

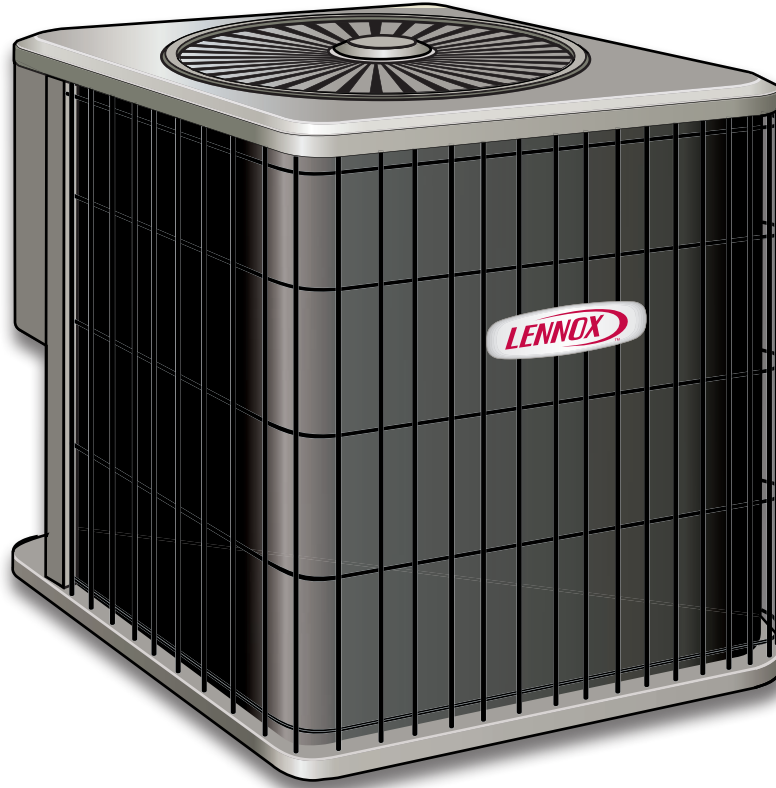


**TPA**

**T-CLASS™ SPLIT SYSTEM UNITS**  
**High Efficiency - R-410A - Three-Phase - 60 Hz**

**COMMERCIAL  
 PRODUCT SPECIFICATIONS**

Bulletin No. 210848  
 June 2020  
 Supersedes April 2019

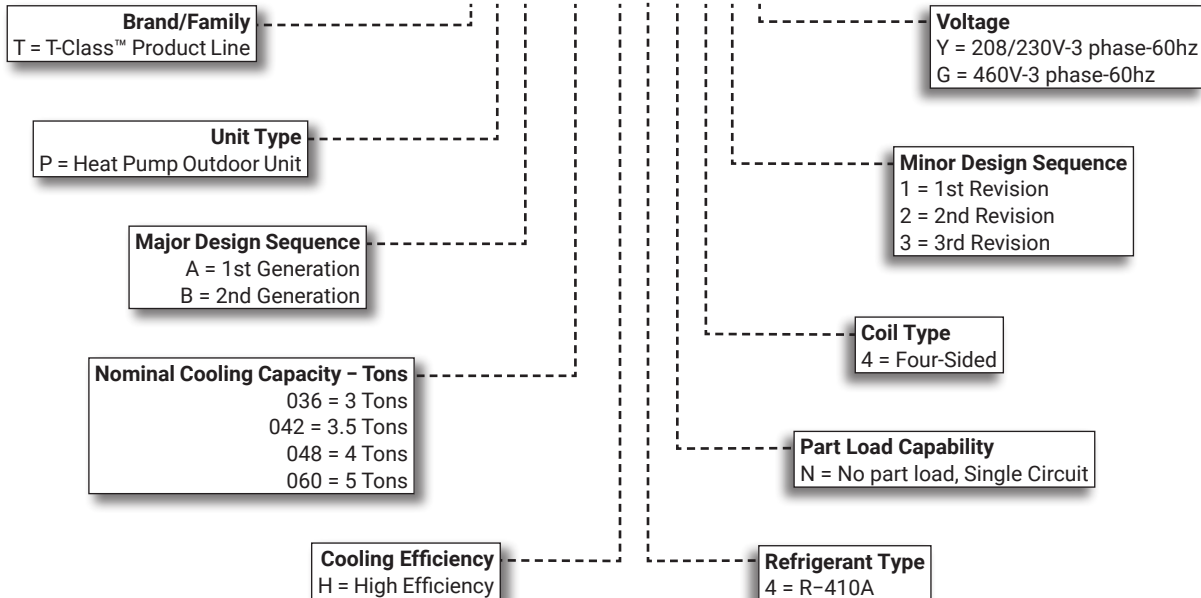


**SEER up to 16.00**  
**HSPF up to 9.50**  
**3 to 5 Tons**

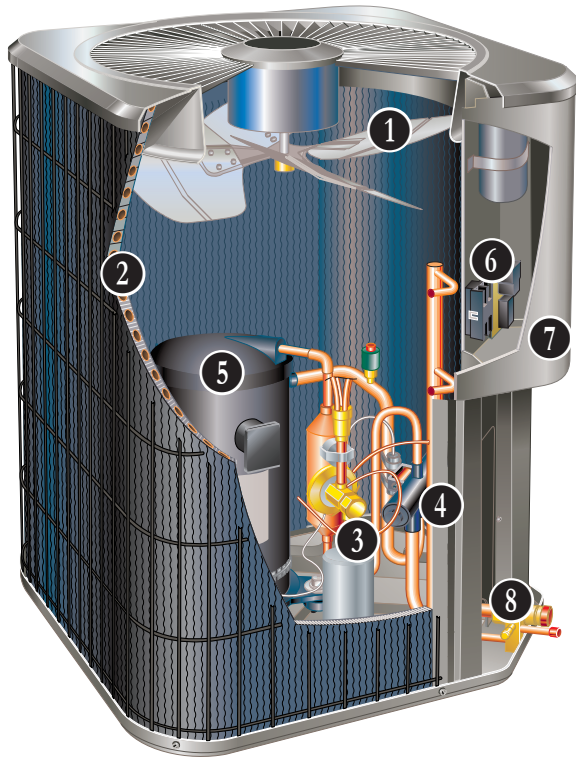
**Cooling Capacity - 34,000 to 60,000 Btuh**  
**Heating Capacity - 31,400 to 58,000 Btuh**

**MODEL NUMBER IDENTIFICATION**

**T P A 036 H 4 N 4 1 Y**



## FEATURE HIGHLIGHTS



1. Outdoor Coil Fan
2. Copper Tube / Enhanced Fin Coil
3. Expansion Valve - Outdoor Unit
4. Four-Way Reversing Valve
5. Scroll Compressor
6. Defrost Control
7. Heavy Gauge Steel Construction
8. Refrigerant Line Connections and Access

## CONTENTS

Approvals And Warranty . . . . .	3
Dimensions . . . . .	9
Electrical Data . . . . .	8
Features . . . . .	3
Installation Clearances . . . . .	6
Model Number Identification. . . . .	1
Optional Accessories - Order Separately . . . . .	8
Optional Conventional Temperature Control Systems . . . . .	7
Sound Data . . . . .	6
Specifications . . . . .	8
TXV Usage. . . . .	10

## APPROVALS AND WARRANTY

### **APPROVALS**

- AHRI Certified to AHRI Standard 210/240
- For AHRI Certified system match-ups and expanded ratings, visit [www.LennoxPros.com](http://www.LennoxPros.com)
- Sound rated to AHRI Standard 270-2008 test conditions
- Tested in the Lennox Research Laboratory environmental test room
- Rated according to U.S. Department of Energy (DOE) test procedures
- Units and components UL, NEC, and CEC bonded for grounding to meet safety standards for servicing
- ETL certified (U.S. and Canada)
- ISO 9001 Registered Manufacturing Quality System

### **WARRANTY**

- Compressor:
  - Limited five years
- All other covered components:
  - Limited one year

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

## FEATURES

### **APPLICATIONS**

- 3 through 5 ton
- Sound levels as low as 79 dBA
- Three phase power supply
- Vertical air discharge
- Applicable to indoor air handlers or gas furnaces (dual fuel applications) with indoor coils
- Shipped completely factory assembled, piped, and wired
- Factory tested operated

**NOTE** - When heat pumps are used with gas furnaces, a dual-fuel compatible thermostat or a zone control system with dual-fuel capabilities must be used (order separately).

