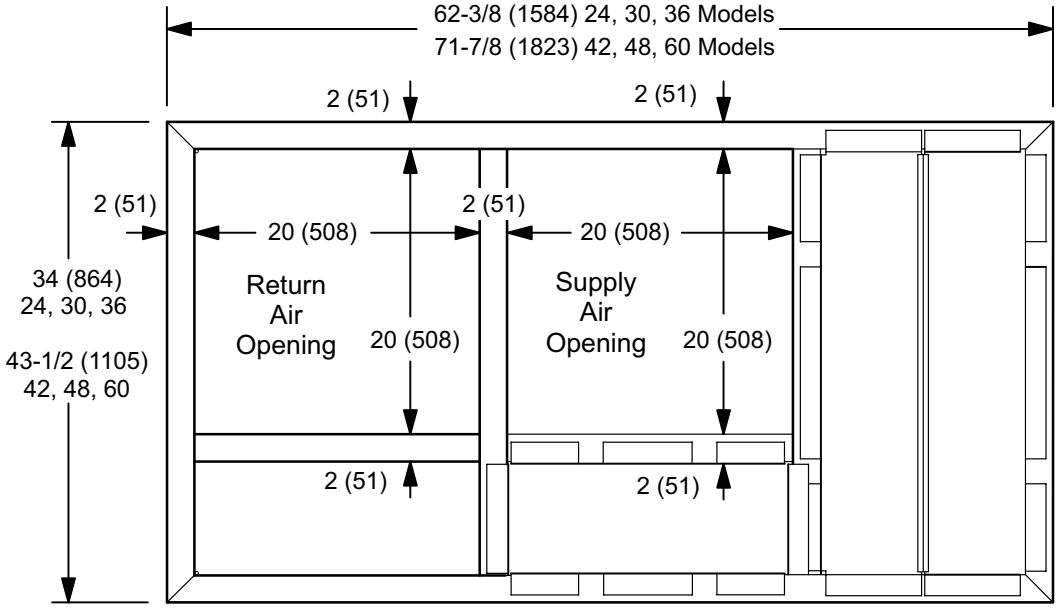
END VIEW

Model No.	A		B		C		D		E	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
13CHPA-24 13CHPA-30 13CHPA-36	34-1/4	870	65-3/8	1661	36-1/2	927	11-1/4	286	17-1/4	438
13CHPA-42 13CHPA-48 13CHPA-60	38-1/4	972	75	1905	46	1168	11-1/4	286	19-1/4	489

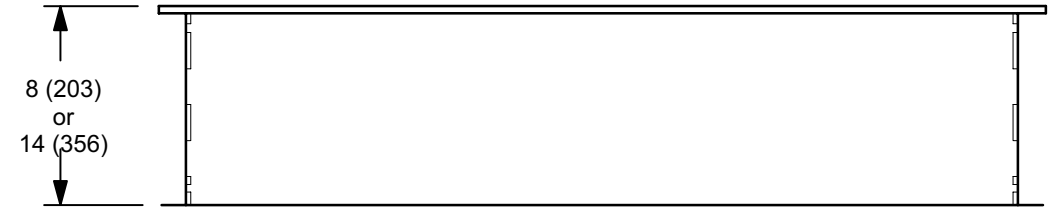
Model No.	F		G		H		J		K		L	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
13CHPA-24 13CHPA-30 13CHPA-36	20	508	8-1/2	216	3	76	20-1/4	514	4-1/2	114	19	483
13CHPA-42 13CHPA-48 13CHPA-60	22	559	9-1/4	241	3-1/4	83	22-1/4	572	4	102	16-1/4	413

ACCESSORY DIMENSIONS - INCHES (MM)

ROOF CURBS



TOP VIEW



SIDE VIEW

COOLING AND HEATING RATINGS

NOTE - For Temperatures and Capacities not shown in tables, see bulletin - Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

