13CHAX

ELITE® SERIES
Residential - R-410A

PRODUCT SPECIFICATIONS

Bulletin No. 210452
April 2013
Supersedes December 2012

SEER - 13.00
2 to 5 Tons
Cooling Capacity - 22,800 to 57,500 Btuh
Optional Electric Heat - 5 to 20 kW

MODEL NUMBER IDENTIFICATION

13 CHA X A - 24 - 230 - 1

Nominal SEER

Unit Type
CHA = Package Electric / Electric Unit

Refrigerant
X = R-410A

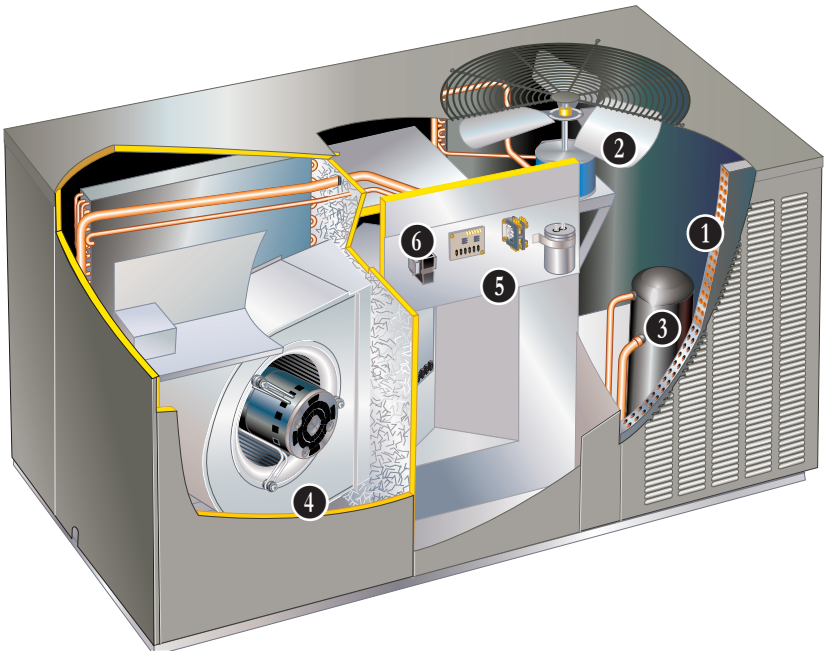
Major Design Sequence
A = 1st Generation

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

Voltage
230 = 208/230V-1phase-60hz

Minor Revision Number

FEATURES



CONTENTS

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.

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.

REFRIGERATION SYSTEM

R-410A Refrigerant

Non-chlorine, ozone friendly, R-410A.

Unit pre-charged with refrigerant.

See Specification table.

1 Evaporator and Condenser Coils

Copper tube with aluminum fin coils.

Evaporator Coil Drain Pan

Corrosion resistant plastic drain pan.

2 Condenser Fan

Weather protected heavy duty condenser 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.

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.

FEATURES

CABINET

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 down-flow airflow conversion furnished (shipped for horizontal).

OPTIONS

Lifting Brackets

Available to facilitate rigging of the unit.

Roof Curbs

Mates to unit.

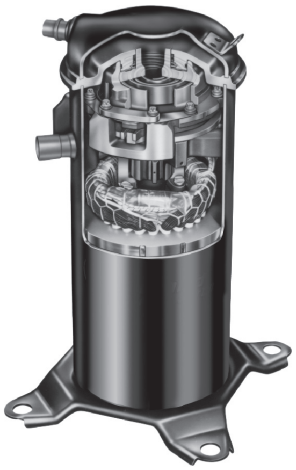
Shipped knocked down.

Hinge pins at corners for quick and easy assembly.

Available in 8 in. and 14 in. heights.

SCROLL COMPRESSOR

3 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.

Time-Off Control

Prevents compressor short-cycling and allows time for suction and discharge pressure to equalize.

Permits compressor start-up in an unloaded condition.

