HEAT PUMP OUTDOOR UNITS



LENNOX **QUANTUM**[®] COIL

EL16XP1 ELITE® Series R-410A - 60 Hz

> Bulletin No. 210880 October 2020 Supersedes April 2019

RESIDENTIAL **PRODUCT SPECIFICATIONS**





SEER up to 17.00 HSPF up to 9.80 1.5 to 5 Tons Cooling Capacity - 18,000 to 58,500 Btuh Heating Capacity - 16,900 to 56,000 Btuh



MODEL NUMBER IDENTIFICATION

FEATURE HIGHLIGHTS



- 1. Outdoor Coil Fan
- 2. Quantum[™] Coil
- 3. High Pressure Switch
- 4. Expansion Valve Outdoor Unit
- 5. Four-Way Reversing Valve
- 6. High-Capacity Liquid Line Drier
- 7. Scroll Compressor
- 8. Compressor Sound Dampening System
- 9. Defrost Control
- 10. Heavy Gauge Steel Cabinet
- 11. SmartHinge[™] Louvered Coil Protection
- 12. Refrigerant Line Connections

CONTENTS

Approvals And Warranty
Controls
Dimensions
Electrical Data
Features
Field Wiring
Installation Clearances
Model Number Identification.
Optional Accessories - Order Separately
Sound Data
Specifications
TXV Substitution
TXV Usage

APPROVALS AND WARRANTY

APPROVALS

- AHRI Certified to AHRI Standard 210/240
- For AHRI Certified system match-ups and expanded ratings, visit www.LennoxPros.com
- ENERGY STAR® certified
- · 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 ten years in residential installations
 - Limited five years in non-residential installations
- All other covered components:
- · Limited five years in residential installations
- Limited one year in non-residential installations

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

FEATURES

APPLICATIONS

- 1.5 through 5 tons
- Sound levels as low as 71 dBA
- Single phase power supply
- Vertical air discharge
- Applicable to indoor air handlers or gas furnaces with indoor add-on coils
- · Shipped completely factory assembled, piped and wired

Factory test 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 outdoor unit, 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
- EL16XP1-036-042-048-060 models have a variablespeed outdoor fan motor for quiet operation
- Vertical air discharge
- Ball bearings
- Inherently protected
- Totally enclosed fan motor
- Fan guard constructed of corrosion-resistant PVC (polyvinyl chloride) coated steel

2 Quantum[™] Coil

- Lennox designed and fabricated coil
- Enhanced aluminum alloy tube/enhanced fin coil
- Ripple-edged aluminum fins
- Aluminum tube construction
- Lanced fins for maximum fin surface exposure
- Fin collars grip tubing for maximum contact area
- Flared shoulder tubing connections
- Factory tested under high pressure
- Entire coil is accessible for cleaning

EL16XP1 - 1.5 to 5 Ton Heat Pump / Page 3

REFRIGERATION SYSTEM (continued)

3 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 Expansion Valve - Outdoor Unit

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

5 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

6 High-Capacity Liquid Line Drier

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

Optional Accessories

Check/Expansion Valve Kits

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

Loss of Charge Kit

- Helps protect the compressor from damage due low refrigerant charge conditions
- SPST, normally-closed switch, automatic reset switch

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 it's 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

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

COMPRESSOR

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 (Factory Installed on -036-042-048-060)

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

8 Compressor Sound Dampening System

- Polyethylene compressor cover
- 2-inch thick batt of fiberglass insulation
- · Hook and loop fastening tape on all open edges

Optional Accessories

Compressor Crankcase Heater (Optional for -018-024-030 models)

 Protects against refrigerant migration that can occur during low ambient operation

CONTROLS

9 Defrost Control

- Control furnished as standard
- Gives a demand defrost cycle whenever system heating performance falls below optimum levels. The sensing element on coil determines when defrost cycle is required and when to terminate cycle
- Anti-short cycle (5 minutes) incorporated into the board
- Diagnostic LEDs furnished as an aid in troubleshooting
- Conveniently located in control box

Optional Accessories

Compressor Low Ambient Cut-Off

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

Compressor Hard Start Kit

- Single-phase units are equipped with a PSC compressor motor
- This type of motor normally does not need a potential relay and start capacitor
- In conditions such as low voltage, kit may be required to increase the compressor starting torque

Indoor Blower Off Delay Relay

• Delays the indoor blower-off time during the cooling cycle. See AHRI System Matches for usage

Low Ambient Kit

- Heat pump in the cooling mode will operate satisfactorily down to 45°F outdoor air temperature without any additional controls
- Allows unit to operate properly down to 30°F in the cooling mode
- **NOTE** Crankcase heater (optional for -018-024-030 models) and Freezestat should be installed on compressors equipped with a low ambient kit.
- **NOTE** A compressor lock-out thermostat should be added to terminate compressor operation below recommended operation conditions.

