



The new degree of comfort.®

## Rheem Classic Plus® Series Ducted Split Air Conditioners

### EA14 Series Condensing Unit

Nominal Sizes 1.5-5.5 Ton [4.83 to 17.63 kW]



### EL3T- Series Low Height Air Handler

Constant Torque Motor (ECM)



60Hz

\*Uninterrupted cooling up to 56°C

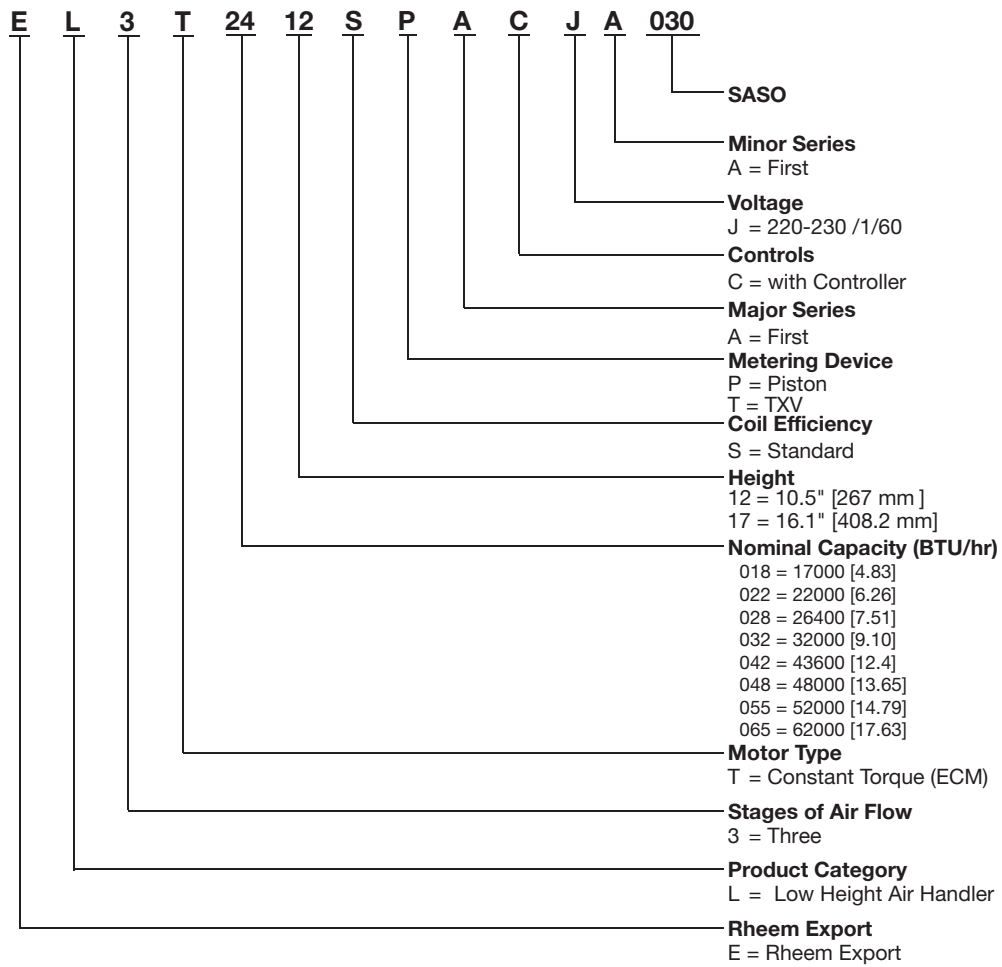
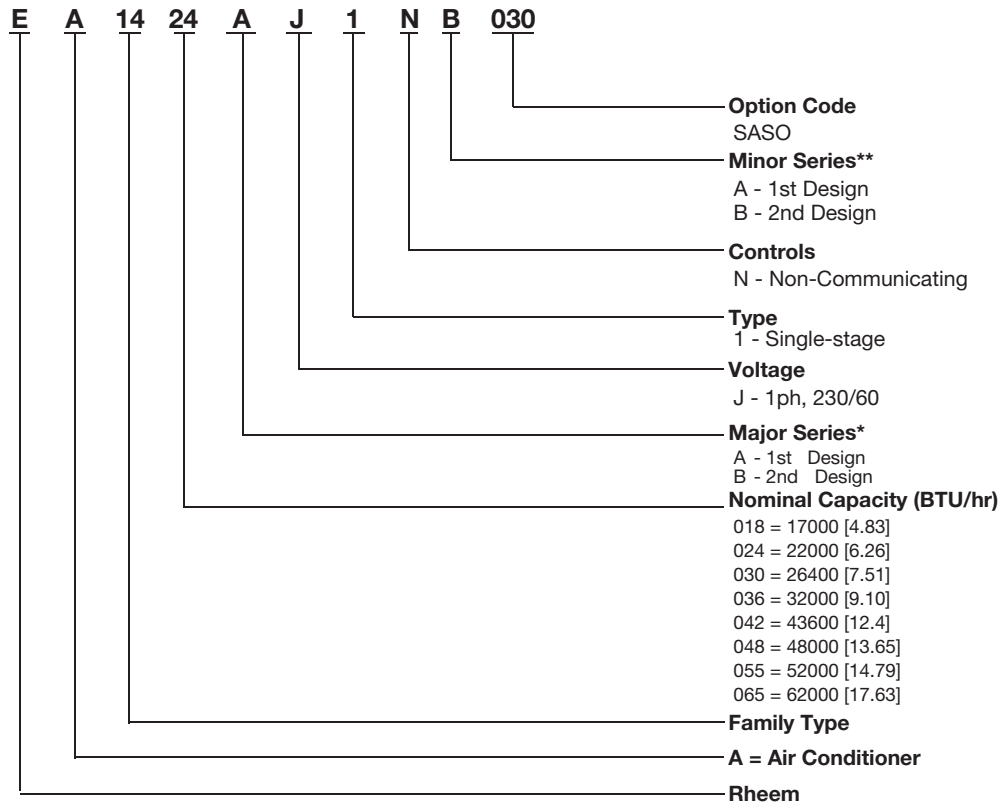


INTEGRATED AIR & WATER

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[ ] Designates Metric Conversions



### Available SKUs - Condensing Unit

Available Models	Description	Power Supply
EA1418AJ1NB030	1- 1/2 Ton Single-Stage Air Conditioner w/ High/Low Pressure Control - 208-230/1/60	208-230/1Ph/60Hz
EA1424BJ1NB030	2 Ton Single-Stage Air Conditioner w/ High/Low Pressure Control - 208-230/1/60	
EA1430AJ1NB030	2- 1/2 Ton Single-Stage Air Conditioner w/ High/Low Pressure Control - 208-230/1/60	
EA1436AJ1NB030	3 Ton Single-Stage Air Conditioner w/ High/Low Pressure Control - 208-230/1/60	
EA1442BJ1NB030	3- 1/2 Ton Single-Stage Air Conditioner w/ High/Low Pressure Control - 208-230/1/60	
EA1448AJ1NB030	4 Ton Single-Stage Air Conditioner w/ High/Low Pressure Control - 208-230/1/60	
EA1455AJ1NB030	5 Ton Single-Stage Air Conditioner w/ High/Low Pressure Control - 208-230/1/60	
EA1465AJ1NB030	5- 1/2 Ton Single-Stage Air Conditioner w/ High/Low Pressure Control - 208-230/1/60	

### Available SKUs - Air Handler

Available Models	Description	Power Supply
EL3T1812SPBCJA030	Low Height Air Handler w/ Constant Torque ECM Motor (Piston)	208-230/1Ph/60Hz
EL3T2212SPBCJA030		
EL3T2812SPBCJA030		
EL3T3212SPBCJA030		
EL3T4217STACJA030	Low Height Air Handler w/ Constant Torque ECM Motor (TXV)	
EL3T4817STACJB030		
EL3T5517STACJA030		
EL3T6518STACJA030		

### EA14 Standard Feature Table

Feature	18	24	36	42	48	55	65
R-410a Refrigerant	√	√	√	√	√	√	√
Scroll Compressor	√	√	√	√	√	√	√
Field Installed Filter Drier	√	√	√	√	√	√	√
Front Seating ServiceValves	√	√	√	√	√	√	√
Internal Pressure Relief Valve	√	√	√	√	√	√	√
Internal Thermal Overload	√	√	√	√	√	√	√
Long Line capability	√	√	√	√	√	√	√
3-4-5 Expanded Valve Space	√	√	√	√	√	√	√
Composite Basepan	√	√	√	√	√	√	√
2 Screw Control Box Access	√	√	√	√	√	√	√
15" Access to Internal Components	√	√	√	√	√	√	√
Quick release louver panel design	√	√	√	√	√	√	√
No fasteners to remove along bottom	√	√	√	√	√	√	√
Optimized Venturi Airflow	√	√	√	√	√	√	√
Single row condenser coil	√	√	√	√	√	√	√
Powder coated paint	√	√	√	√	√	√	√
Rust resistant screws	√	√	√	√	√	√	√
External gauge ports	√	√	√	√	√	√	√
Service trays	√	√	√	√	√	√	√
High Pressure Switch	√	√	√	√	√	√	√
Low Pressure Switch	√	√	√	√	√	√	√

√ = Standard



## EA14 Standard Features

- New composite base pan – dampens sound, captures louver panels, eliminates corrosion and reduces number of fasteners needed
- Powder coat paint system – for a long lasting professional finish rated at 1008 hours salt spray per ASTM B117.
- Scroll compressor – uses 70% fewer moving parts for higher efficiency and increased reliability
- Modern cabinet aesthetics – increased curb appeal with visually appealing design
- Curved louver panels – provide ultimate coil protection, enhance cabinet strength, and increased cabinet rigidity
- Optimized fan orifice – optimizes airflow and reduces unit sound
- Rust resistant screws – confirmed through 1500-hour salt spray testing
- PlusOne™ Expanded Valve Space – 3"-4"-5" service valve space – provides a minimum working area of 27-square inches for easier access
- PlusOne™ Triple Service Access – 15" wide, industry leading corner service access – makes repairs easier and faster. The two fastener removable corner allows optimal access to internal unit components. Individual louver panels come out once fastener is removed, for faster coil cleaning and easier cabinet reassembly
- Diagnostic service window with two-fastener opening – provides access to the high and low pressure.
- External gauge port access – allows easy connection of “low-loss” gauge ports
- Single-row condenser coil – makes unit lighter and allows thorough coil cleaning to maintain “out of the box” performance
- 35% fewer cabinet fasteners and fastener-free base – allow for faster access to internal components and hassle-free panel removal
- Service trays – hold fasteners or caps during service calls
- Fan motor harness with extra long wires allows unit top to be removed without disconnecting fan wire.
- High pressure switch and low pressure switch for unit and compressor protection.
- Liquid line filter drier shipped with unit for field installation.

## EL3T STANDARD FEATURES

- All standard air handler models only 10.5" high. (up to 3TR only).
- Model 42 to 55 height is 16.07" and model 65 height is 16.57"
- Attractive pre-painted cabinet exterior.
- Rugged wall steel cabinet construction, designed for added strength and versatility.
- Insulation in blower compartment for excellent thermal and sound performance
- Resilient ring blower mount.
- Removable blower deck assembly for service and maintenance convenience
- Traditional open wire element design for 60 Hz heat applications.
- Indoor coil design provides low air side pressure drop, high performance and extremely compact size.
- Coils are constructed of aluminum fins bonded to internally grooved copper tubing.
- Coils are tested at the factory with an extensive refrigerant leak check.
- Coils have copper sweat refrigerant connections.
- Molded polymer corrosion resistant condensate drain pan is provided on all indoor coils.
- Connection point for both high and low voltage field wiring are located in the external control box on the side of the air handler cabinet.
- Refrigerant connections are located above external control box on the side of the unit. Drain connections are located on each side of the plastic drain pan.
- EL3T feature a Constant Torque motor (ECM) which provides enhanced EER performance with Rheem outdoor units.
- Factory-installed indoor coil.
- 18 Model through 32 models are 10.5 inches [267 mm] tall and between 24 to 25 inches [619 to 642 mm] deep.
- 32 Model through 55 models are 16.07 inches [408.2 mm] tall and 29.43 inches [747 mm] deep.
- 65 Model is 16.57 inches [420.9 mm] tall and 29.43 inches [747 mm] deep
- All models meet or exceed 300 to 400 CFM [156 to 189 L/s] per ton at standard external static pressure.