Automatic reset with 5 minute delay between compressor shut-off and start-up.

SUPPLY AIR BLOWER

4 **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 jumper change on blower control board.

See Blower Performance tables.

FEATURES

CONTROLS

5 Electronic blower control.

Single pole contactor.

Trade available components.

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.

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.

SPECIFICATIONS

General Data		Model No.	13CHAXA -24	13CHAXA -30	13CHAXA -36	13CHAXA -42	13CHAXA -48	13CHAXA -60
		Nominal Tonnage	2	2.5	3	3.5	4	5
Cooling Performance		Total cooling capacity - Btuh	22,000	28,000	33,400	41,000	47,000	57,000
		Total unit watts	1940	2440	3040	3730	4270	5180
		[1] SEER (Btuh/Watt)	13.0	13.0	13.0	13.0	13.0	13.0
		EER (Btuh/Watt)	11.0	11.0	11.0	11.0	11.0	11.0
		[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. 8 oz.	6 lbs. 10 oz.	7 lbs. 13 oz.	11 lbs. 5 oz.	11 lbs. 13 oz.	11 lbs. 12 oz.
Condensate drain size (fpt) - in.			3/4	3/4	3/4	3/4	3/4	3/4
Outdoor Coil Fan		Motor horsepower	1/5	1/5	1/5	1/4	1/4	1/4
		Diameter - in. & No. of blades	22 - 2	22 - 2	22 - 2	26 - 3	26 - 3	26 - 3
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.			370	370	390	500	510	510
Shipping weight of basic unit (1 Pkg.) - lbs.			415	415	435	555	565	565
Electrical characteristics (60 hz)			208/230V-1ph-60hz					

OPTIONAL ACCESSORIES - ORDER SEPARATELY

Compressor Crankcase Heater		**93M04**	•	•	•	•	•	•
Compressor Hard Start Kit		**10J42**	•	•	•	•	•	
		81J69						•
Compressor Timed-Off Control		**47J27**	•	•	•	•	•	•
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**				•	•	•
[3] 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				[4] •	[4] •	[4] •
	Carbon Clean 16™ MERV 16	**X6675**	•	•	•			
		X6672				[4] •	[4] •	[4] •
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] 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.
[3] Filters are not furnished and must be field provided. MERV 10 and MERV 16 filterse or other 1, 2, 4 or 5 inch thick filters can be used.
[4] Order two filters for 42, 48 and 60 size units.

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.				**13CHAXA-24**		**13CHAXA-30**		**13CHAXA-36**	
Line voltage data - 60hz 1 phase				**208/230V**		**208/230V**		**208/230V**	
Compressor			Rated Load Amps	13.5		14.1		14.1	
			Locked Rotor Amps	58		73		77	
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**
	Electric Heat & Blower Motor Circuit	Unit Only	Circuit 1	30	30	30	30	30	30
		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**	30	35	30	35	30	35
			7.5 kW	40	45	40	45	40	45
			10 kW	60	60	60	60	60	60
			15 kW	- - -	- - -	- - -	- - -	80	90
[2] **Minimum Circuit Ampacity**	Electric Heat & Blower Motor Circuit	Unit Only	Circuit 1	22.0	22.0	23.0	23.0	23.0	23.0
		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	26.0
[2] **Minimum Circuit Ampacity with Optional Single Point Power Supply**			**5 kW**	27.8	31.3	27.8	31.3	27.8	31.3
			7.5 kW	39.1	44.3	39.1	44.3	39.1	44.3
			10 kW	50.4	57.3	50.4	57.3	50.4	57.3
			15 kW	- - -	- - -	- - -	- - -	73.0	83.4