Monitor Kit - Service Light

- Ambient compensating thermistor
- Service light thermostat
- For thermostats requiring indicator light inputs



CONTROLS (continued)

Optional Accessories (continued)

iComfort® E30 Smart Wi-Fi Thermostat

- Wi-Fi enabled, electronic 7-day, universal, multi-stage, programmable, touchscreen thermostat
- 3 Heat/2 Cool
- Auto-changeover
- Controls dehumidification during cooling mode and humidification during heating mode



 Offers enhanced capabilities including

humidification / dehumidification / dewpoint measurement and control, Humiditrol[®] control, and equipment maintenance reminders

- Easy to read 7 in. color touchscreen (measured diagonally)
- LCD display with backlight shows the current and set temperature, time, inside relative humidity, system status (operating mode and schedules) and outside temperature (optional outdoor sensor required)
- Smooth Setback Recovery starts system early to achieve setpoint at start of program period
- Compressor short-cycle protection (5 minutes)
- Up to four separate schedules are available plus Schedule IQ[™]
- One-Touch Away Mode A quick and easy way to set the cooling and heating setpoints while away
- Smart Away[™] Uses geo-fencing technology to determine when the homeowner is within a predetermined distance from the home to operate the system when leaving, away and arriving
- Wi-Fi remote monitoring and adjustment through a home wireless network for desktop PCs, laptops and apps for smartphones or tablets
- Smart home automation compatible with Apple HomeKit[™], Amazon Alexa[®], Google Assistant and IFTTT
- Service Dashboard features online real-time monitoring of installed iComfort $^{\ensuremath{\circledast}}$ thermostats
- High Definition Color Display with Subbase, Smart Hub Controller, wallplate (for retrofit installations) furnished for easy installation
- See the iComfort[®] E30 Smart Wi-Fi Thermostat Product Specifications bulletin for more information

Remote Outdoor Temperature Sensor

- Used with the iComfort® E30 Smart Thermostat
- When installed outdoors, sensor allows thermostat to display outdoor temperature
- Sensor is auto-detected when connected to thermostat
- **NOTE** Sensor is required for high and low balance points option.
- **NOTE** Sensor is required for Enhanced Dehumidification Accessory (EDA).

Thermostat

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

Mild Weather Kit

- Heat pump units operate satisfactorily in the heating mode at outdoor air temperatures up to 75°F
- · Allows heating operation above 75°F

Outdoor Thermostat Kit

- Outdoor thermostat locks 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



(1) <u>CABINET</u>

- 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 for moisture removal
- · Drainage holes are provided in base section
- High density polyethylene unit support feet raise the unit off of the mounting surface

PermaGuard[™] Unit Base

Durable zinc-coated base section resists rust and corrosion

11 SmartHinge[™] Louvered Coil Protection

- Steel louvered panels provides complete coil protection
- Panels are hinged to allow easy cleaning and servicing of coils. Panels may be completely removed
- Interlocking tabs and slots assure tight fit on cabinet

Refrigerant Line Connections, Electrical Inlets and Service Valves

- Sweat connection vapor and liquid lines
 - Vapor 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

Snow Guard

- For use in locations where the possibility of heavy snow or freezing rain accumulation may occur
- Heavy gauge powder coated steel guard
- Deflects snow and ice away from the outdoor fan
- **NOTE** Snow Guards for 018-024-030 models are only available in Canada.

