

R-454B Factory Refrigerant Charge for 30 Feet of Line Set

AFFECTED PRODUCT:

Lennox Residential R-454B Air Conditioners and Heat Pumps

- Air Conditioner models: ML13KC1, ML14KC1, ML17KC2, EL15KC1, EL16KC1, EL18KCV, EL22KCV and SL25KCV
- Heat Pump models: ML14KP1, EL16KP1, EL19KPV, EL21KLV and SL22KLV
- Models that will not have updated R-454B Factory Refrigerant Charge: Three-Phase units, EL18KSLV Side Discharge Heat Pumps, Lennox Powered by Samsung Mini-splits and R-410A units manufactured for sale in Canada.

PRODUCT UPDATE:

Due to the industry-wide shortage of R-454B cylinders and resulting limited availability of R-454B refrigerant, Lennox will be temporarily increasing the factory R-454B refrigerant charge furnished in all Lennox R-454B air conditioners and heat pumps listed above. Beginning in June 2025, Lennox will temporarily increase the R-454B factory refrigerant charge by 9 oz. for line set applications of 30 feet. The additional charge will provide the required refrigerant charge of a typical line set installation of 30 feet and will minimize the amount of additional field-provided refrigerant required.

The Lennox R-454B units will have the same ratings and performance as units with a factory-furnished refrigerant charge for 15 feet of line set and there will be no change in unit catalog numbers.

Identification of Units Furnished with a Factory Refrigerant Charge for 30 Feet of Line Set

The Lennox air conditioner and heat pumps furnished with additional refrigerant charge of 9 oz. for 30-foot line set applications can be identified by:

- The Carton Distribution label will be marked "CHARGED FOR 30 FOOT LINE SET" and will have a "pink band" across the top of the label (**NOTE** – *The pink band may not be present on the distribution label the first couple of weeks of production*).
- The unit nameplate will state "Factory Charge (30FT)".
- The unit charging label on the control box cover will indicate "Baseline Charge for 30 feet". Updated charging labels are available on LennoxPros under Document Library.
- The Unit Product Specification sheets were updated to list factory charge for both 15 feet and 30 feet. Updated Product Specifications for all units are available on LennoxPros under Document Library.
- The unit revision number (Dash #) has changed to reflect the unit factory charge is for 30 feet and the LennoxPros Repair Part Finder is being updated to list the repair parts for the new dash numbers. The units with the additional charge will not have any new or unique parts.
- The unit installation instructions are being updated and will be available on LennoxPros, once the instructions are updated with the new refrigerant charge information.

For further assistance, please contact your local Field Technical Consultant or Lennox Technical Support at (800) 453-6669.

Updated Refrigerant Charge Reference Information

Example of Carton Distribution Label

NOTE – Initial Unit Production may not have the Pink Band along the top.



Example of Updated Unit Nameplate – Listing Factory Charge (30 FT)

LENNOX		ASSEMBLED IN MEXICO
DALLAS, TEXAS		
M/N ML14KC1-036-230A03		
S/N 00001		
CONTAINS VIRGIN R-454B	MAXIMUM ALLOWABLE PRESSURE	
FACTORY CHARGE (30 FT)	340 PSIG (4412.8 kPa)	
7 LBS 6 OZS (3.3 kg)		
TOTAL CHARGE		
ELECTRICAL RATING		NOMINAL V
1 PH ~	60 HZ	MIN 197 MAX
COMPRESSOR		FAN MOTOR
PH	1 ~	PH 1 ~
RLA	16.7	FLA 1.0
LRA	93.5	HP 1/6
MIN. CKT. AMPACITY AMPERAGE MINIMUM	21.8	MAX FUSE OR CKT BKR. FUSIBLE/COUPE CIRCUIT (HACR PER NEC) 30
SHORT CIRCUIT CURRENT 3KA RMS SYMMETRICAL, 600 V MAXIMUM		
FOR OUTDOOR USE		
Intertek 4002783 CONFORMS TO UL STD 60335-1 & 60335-2-40 CERTIFIED TO CSA C22.2 60335-1 & 60335-2-40		
IPX4	PART "A"	

CONTAINS VIRGIN R-454B

FACTORY CHARGE (30 FT)