COOLING CAPACITY — 13CHPA-24

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																					
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	600	285	23.7	6.9	1.39	0.69	0.82	0.94	22.6	6.6	1.56	0.70	0.83	0.95	21.3	6.2	1.77	0.73	0.86	0.99	19.9	5.8	2.01	0.75	0.88	1.00
	800	380	24.7	7.2	1.40	0.76	0.90	1.00	23.6	6.9	1.57	0.77	0.91	1.00	22.2	6.5	1.79	0.80	0.95	1.00	20.8	6.1	2.03	0.82	0.97	1.00
	1000	470	25.5	7.5	1.42	0.82	0.96	1.00	24.3	7.1	1.59	0.83	0.97	1.00	22.9	6.7	1.81	0.86	1.00	1.00	21.4	6.3	2.05	0.89	1.00	1.00
67°F (19°C)	600	285	25.3	7.4	1.42	0.54	0.66	0.78	24.1	7.1	1.59	0.55	0.67	0.79	22.7	6.7	1.81	0.57	0.70	0.82	21.2	6.2	2.05	0.59	0.72	0.85
	800	380	26.0	7.6	1.42	0.58	0.73	0.87	24.8	7.3	1.59	0.59	0.74	0.88	23.4	6.9	1.81	0.62	0.77	0.92	21.9	6.4	2.05	0.63	0.79	0.94
	1000	470	26.6	7.8	1.42	0.62	0.80	0.94	25.3	7.4	1.59	0.63	0.81	0.95	23.9	7.0	1.81	0.66	0.84	0.99	22.3	6.5	2.05	0.68	0.86	1.00
71°F (22°C)	600	285	26.8	7.9	1.43	0.42	0.52	0.63	25.5	7.5	1.61	0.42	0.53	0.64	24.1	7.1	1.82	0.44	0.55	0.67	22.5	6.6	2.07	0.45	0.57	0.68
	800	380	27.6	8.1	1.43	0.43	0.56	0.70	26.3	7.7	1.61	0.43	0.57	0.71	24.8	7.3	1.82	0.45	0.59	0.74	23.2	6.8	2.07	0.46	0.61	0.76
	1000	470	28.1	8.2	1.44	0.45	0.61	0.77	26.8	7.8	1.62	0.45	0.62	0.78	25.3	7.4	1.84	0.47	0.65	0.82	23.6	6.9	2.09	0.48	0.66	0.84

COOLING CAPACITY — 13CHPA-30

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																					
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	800	380	28.7	8.4	1.90	0.69	0.82	0.94	27.3	8.0	2.14	0.70	0.83	0.95	25.8	7.5	2.43	0.73	0.86	0.99	24.1	7.1	2.76	0.75	0.88	1.00
	1000	470	29.9	8.8	1.92	0.76	0.90	1.00	28.5	8.4	2.16	0.77	0.91	1.00	26.9	7.9	2.45	0.80	0.95	1.00	25.1	7.4	2.79	0.82	0.97	1.00
	1200	565	30.9	9.0	1.94	0.82	0.96	1.00	29.4	8.6	2.18	0.83	0.97	1.00	27.7	8.1	2.48	0.86	1.00	1.00	25.9	7.6	2.82	0.89	1.00	1.00
67°F (19°C)	800	380	30.6	9.0	1.94	0.54	0.66	0.78	29.1	8.5	2.18	0.55	0.67	0.79	27.5	8.0	2.48	0.57	0.70	0.82	25.7	7.5	2.82	0.59	0.72	0.85
	1000	470	31.5	9.2	1.94	0.58	0.73	0.87	30.0	8.8	2.18	0.59	0.74	0.88	28.3	8.3	2.48	0.62	0.77	0.92	26.5	7.8	2.82	0.63	0.79	0.94
	1200	565	32.1	9.4	1.94	0.62	0.80	0.94	30.6	9.0	2.18	0.63	0.81	0.95	28.9	8.5	2.48	0.66	0.84	0.99	27.0	7.9	2.82	0.68	0.86	1.00
71°F (22°C)	800	380	32.4	9.5	1.96	0.42	0.52	0.63	30.9	9.1	2.20	0.42	0.53	0.64	29.2	8.5	2.50	0.44	0.55	0.67	27.2	8.0	2.84	0.45	0.57	0.68
	1000	470	33.4	9.8	1.96	0.43	0.56	0.70	31.8	9.3	2.20	0.43	0.57	0.71	30.0	8.8	2.50	0.45	0.59	0.74	28.0	8.2	2.84	0.46	0.61	0.76
	1200	565	34.0	10.0	1.98	0.45	0.61	0.77	32.4	9.5	2.22	0.45	0.62	0.78	30.6	9.0	2.53	0.47	0.65	0.82	28.6	8.4	2.87	0.48	0.66	0.84

