HEAT PUMPS

ML14KP1

MERIT® SERIES

Single-Stage | Quantum™ Coil | R-454B | 3-Phase | 60Hz

COMMERCIAL
PRODUCT SPECIFICATIONS (EHB)

3 to 5 Tons
SEER2 up to 16.0
HSPF2 up to 8.2
Cooling Capacity | 35,400 to 58,000 Btuh
Heating Capacity | 35,400 to 60,000 Btuh

MERIT® SERIES

LENNOX QUANTUM™ COIL

2025 COMPLIANT REFRIGERANT

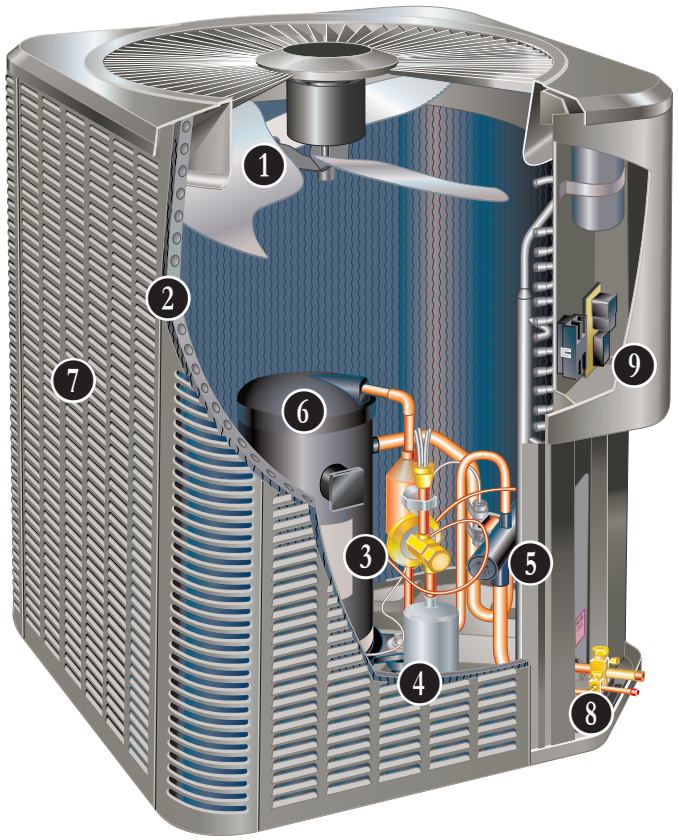
MODEL NUMBER IDENTIFICATION

ML 14 K P 1 - 036 - 233 A 01

- **Product Tier** — ML = Merit® Series
- **Nominal SEER2** — 14 = 14.0
- **Refrigerant** — K = R-454B
- **Unit Type** — P = Heat Pump
- **Cooling Stages** — 1 = Single-Stage Compressor
- **Nominal Cooling Capacity** — 036 = 3 tons; 042 = 3.5 tons; 048 = 4 tons; 060 = 5 tons
- **Voltage** — 233 = 208/230V-3 phase-60Hz; 463 = 460V-3 phase-60Hz
- **Ratings Revision Number**
- **Minor Revision Number**

Form Number 211156 | July 2025
Supersedes all previous versions

FEATURE HIGHLIGHTS



1. Outdoor Coil Fan
2. Quantum™ Coil
3. Expansion Valve - Outdoor Unit
4. High Capacity Liquid Line Drier
5. Four-Way Reversing Valve
6. Scroll Compressor
7. Heavy Gauge Steel Cabinet
8. Refrigerant Line Access
9. Defrost Control

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APPROVALS AND WARRANTY

APPROVALS

- AHRI Standard 210-240-2023 certified
- AHRI Certified system match-ups and expanded ratings, visit www.LennoxPros.com
- Sound rated to AHRI Standard 270 test conditions
- Tested in Lennox' Research Laboratory environmental test room
- Rated According to U.S. Department of Energy (DOE) test procedures
- Unit and components ETL, 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® Basic Limited Warrenty at www.Lennox.com for additional details.

