



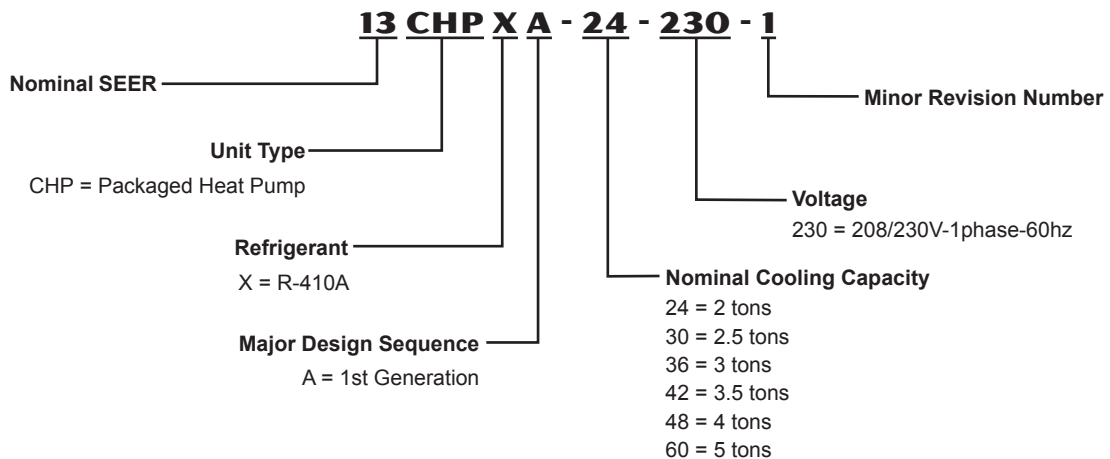
PRODUCT SPECIFICATIONS

Bulletin No. 210435
April 2013
Supersedes December 2012

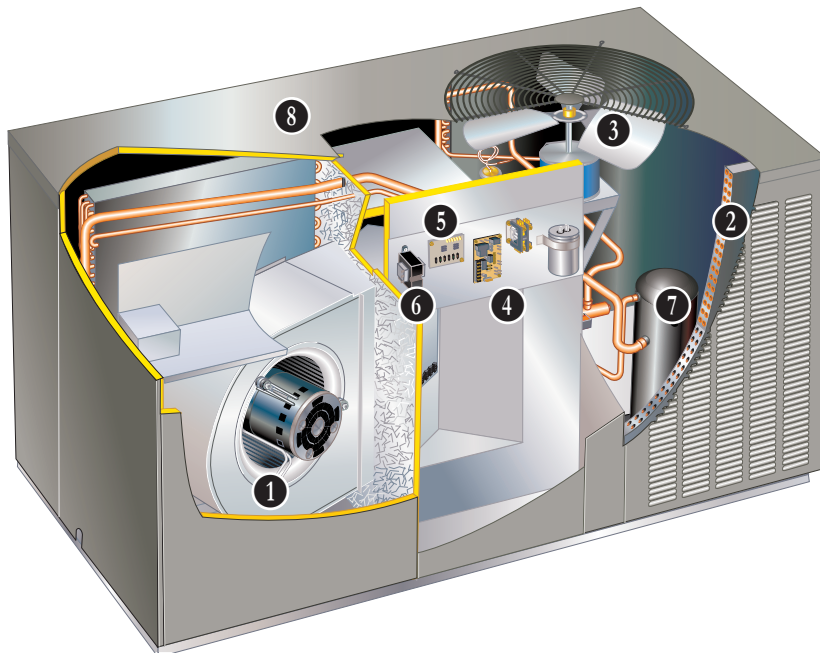


SEER - 13.00
2 to 5 Tons
Cooling Capacity - 23,200 to 57,500 Btuh
Heating Capacity - 23,200 to 60,000 Btuh
Optional Electric Heat - 5 to 20 kW

MODEL NUMBER IDENTIFICATION



FEATURES



CONTENTS

Accessory Dimensions	10
Blower Data	6
Cooling And Heating Ratings.....	11
Dimensions	9
Electrical/Electric Heat Data	7
Electric Heat Capacities.....	7
Features.....	2
Field Wiring.....	8
Installation Clearances	4
Model Number Identification	1
Optional Accessories	6
Revisions	16
Specifications.....	5

WARRANTY

Compressor - ten year limited warranty in residential installations and five years 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.