SPECIFICATIONS						
General	Ν	lodel No.	EL16XP1-018	EL16XP1-024	EL16XP1-030	EL16XP1-036
Data	Nomina	I Tonnage	1.5	2	2.5	3
¹ Sound Rating Number (dBA)			71	72	72	72
Connections	iquid line	(o.d.) - in.	3/8	3/8	3/8	3/8
(sweat) Su	ction line	(o.d.) - in.	3/4	3/4	3/4	7/8
Refrigerant ² R-410	A charge	furnished	6 lbs. 6 oz.	6 lbs. 11 oz.	7 lbs. 10 oz.	8 lbs. 7 oz.
Outdoor Net face area	- sq. ft.	Outer coil	24.5	18.7	18.7	22.2
Coil		Inner coil		18.0	18.0	21.5
	Tube dia	meter - in.	5/16	5/16	5/16	5/16
	N	o. of rows	1	2	2	2
	Fin	s per inch	22	22	22	22
Outdoor	Dia	neter - in.	22	22	22	26
Fan	No.	of blades	3	3	3	3
		Motor hp	1/6	1/6	1/6	1/3
		Cfm	2670	2575	2575	3700
		Rpm	867	866	866	820
		Watts	160	163	163	200
Shipping Data - Ibs. 1 pkg.			213	211	211	214
ELECTRICAL DATA		I		1	1	
			200/220\/ 4=b	200/220\/ 4=h	200/2201/4=6	200/2201/ 4-5
Line voltage data - 60hz			208/230V-1ph	208/230V-1ph	208/230V-1ph	208/230V-1ph
³ Maximum overcurrent protection (amps	5)		20	20	25	35
⁴ Minimum circuit ampacity			12.2	13.6	16.4	20.9
Compressor		oad amps	9	10.1	12.3	14.7
		otor amps	48	52	63	75
		wer factor	0.98	0.98	0.96	0.99
Outdoor Fan Motor		oad amps	1.0	1.0	1.0	2.6
	Locked r	otor amps	1.9	1.9	1.9	
CONTROLS						
iComfort [®] E30 Smart Wi-Fi Thermostat		20A65	•	•	•	•
Remote Outdoor Temperature Sensor		X2658	٠	•	•	•
OPTIONAL ACCESSORIES - O	RDFR	SEPAR		'	'	
Compressor Crankcase Heater	NDEN	93M04	•	•	•	
Compressor Grankcase heater		Factory	-			•
Compressor Hard Start Kit	LG	88M91	•	•	•	•
Compressor Low Ambient Cut-Off		45F08	•	•	•	•
	. tubing	93G35	•	•	•	•
	. tubing	50A93	•	•	•	•
Indoor Blower Off Delay Relay	. tubing	58M81	•	•	•	•
Loss of Charge Switch Kit		84M23	•	•	•	•
⁵ Low Ambient Kit		54M89	•	•	•	•
Mild Weather Kit		11B97	•	•	•	•
Monitor Kit - Service Light		76F53	•	•	•	•
			•	•	•	•
	rmostat	10722			-	-
Outdoor Thermostat Kit The	rmostat	10Z23		•	•	•
Outdoor Thermostat Kit The Mount	ing Box	31461	•	•	•	•
Outdoor Thermostat Kit Thermostat Kit Mounti Mounti Refrigerant L15	ing Box 5-41-20 I	31461 _15-41-40		•	•	•
Outdoor Thermostat Kit Thermostat Kit Mounti Mounti Refrigerant L15	ing Box 5-41-20 L 5-41-30 L	31461	•			•

¹ Sound Rating Number rated in accordance with test conditions included in AHRI Standard 270.

² Refrigerant charge sufficient for 15 ft. length of refrigerant lines. For longer line set requirements see the Installation Instructions for information about line set length and additional refrigerant charge required.

³ HACR type breaker or fuse.

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

 $^{\scriptscriptstyle 5}$ Crankcase Heater and Freezestat are recommended with Low Ambient Kit.

⁶ Add 11-1/2 inches (292 mm) to unit height.