HEATING CAPACITY — 13CHPA-24

Indoor Coil Air Volume 70°F db (21°C db)		Air Temperature Entering Outdoor Coil															
		65°F (18°C)			45°F (7°C)			25°F (-4°C)			5°F (-15°C)			-15°F (-26°C)		
		Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input
cfm	L/s	kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
710	335	29.0	8.5	1.80	16.3	4.8	1.67	14.9	4.4	1.54	10.7	3.1	1.40	4.6	1.4	1.28
800	375	29.5	8.7	1.74	16.7	4.9	1.61	15.3	4.5	1.47	11.1	3.3	1.34	5.0	1.5	1.21
890	420	29.6	8.7	1.69	16.7	4.9	1.56	15.4	4.5	1.43	11.2	3.3	1.29	5.0	1.5	1.14

HEATING CAPACITY — 13CHPA-30

Indoor Coil Air Volume 70°F db (21°C db)		Air Temperature Entering Outdoor Coil															
		65°F (18°C)			45°F (7°C)			25°F (-4°C)			5°F (-15°C)			-15°F (-26°C)		
		Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input
cfm	L/s	kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
890	420	36.4	10.7	2.17	22.0	6.4	2.03	19.0	5.6	1.88	13.3	3.9	1.74	5.6	1.6	1.61
1000	470	37.0	10.8	2.10	22.4	6.6	1.96	19.6	5.7	1.81	13.8	4.0	1.66	6.0	1.8	1.52
1110	525	37.0	10.8	2.04	22.5	6.6	1.90	19.6	5.7	1.75	13.8	4.0	1.60	6.1	1.8	1.44

HEATING PERFORMANCE at 800 cfm (375 L/s) Indoor Coil Air Volume — 13CHPA-24

*Outdoor Temperature		Compressor Motor kW Input	Total Output	
°F	°C		kBtuh	kW
65	18	1.74	29.5	8.65
60	16	1.71	28.0	8.2
55	13	1.68	26.5	7.75
50	10	1.64	24.9	7.3
47	8	1.62	24.0	7.03
45	7	1.61	16.7	4.88
40	4	1.58	16.3	4.79
35	2	1.54	16.0	4.69
30	-1	1.51	15.7	4.59
25	-4	1.47	15.3	4.49
20	-7	1.44	15.0	4.4
17	-8	1.42	14.8	4.34
15	-9	1.41	14.2	4.16
10	-12	1.37	12.7	3.71
5	-15	1.34	11.1	3.26
0	-18	1.31	9.6	2.81
-5	-21	1.27	8.1	2.36
-10	-23	1.24	6.5	1.91
-15	-26	1.21	5.0	1.46
-20	-29	1.17	3.5	1.01

HEATING PERFORMANCE at 1000 cfm (470 L/s) Indoor Coil Air Volume — 13CHPA-30

*Outdoor Temperature		Compressor Motor kW Input	Total Output	
°F	°C		kBtuh	kW
65	18	2.10	37.0	10.8
60	16	2.07	35.0	10.3
55	13	2.03	33.1	9.7
50	10	1.99	31.2	9.13
47	8	1.97	30.0	8.79
45	7	1.96	22.4	6.58
40	4	1.92	21.7	6.37
35	2	1.88	21.0	6.15
30	-1	1.85	20.3	5.94
25	-4	1.81	19.6	5.73
20	-7	1.77	18.8	5.52
17	-8	1.75	18.4	5.39
15	-9	1.74	17.6	5.17
10	-12	1.70	15.7	4.6
5	-15	1.66	13.8	4.03
0	-18	1.63	11.8	3.47
-5	-21	1.59	9.9	2.9
-10	-23	1.55	8.0	2.33
-15	-26	1.52	6.0	1.77
-20	-29	1.48	4.1	1.2

COOLING AND HEATING RATINGS

NOTE - For Temperatures and Capacities not shown in tables, see bulletin - Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