Heating ratings are according to Department of Energy (DOE) test procedures and Federal Trade Commission (FTC) labeling regulations and are certified by AHRI.

Cooling system rated according to DOE test procedures.

AHRI Certified to AHRI Standard 210/240-2008.

Units are listed by UL for the U.S. and Canada.

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.

SUPPLY AIR BLOWER

1 Direct Drive Blower

Each blower assembly statically and dynamically balanced.

Multi-speed, direct drive blower motor.

Change in blower speed is easily accomplished by simple jumper change on blower control board.

Blower assembly easily removed for servicing.

See Blower Performance tables.

FEATURES

REFRIGERATION SYSTEM

R-410A Refrigerant

Non-chlorine, ozone friendly, R-410A.
Unit pre-charged with refrigerant.
See Specification table.



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.

Reversing Valve

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.

High Pressure Switch

Shuts off unit if abnormal operating conditions cause the discharge pressure to rise above setting.

Protects compressor from excessive condensing pressure. Automatic reset.

CONTROLS

4 Electronic blower control.

Single pole contactor.

Trade available components.

5 Defrost Control

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.

6 24 Volt Transformer

40VA transformer furnished and factory installed in control area.

OPTIONS

Low Ambient Kit

Packaged unit will operate satisfactorily in the cooling mode down to 45°F outdoor air temperature without any additional controls.

Kit can be added in the field enabling unit to operate properly down to 30°F.

Thermostat

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

SCROLL COMPRESSOR

- 7 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 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

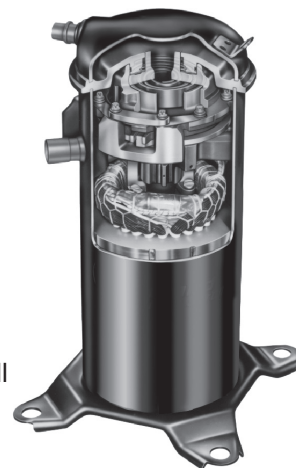
Compressor Crankcase Heater

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.



FEATURES

CABINET

- 8 Conditioned areas insulated with foil faced insulation to minimize heat loss and reduce operating sound levels.
Powder paint for maximum durability.
Easy service access.
Steel louvered panels provides complete coil protection.
Interchangeable panels for horizontal to downflow airflow conversion furnished (shipped for horizontal).

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.

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.

AIR FILTER

OPTIONS (REQUIRED)

Filters are not furnished - must be field provided.

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. Carbon Clean 16™ MERV 16 and MERV 10 filters are available separately or other 1, 2, 4 or 5 inch thick filters can be used.

Carbon Clean 16™ (MERV 16) Filters for Internal Filter Kits

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

50% first-pass reduction of ozone.

Carbon coated fiber matrix reduces odors.

Hospital inpatient care/general surgery level filtration.

Removes over 95% of E1 (sub-micron) particles down to 0.3-1 microns.

Removes over 99% of E2 particles down to 1-3 microns.

Removes over 90% of ultra-fine particles down to 0.01 micron, including viruses and bacteria.

Double-wall beverage board frame for rigid construction.

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

MERV 10 Filters for Internal Filter Kits

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

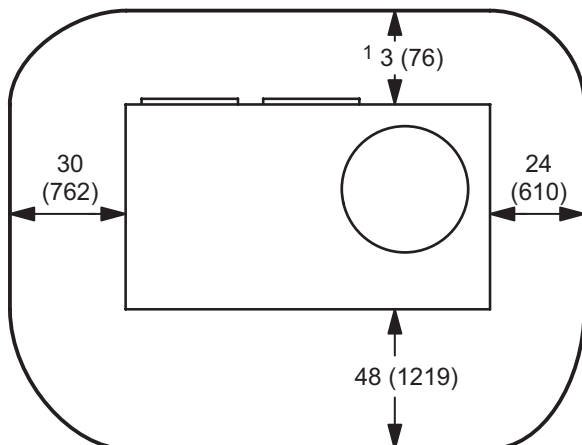
Dust mites, pollen, mold spores, pet dander and other contaminants are captured by the filter.