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.				13CHAXA-42		13CHAXA-48		13CHAXA-60	
Line voltage data - 60hz 1 phase				208/230V		208/230V		208/230V	
Compressor		Rated Load Amps		17.7		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 Blower Motor		Full 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**
	Electric Heat & Blower Motor Circuit	Unit Only	Circuit 1	40	40	50	50	60	60
		5 kW	Circuit 2	30	35	30	35	30	35
		10 kW	Circuit 2	45	50	45	50	45	50
		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**	35	35	40	40	50	50
			7.5 kW	45	50	45	50	50	50
			10 kW	60	60	60	60	60	60
			15 kW	80	90	80	90	80	90
			20 kW	100	125	100	125	100	125
[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
		5 kW	Circuit 2	29.6	33.0	29.6	33.0	29.6	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**	30.0	33.0	35.0	35.0	40.0	40.0
			7.5 kW	40.9	46.1	40.9	46.1	40.9	46.1
			10 kW	52.1	59.1	52.1	59.1	52.1	59.1
			15 kW	74.7	85.1	74.7	85.1	74.7	85.1
			20 kW	97.3	111.2	97.3	111.2	97.3	111.2

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.

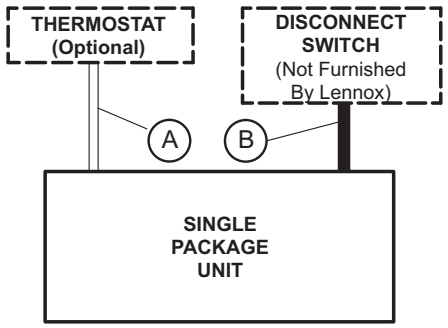
BLOWER DATA

Blower Performance - [1] Horizontal Air Flow

External Static Pressure - in. w.g.	Air Volume at Various Blower Speeds - cfm								
	13CHAX-24 13CHAX-30			13CHAX-36			13CHAX-42 13CHAX-48 13CHAX-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	1410
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 down-flow air volume, add 0.05 in. w.g. to duct static.

FIELD WIRING



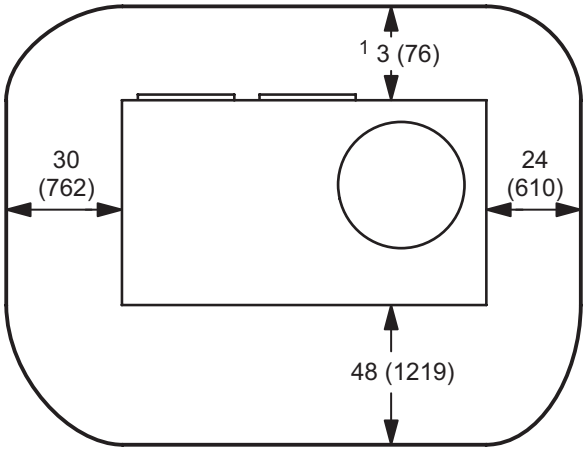
A − Four Wire Low Voltage (Electro-mechanical)
− Five Wire Low Voltage (Electronic)

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 −

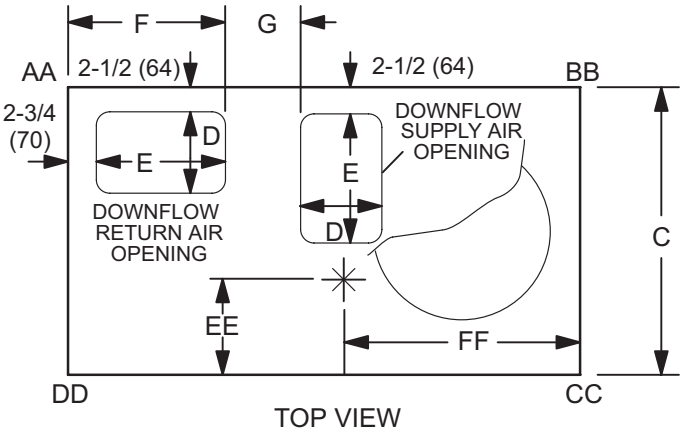
INSTALLATION CLEARANCES - INCHES (MM)



NOTE -Top Clearance - 36 in. (914 mm)
NOTE -Entire perimeter of unit base requires support when elevated above mounting surface.