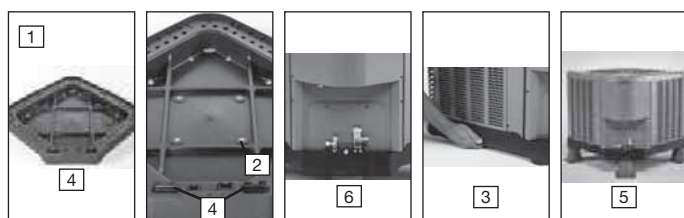
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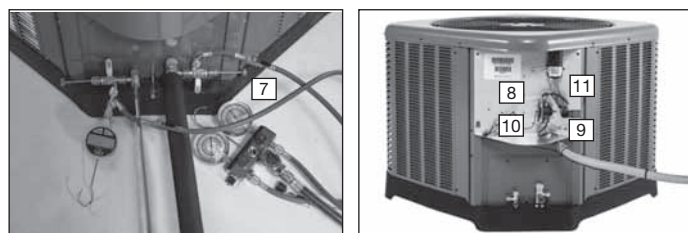
## Introduction to EA14 Condensing Unit / Features & Benefits

The EA14 is a new part of the Rheem air conditioner product line. This highly featured and reliable air conditioner is designed for years of reliable, efficient operation when matched with Rheem indoor aluminum evaporator coils and furnaces or air handler units with aluminum evaporators.

Our unique composite base (1) reduces sound emission, eliminates rattles, significantly reduces fasteners, eliminates corrosion and has integrated brass compressor attachment inserts (2). Furthermore it has incorporated into the design, water management features, means for hand placement (3) for unit maneuvering, screw trays (4) and inserts for lifting off unit pad. (5)



Service Valves (6) are rigidly mounted in the composite base with 3" between suction and discharge valves, 4" clearance below service valves and a minimum of 5" above the service valves, creating industry leading installation ease. The minimum 27 square-inches around the service valves allows ample room to remove service valve schrader prior to brazing, plenty of clearance for easy brazing of the suction and discharge lines to service valve outlets, easy access and hookup of low loss refrigerant gauges (7), and access to the service valve caps for opening. For applications with long-line lengths, the long-line instructions in the installation manual should be followed.

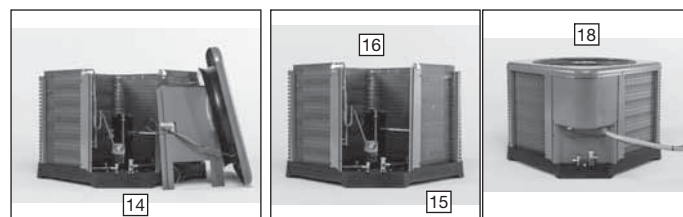


Controls are accessed from the corner of the unit by removing only two fasteners from the control access cover, revealing the industry's largest 15" wide and 14" tall control area (8). With all this room in the control area the high voltage electrical whip (9) can easily be inserted through the right size opening in the bottom of the control area. Routing it leads directly to contractor lugs for connection. The low voltage control wires (10) are easily connected to units low voltage wiring. If contactor or capacitor (11) needs to be replaced there is more than adequate space to make the repair.

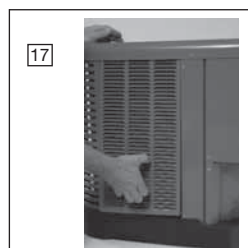
The service window (12) can be removed by removing two screws, to access the high and low side pressure switches. The entire corner can be removed providing ultimate access to install the high and low pressure switch. (13)



If in the rare event, greater access is needed to internal components, such as the compressor, the entire corner of the unit can be removed along with the top cover assembly to have unprecedented access to interior of the unit (14). Extra wire length is incorporated into each outdoor fan and compressor so top cover and control panel can be positioned next to the unit. With minimal effort the plug can be removed from the compressor and the outdoor fan wires can be removed from the capacitor to allow even more uncluttered access to the interior of the unit (15). Outdoor coil heights range from as short as 22" to 32", aiding access to the compressor. Disassembly to this degree and complete reassembly only takes a first time service technician less than 10 minutes. (18)



All units utilize strong formed louver panels which provide industry leading coil protection. Louver removal for coil cleaning is accomplished by removing one screw and lifting the panel out of the composite base pan. (17) All EA14 units utilize single row coils (16) making cleaning easy and complete, restoring the performance of the air conditioner back to out of the box performance levels year after year.

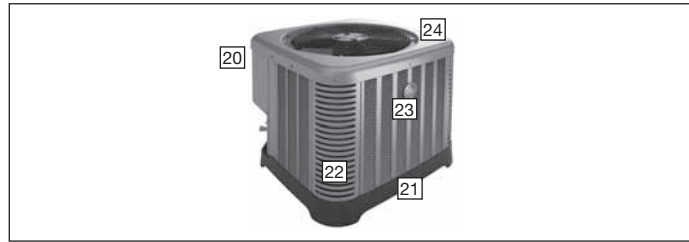


The outdoor fan motor has sleeve bearings and is inherently protected. The motor is totally enclosed for maximum protection from weather, dust and corrosion. Access to the outdoor fan is made by removing four fasteners from the fan grille. The outdoor fan can be removed from the fan grille by removing 4 fasteners in the rare case outdoor fan motor fails.

Each cabinet has optimized composite (19) fan orifice assuring efficient and quiet airflow.



The entire cabinet has powder post paint (20) achieving 1008 hour salt spray rating, allowing the cabinet to retain its aesthetics throughout its life.



Scroll compressors with standard internal pressure relief and internal thermal overload are used on all capacities assuring longevity of high efficient and quiet operation for the life of the product.

Each unit is shipped with filter drier for field installation and will trap any moisture or dirt that could contaminate the refrigerant system.



All cabinets have industry leading structural strength due to the composite base pan (21), interlocking corner post (22), formed curved louver panels (23) and drawn top cover (24) making it the most durable cabinet on the market today.

Each EA14 capacity has undergone rigorous psychometric testing to assure performance ratings of capacity, EER per AHRI Standard 210/240 rating conditions and SASO 2663/2014 . Also each unit is designed to UL safety standard and each unit is certified to UL 1995 and/or IEC 60335-1 safety standards.

Each unit has undergone specific strain and modal testing to assure tubing (25) is outside the units natural frequency and that the suction and discharge lines connected to the compressor withstand any starting, steady state operation or shut down forces imposed by the compressor.

All units have been sound tested in sound chamber to AHRI 270 rating conditions, and A-weighted Sound Power Level tables produced, assuring units have acceptable noise qualities (see page 10). Each unit has been ran in cooling operation at 95°F and 82°F and sound ratings for the EA14 range from as low as 74 dBA to 77 dBA.

All units have been ship tested to assure units meet stringent "over the road" shipping conditions.

As manufactured all units in the EA14 family have cooling capability down to 55 °F. Addition of low ambient control will allow the unit to operate down to 0°F. Factory testing is performed on each unit. All component parts meet well defined specification and continually go through receiving inspections. Each component installed on a unit is scanned, assuring correct component utilization for a given unit capacity and voltage. All condenser coils are leak tested with pressurization test to 550 psi and once installed and assembled, each units' complete refrigerant system is helium leak tested. All units are fully charged from the factory for up to 15 feet of piping. All units are factory run tested.

## Optional Accessories

### (Refer to accessory chart for model #) Compressor Crankcase Heater

Protects against refrigerant migration that can occur during low ambient operation

### Compressor Sound Cover

- Reinforced vinyl compressor cover containing a 1½ inch thick batt of fiberglass insulation
- Open edges are sealed with a one-inch wide hook and loop fastening tape

### 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
- Kit may be required to increase the compressor starting torque, in conditions such as low voltage

### Low Ambient Kit

- Air conditioners operate satisfactorily in the cooling mode down to 55°F outdoor air temperature without any additional controls
- This Kit can be added in the field enabling unit to operate properly down to 0° in the cooling mode
- Crankcase heater and freezestat should be installed on compressors equipped with a low ambient kit

### 3"/6"/12"

- Gray high density polyethylene feet are available to raise unit off of mounting surface away from moisture

# PERFORMANCE DATA CALCULATION PROCEDURE

Apply interpolation method to get the required temperatures that are not stated in the table. Extrapolation is not allowed.

See the example of calculation procedure below:

## GROSS SYSTEMS PERFORMANCE DATA - EA1418AJ1NB030+EL3T1812SPACJA030

Indoor			Outdoor Temperature											
			95°F [35°C]			115°F [46°C]			118°F [48°C]			126°F [52°C]		
Air Flow CFM [L/s]	WBE	DBE	Total Capacity	Sensible Capacity	Power Input	Total Capacity	Sensible Capacity	Power Input	Total Capacity	Sensible Capacity	Power Input	Total Capacity	Sensible Capacity	Power Input
			MBTUH	MBTUH	kW	MBTUH	MBTUH	kW	MBTUH	MBTUH	kW	MBTUH	MBTUH	kW
500 [236]	61°F [16°C]	70°F	15.73	11.01	1.31	13.84	10.04	1.62	13.68	10.02	1.68	12.81	9.63	1.86
		75°F	15.95	13.55	1.31	14.06	12.45	1.63	13.75	12.31	1.68	12.94	11.90	1.85
		81°F	16.25	16.19	1.32	14.42	14.42	1.63	14.16	14.16	1.69	13.41	13.41	1.85
		86°F	16.83	16.83	1.31	15.38	15.38	1.63	15.09	15.09	1.69	14.29	14.29	1.83
	66°F [19°C]	75°F	17.42	11.11	1.31	15.45	10.25	1.63	15.19	10.14	1.68	14.15	9.69	1.84
		81°F	17.33	13.99	1.31	15.47	13.03	1.63	15.10	12.85	1.68	14.40	12.58	1.83
		86°F	17.45	16.51	1.31	15.64	15.37	1.63	15.50	15.31	1.68	14.46	14.37	1.83
		91°F	17.79	17.79	1.30	16.26	16.26	1.62	16.01	16.01	1.67	15.37	15.37	1.82
	72°F [22°C]	81°F	19.58	11.27	1.31	17.25	10.25	1.62	16.89	10.08	1.68	15.89	9.66	1.83
		86°F	19.44	13.57	1.31	17.28	12.72	1.62	17.01	12.61	1.67	15.93	12.19	1.82
		91°F	19.45	15.82	1.31	17.35	15.07	1.61	17.02	14.97	1.67	16.17	14.61	1.82
		97°F	19.67	19.05	1.30	17.50	17.50	1.61	17.17	17.17	1.67	16.44	16.44	1.81

Required conditions:

- Outdoor temperature: 120°F
- On-coil temperature [DB/WB]: 76°F/63°F
- Airflow: 500 CFM

From the Performance table, the following are determined:

- 76°F DB is between 75°F and 81°F, interpolation can be applied
- 63°F WB is between 61°F and 66°F, interpolation can be applied
- 120°F outdoor temperature is between 118.4°F and 126°F, interpolation can be applied

Indoor			Outdoor Temperature											
			95°F [35°C]			115°F [46°C]			118°F [48°C]			126°F [52°C]		
Air Flow CFM [L/s]	WBE	DBE	Total Capacity	Sensible Capacity	Power Input	Total Capacity	Sensible Capacity	Power Input	Total Capacity	Sensible Capacity	Power Input	Total Capacity	Sensible Capacity	Power Input
			MBTUH	MBTUH	kW	MBTUH	MBTUH	kW	MBTUH	MBTUH	kW	MBTUH	MBTUH	kW
500 [236]	61°F [16°C]	70°F	15.73	11.01	1.31	13.84	10.04	1.62	13.68	10.02	1.68	12.81	9.63	1.86
		75°F	15.95	13.55	1.31	14.06	12.45	1.63	13.75	12.31	1.68	12.94	11.90	1.85
		76°F							<b>Step 1</b>			<b>Step 3</b>		
		81°F	16.25	16.19	1.32	14.42	14.42	1.63	14.16	14.16	1.69	13.41	13.41	1.85
	66°F [19°C]	86°F	16.83	16.83	1.31	15.38	15.38	1.63	15.09	15.09	1.69	14.29	14.29	1.83
		75°F	17.42	11.11	1.31	15.45	10.25	1.63	15.19	10.14	1.68	14.15	9.69	1.84
		76°F							<b>Step 2</b>			<b>Step 4</b>		
		81°F	17.33	13.99	1.31	15.47	13.03	1.63	15.10	12.85	1.68	14.40	12.58	1.83
	72°F [22°C]	86°F	17.45	16.51	1.31	15.64	15.37	1.63	15.50	15.31	1.68	14.46	14.37	1.83
		91°F	17.79	17.79	1.30	16.26	16.26	1.62	16.01	16.01	1.67	15.37	15.37	1.82
		81°F	19.58	11.27	1.31	17.25	10.25	1.62	16.89	10.08	1.68	15.89	9.66	1.83
		86°F	19.44	13.57	1.31	17.28	12.72	1.62	17.01	12.61	1.67	15.93	12.19	1.82
72°F [22°C]	91°F	19.45	15.82	1.31	17.35	15.07	1.61	17.02	14.97	1.67	16.17	14.61	1.82	
	97°F	19.67	19.05	1.30	17.50	17.50	1.61	17.17	17.17	1.67	16.44	16.44	1.81	

Solution:

Step 1: Step 1: Interpolate to get the values of TC, SC and PI at 76°F/61°F On-coil and outdoor 118.4°F.