General Data Model No. EL16XP1-042 EL16XP1-048 EL16XP1-060 * Sound Rating Number (dBA) 3.5 4 5 * Sound Rating Number (dBA) 73 73 73 Connections Liquid Ine (o.d.) -in. 3/8 3/8 3/8 Kerrigerant ? R-410A charge fumished 10 lbs. 12 oz. 10 lbs. 7 oz. 10 lbs. 4 oz. Outdoor Net face area - sq. ft. Outer coil 28.2 28.2 28.2 Coil Inner coil 28.2 28.2 22.2 Outdoor Net face area - sq. ft. Outer coil 28.2 28.2 28.2 Fins per inch 22 22 22 22 Outdoor No. of blades 3 3 4 Motor hp 1/3 1/3 1/3 1/3 Charm 4160 44150 4260 282 Stipping Data - lbs.1 pkg. 294 2002 202 Coutdoor Fandonz Rated load mas 25 25.8 30.4 Compressor Hard Start	SPECIFICATIONS					
* Sound Rating Number (dBA) T3 T3 T3 Connections Liquid line (o.d.) - in, Suction line (o.d.) - in, (sweat) 3/8 3/8 3/8 Refrigerant *R-410A charge furnished 10 lbs. 12 oz. 10 lbs. 7 oz. 10 lbs. 4 oz. Outdoor Net face area - sq. ft. Outer coil 28.2 28.2 28.2 28.2 Coil Inner coil 28.2 2 2 2 2 Cutdoor No. of rows 2 <th>General</th> <th></th> <th>Model No.</th> <th>EL16XP1-042</th> <th>EL16XP1-048</th> <th>EL16XP1-060</th>	General		Model No.	EL16XP1-042	EL16XP1-048	EL16XP1-060
Connections (sweat) Liquid line (o, d) - in, Suction line (o, d) - in, Prins per value 3/8 3/8 3/8 (sweat) Suction line (o, d) - in, Prins per value 7/8 11/8 11/8 Refrigerant *R-140A charge furnished 10 lbs. 12 oz. 10 lbs. 12 oz. 10 lbs. 4 oz. Coil Inner coil 28.2 28.2 28.2 28.2 Coil Inner coil 28.2 28.2 28.2 28.2 Coil Diameter - in, Prins per inch 22 22 22 Outdoor Diameter - in, Motor hp 26 26 26 Fan No. of blades 3 3 4 Motor hp 1/3 1/3 1/3 1/3 Itine voltage data - 60bz 208/230V-1ph 208/230V-1ph 208/230V-1ph * Maximum overcurrent protection (amps) 40 40 20 * Maximum overcurrent protection (amps) 40 40 20 * Maximum overcurrent protection (amps) 2.6 2.6 2.6 Compressor Rated load a	Data	Nomi	nal Tonnage	3.5	4	5
(sweat) Suction line (o, d) - in, Refrigerant 7/8 7/8 1-1/8 Refrigerant ?R-410A charge furnished 10 lbs. 12 oz. 10 lbs. 7 oz. 10 lbs. 4 oz. Coll Net face area - sq. ft. Outdoor 29.1 29.1 29.1 Coll Inner coll 28.2 28.2 28.2 Cold No. of rows 2 2 2 Fins per inch 22 22 22 Outdoor Diameter - in, 26 26 26 Fan No. of blades 3 3 4 Motor hp 1/13 1/13 1/13 Fan No. of blades 3 3 4 Maixmum overcurrent protection (amps) 40 40 206 Refrigerant 208/230V-1ph 208/230V-1ph 208/230V-1ph 208/230V-1ph * Minimum circuit ampacity 25 25.8 30.4 22.2 Locked rotor amps 112.3 124 127.9 * Minimum circuit ampacity 22.6	¹ Sound Rating Number (dBA)			73	73	73
Refrigerant *R-410A charge furnished 10 lbs. 12 oz. 10 lbs. 7 oz. 10 lbs. 4 oz. Outdoor Net face area - sq. ft. Outer coil 29.1 29.1 29.1 Coll 28.2	Connections	Liquid lir	ne (o.d.) - in.	3/8	3/8	3/8
Outdoor Coll Net face area - sq. ft. Outer coil 29.1 29.1 29.1 29.1 Tube diameter - in. No. of rows 2 28.2 28.2 28.2 Tube diameter - in. No. of rows 2 2 2 2 Outdoor Fan Diameter - in. No. of blades 3 3 4 Motor hp 1/3 1/3 1/3 1/3 Ctm 4150 4150 4250 820 820 820 Shipping Data - Ibs. 1 ptg. Cfm 4150 4150 4250 800 820	(sweat)	Suction lin	ne (o.d.) - in.	7/8	7/8	1-1/8