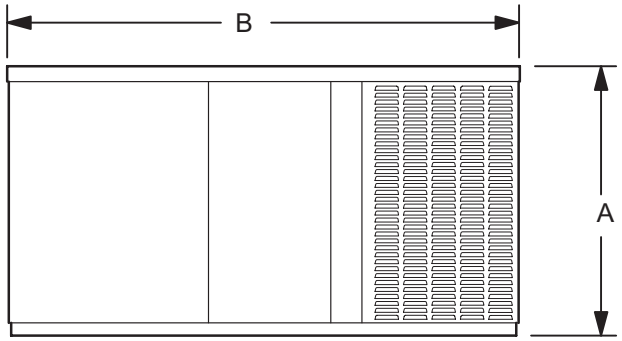
[1] Maintain 18 in. (457 mm) service clearance for accessory maintenance if equipped.

DIMENSIONS - INCHES (MM)

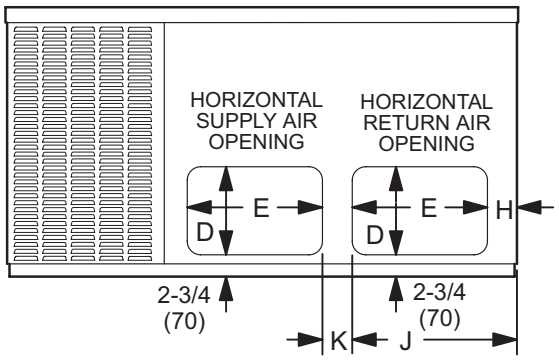


TOP VIEW

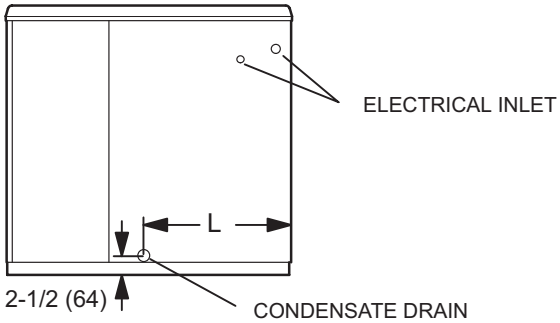
Model No	Corner Weights								Center of Gravity			
	AA		BB		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
-24 -30	73	33	91	41	114	52	92	42	16	406	29	737
-36	80	36	93	42	117	53	100	45	16	406	30	762
-42	102	46	128	58	151	68	120	54	21	533	33	838
-48 -60	105	48	129	59	152	69	124	56	21	533	33-1/2	851



