



PRODUCT SPECIFICATIONS

Bulletin No. 210523

November 2016

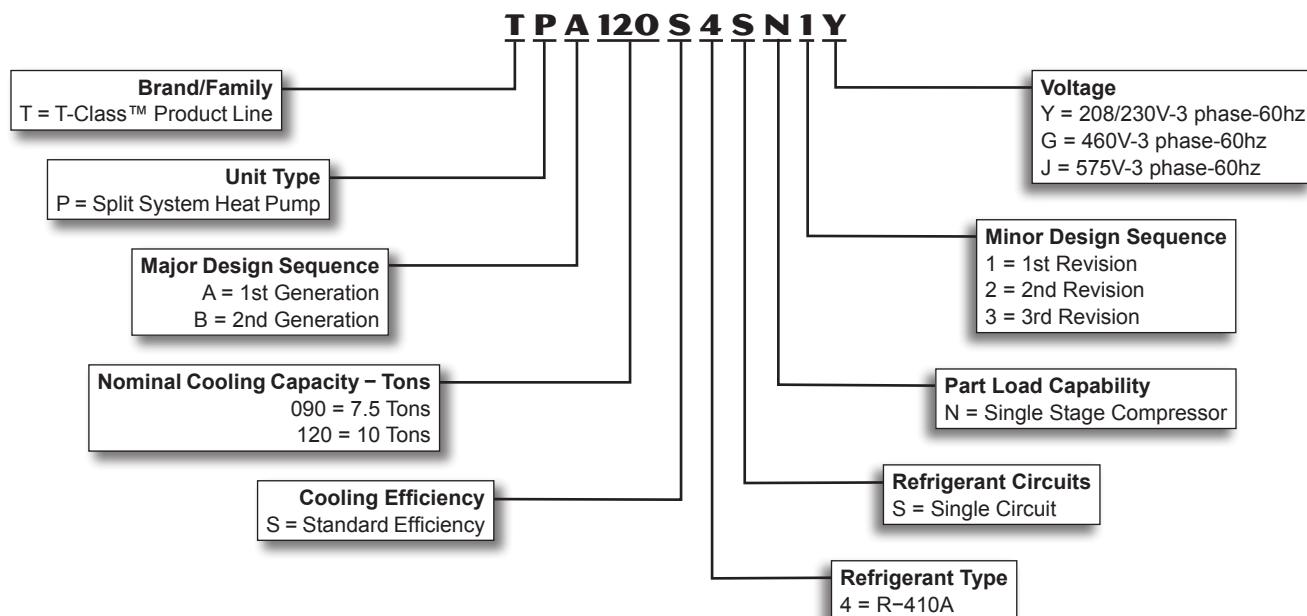
Supersedes July 2015



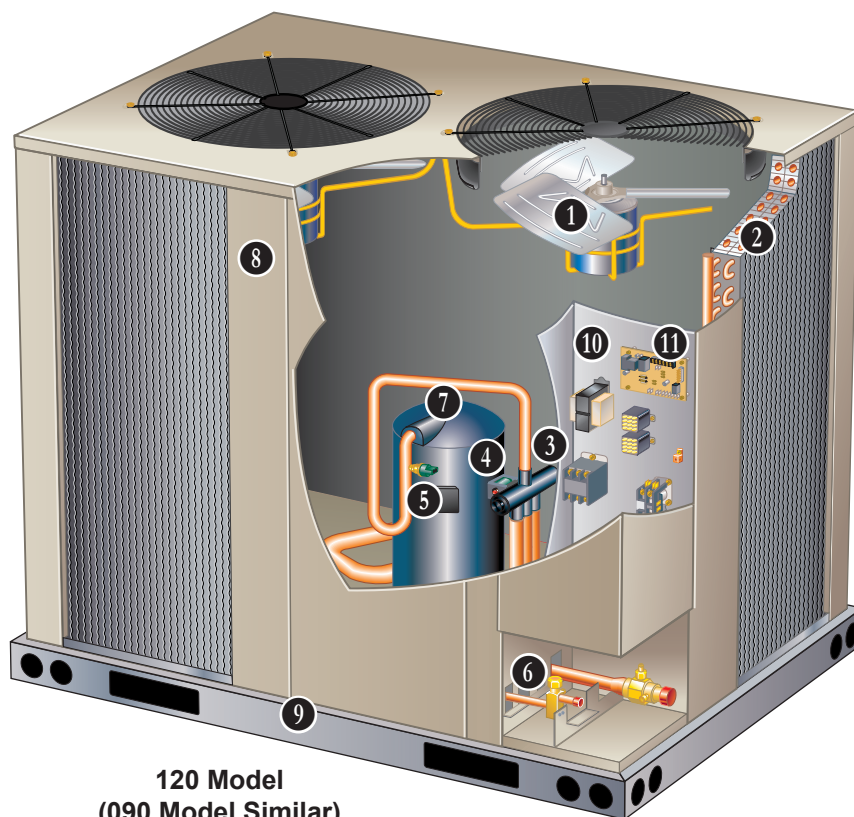
EER up to 11.0
7.5 to 10 Tons

Cooling Capacity - 89,000 to 180,000 Btuh
Heating Capacity - 88,000 to 174,000 Btuh

MODEL NUMBER IDENTIFICATION



FEATURES AND BENEFITS



**120 Model
(090 Model Similar)**

CONTENTS

AHRI System Matches	7
Dimensions	8
Electrical Data.....	6
Features And Benefits	2
Model Number Identification	1
Optional Conventional Temperature Control Systems.....	5
Options / Accessories	6
Ratings.....	9
Sound Data	6
Specifications	6
Unit Clearances	7
Weight Data	7

EQUIPMENT WARRANTY

Compressor - Limited warranty for five years in non-residential applications.

