TS

T-CLASS™ SPLIT SYSTEM UNITS
Standard Efficiency - R-22 - 60 HZ

ENGINEERING DATA

Bulletin No. 210437
April 2008
Supersedes March 2008

ENERGY STAR

SEER up to 13.0
3 to 5 Tons
Cooling Capacity - 31,200 to 60,000 Btuh

MODEL NUMBER IDENTIFICATION

T S A 036 S 2 N 4 1 Y

Brand/Family
T = T-Class™ Product Line

Unit Type
S = Split-System Air Conditioner

Major Design Sequence
A = 1st Generation
B = 2nd Generation

Nominal Cooling Capacity - Tons
036 = 3 Tons
042 = 3.5 Tons
048 = 4 Tons
060 = 5 Tons

Cooling Efficiency
S = Standard Efficiency

Refrigerant Type
2 = R-22

Part Load Capability
N = No part load, single stage compressor

Coil Type
4 = Four-sided

Minor Design Sequence
1 = 1st Revision
2 = 2nd Revision
3 = 3rd Revision

Voltage
Y = 208/230V-3 phase-60hz
G = 460V-3 phase-60hz
J = 575V-3 phase-60hz

FEATURES

CONTENTS

ARI Rating Tables . . . . . Pages 9 - 15
Dimensions . . . . . Page 7
Electrical Data . . . . . Page 6
Features . . . . . Pages 2 - 4
Guide Specifications . . . . . Pages 16 - 20
Indoor Coil / Air Handler Substitution . . . . . Page 8
Installation Clearances . . . . . Page 5
Model Number Identification . . . . . Page 1
Outdoor Sound Data . . . . . Page 5
Specifications . . . . . Page 6

WARRANTY

Compressor - limited warranty for **five years**.
All other covered components - **one year**.
Refer to Lennox Equipment Limited Warranty certificate included with unit for specific details.

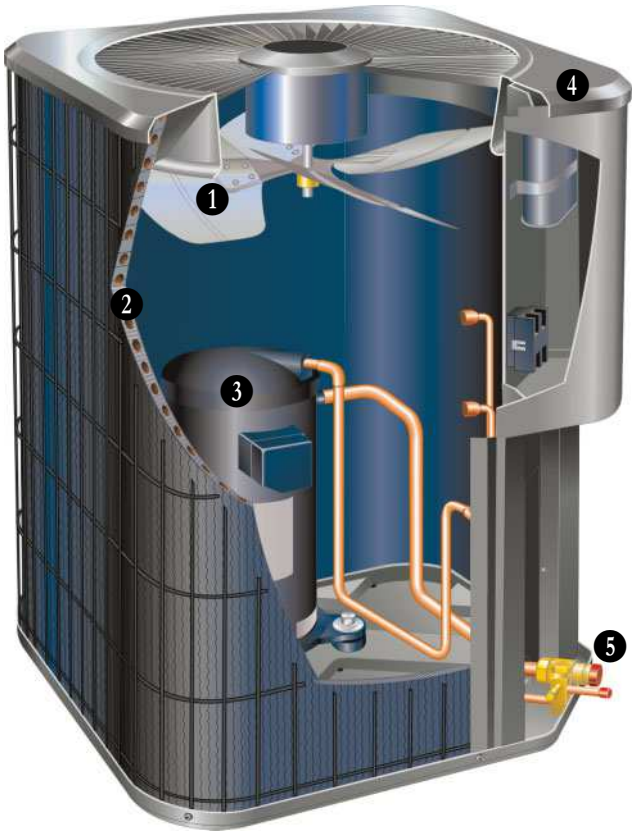
APPROVALS

Certified in Accordance with the USE certification program, which is based on ARI Standard 210/240.
Sound rated in Lennox reverberant sound test room in Accordance with test conditions included in ARI Standard 270-95.
Tested in the Lennox Research Laboratory environmental test room.
Rated According to U.S. Department of Energy (DOE) test procedures.
Units and components within bonded for grounding to meet safety standards for servicing required by UL, NEC and CEC.
Units are UL listed and CSA certified.
ISO 9001 Registered Manufacturing Quality System.
ENERGY STAR® certified units are designed to use less energy, help save money on utility bills, and help protect the environment. Proper sizing and installation of equipment is critical to achieve optimal performance. Split system air conditioners and heat pumps must be matched with appropriate coil components to meet ENERGY STAR criteria. Ask your contractor for details or visit www.energystar.gov.

APPLICATIONS

SEER up to 13.0.
3 through 5 ton.
Three-phase power supply.
Vertical air discharge allows concealment behind shrubs at grade level or out of sight on a roof.
Matching add-on furnace indoor coils or air handlers provide a wide range of cooling capacities and applications. See ARI Ratings table.
See Indoor Coils and Air Handlers tab sections for unit data.
Units shipped completely factory assembled, piped and wired. Each unit test operated at the factory ensuring proper operation.
Installer must set air conditioner, connect refrigerant lines and make electrical connections to complete job.

For expanded ratings, see **www.lennoxcommercial.com**.



REFRIGERANT SYSTEM

1 Condenser Fan

Direct drive fan moves large air volumes uniformly through entire condenser coil for high refrigerant cooling capacity.
Vertical air discharge minimizes operating sounds and eliminates damage to lawn and shrubs.
Fan motor has sleeve bearings and is inherently protected.
Motor totally enclosed for maximum protection from weather, dust and corrosion.
Rain shield on motor provides additional protection from moisture.
Louvered steel top fan guard furnished as standard.
Fan service access accomplished by removal of top panel.

2 Copper Tube/Enhanced Fin Coil

Lennox designed and fabricated coil.
Ripple-edged aluminum fins.
Copper tube construction.
Lanced fins provide maximum exposure of fin surface to air stream resulting in excellent heat transfer.
Fin collars grip tubing for maximum contact area.
Flared shoulder tubing connections/silver soldering construction.
Coil is factory tested under high pressure to ensure leakproof construction.
Entire coil is accessible for cleaning.
PVC coated steel wire coil guard furnished as standard.

REFRIGERANT SYSTEM - CONTINUED

OPTIONS

Expansion Valve Kits
Must be ordered extra and field installed on certain indoor units. See ARI Ratings tables.
Chatleff-style fittings.

High Pressure Switch Kit
Protects the system from high pressure conditions that can be a result of fan failure or a blocked/dirty coil.
Manual reset.

Loss of Charge Kit
Helps protect the compressor from damage due to low refrigerant charge conditions.
SPST, normally-closed switch, automatic reset switch mounted on suction line.

Refrigerant Line Kits
Refrigerant lines (suction & liquid) are shipped refrigeration clean. Lines are cleaned, dried, pressurized and sealed at factory.
Suction line fully insulated.
Lines are stubbed at both ends.
Not available for -060 models and must be field fabricated.

CONTROLS

OPTIONS

L Connection® Network
See L Connection Engineering Handbook Bulletin in Controls section for details.

Low Ambient Control
Air conditioners operate satisfactorily down to 45°F outdoor air temperature without any additional controls.
The Low Ambient Control Kit allows unit operation down
Freezestat should be installed on compressors equipped with a low ambient kit.
A compressor lock-out thermostat should be added to terminate compressor operation below recommended operation conditions.

Freezestat
Installs on or near the vapor line of the indoor coil or on the suction line.
Senses suction line temperature and cycles the compressor off when suction line temperature falls below it's setpoint.
Opens at 29°F and closes at 58°F.

Thermostat
Thermostat not furnished with unit. See Thermostat bulletins in Controls Section and Lennox Price Book.

Time Delay Relay Kit
Delays the indoor blower-off time during the cooling cycle.
See ARI Rating Tables for usage.

COMPRESSOR

3 Copeland Scroll™ Compressor

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 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.
Scroll compressor is tolerant to the effects of slugging and contaminants. If this occurs, scrolls separate, allowing liquid or contaminants to 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.

Compressor Crankcase Heater
Protects against refrigerant migration that can occur during low ambient operation.

OPTIONS

Compressor Low Ambient Cut-Off
Non-adjustable switch (low ambient cut-out) prevents compressor operation when outdoor temperature is below 35°F.

Compressor Sound Cover
A reinforced vinyl compressor cover containing a 1-1/2 inch thick batt of fiberglass insulation.
All open edges are sealed with a one-inch wide hook and loop fastening tape.

Compressor Timed-Off Control
Kit prevents compressor short-cycling and allows time for suction and discharge pressure to equalize.
Permits compressor start-up in an unloaded condition.
Automatic reset with 5 minute delay between compressor shut-off and start-up.

