



ENGINEERING DATA

PACKAGED HEAT PUMPS

12CHP

ELITE® SERIES - RESIDENTIAL

SEER - 12.0

2 to 5 Tons

Net Cooling Capacity - 23,800 to 57,000 Btuh

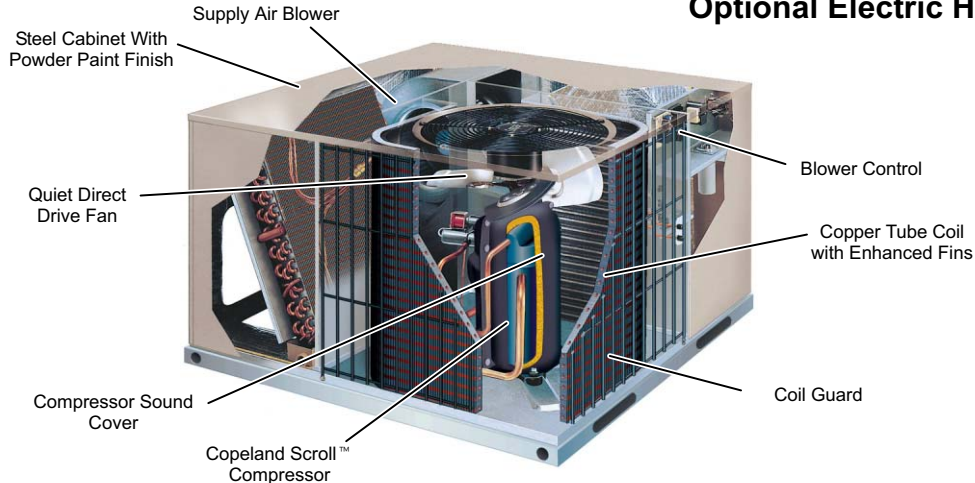
Net Heating Capacity - 24,000 to 57,000 Btuh

Optional Electric Heat - 5 to 25 kW

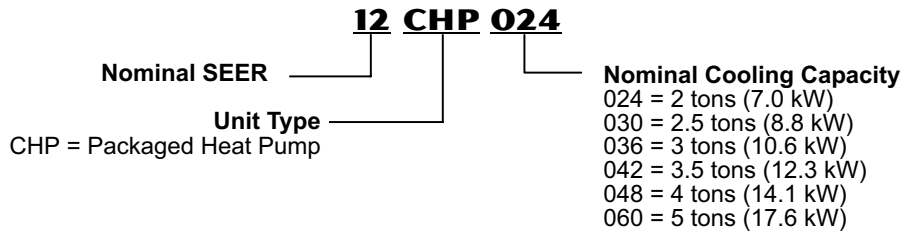
Bulletin No. 210252

February 2004

Supersedes April 2000



MODEL NUMBER IDENTIFICATION



FEATURES

CONTENTS

Blower Data Page 5
Dimensions Page 8
Electrical Data Page 3
Electric Heat Data Page 4
Expanded Rating Tables Pages 5-7
Features Pages 1-2
Field Wiring Page 2
Installation Clearances Page 2
Model Number Identification Page 1
Optional Accessories Page 2
Specifications Page 3

WARRANTY

Compressor - 10 year limited warranty in residential applications, 1 year in non-residential applications.
All covered components - 5 year limited warranty in residential applications, 1 year in non-residential applications.
Refer to Lennox Equipment Limited Warranty Certificate included with unit for specific details.

APPLICATIONS

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

APPROVALS

Ratings are certified by ARI.
Cooling ratings according to DOE test procedures.
Cooling ratings in accordance with ARI Standard 210/240.
Units are listed by ETL for U.S. and Canada.
Packaged unit and components within bonded for grounding to meet safety standards required by ETL.
ISO 9001 Registered Manufacturing Quality System.
Each unit test operated at the factory before shipment ensuring dependable operation at start-up.