Air Flow CFM [L/s]	WBE	DBE	118°F [48°C]		
			Total Capacity	Sensible Capacity	Power Input
			MBTUH	MBTUH	kW
500 [236]	61°F [16°C]	70°F	13.68	10.02	1.68
		75°F	13.75	12.31	1.68
		<b>76°F</b>	<b>Step 1</b>		
		81°F	14.16	14.16	1.69
		86°F	15.09	15.09	1.69

$$TC_1: \frac{76°F-75°F}{81°F-75°F} = \frac{TC_1-13.75}{14.16-13.75}$$

$$TC_1: 13.818 \text{ MBTUH}$$

Follow the same steps to get SC<sub>1</sub> and PI<sub>1</sub>.

$$SC_1: 12.618 \text{ MBTUH}$$

$$PI_1: 1.682 \text{ kW}$$

Step 2: Interpolate to get the values of TC, SC and PI at 76°F/66°F On-coil and outdoor 118.4°F.

Air Flow CFM [L/s]	WBE	DBE	118°F [48°C]		
			Total Capacity	Sensible Capacity	Power Input
			MBTUH	MBTUH	kW
500 [236]	66°F [19°C]	75°F	15.19	10.14	1.68
		<b>76°F</b>	<b>Step 2</b>		
		81°F	15.10	12.85	1.68
		86°F	15.50	15.31	1.68
		91°F	16.01	16.01	1.67

$$TC_2: \frac{76°F-75°F}{81°F-75°F} = \frac{TC_2-15.19}{15.10-15.19}$$

$$TC_2: 15.175 \text{ MBTUH}$$

Follow the same steps to get SC<sub>2</sub> and PI<sub>2</sub>.

$$SC_2: 10.592 \text{ MBTUH}$$

$$PI_2: 1.68 \text{ kW}$$

Step 3: Interpolate to get the values of TC, SC and PI at 76°F/61°F On-coil and outdoor 126°F.

Air Flow CFM [L/s]	WBE	DBE	126°F [52°C]		
			Total Capacity	Sensible Capacity	Power Input
			MBTUH	MBTUH	kW
500 [236]	61°F [16°C]	70°F	12.81	9.63	1.86
		75°F	12.94	11.90	1.85
		<b>76°F</b>	<b>Step 3</b>		
		81°F	13.41	13.41	1.85
		86°F	14.29	14.29	1.83

$$TC_3: \frac{76^\circ\text{F}-75^\circ\text{F}}{81^\circ\text{F}-75^\circ\text{F}} = \frac{TC_3-12.94}{13.41-12.94}$$

$$TC_3: 13.018 \text{ MBTUH}$$

Follow the same steps to get SC<sub>3</sub> and PI<sub>3</sub>.

$$SC_3: 12.152 \text{ MBTUH}$$

$$PI_3: 1.85 \text{ kW}$$

Step 4: Interpolate to get the values of TC, SC and PI at 76°F/66°F On-coil and outdoor 126°F.

Air Flow CFM [L/s]	WBE	DBE	126°F [52°C]		
			Total Capacity	Sensible Capacity	Power Input
			MBTUH	MBTUH	kW
500 [236]	66°F [19°C]	75°F	14.15	9.69	1.84
		<b>76°F</b>	<b>Step 4</b>		
		81°F	14.40	12.58	1.83
		86°F	14.46	14.37	1.83
		91°F	15.37	15.37	1.82

$$TC_4: \frac{76^\circ\text{F}-75^\circ\text{F}}{81^\circ\text{F}-75^\circ\text{F}} = \frac{TC_4-14.15}{14.40-14.15}$$

$$TC_4: 14.192 \text{ MBTUH}$$

Follow the same steps to get SC<sub>4</sub> and PI<sub>4</sub>.

$$SC_4: 10.172 \text{ MBTUH}$$

$$PI_4: 1.838 \text{ kW}$$



Step 5: Interpolate the results of TC, SC and PI at 76°F/61°F in Step 1 [118.4°F] and Step 3 [126°F] to get the values at Step 5 [120°F].

Indoor			Outdoor Temperature								
			118°F [48°C]			120°F [48.9°C]			126°F [52°C]		
Air Flow CFM [L/s]	WBE	DBE	Total Capacity	Sensible Capacity	Power Input	Total Capacity	Sensible Capacity	Power Input	Total Capacity	Sensible Capacity	Power Input
			MBTUH	MBTUH	kW	MBTUH	MBTUH	kW	MBTUH	MBTUH	kW
500 [236]	61°F [16°C]	76°F	13.82	12.62	1.68	<b>Step 5</b>			13.02	12.15	1.85

TC<sub>5</sub>: 13.62 MBTUH  
SC<sub>5</sub>: 12.503 MBTUH  
PI<sub>5</sub>: 1.723 kW

Step 6: Interpolate the results of TC, SC and PI at 76°F/66°F in Step 2 [118.4°F] and Step 4 [126°F] to get the values at Step 6 [120°F].

Indoor			Outdoor Temperature								
			118°F [48°C]			120°F [48.9°C]			126°F [52°C]		
Air Flow CFM [L/s]	WBE	DBE	Total Capacity	Sensible Capacity	Power Input	Total Capacity	Sensible Capacity	Power Input	Total Capacity	Sensible Capacity	Power Input
			MBTUH	MBTUH	kW	MBTUH	MBTUH	kW	MBTUH	MBTUH	kW
500 [236]	66°F [19°C]	76°F	15.18	10.59	1.68	<b>Step 6</b>			14.19	10.17	1.84

TC<sub>5</sub>: 14.933 MBTUH  
SC<sub>5</sub>: 10.485 MBTUH  
PI<sub>5</sub>: 1.72 kW

Step 7: Interpolate the results of TC, SC and PI of Step 5 [76°F/61°F and 120°F] and Step 6 [76°F/66°F and 120°F] to get the values at 76°F/63°F On-coil and 120°F outdoor.

Indoor			Outdoor Temperature		
			120°F [48.9°C]		
Air Flow CFM [L/s]	WBE	DBE	Total Capacity	Sensible Capacity	Power Input
			MBTUH	MBTUH	kW
500 [236]	61°F [16°C]	76°F	13.62	12.503	1.72
	63°F [19°C]	76°F	<b>Step 7</b>		
	66°F [19°C]	76°F	14.933	10.49	1.72

TC<sub>5</sub>: 14.145 MBTUH  
SC<sub>5</sub>: 11.698 MBTUH  
PI<sub>5</sub>: 1.72 kW

## Combination T1/T3 SASO Ratings - EA14 and EL3T per SASO 2663:

ODU EA14	IDU EL3T	T1 Rated Capacity (BTUH)	T1 Rated EER	T1 Rated Power (kW)	T1 Rated Current (A)	T3 Rated Capacity (BTUH)	T3 Rated EER	T3 Rated Power (kW)	T3 Rated Current (A)	Estimated Annual Energy Consumption	Maximum Ambient Temp (°C)
EA1418AJ1NB030	EL3T1812SPBCJA030	17000	12.15	1.400	6.69	15500	8.90	1.700	8.00	3780*	55
EA1424BJ1NB030	EL3T2212SPBCJA030	22000	11.85	1.855	8.86	19600	8.30	2.350	11.30	5009*	54
EA1430AJ1NB030	EL3T2812SPBCJA030	26400	11.80	2.240	10.68	23200	8.30	2.740	13.20	6035*	56
EA1436AJ1NB030	EL3T3212SPBCJA030	32000	11.85	2.700	13.04	28000	8.30	3.350	15.80	7290*	56
EA1442BJ1NB030	EL3T4217STACJA030	43600	11.80	3.690	17.10	38400	8.30	4.610	21.00	9963*	54
EA1448AJ1NB030	EL3T4817STACJB030	48000	12.80	3.725	18.00	46000	9.50	4.840	21.90	10057*	56
EA1455AJ1NB030	EL3T5517STACJA030	52000	11.80	4.300	20.50	47000	8.45	5.325	25.10	11610*	56
EA1465AJ1NB030	EL3T6518STACJA030	62000	12.10	5.130	24.40	56400	8.90	6.310	29.60	13851*	56

\*Estimated Annual Energy Consumption values are calculated based on T1 conditions and 2700hrs usage per year





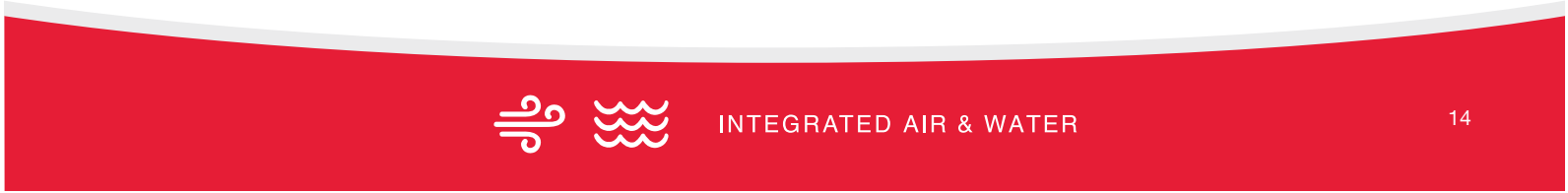


GROSS SYSTEMS PERFORMANCE DATA - EA1424BJ1NB030+EL3T2212SPBCJA030

Table with columns for Indoor (Air Flow CFM, WBE, DBE) and Outdoor Ambient Temperature (95°F [35°C], 115°F [46°C], 118°F [48°C], 126°F [52°C]). Rows include performance metrics like Total Capacity, Sensible Capacity, and Power Input for various indoor conditions and airflow rates.