FEATURES

APPLICATIONS

- 3 through 5 tons
- 208/230V or 460V-3ph models
- Sound levels low as 76 dBA
- Applicable to indoor air handlers or gas furnaces with indoor add-on coils
- Shipped completely factory assembled, piped and wired

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

REFRIGERATION SYSTEM

R-454B Refrigerant

- Low GWP (Global Warming Potential)
- Zero ODP (Ozone Depletion Potential)
- Low Toxicity/Lower Flammability - A2L
- Unit is factory pre-charged

NOTE - Total system refrigerant charge is dependent 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 PSC fan
- Vertical air discharge
- Louvered steel top fan guard
- Totally enclosed fan motor
- Ball bearings
- Inherently protected

2 Quantum™ Coil

- Lennox designed and fabricated coil
- Enhanced aluminum alloy tube/enhanced fin coil
- Superior corrosion resistance
- 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

3 pansion Valve - Outdoor Unit

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

High Pressure Switch

- Protects the system from high pressure conditions
- Automatic reset

Low Pressure Switch

- Protects the compressor from low pressure conditions such as low refrigerant charge, or low/no indoor airflow
- Shuts off the outdoor unit if suction pressure falls below setting
- Automatic reset

4 gh Capacity Liquid Line Drier

- Factory installed in the liquid line
- Drier traps moisture or dirt that could contaminate the system
- 100% molecular-sieve, bead type drier

5 ur-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 coil

REFRIGERATION SYSTEM (continued)

Optional Accessories

Check/Expansion Valve Kits
- Field installed on indoor units (if required)
- See TXV Usage table
- Chatleff-style fitting

Freezestat
- Protects the system from ice buildup on the indoor coil due to conditions such as low/no airflow, or low refrigerant charge
- Cycles compressor off when suction line temperature falls below freezestat 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

INDOOR REFRIGERANT DETECTION SYSTEM (RDS)

- Complies with UL 60335-2-40 approved standard
- Required for all systems using R-454B refrigerant
- Factory or field installed on all indoor units
- Consists of a RDS refrigerant detection sensor and a mitigation control in the indoor unit
- Ensures safe operation for systems equipped with R-454B refrigerant
- Indoor sensor will detect any R-454B refrigerant
- If R-454B refrigerant is detected, the refrigerant detection system will stop compressor operation and operate the blower to reduce concentrations in the conditioned space
- Once safe levels are reached the HVAC system will resume normal operation
- Refer to indoor unit Product Specifications documents for additional details

COMPRESSOR

6 Single-Stage 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

Compressor Crankcase Heater
- Prevents migration of liquid refrigerant into compressor and ensures proper compressor lubrication

Optional Accessories

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

7 CABINET

- Heavy gauge steel cabinet
- Pre-painted powder paint cabinet finish
- Louvered heavy gauge steel panels
- Control box conveniently located with all controls factory wired
- Corner patch plate allows compressor access
- Drainage holes provided in base section

Zinc-Coated Steel Unit Base
- Resists rust and corrosion

8 Refrigerant Line Connections, Electrical Inlets, Service Valves
- Braze connection vapor and liquid lines
- Located on corner of unit cabinet
- Fully serviceable brass service valves
- 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 cabinet for easy access
- See dimension drawing

Braze-Free/Press Fitting Flexibility
- Units can accommodate braze-free or press fittings for installation versatility

Optional Accessories

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

FEATURES

CONTROLS

9 Defrost Control

- Control furnished as standard
- Enables a demand defrost cycle whenever system heating performance falls below optimum levels
- 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 in cooling mode when outdoor temperature is below 35°F

Low Ambient Kit

- Heat pumps can operate in cooling mode down to 45°F outdoor air temperature without additional controls
- Two low ambient control options are available for field installation:
  1. Low Ambient Control Kit (30°F)
  2. Electronic Head Pressure Controller (0°F). Transformer included.

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

Freezestat

- Protects the system from ice buildup on the indoor coil due to conditions such as low/no airflow, or low refrigerant charge
- Cycles compressor off when suction line temperature falls below freezestat setpoint
- Opens at 29°F and closes at 58°F
- Installs on or near the discharge line of the indoor coil or on the suction line

Thermostats

- For thermostat options, see Optional Conventional Temperature Control Systems on page 8

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

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 low power input as long as possible before allowing the full power load to come on the line