CONTROLS

Solid-state blower control.
Two pole contactor for improved reliability.
Trade available components.
Color coded wiring for easy service.

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 (2°C).
Sensor mounted on liquid line determines when defrost cycle is required and also when to terminate cycle.

Visit us at www.lennox.com
For the latest technical information, www.davenet.com

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.

FEATURES

REFRIGERATION SYSTEM

External service gauge ports.

Indoor and Outdoor Coils

Copper tube with enhanced fin coils.

Outdoor Coil Fan

Weather protected heavy duty condenser fan motor with aluminum fan for long life.

Totally enclosed motor.

BLOWER

Insulated compartment to reduce sound.

Easy service split ring design with quick plug-in wiring.

Multi-speed motor for wide airflow range.

Variable speed motor on 12CHP060 ton model.

Pre-lubricated motor for low maintenance and maximum efficiency.

Dynamically balanced blower with resilient motor mounts for smooth and quiet operation.

CABINET

Low profile.

Compact footprint.

Fully insulated to minimize heat loss.

Powder paint for maximum durability.

Easy service access.

Coil guard furnished.

One piece "no leak" top design.

Interchangeable panel for horizontal to down-flow airflow conversion (shipped for horizontal).

FILTER (REQUIRED)

Not furnished - must be field provided.

Filter rack furnished.

OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

ELECTRIC HEAT (5-25 KW)

Field install internal to unit cabinet.

Available in several voltages and kw sizes.

See Electric Heat tables.

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

Supplemental thermal cutoff limit control, provides positive protection in case of excessive temperatures.

Factory assembled with controls installed and wired.

CONTROLS

Thermostat

Not furnished must be ordered extra.

COPELAND 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 be worked toward the center and discharged.

Low gas pulses during compression reduces operational sound levels.

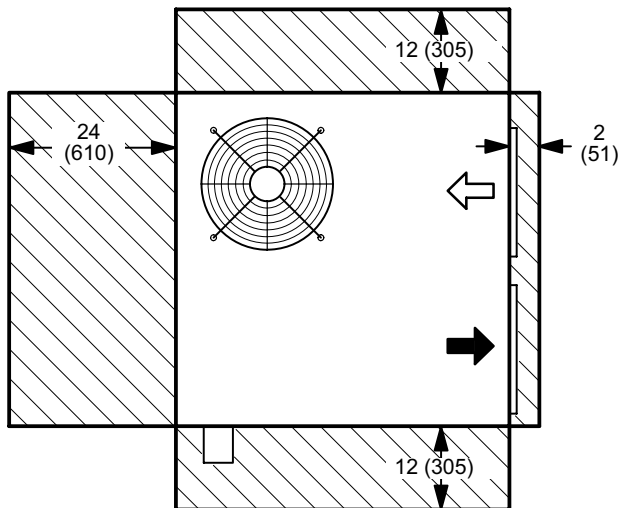
Compressor motor is internally protected from excessive current and temperature.

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

Compressor cover reduces operating sound levels.

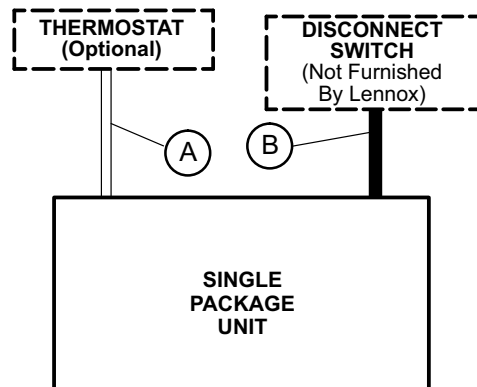


INSTALLATION CLEARANCES - IN. (MM)



NOTE — Top Clearance Unobstructed.