All other covered components - One year in non-residential applications.
Refer to Lennox Equipment Limited Warranty certificate for specific details.

APPLICATIONS

Heat pumps are available in 7.5 and 10 ton nominal sizes.

Matching air handlers provide a wide range of cooling capacities and applications. See AHRI Ratings tables. See Air Handlers sections for data.

Units shipped completely factory assembled, piped, and wired. Each unit is test operated at the factory insuring proper operation.

Installer must set heat pump, connect refrigerant lines, add refrigerant charge and make electrical connections to complete job.

APPROVALS

All units tested in Lennox' Research Laboratory environmental test room or ETL certified environmental testing facility.

AHRI Certified to AHRI Standard 340/360-2007.

Sound tested in Lennox reverberant sound test room in accordance with test conditions included in AHRI Standard 270-95 or 370-2001.

Units and components within are bonded for grounding to meet safety standards for servicing required by UL, ULC, NEC and CEC.

All units are ETL listed.

ISO 9001 Registered Manufacturing Quality System.

FEATURES AND BENEFITS

REFRIGERATION SYSTEM

Refrigerant

Units operate with chlorine-free, ozone friendly, R-410A (field furnished).



1 Outdoor Coil Fan(s)

Dual direct drive fan(s) moves large volumes of air uniformly through entire condenser coil(s) for high refrigerant cooling capacity.

Upward discharge of air reduces operating sound levels and prevents damage to lawns, shrubs, and walkways.

Fan motors are totally enclosed, overload protected and equipped with a rain shield.

Fan service access is accomplished by removal of fan guards.

2 Copper Tube/Enhanced Fin Coil(s)

TPA090S has a single "U" shaped coil.

TPA120S have two "L" shaped coils.

Lennox designed and fabricated coils constructed of precisely spaced ripple-edge aluminum fins machine fitted to seamless copper tubes.

Lanced fins provide maximum exposure of fin surface to air stream resulting in excellent heat transfer.

Fins equipped with collars that grip tubing for maximum contact area.

Flared shoulder tubing connections and machine brazed silver soldering provide tight, leakproof joints.

Long life copper tubing is corrosion-resistant and easy to field service.

Thoroughly factory tested under high pressure to ensure leakproof construction.

Completely accessible for cleaning.

3 Reversing Valve

Factory installed 4-way reversing valve provides rapid change in refrigerant flow direction resulting in quick changeover from cooling to heating and vice-versa.

Valve operates on pressure differential between outdoor unit and indoor unit.

4 High Pressure Switch

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

Protects the compressor from excessive condensing pressure.

Manual reset.

5 Loss of Charge Switch

Provides loss of charge and freeze-up protection.

Hi-Capacity Drier(s)

Drier traps moisture or dirt that could contaminate the refrigerant system.

6 Refrigerant Lines and Service Valves

Sweat connections.

Fully serviceable liquid and suction line service valves provide complete service access to refrigerant system.

Suction valve can be fully shut off, while liquid valve can be front seated to manage refrigerant charge while servicing system.

Refrigerant lines and field wiring inlets are located in one central area of the unit cabinet.

7 COMPRESSORS

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 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.

Crankcase Heater (All Models)

Crankcase heater prevents migration of liquid refrigerant into compressor and ensures proper compressor lubrication at all times.

FEATURES AND BENEFITS

CABINET

- 8 Heavy-gauge, pre-painted steel cabinet provides superior rust and corrosion protection.
Removable panels allow access for unit servicing.
- 9 Heavy duty steel base channels raise the unit off of mounting surface away from damaging moisture.
Unit lifting holes and forklift slots furnished in base rails.
See dimension drawings.

10 Control Box

Control box located in separate compartment in unit cabinet .
All controls are pre-wired at the factory.
Control box is large enough for field installed DDC or other field supplied control modules.

Options/Accessories

Factory Installed

Corrosion Protection

Polymeric epoxy coating that is deposited by electrical transport (electrophoresis), using a process known as electrocoat (e-coat). Available for enhanced coil corrosion protection. Factory installed on the condenser coil. Painted base pan is provided with this option.

Field Installed

Combination Coil/Hail Guards

Heavy gauge steel frame painted to match cabinet with expanded metal mesh to protect the outdoor coil from damage.

CONTROLS

11 Defrost Control

Defrost control includes the combined functions of a time/temperature defrost control, defrost relay, time delay, two diagnostic LEDs (green/red) as an aid in troubleshooting, and a terminal strip for field wiring connections.

Provides a defrost cycle, if needed, every 30, 60 or 90 minutes (adjustable) of compressor "on" time at outdoor coil temperature below 42°F. Defrost thermostat mounted on outdoor coil liquid line determines defrost cycle.

Built-in adjustable compressor delay can be set to allow compressor to cycle off for 30 seconds before and after a defrost cycle.

Five minute timed-off delay short-cycle protection.

Options/Accessories

Field Installed

L Connection® Network

Complete building automation control system for single or multi-zone applications. Options include local interface, software for local or remote communication, and hardware for networking other control functions.