COOLING CAPACITY — 13CHPA-36

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																						
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	1000	470	34.2	10.0	2.26	0.70	0.82	0.95	32.6	9.5	2.56	0.71	0.84	0.97	30.7	9.0	2.91	0.73	0.87	1.00	28.7	8.4	3.31	0.76	0.90	1.00
	1200	565	35.3	10.3	2.26	0.74	0.87	1.00	33.6	9.9	2.56	0.76	0.90	1.00	31.7	9.3	2.91	0.78	0.92	1.00	29.7	8.7	3.31	0.81	0.96	1.00
	1400	660	36.4	10.7	2.26	0.79	0.92	1.00	34.7	10.2	2.56	0.81	0.94	1.00	32.7	9.6	2.91	0.83	0.97	1.00	30.6	9.0	3.31	0.87	1.00	1.00
67°F (19°C)	1000	470	36.1	10.6	2.28	0.54	0.66	0.79	34.3	10.1	2.59	0.55	0.68	0.81	32.4	9.5	2.94	0.57	0.70	0.83	30.3	8.9	3.34	0.59	0.72	0.86
	1200	565	37.2	10.9	2.28	0.57	0.71	0.85	35.4	10.4	2.59	0.58	0.73	0.87	33.4	9.8	2.94	0.60	0.75	0.89	31.2	9.1	3.34	0.62	0.78	0.93
	1400	660	37.9	11.1	2.28	0.60	0.76	0.89	36.1	10.6	2.59	0.62	0.78	0.91	34.1	10.0	2.94	0.64	0.80	0.94	31.8	9.3	3.34	0.66	0.83	0.97
71°F (22°C)	1000	470	38.7	11.3	2.28	0.41	0.52	0.63	36.8	10.8	2.59	0.42	0.53	0.65	34.7	10.2	2.94	0.43	0.55	0.66	32.5	9.5	3.34	0.44	0.57	0.69
	1200	565	39.4	11.5	2.28	0.42	0.55	0.69	37.5	11.0	2.59	0.43	0.56	0.70	35.4	10.4	2.94	0.44	0.58	0.72	33.1	9.7	3.34	0.45	0.60	0.75
	1400	660	40.1	11.8	2.30	0.42	0.59	0.74	38.2	11.2	2.62	0.43	0.60	0.76	36.1	10.6	2.97	0.45	0.62	0.78	33.7	9.9	3.38	0.46	0.64	0.81

COOLING CAPACITY — 13CHPA-42

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																						
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	1200	565	38.6	11.3	2.32	0.70	0.83	0.96	36.8	10.8	2.63	0.72	0.86	0.98	34.7	10.2	2.99	0.74	0.88	1.00	32.4	9.5	3.40	0.77	0.91	1.00
	1400	660	39.9	11.7	2.32	0.75	0.89	1.00	38.0	11.1	2.63	0.77	0.91	1.00	35.8	10.5	2.99	0.79	0.93	1.00	33.5	9.8	3.40	0.82	0.97	1.00
	1600	755	41.2	12.1	2.32	0.80	0.93	1.00	39.2	11.5	2.63	0.82	0.96	1.00	37.0	10.8	2.99	0.84	0.98	1.00	34.6	10.1	3.40	0.88	1.00	1.00
67°F (19°C)	1200	565	40.7	11.9	2.34	0.55	0.67	0.80	38.8	11.4	2.66	0.56	0.69	0.82	36.6	10.7	3.02	0.58	0.71	0.84	34.2	10.0	3.43	0.60	0.73	0.87
	1400	660	42.0	12.3	2.34	0.58	0.72	0.86	40.0	11.7	2.66	0.59	0.74	0.88	37.7	11.1	3.02	0.61	0.76	0.90	35.3	10.3	3.43	0.63	0.79	0.94
	1600	755	42.8	12.6	2.34	0.61	0.77	0.90	40.8	12.0	2.66	0.63	0.79	0.92	38.5	11.3	3.02	0.64	0.81	0.95	36.0	10.5	3.43	0.67	0.84	0.98
71°F (22°C)	1200	565	43.7	12.8	2.34	0.41	0.53	0.64	41.6	12.2	2.66	0.42	0.54	0.66	39.2	11.5	3.02	0.43	0.56	0.67	36.7	10.7	3.43	0.45	0.58	0.70
	1400	660	44.5	13.0	2.34	0.42	0.56	0.69	42.4	12.4	2.66	0.43	0.57	0.71	40.0	11.7	3.02	0.44	0.58	0.73	37.4	11.0	3.43	0.46	0.61	0.76
	1600	755	45.4	13.3	2.36	0.43	0.59	0.75	43.2	12.7	2.69	0.44	0.61	0.77	40.8	11.9	3.05	0.45	0.63	0.79	38.1	11.2	3.47	0.47	0.65	0.82