FIELD WIRING



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

A- Five Wire Low Voltage (Electro-mechanical)

- Six Wire Low Voltage (Electronic)

B- Two Wire Power (See Electrical Data Table)

- Field Wiring Not Furnished -

SPECIFICATIONS

General Data		Model No.	12CHP024	12CHP030	12CHP036	12CHP042	12CHP048	12CHP060
Nominal Tonnage			2	2.5	3	3.5	4	5
¹ ARI Cooling Ratings	Cooling Capacity — Btuh (kW)		23,800 (7.0)	28,000 (8.2)	35,000 (10.2)	42,000 (12.3)	48,000 (14.0)	57,000 (16.7)
	Total unit watts		2160	2550	3210	3930	4510	5230
	SEER (Btuh/Watts)		12.00	12.00	12.00	12.00	12.00	12.00
	EER (Btuh/Watts)		11.00	11.00	10.90	10.70	10.65	10.90
¹ ARI Certified High Temperature Heating Ratings	Total Capacity — Btuh (kW)		24,000 (7.0)	29,400 (8.6)	35,000 (10.2)	42,000 (12.3)	48,000 (14.0)	57,000 (16.7)
	Total unit watts		2230	2610	3150	3850	4690	5220
	C.O.P (Coefficient of Performance)		3.16	3.30	3.26	3.20	3.00	3.20
	HSPF — Region IV		7.00	7.00	7.20	7.20	7.00	7.00
¹ ARI Certified Low Temperature Heating Ratings	Total Capacity — Btuh (kW)		14,800 (4.3)	17,500 (5.1)	21,800 (6.4)	25,600 (7.5)	31,000 (9.1)	37,300 (10.9)
	Total unit watts		2100	2420	2960	3570	4330	5200
C.O.P (Coefficient of Performance)		2.06	2.12	2.16	2.10	2.10	2.10	
Sound Rating Number (dB)			76	76	80	80	80	80
Refrigerant Charge (HCFC-22)			7 lbs. 5 oz. (3.32 kg)	7 lbs. 4 oz. (3.29 kg)	11 lbs. 0 oz. (4.99 kg)	10 lbs. 12 oz. (4.59 kg)	12 lbs. 3 oz. (5.53 kg)	10 lbs. 13 oz. (4.90 kg)
Indoor Coil Blower	Blower wheel size D x W in. (mm)		10 x 7 (254 x 178)	10 x 7 (254 x 178)	10 x 8 (254 x 203)	10 x 8 (254 x 203)	10 x 10 (254 x 254)	10 x 10 (254 x 254)
	Motor horsepower (W)		1/2 (373)	1/2 (373)	1/2 (373)	1/2 (373)	3/4 (559)	3/4 (559)
Indoor Coil	Net face area - sq. ft. (m ²)		3.6 (0.33)	4.2 (0.39)	6.1 (0.57)	6.1 (0.57)	6.1 (0.57)	6.1 (0.57)
	Tube dia. - in. (mm) & No. of rows		5/16 (7.9) - 3	3/8 (9.5) - 3	3/8 (9.5) - 3	3/8 (9.5) - 3	3/8 (9.5) - 3	3/8 (9.5) - 3
	Fins per inch (m)		14 (552)	14 (552)	15 (591)	15 (591)	15 (591)	15 (591)
Outdoor Coil	Net face area - sq. ft. (m ²)		12.3 (1.14)	14 (1.3)	14.3 (1.33)	14.3 (1.33)	17.5 (1.63)	17.5 (1.63)
	Tube dia. - in. (mm) & No. of rows		5/16 (7.9) - 2	5/16 (7.9) - 2	3/8 (9.5) - 2	3/8 (9.5) - 2	3/8 (9.5) - 2	3/8 (9.5) - 2
	Fins per inch (m)		18 (709)	14 (552)	12 (473)	12 (473)	16 (630)	16 (630)
Outdoor Coil Fan	Diameter - in. (mm) & No. of blades		18 (457) - 4	18 (457) - 4	20 (508) - 4	20 (508) - 4	20 (508) - 4	20 (508) - 4
	Air Volume - cfm (L/s)		2300 (1085)	2300 (1085)	3000 (1415)	3000 (1415)	3000 (1415)	3000 (1415)
	Motor horsepower (W)		1/4 (187)	1/4 (187)	1/4 (187)	1/4 (187)	1/4 (187)	1/4 (187)
	Motor watts		250	250	325	325	325	325
Condensate drain size fpt - in. (mm)			(1) 3/4 (19)	(1) 3/4 (19)	(1) 3/4 (19)	(1) 3/4 (19)	(1) 3/4 (19)	(1) 3/4 (19)
² Filters	Number & size of filters - in.		(1) 24 x 25 x 1	(1) 28 x 25 x 1	(1) 30 x 30 x 1	(1) 30 x 30 x 1	(1) 30 x 30 x 1	(1) 30 x 30 x 1
	mm		610 x 635 x 25	711 x 635 x 25	762 x 762 x 25	762 x 762 x 25	762 x 762 x 25	762 x 762 x 25
Net weight of basic unit - lbs. (kg)			275 (125)	310 (141)	420 (191)	425 (193)	435 (197)	455 (206)
Shipping weight of basic unit - lbs. (kg) (1 Package)			290 (132)	325 (147)	435 (197)	440 (200)	450 (204)	470 (213)
Electrical characteristics			208-230V, 1ph, 60hz					