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.

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.

SPECIFICATIONS

General Data			Model No.	13CHPXA -24	13CHPXA -30	13CHPXA -36	13CHPXA -42	13CHPXA -48	13CHPXA -60
Nominal Tonnage				2	2.5	3	3.5	4	5
Cooling / Heating Performance	Cooling	Total capacity - Btuh		22,800	28,200	34,600	39,000	47,000	57,000
		Total unit watts		2070	2560	3290	3540	4470	5420
		¹ SEER (Btuh/Watt)		13.0	13.0	13.0	13.0	13.0	13.0
		EER (Btuh/Watt)		11.0	11.0	10.5	11.0	10.5	10.5
	High Temp Heat	Total capacity - Btuh		22,000	28,000	34,000	40,000	48,000	57,000
		Total unit watts		1950	2350	2850	3550	4140	5060
		COP		3.3	3.5	3.5	3.3	3.4	3.3
		HSPF Region IV / Region V		7.70 / 6.70	7.70 / 6.70	7.70 / 6.70	7.70 / 6.70	7.70 / 6.70	7.70 / 6.70
	Low Temp Heat	Total capacity - Btuh		14,600	17,400	20,300	24,800	30,600	37,600
		Total unit watts		1930	2300	2680	3430	3700	4790
		COP		2.20	2.22	2.22	2.12	2.30	2.30
		² Sound Rating Number (dB)		81	81	81	79	79	79
Refrigerant	Type		R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	
	Charge		7 lbs. 11 oz.	8 lbs. 1 oz.	8 lbs. 13 oz.	10 lbs. 9 oz.	12 lbs. 9 oz.	13 lbs. 3 oz.	
Condensate drain size (fpt) - in.				3/4	3/4	3/4	3/4	3/4	3/4
Outdoor Coil	Net Face Area - sq. ft.			15.1	15.1	1.1	22	22	22
	Tube Dia. - in. and Number 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	Motor horsepower			1/5	1/5	1/5	1/4	1/4	1/4
	Diameter - in. & No. of blades			22 - 3	22 - 3	22 - 3	22 - 3	22 - 3	22 - 3
	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	6.0	6.0	6.0
	Tube Dia. - in. and Number of rows			3/8 - 3	3/8 - 3	3/8 - 3	3/8 - 3	3/8 - 4	3/8 - 4
	Fins per Inch			14	14	14	14	14	14
Indoor Blower	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 - lbs.				380	380	400	509	520	520
Shipping weight of basic unit (1 Pkg.) - lbs.				435	435	455	595	600	600
Electrical characteristics (60 hz)				208/230V-1ph-60hz					

¹ Rated in accordance with AHRI Standard 210/240; 95°F outdoor air temperature, 80°F db/67°F wb entering evaporator air.

² Sound Rating Number rated in accordance with test conditions included in AHRI Standard 270.