FEATURES

❹ CABINET

Heavy gauge steel cabinet with five station metal wash process.

Powder paint finish provides superior rust and corrosion protection.

Painted base section.

Control box is conveniently located with all controls factory wired.

Corner patch plate allows access to compressor components.

Drainage holes are provided in base section for moisture removal.

❺ Refrigerant Line Connections, Electrical Inlets, Service Valves

Sweat connection suction and liquid lines are located on corner of unit cabinet.

Fully serviceable brass service valves prevent corrosion and provide access to refrigerant system. 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 cabinet for easy access. See dimension drawing.

OPTIONS

Hail Guards

Constructed of louvered heavy gauge steel painted to match cabinet.

Surrounds unit on all four sides to prevent damage to the coil.

Mounting Base

Provides permanent foundation for outdoor units.

High density polyethylene structural material is lightweight, sturdy, sound absorbing and will withstand the rigors of the sun, heat, cold, moisture, oil and refrigerant. Will not mildew or rot.

Can be shipped singly or in packages of 6 to a carton.

Unit Stand-Off Kit

Black high density polyethylene feet are available to raise unit off of mounting surface away from damaging moisture.

Four feet are furnished per order number.

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS - FIELD INSTALLED

COMMERCIAL TOUCHSCREEN THERMOSTAT

Intuitive Touchscreen Interface - **Two Stage Heating / Two Stage Cooling Conventional or Heat Pump** - Seven Day Programmable - Four Time Periods/Day - Economizer Output - Title 24 Compliant - ENERGY STAR® Qualified - Backlit Display - Automatic Changeover C0STAT02AE1L

Sensors For Touchscreen Thermostat

[1] Remote non-adjustable wall mount 20k temperature sensor C0SNZN01AE1-

[1] Remote non-adjustable wall mount 10k averaging temperature sensor C0SNZN73AE1-

[1] Remote non-adjustable duct mount temperature sensor C0SNDC00AE1-

Outdoor temperature sensor C0SNSR03AE1-

Accessories For Touchscreen Thermostat

Locking cover (clear) C0MISC15AE1-

[1] Remote sensors for C0STAT02AE1L can be applied in the following combinations: (1) C0SNZN01AE1-, (2) C0SNZN73AE1-, (2) C0SNZN01AE1- and (1) C0SNZN73AE1-, (4) C0SNZN01AE1-, (3) C0SNZN01AE1- and (2) C0SNZN73AE1.

DIGITAL NON-PROGRAMMABLE THERMOSTATS

Intuitive Interface - Automatic Changeover - Simple Up and Down Temperature Control

Two-stage heating / cooling conventional systems C0STAT10AE1L

Sensor For Digital Non-Programmable Thermostats Above

Remote wall mounted temperature sensor C0SNZN00AE1-

Intuitive Interface - Automatic Changeover - Backlit Display - Simple Up and Down Temperature Control

One-stage heating / cooling conventional systems C0STAT12AE1L

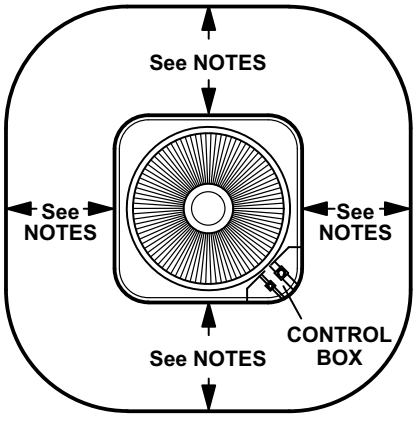
Sensor For Digital Non-Programmable Thermostats Above

Outdoor temperature sensor C0SNSR04AE1-

Accessories For Digital Non-Programmable Thermostats Above

Optional wall mounting plate C0MISC17AE1-

INSTALLATION CLEARANCES - INCHES (MM)



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.

OUTDOOR SOUND DATA

[1] Unit Model No.	Octave Band Sound Power Levels dBA, re 10^{-12} Watts Center Frequency - HZ							[1] Sound Rating Number (dB)
	125	250	500	1000	2000	4000	8000	
TSA036S2	70.5	67.5	69.5	72.5	69.5	63	59	76
TSA042S2	73.5	73	75	74	72	68	63.5	79
TSA048S2	73.5	76	76	76.5	72.5	69.5	64.5	79
TSA060S2	73.5	74.5	77	75	72	69	64.5	79

NOTE - the octave sound power data does not include tonal correction.
[1] Tested according to ARI Standard 270 test conditions.

SPECIFICATIONS

General Data	Model No.	TSA036S2	TSA042S2	TSA048S2	TSA060S2
	Nominal Tonnage	3	3.5	4	5
Connections (sweat)	Liquid line o.d. - in.	3/8	3/8	3/8	3/8
	Suction line o.d. - in.	7/8	7/8	7/8	1-1/8
[1] **Refrigerant (R-22) furnished**		5 lbs. 12 oz.	6 lbs. 6 oz.	7 lbs. 8 oz.	10 lbs. 0 oz.
Outdoor Coil	Net face area - sq. ft. (m^2) Outer coil	15.11	16.33	21.00	18.67
	Net face area - sq. ft. (m^2) Inner coil	- - -	- - -	- - -	17.96
	Tube diameter - in.	5/16	5/16	5/16	5/16
	Fins per inch - No. of rows	26 - 1	26 - 1	26 - 1	22 (866) - 2
Outdoor Fan	Diam. - in. - No. of blades	18 - 3	22 - 4	22 - 4	22 - 4
	Motor hp	208/230V - 1/5 460/575V - 1/6	1/4	1/4	1/4
	Cfm	2500	3500	3670	3600
	Rpm	1110	825	835	830
	Watts	200	300	295	285
Shipping Data - lbs. 1 package		141	171	191	216

ELECTRICAL DATA

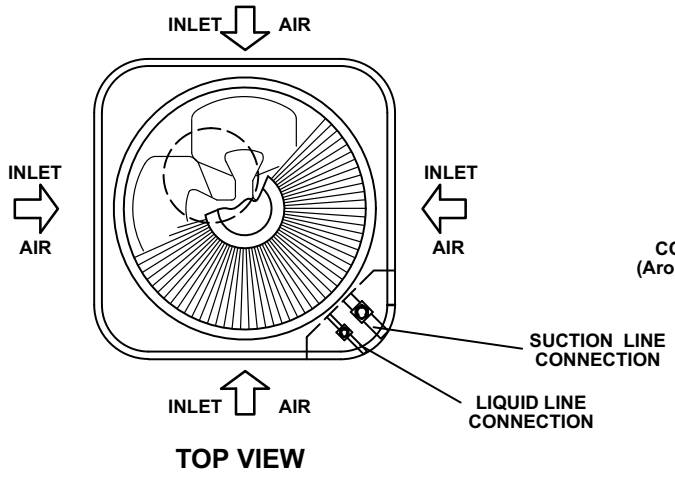
	Line voltage data - 60 hz - 3ph	208/230V	460V	575V	208/230V	460V	208/230V	460V	575V	208/230V	460V	575V
	[2] Maximum overcurrent protection (amps)	20	15	15	25	15	25	15	15	35	15	15
	[3] Minimum circuit ampacity	13.1	7.6	5.6	16.8	8.1	16.8	8.1	6.7	20.8	9.7	7.6
Compressor	Rated load amps	9.6	5.7	4.0	12.1	5.7	12.1	5.7	4.6	15.3	7.0	5.3
	Power factor	.96	.88	.84	.98	.87	.94	.87	.82	.96	.87	.90
	Locked rotor amps	75	35	28	88	44	88	44	37	104	52	39
Outdoor Fan Motor	Full load amps	1.1	.55	.55	1.7	1.0	1.7	1.0	1.0	1.7	1.0	1.0
	Locked rotor amps	1.9	1.1	1.1	4.1	2.2	3.1	2.3	2.3	3.1	2.3	2.3

OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

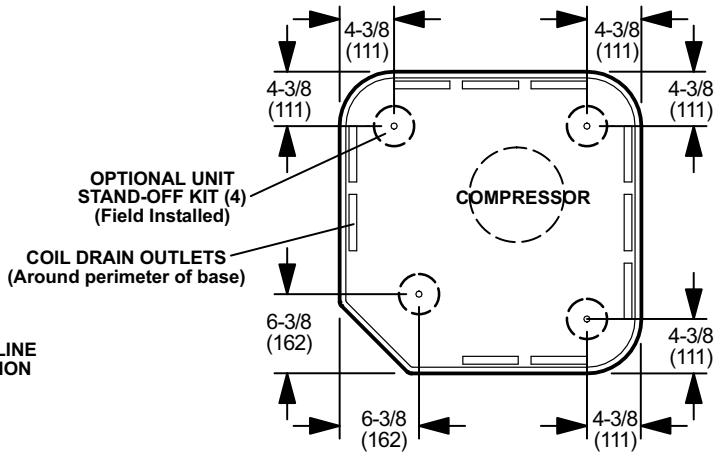
Compressor Low Ambient Cut-Off	**45F08**	•	•	•	•
Compressor Sound Cover	**69J03**	•	•	•	•
Compressor Time-Off Control	**47J27**	•	•	•	•
Freezestat 3/8 in. tubing	**93G35**	•	•	•	•
5/8 in. tubing	**50A93**	•	•	•	•
Hail Guards	**92M89**	•			
	92M93		•		
	92M90			•	
	12W21				•
High Pressure Switch Kit	**94J46**	•	•	•	•
Loss of Charge Kit	**84M23**	•	•	•	•
[4] **Low Ambient Kit** (down to 30°F)	**24H77**	•	•	•	•
Mounting Base	**69J06**	•			
	69J07		•	•	•
Refrigerant Line Sets L15-65-30, L15-65-40, L15-65-50		•	•	•	
Field Fabricate					•
Time Delay Relay Kit	**58M81**	•	•	•	•
Unit Stand-Off Kit	**94J45**	•	•	•	•

NOTE — Extremes of operating range are plus 10% and minus 5% of line voltage.
[1] Refrigerant charge sufficient for 15 ft. length of 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.
[4] Freezestat is recommended with Low Ambient Kit.

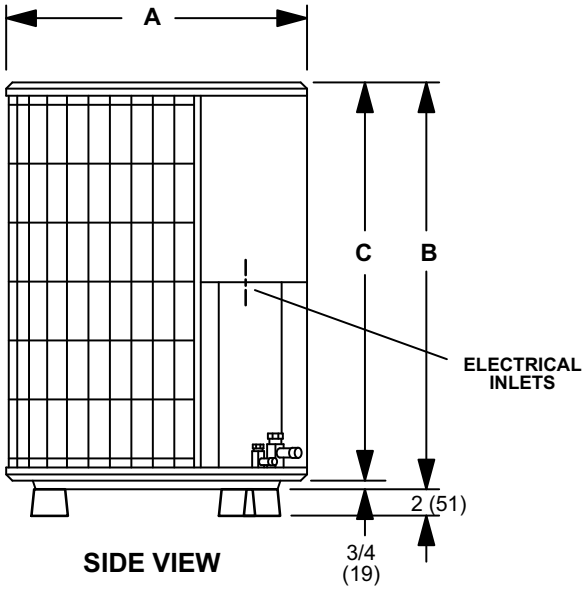
DIMENSIONS - INCHES (MM)



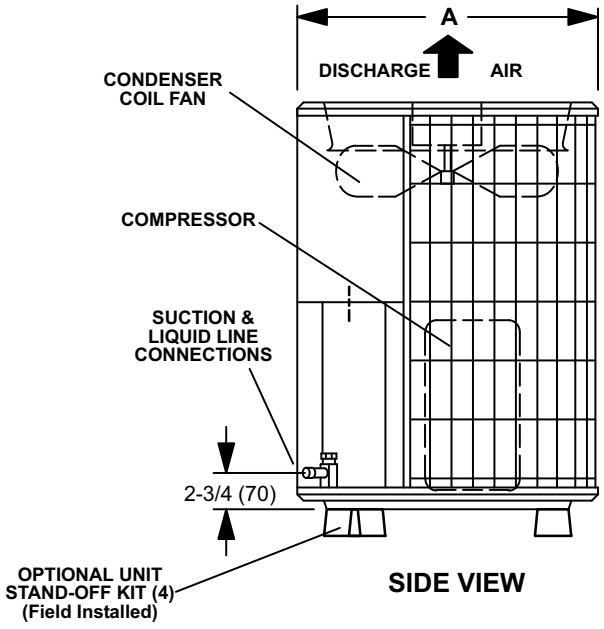
TOP VIEW



TOP VIEW BASE SECTION



SIDE VIEW



SIDE VIEW

Model No.	A		B		C	
	in.	mm	in.	mm	in.	mm
TSA036S2	24-1/4	616	33-1/4	845	32-1/2	826
TSA042S2	28-1/4	718	29-1/4	743	28-1/2	724
TSA048S2	28-1/4	718	37-1/4	946	36-1/2	927
TSA060S2	28-1/4	718	33-1/4	845	32-1/2	826

ARI RATINGS - INDOOR COIL / AIR HANDLER SUBSTITUTION

Substituting Coils in the ARI Tables

Most R-22 and R-410A indoor coils and air handlers are the same except for the factory installed expansion device. C33 coils can be used in place of the CX34 coils, CB26UH, CB27UH, and CB30M air handlers can be used in place of the CBX26UH, CBX27UH, and CBX32M, respectively.

The expansion device is based on the size of the outdoor unit. The factory installed RFC or TXV on the C33/CB26UH/CB27UH/CB30M must be replaced to correspond to the outdoor unit. The correct TXV's are:

1.5-3 ton air conditioners	**26K34**
3.5-5 ton air conditioners	**26K35**

Example:

A four-ton air conditioner is being installed. The ARI table shows that CBX32M-048 is a matching air handler. A CB30M-51 with a 26K35 TXV can be used in its place.

UP-FLOW COILS

R-410A		R-22
CX34-18/24A-6F	=	C33-24A-2
CX34-18/24B-6F	=	C33-24B-2
CX34-18/24C-6F	=	C33-24C-2
CX34-19A-6F	=	C33-19A-2
CX34-25A-6F	=	C33-25A-2
CX34-25B-6F	=	C33-25B-2
CX34-30A-6F	=	C33-30A-2
CX34-30B-6F	=	C33-30B-2
CX34-30C-6F	=	C33-30C-2
CX34-31A-6F	=	C33-31A-2
CX34-31B-6F	=	C33-31B-2
CX34-36A-6F	=	C33-36A-2
CX34-36B-6F	=	C33-36B-2
CX34-36C-6F	=	C33-36C-2
CX34-38A-6F	=	C33-38A-2
CX34-38B-6F	=	C33-38B-2
CX34-42B-6F	=	C33-42B-2
CX34-43B-6F	=	C33-43B-2
CX34-43C-6F	=	C33-43C-2
no equivalent		C33-44C-2
CX34-44/48B-6F	=	C33-48B-2
CX34-44/48C-6F	=	C33-48C-2
CX34-49C-6F	=	C33-49C-2
CX34-50/60C-6F	=	C33-50/60C-2
CX34-60D-6F	=	C33-60D-2
CX34-62C-6F	=	C33-62C-2
CX34-62D-6F	=	C33-62D-2

AIR HANDLERS

R-410A		R-22
CBX26UH-018	=	CB26UH-018-R
CBX26UH-024	=	CB26UH-024-R
CBX26UH-030	=	CB26UH-030-R
CBX26UH-036	=	CB26UH-036-R
CBX26UH-042	=	CB26UH-042-R
CBX26UH-048	=	CB26UH-048
CBX26UH-060	=	CB26UH-060-R
CBX27UH-018/024	=	CB27UH-018/024
CBX27UH-030	=	CB27UH-030
CBX27UH-036	=	CB27UH-036
CBX27UH-042	=	CB27UH-042
CBX27UH-048	=	CB27UH-048
CBX27UH-060	=	CB27UH-060
CBX32M-018/024	=	CB30M-21/26
CBX32M-030	=	CB30M-31
CBX32M-036	=	CB30M-41
CBX32M-042	=	CB30M-46
CBX32M-048	=	CB30M-51
CBX32M-060	=	CB30M-65
CBX32MV-all		no equivalent