DBE—Entering air dry bulb WBE—Entering air wet bulb

[ ] Designates Metric Conversions





Performance Data  
EA14+EL3T Series

GROSS SYSTEMS PERFORMANCE DATA - EA1430AJ1NB030+EL3T2812SPBCJA030

Indoor		Outdoor Ambient Temperature, DB																					
		95°F [35°C]				115°F [46°C]				118°F [48°C]				126°F [52°C]									
Air Flow CFM [L/s]	WBE	DBE	Total Capacity		Sensible Capacity		Power Input kW	Total Capacity		Sensible Capacity		Power Input kW	Total Capacity		Sensible Capacity		Power Input kW						
			kW	kBTUH	kW	kBTUH		kW	kBTUH	kW	kBTUH		kW	kBTUH	kW	kBTUH		kW	kBTUH				
800 [378]	61°F [16°C]	70°F	6.99	23.84	4.24	14.46	2.18	6.18	21.07	3.89	13.29	2.69	6.12	20.88	3.87	13.21	2.82	5.74	19.60	3.71	12.67	3.02	
		75°F	6.94	23.69	5.08	17.34	2.18	6.18	21.09	4.77	16.27	2.69	5.93	20.22	4.67	15.95	2.87	5.74	19.60	4.60	15.70	3.02	
		81°F	7.03	23.98	6.23	21.25	2.18	6.25	21.94	5.54	18.92	2.70	6.11	20.86	5.42	18.49	2.81	5.81	19.82	5.15	17.57	3.01	
	66°F [19°C]	75°F	7.29	24.86	6.46	22.03	2.19	6.69	22.82	5.93	20.23	2.71	6.51	22.20	5.77	19.68	2.89	6.31	21.55	5.60	19.10	3.02	
		81°F	7.60	25.92	4.23	14.43	2.19	6.75	23.05	3.89	13.28	2.71	6.64	22.65	3.85	13.12	2.80	6.47	22.07	3.55	12.12	3.04	
		86°F	7.56	25.81	6.15	20.98	2.19	6.82	23.27	5.90	20.14	2.70	6.73	22.96	5.89	20.08	2.80	6.47	22.09	5.57	19.00	3.04	
	875 [413]	61°F [16°C]	70°F	8.48	28.94	4.21	14.38	2.20	7.57	25.84	3.90	13.30	2.79	7.46	25.45	3.86	13.17	2.82	7.32	24.97	3.54	12.08	3.06
			75°F	8.51	29.04	6.03	20.58	2.20	7.52	25.67	5.69	19.40	2.79	7.48	25.53	5.67	19.35	2.82	7.52	25.66	5.48	18.70	2.98
			81°F	8.51	29.03	7.12	24.29	2.20	7.56	25.79	6.70	22.86	2.79	7.49	25.56	6.64	22.66	2.82	7.53	25.69	6.56	22.39	2.98
66°F [19°C]		70°F	7.07	24.12	4.40	15.00	2.22	6.27	21.40	4.06	13.85	2.73	6.08	20.76	3.99	13.61	2.84	5.80	19.79	3.87	13.20	3.05	
		75°F	7.07	24.13	5.34	18.21	2.22	6.25	21.34	5.02	17.15	2.74	6.09	20.79	4.96	16.91	2.84	5.81	19.82	4.84	16.50	3.05	
		81°F	7.12	24.31	6.31	21.55	2.22	6.38	21.75	5.65	19.28	2.73	6.19	21.11	5.48	18.71	2.92	6.04	20.61	5.35	18.27	3.05	
950 [448]		61°F [16°C]	70°F	7.59	25.89	6.73	22.95	2.22	6.87	23.45	6.09	20.79	2.74	6.68	22.80	5.92	20.21	2.93	6.53	22.27	5.79	19.74	3.06
			75°F	7.80	26.61	4.42	15.09	2.22	6.85	23.37	4.06	13.85	2.74	6.74	23.01	4.02	13.71	2.84	6.55	22.35	3.71	12.67	3.08
			81°F	7.68	26.22	5.56	18.96	2.22	6.90	23.54	5.23	17.86	2.75	6.75	23.02	5.19	17.71	2.84	6.55	22.36	4.92	16.77	3.08
	66°F [19°C]	70°F	7.73	26.39	6.57	22.43	2.22	6.95	23.70	6.16	21.01	2.75	6.81	23.23	6.04	20.59	2.84	6.59	22.50	5.94	20.27	3.05	
		75°F	7.86	26.80	6.96	23.76	2.23	7.15	24.38	6.33	21.62	2.74	7.03	23.99	6.23	21.26	2.83	6.90	23.56	6.35	21.67	2.94	
		81°F	8.63	29.45	4.40	15.00	2.23	7.57	25.84	4.03	13.76	2.82	7.51	25.61	4.01	13.68	2.85	7.50	25.59	3.74	12.77	3.10	
	72°F [22°C]	70°F	8.57	29.23	5.38	18.35	2.23	7.60	25.92	5.03	17.15	2.83	7.51	25.63	5.03	17.16	2.84	7.44	25.39	4.75	16.20	3.07	
		75°F	8.62	29.42	6.37	21.73	2.23	7.57	25.84	6.01	20.50	2.82	7.57	25.83	6.01	20.50	2.85	7.58	25.87	5.81	19.83	3.00	
		81°F	8.76	29.91	7.61	25.98	2.23	7.67	26.16	6.80	23.19	2.81	7.63	26.02	6.76	23.07	2.86	7.55	25.77	6.93	23.63	3.10	
950 [448]	61°F [16°C]	70°F	7.16	24.44	4.52	15.43	2.25	6.29	21.46	4.16	14.20	2.77	6.14	20.95	4.10	13.98	2.88	5.82	19.84	3.97	13.53	3.08	
		75°F	7.12	24.29	5.53	18.88	2.25	6.30	21.50	5.19	17.71	2.76	6.14	20.95	5.13	17.51	2.88	5.82	19.86	5.00	17.06	3.08	
		81°F	7.14	24.35	6.33	21.58	2.25	6.49	22.14	5.75	19.63	2.76	6.31	21.52	5.59	19.08	2.96	6.16	21.01	5.46	18.63	3.08	
	66°F [19°C]	70°F	7.71	26.32	6.84	23.33	2.25	7.03	23.98	6.23	21.25	2.79	6.81	23.22	6.03	20.59	2.97	6.63	22.61	5.87	20.04	3.09	
		75°F	7.84	26.76	4.53	15.45	2.26	6.93	23.64	4.18	14.26	2.78	6.78	23.12	4.12	14.05	2.87	6.65	22.69	3.84	13.12	3.08	
		81°F	7.83	26.73	5.75	19.60	2.26	6.95	23.70	5.43	18.52	2.78	6.77	23.10	5.36	18.29	2.87	6.62	22.59	5.13	17.50	3.09	
	72°F [22°C]	70°F	7.79	26.59	6.81	23.24	2.26	7.03	23.98	6.23	21.26	2.79	6.89	23.51	6.11	20.84	2.87	6.71	22.90	6.18	21.07	3.09	
		75°F	8.00	27.31	7.09	24.21	2.26	7.27	24.81	6.45	21.99	2.78	7.13	24.35	6.32	21.58	2.87	7.10	24.23	6.53	22.27	2.99	
		81°F	8.74	29.83	4.53	15.44	2.27	7.75	26.45	4.19	14.29	2.86	7.58	25.86	4.13	14.09	2.88	7.55	25.76	3.85	13.14	3.12	
72°F [22°C]	70°F	8.74	29.82	5.59	19.07	2.26	7.65	26.12	5.19	17.72	2.87	7.59	25.91	5.19	17.72	2.89	7.55	25.76	4.94	16.85	3.12		
	75°F	8.72	29.76	6.61	22.55	2.27	7.67	26.18	6.24	21.30	2.86	7.59	25.89	6.20	21.15	2.88	7.55	25.76	5.98	20.41	3.12		
	81°F	8.82	30.08	7.82	26.67	2.27	7.71	26.32	6.84	23.33	2.86	7.69	26.23	6.81	23.25	2.89	7.59	25.91	6.96	23.75	3.12		

[ ] Designates Metric Conversions

DBE—Entering air dry bulb  
WBE—Entering air wet bulb



GROSS SYSTEMS PERFORMANCE DATA - EA1436AJ1NB030+EL3T3212SPBCJA30

Indoor			Outdoor Ambient Temperature, DB																			
Air Flow CFM [L/s]	WBE	DBE	95°F [35°C]				115°F [46°C]				138°F [48°C]				126°F [52°C]							
			Total Capacity kW	kBTUH	Sensible Capacity kW	kBTUH	Total Capacity kW	kBTUH	Sensible Capacity kW	kBTUH	Total Capacity kW	kBTUH	Sensible Capacity kW	kBTUH	Total Capacity kW	kBTUH	Sensible Capacity kW	kBTUH	Power Input kW			
1000 [472]	61°F [16°C]	70°F	8.59	29.31	5.88	20.06	2.61	7.69	26.25	5.45	18.58	3.26	7.51	25.63	5.36	18.30	3.36	7.09	24.21	5.16	17.62	3.65
		75°F	8.68	29.60	7.20	24.57	2.62	7.69	26.24	6.72	22.93	3.25	7.51	25.64	6.64	24.21	3.36	7.09	24.21	6.44	21.98	3.65
		81°F	8.72	29.75	8.67	29.59	2.62	7.73	26.36	7.69	26.23	3.25	7.64	26.06	7.60	25.93	3.35	7.23	24.68	7.19	24.55	3.64
		86°F	9.00	30.72	8.96	30.56	2.62	8.07	27.53	8.03	27.39	3.26	8.19	27.95	8.15	27.81	3.38	7.86	26.81	7.82	26.67	3.63
		75°F	9.54	32.56	5.94	20.28	2.64	8.44	28.79	5.46	18.63	3.27	8.27	28.23	5.39	18.38	3.38	7.79	26.59	5.18	17.68	3.65
		81°F	9.46	32.28	7.45	25.42	2.64	8.43	28.77	7.02	23.96	3.27	8.26	28.17	6.91	23.59	3.37	7.80	26.61	6.70	22.85	3.66
	66°F [19°C]	86°F	9.54	32.56	8.72	29.74	2.64	8.45	28.85	8.23	28.07	3.26	8.28	28.25	8.16	27.86	3.38	7.85	26.78	7.81	26.64	3.66
		91°F	9.61	32.79	9.56	32.61	2.64	8.68	29.62	8.63	29.46	3.26	8.54	29.14	8.50	28.99	3.37	8.33	28.42	8.29	28.27	3.55
		81°F	10.60	36.17	5.93	20.24	2.67	9.41	32.10	5.46	18.62	3.30	9.26	31.61	5.40	18.42	3.38	8.73	29.78	5.20	17.73	3.69
		86°F	10.59	36.12	7.21	24.62	2.67	9.43	32.18	6.76	23.06	3.31	9.26	31.58	6.69	22.82	3.38	8.72	29.75	6.48	22.12	3.69
		91°F	10.59	36.14	8.54	29.14	2.66	9.46	32.27	8.04	27.45	3.28	9.24	31.54	7.96	27.17	3.38	8.71	29.73	7.73	26.39	3.69
1020 [481]	61°F [16°C]	70°F	10.58	36.10	9.96	33.98	2.67	9.48	32.36	9.43	32.19	3.29	9.23	31.51	9.19	31.35	3.39	8.97	30.61	8.93	30.45	3.62
		75°F	8.74	29.83	6.03	20.58	2.66	7.70	26.26	5.53	18.88	3.28	7.54	25.74	5.46	18.64	3.40	7.09	24.18	5.23	17.85	3.67
		81°F	8.72	29.74	7.36	25.11	2.65	7.71	26.32	6.87	23.46	3.28	7.57	25.82	6.68	22.79	3.41	7.12	24.29	6.60	22.53	3.69
	66°F [19°C]	81°F	8.73	29.80	8.69	29.64	2.66	7.86	26.80	7.81	26.66	3.28	7.70	26.28	7.66	26.14	3.40	7.40	25.26	7.36	25.13	3.67
		86°F	9.13	31.15	9.08	30.99	2.66	8.31	28.36	8.27	28.22	3.30	8.38	28.59	8.33	28.44	3.42	7.99	27.27	7.95	27.13	3.67
		75°F	9.57	32.66	6.04	20.61	2.68	8.43	28.77	5.54	18.92	3.31	8.29	28.29	5.48	18.70	3.40	7.77	26.52	5.25	17.91	3.69
		81°F	9.51	32.44	7.63	26.03	2.67	8.46	28.87	7.13	24.32	3.30	8.29	28.28	7.11	24.27	3.40	7.83	26.72	6.89	23.51	3.70
1075 [507]	61°F [16°C]	86°F	9.58	32.67	8.94	30.50	2.68	8.49	28.96	8.44	28.81	3.29	8.36	28.52	8.32	28.37	3.41	8.12	27.72	8.08	27.58	3.59
		91°F	9.79	33.40	9.74	33.23	2.68	8.82	30.09	8.77	29.93	3.31	8.67	29.59	8.63	29.44	3.40	8.43	28.77	8.39	28.62	3.59
		81°F	10.63	36.29	6.03	20.58	2.70	9.46	32.27	5.57	18.99	3.33	9.26	31.61	5.49	18.73	3.42	8.78	29.95	5.30	18.08	3.71
		86°F	10.62	36.23	7.37	25.16	2.71	9.45	32.26	6.91	23.59	3.33	9.28	31.66	6.85	23.36	3.41	8.76	29.91	6.65	22.68	3.73
		91°F	10.66	36.37	8.72	29.77	2.70	9.48	32.34	8.22	28.05	3.32	9.33	31.82	8.16	27.83	3.39	8.77	29.91	7.97	27.20	3.73
		97°F	10.73	36.60	10.29	35.10	2.71	9.56	32.62	9.51	32.45	3.32	9.40	32.07	9.35	31.91	3.43	8.98	30.63	8.93	30.47	3.66
	72°F [22°C]	70°F	8.82	30.08	6.24	21.29	2.74	7.78	26.53	5.74	19.60	3.37	7.59	25.89	5.66	19.31	3.46	7.12	24.30	5.42	18.49	3.74
		75°F	8.73	29.78	7.66	26.13	2.73	7.78	26.53	7.16	24.43	3.37	7.60	25.93	7.12	24.29	3.47	7.14	24.38	6.90	23.56	3.76
		81°F	8.94	30.49	8.89	30.34	2.74	8.03	27.41	7.99	27.27	3.38	7.86	26.82	7.82	26.68	3.47	7.52	25.67	7.48	25.54	3.73
		86°F	9.33	31.84	9.28	31.68	2.76	8.67	29.57	8.62	29.41	3.40	8.51	29.04	8.47	28.88	3.49	8.20	27.98	8.16	27.83	3.77
		75°F	9.67	33.00	6.26	21.35	2.76	8.55	29.16	5.77	19.68	3.39	8.35	28.48	5.68	19.39	3.49	8.09	27.60	5.57	19.02	3.67
72°F [22°C]	81°F	9.70	33.08	8.03	27.38	2.76	8.54	29.14	7.52	25.64	3.39	8.35	28.49	7.43	25.34	3.49	8.09	27.61	7.33	25.00	3.67	
	86°F	9.68	33.05	9.41	32.10	2.77	8.60	29.33	8.55	29.18	3.39	8.47	28.91	8.43	28.76	3.50	8.18	27.92	8.14	27.77	3.66	
	91°F	9.75	33.28	9.70	33.10	2.76	9.02	30.77	8.97	30.61	3.38	8.84	30.16	8.79	30.00	3.49	8.50	28.99	8.45	28.84	3.76	
	81°F	10.76	36.71	6.25	21.33	2.79	9.53	32.53	5.77	19.69	3.43	9.45	32.25	5.74	19.58	3.51	8.72	29.74	5.43	18.52	3.80	
	86°F	10.70	36.52	7.70	26.29	2.79	9.49	32.38	7.23	24.66	3.41	9.36	31.95	7.18	24.51	3.51	9.07	30.93	7.06	24.09	3.66	
91°F [33°C]	91°F	10.77	36.76	9.19	31.34	2.79	9.58	32.69	8.66	29.54	3.41	9.37	31.96	8.55	29.17	3.51	9.16	31.25	8.55	29.16	3.67	
	97°F	10.82	36.92	10.76	36.73	2.79	9.72	33.18	9.67	33.01	3.41	9.34	31.88	9.29	31.71	3.50	9.23	31.49	9.18	31.33	3.66	

[ ] Designates Metric Conversions

DBE—Entering air dry bulb  
WBE—Entering air wet bulb

GROSS SYSTEMS PERFORMANCE DATA - EA1442BJ1NB030+EL3T4217STACJA30

Table with 32 columns: Air Flow CFM, Indoor DBE, 95°F [35°C] (Total Capacity, Sensible Capacity, Power Input), 115°F [46°C] (Total Capacity, Sensible Capacity, Power Input), 118°F [48°C] (Total Capacity, Sensible Capacity, Power Input), 126°F [52°C] (Total Capacity, Sensible Capacity, Power Input). Rows include various indoor temperatures (70°F, 75°F, 81°F, 86°F) and air flow rates (1130, 1280, 1420 CFM).