ELECTRICAL DATA

Electrical Data	Line voltage data - 60hz 1 phase	208/230V	208/230V	208/230V	208/230V	208/230V	208/230V
	³ Maximum overcurrent protection (amps)	25	30	30	35	40	50
	⁴ Minimum Circuit Ampacity	18.2	19.8	23.6	27.6	29.4	36.7
	Unit power factor	.96	.97	.95	.97	.99	1.00
Compressor	Rated load amps	10.9	12.2	14.7	17.9	19.2	25.0
	Locked rotor amps	54	67	83	104	137	169
Outdoor Coil Fan Motor	Full load amps	1.8	1.8	1.8	1.8	1.8	1.8
	Locked rotor amps	3.8	3.8	3.8	3.8	3.8	3.8
Indoor Coil Blower Motor	Full load amps	2.7	2.7	3.4	3.4	3.6	3.6
	Locked rotor amps	5.5	5.5	8.3	8.3	11	7.3

OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

Supplemental Electric Heat - kW range		5,7,10,15	5,7,10,15	5,7,10,15	5,7,10,15	5,7,10,15,20	5,7,10,15,20,25
Timed-Off Control		42K90	42K90	42K90	42K90	42K90	42K90
Outdoor Thermostat Kit	Thermostat Kit	56A87	56A87	56A87	56A87	56A87	56A87
	Mounting Box	31461	31461	31461	31461	31461	31461
High Pressure Switch		42K89	42K89	42K89	42K89	42K89	42K89

NOTE - Extremes of operating range are plus and minus 10% of line voltage.

¹ Rated in accordance with ARI Standard 210/240; 95°F (35°C) outdoor air temperature, 80°F (27°C) db / 67°F (19°C) wb entering evaporator air.

² Filters are not furnished and must be ordered extra.

³ HACR type circuit breaker or fuse.