ARI RATINGS

[1] ARI Standard 210/240 Ratings						
Cooling Capacity Btuh	Efficiency SEER	Efficiency EER	Total Unit Watts	Indoor Unit Model No.		Expansion Device
TSA036S2						**3 TON**
Up-Flow Indoor Coils				**Up-Flow Coils**		
34,800	13.00	11.00	3165	[3, 5] C33-38B		[2] **26K34**
34,800	13.00	11.00	3165	[3] C33-50/60C		[2] **26K34**
35,000	13.00	11.00	3180	[3] C33-43B/C		[2] **26K34**
Up-Flow Indoor Coils + Furnace				**Up-Flow Coils**	**+ Furnace**	
35,000	13.00	11.60	3015	C33-38B	[4] G71MPP-36B-070	[2] **26K34**
35,000	13.00	11.60	3015	C33-38B	[4] G61MPV-36B-070	[2] **26K34**
35,200	13.00	11.00	3200	C33-38A	[4] G60UHV-36A-070	[2] **26K34**
35,200	13.00	11.00	3200	C33-38B	[4] G61MPV-36B-045	[2] **26K34**
35,200	13.00	11.60	3035	C33-43B	[4] G71MPP-36B-070	[2] **26K34**
35,200	13.00	11.60	3035	C33-43B	[4] G61MPV-36B-070	[2] **26K34**
35,400	13.00	11.60	3050	C33-43B	[4] G61MPV-36B-045	[2] **26K34**
35,400	14.00	11.60	3050	C33-38B	[4] G60UHV-36B-090	[2] **26K34**
35,600	13.50	11.60	3070	C33-50/60C	[4] G61MPV-60C-091	[2] **26K34**
35,600	14.00	11.60	3070	C33-50/60C	[4] G71MPP-60C-090	[2] **26K34**
35,600	14.00	11.60	3070	C33-50/60C	[4] G61MPV-60C-090	[2] **26K34**
35,600	14.00	12.00	2965	C33-43B	[4] G60UHV-36B-090	[2] **26K34**
35,800	14.00	12.00	2985	C33-50/60C	[4] G60UHV-60C-110	[2] **26K34**
36,200	14.00	11.50	3150	C33-50/60C	[4] G71MPP-60C-110	[2] **26K34**
36,200	14.00	11.50	3150	C33-50/60C	[4] G61MPV-60C-110	[2] **26K34**
Down-Flow Indoor Coils				**Down-Flow Coils**		
36,000	13.00	11.00	3275	[3] CR33-50/60C-F		[2] **26K34**
Down-Flow Indoor Coils + Furnace				**Down-Flow Coils**	**+ Furnace**	
34,000	13.00	11.00	3090	CR33-48B-F	[4] G61MPV-36B-045	[2] **26K34**
34,000	13.00	11.00	3090	CR33-48B-F	[4] G71MPP-36B-070	[2] **26K34**
34,000	13.00	11.00	3090	CR33-48B-F	[4] G61MPV-36B-070	[2] **26K34**
34,200	13.00	11.60	2950	CR33-48B-F	[4] G60DFV-36B-090	[2] **26K34**
34,600	13.50	11.00	3145	CR33-48C-F	[4] G71MPP-60C-090	[2] **26K34**
34,600	13.50	11.00	3145	CR33-48C-F	[4] G61MPV-60C-090	[2] **26K34**
34,800	13.50	11.50	3025	CR33-48C-F	[4] G71MPP-60C-110	[2] **26K34**
34,800	13.50	11.50	3025	CR33-48C-F	[4] G61MPV-60C-110	[2] **26K34**
Horizontal Indoor Coils				**Horizontal Coils**		
34,800	13.00	11.00	3165	[3] CH33-44/48B-2F		[2] **26K34**
35,000	13.00	11.00	3180	[3] CH33-48C-2F		[2] **26K34**
Horizontal Indoor Coils + Furnace				**Horizontal Coils**	**+ Furnace**	
35,000	13.50	11.50	3045	CH33-44/48B-2F	[4] G71MPP-36B-070	[2] **26K34**
35,000	13.50	11.50	3045	CH33-44/48B-2F	[4] G61MPV-36B-070	[2] **26K34**
35,200	13.00	11.00	3200	CH33-44/48B-2F	[4] G61MPV-36B-045	[2] **26K34**
35,400	14.00	11.60	3050	CH33-44/48B-2F	[4] G60UHV-60B-090	[2] **26K34**
35,800	14.00	11.60	3085	CH33-48C-2F	[4] G71MPP-60C-090	[2] **26K34**
35,800	14.00	11.60	3085	CH33-48C-2F	[4] G61MPV-60C-090	[2] **26K34**
35,800	14.00	11.60	3085	CH33-48C-2F	[4] G71MPP-60C-110	[2] **26K34**
35,800	14.00	11.60	3085	CH33-48C-2F	[4] G61MPV-60C-110	[2] **26K34**

[1] Certified in accordance with USE certification program which is based on ARI Standard 210/240; 95°F (35°C) outdoor air temperature, 80°F (27°C) db / 67°F (19°C) wb entering evaporator air with 25 ft. (7.6 m) of connecting refrigerant lines.

[2] **Factory installed RFC or expansion valve on indoor unit MUST be replaced with expansion valve kit (ordered separately) shown**

[3] Blower must be capable of time-off blower delay. Indoor Blower Off Delay Relay (**58M81**) is recommend for field installation.

[4] Blower control must be set for a time-off blower delay.

[5] Most popular indoor coil.

ARI RATINGS

[1] ARI Standard 210/240 Ratings						
Cooling Capacity Btuh	Efficiency SEER	Efficiency EER	Total Unit Watts	Indoor Unit Model No.		Expansion Device
TSA036S2						**3 TON**
Air Handlers				**Air Handlers**		
31,200	11.70	10.00	3125	[3] CB29M-41 (Multi-Position)		Factory TXV
33,400	13.00	11.00	3035	[3] CB30M-31 (Multi-Position)		Factory TXV
33,800	13.00	10.90	3100	[3] CB30M-41 (Multi-Position)		Factory TXV
33,800	13.00	10.90	3100	[3] CB30M-46 (Multi-Position)		**[2] 26K34**
34,000	13.00	11.00	3090	[4] CBX32MV-036 (Multi-Position)		**[2] 26K34**
34,400	13.00	11.00	3125	CB26UH-036-R (Up-Flow / Horizontal)		**[2] 26K34**
35,400	13.00	11.00	3220	[3] CB30M-51 (Multi-Position)		**[2] 26K34**
35,800	14.00	12.00	2985	[4] CBX32MV-048 (Multi-Position)		**[2] 26K34**
TSA042S2						**3.5 TON**
Up-Flow Indoor Coils				**Up-Flow Coils**		
41,500	13.00	11.00	3775	[3, 5] C33-43B/C		**[2] 26K35**
41,500	13.00	11.00	3775	[3] C33-49C		**[2] 26K35**
41,500	13.00	11.00	3775	[3] C33-50/60C		**[2] 26K35**
Up-Flow Indoor Coils + Furnace				**Up-Flow Coils**	**+ Furnace**	
42,000	13.50	11.60	3650	C33-43B	[4] G60UHV-36B-090	**[2] 26K35**
42,000	13.00	11.00	3820	C33-43B	[4] G71MPP-36B-070	**[2] 26K35**
42,000	13.00	11.00	3820	C33-43B	[4] G61MPV-36B-070	**[2] 26K35**
42,000	14.00	12.00	3500	C33-43C	[4] G60UHV-60C-090	**[2] 26K35**
42,000	14.00	11.60	3650	C33-43C	[4] G60UHV-60C-110	**[2] 26K35**
42,000	13.50	11.60	3650	C33-43C	[4] G71MPP-60C-090	**[2] 26K35**
42,000	13.50	11.60	3650	C33-43C	[4] G61MPV-60C-090	**[2] 26K35**
42,000	13.50	11.60	3650	C33-43C	[4] G71MPP-60C-110	**[2] 26K35**
42,000	13.50	11.60	3650	C33-43C	[4] G61MPV-60C-110	**[2] 26K35**
41,500	14.00	12.00	3460	C33-49C	[4] G60UHV-60C-090	**[2] 26K35**
42,000	14.00	12.00	3500	C33-49C	[4] G60UHV-60C-110	**[2] 26K35**
42,000	13.50	11.60	3650	C33-49C	[4] G71MPP-60C-090	**[2] 26K35**
42,000	13.50	11.60	3650	C33-49C	[4] G61MPV-60C-090	**[2] 26K35**
42,000	13.50	11.60	3650	C33-49C	[4] G71MPP-60C-110	**[2] 26K35**
42,000	13.50	11.60	3650	C33-49C	[4] G61MPV-60C-110	**[2] 26K35**
42,000	14.00	12.00	3500	C33-50/60C	[4] G60UHV-60C-090	**[2] 26K35**
42,000	13.50	11.50	3650	C33-50/60C	[4] G60UHV-60C-110	**[2] 26K35**
42,000	13.50	11.60	3650	C33-50/60C	[4] G61MPV-60C-090	**[2] 26K35**
42,000	13.50	11.60	3650	C33-50/60C	[4] G71MPP-60C-090	**[2] 26K35**
42,000	13.50	11.60	3650	C33-50/60C	[4] G61MPV-60C-110	**[2] 26K35**
42,000	13.50	11.60	3650	C33-50/60C	[4] G71MPP-60C-110	**[2] 26K35**
Down-Flow Indoor Coils				**Down-Flow Coils**		
41,500	13.00	11.00	3775	[3] CR33-50/60C-F		**[2] 26K35**
41,500	13.00	11.00	3775	[3] CR33-60D-F		**[2] 26K35**

1 Certified in accordance with USE certification program which is based on ARI Standard 210/240; 95°F (35°C) outdoor air temperature, 80°F (27°C) db / 67°F (19°C) wb entering evaporator air with 25 ft. (7.6 m) of connecting refrigerant lines.