OPTIONAL ACCESSORIES - ORDER SEPARATELY

		Model No.	13CHPX -24	13CHPX -30	13CHPX -36	13CHPX -42	13CHPX -48	13CHPX -60
Compressor Crankcase Heater		93M04	•	•	•	•	•	•
Compressor Hard Start Kit		10J42	•	•	•	•	•	
		81J69						•
Electric Heat Size - 208/240V-1ph	5 kW - PHK05BP	10W47	•	•	•	•	•	•
	7.5 kW - PHK05BP	10W48	•	•	•	•	•	•
	10 kW - PHK05BP	10W49	•	•	•	•	•	•
	15 kW - PHK05BP	10W50			•	•	•	•
	20 kW - PHK05BP	10W51				•	•	•
¹ Internal Filter Kit	(1 ea) 20 x 25 filter	X8131	•	•	•			
	(2 ea) 16 x 25 filter	X8132				•	•	•
Lifting Brackets		92M51	•	•	•	•	•	•
Low Ambient Kit		34M72	•	•	•	•	•	•
MERV Filters for Internal Filter Kit 5 in. thick	MERV 10	X6673	•	•	•			
		X6670				2 •	2 •	2 •
	Carbon Clean 16™ MERV 16	X6675	•	•	•			
		X6672				2 •	2 •	2 •
Roof Curbs	8 in. Height	92M99	•	•	•			
		93M01				•	•	•
	14 in. Height	93M00	•	•	•			
		93M02				•	•	•
Single Point Power Kits	For 5 kW Electric Heat ASPWR813-10	13W88	•	•	•	•	•	•
	For 7.5 kW Electric Heat ASPWR814-10	13W89	•	•	•	•	•	•
	For 10 kW Electric Heat ASPWR815-10	13W90	•	•	•	•	•	•
	For 15-20 kW Electric Heat ASPWR816-10	13W91			•	•	•	•

¹ Filters are not furnished and must be field provided. MERV 10 and MERV 16 filters or other 1, 2, 4 or 5 inch thick filters can be used.

² Order two filters for 42, 48 and 60 size units.

BLOWER DATA

Blower Performance - ¹ Horizontal Air Flow

External Static Pressure - in. w.g.	Air Volume at Various Blower Speeds - cfm								
	13CHPX-24 13CHPX-30			13CHPX-36			13CHPX-48 13CHPX-42 13CHPX-60		
	High	Medium	Low	High	Medium	Low	High	Medium	Low
0.20	1470	1070	880	1510	1060	870	2090	1820	1520
0.30	1420	1060	870	1460	1050	860	2000	1780	1480
0.40	1360	1020	850	1400	1030	840	1930	1730	1450
0.50	1290	1000	820	1330	990	820	1820	1650	1440
0.60	1220	950	790	1250	950	790	1710	1570	1710
0.70	1140	900	740	1180	900	750	1590	1480	1360
0.80	1050	830	690	1100	850	680	1480	1370	1260

NOTE - All air data is measured external to unit without air filters.

¹ For downflow air volume, add 0.05 in. w.g. to duct static.

ELECTRIC HEAT CAPACITIES

Input Voltage	5 kW			7.5 kW			10 kW			15 kW			20 kW		
	No of Steps	kW Input	KBtuh Output	No of Steps	kW Input	KBtuh Output	No of Steps	kW Input	KBtuh Output	No of Steps	kW Input	KBtuh Output	No of Steps	kW Input	KBtuh Output
208	1	3.8	12.8	1	5.6	19.2	1	7.5	25.6	1	11.2	38.2	1	15	51.2
220	1	4.2	14.3	1	6.3	21.5	1	8.4	28.7	1	12.6	43	1	16.8	57.3
230	1	4.6	15.7	1	6.9	23.5	1	9.2	31.3	1	13.8	47	1	18.4	62.7
240	1	5	17.1	1	7.5	25.6	1	10	34.1	1	15	51.2	1	20	68.2