SPECIFICATIONS

Size			036	042	048	060
Nominal Tonnage			3	3.5	4	5
Sound Rating Number		dBA	75	78	79	79
Connections (sweat)		Liquid line (OD) - in.	3/8	3/8	3/8	3/8
		Vapor line (OD) - in.	7/8	7/8	7/8	1-1/8
Refrigerant (15 ft. Line Set)		[1] R-454B charge furnished	7 lbs. 2 oz.	8 lbs. 5 oz.	8 lbs. 6 oz.	9 lbs. 6 oz.
Indoor Unit Expansion Valve (TXV)			**26Z70**	**26Z71**	**26Z71**	**26Z72**
Outdoor Coil	Net face area - ft.²	Outer coil	22.2	24.93	24.93	29.09
		Inner coil	21.5	24.13	24.13	28.16
		Tube diameter - in.	5/16	5/16	5/16	5/16
		Rows	2	2	2	2
		Fins - in.	22	22	22	22
Outdoor Fan		HP	1/6	1/3	1/3	1/3
		Diameter - in.	22	22	22	22
		Blades	3	3	3	3
		Cfm	3590	4110	4110	4060
		Rpm	839	625	825	825
		Watts	200	213	213	224
Shipping Data - lbs.			220	250	250	260

ELECTRICAL DATA

		Line voltage data (Volts-3 Phase-60Hz)	208/230V	460V	208/230V	460V	208/230V	460V	208/230V	460V
		[2] Maximum overcurrent protection (MOCP) amps	25	10	20	10	25	10	35	15
		[3] Minimum circuit ampacity (MCA)	15.4	7.4	12.3	6.5	16.4	7.9	20.4	9.1
Compressor		Rated Load Amps	12.2	5.8	9.6	4.9	12.8	6.0	16.0	7.1
		Locked Rotor Amps	97.5	44.3	90	36	120.4	49.4	156.4	69
Fan Motor		Full Load Amps	1.4	1.4	2.6	2.6	2.6	2.6	2.6	2.6

OPTIONAL ACCESSORIES - ORDER SEPARATELY

Compressor Low Ambient Cut-Off		**45F08**	•	•	•	•
Compressor Sound Cover		**18J42**	•	•	•	•
Freezestat	3/8 in.	**93G35**	•	•	•	•
[4] Low Ambient Kit (Fan Cycling) (30°F)		**54M89**	•	•	•	•
[4] Electronic Head Pressure Controller (0°F)		**X5867**	•	•	•	•
Mild Weather Kit		**11B97**	•	•	•	•
Monitor Kit - Service Light		**76F53**	•	•	•	•
Outdoor Thermostat Kit		**10Z23**	•	•	•	•
Refrigerant Line Sets Liquid x Suction OD | Insulation Thickness | Length	3/8 x 7/8 | 3/8 | 30 ft.	**89J60**	•	•	•	
	3/8 x 7/8 | 3/8 | 50 ft.	**89J62**				
	3/8 x 1-1/8 | 3/8 | 50 ft.	**73P91**				•
Unit Stand-Off Kit		**94J45**	•	•	•	•

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

[1] Refrigerant charge sufficient for the line set length listed in parenthesis. For longer line set requirements see the Installation Instructions or unit Charging Label for information about line set length and additional refrigerant charge required.

[2] HACR type breaker or fuse.

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

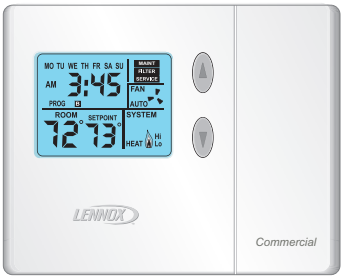
[4] Freezestat is recommended with Low Ambient Kit.

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

CS7500 Commercial 7-Day Programmable Thermostat

- Premium Universal Thermostat
- Full Color Touchscreen Interface
- Up To 4 Heat / 3 Cool
- Built-In Sensors For Temperature and Humidity
- Remote Sensors Options For Temperature, Discharge Air, Outdoor Air
- 5-2 or 7-Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-Changeover
- FDD, ASHRAE, IECC Compliant

CS3000 Commercial 5-2 Day Programmable Thermostat



- Conventional Multi-Stage Thermostat
- Intuitive Display
- Push-Button Operation
- Up To 2 Heat / 2 Cool
- Built-In Temperature Sensor
- Remote Temperature Sensing
- Up to 5-2 Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-changeover