2 **Factory installed RFC or expansion valve on indoor unit MUST be replaced with expansion valve kit (ordered separately) shown.**

3 Blower must be capable of time-off blower delay. Indoor Blower Off Delay Relay (**58M81**) is recommend for field installation.

4 Blower control must be set for a time-off blower delay.

5 Most popular indoor coil.

ARI RATINGS

[1] ARI Standard 210/240 Ratings						
Cooling Capacity Btuh	Efficiency SEER	Efficiency EER	Total Unit Watts	Indoor Unit Model No.		Expansion Device
TSA042S2						**3.5 TON**
Down-Flow Indoor Coils + Furnace				**Down-Flow Coils**	**+ Furnace**	
42,000	14.00	12.00	3500	CR33-50/60C-F	[4] G60DFV-60C-090	[2] **26K35**
42,000	14.00	11.50	3650	CR33-50/60C-F	[4] G60DFV-60C-110	[2] **26K35**
42,000	13.50	11.60	3650	CR33-50/60C-F	[4] G71MPP-60C-090	[2] **26K35**
42,000	13.50	11.60	3650	CR33-50/60C-F	[4] G61MPV-60C-090	[2] **26K35**
42,000	13.50	11.60	3650	CR33-50/60C-F	[4] G71MPP-60C-110	[2] **26K35**
42,000	13.50	11.60	3650	CR33-50/60C-F	[4] G61MPV-60C-110	[2] **26K35**
41,500	14.00	12.00	3460	CR33-60D-F	[4] G71MPP-60D-135	[2] **26K35**
41,500	14.00	12.00	3460	CR33-60D-F	[4] G61MPV-60D-135	[2] **26K35**
Horizontal Indoor Coils				**Horizontal Coils**		
41,500	13.00	11.00	3775	[3] CH33-48C-2F		[2] **26K35**
42,500	13.00	11.00	3865	[3] CH33-50/60C-2F		[2] **26K35**
Horizontal Indoor Coils + Furnace				**Horizontal Coils**	**+ Furnace**	
42,000	13.50	11.60	3650	CH33-48C-2F	[4] G60UHV-36B-090	[2] **26K35**
42,500	13.50	11.60	3695	CH33-48C-2F	[4] G71MPP-60C-090	[2] **26K35**
42,500	13.50	11.60	3695	CH33-48C-2F	[4] G61MPV-60C-090	[2] **26K35**
42,000	13.50	11.60	3650	CH33-48C-2F	[4] G71MPP-60C-110	[2] **26K35**
42,000	13.50	11.60	3650	CH33-48C-2F	[4] G61MPV-60C-110	[2] **26K35**
43,000	14.00	12.00	3585	CH33-50/60C-2F	[4] G60UHV-60C-090	[2] **26K35**
43,000	13.50	11.60	3740	CH33-50/60C-2F	[4] G71MPP-60C-090	[2] **26K35**
43,000	13.50	11.60	3740	CH33-50/60C-2F	[4] G61MPV-60C-090	[2] **26K35**
43,000	14.00	12.00	3585	CH33-50/60C-2F	[4] G71MPP-60C-110	[2] **26K35**
43,000	14.00	12.00	3585	CH33-50/60C-2F	[4] G61MPV-60C-110	[2] **26K35**
Air Handlers				**Air Handlers**		
37,200	11.60	10.00	3730	[3] CB29M-41 (Multi-Position)		[2] **26K35**
40,000	13.00	11.00	3635	CB26UH-042-R (Up-Fow / Horizontal)		[2] **26K35**
40,000	13.00	11.00	3635	[3] CB30M-41 (Multi-Position)		[2] **26K35**
40,000	13.00	11.00	3635	[3] CB30M-46 (Multi-Position)		Factory TXV
42,000	13.00	11.00	3820	[3] CB30M-51 (Multi-Position)		Factory TXV
42,500	13.50	11.60	3695	[4] CBX32MV-048 (Multi-Position)		[2] **26K35**
TSA048S2						**4 TON**
Up-Flow Indoor Coils				**Up-Flow Coils**		
45,000	13.00	11.00	4090	[3] C33-38A/B		[2] **91M01**
45,500	13.00	11.00	4135	[3, 5] C33-50/60C		[2] **91M01**
45,500	13.00	11.00	4135	[3] C33-43B/C		[2] **91M01**
46,000	13.00	11.00	4180	[3] C33-60D		[2] **91M01**
46,000	13.00	11.50	4000	[3] C33-49C		[2] **91M01**
46,500	13.00	11.00	4225	[3] C33-62D		[2] **91M01**
47,500	13.00	11.60	4130	[3] C33-62C		[2] **91M01**

[1] Certified in accordance with USE certification program which is based on ARI Standard 210/240; 95°F (35°C) outdoor air temperature, 80°F (27°C) db / 67°F (19°C) wb entering evaporator air with 25 ft. (7.6 m) of connecting refrigerant lines.

[2] **Factory installed RFC or expansion valve on indoor unit MUST be replaced with expansion valve kit (ordered separately) shown.**

[3] Blower must be capable of time-off blower delay. Indoor Blower Off Delay Relay (**58M81**) is recommend for field installation.

[4] Blower control must be set for a time-off blower delay.

[5] Most popular indoor coil.

ARI RATINGS

[1] ARI Standard 210/240 Ratings						
Cooling Capacity Btuh	Efficiency SEER	Efficiency EER	Total Unit Watts	Indoor Unit Model No.		Expansion Device
TSA048S2						**4 TON**
Up-Flow Indoor Coils + Furnace				**Up-Flow Coils**	**+ Furnace**	
45,500	13.00	11.60	3955	C33-49C	[4] G61MPV-60C-090	[2] **91M01**
45,500	13.00	11.60	3955	C33-49C	[4] G61MPV-60C-110	[2] **91M01**
45,500	13.00	11.60	3955	C33-49C	[4] G71MPP-60C-090	[2] **91M01**
45,500	13.00	11.60	3955	C33-49C	[4] G71MPP-60C-110	[2] **91M01**
45,500	13.50	11.60	3955	C33-43C	[4] G60UHV-60C-110	[2] **91M01**
45,500	13.50	11.60	3955	C33-43C	[4] G61MPV-60C-090	[2] **91M01**
45,500	13.50	11.60	3955	C33-43C	[4] G61MPV-60C-110	[2] **91M01**
45,500	13.50	11.60	3955	C33-43C	[4] G71MPP-60C-090	[2] **91M01**
45,500	13.50	11.60	3955	C33-43C	[4] G71MPP-60C-110	[2] **91M01**
45,500	13.50	11.60	3955	C33-49C	[4] G60UHV-60C-110	[2] **91M01**
46,000	13.00	11.50	4000	C33-50/60C	[4] G61MPV-60C-090	[2] **91M01**
46,000	13.00	11.60	4000	C33-50/60C	[4] G61MPV-60C-110	[2] **91M01**
46,000	13.00	11.50	4000	C33-50/60C	[4] G71MPP-60C-090	[2] **91M01**
46,000	13.00	11.60	4000	C33-50/60C	[4] G71MPP-60C-110	[2] **91M01**
46,000	13.50	11.60	4000	C33-43C	[4] G60UHV-60C-090	[2] **91M01**
46,000	13.50	11.60	4000	C33-49C	[4] G60UHV-60C-090	[2] **91M01**
46,000	13.50	11.60	4000	C33-50/60C	[4] G60UHV-60C-090	[2] **91M01**
46,000	13.50	11.60	4000	C33-50/60C	[4] G60UHV-60C-110	[2] **91M01**
46,500	14.00	12.00	3875	C33-60D	[4] G60UHV-60D-135	[2] **91M01**
46,500	14.00	12.00	3875	C33-60D	[4] G61MPV-60D-135	[2] **91M01**
46,500	14.00	12.00	3875	C33-60D	[4] G71MPP-60D-135	[2] **91M01**
47,000	14.00	12.00	3915	C33-62D	[4] G60UHV-60D-135	[2] **91M01**
47,000	14.00	12.00	3915	C33-62D	[4] G61MPV-60D-135	[2] **91M01**
47,000	14.00	12.00	3915	C33-62D	[4] G71MPP-60D-135	[2] **91M01**
47,500	13.50	11.60	4130	C33-62C	[4] G61MPV-60C-090	[2] **91M01**
47,500	13.50	11.60	4130	C33-62C	[4] G71MPP-60C-090	[2] **91M01**
47,500	14.00	12.00	3960	C33-62C	[4] G60UHV-60C-110	[2] **91M01**
47,500	14.00	12.00	3955	C33-62C	[4] G61MPV-60C-110	[2] **91M01**
47,500	14.00	12.00	3955	C33-62C	[4] G71MPP-60C-110	[2] **91M01**
48,000	14.00	12.00	4000	C33-62C	[4] G60UHV-60C-090	[2] **91M01**