DBE—Entering air dry bulb WBE—Entering air wet bulb

[ ] Designates Metric Conversions

GROSS SYSTEMS PERFORMANCE DATA - EA1448AJ1NB030+EL3T4817STACJB30

Table with columns for Indoor (Air Flow CFM, WBE, DBE) and Outdoor Ambient Temperature, DB (95°F, 115°F, 135°F, 148°F, 126°F). Rows show performance metrics like Total Capacity, Sensible Capacity, Power Input, and Total Capacity in kW and kBTUH.

[ ] Designates Metric Conversions

DBE—Entering air dry bulb
WBE—Entering air wet bulb

GROSS SYSTEMS PERFORMANCE DATA - EA1455AJ1NB030+EL3T5517STACJA30

Table with columns for Indoor (Air Flow CFM, WBE, DBE) and Outdoor Ambient Temperature (DB) ranges: 95°F [35°C], 115°F [46°C], 118°F [48°C], and 126°F [52°C]. Each range includes sub-columns for Total Capacity (kW, kBTUH), Sensible Capacity (kW, kBTUH), and Power Input (kW). Data is grouped by Air Flow (1318, 1483, 1648 CFM) and WBE values.

DBE—Entering air dry bulb WBE—Entering air wet bulb

[ ] Designates Metric Conversions



**GROSS SYSTEMS PERFORMANCE DATA - EA1465AJ1NB030+EL3T6518STACJA30**

Indoor		Outdoor Ambient Temperature, DB																				
		95°F [35°C]				115°F [46°C]				118°F [48°C]				126°F [52°C]								
		Total Capacity kW	kBTUH	Sensible Capacity kW	kBTUH	Power Input kW	Total Capacity kW	kBTUH	Sensible Capacity kW	kBTUH	Power Input kW	Total Capacity kW	kBTUH	Sensible Capacity kW	kBTUH	Power Input kW						
1705 [804]	61°F [16°C]	70°F	16.64	56.79	11.39	38.86	4.79	14.84	50.63	10.46	35.68	5.93	14.43	49.22	10.25	34.98	6.11	13.67	46.64	9.87	33.67	6.71
		75°F	16.60	56.65	13.79	47.06	4.80	14.86	50.70	12.95	44.18	5.94	14.54	49.62	12.79	43.63	6.16	13.73	46.86	12.42	42.39	6.69
		81°F	16.81	57.35	16.72	57.07	4.82	15.02	51.25	15.02	51.25	5.94	14.72	50.24	14.72	50.24	6.13	13.82	47.16	13.82	47.16	6.69
		86°F	17.06	58.22	17.06	58.22	4.82	15.62	53.29	15.62	53.29	5.98	15.39	52.50	15.39	52.50	6.19	14.71	50.20	14.71	50.20	6.67
	66°F [19°C]	75°F	18.16	61.98	11.32	38.62	4.86	16.26	55.49	10.48	35.75	5.97	15.99	54.57	10.36	35.34	6.19	15.26	52.08	10.08	34.40	6.58
		81°F	18.17	61.99	14.42	49.20	4.86	16.30	55.61	13.40	45.73	5.98	16.00	54.59	13.33	45.48	6.19	15.30	52.22	12.93	44.12	6.56
		86°F	18.13	61.86	16.54	56.42	4.85	16.30	55.61	15.72	53.64	5.98	16.01	54.63	15.48	52.81	6.19	15.40	52.55	15.40	52.55	6.56
		91°F	18.35	62.62	18.35	62.62	4.85	16.64	56.78	16.64	56.78	6.01	16.30	55.62	16.30	55.62	6.17	15.82	53.99	15.82	53.99	6.62
	72°F [22°C]	81°F	20.35	69.45	11.36	38.78	4.94	18.34	62.58	10.58	36.11	6.04	17.93	61.19	10.42	35.55	6.26	16.79	57.30	9.96	33.99	6.75
		86°F	20.20	68.94	13.77	46.97	4.96	18.20	62.10	12.99	44.31	6.05	17.78	60.67	12.83	43.76	6.20	16.80	57.34	12.45	42.48	6.76
		91°F	20.41	69.63	16.29	55.59	4.94	18.23	62.19	15.40	52.53	6.06	17.77	60.63	15.30	52.22	6.20	16.82	57.41	14.74	50.31	6.76
		97°F	20.37	69.51	19.03	64.94	4.95	18.32	62.50	18.29	62.40	6.06	18.04	61.54	18.04	61.54	6.26	17.01	58.06	17.01	58.06	6.76
1862 [878]	61°F [16°C]	70°F	16.82	57.39	11.72	40.00	4.90	14.98	51.11	10.84	36.99	6.02	14.69	50.13	10.62	36.23	6.22	13.80	47.09	10.32	35.20	6.77
		75°F	16.82	57.39	14.34	48.93	4.91	14.95	51.01	13.36	45.60	6.01	14.68	50.10	13.23	45.13	6.22	13.80	47.09	12.80	43.69	6.77
		81°F	16.95	57.83	16.95	57.83	4.90	15.16	51.74	15.16	51.74	6.03	14.85	50.66	14.85	50.66	6.21	14.15	48.29	14.15	48.29	6.80
		86°F	17.52	59.79	17.52	59.79	4.93	16.01	54.62	16.01	54.62	6.06	15.78	53.84	15.78	53.84	6.24	15.10	51.51	15.10	51.51	6.80
	66°F [19°C]	75°F	18.42	62.84	11.78	40.20	4.96	16.39	55.91	10.82	36.92	6.04	16.12	55.00	10.72	36.59	6.27	15.40	52.54	10.42	42.39	6.68
		81°F	18.41	62.82	14.88	50.77	4.96	16.40	55.95	14.00	47.76	6.05	16.12	54.99	13.81	47.12	6.27	15.39	52.52	13.68	46.69	6.68
		86°F	18.43	62.90	17.33	59.12	4.95	16.52	56.36	16.52	56.36	6.09	16.24	55.42	16.24	55.42	6.25	15.52	52.94	15.52	52.94	6.65
		91°F	18.55	63.28	18.55	63.28	4.96	17.04	58.13	17.04	58.13	6.09	16.77	57.22	16.77	57.22	6.31	16.23	55.37	16.23	55.37	6.75
	72°F [22°C]	81°F	20.58	70.21	11.72	40.01	5.05	18.31	62.49	10.85	37.02	6.15	17.91	61.12	10.66	36.39	6.31	16.94	57.82	10.30	35.14	6.85
		86°F	20.57	70.17	14.35	48.96	5.05	18.33	62.53	13.49	46.03	6.15	17.91	61.09	13.30	45.38	6.31	16.95	57.85	12.96	44.23	6.86
		91°F	20.59	70.25	16.98	57.94	5.05	18.34	62.58	16.32	55.67	6.13	17.97	61.30	15.77	53.82	6.30	17.23	58.81	15.59	53.21	6.74
		97°F	20.50	69.94	19.95	68.06	5.05	18.59	63.43	18.59	63.43	6.18	18.28	62.38	18.28	62.38	6.28	17.48	59.64	17.48	59.64	6.80
2050 [967]	61°F [16°C]	70°F	16.89	57.63	12.04	41.07	5.01	15.07	51.41	11.20	38.22	6.13	14.76	50.35	11.10	37.89	6.33	13.84	47.23	10.69	36.46	6.89
		75°F	16.84	57.48	14.65	50.00	5.04	15.04	51.31	13.79	47.06	6.11	14.76	50.36	13.74	46.87	6.33	13.86	47.30	13.27	45.28	6.90
		81°F	17.20	58.68	17.20	58.68	5.04	15.56	53.08	15.56	53.08	6.18	15.28	52.12	15.28	52.12	6.36	14.45	49.31	14.45	49.31	6.90
		86°F	18.00	61.41	18.00	61.41	5.06	16.65	56.80	16.65	56.80	6.20	16.45	56.13	16.45	56.13	6.40	15.67	53.45	15.67	53.45	6.88
	66°F [19°C]	75°F	18.64	63.61	12.12	41.36	5.08	16.64	56.77	11.26	38.40	6.20	16.20	55.29	11.08	37.80	6.37	15.45	52.72	10.77	36.74	6.83
		81°F	18.54	63.26	15.37	52.46	5.09	16.61	56.66	14.56	49.68	6.22	16.19	55.23	14.39	49.10	6.36	15.45	52.73	13.99	47.75	6.79
		86°F	18.64	63.59	18.23	62.20	5.08	16.75	57.14	16.75	57.14	6.21	16.33	55.73	16.33	55.73	6.39	15.72	53.63	15.72	53.63	6.82
		91°F	19.13	65.28	19.13	65.28	5.10	17.50	59.71	17.50	59.71	6.23	17.13	58.46	17.13	58.46	6.42	16.50	56.29	16.50	56.29	6.87
	72°F [22°C]	81°F	20.87	71.20	12.15	41.44	5.17	18.61	63.51	11.35	38.72	6.31	18.21	62.12	11.13	37.96	6.38	17.50	59.72	10.93	37.30	6.92
		86°F	20.74	70.77	14.96	51.03	5.16	18.59	63.43	14.08	48.04	6.30	18.27	62.34	13.98	47.70	6.40	17.28	58.97	13.62	46.48	6.87
		91°F	20.76	70.83	18.02	61.50	5.17	18.57	63.37	16.83	57.44	6.29	18.13	61.85	16.58	56.56	6.45	17.39	59.33	16.32	55.67	6.91
		97°F	21.09	71.96	21.09	71.96	5.19	18.78	64.08	18.78	64.08	6.30	18.49	63.09	18.49	63.09	6.48	17.84	60.87	17.84	60.87	6.90

[ ] Designates Metric Conversions

DBE—Entering air dry bulb  
WBE—Entering air wet bulb



## Airflow Performance

Airflow performance data is based on cooling performance with a coil and filter in place. Select performance table for appropriate unit size, voltage and number of electric heaters to be used. Make sure external static applied to unit allows operation within the minimum and maximum limits shown in table below for both cooling and electric heat operation.

### AIRFLOW PERFORMANCE DATA EL3T----SPB CJA (60HZ WITH CONSTANT TORQUE MOTOR)

5.3 AIRFLOW PERFORMANCE DATA - EL3T----SPACJA (60HZ WITH CONSTANT TORQUE MOTOR)

Model No. EL3T	Tonnage Application	Blower Size/ Motor HP [W] # of Speeds	Speed Tap	Torque Value lb*in [N*m]	CFM [L/s] Air Delivery/RPM/Watts -- 220-230 Volts					
					External Static Pressure -- Inches W.C. [kPa]					
					0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	
1812SP	1.5 Ton	6x8 1/3HP [249] 5 Speed	1	2.6 [.294]	SCFM	350	276	199	-	-
					RPM	872	990	1118	-	-
					Watts	36.1	41.1	45.6	-	-
			2	3.4 [.384]	SCFM	450	380	306	-	-
					RPM	983	1070	1182	-	-
					Watts	52.3	55.2	59.5	-	-
			3	3.8 [.429]	SCFM	490	429	354	-	-
					RPM	1018	1114	1216	-	-
					Watts	57.8	63.7	69.2	-	-
			4	4.2 [.475]	SCFM	525	472	407	-	-
					RPM	1074	1150	1245	-	-
					Watts	68.2	72.8	78.6	-	-
			5	4.6 [.519]	SCFM	570	507	451	-	-
					RPM	1122	1194	1274	-	-
					Watts	77	81.1	86.8	-	-
2212SP	2 Ton	6x8 1/3HP [249] 5 Speed	1	3.1 [.350]	SCFM	400	316	237	-	-
					RPM	937	1061	1154	-	-
					Watts	45.3	50.8	55.6	-	-
			2	5.2 [.588]	SCFM	600	531	472	-	-
					RPM	1161	1240	1312	-	-
					Watts	88.9	93.8	99	-	-
			3	6.0 [.678]	SCFM	650	597.8	542	-	-
					RPM	1250	1306	1380	-	-
					Watts	109.2	112.3	118.2	-	-
			4	6.5 [.735]	SCFM	700	638	583	-	-
					RPM	1288	1348	1423	-	-
					Watts	119.8	125.5	130.3	-	-
			5	7.0 [.791]	SCFM	733	681	622.8	-	-
					RPM	1340	1400	1454	-	-
					Watts	134.6	138.7	143.8	-	-
2812SP	2.5 Ton	7x8 1/2HP [373] 5 Speed	1	6.1 [.689]	SCFM	650	579.5	518	-	-
					RPM	996	1075	1156	-	-
					Watts	88.9	96	102.6	-	-
			2	7.9 [.893]	SCFM	750	673	604	-	-
					RPM	1116	1190	1244	-	-
					Watts	127.2	134.5	140.3	-	-
			3	8.8 [.994]	SCFM	800	725	656	-	-
					RPM	1165	1225	1280	-	-
					Watts	146.3	152.6	160.3	-	-
			4	10.2 [1.153]	SCFM	875	803	738	-	-
					RPM	1235	1282	1347	-	-
					Watts	177.1	184.2	191.3	-	-
			5	11.4 [1.288]	SCFM	939	863	796	-	-
					RPM	1293	1393	1400	-	-
					Watts	207.2	215.1	220.4	-	-
3212SP	3 Ton	7x8 1/2HP [373] 5 Speed	1	7.8 [.881]	SCFM	765	700	641	573	520
					RPM	1110	1188	1252	1332	1402
					Watts	126.2	134.9	139.9	147.1	154.4
			2	11.0 [1.243]	SCFM	958	900	837	786	732
					RPM	1300	1386	1412	1468	1531
					Watts	203.1	209.2	217.5	225.7	232.8
			3	11.4 [1.288]	SCFM	984	928	859	822	751
					RPM	1326	1399	1436	1498	1556
					Watts	218.6	222.5	233.4	239.2	241.3
			4	12.3 [1.389]	SCFM	1021	960	907	851	798
					RPM	1358	1413	1468	1526	1575
					Watts	233.4	242.5	250.6	258.9	266.7
			5	13.5 [1.526]	SCFM	1077	1020	961	911	862
					RPM	1412	1464	1522	1568	1626
					Watts	265.1	273.6	283.8	289.1	298.9