HEATING CAPACITY — 13CHPA-36

Indoor Coil Air Volume 70°F db (21°C db)		Air Temperature Entering Outdoor Coil											
		65°F (18°C)			45°F (7°C)			25°F (-4°C)			5°F (-15°C)			-15°F (-26°C)		
		Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input
cfm	L/s	kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
1065	500	42.3	12.4	2.42	24.2	7.1	2.27	20.7	6.1	2.11	13.7	4.0	1.95	4.3	1.3	1.81
1200	565	43.0	12.6	2.34	24.7	7.2	2.18	21.3	6.3	2.02	14.2	4.2	1.86	4.6	1.4	1.70
1335	630	43.1	12.6	2.28	24.7	7.2	2.12	21.4	6.3	1.96	14.3	4.2	1.79	4.7	1.4	1.62

HEATING CAPACITY — 13CHPA-42

Indoor Coil Air Volume 70°F db (21°C db)		Air Temperature Entering Outdoor Coil											
		65°F (18°C)			45°F (7°C)			25°F (-4°C)			5°F (-15°C)			-15°F (-26°C)		
		Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input
cfm	L/s	kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
1245	585	50.1	14.7	3.26	33.6	9.8	2.86	26.5	7.8	2.47	17.2	5.1	2.08	6.4	1.9	1.70
1400	660	50.9	14.9	3.15	34.3	10.1	2.76	27.3	8.0	2.37	17.9	5.2	1.99	6.9	2.0	1.60
1555	735	51.0	14.9	3.06	34.4	10.1	2.68	27.4	8.0	2.30	18.0	5.3	1.91	6.9	2.0	1.52

HEATING PERFORMANCE at 1200 cfm (565 L/s) Indoor Coil Air Volume — 13CHPA-36

*Outdoor Temperature		Compressor Motor kW Input	Total Output	
°F	°C		kBtuh	kW
65	18	2.34	43.0	12.6
60	16	2.30	40.6	11.9
55	13	2.26	38.2	11.2
50	10	2.22	35.8	10.5
47	8	2.20	34.4	10.1
45	7	2.18	24.7	7.23
40	4	2.14	23.8	6.98
35	2	2.10	23.0	6.74
30	-1	2.06	22.2	6.5
25	-4	2.02	21.3	6.25
20	-7	1.98	20.5	6.01
17	-8	1.96	20.0	5.86
15	-9	1.94	19.0	5.58
10	-12	1.90	16.6	4.88
5	-15	1.86	14.2	4.17
0	-18	1.82	11.8	3.47
-5	-21	1.78	9.4	2.77
-10	-23	1.74	7.0	2.06
-15	-26	1.70	4.6	1.36
-20	-29	1.66	2.2	0.66

HEATING PERFORMANCE at 1400 cfm (660 L/s) Indoor Coil Air Volume — 13CHPA-42

*Outdoor Temperature		Compressor Motor kW Input	Total Output	
°F	°C		kBtuh	kW
65	18	3.15	50.9	14.9
60	16	3.05	48.2	14.1
55	13	2.95	45.4	13.3
50	10	2.86	42.7	12.5
47	8	2.80	41.0	12
45	7	2.76	34.3	10.1
40	4	2.66	32.6	9.54
35	2	2.57	30.8	9.03
30	-1	2.47	29.1	8.51
25	-4	2.37	27.3	8
20	-7	2.28	25.6	7.49
17	-8	2.22	24.5	7.18
15	-9	2.18	23.4	6.86
10	-12	2.08	20.7	6.05
5	-15	1.99	17.9	5.25
0	-18	1.89	15.2	4.44
-5	-21	1.79	12.4	3.63
-10	-23	1.70	9.7	2.83
-15	-26	1.60	6.9	2.02
-20	-29	1.50	4.2	1.22

COOLING AND HEATING RATINGS

NOTE - For Temperatures and Capacities not shown in tables, see bulletin - Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