Coil Inner coil 28.2 28.2 28.2 Tube diameter - in, No. of rows 2 2 2 Guidoor Diameter - in, No. of rows 2 2 2 Outdoor Diameter - in, No. of blades 3 3 4 Motor hp 1/3 1/3 1/3 1/3 Motor hp 1/3 1/3 1/3 1/3 Cittioor Attos 4150 4450 4250 Baco 820 820 820 820 Shipping Data - lbs. 1 pkg. 208/230V-tph 208/230V-tph 208/230V-tph 208/230V-tph Line voltage data - 60nz 208/230V-tph 208/230V-tph 208/230V-tph 208/230V-tph * Maximum overcurrent protection (amps) 15.9 18.5 22.2 2 Locked rotor amps 15.9 18.5 22.2 2 Locked rotor amps 15.9 18.5 22.2 2 Locked rotor amps 15.9 18.5 22.2 2 2	Refrigerant	² R-410A char	ge furnished	10 lbs. 12 oz.	10 lbs. 7 oz.	10 lbs. 4 oz.
Interform 2012	Outdoor	Net face area - sq. ft.	Outer coil	29.1	29.1	29.1
No. of rows 2 2 2 Fins per inch 22 22 22 Outdoor Diameter - in. 26 26 26 Fan No. of blades 3 3 4 Motor hp 1/13 1/13 1/13 Motor hp 1/13 1/13 1/13 Motor hp 1/13 1/13 1/13 Shipping Data - Ibs. 1 pkg. 208/230V-1ph 208/230V-1ph 208/230V-1ph ELECTRICAL DATA Electrical data - 60hz 208/230V-1ph 208/230V-1ph 208/230V-1ph Ine voltage data - 60hz 208/230V-1ph 208/230V-1ph 208/230V-1ph 208/230V-1ph * Minimum circuit ampacity 25 25.8 30.4 Compressor Rated load amps 15.9 18.5 22.2 Locked rotor amps 15.9 18.5 22.2 Compressor Hard Start Kit 20A65 • • Icomfort* E30 Smart Wi-Fi Thermostat 20A65 • • Compressor Low Ambient Cut-Off <	Coil		Inner coil	28.2	28.2	28.2
Fins per inch 22 22 22 Outdoor Diameter - in. 26 26 26 26 Fan No. of blades 3 3 4 Motor hp 1/3 1/3 1/3 1/3 Motor hp 1/3 1/3 1/3 4 Watts 216 216 245 240 300 ELECTRICAL DATA 208/230V-1ph		Tube c	liameter - in.	5/16	5/16	5/16
Outdoor Fan Diameter - in. No. of blades Motor hp 26 26 26 Fan No. of blades Motor hp 3 3 4 Motor hp 1/3 1/3 1/3 Image: Comparison of the second o			No. of rows	2	2	2
Fan No. of blades Motor hp CIm 3 3 4 Motor hp CIm 1/3 1/3 1/3 1/3 Motor hp CIm 1/30 1/3 1/3 1/3 Motor hp Rpm 820 820 820 820 820 Shipping Data - Ibs. 1 pkg. 294 294 300 208/230V-1ph 208		F	ins per inch	22	22	22
No. of Joddos Joddos h Joddos h Mator hy 1/3 1/3 1/3 Mator hy 4150 4150 4250 Rpm 820 820 820 Watts 216 216 245 Shipping Data - Ibs. 1 pkg. 294 294 300 ELECTRICAL DATA 208/230V-1ph 208/230V-1ph 208/230V-1ph 208/230V-1ph Ine voltage data - 60hz 208/230V-1ph 208/230V-1ph 208/230V-1ph 208/230V-1ph * Maximum overcurrent protection (amps) 40 40 50 4 * Minimum circuit ampacity 25 25.8 30.4 2 Compressor Rated load amps 15.9 18.5 22.2 Locked rotor amps 2.6 2.6 2.6 2.6 CONTROLS Elemente factor 0.99 0.99 0.99 Outdoor Temperature Sensor X2658 • • • Compressor Hard Start Kit Copeland 10.42 • •	Outdoor	D	iameter - in.	26	26	26
Cfm 4150 4150 4250 Rpm 820 820 820 820 Watts 216 216 245 Shipping Data - Ibs. 1 pkg. 294 294 300 ELECTRICAL DATA 208/230V-1ph 208/230V-1ph 208/230V-1ph 208/230V-1ph ³ Maximum overcurrent protection (amps) 40 40 40 50 ⁴ Minimum circuit ampacity 25 25.8 30.4 Compressor Rated load amps 115.9 18.5 22.2 Locked rotor amps 112.3 124 127.9 Power factor 0.99 0.99 0.99 0.99 Outdoor Fan Motor Full load amps 2.6 2.6 2.6 Compressor Mator X2658 • • • OPTIONAL ACCESSORIES - ORDER SEPARATELY • • • Compressor Low Ambient Cut-Off 45708 • • • Indoor Blower Off Delay Relay 50833 • • •	Fan	Ν	lo. of blades	3	3	4
Rpm Watts 820 820 820 820 Shipping Data - Ibs. 1 pkg. 216 216 216 245 Shipping Data - Ibs. 1 pkg. 294 294 294 300 ELECTRICAL DATA 208/230V-1ph 208/230V-12h 20 20 20 20 20			Motor hp	1/3	1/3	1/3