**NOTE** - Installer must set heat pump, connect refrigerant lines, and make electrical connections to complete job.

### **REFRIGERATION SYSTEM**

#### **R-410A Refrigerant**

- Non-chlorine, ozone friendly
- Unit is factory pre-charged

**NOTE** - Total system refrigerant charge is dependant on outdoor unit size, indoor unit size and refrigerant line length.

**NOTE** - Refer to the unit-mounted charging sticker to determine correct amount of charge required.

#### **1 Outdoor Coil Fan**

- Direct drive fan
- Vertical air discharge
- Ball bearings
- Fan motor is inherently protected
- Totally enclosed motor
- Louvered steel top fan guard

#### **2 Copper Tube/Enhanced Fin Coil**

- Lennox designed and fabricated coil
- Ripple-edged aluminum fins
- Copper tube construction
- Lanced fins for maximum fin surface exposure
- Fin collars grip tubing for maximum contact area
- Flared shoulder tubing connections
- Silver soldering construction
- Factory tested under high pressure
- PVC coated steel wire coil guard furnished
- Entire coil accessible for cleaning

#### **3 Expansion Valve - Outdoor Unit**

- Designed and sized for heat pump systems
- Sensing bulb senses evaporator suction temperature during heating cycle

#### **High-Capacity Liquid Line Drier**

- Factory installed in the liquid line
- Drier traps moisture or dirt
- 100% molecular-sieve, bead type, bi-flow drier

## FEATURES

### REFRIGERATION SYSTEM (continued)

#### High Pressure Switch

- Protects the system from high pressure conditions that can be a result of fan failure or a blocked/dirty coil
- Automatic reset

#### Low Pressure Switch

- Shuts off unit if suction pressure falls below setting
- Provides loss of charge and freeze-up protection
- Automatic reset

#### 4 Four-Way Reversing Valve

- Rapid changeover of refrigerant flow direction from cooling to heating and vice versa
- Operates on pressure differential between outdoor unit and indoor unit of the system
- Factory installed

### Optional Accessories

#### Refrigerant Line Kits

- Refrigerant lines are shipped refrigeration clean
- Lines are cleaned, dried, pressurized and sealed at factory
- Suction line fully insulated
- Lines are stubbed at both ends

**NOTE** - Not available for -060 models and must be field fabricated.

#### Check/Expansion Valve Kits

- Field installed on certain indoor units
- See TXV Usage table
- Chatleff style fitting

### COMPRESSOR

#### 5 Scroll Compressor

- High efficiency with uniform suction flow
- Constant discharge flow, high volumetric efficiency and quiet operation
- Low gas pulses during compression reduces operational sound levels
- Compressor motor is internally protected from excessive current and temperature
- Muffler in discharge line reduces operating sound levels
- Compressor is installed in the unit on resilient rubber mounts for vibration free operation



#### Scroll Compressor Operation

- Two involute spiral scrolls matched together 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 the 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
- 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

#### Compressor Crankcase Heater

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

### Optional Accessories

#### Compressor Sound Cover

- Reinforced vinyl compressor cover
- 1-1/2 inch thick batt fiberglass insulation
- Hook and loop fastening tape on all open edges

## FEATURES

### CONTROLS

#### 6 Defrost Control

- Control is furnished as standard equipment
- Initiates a defrost cycle every 30, 60 or 90 minutes of compressor "on" time at outdoor coil temperatures below 42°F
- Factory setting is 90 minutes
- Anti-short cycle, timed-off control incorporated into the board
- High and low pressure switch monitoring with five-trip lockout
- Diagnostic LEDs furnished as an aid in troubleshooting
- Conveniently located in control box

### Optional Accessories

#### L Connection® Network Control System

- 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 Control System Product Specifications Bulletin for details

#### Compressor Low Ambient Cut-Off Switch

- Non-adjustable switch (low ambient cut-out) prevents compressor operation when outdoor temperature is below 35°F

#### Freezestat

- Installs on or near the vapor line of the indoor coil or on the suction line
- Senses suction line temperature
- Cycles compressor off when suction line temperature falls below its setpoint
- Opens at 29°F and closes at 58°F
- Installs on or near the discharge line of the evaporator or on the suction line

#### Indoor Blower Off Delay Relay

- Delays the indoor blower-off time during the cooling cycle

#### Low Ambient Control

Heat pumps operate satisfactorily in cooling mode down to 45°F outdoor air temperature without any additional controls

Two low ambient control options are available for field installation:

1. Low Ambient Control Kit (30°F) - Allows unit operation down to 30°F.
2. Low Ambient Control (0°F) - Allows unit operation down to 0°F. Requires Speed Control and Weatherproof Kit (ordered separately). Available for 208/230V models only.