See L Connection Network Product Specifications Bulletin for details.

Network Thermostat Controller

Required for use with the L Connection Network.
Monitors and controls system operation.

Low Ambient Control

Heat pumps will operate satisfactorily in cooling mode down to 30°F outdoor air temperature without any additional controls.

Low Ambient Control Kit can be field installed, allowing unit operation down to 0°F.

Thermostat

Thermostat is not furnished with unit and must be ordered extra.

See page 5, individual Thermostat bulletins and Lennox Price Book.

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

Item	Model No.	Catalog No.
COMFORTSENSE® 7500 COMMERCIAL 7-DAY PROGRAMMABLE THERMOSTAT		
 <ul style="list-style-type: none"> • Four-Stage Heating / Two-Stage Cooling Universal Multi-Stage • Intuitive Touchscreen Interface • Remote Indoor Temperature Sensing with Averaging • Outside or Discharge Air Temperature Display • Full Seven-Day Programming • Four Time Periods Per Day • Occupancy Scheduling with Economizer Relay Control • Away Mode • Holiday Scheduling • Smooth Setback Recovery (SSR) • Performance Reports • Notifications/Reminders • Dehumidification/Humiditrol® Control for Split Systems and Rooftop Units • Economizer Relay Control • Backlit Display • Wallplate Furnished 	C0STAT06FF1L	13H15
Optional Accessories		
¹ Remote non-adjustable wall mount 20k temperature sensor	C0SNZN01AE2-	47W36
¹ Remote non-adjustable wall mount 10k temperature sensor	C0SNZN73AE1-	47W37
Remote non-adjustable discharge air (duct mount) temperature sensor	C0SNDC00AE1-	19L22
Outdoor temperature sensor	C0SNSR03AE1-	X2658
Locking cover (clear)	C0MISC15AE1-	39P21
¹ Remote sensors can be applied in any of the following combinations: One Sensor - (1) 47W36 Two Sensors - (2) 47W37 Three Sensors - (2) 47W36 and (1) 47W37 Four Sensors - (4) 47W36 Five Sensors - (3) 47W36 and (2) 47W37		
COMFORTSENSE® 3000 COMMERCIAL 5-2 DAY PROGRAMMABLE THERMOSTAT		
 <ul style="list-style-type: none"> • Two-Stage Heating / Two-Stage Cooling Conventional Systems • Intuitive Interface • 5-2 Day Programming • Program Hold • Remote Indoor Temperature Sensing • Smooth Setback Recovery (SSR) • Economizer Relay Control • Maintenance/Filter/Service Reminders • Backlit Display • Wallplate Furnished • Simple Up and Down Temperature Control. 	C0STAT05FF1L	11Y05
Optional Accessories		
Remote non-adjustable wall mount 10k averaging temperature sensor	C0SNZN73AE1-	47W37
Optional wall mounting plate	C0MISC17AE1-	X2659
DIGITAL NON-PROGRAMMABLE THERMOSTAT		
 <ul style="list-style-type: none"> • One-Stage Heating / Cooling Conventional Systems • Intuitive Interface • Automatic Changeover • Backlit Display • Simple Up and Down Temperature Control. 	C0STAT12AE1L	51M32
Optional Accessories		
Outdoor temperature sensor	C0SNSR04AE1-	X2658
Optional wall mounting plate	C0MISC17AE1-	X2659

SPECIFICATIONS

General Data	Model No.	TPA090S4S	TPA120S4S
	Nominal Size - Tons	7.5	10
Connections (sweat)	Liquid line - in. (o.d)	5/8	5/8
	Vapor line - in. (o.d)	1-3/8	1-3/8
Refrigerant (R-410A)		Factory installed R-410A holding charge (2 lb. per stage)	
¹ Field provided charge with 25 ft. line set		16 lbs. 0 oz.	22 lbs. 0 oz.
Outdoor Coil	Net face area - sq. ft. Outer coil	29.3	34.2
	Inner coil	28.4	33.3
	Tube diameter - in. & no. of rows	3/8 - 2	3/8 - 2
	Fins per inch	20	20
Outdoor Coil Fan(s)	Diameter - in. & no. of blades	(2) 24 - 3	(2) 24 - 4
	Motor hp	(2) 1/3	(2) 1/2
	Total air volume - cfm	8300	10,300
	Rpm	1075	1075
	Motor Input - Watts	830	1130

ELECTRICAL DATA

General Data	Line voltage data - 60 hz - 3 phase	208/230V	460V	575V	208/230V	460V	575V
	² Maximum Overcurrent Protection (amps)	60	30	20	70	40	25
	³ Minimum circuit ampacity	38	19	14	44	24	18
Compressor (1)	Rated load amps	25	12.2	9	30.1	16.7	12.2
	Locked rotor amps	164	100	78	225	114	80
Outdoor Coil Fan Motor (2) (1 phase)	Full load amps (total)	2.4 (4.8)	1.3 (2.6)	1 (2)	3 (6)	1.5 (3)	1.2 (2.4)
	Locked rotor amps (total)	4.7 (9.4)	2.4 (4.8)	1.9 (3.8)	6 (12)	3 (6)	2.9 (5.8)

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

¹ Refer to the Lennox Refrigerant Piping Manual to determine refrigerant charge required with longer length refrigerant lines.

² HACR type circuit breaker or fuse.

³ Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

OPTIONS / ACCESSORIES

Item	Catalog No.	090S4S	120S4S
CABINET			
Combined Coil/Hail Guards	T2GARD51M11	13T30	X
	T2GARD51M21	13T32	X
Corrosion Protection	Factory	O	O
CONTROLS			
Low Ambient Control (0°F)	T2CWKT04M-1-	60W35	X
L Connection® Building Automation System	- - -	X	X
Network Thermostat Controller	C0CTRL07AE1L	17M10	X

NOTE - The catalog and model numbers that appear here are for ordering field installed accessories only.

O - Factory Installed with extended lead time.

X - Field Installed

SOUND DATA

¹ Unit Model No.	Octave Band Linear Sound Power Levels dB, re 10 ⁻¹² Watts Center Frequency - HZ								¹ Sound Rating Number (dB)
	63	125	250	500	1000	2000	4000	8000	
TPA090S4S	60	69	77	80	80	77	73	65	85
TPA120S4S	64	69	77	80	81	78	72	64	86

NOTE - the octave sound power data does not include tonal correction.

¹ Tested according to AHRI Standard 270-2008 test conditions.

AHRI SYSTEM MATCHES

Model	Gross Cooling Btuh	Cooling Btuh	EER	IEER	Heating Btuh		Cool COP	High Heat COP	Low Heat COP	Air Handler	AHRI Reference
					High	Low					
TPA090S4S	92,300	89,000	11.0	12.0	88,000	50,000	3.2	3.3	2.25	TAA090S4D	3288556
TPA120S4S	116,000	112,000	11.0	11.9	116,000	70,000	3.2	3.3	2.25	TAA120S4D	3288558
(2) TPA090S4S	188,100	180,000	10.6	11.2	174,000	102,000	3.1	3.2	2.05	TAA240S4D	3483099

NOTES – Net capacity includes indoor blower motor heat deduction. Gross capacity does not include indoor blower motor heat deduction.

AHRI Certified to AHRI Standard 340/360:

Cooling Ratings – 95°F outdoor air temperature and 80°F db/67°F wb entering indoor coil air.

High Temperature Heating Ratings – 47°F db/43°F wb outdoor air temperature and 70°F db entering indoor coil air.

Low Temperature Heating Ratings – 17°F db/15°F wb outdoor air temperature and 70°F db entering indoor coil air.

¹ Factory installed expansion valves on TAA240S4D air handler must be replaced with Heat Pump Check Valve Kit (50W73) for proper heat pump operation.

WEIGHT DATA

Model No.	Net		Shipping	
	lbs.	kg	lbs.	kg
090	435	197	460	209
120	515	233	540	245

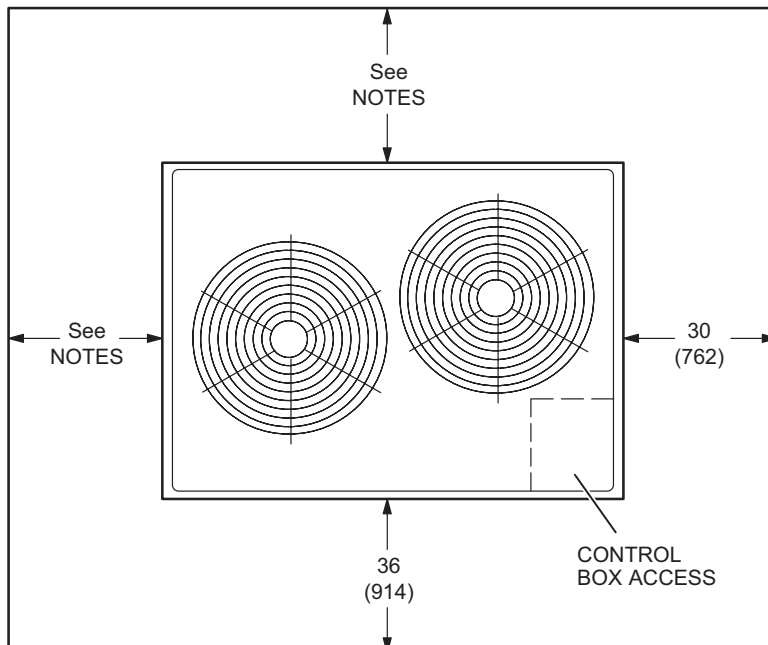
OPTIONS / ACCESSORIES

COMBINED COIL/HAIL GUARDS

T2GARD20M-1-	40	18	45	20
T2GARD21M-1-	45	20	50	23

UNIT CLEARANCES - INCHES (MM)

TPA090 AND TPA120



NOTES:

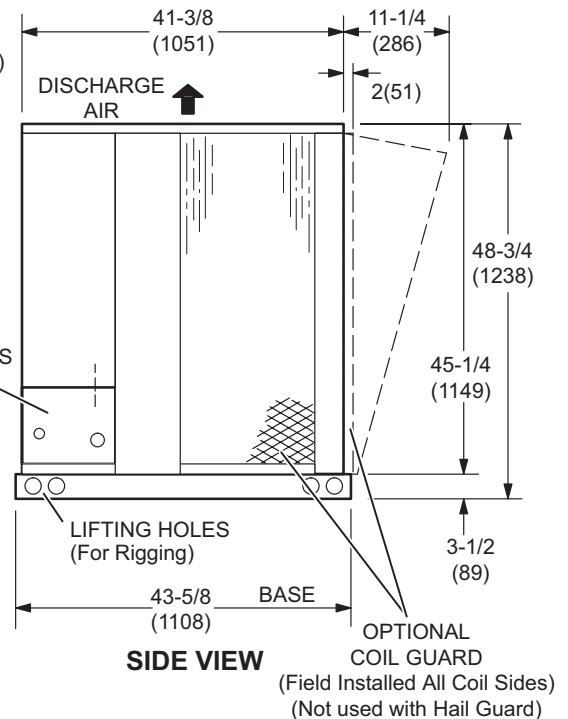
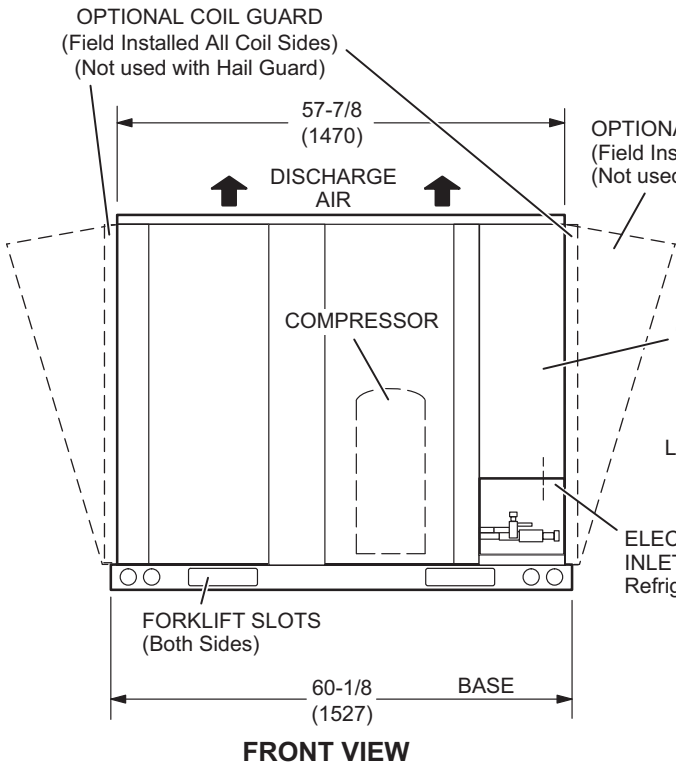
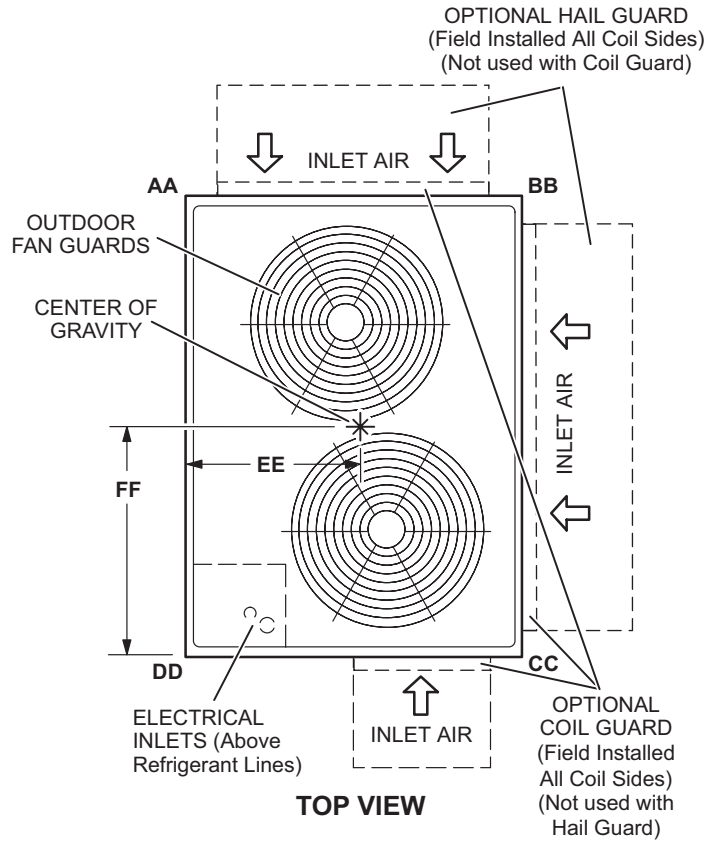
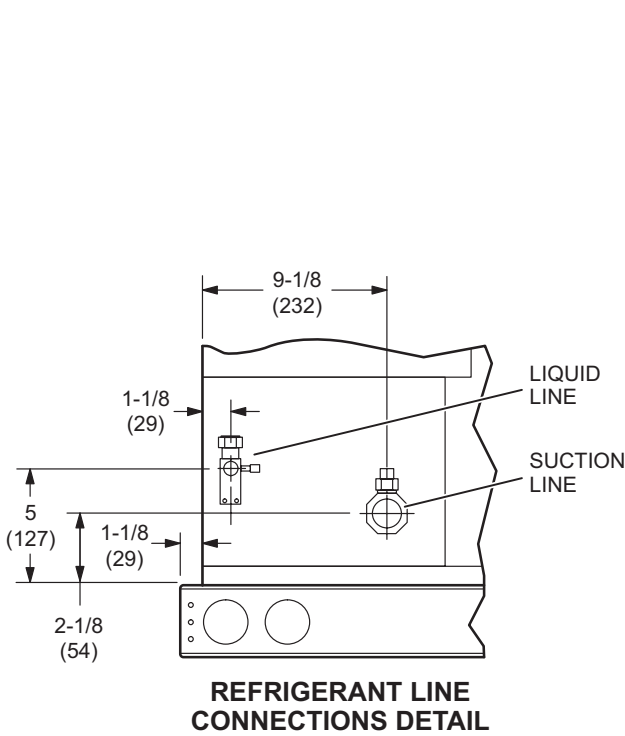
Clearance to one of the remaining two sides may be 12 in. (305 mm) and the final side may be 6 in. (152 mm).