⁴ Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirement

ELECTRIC HEAT DATA

					12CHP024 and 12CHP030					12CHP036 and 12CHP042				
Model Number	No. Steps	Input			² Blower Motor Full Load Amps	³ Minimum Circuit Ampacity Circuit		⁴ Maximum Overcurrent Protection Circuit		² Blower Motor Full Load Amps	³ Minimum Circuit Ampacity Circuit		⁴ Maximum Overcurrent Protection Circuit	
		Volt	kW	1 Btuh		1	2	1	2		1	2	1	2
5 kW ECH29-05 71K18 4 lbs. (2 kg)	1 step	208	3.8	12,800	2.7	26	---	30	---	3.4	27.1	---	30	---
		220	4.2	14,300	2.7	27.2	---	30	---	3.4	28.3	---	30	---
		230	4.6	15,700	2.7	28.3	---	30	---	3.4	29.4	---	30	---
		240	5.0	17,100	2.7	29.5	---	30	---	3.4	30.6	---	35	---
7 kW ECH29-07 74K64 5 lbs. (2 kg)	1 step	208	5.3	17,900	2.7	35	---	35	---	3.4	36.1	---	40	---
		220	5.9	20,100	2.7	36.7	---	40	---	3.4	37.8	---	40	---
		230	6.4	21,900	2.7	38.3	---	40	---	3.4	39.4	---	40	---
		240	7.0	23,900	2.7	39.9	---	40	---	3.4	41.0	---	45	---
10 kW ECH29-10 71K19 5 lbs. (2 kg)	1 step	208	7.5	25,600	2.7	48.6	---	50	---	3.4	49.6	---	50	---
		220	8.4	28,700	2.7	51.1	---	60	---	3.4	52.2	---	60	---
		230	9.2	31,300	2.7	53.2	---	60	---	3.4	54.3	---	60	---
		240	10.0	34,100	2.7	55.5	---	60	---	3.4	56.6	---	60	---
15 kW ECH29-15 71K20 17 lbs. (8 kg)	1 step	208	11.2	38,200	2.7	48.6	22.9	50	25	3.4	49.6	22.9	50	25
		220	12.6	43,000	2.7	51.1	23.9	60	25	3.4	52.2	23.9	60	25
		230	13.8	47,000	2.7	53.2	25	60	25	3.4	54.3	25	60	25
		240	15.0	51,200	2.7	55.5	26.1	60	30	3.4	56.6	26.1	60	30

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

¹ Electric heater capacity only — does not include additional blower motor heat capacity.

² Amps shown are for blower motor only.

³ Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F (75°C).

⁴ HACR type circuit breaker or fuse.

					12CHP048					12CHP060						
Model Number	No. Steps	Input			² Blower Motor Full Load Amps	³ Minimum Circuit Ampacity Circuit		⁴ Maximum Overcurrent Protection Circuit		² Blower Motor Full Load Amps	³ Minimum Circuit Ampacity Circuit			⁴ Maximum Overcurrent Protection Circuit		
		Volts	kW	1 Btuh		1	2	1	2		1	2	3	1	2	3
5 kW ECH29-05 71K18 4 lbs. (2 kg)	1 step	208	3.8	12,800	3.6	27.1	---	30	---	3.6	27.1	---	---	30	---	---
		220	4.2	14,300	3.6	28.3	---	30	---	3.6	28.3	---	---	30	---	---
		230	4.6	15,700	3.6	29.4	---	30	---	3.6	29.4	---	---	30	---	---
		240	5.0	17,100	3.6	30.6	---	35	---	3.6	30.6	---	---	35	---	---
7 kW ECH29-07 74K64 5 lbs. (2 kg)	1 step	208	5.3	17,900	3.6	36.1	---	40	---	3.6	36.1	---	---	40	---	---
		220	5.9	20,100	3.6	37.8	---	40	---	3.6	37.8	---	---	40	---	---
		230	6.4	21,900	3.6	39.4	---	40	---	3.6	39.4	---	---	40	---	---
		240	7.0	23,900	3.6	41.0	---	45	---	3.6	41.0	---	---	45	---	---
10 kW ECH29-10 71K19 5 lbs. (2 kg)	1 step	208	7.5	25,600	3.6	49.6	---	50	---	3.6	49.6	---	---	50	---	---
		220	8.4	28,700	3.6	52.2	---	60	---	3.6	52.2	---	---	60	---	---
		230	9.2	31,300	3.6	54.4	---	60	---	3.6	54.4	---	---	60	---	---
		240	10.0	34,100	3.6	56.6	---	60	---	3.6	56.6	---	---	60	---	---
15 kW ECH29-15 71K20 17 lbs. (8 kg)	1 step	208	11.2	38,200	3.6	49.6	22.9	50	25	3.6	49.6	22.6	---	50	25	---
		220	12.6	43,000	3.6	52.2	23.9	60	25	3.6	52.2	23.9	---	60	25	---
		230	13.8	47,000	3.6	54.4	25	60	25	3.6	54.4	25	---	60	25	---
		240	15.0	51,200	3.6	56.6	26.1	60	30	3.6	56.6	26.1	---	60	30	---
20 kW ECH29-20 71K21 20 lbs. (9 kg)	1 step	208	15.0	51,200	3.6	49.6	45.1	50	50	3.6	49.6	45.1	---	50	50	---
		220	16.8	57,300	3.6	52.2	47.8	60	50	3.6	52.2	47.8	---	60	50	---
		230	18.4	62,700	3.6	54.4	50	60	50	3.6	54.4	50	---	60	50	---
		240	20.0	68,200	3.6	56.6	52.1	60	60	3.6	56.6	52.1	---	60	60	---
25 kW ECH29-25 71K21 20 lbs. (9 kg)	1 step	208	18.8	64,200	3.6	Not Available				3.6	49.6	45.1	45.1	50	50	50
		220	21.0	71,700	3.6	Not Available				3.6	52.2	47.8	47.8	60	50	50
		230	23.0	78,500	3.6	Not Available				3.6	54.4	50	50	60	50	50
		240	25.0	85,300	3.6	Not Available				3.6	56.6	52.1	52.1	60	60	60