**NOTE** - Freezestat should be installed on compressors equipped with a low ambient kit.

#### Mild Weather Kit

- Units can operate in the heating mode at outdoor air temperatures up to 75°F
- Field installed kit allows heating operation above 75°F

#### Monitor Kit - Service Light

- Ambient compensating thermistor
- Service light thermostat
- For thermostats requiring indicator light inputs
- For use with thermostats requiring input for indicator lights

#### Outdoor Thermostat Kit

- An outdoor thermostat can be used to lock out some of the electric heating elements on indoor units where two-stage control is applicable
- Outdoor thermostat maintains the heating load on the low power input as long as possible before allowing the full power load to come on the line
- Thermostat kit and Mounting Box must be ordered separately

#### Thermostat

- Thermostat is not furnished with unit
- Lennox Price Book for selection

## FEATURES

### CABINET

- Heavy gauge steel construction
- Pre-painted cabinet finish
- Control box is conveniently located with all controls factory wired
- Corner patch plate allows compressor access
- Drainage holes are provided in base section

### PermaGuard™ Unit Base

- Durable zinc-coated base section resists rust and corrosion

### Refrigerant Line Connections, Electrical Inlets and Service Valves

- Sweat connection suction and liquid lines
- Located on corner of unit cabinet
- Suction valve can be fully shut off, while liquid valve may be front seated to manage refrigerant charge while servicing system
- Refrigerant line connections and field wiring inlets are located in one central area of the cabinet
- See dimension drawing

### Optional Accessories

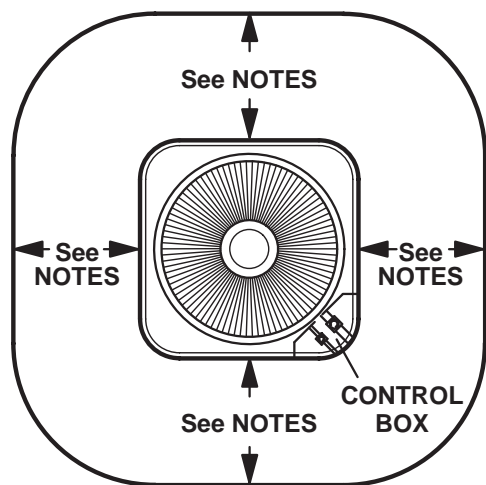
#### Hail Guards

- Heavy-gauge steel construction
- Painted to match cabinet
- Surrounds unit on all four sides
- Prevent damage to the coil

#### Unit Stand-Off Kit

- Black high density polyethylene feet
- Raises unit off mounting surface
- Four feet furnished per order number

## INSTALLATION CLEARANCES



### NOTES:

Service clearance of 30 in. (762 mm) must be maintained on one of the sides adjacent to the control box.

Clearance to one of the other three sides must be 36 in. (914 mm)

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. must be maintained between two units.

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

## SOUND DATA

<sup>1</sup> Unit Model	Octave Band Sound Power Levels dBA, re 10 <sup>-12</sup> Watts Center Frequency - HZ							<sup>1</sup> Sound Rating Number (dBA)	<sup>2</sup> Estimated Sound Pressure Level at Distance From Unit (dBA at distance in ft.)				
	125	250	500	1000	2000	4000	8000		3	5	10	15	50
036	78.5	77	77.5	74.5	69.5	63.5	61.5	79	72	67	61	58	47
042	76.5	78	78.5	73.5	69.5	63.5	58.5	79	72	67	61	58	47
048	75.5	78	78.5	75	70	63.5	58.5	80	73	68	62	59	48
060	75	77.5	77.5	75.5	70	65	65	80	73	68	62	59	48

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

<sup>1</sup> Tested according to AHRI Standard 270-2008 test conditions.

<sup>2</sup> Estimated sound pressure level at distance based on AHRI Standard 275-2010 method for equipment located on the ground, roof, or on side of building wall with no adjacent reflective surface within 9.8 feet. Sound pressure levels will increase based on changes to assumptions. For other applications, refer to AHRI Standard 275.