A clearance of 24 in. (610 mm) must be maintained between two units.

48 in. (1219 mm) clearance required on top of unit.

DIMENSIONS - INCHES (MM)

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
TPA090S4S	105	48	105	48	112	51	112	51	21-3/4	552	29	737
TPA120S4S	129	59	110	50	123	56	145	66	20	508	25-1/4	718



RATINGS

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

TPA090S4SN + TAA090S4D - (1 COMPRESSOR RUNNING)

Entering Wet Bulb Temperature	Total Air Volume cfm	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)			Total Cool Cap.	Comp Motor Input	Sensible to Total Ratio (S/T)			Total Cool Cap.	Comp Motor Input	Sensible to Total Ratio (S/T)			Total Cool Cap.	Comp Motor Input	Sensible to Total Ratio (S/T)						
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb						
				75°F	80°F	85°F			75°F	80°F	85°F			75°F	80°F	85°F			75°F	80°F	85°F	75°F	80°F	85°F	
63°F	2400	88.2	5.55	0.69	0.83	0.97	84.1	6.17	0.7	0.85	0.99	79.8	6.89	0.72	0.88	1	74.9	7.69	0.74	0.91	1				
	3000	92	5.61	0.74	0.91	1	87.9	6.23	0.76	0.94	1	83.1	6.94	0.78	0.97	1	78.1	7.75	0.81	1	1				
	3600	95.3	5.66	0.8	0.98	1	90.9	6.28	0.82	1	1	86.4	6.99	0.85	1	1	82	7.81	0.88	1	1				
67°F	2400	93.3	5.63	0.55	0.67	0.79	89.1	6.25	0.56	0.68	0.81	84.5	6.96	0.56	0.7	0.84	79.3	7.77	0.58	0.71	0.87				
	3000	97.4	5.7	0.58	0.72	0.88	92.8	6.31	0.59	0.73	0.9	88	7.02	0.6	0.76	0.93	82.7	7.82	0.61	0.78	0.97				
	3600	100.6	5.74	0.61	0.77	0.95	95.6	6.36	0.62	0.8	0.98	90.6	7.06	0.63	0.82	1	85	7.86	0.65	0.86	1				
71°F	2400	98.3	5.71	0.42	0.53	0.64	94.1	6.33	0.42	0.54	0.66	89.2	7.04	0.43	0.55	0.68	84	7.84	0.43	0.56	0.69				
	3000	102.5	5.78	0.44	0.56	0.7	98.1	6.4	0.43	0.58	0.71	92.9	7.1	0.44	0.59	0.73	87.4	7.91	0.45	0.61	0.76				
	3600	105.8	5.83	0.44	0.6	0.75	100.9	6.44	0.46	0.61	0.77	95.3	7.14	0.46	0.62	0.79	89.8	7.95	0.46	0.65	0.83				

TPA090S4SN + TAA090S4D

Indoor Coil Air Volume 70°F Dry Bulb	Air Temperature Entering Outdoor Coil									
	65°F		45°F		25°F		5°F		-15°F	
	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input
	cfm	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh
2400	109.5	7.04	83.6	6.27	57.5	5.48	35.2	4.68	17.6	3.57
3000	111.4	6.66	85.6	5.88	59.4	5.09	37.2	4.29	19.5	3.18
3600	113	6.42	87.2	5.64	61.1	4.85	38.8	4.05	21.2	2.94

TPA090S4SN + TAA090S4D

HEATING PERFORMANCE at 3000 cfm Indoor Coil Air Volume

Outdoor Temperature	Compressor Motor Input	Total Output
°F	kW	kBtuh
65	6.66	111.4
60	6.47	105.1
55	6.28	98.7
50	6.09	92.4
47	5.98	88.6
45	5.88	85.6
40	5.65	78.1
35	5.41	70.7
30	5.25	65.1
25	5.09	59.4
20	4.93	53.8
17	4.84	50.5
15	4.76	47.9
10	4.57	41.6
5	4.29	37.2
0	4.02	32.8
-5	3.74	28.4
-10	3.46	23.9
-15	3.18	19.5
-20	2.9	15.1

RATINGS

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

TPA120S4SN + TAA120S4D - (1 COMPRESSOR RUNNING)