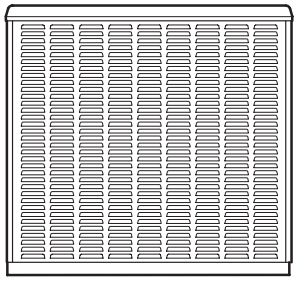
FRONT VIEW



BACK VIEW



END VIEW



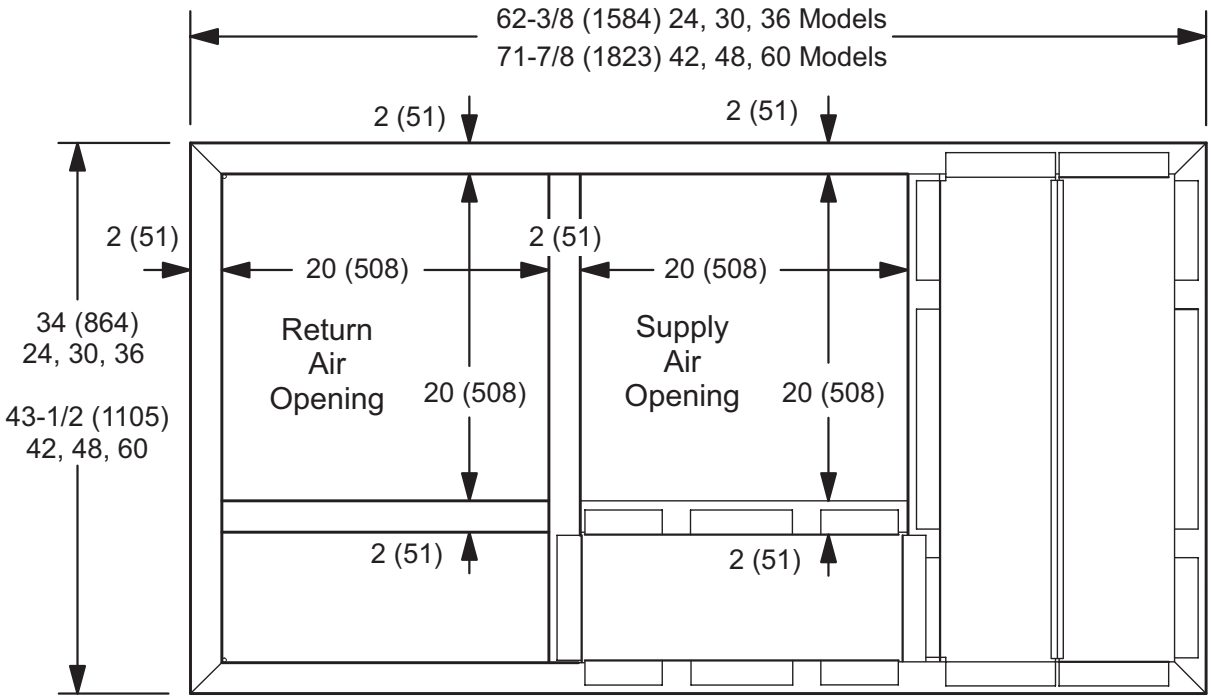
END VIEW

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
13CHAXA-24 13CHAXA-30 13CHAXA-36	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
13CHAXA-42 13CHAXA-48 13CHAXA-60	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

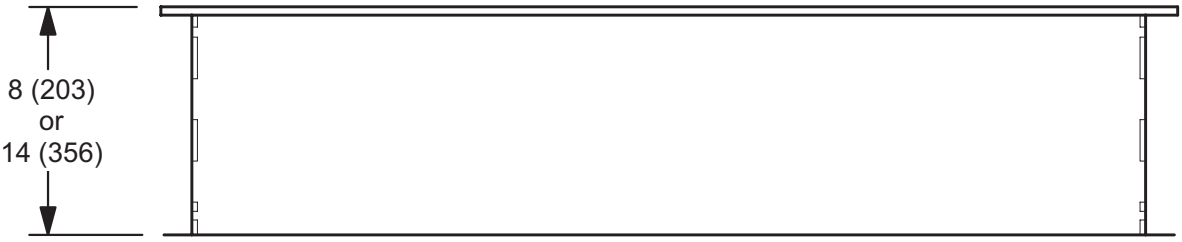
Model No.	G		H		J		K		L	
	in	mm	in	mm	in	mm	in	mm	in	mm
13CHAXA-24 13CHAXA-30 13CHAXA-36	8-1/2	216	3	76	20-1/4	514	4-1/2	114	19	483
13CHAXA-42 13CHAXA-48 13CHAXA-60	9-1/4	241	3-1/4	83	22-1/4	572	4	102	16-1/4	413

ACCESSORY DIMENSIONS - INCHES (MM)