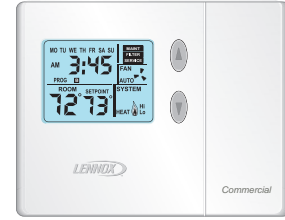
## OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

### ComfortSense® 7500 Commercial 7-Day Programmable Thermostat



- Four-Stage Heating / Two-Stage Cooling
- Universal Multi-Stage
- Intuitive Touchscreen Interface
- Automatic Changeover between Heating and Cooling
- Full Seven-Day Programming
- Four Time Periods Per Day
- Temperature and Humidity Control
- One-Touch 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
- FDD, ASHRAE and IECC Compliant

### ComfortSense® 3000 Commercial 5-2 Day Programmable Thermostat



- 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

### ComfortSense® Non-Programmable Thermostat



- One-Stage Heating / Cooling
- Conventional Systems
- Intuitive Interface
- Manual Changeover
- Backlit Display
- Simple Up and Down Temperature Control

## OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

Description	Model No.	Catalog No.
<b>ComfortSense® 7500 Commercial 7-Day Programmable Thermostat</b>		
	C0STAT06FF2L	<b>17G74</b>
Sensors/Accessories	<sup>1</sup> Remote non-adjustable wall-mount 20k	C0SNZN01AE2-
	<sup>1</sup> Remote non-adjustable wall-mount 10k	C0SNZN73AE1-
	Remote non-adjustable discharge air (duct mount)	C0SND00AE1-
	Outdoor temperature sensor	C0SNSR03AE1-
	Universal thermostat locking guard (clear)	C0MISC15AE1-
		<b>47W36</b>
		<b>47W37</b>
		<b>19L22</b>
		<b>X2658</b>
		<b>39P21</b>

<sup>1</sup> Remote wall-mount 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

	C0STAT05FF1L	<b>11Y05</b>
Sensors/Accessories	Remote non-adjustable wall mount 10k averaging	C0SNZN73AE1-
	Thermostat wall mounting plate	C0MISC17AE1-
		<b>47W37</b>
		<b>X2659</b>

### ComfortSense® Non-Programmable Thermostat

	C0STAT12AE1L	<b>51M32</b>
--	--------------	--------------



## SPECIFICATIONS

General Data			Model No.	TPA036H4	TPA042H4	TPA048H4	TPA060H4
Nominal Tonnage				3	3.5	4	5
Connections (sweat)	Liquid line o.d. - in.			3/8	3/8	3/8	3/8
	Vapor line o.d. - in.			7/8	7/8	7/8	1-1/8
<sup>1</sup> Refrigerant (R-410A) furnished				9 lbs. 6 oz.	11 lbs. 8 oz.	10 lbs. 1 oz.	12 lbs. 5 oz.
Outdoor Coil	Net face area sq. ft.	Outer coil		18.67	24.93	24.93	29.09
		Inner coil		18.01	24.13	24.13	28.16
	Tube diameter - in.			5/16	5/16	5/16	5/16
	Number of rows			2	2	2	2
	Fins per inch			22	22	22	22
Outdoor Fan	Diameter - in.			22	22	22	22
	Number of blades			3	4	4	4
	Motor hp			1/6	1/3	1/3	1/3
	Cfm			2870	4347	4347	4500
	Rpm			839	843	843	830
	Watts			205	299	299	307
Shipping Data - lbs. 1 package				202	272	273	295

## ELECTRICAL DATA

Line voltage data - 60 hz - 3ph		208/230V	460V	208/230V	460V	208/230V	460V	208/230V	460V
<sup>2</sup> Maximum overcurrent protection (amps)		20	15	30	15	30	15	30	15
<sup>3</sup> Minimum circuit ampacity		12.2	7.7	18.7	8.5	18.9	8.8	18.7	11.0
Compressor	Rated load amps	9.0	5.6	13.5	6.0	13.7	6.2	13.5	8.0
	Locked rotor amps	71	38	88	44	83	41	109	59
	Power factor	0.85	0.84	0.83	0.81	0.90	0.92	0.90	0.91
Outdoor Fan Motor	Full load amps	1.0	0.6	1.8	1.0	1.8	1.0	1.8	1.0
	Locked rotor amps	1.9	1.1	2.9	2.5	2.9	2.5	2.9	2.5