[1] Certified in accordance with USE certification program which is based on ARI Standard 210/240; 95°F (35°C) outdoor air temperature, 80°F (27°C) db / 67°F (19°C) wb entering evaporator air with 25 ft. (7.6 m) of connecting refrigerant lines.

[2] **Factory installed RFC or expansion valve on indoor unit MUST be replaced with expansion valve kit (ordered separately) shown.**

[3] Blower must be capable of time-off blower delay. Indoor Blower Off Delay Relay (**58M81**) is recommend for field installation.

[4] Blower control must be set for a time-off blower delay.

ARI RATINGS

[1] ARI Standard 210/240 Ratings						
Cooling Capacity	Efficiency		Total Unit	Indoor Unit Model No.		Expansion
Btuh	SEER	EER	Watts			Device
TSA048S2						**4 TON**
Down-Flow Indoor Coils				**Down-Flow Coils**		
45,500	13.00	11.00	4135	[3] CR33-50/60C-F		[2] **91M01**
45,500	13.00	11.00	4135	[3] CR33-60D-F		[2] **91M01**
Down-Flow Indoor Coils + Furnace				**Down-Flow Coils**	**+ Furnace**	
46,000	13.50	11.60	4000	CR33-50/60C-F	[4] G60DFV-60C-110	[2] **91M01**
46,000	13.50	11.60	4000	CR33-50/60C-F	[4] G61MPV-60C-090	[2] **91M01**
46,000	13.50	11.60	4000	CR33-50/60C-F	[4] G61MPV-60C-110	[2] **91M01**
46,000	13.50	11.60	4000	CR33-50/60C-F	[4] G71MPP-60C-090	[2] **91M01**
46,000	13.50	11.60	4000	CR33-50/60C-F	[4] G71MPP-60C-110	[2] **91M01**
46,000	13.50	11.60	3965	CR33-60D-F	[4] G60DFV-60D-135	[2] **91M01**
46,000	13.50	11.60	3965	CR33-60D-F	[4] G61MPV-60D-135	[2] **91M01**
46,000	13.50	11.60	3965	CR33-60D-F	[4] G71MPP-60D-135	[2] **91M01**
46,500	13.50	11.60	4045	CR33-50/60C-F	[4] G60DFV-60C-090	[2] **91M01**
Horizontal Indoor Coils				**Horizontal Coils**		
46,000	13.00	11.00	4180	[3] CH33-62D-2F		[2] **91M01**
46,000	13.00	11.00	4180	[3] CH33-60D-2F		[2] **91M01**
46,000	13.00	11.00	4180	[3] CH33-48C-2F		[2] **91M01**
46,500	13.00	11.00	4225	[3] CH23-68		[2] **91M01**
46,500	13.00	11.00	4227	[3] CH33-50/60C-2F		[2] **91M01**
Horizontal Indoor Coils + Furnace				**Horizontal Coils**	**+ Furnace**	
46,000	13.00	11.50	4000	CH33-48C-2F	[4] G61MPV-60C-090	[2] **91M01**
46,000	13.00	11.50	4000	CH33-48C-2F	[4] G61MPV-60C-110	[2] **91M01**
46,000	13.00	11.50	4000	CH33-48C-2F	[4] G71MPP-60C-090	[2] **91M01**
46,000	13.00	11.50	4000	CH33-48C-2F	[4] G71MPP-60C-110	[2] **91M01**
46,000	13.50	11.60	3965	CH33-48C-2F	[4] G60UHV-60C-110	[2] **91M01**
46,500	13.50	11.60	4045	CH33-60D-2F	[4] G61MPV-60D-135	[2] **91M01**
46,500	13.50	11.60	4045	CH33-60D-2F	[4] G71MPP-60D-135	[2] **91M01**
46,500	13.50	11.60	4010	CH33-48C-2F	[4] G60UHV-60C-090	[2] **91M01**
46,500	13.50	11.60	4010	CH33-50/60C-2F	[4] G60UHV-60C-110	[2] **91M01**
46,500	13.50	11.60	4010	CH33-50/60C-2F	[4] G61MPV-60C-090	[2] **91M01**
46,500	13.50	11.60	4010	CH33-50/60C-2F	[4] G61MPV-60C-110	[2] **91M01**
46,500	13.50	11.60	4010	CH33-50/60C-2F	[4] G71MPP-60C-090	[2] **91M01**
46,500	13.50	11.60	4010	CH33-50/60C-2F	[4] G71MPP-60C-110	[2] **91M01**
46,500	14.00	12.00	3875	CH33-60D-2F	[4] G60UHV-60D-135	[2] **91M01**
46,500	14.00	12.00	3875	CH33-62D-2F	[4] G60UHV-60D-135	[2] **91M01**
46,500	14.00	12.00	3875	CH33-62D-2F	[4] G61MPV-60D-135	[2] **91M01**
46,500	14.00	12.00	3875	CH33-62D-2F	[4] G71MPP-60D-135	[2] **91M01**
47,000	13.50	11.60	4050	CH33-50/60C-2F	[4] G60UHV-60C-090	[2] **91M01**
47,000	14.00	12.00	3915	CH23-68	[4] G60UHV-60D-135	[2] **91M01**
47,000	14.00	12.00	3915	CH23-68	[4] G61MPV-60D-135	[2] **91M01**
47,000	14.00	12.00	3915	CH23-68	[4] G71MPP-60D-135	[2] **91M01**

[1] Certified in accordance with USE certification program which is based on ARI Standard 210/240; 95°F (35°C) outdoor air temperature, 80°F (27°C) db / 67°F (19°C) wb entering evaporator air with 25 ft. (7.6 m) of connecting refrigerant lines.

[2] **Factory installed RFC or expansion valve on indoor unit MUST be replaced with expansion valve kit (ordered separately) shown**

[3] Blower must be capable of time-off blower delay. Indoor Blower Off Delay Relay (**58M81**) is recommend for field installation.

[4] Blower control must be set for a time-off blower delay.