L40 Smart Wi-Fi ProgrammableThermostat

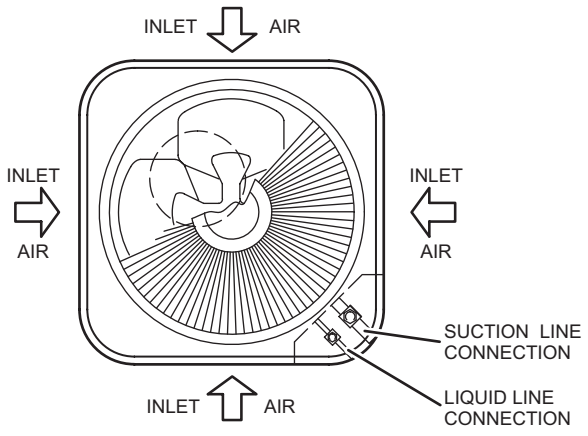
- Two-Stage Heating / One-Stage Cooling
- Universal - Gas, electric and heat pumps for single-stage heating or cooling systems (including dual-fuel operation)
- Intuitive Touchscreen Interface
- Automatic Changeover between Heating and Cooling
- Up to four separate schedules are available plus Schedule IQ™ (available in Lennox® Home App)
- One-Touch Away Mode
- Smooth Setback Recovery (SSR)
- Compressor Short-Cycle Protection
- Maintenance Reminders
- ENERGY STAR® certified - Factory preset program settings conform to EPA ENERGY STAR® recommended setpoints
- Control temperature, fan operation, set programs/ schedules and set Away mode in the Lennox® Home App
- All thermostat commissioning and settings are made in the Lennox® Smart Tech App
- Smart home automation compatible with Amazon Alexa® and Google Assistant
- Works with Control4® and Building36® integration

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

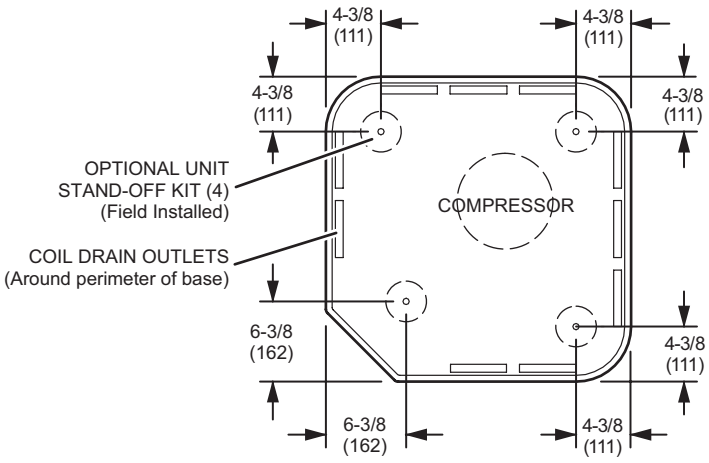
Description		Catalog No.
CS7500 Commercial 7-Day Programmable Thermostat		
CS7500 7-Day Thermostat		**24K41**
Sensors/Accessories	[1] Remote non-adjustable wall-mount 20k	**47W36**
	[1] Remote non-adjustable wall-mount 10k	**47W37**
	Remote non-adjustable discharge air (duct mount)	**19L22**
	Outdoor temperature sensor	**X2658**
CS3000 5-2 Day Programmable		
CS3000 5-2 Day Thermostat		**11Y05**
Sensor/Accessories	Remote non-adjustable wall mount 10k averaging	**47W37**
	Thermostat wall mounting plate	**X2659**
L40 Smart Wi-Fi Thermostat Programmable		
L40 Smart Wi-Fi Thermostat		**27V51**
Universal Thermostat Guard with Lock (clear)		
	Inside Dimensions (H x W) 5 7/8 x 8 3/8 in.	**39P21**