ROOF CURBS



TOP VIEW



SIDE VIEW

COOLING RATINGS

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

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
2 TON COOLING CAPACITY 13CHAX-24																					
63°F (17°C)	600	21.8	1.30	0.72	0.85	0.98	20.7	1.46	0.73	0.86	0.99	19.6	1.66	0.76	0.90	1.00	18.3	1.89	0.78	0.92	1.00
	800	22.7	1.31	0.79	0.93	1.00	21.7	1.48	0.80	0.95	1.00	20.4	1.68	0.83	0.98	1.00	19.1	1.90	0.85	1.00	1.00
	1000	23.5	1.32	0.85	1.00	1.00	22.3	1.48	0.86	1.00	1.00	21.1	1.69	0.90	1.00	1.00	19.7	1.91	0.92	1.00	1.00
67°F (19°C)	600	23.2	1.32	0.57	0.69	0.81	22.1	1.49	0.57	0.70	0.82	20.9	1.69	0.60	0.73	0.86	19.5	1.92	0.61	0.75	0.88
	800	23.9	1.33	0.61	0.76	0.90	22.8	1.49	0.62	0.77	0.92	21.5	1.69	0.64	0.80	0.95	20.1	1.92	0.66	0.82	0.98
	1000	24.4	1.33	0.65	0.83	0.98	23.3	1.50	0.66	0.84	0.99	21.9	1.70	0.69	0.87	1.00	20.5	1.93	0.70	0.90	1.00
71°F (22°C)	600	24.7	1.34	0.43	0.54	0.66	23.5	1.50	0.44	0.55	0.67	22.2	1.71	0.46	0.57	0.69	20.7	1.94	0.47	0.59	0.71
	800	25.4	1.34	0.44	0.58	0.73	24.2	1.51	0.45	0.59	0.74	22.8	1.71	0.47	0.62	0.77	21.3	1.94	0.48	0.63	0.79
	1000	25.9	1.35	0.47	0.64	0.81	24.6	1.52	0.47	0.65	0.82	23.2	1.73	0.49	0.67	0.85	21.7	1.96	0.50	0.69	0.87
2.5 TON COOLING CAPACITY 13CHAX-30																					
63°F (17°C)	800	27.3	1.66	0.70	0.83	0.95	26.0	1.86	0.71	0.84	0.97	24.6	2.12	0.74	0.87	1.00	22.9	2.40	0.76	0.90	1.00
	1000	28.5	1.67	0.77	0.91	1.00	27.2	1.88	0.78	0.92	1.00	25.6	2.14	0.81	0.96	1.00	24.0	2.43	0.83	0.98	1.00
	1200	29.4	1.68	0.83	0.97	1.00	28.0	1.89	0.84	0.99	1.00	26.4	2.15	0.88	1.00	1.00	24.7	2.44	0.90	1.00	1.00
67°F (19°C)	800	29.1	1.68	0.55	0.67	0.79	27.7	1.90	0.56	0.68	0.80	26.2	2.16	0.58	0.71	0.84	24.5	2.45	0.60	0.73	0.86
	1000	30.0	1.69	0.59	0.74	0.88	28.6	1.90	0.60	0.75	0.89	27.0	2.16	0.62	0.78	0.93	25.2	2.45	0.64	0.80	0.95
	1200	30.6	1.69	0.63	0.81	0.95	29.2	1.91	0.64	0.82	0.96	27.5	2.17	0.67	0.85	1.00	25.7	2.46	0.68	0.87	1.00
71°F (22°C)	800	30.9	1.71	0.42	0.53	0.64	29.5	1.92	0.43	0.54	0.65	27.8	2.18	0.45	0.56	0.68	26.0	2.48	0.46	0.57	0.69
	1000	31.8	1.71	0.43	0.57	0.71	30.3	1.92	0.44	0.58	0.72	28.6	2.18	0.46	0.60	0.75	26.7	2.48	0.47	0.62	0.77
	1200	32.4	1.72	0.45	0.62	0.78	30.9	1.94	0.46	0.63	0.80	29.1	2.20	0.48	0.65	0.83	27.2	2.50	0.49	0.67	0.85