NOTE:  
All constant torque air handlers are shipped from the factory at speed taps 2, 3, & 4. Tap 1 should be used for extremely low static applications (0.1 inches W.C. or less). Tap 5 should be used for high static applications or to achieve rated capacity.

# AIRFLOW PERFORMANCE DATA EL3T----SPACJA (60HZ WITH CONSTANT TORQUE MOTOR)

5.3 AIRFLOW PERFORMANCE DATA - EL3T----SPACJA (60HZ WITH CONSTANT TORQUE MOTOR) - continued

Model No. EL3T	Tonnage Application	Blower Size/ Motor HP [W] # of Speeds	Speed Tap	Torque Value lb*in [N*m]	CFM [L/s] Air Delivery/RPM/Watts -- 220-230 Volts							
					External Static Pressure -- Inches W.C. [kPa]							
					0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]	0.8 [.19]	
4217ST	3.5 Ton	10x10 3/4HP [559] 5 Speed	1	9.1	SCFM	850	776	700	621	554	487	415
					RPM	840	880	925	964	1010	1060	1095
					Watts	136.5	143	150	156	162	168	174
			2	11.1	SCFM	1000	928	857	783	713	648	584
					RPM	901	936	975	1013	1050	1088	1130
					Watts	178	185	192	198	205	211	218
			3	13	SCFM	1130	1054	984	918	846	779	718
					RPM	953	990	1023	1060	1094	1130	1160
					Watts	221	227	234	242	247	255	260
			4	15.4	SCFM	1280	1208	1130	1067	1002	940	874
					RPM	1011	1042	1070	1100	1135	1168	1210
					Watts	273	280	287	294	303	310	321
			5	17.9	SCFM	1420	1352	1281	1208	1148	1090	1030
					RPM	1073	1100	1130	1153	1182	1211	1243
					Watts	336	344	351	358	366	374	382
4817ST	4 Ton	10x10 3/4HP [559] 5 Speed	1	14.5	SCFM	1045	900	778	670	567	480	393
					RPM	750	808	870	920	975	1034	1098
					Watts	113	123	128	136	142	155	160
			2	17.8	SCFM	1200	1110	970	850	750	653	570
					RPM	798	847	904	960	1010	1057	1110
					Watts	146	156	165	175	182	192	200
			3	20	SCFM	1300	1218	1110	977	872	776	688
					RPM	830	880	930	983	1030	1080	1122
					Watts	175	184	193	202	214	218	230
			4	23.5	SCFM	1450	1363	1291	1161	1054	932	870
					RPM	885	923	973	1021	1065	1110	1164
					Watts	218	226	238	248.6	260	270.5	283
			5	26.7	SCFM	1590	1513	1425	1330	1210	1118	1024
					RPM	923	960	995	1045	1092	1134	1175
					Watts	260	270	285	293	300	320	330
5517ST	5 Ton	10x10 1HP [746] 5 Speed	1	13.9	SCFM	1236	1112	1105	1029	974	930	884
					RPM	926	886	914	948	840	1060	1085
					Watts	209	252	274	308	335	356	385
			2	15.9	SCFM	1318	1186	1178	1098	1038	992	943
					RPM	953	911	938	971	862	1081	1105
					Watts	266	303	324	354	379	398	424
			3	20.1	SCFM	1483	1334	1326	1255	1168	1116	1061
					RPM	1007	960	988	1017	1090	1123	1144
					Watts	379	403	424	447	467	482	504
			4	22.5	SCFM	1648	1482	1473	1372	1298	1240	1179
					RPM	1104	1041	1082	1130	1176	1210	1244
					Watts	440	453	467	486	503	514	526
			5	25.2	SCFM	1689	1531	1498	1442	1326	1319	1221
					RPM	1121	1063	1106	1151	1204	1229	1263
					Watts	502	513	494	526	556	576	578
6518ST	5.5 Ton	10x10 1HP [746] 5 Speed	1	18.2	SCFM	1535	1485	1440	1390	1340	1290	1250
					RPM	953	902	940	970	1005	1040	1075
					Watts	208	166	195	225	252	280	309
			2	20.3	SCFM	1614	1563	1515	1462	1407	1358	1312
					RPM	951	917	956	983	1020	1053	1088
					Watts	250	210	237	266	294	321	349
			3	23.1	SCFM	1705	1655	1600	1545	1490	1435	1388
					RPM	972	950	990	1015	1050	1080	1115
					Watts	304	275	300	326	350	375	402
			4	27.5	SCFM	1862	1804	1748	1687	1623	1567	1514
					RPM	1004	997	1033	1058	1092	1123	1155
					Watts	391	373	395	419	440	462	486
			5	33	SCFM	2050	1990	1930	1860	1790	1730	1670
					RPM	1045	1050	1085	1109	1140	1170	1205
					Watts	501	494	512	532	550	570	590

**NOTE:**

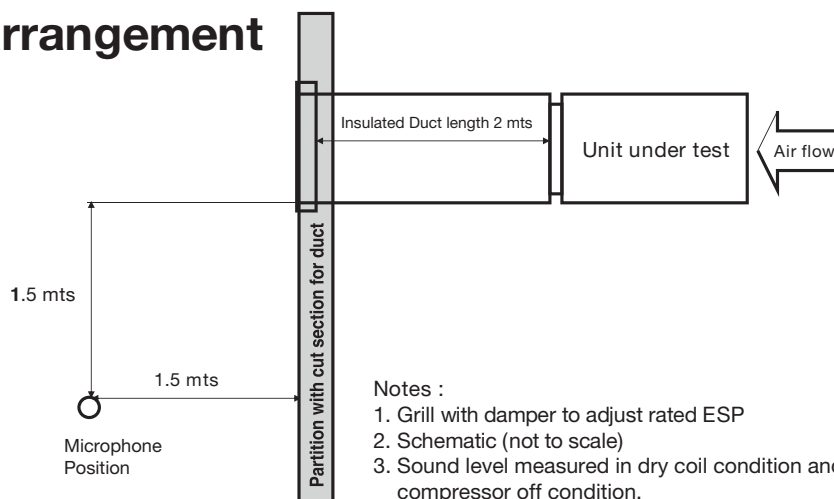
All constant torque air handlers are shipped from the factory at speed taps 2, 3, & 4. Tap 1 should be used for extremely low static applications (0.1 inches W.C. or less). Tap 5 should be used for high static applications or to achieve rated capacity.

## Sound Pressure Values - EL3T (Constant Torque (ECM) Motor)

Model	Blower Speed	Indoor Airflow (SCFM)	External Static Pressure (InWC)	Sound Pressure (dbA)
EL3T1812SPBCJA	Low	350	0.1	31.5*
	Med. Low	450	0.1	36.5*
	Medium	490	0.1	37.5*
	Med. High	525	0.1	39.5*
	High (Rated)	570	0.1	41.0*
EL3T2212SPBCJA	Low	400	0.1	34.5*
	Med. Low	600	0.1	42.5*
	Medium	650	0.1	43.5*
	Med. High	700	0.1	45.5*
	High (Rated)	733	0.1	46.5*
EL3T2812SPBCJA	Low	650	0.1	32.5*
	Med. Low	750	0.1	35.5*
	Medium	800	0.1	36.5*
	Med. High	875	0.1	38.5*
	High (Rated)	939	0.1	40.5*
EL3T3212SPBCJA	Low	765	0.1	35.5*
	Med. Low	958	0.1	39.5*
	Medium	984	0.1	40.5*
	Med. High	1021	0.1	40.5*
	High (Rated)	1077	0.1	41.5*
EL3T4217STACJA030	Low	850	0.2	35.5*
	Med. Low	1000	0.2	37.5*
	Medium	1130	0.2	40.5*
	Med. High	1280	0.2	41.5*
	High (Rated)	1420	0.2	44.5*
EL3T4817STACJb 030	Low	1045	0.2	34.5*
	Med. Low	1200	0.2	37.5*
	Medium	1300	0.2	38.5*
	Med. High	1450	0.2	40.5*
	High (Rated)	1590	0.2	42.5*
EL3T5517STACJA030	Low	1236	0.2	38.0*
	Med. Low	1318	0.2	40.0*
	Medium	1483	0.2	43.0*
	Med. High	1648	0.2	45.0*
	High (Rated)	1689	0.2	45.5*
EL3T6518STACJA030	Low	1535	0.2	38.0*
	Med. Low	1614	0.2	39.0*
	Medium	1705	0.2	41.0*
	Med. High	1862	0.2	43.0*
	High (Rated)	2050	0.2	45.0*

\*sound pressure levels are calculated from sound power level data

## Sound Testing Arrangement



# Electrical Data - Blower Motor Only - No Electric Heat EL3T

Model EL3T	Voltage	Application Phase	Frequency (Hz)	HP [W]	Speeds	Circuit Amps	Minimum Circuit Ampacity	Maximum Circuit Protector
EL3T1812SPBCJA	208-240	1	60	1/3 [249]	5	2.7	4	15
EL3T2212SPBCJA				1/3 [249]		2.7	4	15
EL3T2812SPBCJA				1/2 [373]		3.9	5	15
EL3T3212SPBCJA				1/2 [373]		3.9	5	15
EL3T4217STACJA				3/4 [559]		5.7	6	15
EL3T4817STACJB				3/4 [559]		5.7	6	15
EL3T5517STACJA				1 [745]		7.0	8	15
EL3T6518STACJA				1 [745]		7.0	8	15

## ELECTRICAL WIRING

### Power Wiring

- Field wiring must comply with the National Electrical Code and any applicable local ordinance.
- Supply wiring must be suitable for 75°C minimum and with copper conductors only
- See electrical data for product Ampacity rating and Circuit Protector requirement.

### Grounding

- This product must be sufficiently grounded in accordance with National Electrical Code and any applicable local ordinance.
- A grounding lug is provided.



## EA14 Physical Data

PHYSICAL DATA								
Model No.	EA1418A	EA1424B	EA1430A	EA1436A	EA1442B	EA1448A	EA1455A	EA1465A
Nominal Tonnage	1.5	2.0	2.5	3.0	3.5	4.0	5.0	5.5
Valve Connections								
Liquid Line O.D. - in.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Suction Line O.D. - in.	3/4	3/4	3/4	3/4	7/8	7/8	7/8	7/8
Refrigerant (R410A) finished oz.	65	66	81	100	121	123	162	220
Compressor Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Outdoor Coil								
Net face area - Outer Coil	9.1	11.1	12.1	14.8	17.3	18.9	32.4	32.4
Net face area - Inner Coil	-	-	-	-	-	-	-	-
Tube diameter - in.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Number of rows	1	1	1	1	1	1	1	1
Fins per inch	22	22	22	22	22	22	22	22
Outdoor Fan								
Diameter - in.	20	20	20	24	24	26	26	26
Number of blades	2	2	2	3	2	2	3	3
Motor hp	1/10	1/8	1/8	1/6	1/7	1/5	1/5	1/3
CFM	2225	2505	2605	3105	3670	4264	4859	5575
RPM	1075	1075	1075	850	1075	820	842	928
Watts	130	163	142	173	190	236	236	426
Shipping Weight - lbs.	143	148	158	178	207	228	263	263
Operating Weight - lbs.	122	141	151	171	200	221	255	255

## EA14 Electrical Data

ELECTRICAL DATA								
Line Voltage Data (Volts-Phase-Hz)	230-1-60	230-1-60	230-1-60	230-1-60	230-1-60	230-1-60	230-1-60	230-1-60
Maximum Overcurrent Protection (Amps)	20	25	25	30	45	45	50	60
Minimum Circuit Ampacity	13	15	17	19	26	27	31	35
Compressor								
Rated Load Amps	9.7	12.1	12.8	14.1	19.9	19.9	26.4	29.3
Locked Rotor Amps	48	62.9	64	77	109	109	152.5	134
Condenser Fan Motor								
Full Load Amps	0.6	0.8	0.8	0.8	0.8	1.2	1.0	1.6
Locked Rotor Amps	1.1	1.5	1.4	1.5	1.5	2.3	2.6	3.0

<sup>1</sup>Refrigerant charge sufficient for 15 ft. length of refrigerant lines. For longer line set requirements see the installation instructions for information about set length and additional refrigerant charge required.