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

¹ Electric heater capacity only — does not include additional blower motor heat capacity.

² Amps shown are for blower motor only.

³ Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F (75°C).

⁴ HACR type circuit breaker or fuse.

BLOWER DATA

12CHP024 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
.20	50	1150	545	990	465	930	440
.30	75	1120	530	980	460	900	425
.40	100	1070	505	950	450	870	410
.50	125	1040	490	890	420	820	385
.60	150	960	455	790	375	740	350
.70	175	810	380	680	320	660	310
.80	200	700	330	600	285	590	280

NOTE — All air data is measured external to unit without air filters.
¹ For down-flow air volume, add 0.10 in. w.g. (25 Pa) to duct static.

12CHP030 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
.20	50	1210	570	1010	475	920	435
.30	75	1180	555	1000	470	910	430
.40	100	1150	545	990	465	900	425
.50	125	1110	525	950	450	850	400
.60	150	1040	490	890	420	800	380
.70	175	950	450	800	380	720	340
.80	200	860	405	710	335	630	295

NOTE — All air data is measured external to unit without air filters.
¹ For down-flow air volume, add 0.10 in. w.g. (25 Pa) to duct static.

12CHP036 AND 12CHP042 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
.20	50	1520	715	1460	690	1400	660
.30	75	1500	710	1440	680	1370	645
.40	100	1430	675	1410	665	1320	625
.50	125	1400	660	1340	630	1290	610
.60	150	1320	625	1310	620	1270	600
.70	175	1300	615	1270	600	1220	575
.80	200	1220	575	1170	550	1110	525

NOTE — All air data is measured external to unit without air filters.
¹ For down-flow air volume, add 0.10 in. w.g. (25 Pa) to duct static.

12CHP048 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
.20	50	2150	1015	1920	905	1750	825
.30	75	2100	990	1870	880	1720	810
.40	100	2030	960	1790	845	1650	780
.50	125	1950	920	1730	815	1600	755
.60	150	1875	885	1650	780	1550	730
.70	175	1750	825	1580	745	1480	700
.80	200	1650	780	1500	710	1400	660

NOTE — All air data is measured external to unit without air filters.
¹ For down-flow air volume, add 0.10 in. w.g. (25 Pa) to duct static.