COOLING CAPACITY — 13CHPA-48

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	1400	660	44.9	13.2	2.74	0.75	0.89	1.00	42.8	12.5	3.11	0.76	0.91	1.00	40.7	11.9	3.53	0.78	0.93	1.00	38.4	11.3	4.01	0.80	0.96	1.00
	1600	755	45.9	13.4	2.74	0.77	0.92	1.00	43.7	12.8	3.11	0.78	0.93	1.00	41.6	12.2	3.53	0.81	0.96	1.00	39.3	11.5	4.01	0.83	0.99	1.00
	1800	850	46.4	13.6	2.74	0.80	0.95	1.00	44.2	12.9	3.11	0.82	0.96	1.00	42.1	12.3	3.53	0.84	0.99	1.00	39.7	11.6	4.01	0.86	1.00	1.00
67°F (19°C)	1400	660	47.8	14.0	2.76	0.59	0.72	0.87	45.5	13.3	3.14	0.60	0.73	0.88	43.4	12.7	3.57	0.61	0.75	0.90	40.9	12.0	4.05	0.63	0.77	0.92
	1600	755	48.3	14.2	2.76	0.60	0.75	0.89	46.0	13.5	3.14	0.61	0.76	0.90	43.8	12.8	3.57	0.62	0.78	0.93	41.3	12.1	4.05	0.64	0.80	0.95
	1800	850	48.8	14.3	2.76	0.62	0.78	0.94	46.5	13.6	3.14	0.63	0.79	0.95	44.2	13.0	3.57	0.64	0.81	0.98	41.7	12.2	4.05	0.66	0.83	1.00
71°F (22°C)	1400	660	50.7	14.9	2.79	0.44	0.57	0.69	48.3	14.2	3.17	0.45	0.58	0.70	46.0	13.5	3.60	0.46	0.59	0.72	43.4	12.7	4.10	0.47	0.61	0.74
	1600	755	51.2	15.0	2.79	0.45	0.58	0.72	48.8	14.3	3.17	0.46	0.59	0.73	46.4	13.6	3.60	0.47	0.61	0.75	43.8	12.8	4.10	0.48	0.62	0.77
	1800	850	51.7	15.1	2.79	0.46	0.60	0.75	49.2	14.4	3.17	0.47	0.61	0.76	46.9	13.7	3.60	0.48	0.63	0.78	44.2	13.0	4.10	0.49	0.64	0.80

COOLING CAPACITY — 13CHPA-60

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	1600	755	54.2	15.9	3.35	0.72	0.86	0.99	51.6	15.1	3.80	0.73	0.87	1.00	49.2	14.4	4.32	0.75	0.89	1.00	46.4	13.6	4.91	0.77	0.92	1.00
	1800	850	55.4	16.2	3.35	0.74	0.89	1.00	52.7	15.5	3.80	0.75	0.90	1.00	50.2	14.7	4.32	0.77	0.92	1.00	47.4	13.9	4.91	0.79	0.95	1.00
	2000	945	55.9	16.4	3.35	0.77	0.91	1.00	53.3	15.6	3.80	0.78	0.92	1.00	50.7	14.9	4.32	0.80	0.95	1.00	47.9	14.0	4.91	0.83	0.97	1.00
67°F (19°C)	1600	755	57.7	16.9	3.38	0.56	0.69	0.83	54.9	16.1	3.84	0.57	0.70	0.84	52.3	15.3	4.36	0.59	0.72	0.87	49.4	14.5	4.96	0.60	0.74	0.89
	1800	850	58.3	17.1	3.38	0.58	0.72	0.86	55.5	16.3	3.84	0.58	0.73	0.87	52.9	15.5	4.36	0.60	0.75	0.89	49.9	14.6	4.96	0.62	0.77	0.92
	2000	945	58.9	17.2	3.38	0.59	0.75	0.90	56.1	16.4	3.84	0.60	0.76	0.91	53.4	15.6	4.36	0.62	0.78	0.94	50.4	14.8	4.96	0.63	0.80	0.96
71°F (22°C)	1600	755	61.2	17.9	3.41	0.42	0.54	0.67	58.3	17.1	3.88	0.43	0.55	0.68	55.5	16.3	4.41	0.44	0.57	0.69	52.4	15.3	5.01	0.45	0.58	0.71
	1800	850	61.8	18.1	3.41	0.43	0.56	0.69	58.8	17.2	3.88	0.44	0.57	0.70	56.0	16.4	4.41	0.45	0.58	0.72	52.9	15.5	5.01	0.46	0.60	0.74
	2000	945	62.4	18.3	3.41	0.44	0.58	0.72	59.4	17.4	3.88	0.45	0.59	0.73	56.6	16.6	4.41	0.46	0.60	0.75	53.4	15.6	5.01	0.47	0.62	0.77