ELECTRICAL/ELECTRIC HEAT DATA

Model No.				13CHPX-24		13CHPX-30		13CHPX-36			
Line voltage data - 60hz 1 phase				208/230V		208/230V		208/230V			
Compressor		Rated Load Amps		13.5		14.1		16.6			
		Locked Rotor Amps		59		73		79			
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	Electric Heat & Blower Motor Circuit		Voltage		208V	240V	208V	240V	208V	240V	
			Unit Only		Circuit 1	30	30	30	30	35	35
			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	Electric Heat & Blower Motor Circuit		Unit Only		Circuit 1	22.0	22.0	23.0	23.0	26.0	26.0
			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
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.				13CHPXA-42		13CHPXA-48		13CHPXA-60	
Line voltage data - 60hz 1 phase				208/230V		208/230V		208/230V	
Compressor	Rated Load Amps			17.9		21.8		26.4	
	Locked Rotor Amps			112		117		134	
Outdoor Fan Motor	Full Load Amps			1.7		1.7		1.7	
	Locked Rotor Amps			4		4		4	
Indoor Fan Motor	Full Load Amps			3.6		3.6		3.6	
	Locked Rotor Amps			11		11		11	
¹ Maximum Overcurrent Protection	Electric Heat & Blower Motor Circuit	Voltage		208V	240V	208V	240V	208V	240V
		Unit Only	Circuit 1	40	40	50	50	60	60
			Circuit 2	30	35	30	35	30	35
		5 kW	Circuit 2	45	50	45	50	45	50
			Circuit 2	60	60	60	60	60	60
		7.5 kW	Circuit 2	60	60	60	60	60	60
			Circuit 2	60	60	60	60	60	60
		10 kW	Circuit 2	60	60	60	60	60	60
			Circuit 2	60	60	60	60	60	60
		15 kW	Circuit 2	60	60	60	60	60	60
Circuit 2	60		60	60	60	60	60		
¹ Maximum Overcurrent Protection with Optional Single Point Power Supply	Electric Heat & Blower Motor Circuit	Unit Only	Circuit 1	60	60	70	70	80	80
			Circuit 2	70	70	80	80	90	90
		5 kW	Circuit 2	80	90	90	90	90	100
			Circuit 2	100	110	100	125	110	125
		7.5 kW	Circuit 2	125	150	125	150	150	150
			Circuit 2	60	60	70	70	80	80
		10 kW	Circuit 2	70	70	80	80	90	90
			Circuit 2	80	90	90	90	90	100
		15 kW	Circuit 2	100	110	100	125	110	125
			Circuit 2	125	150	125	150	150	150
² Minimum Circuit Ampacity	Electric Heat & Blower Motor Circuit	Unit Only	Circuit 1	30.0	30.0	35.0	35.0	40.0	40.0
			Circuit 2	29.6	33.0	29.6	33.0	29.6	33.0
		5 kW	Circuit 2	40.9	46.1	40.9	46.1	40.9	46.1
			Circuit 2	52.1	59.1	52.1	59.1	52.1	59.1
		7.5 kW	Circuit 2	52.1	59.1	52.1	59.1	52.1	59.1
			Circuit 2	52.1	59.1	52.1	59.1	52.1	59.1
		10 kW	Circuit 2	22.6	26.0	22.6	26.0	22.6	26.0
			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 2	52.1	59.1	52.1	59.1	52.1	59.1
² Minimum Circuit Ampacity with Optional Single Point Power Supply	Electric Heat & Blower Motor Circuit	Unit Only	Circuit 1	52.2	55.7	57.1	60.6	62.9	66.3
			Circuit 2	63.5	68.7	68.4	73.6	74.2	79.9
		5 kW	Circuit 2	74.8	81.8	79.7	86.6	85.4	92.4
			Circuit 2	97.4	107.8	102.3	112.7	108.0	118.4
		20 kW	Circuit 2	120.0	133.8	124.8	138.7	130.6	144.5

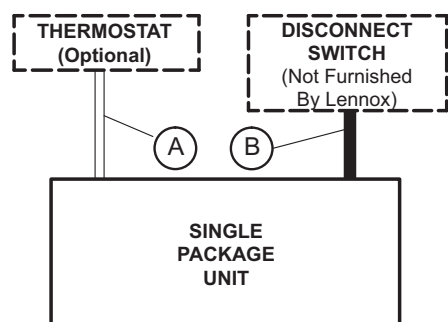
NOTE - Circuit 1 Minimum Circuit Ampacity includes the Blower Motor Full Load Amps.

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



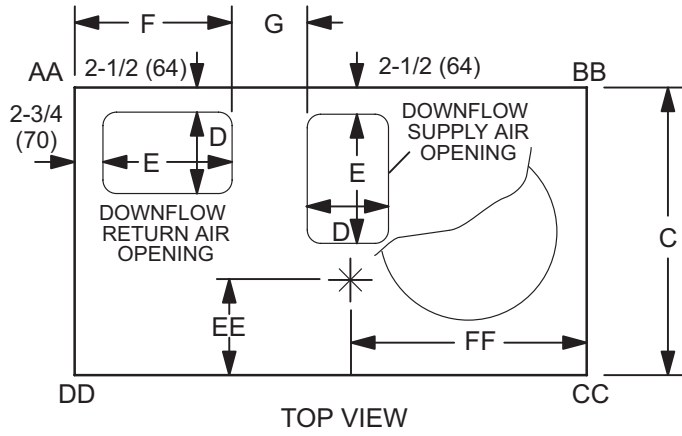
A - Four Wire Low Voltage (Electro-mechanical)
 - Five Wire Low Voltage (Electronic)