Watts 216 216 245 Shipping Data - Ibs. 1 pkg. 294 294 300 ELECTRICAL DATA 208/230V-1ph 208/230V-1ph 208/230V-1ph 208/230V-1ph ³ Maximum overcurrent protection (amps) 40 40 50 ⁴ Minimum circuit ampacity 25 25.8 30.4 Compressor Rated load amps 112.3 124 127.9 Locked rotor amps 112.3 124 127.9 Power factor 0.99 0.99 0.99 Outdoor Fan Motor Full load amps 2.6 2.6 2.6 CONTROLS 206/230V-1ph 208/230V-1ph 208/230V-1ph 208/230V-1ph Compressor Hard Start Kit Copeland 0.99 0.99 0.99 0.99 Compressor Low Ambient Cu-Off LG 88M91 • • • Compressor Low Ambient Cu-Off 4506 • • • • Freezestat 3/8 in. tubing 93G35 • • • •			Cfm	4150	4150	4250
Shipping Data - Ibs. 1 pkg. 294 294 300 ELECTRICAL DATA Line voltage data - 60hz 208/230V-1ph			Rpm	820	820	820
ELECTRICAL DATA Line voltage data - 60hz 208/230V-1ph 40 40 40 50 * Minimum circuit ampacity 25 25.8 30.4 30.4 Compressor Rated load amps 15.9 18.5 22.2 2.0 <td></td> <td></td> <td>Watts</td> <td>216</td> <td>216</td> <td>245</td>			Watts	216	216	245
Line voltage data - 60hz 208/230V-1ph 208/230V-1ph 208/230V-1ph ^a Maximum overcurrent protection (amps) 40 40 50 ^a Minimum circuit ampacity 25 25.8 30.4 Compressor Rated load amps 15.9 18.5 22.2 Locked rotor amps 112.3 124 127.9 Power factor 0.99 0.99 0.99 Outdoor Fan Motor Full load amps 2.6 2.6 2.6 CONTROLS icomfort® E30 Smart Wi-Fi Thermostat 20A65 • • • OPTIONAL ACCESSORIES - ORDER SEPARATELY Copeland 10J42 • • • Compressor Low Ambient Cut-Off 45F08 • • • • Compressor Low Ambient Cut-Off 45F08 • • • • Recote Outroor Blower Off Delay Relay 58M81 • • • • S/8 in. tubing 50A93 • • • • • Loss of Charge Switch Kit	Shipping Data - Ibs. 1 pkg.			294	294	300
Line voltage data - 60hz 208/230V-1ph 208/230V-1ph 208/230V-1ph ^a Maximum overcurrent protection (amps) 40 40 50 ^a Minimum circuit ampacity 25 25.8 30.4 Compressor Rated load amps 15.9 18.5 22.2 Locked rotor amps 112.3 124 127.9 Power factor 0.99 0.99 0.99 Outdoor Fan Motor Full load amps 2.6 2.6 2.6 CONTROLS icomfort® E30 Smart Wi-Fi Thermostat 20A65 • • • OPTIONAL ACCESSORIES - ORDER SEPARATELY Copeland 10J42 • • • Compressor Low Ambient Cut-Off 45F08 • • • • Compressor Low Ambient Cut-Off 45F08 • • • • Recote Outroor Blower Off Delay Relay 58M81 • • • • S/8 in. tubing 50A93 • • • • • Loss of Charge Switch Kit	FLECTRICAL DATA					
³ Maximum overcurrent protection (amps) 40 40 50 ⁴ Minimum circuit ampacity 25 25.8 30.4 Compressor Rated load amps Locked rotor amps 115.9 18.5 22.2 Power factor 0.99 0.99 0.99 0.99 Outdoor Fan Motor Full load amps 2.6 2.6 2.6 CONTROLS icomfort® E30 Smart Wi-Fi Thermostat 20A65 • • iComfort® E30 Smart Wi-Fi Thermostat 20A65 • • • Remote Outdoor Temperature Sensor X2658 • • • OPTIONAL ACCESSORIES - ORDER SEPARATELY Copeland 10J42 • • Compressor Low Ambient Cut-Off 45F08 • • • Freezestat 3/8 in. tubing 93G35 • • • Indoor Blower Off Delay Relay 58M81 • • • • Loss of Charge Switch Kit 54M89 • • • • Monitor Kit Service Light 76F5				208/230\/-1nh	208/230\/-1ph	208/230\/-1ph