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

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

## EA14 Application Guidelines

1. Intended for outdoor installation with free air inlet and outlet. Outdoor fan external static pressure available is less than 0.01 - in wc.
2. Minimum outdoor operating air temperature for cooling mode without low-ambient operation accessory is 55°F (12.8°C).
3. Maximum outdoor operating air temperature is 52°C.
4. For reliable operation, unit should be level in all horizontal planes.
5. Use only copper wire for electric connections at unit. Aluminum and clad aluminum are not acceptable for the type of connector provided.
6. Do not apply capillary tube indoor coils to these units.
7. Factory supplied filter drier must be installed.



## EA14 Accessories

Model No.		EA1418	EA1424	EA1436	EA1442	EA1448	EA1455	EA1465
Compressor crankcase heater*		44-17402-44	44-17402-44	44-17402-44	44-17402-45	44-17402-45	44-17402-45	44-17402-45
Low ambient control		RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08
Compressor sound cover		68-23427-26	68-23427-26	68-23427-26	68-23427-25	68-23427-25	68-23427-25	68-23427-25
Compressor hard start kit		SK-A1	SK-A1	SK-A1	SK-A1	SK-A1	SK-A1	SK-A1
Compressor time delay		RXMD-B01	RXMD-B01	RXMD-B01	RXMD-B01	RXMD-B01	RXMD-B01	RXMD-B01
Liquid Line Solenoid (24 VAC, 50/60 Hz)	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD3T3TVLC	200RD3T3TVLC	200RD3T3TVLC
	Solenoid Coil	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V
Liquid Line Solenoid (120/240 VAC, 50/60 Hz)	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD3T3TVLC	200RD3T3TVLC	200RD3T3TVLC
	Solenoid Coil	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V

\*Crankcase Heater recommended with Low Ambient Kit.

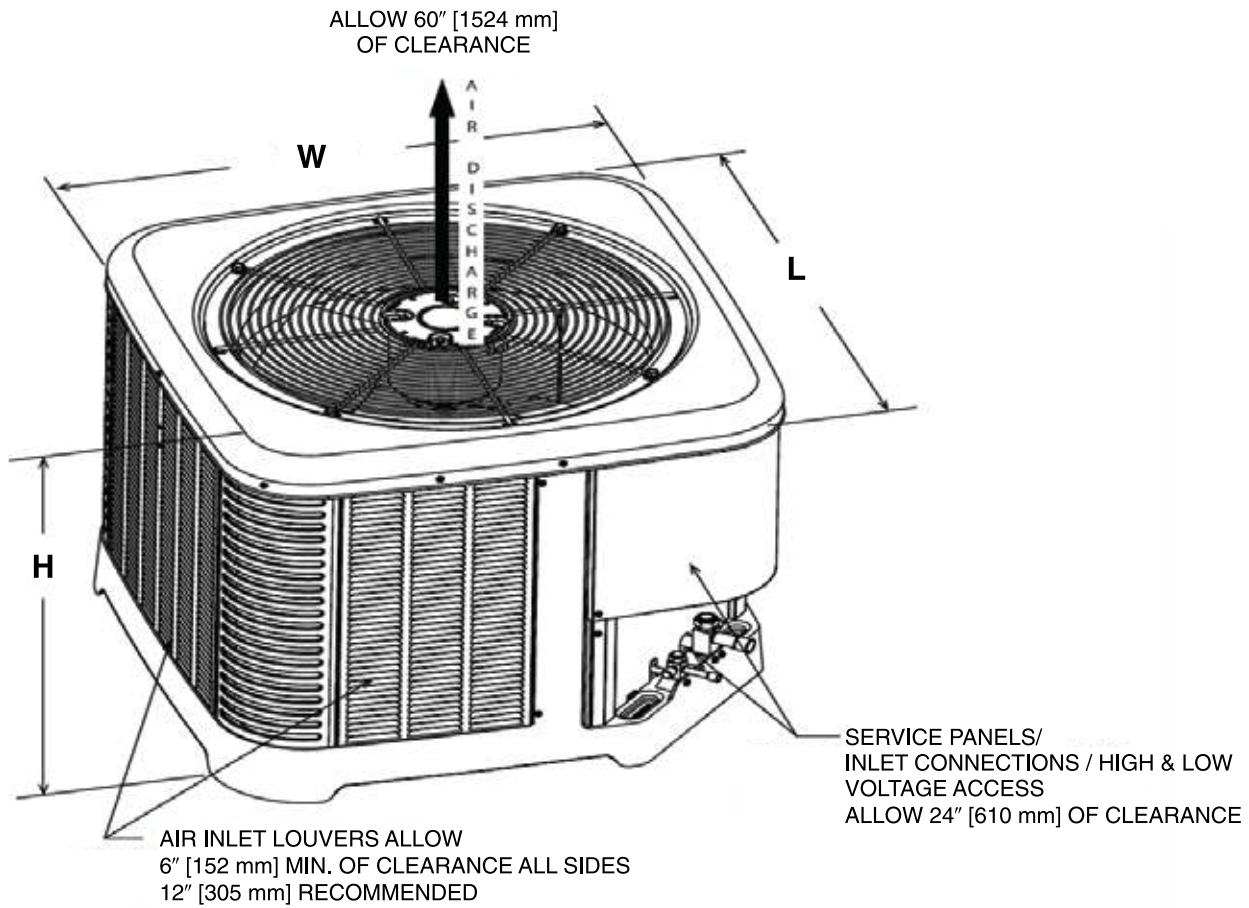
## EA14 Weighted Sound Power Level (dBA)

A-WEIGHTED SOUND POWER LEVEL (dBA)								
Unit Size - Voltage, Series	Standard Rating (dBA)	TYPICAL OBJECTIVE AND SPECTRUM (dBA without tone adjustment)						
		125	250	500	1000	2000	4000	8000
EA1418AJ1NB030	76.0	51.4	59.6	65.2	65.9	64.3	58.5	53.7
EA1424BJ1NB030	75.4	51.4	61.3	64.1	66.2	62.5	58.2	51.5
EA1430AJ1NB030	74.0	48.8	57.5	63.5	64.0	61.9	56.1	51.0
EA1436AJ1NB030	76.0	52.2	61.3	65.4	65.3	62.4	57.3	53.1
EA1442BJ1NB030	75.8	52.3	59.1	66.7	65.7	62.4	59.3	55.9
EA1448AJ1NB030	75.8	52.3	59.1	66.7	65.7	62.4	59.3	55.9
EA1455AJ1NB030	75.7	51.2	61.6	66.0	65.4	62.9	59.0	53.7
EA1465AJ1NB030	78.8	51.2	65.4	68.8	69.4	65.6	61.5	58.0

NOTE: Tested in accordance with AHRI Standard 270-08 (not listed in AHRI)

# EA14 Unit Dimensions

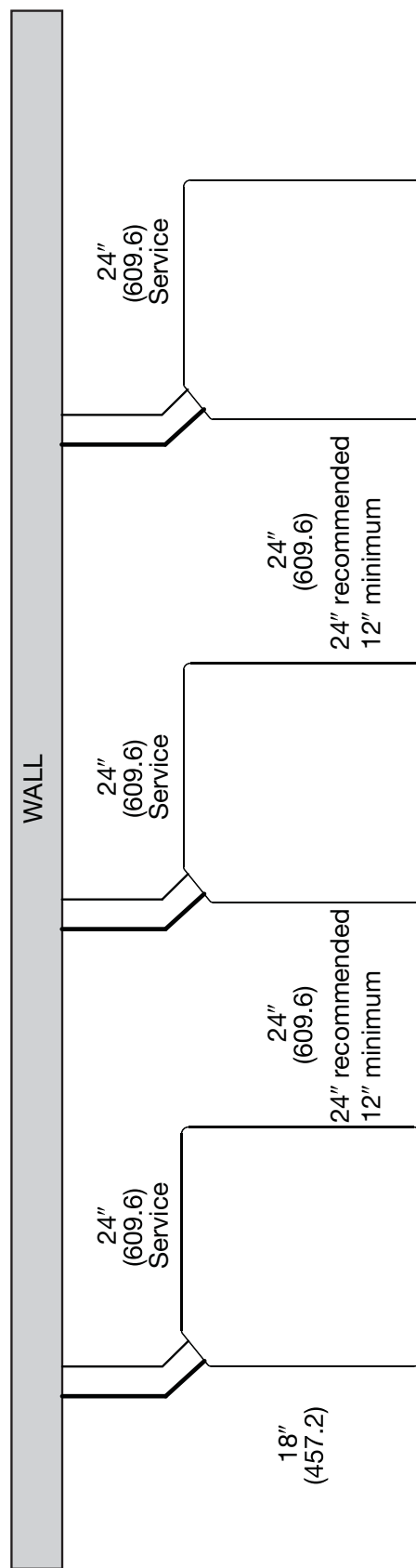
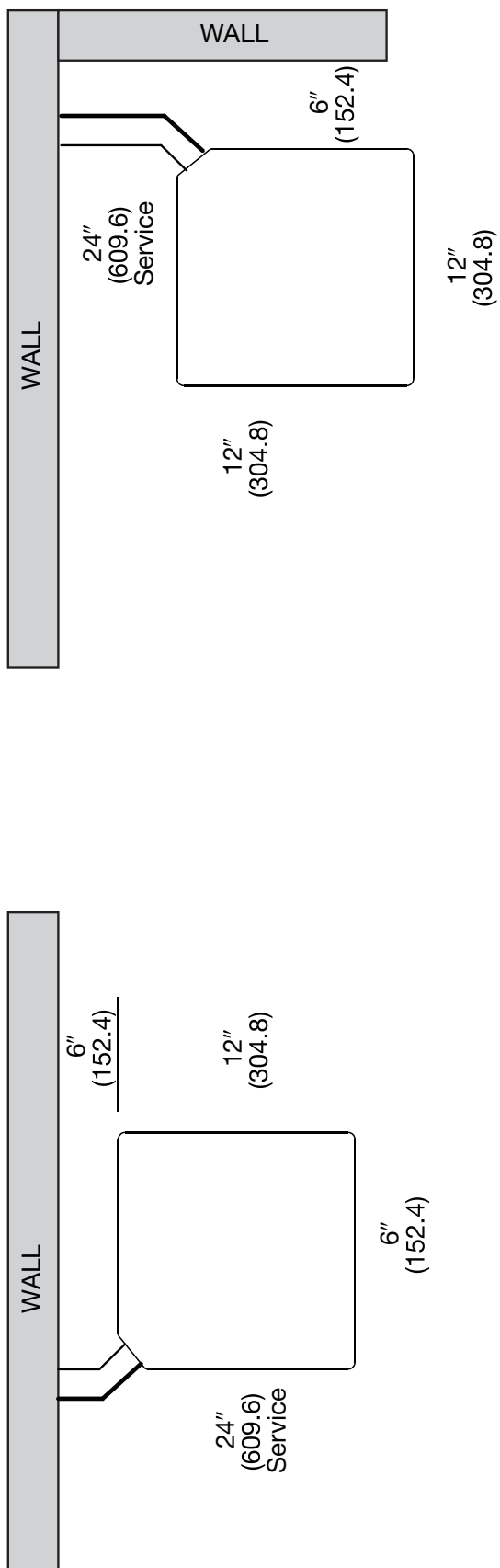
MODEL NO.	OPERATING						SHIPPING					
	H (Height)		L (Length)		W (Width)		H (Height)		L (Length)		W (Width)	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
EA1418A	25	635	29.75	755	29.75	755	26.75	679	32.38	822	32.38	822
EA1424B	25	635	29.75	755	29.75	755	26.75	679	32.38	822	32.38	822
EA1430A	27	685	29.75	755	29.75	755	28.75	730	32.38	822	32.38	822
EA1436A	27	685	33.75	857	33.75	857	28.75	730	36.38	924	36.38	924
EA1442B	31	787	33.75	857	33.75	857	32.75	832	36.38	924	36.38	924
EA1448A	31	787	35.75	908	35.75	908	32.75	832	38.38	975	38.38	975
EA1455A EA1465A	51	1295	35.75	908	35.75	908	52.75	1340	38.38	975	38.38	975