B - Two Wire Power (See Electrical Data Table)

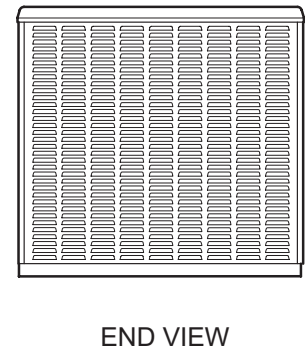
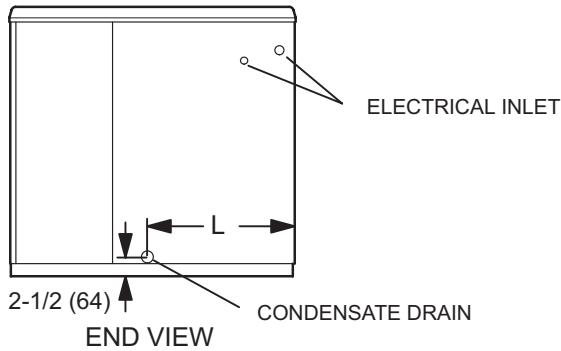
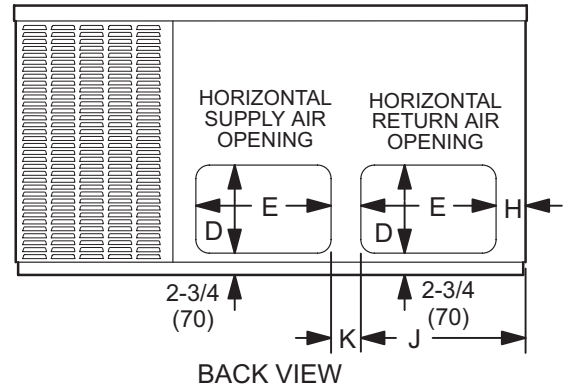
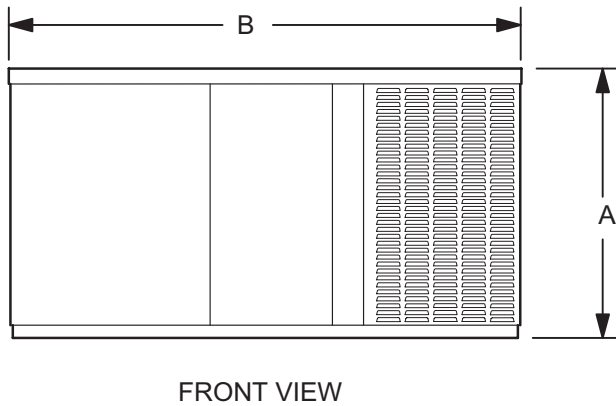
If multiple disconnects are used on units with electric heat; there must be two-wire power provided for each disconnect

- Field Wiring Not Furnished -

DIMENSIONS - INCHES (MM)



Model	Corner Weights								Center of Gravity			
	AA		BB		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
-24	74	34	94	43	125	57	97	44	15-1/2	394	28-1/2	724
-30	84	38	101	46	126	57	105	48	16	406	29-1/2	749
-42	108	49	136	62	176	80	140	64	20	508	33	838
-48	112	51	137	62	177	80	144	65	20	508	33-1/2	851
-60	117	53	143	65	184	83	151	68	20	508	33-1/2	851