[1] 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

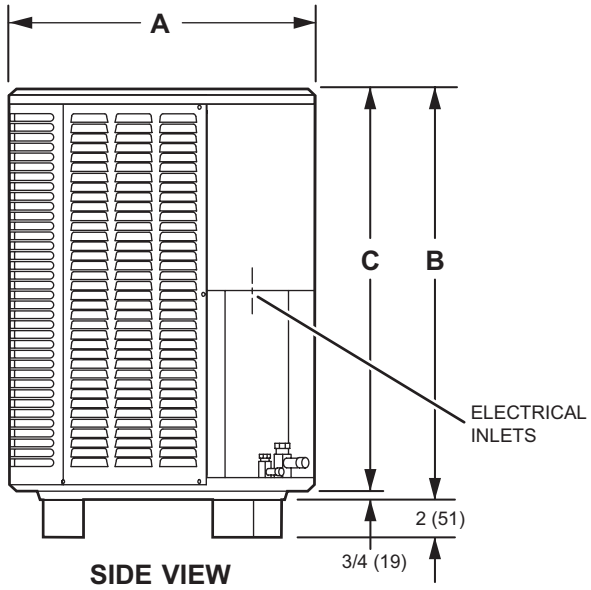
DIMENSIONS



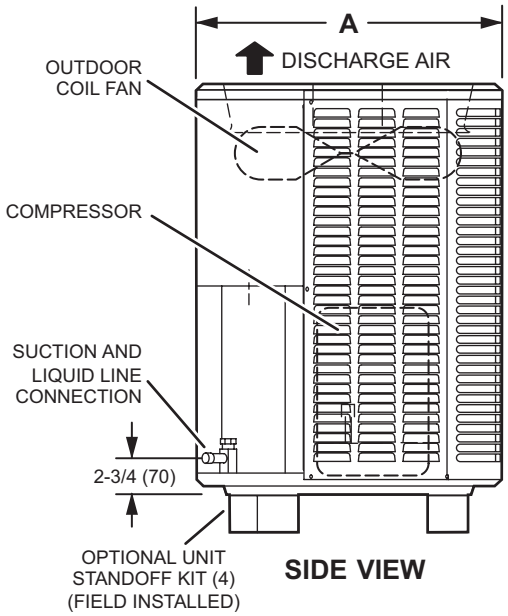
TOP VIEW



TOP VIEW BASE SECTION



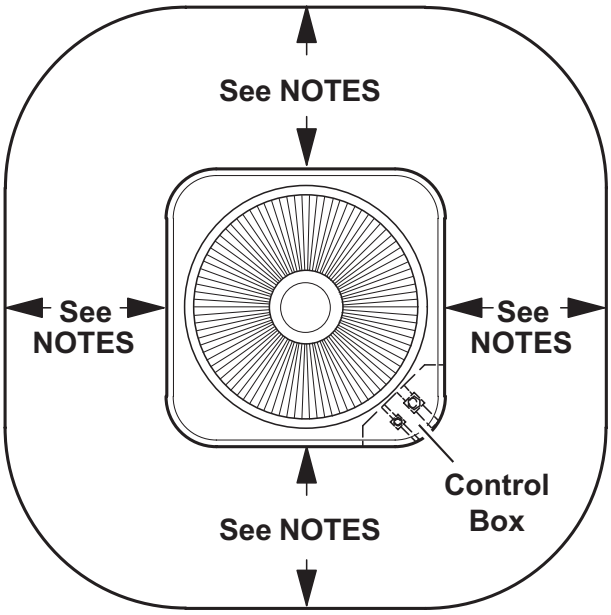
SIDE VIEW



SIDE VIEW

Size	A Width and Depth		B Height		C	
	in.	mm	in.	mm	in.	mm
036	32-1/4	819	33-1/4	845	32-1/2	826
042	32-1/4	819	37-1/4	946	36-1/2	927
048	32-1/4	819	37-1/4	946	36-1/2	927
060	32-1/4	819	43-1/4	1099	42-1/2	1080

SINGLE-UNIT INSTALLATION

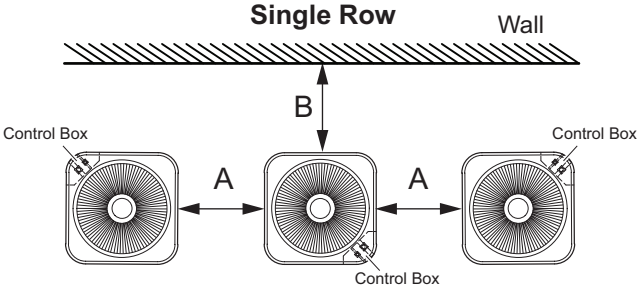


Single-Unit Installation Notes:

- Service Clearance - 24 in. (610 mm) on one of the sides adjacent to the Control Box.
- One of other three sides must be 36 in. (914 mm).
- One of the two remaining sides may be 12 in. (305 mm).
- The remaining side may be 6 in. (152 mm).
- 48 in. (1219 mm) clearance required on top of unit.