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)			Total Cool Cap.	Comp Motor Input	Sensible to Total Ratio (S/T)			Total Cool Cap.	Comp Motor Input	Sensible to Total Ratio (S/T)			Total Cool Cap.	Comp Motor Input	Sensible to Total Ratio (S/T)						
				Dry Bulb					Dry Bulb					Dry Bulb					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			
63°F	3200	112.4	6.9	0.71	0.86	1	106.9	7.72	0.72	0.88	1	101	8.67	0.74	0.91	1	94.9	9.75	0.77	0.95	1				
	4000	117.3	6.97	0.76	0.94	1	111.8	7.8	0.79	0.97	1	106.1	8.74	0.81	1	1	99.7	9.81	0.84	1	1				
	4800	121.6	7.03	0.83	1	1	116.2	7.86	0.85	1	1	110.6	8.8	0.88	1	1	104.2	9.88	0.92	1	1				
67°F	3200	119.2	7	0.56	0.69	0.82	113.6	7.83	0.57	0.7	0.84	107.4	8.76	0.58	0.72	0.87	100.6	9.83	0.59	0.74	0.91				
	4000	124	7.06	0.59	0.74	0.91	118.3	7.89	0.6	0.76	0.94	111.8	8.82	0.62	0.79	0.97	104.3	9.87	0.63	0.82	1				
	4800	127.9	7.13	0.62	0.8	0.98	121.5	7.94	0.64	0.83	1	114.7	8.86	0.65	0.86	1	107	9.91	0.68	0.89	1				
71°F	3200	125.7	7.09	0.42	0.54	0.66	120	7.92	0.43	0.56	0.68	113.5	8.85	0.43	0.57	0.7	106.1	9.9	0.44	0.58	0.72				
	4000	130.8	7.17	0.44	0.58	0.72	125	7.99	0.44	0.59	0.74	117.9	8.91	0.45	0.61	0.76	110.5	9.96	0.45	0.62	0.79				
	4800	134.9	7.24	0.46	0.62	0.78	128.4	8.05	0.46	0.63	0.8	121	8.97	0.46	0.64	0.83	113.3	10.01	0.48	0.67	0.87				

TPA120S4SN + TAA120S4D

Indoor Coil Air Volume 70°F Dry Bulb	Air Temperature Entering Outdoor Coil									
	65°F		45°F		25°F		5°F		-15°F	
	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input
	cfm	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh
3200	142.3	8.8	110.6	8.19	78.4	7.58	50	6.73	24.8	5.05
4000	144.7	8.26	112.9	7.65	80.8	7.04	52.4	6.19	27.2	4.51
4800	146.3	7.91	114.5	7.3	82.4	6.69	53.9	5.84	28.8	4.16

TPA120S4SN + TAA120S4D

HEATING PERFORMANCE at 4000 cfm Indoor Coil Air Volume

Outdoor Temperature	Compressor Motor Input	Total Output
°F	kW	kBtuh
65	8.26	144.7
60	8.11	136.9
55	7.96	129.1
50	7.81	121.3
47	7.72	116.6
45	7.65	112.9
40	7.49	103.9
35	7.32	94.8
30	7.18	87.8
25	7.04	80.8
20	6.9	73.8
17	6.82	69.6
15	6.76	66.5
10	6.61	58.7
5	6.19	52.4
0	5.77	46.1
-5	5.35	39.8
-10	4.93	33.5
-15	4.51	27.2
-20	4.09	20.9

RATINGS

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

TPA090S4SN (2) + TAA240S4D - (1 COMPRESSOR RUNNING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp Motor Input	Sensible to Total Ratio (S/T)			Total Cool Cap.	Comp Motor Input	Sensible to Total Ratio (S/T)			Total Cool Cap.	Comp Motor Input	Sensible to Total Ratio (S/T)			Total Cool Cap.	Comp Motor Input	Sensible to Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					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
63°F	4800	96.5	4.72	0.65	0.78	0.93	93.1	5.23	0.66	0.79	0.95	89.3	5.8	0.67	0.81	0.97	85	6.45	0.68	0.84	1
	6000	101.1	4.79	0.69	0.85	1	97.5	5.3	0.7	0.88	1	93.3	5.87	0.72	0.9	1	89	6.51	0.73	0.93	1
	7200	104.3	4.84	0.73	0.93	1	100.4	5.35	0.75	0.96	1	96.3	5.92	0.78	0.98	1	91.8	6.56	0.8	1	1
67°F	4800	102	4.8	0.52	0.62	0.74	98.4	5.31	0.52	0.63	0.75	94.5	5.89	0.53	0.64	0.77	90.3	6.53	0.54	0.65	0.79
	6000	106.7	4.88	0.54	0.66	0.81	103	5.39	0.55	0.68	0.84	98.7	5.95	0.56	0.69	0.86	94.1	6.6	0.57	0.71	0.89
	7200	110.2	4.94	0.57	0.71	0.9	106.2	5.44	0.57	0.73	0.92	101.7	6	0.59	0.75	0.95	97	6.64	0.6	0.77	0.98
71°F	4800	107.4	4.89	0.4	0.5	0.6	103.7	5.4	0.41	0.51	0.61	99.6	5.97	0.4	0.51	0.62	95.1	6.62	0.41	0.52	0.63
	6000	112.4	4.97	0.41	0.53	0.64	108.5	5.47	0.42	0.54	0.66	104.1	6.04	0.42	0.55	0.67	99.3	6.69	0.42	0.56	0.69
	7200	116	5.03	0.43	0.55	0.69	111.7	5.53	0.42	0.56	0.7	107.3	6.1	0.43	0.58	0.72	102.3	6.73	0.44	0.59	0.75

TPA090S4SN (2) + TAA240S4D - (2 COMPRESSORS RUNNING)