ARI RATINGS

[1] ARI Standard 210/240 Ratings

Cooling Capacity Btuh	Efficiency SEER	Efficiency EER	Total Unit Watts	Indoor Unit Model No.		Expansion Device
TSA048S2						**4 TON**
Air Handlers				**Air Handlers**		
44,500	12.20	10.80	4065	[3] CB29M-65 (Multi-Position)		[2] **91M01**
45,000	13.00	11.60	3915	CB26UH-048 (Up-Flow / Horizontal)		Factory TXV
45,000	13.00	11.60	3915	[3] CB30M-51 (Multi-Position)		[2] **91M01**
45,500	13.00	11.60	3955	[3] CB30M-46 (Multi-Position)		[2] **91M01**
46,000	13.50	11.60	4000	[4] CBX32MV-048 (Multi-Position)		[2] **91M01**
46,500	13.00	11.60	4045	[3] CB30M-65 (Multi-Position)		[2] **91M01**
46,500	13.50	11.60	4010	[4] CBX32MV-060 (Multi-Position)		[2] **91M01**
TSA060S2						**5 TON**
Up-Flow Indoor Coils				**Up-Flow Coils**		
58,000	13.00	11.00	5275	[3, 5] C33-49C		[2] **91M01**
57,500	13.00	11.00	5225	[3] C33-60D		[2] **91M01**
59,000	13.00	11.00	5365	[3] C33-62C		[2] **91M01**
58,500	13.00	11.00	5320	[3] C33-62D		[2] **91M01**
Up-Flow Indoor Coils + Furnace				**Up-Flow Coils**	**+ Furnace**	
58,000	13.50	11.00	5275	C33-60D	[4] G61MPV-60D-135	[2] **91M01**
58,000	13.50	11.00	5275	C33-60D	[4] G71MPP-60D-135	[2] **91M01**
58,000	14.00	11.60	5045	C33-62D	[4] G60UHV-60D-135	[2] **91M01**
58,500	13.00	11.00	5320	C33-49C	[4] G60UHV-60C-110	[2] **91M01**
58,500	13.00	11.00	5320	C33-49C	[4] G61MPV-60C-110	[2] **91M01**
58,500	13.00	11.00	5320	C33-49C	[4] G71MPP-60C-110	[2] **91M01**
59,000	13.00	11.00	5365	C33-49C	[4] G60UHV-60C-090	[2] **91M01**
59,000	13.50	11.60	5130	C33-60D	[4] G60UHV-60D-135	[2] **91M01**
59,000	13.50	11.60	5130	C33-62D	[4] G61MPV-60D-135	[2] **91M01**
59,000	13.50	11.60	5130	C33-62D	[4] G71MPP-60D-135	[2] **91M01**
59,500	13.50	11.60	5175	C33-62C	[4] G60UHV-60C-110	[2] **91M01**
59,500	13.50	11.60	5175	C33-62C	[4] G61MPV-60C-110	[2] **91M01**
59,500	13.50	11.60	5175	C33-62C	[4] G71MPP-60C-110	[2] **91M01**
60,000	13.00	11.00	5455	C33-62C	[4] G61MPV-60C-090	[2] **91M01**
60,000	13.00	11.00	5455	C33-62C	[4] G71MPP-60C-090	[2] **91M01**
60,000	13.50	11.60	5215	C33-62C	[4] G60UHV-60C-090	[2] **91M01**
Down-Flow Indoor Coils				**Down-Flow Coils**		
56,000	13.00	10.90	5140	[3] CR33-60D-F		[2] **91M01**
Down-Flow Indoor Coils + Furnace				**Down-Flow Coils**	**+ Furnace**	
57,000	13.00	11.00	5182	CR33-60D-F	[4] G61MPV-60D-135	[2] **91M01**
57,000	13.00	11.00	5182	CR33-60D-F	[4] G71MPP-60D-135	[2] **91M01**
57,500	13.00	11.00	5225	CR33-60D-F	[4] G60DFV-60D-135	[2] **91M01**
Horizontal Indoor Coils				**Horizontal Coils**		
57,500	13.00	11.00	5225	[3] CH33-62D-2F		[2] **91M01**
57,500	13.00	11.00	5225	[3] CH33-60D-2F		[2] **91M01**
58,000	13.00	11.00	5275	[3] CH23-68		[2] **91M01**
58,000	13.00	11.00	5275	[3] CH33-50/60C-2F		[2] **91M01**

[1] Certified in accordance with USE certification program which is based on ARI Standard 210/240; 95°F (35°C) outdoor air temperature, 80°F (27°C) db / 67°F (19°C) wb entering evaporator air with 25 ft. (7.6 m) of connecting refrigerant lines.

[2] **Factory installed RFC or expansion valve on indoor unit MUST be replaced with expansion valve kit (ordered separately) shown**

[3] Blower must be capable of time-off blower delay. Indoor Blower Off Delay Relay (**58M81**) is recommend for field installation.

[4] Blower control must be set for a time-off blower delay.

[5] Most popular indoor coil.

ARI RATINGS

[1] ARI Standard 210/240 Ratings						
Cooling Capacity Btuh	Efficiency SEER	Efficiency EER	Total Unit Watts	Indoor Unit Model No.		Expansion Device
TSA060S2						**5 TON**
Horizontal Indoor Coils + Furnace				**Horizontal Coils**	**+ Furnace**	
58,000	13.00	11.00	5275	CH33-50/60C-2F	[4] G60UHV-60C-110	[2] **91M01**
58,000	13.00	11.00	5275	CH33-50/60C-2F	[4] G61MPV-60C-110	[2] **91M01**
58,000	13.00	11.00	5275	CH33-50/60C-2F	[4] G71MPP-60C-110	[2] **91M01**
58,000	13.50	11.00	5275	CH33-60D-2F	[4] G61MPV-60D-135	[2] **91M01**
58,000	13.50	11.00	5275	CH33-60D-2F	[4] G71MPP-60D-135	[2] **91M01**
58,000	13.50	11.00	5275	CH33-62D-2F	[4] G61MPV-60D-135	[2] **91M01**
58,000	13.50	11.00	5275	CH33-62D-2F	[4] G71MPP-60D-135	[2] **91M01**
58,500	13.00	11.00	5320	CH33-50/60C-2F	[4] G60UHV-60C-090	[2] **91M01**
58,500	13.50	11.50	5085	CH23-68	[4] G61MPV-60D-135	[2] **91M01**
58,500	13.50	11.50	5085	CH23-68	[4] G71MPP-60D-135	[2] **91M01**
58,500	13.50	11.50	5085	CH33-60D-2F	[4] G60UHV-60D-135	[2] **91M01**
59,000	13.50	11.60	5130	CH33-62D-2F	[4] G60UHV-60D-135	[2] **91M01**
59,500	13.50	11.60	5175	CH23-68	[4] G60UHV-60D-135	[2] **91M01**
Air Handlers				**Air Handlers**		
55,500	13.00	11.00	5045	[3] CB30M-51 (Multi-Position)		[2] **91M01**
57,000	13.00	11.00	5180	CB26UH-060-R (Up-Flow / Horizontal)		[2] **91M01**
57,000	13.00	11.00	5180	[4] CBX32MV-048 (Multi-Position)		[2] **91M01**
57,500	13.00	11.00	5225	[3] CB30M-65 (Multi-Position)		[2] **91M01**

[1] Certified in accordance with USE certification program which is based on ARI Standard 210/240; 95°F (35°C) outdoor air temperature, 80°F (27°C) db / 67°F (19°C) wb entering evaporator air with 25 ft. (7.6 m) of connecting refrigerant lines.

[2] **Factory installed RFC or expansion valve on indoor unit MUST be replaced with expansion valve kit (ordered separately) shown.**

[3] Blower must be capable of time-off blower delay. Indoor Blower Off Delay Relay (**58M81**) is recommend for field installation.

[4] Blower control must be set for a time-off blower delay.

GUIDE SPECIFICATIONS

This specification specifies ***[Lennox T-Class ™]*** split system air conditioners. These products are manufactured by Lennox Industries. Revise section number and title below to suit project requirements, specification practices and section content. Refer to CSI *MasterFormat* for other section numbers and titles.

Optional text and text that requires a decision are indicated by **bold brackets [ ],** and proprietary information is indicated by ***bold italic brackets[ ]*** ; delete text that is not needed in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

SECTION 23 81 26

SPLIT-SYSTEM AIR-CONDITIONERS

PART 1 GENERAL

PART 1.01 SUMMARY

A. Section Includes: Split System Air Conditioners, including:
   1. Cabinet
   2. Compressor
   3. Refrigerant system
   4. Controls
   5. Refrigerant line connectors, electrical inlets and service valves

Specifier Note: Revise paragraph below to suit project requirements. Add section numbers and titles per CSI *MasterFormat* and specifier's practice.

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Division 01 References Section may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section. Retain only those reference standards to be used within the text of this Section. Add and delete as required for specific project.

PART 1.02 REFERENCES

A. Air-Conditioning and Refrigeration Institute (ARI):
   1. ARI 210/240 – 2005, Unitary Air-Conditioning and Air-Source Heat Pump Equipment
   2. ARI 270 – 1995, Sound Rating of Outdoor Unitary Equipment

B. Servicing Standards:
   1. National Electric Code (NEC)
   2. Underwriters Laboratories, Inc. (UL)
   3. Canadian Electric Code (CEC)

C. Department of Energy (DOE), units rated to

D. ISO 9001, units manufactured to quality standard

E. CSA Certification

Specifier Note: Article below should be restricted to statements describing design or performance requirements and functional (not dimensional) tolerances of a complete system. Limit descriptions to composite and operational properties required to link components of a system together and to interface with other systems.