7 LBS 6 OZS (3.3 kg)

Example of Updated Unit Charging Label – Based upon 30 foot Line Set

AIR CONDITIONER CHARGING INFORMATION – R-454B
FOR COMPLETE CHARGING PROCEDURES, REFER TO THE APPLICABLE INSTALLATION AND SERVICE MANUAL AVAILABLE ONLINE

Capacity	-018	-024	-030	-036	-041	-042	-047	-048	-059	-060
Table 1. Normal Operating Pressures¹ – TXV System – Liquid (± 10 psig) / Suction (± 5 psig)										
"F"(°C)	211 / 131	213 / 127	210 / 123	217 / 116	213 / 123	214 / 124	219 / 122	221 / 113	211 / 120	211 / 120
65 (18)	243 / 133	246 / 130	242 / 127	251 / 124	246 / 129	247 / 131	252 / 126	257 / 122	243 / 125	244 / 123
75 (24)	283 / 135	286 / 132	283 / 129	292 / 128	286 / 134	287 / 133	293 / 133	296 / 126	284 / 126	286 / 125
85 (29)	326 / 138	331 / 134	326 / 131	336 / 133	330 / 136	330 / 135	338 / 136	341 / 130	330 / 128	332 / 126
95 (35)	374 / 139	381 / 136	375 / 133	384 / 136	378 / 137	378 / 137	387 / 138	390 / 132	379 / 131	381 / 128
105 (41)	426 / 141	435 / 138	427 / 135	436 / 138	431 / 139	431 / 139	441 / 140	444 / 133	433 / 133	434 / 130
115 (46)										
Table 2. Approach (APP) Values² – TXV System – °F(°C) ± 1°F (0.8°C)										
"F"(°C)	3 (1.7)	3 (1.7)	1 (0.6)	1 (0.6)	1 (0.6)	2 (1.1)	2 (1.1)	3 (1.7)	1 (0.6)	2 (1.1)
65 (18)	4 (2.2)	4 (2.2)	3 (1.7)	2 (1.1)	3 (1.7)	5 (2.8)	3 (1.7)	4 (2.2)	2 (1.1)	4 (2.2)
75 (24)	4 (2.2)	4 (2.2)	4 (2.2)	3 (1.7)	4 (2.2)	5 (2.8)	5 (2.8)	5 (2.8)	3 (1.7)	4 (2.2)
85 (29)	5 (2.8)	4 (2.2)	4 (2.2)	4 (2.2)	4 (2.2)	5 (2.8)	6 (3.3)	6 (3.3)	3 (1.7)	4 (2.2)
95 (35)	4 (2.2)	4 (2.2)	4 (2.2)	5 (2.8)	4 (2.2)	5 (2.8)	6 (3.3)	6 (3.3)	3 (1.7)	4 (2.2)
105 (41)	4 (2.2)	4 (2.2)	4 (2.2)	6 (3.3)	4 (2.2)	5 (2.8)	6 (3.3)	6 (3.3)	3 (1.7)	4 (2.2)
115 (46)	3 (1.7)	4 (2.2)	4 (2.2)	6 (3.3)	4 (2.2)	5 (2.8)	6 (3.3)	6 (3.3)	3 (1.7)	4 (2.2)
Table 3. Subcooling (SC) Values³ – TXV System – °F(°C) ± 1°F (0.8°C)										
"F"(°C)	9 (5)	9 (5)	10 (5.5)	12 (6.7)	11 (6.1)	10 (5.5)	11 (6.1)	12 (6.7)	9 (5)	9 (5)
65 (18)	6 (3.3)	7 (3.9)	7 (3.9)	10 (5.5)	9 (5)	7 (3.9)	10 (5.5)	10 (5.5)	7 (3.9)	7 (3.9)
75 (24)	7 (3.9)	7 (3.9)	7 (3.9)	10 (5.5)	7 (3.9)	6 (3.3)	8 (4.4)	9 (5)	8 (4.4)	8 (4.4)
85 (29)	6 (3.3)	7 (3.9)	7 (3.9)	9 (5)	7 (3.9)	7 (3.9)	8 (4.4)	8 (4.4)	8 (4.4)	8 (4.4)
95 (35)	6 (3.3)	7 (3.9)	7 (3.9)	8 (4.4)	7 (3.9)	7 (3.9)	8 (4.4)	8 (4.4)	8 (4.4)	8 (4.4)
105 (41)	7 (3.9)	8 (4.4)	7 (3.9)	8 (4.4)	7 (3.9)	7 (3.9)	8 (4.4)	8 (4.4)	8 (4.4)	8 (4.4)
115 (46)	7 (3.9)	8 (4.4)	6 (3.3)	7 (3.9)	7 (3.9)	6 (3.3)	7 (3.9)	8 (4.4)	8 (4.4)	8 (4.4)