## OPTIONAL ACCESSORIES - ORDER SEPARATELY

Compressor Low Ambient Cut-Off		<b>45F08</b>	•	•	•	•
Compressor Sound Cover		<b>18J42</b>	•	•	•	•
Freezestat	3/8 in. tubing	<b>93G35</b>	•	•	•	•
	5/8 in. tubing	<b>50A93</b>	•	•	•	•
Hail Guards	28 x 28 x 32 in.	<b>14X19</b>	•			
	32 x 32 x 36 in.	<b>14X25</b>		•	•	
	32 x 32 x 42 in.	<b>14X18</b>				•
Indoor Blower Off Delay Relay		<b>58M81</b>	•	•	•	•
<sup>4</sup> Low Ambient Kit (30°F)		<b>54M89</b>	•	•	•	•
<sup>4</sup> Low Ambient Control (0°F) 208/230V only	Speed Control	<b>X5867</b>	•	•	•	•
	Weatherproof Kit	<b>56N41</b>	•	•	•	•
Low Pressure Switch Bypass Thermostat		<b>13W07</b>	•	•	•	•
Mild Weather Kit		<b>33M07</b>	•	•	•	•
Monitor Kit - Service Light		<b>76F53</b>	•	•	•	•
Outdoor Thermostat Kit	Thermostat	<b>10Z23</b>	•	•	•	•
	Mounting Box	<b>31461</b>	•	•	•	•
Refrigerant Line Sets	L15-65-30, L15-65-40, L15-65-50		•	•	•	
	Field Fabricate					•
Unit Stand-Off Kit		<b>94J45</b>	•	•	•	•

NOTE - Extremes of operating range are plus 10% and minus 5% of line voltage.

<sup>1</sup> Refrigerant charge sufficient for 15 ft. length of refrigerant lines.