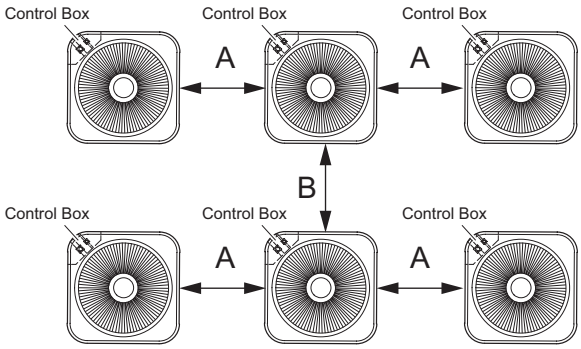
MULTI-UNIT INSTALLATIONS

Single Row



Required Minimum Clearances	A	B
	12 in. (305 mm) [18 in. (457 mm) recommended]	12 in. (305 mm)

Multiple Rows



Required Minimum Clearances	A	B
	12 in. (305 mm) [18 in. (457 mm) recommended]	24 in. (610 mm)

Multi-Unit Installation Notes:

- Recommended service clearance of 24 in. (610 mm) on one side.
- 48 in. (1219 mm) clearance required on top of the unit.

EXPANDED SOUND DATA

Size	Octave Band Sound Power Levels dBA, re 10^{-12} Watts Center Frequency - HZ							[1] Sound Rating Number (dBA)	[2] 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	57.5	65	70	70	66.5	61	54	75	68	63	57	54	43
042	62	71.0	74.5	72.5	70	63	55.5	78	71	66	60	57	46
048	61	70.5	75.5	73.0	70	64	56.0	79	72	67	61	58	47
060	61.5	70.0	73.0	71	71	68	63	79	73	68	62	59	48

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

[1] Tested according to AHRI Standard 270 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.

TXV USAGE

All Lennox coils and air handlers are shipped with a factory installed TXV. In most cases, no substitution is needed.
If a different size TXV is required, it will be listed in the "TXV SUBSTITUTION" table by size. The correct TXV must be ordered separately and field installed.

Size	Order Number
036	**26Z70**
042	**26Z71**
048	**26Z71**
060	**26Z72**

AHRI STANDARD 210-240-2023

Standard Ratings relating to cooling or heating capacities shall be net values, including the effects of circulating-fan heat, but not including supplementary electric heat. Power input used for calculating efficiency shall be the Total Power.

Standard Ratings of units which do not have indoor air-circulating fans furnished as part of the model, i.e., Coil-only System, shall be established by subtracting from the total cooling capacity 1,505 Btu/h per 1,000 SCFM, and by adding the same amount to the heating capacity for non-mobile-home, non-Space Constrained units. Total Power for both heating and cooling shall be increased by 441 W per 1,000 SCFM of indoor air circulated.

TXV SUBSTITUTION - R-454B

A general guide for replacing the factory installed R-454B TXV if the indoor unit (coil/air handler) is larger or smaller than the outdoor unit.

Outdoor Unit		Indoor Unit		Indoor TXV Furnished	Indoor TXV Replacement
Size	Tons	Size	Tons		
036	3	42	3.5	**26Z71**	**26Z70**
036	3	48	4	**26Z71**	**26Z70**
036	3	49	4	**26Z71**	**26Z70**
036	3	50/60	4/5	**26Z71**	**26Z70**
036	3	51/61	4/5	**26Z71**	**26Z70**
036	3	60	5	**26Z72**	**26Z70**
042	3.5	24	2	**26Z70**	**26Z71**
042	3.5	30	2.5	**26Z70**	**26Z71**
042	3.5	30/36	2.5/3	**26Z70**	**26Z71**
042	3.5	36	3	**26Z70**	**26Z71**
042	3.5	60	5	**26Z72**	**26Z71**
048	4	30/36	2.5/3	**26Z70**	**26Z71**
048	4	36	3	**26Z70**	**26Z71**
048	4	60	5	**26Z72**	**26Z71**
060	5	50/60	4/5	**26Z71**	**26Z72**
060	5	51/61	4/5	**26Z71**	**26Z72**

TXV Ranges:

26Z70 - 1.5 to 3 ton systems - Use on 3 ton (036) and lower systems.

26Z71 - 3.5-4 ton systems - Use on 4 ton (048) and down to 3.5 ton (042) systems.

26Z72 - 5 ton systems - Use on 5 ton (060) systems only.

REVISIONS

Sections	Description of Change
Expanded Sound Data	Updated.

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

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