The unit is factory-charged with R454B refrigerant in the amount indicated on the unit rating plate. This charge is based on a matching indoor coil and outdoor coil using a 30 foot (9.1 m) line set. On line sets with 3/8" (9.5mm) liquid line, add 3oz. additional refrigerant for every 5ft. longer than 30ft. If line length is less than 30ft., subtract this amount (see Installation Instructions for more details).

¹ Typical pressures; indoor evaporator match-up, indoor air quantity and evaporator load will cause the pressures to vary.
² Temperature of air entering outside coil.
³ Subcooling = Liquid Temperature minus Liquid Line Temperature.

IMPORTANT!
 For zeotropic blend. Use saturated liquid temperature to calculate subcooling. Charge unit with liquid only.
Example: Assume entering air DB = 72, WB = 64, leaving DB = 53. Therefore, Delta-T should be 15 (per table); delta across coil is 72 - 53 or 19 (which is 4°F higher than table value). Action necessary: increase fan speed.

Table 4. Evaporator Coil Delta-T
 80 24 24 24 23 23 22 22 22 20 19 18 17 16 15
 78 23 23 23 22 22 21 21 20 19 18 17 16 15 14
 76 22 22 22 21 21 20 19 19 18 17 16 15 14 13
 74 21 21 21 20 19 19 18 17 16 15 14 13 12
 72 20 20 19 18 17 17 16 15 15 14 13 12 11 10
 70 19 19 18 18 17 17 16 15 15 14 13 12 11 10
 °F 57 58 59 60 61 62 63 64 65 66 67 68 69 70
 [Wet bulb temperature of air entering indoor coil]

NOTE – Be sure that filters and indoor and outdoor coils are clean before testing.
 To determine temperature drop across indoor coil (Delta-T), measure the entering air dry bulb (DB) and wet bulb (WB) temperatures at the indoor coil. Find Delta-T in table 4. Measure coil's leaving air DB and subtract that value from entering air DB. The measured difference should be within ±3°F (±1.8°C) of table value; if too low, decrease the indoor fan speed (refer to indoor unit for information). If the Delta-T is too high, increase the indoor fan speed. Repeat charging procedure and Delta-T (air flow adjustment) procedure until both are correct.

Example of Updated Product Specifications

SPECIFICATIONS					
Size		024	036	048	060
Nominal Tonnage		2	3	4	5
Sound Data Range	dBA	63-68	62-72	63-75	63-78
Connections	Liquid line (OD) - in.	3/8	3/8	3/8	3/8
(Sweat)	Vapor line (OD) - in.	3/4	7/8	7/8	1-1/8
Compressor Type		Variable Rotary	Variable Rotary	Variable Rotary	Variable Rotary
Refrigerant (15 ft. Line Set)	¹ R-454B charge furnished	9 lbs. 10 oz.	9 lbs. 14 oz.	12 lbs. 11 oz.	14 lbs. 2 oz.
Refrigerant (30 ft. Line Set)	¹ R-454B charge furnished	10 lbs. 3 oz.	10 lbs. 7 oz.	13 lbs. 4 oz.	14 lbs. 11 oz.
Indoor Unit Expansion Valve (TXV)		26Z70	26Z70	26Z71	26Z72
Outdoor Coil	Net face area - ft. ²	Outer coil 30.5	30.5	26.1	30.5
		Inner coil ---	---	25.4	29.6
		Tube diameter - in. 5/16	5/16	5/16	5/16
		Rows 1	1	2	2
		Fins - in. 22	22	22	22
Outdoor Fan		HP 1/3	1/3	1/3	1/3
		Diameter - in. 28	28	28	28
		Blades 2	2	2	2
		Cfm - minimum speed 1216	1310	2532	2594
		maximum speed 4743	5011	5450	5450
		Rpm - minimum speed 206	221	415	425
		maximum speed 802	855	945	945
		Watts - minimum speed 10	11	40	41
		maximum speed 198	236	282	282
Shipping Data - lbs.		263	263	284	318

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.