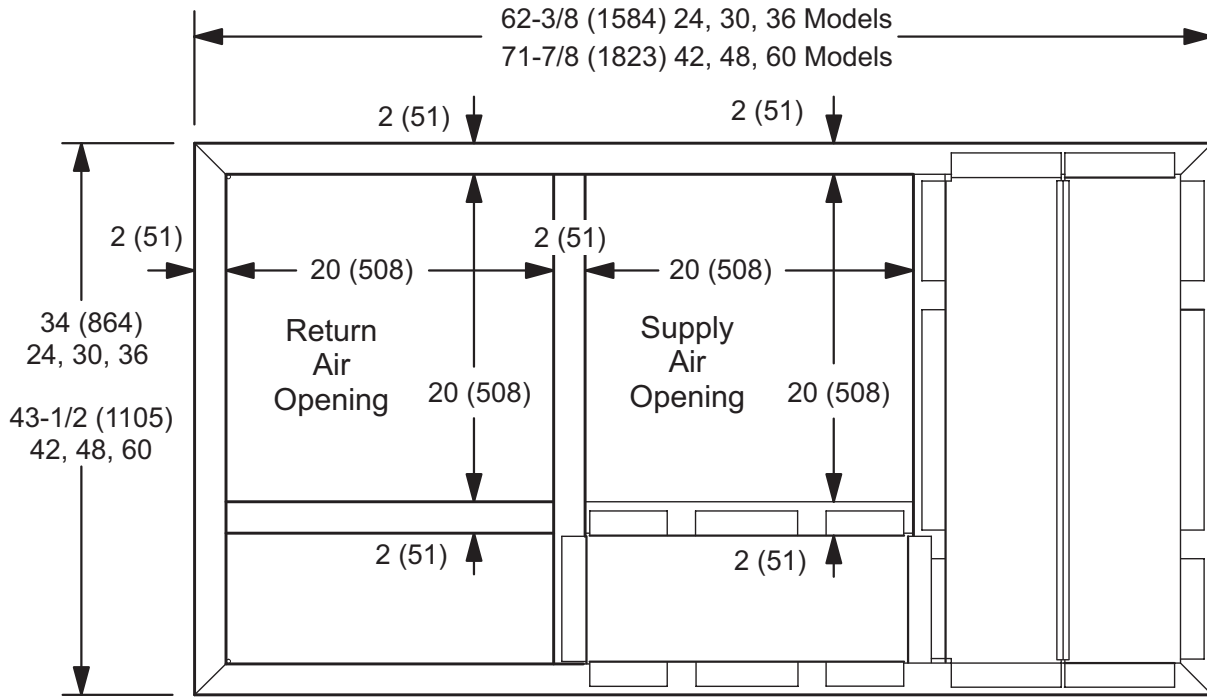


Model No.	A		B		C		D		E		F		G		H	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
13CHPXA-24																
13CHPXA-30	34-1/4	870	65-3/8	1661	36-1/2	927	11-1/4	286	17-1/4	438	20	508	8-1/2	216	3	76
13CHPXA-36																
13CHPXA-42																
13CHPXA-48	38-1/4	972	75	1905	46	1168	11-1/4	286	19-1/4	489	22	559	9-1/4	241	3-1/4	83
13CHPXA-60																

Model No.	J		K		L	
	in	mm	in	mm	in	mm
13CHPXA-24						
13CHPXA-30	20-1/4	514	4-1/2	114	19	483
13CHPXA-36						
13CHPXA-42						
13CHPXA-48	22-1/4	572	4	102	16-1/4	413
13CHPXA-60						

ACCESSORY DIMENSIONS - INCHES (MM)

ROOF CURBS



TOP VIEW



SIDE VIEW

REVISIONS

Sections	Description of Change
Cooling and Heating Ratings	Updated Heating Performance and Heating Capacity ratings for 13CHPXA-60.
Specifications	Cooling / Heating Performance revised for all units.



Visit us at www.lennox.com

For the latest technical information, www.lennoxdavenet.com

Contact us at 1-800-4-LENNOX

NOTE - Due to Lennox' ongoing commitment to quality, Specifications, Ratings and Dimensions subject to change without notice and without incurring liability. Improper installation, adjustment, alteration, service or maintenance can cause property damage or personal injury. Installation and service must be performed by a qualified installer and servicing agency.

©2013 Lennox Industries, Inc.