12CHP060 BLOWER PERFORMANCE

¹ Horizontal Air Flow

External Static Pressure		Air Volume at Various Blower Speeds			
		Normal		High	
in. w.g.	Pa	cfm	L/s	cfm	L/s
.20	50	1900	895	2000	945
.30	75	1900	895	2000	945
.40	100	1900	895	2000	945
.50	125	1900	895	2000	945
.60	150	1900	895	2000	945
.70	175	1900	895	2000	945
.80	200	1900	895	2000	945

NOTE — All air data is measured external to unit without air filters.
¹ For down-flow air volume, add 0.10 in. w.g. (25 Pa) to duct static.

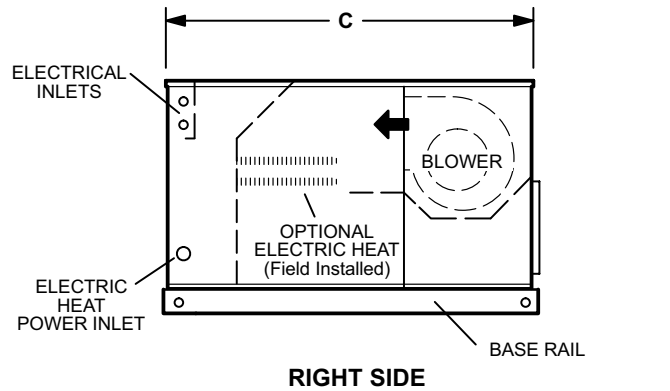
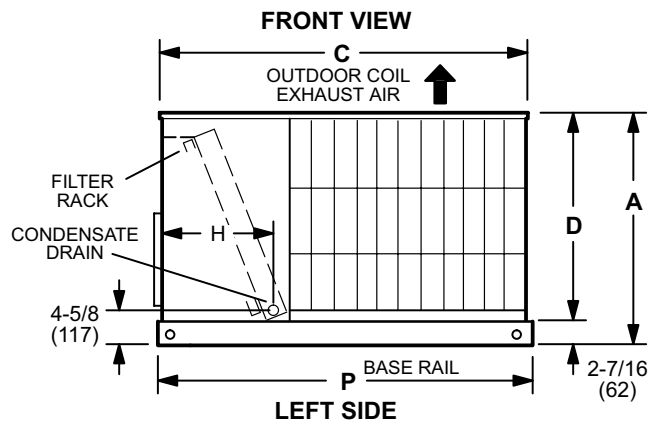
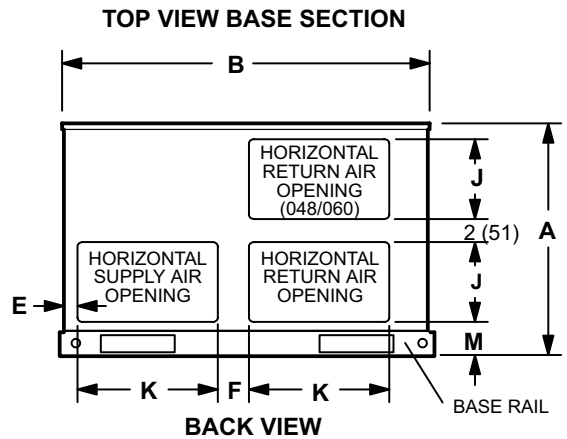
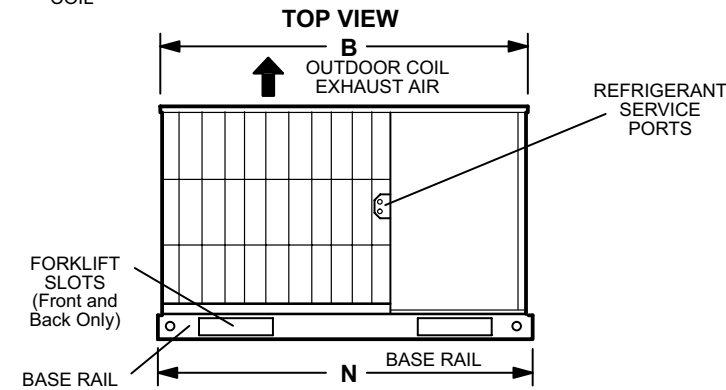
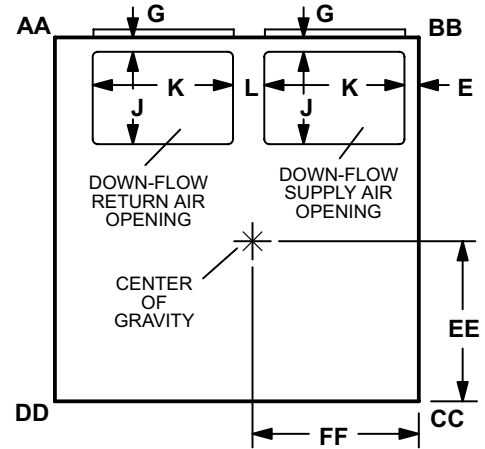
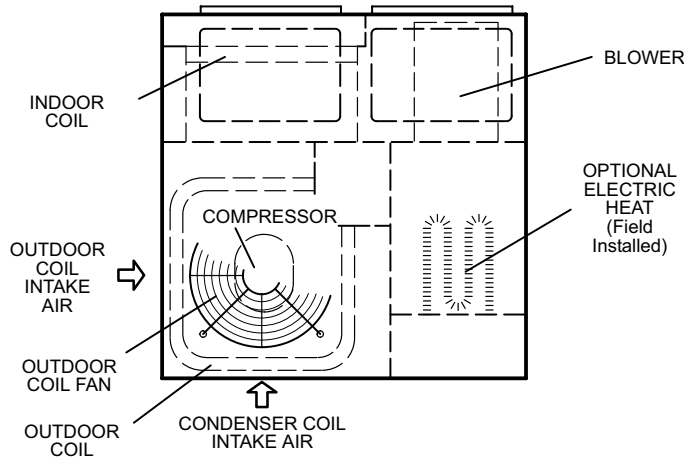
DIMENSIONS - INCHES (MM)