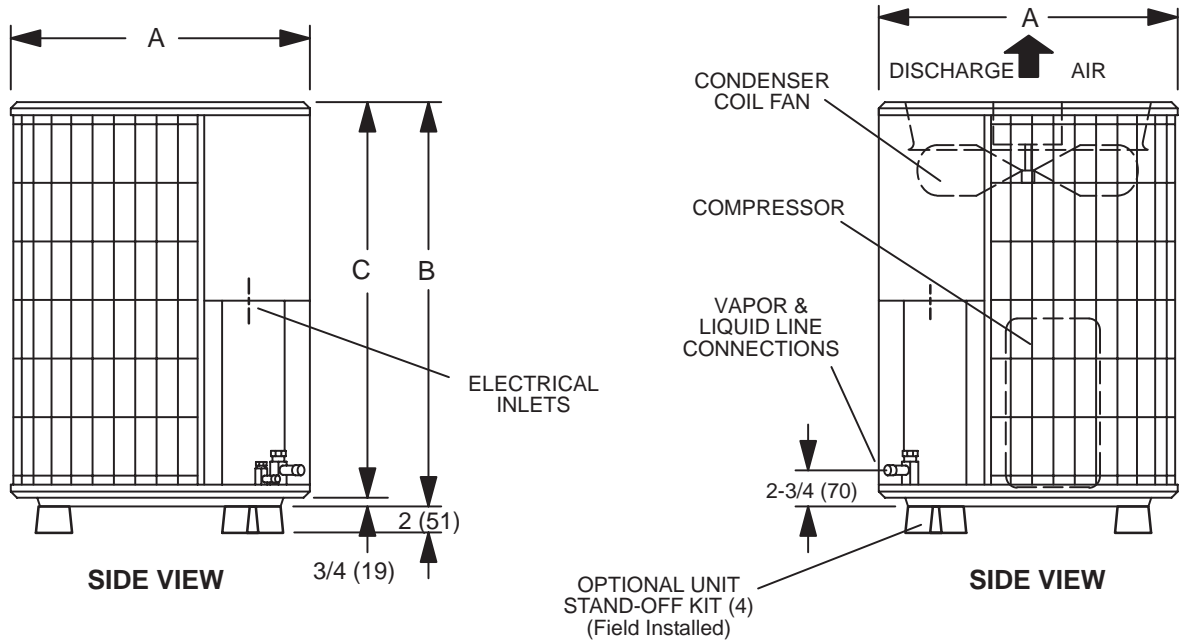
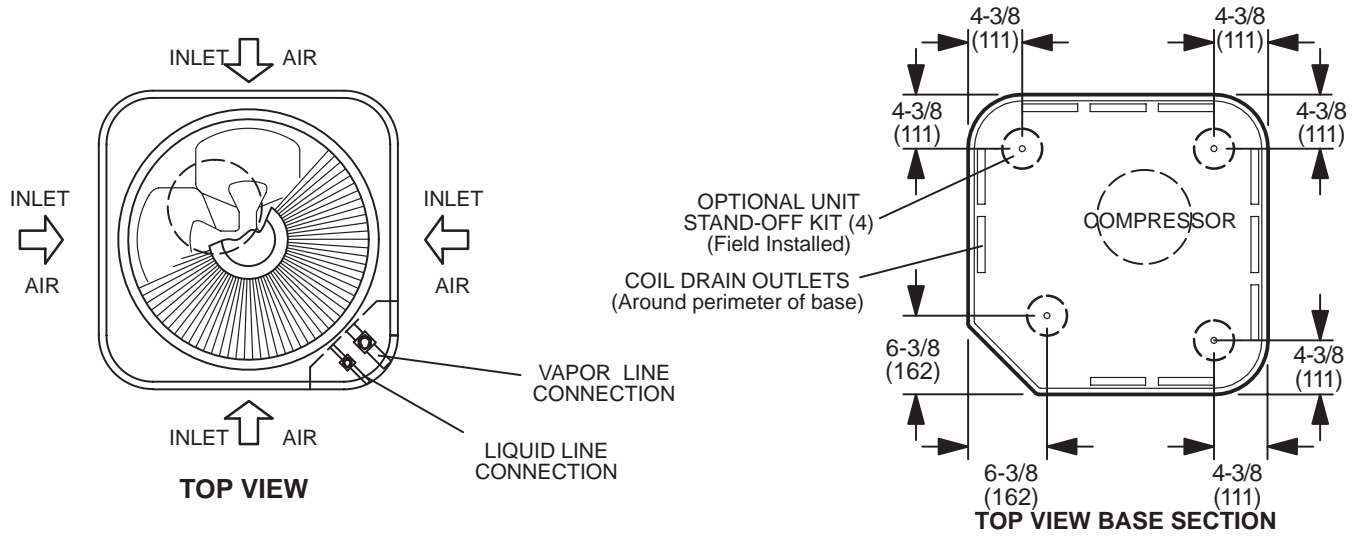
<sup>2</sup> HACR type circuit breaker or fuse.

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

<sup>4</sup> Freezestat is recommended with Low Ambient Control.



# DIMENSIONS



Model No.	A		B		C	
	inches	mm	inches	mm	inches	mm
TPA036H4	28-1/4	718	33-1/4	845	32-1/2	826
TPA042H4 TPA048H4	32-1/4	819	37-1/4	946	36-1/2	927
TPA060H4	32-1/4	819	43-1/4	1099	42-1/4	1073

## TXV USAGE

Use this table for C35, CH23, CH35 and CR33 Field Installed TXV Match-Ups

Model No.	Order No.
TPA036H4	12J19
TPA042H4	12J20
TPA048H4	12J20
TPA060H4	12J20

CX35 and CHX35 coils and all Lennox air handlers are shipped with a factory installed TXV.

C35 and CH35 coils - Replace the factory installed orifice with the expansion valve listed.

CH23 and CR33 - Use the expansion valve listed.

## AHRI STANDARD 210/240

Cooling or heating capacities are net values, including the effects of blower motor heat, and do not include supplementary heat. Power input is the total power input to the compressor(s) and fan(s), plus any controls and other items required as part of the system for normal operation.

Units which do not have an indoor air-circulating blower furnished as part of the model, i.e., split system with indoor coil only, is established by subtracting from the total cooling capacity 1250 Btu/h per 1,000 cfm, and by adding the same amount to the heating capacity. Total power input for both heating and cooling is increased by 365 W per 1,000 cfm of indoor air circulated.



## REVISIONS

Sections	Description of Change
Optional Accessories	Updated optional Compressor Sound Cover.



Visit us at [www.lennox.com](http://www.lennox.com)

For the latest technical information, [www.lennoxcommercial.com](http://www.lennoxcommercial.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.

©2020 Lennox Industries, Inc.