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)			Total Cool Cap.	Comp Motor Input	Sensible to Total Ratio (S/T)			Total Cool Cap.	Comp Motor Input	Sensible to Total Ratio (S/T)			Total Cool Cap.	Comp Motor Input	Sensible to Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					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
63°F	4800	178.5	11.47	0.66	0.81	0.97	170.1	12.75	0.67	0.83	1	161.6	14.22	0.68	0.86	1	151.7	15.9	0.71	0.9	1
	6000	186.7	11.59	0.71	0.9	1	178	12.87	0.72	0.93	1	168.1	14.33	0.75	0.97	1	158.5	16.02	0.78	1	1
	7200	192.7	11.69	0.77	0.98	1	183.5	12.96	0.8	1	1	174.9	14.43	0.83	1	1	165.5	16.13	0.87	1	1
67°F	4800	189	11.63	0.52	0.64	0.77	180.6	12.91	0.52	0.65	0.79	171.5	14.38	0.54	0.66	0.82	161.3	16.06	0.55	0.68	0.86
	6000	197.5	11.76	0.55	0.68	0.86	188.2	13.04	0.56	0.7	0.89	178	14.49	0.57	0.72	0.93	167.2	16.18	0.58	0.76	0.97
	7200	203.4	11.86	0.58	0.74	0.95	193.9	13.13	0.59	0.77	0.98	183.2	14.57	0.6	0.8	1	172.1	16.25	0.62	0.84	1
71°F	4800	199.2	11.79	0.4	0.51	0.61	190.5	13.08	0.4	0.51	0.62	181.2	14.54	0.4	0.53	0.64	170.5	16.23	0.42	0.53	0.66
	6000	208.2	11.94	0.41	0.54	0.66	198.7	13.21	0.42	0.55	0.68	188.2	14.67	0.42	0.56	0.69	177.2	16.34	0.42	0.57	0.73
	7200	214.7	12.05	0.42	0.57	0.72	204.6	13.31	0.43	0.58	0.74	193.5	14.76	0.44	0.6	0.77	181.7	16.42	0.44	0.61	0.81

TPA090S4SN (2) + TAA240S4D - (2 COMPRESSORS RUNNING)

Indoor Coil Air Volume 70°F Dry Bulb	Air Temperature Entering Outdoor Coil									
	65°F		45°F		25°F		5°F		-15°F	
	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input
	cfm	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh
4800	213	14.17	161.4	12.92	107.3	11.68	71.9	10.07	35.5	7.63
6000	217.2	13.31	165.6	12.06	111.6	10.82	76.1	9.2	39.7	6.77
7200	220.6	12.76	169	11.51	114.9	10.27	79.5	8.65	43.1	6.22

TPA090S4SN (2) + TAA240S4D

HEATING PERFORMANCE at 6000 cfm Indoor Coil Air Volume

Outdoor Temperature	Compressor Motor Input	Total Output
°F	kW	kBtuh
65	13.31	217.2
60	12.99	205.2
55	12.67	193.2
50	12.36	181.2
47	12.16	174
45	12.06	165.6
40	11.78	144.6
35	11.51	123.5
30	11.16	117.5
25	10.82	111.6
20	10.47	105.6
17	10.26	102
15	10.13	97.2
10	9.81	85.2
5	9.2	76.1
0	8.59	67
-5	7.98	57.9
-10	7.38	48.8
-15	6.77	39.7
-20	6.16	30.6

RATINGS

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

TPA090S4SN (2) + TAA240S4D (1 COMPRESSOR RUNNING) MSAV® (Multi-Stage Air Volume)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					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	
63°F	3500	88.9	4.61	0.61	0.72	0.83	86	5.12	0.61	0.73	0.84	82.8	5.7	0.62	0.74	0.86	79	6.36	0.63	0.75	0.88
	4000	92.3	4.65	0.62	0.74	0.87	89.1	5.17	0.63	0.75	0.88	85.7	5.75	0.64	0.77	0.9	81.8	6.4	0.65	0.79	0.93
	4500	95.1	4.7	0.64	0.77	0.91	91.7	5.21	0.65	0.79	0.93	88	5.79	0.66	0.8	0.95	84.1	6.43	0.67	0.82	0.98
67°F	3500	94.2	4.68	0.49	0.58	0.68	91	5.2	0.5	0.59	0.69	87.6	5.78	0.5	0.59	0.7	83.9	6.43	0.5	0.6	0.71
	4000	97.7	4.73	0.51	0.6	0.71	94.3	5.25	0.51	0.61	0.72	90.7	5.83	0.51	0.61	0.73	86.7	6.48	0.51	0.62	0.75
	4500	100.4	4.78	0.51	0.62	0.73	97	5.29	0.52	0.62	0.75	93.2	5.87	0.52	0.63	0.77	89	6.51	0.53	0.65	0.79
71°F	3500	99.6	4.77	0.4	0.48	0.56	96.2	5.28	0.4	0.48	0.57	92.6	5.85	0.4	0.48	0.57	88.6	6.51	0.4	0.49	0.58
	4000	103.1	4.82	0.4	0.48	0.58	99.4	5.33	0.4	0.49	0.58	95.7	5.9	0.4	0.5	0.59	91.7	6.56	0.4	0.5	0.6
	4500	105.9	4.87	0.4	0.49	0.59	102.3	5.38	0.4	0.5	0.6	98.4	5.95	0.41	0.51	0.61	94	6.6	0.4	0.51	0.62

REVISIONS

Sections	Description of Change
Specifications	Refrigerant charge updated for all models.



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