CORNER WEIGHTS

Model Number	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
12CHP024	77	35	56	25	61	28	82	37
12CHP030	86	39	63	29	69	31	92	42
12CHP036	117	53	85	39	93	42	125	57
12CHP042	118	54	86	39	94	43	126	57
12CHP048	121	55	88	40	96	44	129	59
12CHP060	127	57	92	42	101	46	135	61

CENTER OF GRAVITY

Model Number	EE		FF	
	inch	mm	inch	mm
12CHP024	21-7/8	556	26-1/2	673
12CHP030	21-7/8	556	26-1/2	673
12CHP036	23-3/4	603	31-1/4	794
12CHP042	23-3/4	603	31-1/4	794
12CHP048	23-3/4	603	31-1/4	794
12CHP060	23-3/4	603	31-1/4	794



Model Number	A		B		C		D		E		F		G	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
12CHP024	27-11/16	703	45-5/8	1159	45-5/8	1159	25-1/4	641	1-13/16	46	4	102	1-7/8	48
12CHP030	31-11/16	805	45-5/8	1159	45-5/8	1159	29-1/4	743	1-13/16	46	4	102	1-7/8	48
12CHP036,042,048,060	33-11/16	856	54-11/16	1389	49-5/8	1260	31-7/16	799	1-1/8	29	6-1/4	159	2-1/4	57

Model Number	H		J		K		L		M		N		P	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
12CHP024	15-5/8	397	11-1/2	292	17-1/2	445	4	102	5	127	46-3/8	1179	46-3/8	1179
12CHP030	15-5/8	397	11-1/2	292	17-1/2	445	4	102	5	127	46-3/8	1179	46-3/8	1179
12CHP036,042,048,060	17-1/8	435	12	305	21-1/2	546	5-5/8	143	4-1/8	105	55-1/4	1403	50-1/2	1283