PART 1.03 SYSTEM DESCRIPTION

A. Performance Requirements:

Specifier Note: Refer to Lennox Engineering Handbook for specific heating and cooling capacities. Units are available in 3, 3.5, 4 and 5 ton models. Cooling capacities vary from 31,200 to 60,000 Btuh.

1. 3, 3.5, 4 and 5 ton capacity
2. Electrical Characteristics:
   a. 60 hz
   b. 3-phase

Specifier Note: The 575 V option below is only available on the 4 and 5 ton Lennox TS with R-410A and 3, 4 and 5 ton Lennox TS with R-22.

c. [208/230 V] [460 V] [575 V]

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 01 Submittal Procedures Section.

PART 1.04 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 01 Submittal Procedures.

B. Product Data: Submit product data for specified products.

C. Shop Drawings:
   1. Submit shop drawings in accordance with Section **[01 33 00 - Submittal Procedures] [_____]**.
   2. Indicate:
      a. Equipment, piping and connections, together with valves, strainers, control assemblies, thermostatic controls, auxiliaries and hardware, and recommended ancillaries that are mounted, wired and piped ready for final connection to building system, its size and recommended bypass connections.
      b. Piping, valves and fittings shipped loose showing final location in assembly.
      c. Control equipment shipped loose, showing final location in assembly.
      d. Field wiring diagrams.
      e. Dimensions, internal and external construction details, installation clearances, recommended method of installation, sizes and location of mounting bolt holes.
      f. Detailed composite wiring diagrams for control systems showing factory installed wiring and equipment on split systems or required for controlling devices or ancillaries, accessories, controllers.

D. Quality Assurance:
   1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
   2. Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
   3. Manufacturer's Instructions: Manufacturer's installation instructions.

Specifier Note: Coordinate paragraph below with Part 3 Field Quality Requirements Article. Retain or delete as applicable.

E. Manufacturer's Field Reports: Manufacturer's field reports specified.

F. Closeout Submittals: Submit the following:
   1. Warranty: Warranty documents specified.
   2. Operation and Maintenance Data: Operation and maintenance data for installed products in accordance with Division 01 Closeout Submittals (Maintenance Data and Operation Data) Section. Include methods for maintaining installed products, and precautions against cleaning materials and methods detrimental to finishes and performance. Include names and addresses of spare part suppliers.
   3. Provide brief description of unit, with details of function, operation, control and component service.
   4. Commissioning Report: Submit commissioning reports, report forms and schematics in accordance with Section **[01 91 00 - Commissioning] [_____]**.

PART 1.05 QUALITY ASSURANCE

A. Qualifications:

1. Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.
2. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction and approving application method.

B. Preinstallation Meetings: Conduct Pre-installation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with Division 01 Project Management and Coordination (Project Meetings).

PART 1.06 DELIVERY, STORAGE & HANDLING

A. General: Comply with **[01 61 00 - Common Product Requirements] [_____]**.

B. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.

C. Packing, Shipping, Handling and Delivery:

1. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
2. Ship, handle and unload units according to manufacturer's instructions.

D. Storage and Protection:

1. Store materials protected from exposure to harmful weather conditions.
2. Factory shipping covers to remain in place until installation.

Specifier Note: Include or remove following section as project dictates.

E. Waste Management and Disposal:

Specifier Note: ENVIRONMENT: The disposal of packaging waste into landfill site demonstrates an inefficient use of natural resources and consumes valuable landfill space.

1. Separate waste materials for **[Reuse] [And] [Recycling] [_____] in accordance with Section [01 74 19 - Construction Waste Management and Disposal] [_____]**.
2. Remove from site and dispose of packaging materials at appropriate recycling facilities.
3. Collect and separate for **disposal [Paper] [Plastic] [Polystyrene] [Corrugated cardboard] [_____] packaging material [In appropriate onsite bins] [_____] for recycling**.

Specifier Note: Coordinate article below with Conditions of the Contract and with Division 01 Closeout Submittals (Warranty).

PART 1.07 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

Specifier Note: Coordinate paragraph below with manufacturer's warranty requirements.

C. Warranty: Commencing on Date of Installation.

1. Compressor: Five years (limited) (non-residential applications)
2. Other Covered Components: One year (limited) (non-residential applications)

PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards, and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

PART 2.01 AIR CONDITIONERS/SPLIT SYSTEM UNITS

A. Manufacturer: ***[Lennox Industries]***

1. Contact: ***[2100 Lake Park Blvd., Richardson, TX 75080; Telephone: (800) 453-6669; website:*** www.lennox.com]

B. Proprietary Products/Systems: ***[Lennox T-Class ™]*** Split System Air Conditioner Units, including the following equipment:

1. Cabinet:
   a. Heavy gauge steel with 5 station metal wash preparation
   b. Powder paint finish
   c. Corrosion and rust resistant paint
   d. Control box with controls factory wired
   e. Corner patch plate access to compressor components
   f. Base drainage holes for moisture removal
   g. Painted base section
   h. [Accessories]:
      1) [Hail Guards: Four-sided of louvered heavy gauge steel painted to match cabinet.]
      2) [Mounting Base of high-density polyethylene structural material for permanent foundation of outdoor units.]
      3) [Unit Stand-Off Kit consisting of 4 black polyethylene feet to raise unit off mounting surface.]
2. Compressor:
   a. Scroll type.
   b. Resiliently mounted on rubber mounts for vibration isolation.
   c. Internal excessive current and temperature protection.
   d. Crankcase heater.
   e. [Accessories:]
      1) [Low Ambient Cut-Off: nonadjustable switch to prevent compressor operation at outdoor temperatures below 35 degrees F.]
      2) [Compressor Sound Cover: Reinforced vinyl cover containing 1 1/2 inches thick fiberglass insulation batt.]
      3) [Compressor Timed-Off Control: kit prevents short cycling.]
3. Refrigerant System:
   a. Refrigerant: **[R22] [R410-A]**
   b. Factory charge refrigerant
   c. Condenser Fan:
      1) Direct drive fan
      2) Vertical air discharge
      3) Totally enclosed fan motor with sleeve bearings
      4) Motor inherently protected
      5) Rain shield
      6) Louvered steel top fan guard
   d. Copper Tube/Fin Coil:
      1) Copper tube with flared shoulder connections and silver solder construction
      2) Lanced, ripple-edged aluminum fins
      3) PVC coated steel wire coil guard
      4) Coil is leak tested at factory
      5) Entire coil is accessible for cleaning
   e. [Accessories:]
      1) [Expansion Valve Kit]

Specifier Note: The High Pressure switch kit is a standard feature on the Lennox T-Class™ R-410A models.

2) [High Pressure Switch Kit]

3) [Loss of Charge Kit]

4) [Refrigerant Line Kits]

4. [Controls:]

a. [Low Ambient Kit: Allows unit to operate satisfactorily down to 30 degrees F. (field installed).]

b. [Freezestat]

c. [Thermostat]

d. [Time Delay Relay Kit]

5. Refrigerant Line Connections, Electrical Inlets, Service Valves:
   a. Sweat connection vapor and liquid lines located on cabinet corner
   b. Fully serviceable and accessible brass service valves
   c. Full shutoff suction valve
   d. Liquid valve can be front seated to manage refrigerant charge while servicing system
   e. Refrigerant line connections and field wiring inlets to be located in one central area
6. See manufacturers list of combinations of air conditioning and furnace or air handlers
7. Units to be factory assembled, piped and wired
8. Units to be assembled in the USA
9. All units are to be factory run tested
10. Installer responsibilities:
    a. Set unit
    b. Connect refrigerant lines
    c. Make electrical connections

Specifier Note: Edit article below to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Division 01 Project Requirements (Product Substitutions Procedures) Section.

PART 2.02 PRODUCT SUBSTITUTIONS

A. Substitutions: No substitutions permitted.

PART 3 EXECUTION

PART 3.01 MANUFACTURER'S INSTRUCTIONS

Specifier Note: Revise article below to suit project requirements and specifier's practice.

A. Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalog installation instructions and product carton installation instructions.

PART 3.02 EXAMINATION

A. Site Verification of Conditions: Verify that substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.

PART 3.03 INSTALLATION

A. Install air conditioner in accordance with manufacturer's instructions and regulations of authorities having jurisdiction.

END OF SECTION

REVISIONS

Sections	Description of Change
ARI Ratings	Removed all 048 ratings with C33-38C; no such coil.

Visit us at www.lennox.com
For the latest technical information, www.lennoxcommercial.com
Contact us at 1-800-9-LENNOX

NOTE - Due to Lennox' ongoing committment 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.