3 TON COOLING CAPACITY 13CHAX-36																					
63°F (17°C)	1000	32.8	2.06	0.71	0.84	0.97	31.3	2.35	0.73	0.87	1.00	29.5	2.67	0.75	0.89	1.00	27.6	3.03	0.75	0.89	1.00
	1200	33.9	2.06	0.76	0.90	1.00	32.3	2.35	0.78	0.92	1.00	30.5	2.67	0.80	0.95	1.00	28.5	3.03	0.80	0.95	1.00
	1400	35.0	2.07	0.81	0.94	1.00	33.3	2.36	0.83	0.97	1.00	31.4	2.68	0.86	0.99	1.00	29.4	3.04	0.86	0.99	1.00
67°F (19°C)	1000	34.6	2.08	0.56	0.68	0.81	33.0	2.36	0.57	0.70	0.83	31.1	2.69	0.58	0.72	0.85	29.1	3.05	0.58	0.72	0.85
	1200	35.7	2.09	0.58	0.73	0.87	34.0	2.37	0.60	0.75	0.89	32.1	2.69	0.62	0.77	0.92	30.0	3.06	0.62	0.77	0.92
	1400	36.4	2.09	0.62	0.78	0.91	34.7	2.37	0.64	0.80	0.94	32.7	2.70	0.65	0.82	0.96	30.6	3.06	0.65	0.82	0.96
71°F (22°C)	1000	37.1	2.10	0.42	0.53	0.65	35.4	2.38	0.43	0.55	0.67	33.4	2.70	0.44	0.56	0.68	31.2	3.07	0.44	0.56	0.68
	1200	37.8	2.10	0.43	0.56	0.70	36.0	2.38	0.44	0.58	0.72	34.0	2.71	0.45	0.59	0.74	31.8	3.08	0.45	0.59	0.74
	1400	38.6	2.11	0.44	0.60	0.76	36.7	2.39	0.45	0.62	0.78	34.6	2.72	0.46	0.63	0.80	32.4	3.09	0.46	0.63	0.80
3.5 TON COOLING CAPACITY 13CHAX-42																					
63°F (17°C)	1200	40.1	2.44	0.70	0.82	0.95	38.2	2.77	0.71	0.84	0.97	36.0	3.15	0.73	0.87	1.00	33.7	3.58	0.76	0.90	1.00
	1400	41.4	2.44	0.74	0.87	1.00	39.4	2.77	0.76	0.90	1.00	37.2	3.15	0.78	0.92	1.00	34.8	3.58	0.81	0.96	1.00
	1600	42.7	2.45	0.79	0.92	1.00	40.7	2.78	0.81	0.94	1.00	38.4	3.16	0.83	0.97	1.00	35.9	3.59	0.87	1.00	1.00
67°F (19°C)	1200	42.3	2.45	0.54	0.66	0.79	40.3	2.79	0.55	0.68	0.81	38.0	3.18	0.57	0.70	0.83	35.5	3.61	0.59	0.72	0.86
	1400	43.6	2.46	0.57	0.71	0.85	41.5	2.80	0.58	0.73	0.87	39.2	3.18	0.60	0.75	0.89	36.6	3.62	0.62	0.78	0.93
	1600	44.4	2.46	0.60	0.76	0.89	42.3	2.80	0.62	0.78	0.91	39.9	3.19	0.64	0.80	0.94	37.3	3.62	0.66	0.83	0.97
71°F (22°C)	1200	45.3	2.47	0.41	0.52	0.63	43.2	2.81	0.42	0.53	0.65	40.7	3.19	0.43	0.55	0.66	38.1	3.63	0.44	0.57	0.69
	1400	46.2	2.47	0.42	0.55	0.69	44.0	2.81	0.43	0.56	0.70	41.5	3.20	0.44	0.58	0.72	38.8	3.64	0.45	0.60	0.75
	1600	47.1	2.49	0.42	0.59	0.74	44.8	2.83	0.43	0.60	0.76	42.3	3.21	0.45	0.62	0.78	39.5	3.65	0.46	0.64	0.81
4 TON COOLING CAPACITY 13CHAX-48																					