HEATING CAPACITY — 13CHPA-48

Indoor Coil Air Volume 70°F db (21°C db)		Air Temperature Entering Outdoor Coil											
		65°F (18°C)			45°F (7°C)			25°F (-4°C)			5°F (-15°C)			-15°F (-26°C)		
		Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input
cfm	L/s	kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
1420	670	55.2	16.2	3.64	36.2	10.6	3.29	30.5	8.9	2.94	21.6	6.3	2.60	10.5	3.1	2.27
1600	755	56.1	16.4	3.52	37.0	10.8	3.18	31.4	9.2	2.83	22.5	6.6	2.48	11.3	3.3	2.14
1780	840	56.2	16.5	3.42	37.0	10.9	3.08	31.5	9.2	2.73	22.6	6.6	2.39	11.4	3.3	2.02

HEATING CAPACITY — 13CHPA-60

Indoor Coil Air Volume 70°F db (21°C db)		Air Temperature Entering Outdoor Coil											
		65°F (18°C)			45°F (7°C)			25°F (-4°C)			5°F (-15°C)			-15°F (-26°C)		
		Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input
cfm	L/s	kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
1600	755	62.3	18.2	3.69	38.1	11.2	3.39	32.0	9.4	3.09	21.5	6.3	2.79	8.0	2.3	2.52
1800	850	63.3	18.6	3.57	38.9	11.4	3.27	32.9	9.6	2.97	22.3	6.5	2.67	8.6	2.5	2.37
2000	945	63.4	18.6	3.47	39.0	11.4	3.17	33.0	9.7	2.87	22.4	6.6	2.57	8.7	2.5	2.25

HEATING PERFORMANCE at 1600 cfm (755 L/s) Indoor Coil Air Volume — 13CHPA-48

*Outdoor Temperature		Compressor Motor kW Input	Total Output	
°F	°C		kBtuh	kW
65	18	3.52	56.1	16.4
60	16	3.44	53.3	15.6
55	13	3.35	50.5	14.8
50	10	3.26	47.7	14
47	8	3.21	46.0	13.5
45	7	3.18	37.0	10.8
40	4	3.09	35.6	10.4
35	2	3.00	34.2	10
30	-1	2.92	32.8	9.62
25	-4	2.83	31.4	9.21
20	-7	2.74	30.0	8.8
17	-8	2.69	29.2	8.56
15	-9	2.66	28.1	8.23
10	-12	2.57	25.3	7.41
5	-15	2.48	22.5	6.59
0	-18	2.40	19.7	5.77
-5	-21	2.31	16.9	4.95
-10	-23	2.22	14.1	4.13
-15	-26	2.14	11.3	3.31
-20	-29	2.05	8.5	2.49

HEATING PERFORMANCE at 1800 cfm (850 L/s) Indoor Coil Air Volume — 13CHPA-60

*Outdoor Temperature		Compressor Motor kW Input	Total Output	
°F	°C		kBtuh	kW
65	18	3.57	63.3	18.6
60	16	3.50	59.9	17.6
55	13	3.42	56.5	16.5
50	10	3.35	53.1	15.5
47	8	3.30	51.0	14.9
45	7	3.27	38.9	11.4
40	4	3.20	37.4	11
35	2	3.12	35.9	10.5
30	-1	3.05	34.4	10.1
25	-4	2.97	32.9	9.64
20	-7	2.90	31.4	9.2
17	-8	2.85	30.5	8.94
15	-9	2.82	29.1	8.54
10	-12	2.75	25.7	7.54
5	-15	2.67	22.3	6.54
0	-18	2.60	18.9	5.53
-5	-21	2.52	15.5	4.53
-10	-23	2.45	12.1	3.53
-15	-26	2.37	8.6	2.53
-20	-29	2.30	5.2	1.53

REVISIONS

Sections	Description of Change
Electrical/Electric Heat Data	Added 208V and Optional Single Point Power Supply information.
Optional Accessories	Added new Internal Filter Kits and MERV filters

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