* Minimum circuit ampacity 25 25.8 30.4 Compressor Rated load amps Locked rotor amps Power factor 15.9 18.5 22.2 Outdoor Fan Motor Full load amps 2.6 2.6 2.6 CONTROLS 2.6 2.6 2.6 2.6 CONTROLS 20465 • • • Compressor Hard Start Wi-Fi Thermostat 20A65 • • • OPTIONAL ACCESSORIES - ORDER SEPARATELY • • • • Compressor Low Ambient Cut-Off 45F08 • • • • Freezestat 3/8 in. tubing 93G35 • • • • Indoor Blower Off Delay Relay 58M81 • • • • ⁵ Low Ambient Kit 54M89 • • • • Mointing Box 31461 • • • • • Remote Outdoor Temperature Sensor 5/8 in. tubing 50/83 • • • • <td></td> <td>ction (amps)</td> <td></td> <td></td> <td>· · ·</td> <td></td>		ction (amps)			· · ·	
CompressorRated load amps Locked rotor amps Power factor15.918.522.2112.3124127.9Power factor0.990.990.99Outdoor Fan MotorFull load amps2.62.62.6CONTROLSicomfort® E30 Smart Wi-Fi Thermostat20A65•••Remote Outdoor Temperature SensorX2658••••OPTIONAL ACCESSORIES - ORDER SEPARATELYCompressor Hard Start KitCopeland10J42••Compressor Low Ambient Cut-Off45F08••••Freezestat3/8 in. tubing93G35••••5/8 in. tubing50A93•••••Loss of Charge Switch Kit84M23•••••Monitor Kit - Service Light76F53•••••Monitor Kit - Service LightThermostat10Z23••••Moniting Box31461••••••RefrigerantL15-65-30L15-65-50•••••				-	-	
Locked rotor amps Power factor 112.3 124 127.9 Power factor 0.99 0.99 0.99 0.99 Outdoor Fan Motor Full load amps 2.6 2.6 2.6 CONTROLS iComfort® E30 Smart Wi-Fi Thermostat 20A65 • • • Remote Outdoor Temperature Sensor X2658 • • • OPTIONAL ACCESSORIES - ORDER SEPARATELY Copeland 10J42 • • Compressor Hard Start Kit Copeland 10J42 • • • Compressor Low Ambient Cut-Off 45F08 • • • • Indoor Blower Off Delay Relay 58M81 • • • • So of Charge Switch Kit 84M23 • • • • Mild Weather Kit 11B97 • • • • • Mounting Box 31461 • • • • • Indoor Blower Off Delay Relay 54M89 • • •		Rate	d load amps			
Power factor0.990.990.99Outdoor Fan MotorFull load amps2.62.62.6CONTROLSiComfort® E30 Smart Wi-Fi Thermostat20A65•••Remote Outdoor Temperature SensorX2658•••OPTIONAL ACCESSORIES - ORDER SEPARATELYCopeland10J42••Compressor Hard Start KitCopeland10J42••LG88M91••••Compressor Low Ambient Cut-Off45F08•••Freezestat3/8 in. tubing93G35•••5/8 in. tubing50A93••••Indoor Blower Off Delay Relay58M81•••Loss of Charge Switch Kit54M89•••Mild Weather Kit11B97•••Mounting Box31461•••Mounting Box31461•••RefrigerantL15-65-30L15-65-40••Line SetsL15-65-50••			· · -			
Outdoor Fan MotorFull load amps2.62.62.6CONTROLSiComfort® E30 Smart Wi-Fi Thermostat20A65•••Remote Outdoor Temperature SensorX2658•••OPTIONAL ACCESSORIES - ORDER SEPARATELYCompressor Hard Start KitCopeland10J42••LG88M91•••Compressor Low Ambient Cut-Off45F08•••Freezestat3/8 in. tubing93G35•••5/8 in. tubing50A93••••Indoor Blower Off Delay Relay58M81••••Loss of Charge Switch Kit54M89••••Mild Weather Kit11B97••••Monitor Kit - Service LightT6F53••••Mounting Box31461•••••RefrigerantL15-65-30L15-65-40••••Line SetsL15-65-50-••••			· -			
CONTROLS iComfort® E30 Smart Wi-Fi Thermostat 20A65 • • • Remote Outdoor Temperature Sensor X2658 • • OPTIONAL ACCESSORIES - ORDER SEPARATELY Compressor Hard Start Kit Copeland 10J42 • • Compressor Low Ambient Cut-Off 45F08 • • • Compressor Low Ambient Cut-Off 45F08 • • Compressor Low Ambient Cut-Off 45F08 • • • • • • Compressor Low Ambient Cut-Off 45F08 • • • • • • • • • • • • • • • • • • •						