63°F (17°C)	1400	46.4	2.87	0.72	0.86	0.99	44.2	3.27	0.73	0.87	1.00	42.1	3.71	0.75	0.89	1.00	39.7	4.22	0.77	0.92	1.00
	1600	47.4	2.87	0.74	0.89	1.00	45.1	3.27	0.75	0.90	1.00	43.0	3.71	0.77	0.92	1.00	40.5	4.22	0.79	0.95	1.00
	1800	47.9	2.88	0.77	0.91	1.00	45.6	3.28	0.78	0.92	1.00	43.4	3.72	0.80	0.95	1.00	41.0	4.23	0.83	0.97	1.00
67°F (19°C)	1400	49.4	2.89	0.56	0.69	0.83	47.0	3.29	0.57	0.70	0.84	44.8	3.74	0.59	0.72	0.87	42.3	4.25	0.60	0.74	0.89
	1600	49.9	2.90	0.58	0.72	0.86	47.5	3.30	0.58	0.73	0.87	45.2	3.75	0.60	0.75	0.89	42.7	4.26	0.62	0.77	0.92
	1800	50.4	2.90	0.59	0.75	0.90	48.0	3.30	0.60	0.76	0.91	45.7	3.75	0.62	0.78	0.94	43.1	4.26	0.63	0.80	0.96
71°F (22°C)	1400	52.4	2.92	0.42	0.54	0.67	49.9	3.32	0.43	0.55	0.68	47.5	3.78	0.44	0.57	0.69	44.8	4.29	0.45	0.58	0.71
	1600	52.9	2.93	0.43	0.56	0.69	50.4	3.33	0.44	0.57	0.70	48.0	3.79	0.45	0.58	0.72	45.2	4.30	0.46	0.60	0.74
	1800	53.4	2.93	0.44	0.58	0.72	50.8	3.33	0.45	0.59	0.73	48.4	3.79	0.46	0.60	0.75	45.7	4.30	0.47	0.62	0.77
5 TON COOLING CAPACITY 13CHAX-60																					
63°F (17°C)	1600	56.1	3.65	0.71	0.85	0.97	53.5	4.15	0.72	0.86	0.99	50.9	4.71	0.74	0.88	1.00	48.0	5.36	0.76	0.91	1.00
	1800	57.4	3.65	0.73	0.87	1.00	54.6	4.15	0.74	0.89	1.00	52.0	4.71	0.76	0.91	1.00	49.1	5.36	0.78	0.93	1.00
	2000	58.0	3.66	0.76	0.90	1.00	55.2	4.16	0.77	0.91	1.00	52.6	4.72	0.79	0.94	1.00	49.6	5.37	0.81	0.96	1.00
67°F (19°C)	1600	59.8	3.68	0.56	0.68	0.82	56.9	4.18	0.56	0.69	0.83	54.2	4.75	0.58	0.71	0.85	51.1	5.40	0.59	0.73	0.88
	1800	60.4	3.69	0.57	0.71	0.85	57.5	4.19	0.58	0.72	0.86	54.8	4.76	0.59	0.74	0.88	51.7	5.41	0.61	0.76	0.90
	2000	61.0	3.70	0.59	0.74	0.89	58.1	4.19	0.59	0.75	0.90	55.3	4.76	0.61	0.77	0.92	52.2	5.41	0.63	0.79	0.95
71°F (22°C)	1600	63.4	3.71	0.42	0.54	0.66	60.4	4.22	0.42	0.54	0.67	57.5	4.80	0.43	0.56	0.68	54.2	5.45	0.45	0.57	0.70
	1800	64.0	3.72	0.43	0.55	0.68	61.0	4.23	0.43	0.56	0.69	58.0	4.81	0.44	0.58	0.71	54.8	5.46	0.46	0.59	0.73
	2000	64.6	3.72	0.43	0.57	0.71	61.5	4.23	0.44	0.58	0.72	58.6	4.81	0.45	0.59	0.74	55.3	5.46	0.46	0.61	0.76

REVISIONS

Sections	Description of Change
Specifications	Total Cooling Capacity and Total Unit Watts revised for all units.

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