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

¹ Sound Rating Number rated in accordance with test conditions included in AHRI Standard 270.

² Refrigerant charge sufficient for 15 ft. length of refrigerant lines. For longer line set requirements see the Installation Instructions for information about line set length and additional refrigerant charge required.

³ HACR type breaker or fuse.

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

⁵ Crankcase Heater and Freezestat are recommended with Low Ambient Kit.

⁶ Add 11-1/2 inches (292 mm) to unit height.

SOUND DATA

¹ Unit	Octave Band Sound Power Levels dBA, re 10 ⁻¹² Watts Center Frequency - HZ						¹ Sound Rating				ssure Le at distan		
Model	125	250	500	1000	2000	4000	8000	Number (dBA)	3	5	10	15	50
018	56.5	62	65.5	66.5	62.5	59.5	52	71	64	59	53	50	39
024	54.5	62	67.5	67.5	63	58	50.5	72	65	60	54	51	40
030	54.5	62	67.5	67.5	63	58	50.5	72	65	60	54	51	40
036	56	61	66.5	65.0	62	57	49	72	65	60	54	51	40
042	57	62.5	68.5	67.5	65	59	50.5	73	66	61	55	52	41
048	57	62.5	68.5	67.5	65	59	50.5	73	66	61	55	52	41
060	54.5	60.5	66.5	68	65	61	56	73	66	61	55	52	41

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

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

² 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.

FIELD WIRING



- A Two Wire Power (see Electrical Data)
- B Two or Three Wire Power (size to heater capacity)

C - Twelve Wire Low Voltage 18 ga. minimum Fourteen Wire Low Voltage with Optional Outdoor Thermostat

D - Eight Wire Low Voltage 18 ga. minimum Ten Wire Low Voltage with Optional Outdoor Thermostat

NOTE - Field Wiring Not Furnished

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

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. (610 mm) must be maintained between two units.

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





(Medium Base)





EL16XP1-036 TO -060 BASE SECTION (Large Base)

MadalNa		4	E	3	С	
Model No.	in.	mm	in.	mm	in.	mm
EL16XP1-018	45	1143	30-1/2	775	35	889
EL16XP1-024	35	889	30-1/2	775	35	889
EL16XP1-030	35	889	30-1/2	775	35	889
EL16XP1-036	35	889	35-1/2	902	39-1/2	1003
EL16XP1-042	45	1143	35-1/2	902	39-1/2	1003
EL16XP1-048	45	1143	35-1/2	902	39-1/2	1003
EL16XP1-060	45	1143	35-1/2	902	39-1/2	1003

TXV USAGE

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

Model No.	Order No.
EL16XP1-018	12J18
EL16XP1-024	12J18
EL16XP1-030	12J18
EL16XP1-036	12J19
EL16XP1-042	12J20
EL16XP1-048	12J20
EL16XP1-060	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 RFC orifice with the expansion valve listed.

CH23 and CR33 - Use the expansion valve listed.

MOST POPULAR MATCHES

Outdoor Unit Model No.	Indoor Unit Model No
EL16XP1-018	CBA27UHE-018
EL16XP1-024	CBA27UHE-024
EL16XP1-030	CBA27UHE-030
EL16XP1-036	CBA27UHE-036
EL16XP1-042	CBA27UHE-048
EL16XP1-048	CBA27UHE-048
EL16XP1-060	CBA27UHE-060

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.

TXV SUBSTITUTION

A general guide for replacing the factory installed TXV if the indoor unit (coil/air handler) is larger or smaller than the outdoor unit.

Outdo	or Unit	Indoor Unit		TXV	ТХУ
Size	Tons	Size	Tons	Furnished	Replacement
018	1.5	30/36	2.5/3	12J19	12J18
018	1.5	36	3	12J19	12J18
018	1.5	42	3.5	12J20	12J18
018	1.5	48	4	12J20	12J18
018	1.5	49	4	12J20	12J18
018	1.5	50/60	4/5	12J20	12J18
018	1.5	51/61	4/5	12J20	12J18
018	1.5	60	5	12J20	12J18
024	2	42	3.5	12J20	12J18
024	2	48	4	12J20	12J18
024	2	49	4	12J20	12J18
024	2	50/60	5	12J20	12J18
024	2	51/61	5	12J20	12J18
024	2	60	5	12J20	12J18
030	2.5	42	3.5	12J20	12J18
030	2.5	43	3.5	12J20	12J18
030	2.5	48	4	12J20	12J18
030	2.5	49	4	12J20	12J18
036	3	24	2	12J18	12J19
036	3	30	2.5	12J18	12J19
042	3.5	24	2	12J18	12J20
042	3.5	30	2.5	12J18	12J20
042	3.5	30/36	3	12J19	12J20
042	3.5	36	3	12J19	12J20
048	4	30/36	2.5/3	12J19	12J20
048	4	36	3	12J19	12J20

TXV Ranges:

- 12J19 3 ton systems Use down to 2 ton (024) systems.
- 12J20 3.5 to 5 ton systems Use down to 3 ton (036) systems.

¹²J18 - 1.5 to 2.5 ton systems - Use on 2.5 ton (030) and lower systems.

REVISIONS

Sections	Description of Change
Optional Accessories	Updated.
TXV Substitutions	Updated.









Visit us at <u>www.Lennox.com</u> For the latest technical information, <u>www.LennoxPros.com</u> 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.