[ ] Designates Metric Conversions

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# EA14 CLEARANCES



## NOTE: NUMBERS IN () = mm

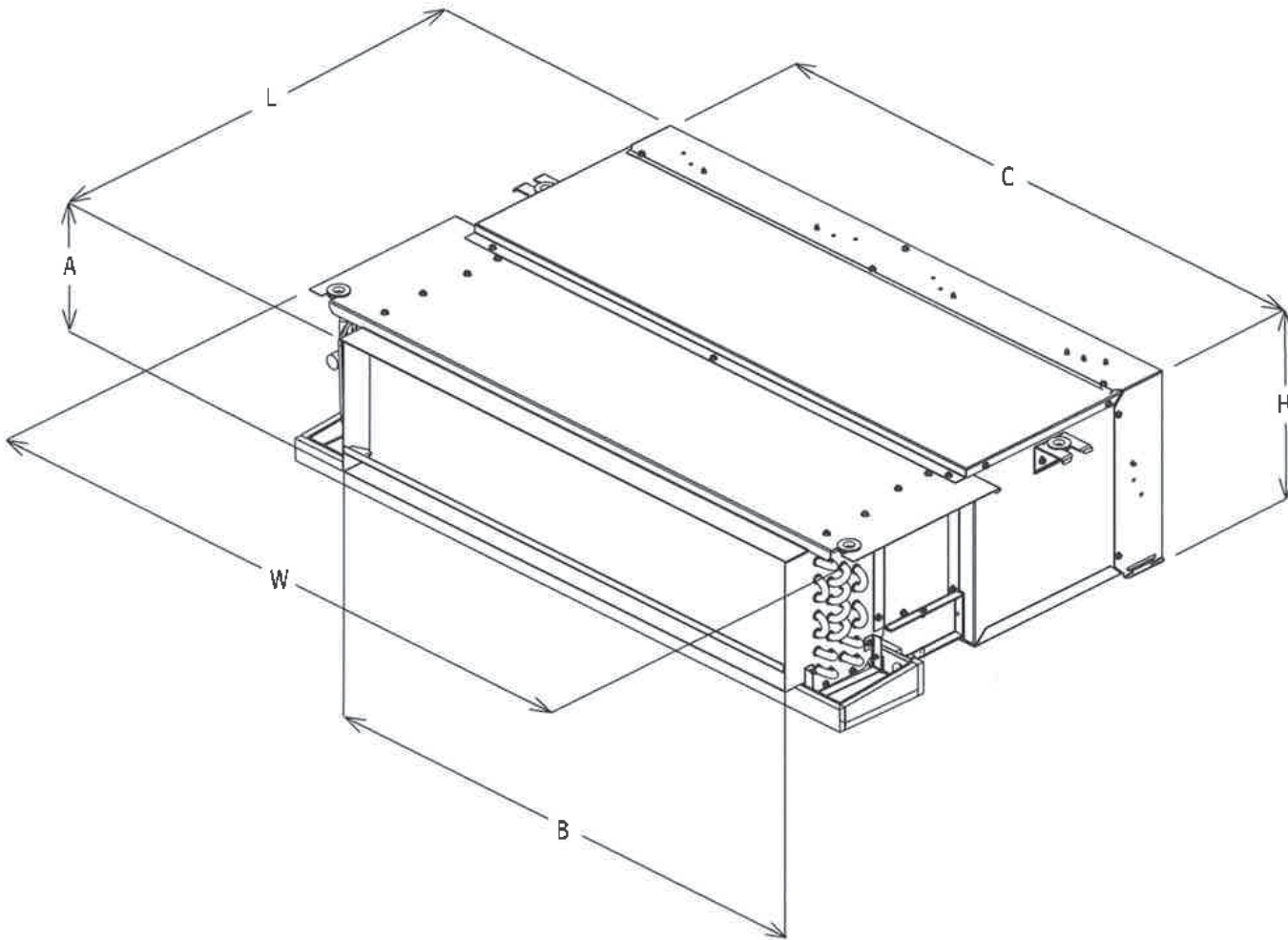
IMPORTANT: When installing multiple units in an alcove, roof well or partially enclosed area, ensure there is adequate ventilation to prevent re-circulation of discharge air.

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# UNIT DIMENSIONS



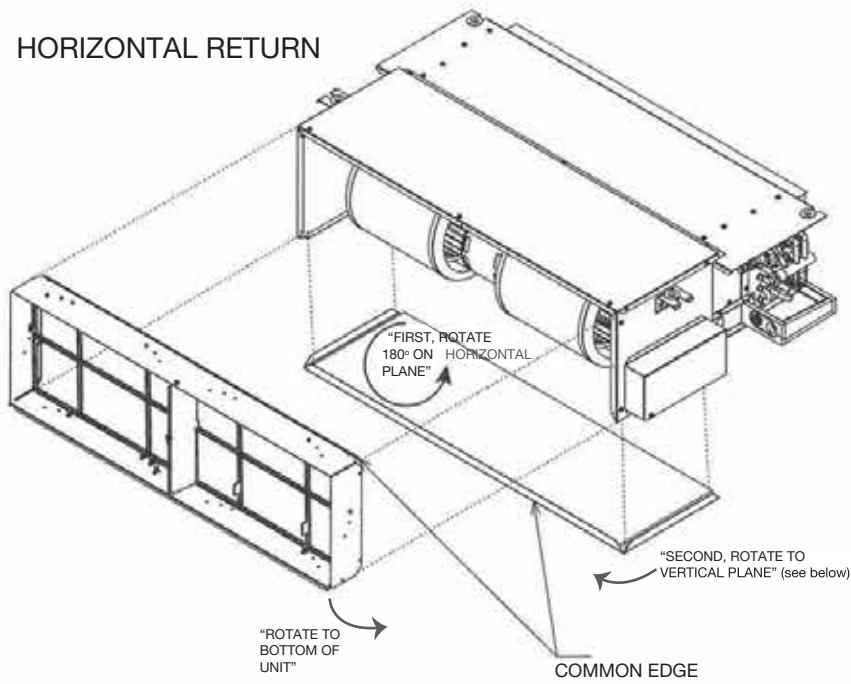
# UNIT DIMENSIONS & WEIGHTS

MODEL (-)L3T	REFRIGERANT CONNECTIONS		UNIT HEIGHT "H" IN. [MM]	UNIT WIDTH "W" IN. [MM]	UNIT LENGTH "L" IN. [MM]	SUPPLY DUCT		RETURN DUCT	UNIT WEIGHT / SHIPPING WEIGHT LBS. [KG]
	LIQUID	VAPOR				C	A	B	
			in. [mm]	in. [mm]	in. [mm]				
1812	3/8 [9.53]	3/4 [19.05]	10.5 [264.54]	37 [939.80]	24.4 [619.76]	7.25 [183.90]	30 [763.73]	33.5 [850.95]	78/84.62 [35.38/38.38]
2212	3/8 [9.53]	3/4 [19.05]	10.5 [264.54]	37 [939.80]	24.4 [619.76]	7.25 [183.90]	30 [763.73]	33.5 [850.95]	78/84.62 [35.38/38.38]
2812	3/8 [9.53]	3/4 [19.05]	10.5 [264.54]	49 [1244.60]	25.3 [642.62]	7.25 [183.90]	42 [1066.80]	45.5 [1155.70]	98/104.60 [44.45/47.45]
3212	3/8 [9.53]	3/4 [19.05]	10.5 [264.54]	49 [1244.60]	25.3 [642.62]	7.25 [183.90]	42 [1066.80]	45.5 [1155.70]	98/104.60 [44.45/47.45]
4217	3/8 [9.53]	3/4 [19.05]	16.07 [408.2]	47.1 [1196]	29.43 [747]	11.65 [296]	37.63 [956]	32.56 [827]	126.5/153.0 [57.38/69.40]
4817	3/8 [9.53]	3/4 [19.05]	16.07 [408.2]	60.2 [1530]	29.43 [747]	11.69 [297]	50.69 [1287]	34.09 [866]	147.5/155.0 [66.9/70.3]
5517	3/8 [9.53]	3/4 [19.05]	16.07 [408.2]	60.2 [1530]	29.43 [747]	11.69 [297]	50.69 [1287]	34.09 [866]	147.5/155.0 [66.9/70.3]
6518	3/8 [9.53]	3/4 [19.05]	16.57 [420.9]	61.6 [1564]	29.43 [747]	12.99 [330]	52.38 [1330]	34.09 [866]	176.5/184.5 [80/83.6]

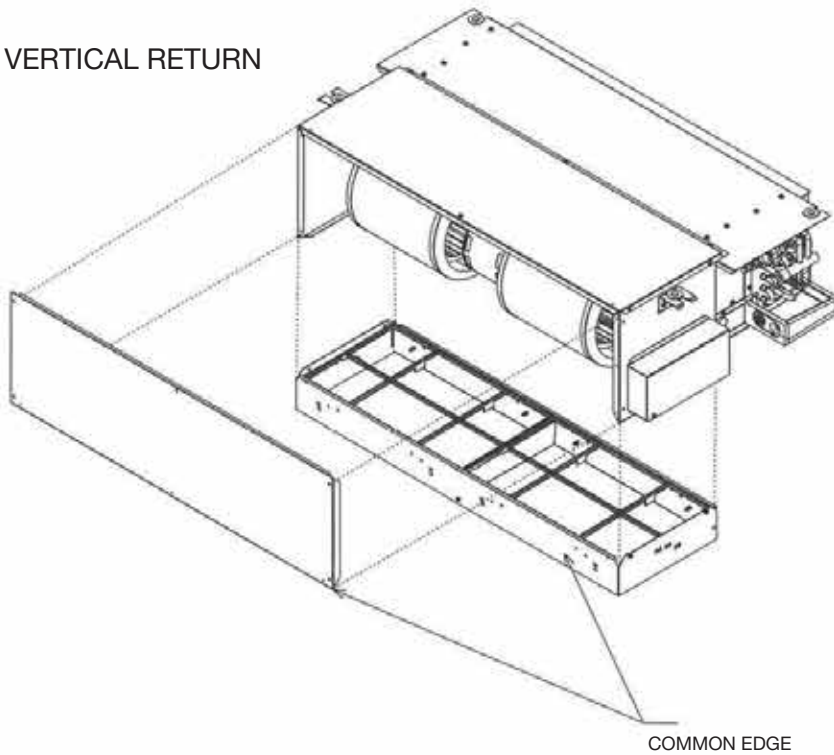


# AIRFLOW DIRECTIONAL DATA

## HORIZONTAL RETURN



## VERTICAL RETURN



## Selecting and Sizing Line Sets [EA14 Models]

### Line Sets and Fitting Losses

Refrigerant lines are measured in terms of actual length and equivalent length. Actual length is used for refrigerant charge applications and is the measurement of all of the vertical and horizontal lines from the indoor and outdoor units. Equivalent length takes into account pressure losses from line lengths, fittings, vertical separations, accessories, and filter dryers. Table 1 below provides equivalent lengths for different commonly used parts in refrigerant lines. Equivalent length is the sum of the actual length of the line set plus the equivalent length of all fittings, accessories, and filter dryers. Equivalent length is used in determining proper line sizing and installation.

**Table 1**

Equivalent Length for Fittings (ft)							
Line Size (in)	90° Short Radius Elbow	90° Long Radius Elbow	45° Elbow	Solenoid Valve	Check Valve	Site Glass	Filter Dryer
3/8	1.3	0.8	0.3	6	4	0.4	6
1/2	1.4	0.9	0.4	9	5	0.6	6
5/8	1.5	1	0.5	12	6	0.8	6
3/4	1.9	1.3	0.6	14	7	0.9	6
7/8	2.3	1.5	0.7	15	8	1	6
1-1/8	2.7	1.8	0.9	22	12	1.5	6

### Liquid Line Selection

The purpose of the liquid line is to transport warm sub-cooled liquid refrigerant from the outdoor unit to the indoor unit. It is important to maintain a column of liquid all the way to the expansion device and not to allow the refrigerant to flash into superheated vapor. The flashing of refrigerant can occur for the following reasons:

- Low refrigerant charge
- Improperly selected liquid line size
- Absorption of heat prior to expansion device
- Excessive vertical rise between the condenser and evaporator

The procedure for selecting the proper liquid line size and length is as follows:

- Measure the total amount of vertical rise (elevation).
- Measure the actual amount of liquid line required.
- Add all of the equivalent lengths associated with any fittings or accessories using Table 1.
- Add the actual length and equivalent lengths. This will equal your total equivalent length.
- Reference the Line Sizing Chart that matches the application (e.g. ODU above, ODU below, ODU same elevation as the IDU3) and the capacity size of the equipment.
- Verify that the value of the calculated total equivalent length is compatible with the applications vertical rise and diameter of the liquid line.
- Using the equivalent length total and the vertical rise in the application (if required) to determine the size and allowable lengths of the liquid line piping.

#### Liquid Line General Notes:

- Regardless of equivalent length, the actual linear length of the tubing shall not exceed 200'.
- Design of the liquid line must not exceed 400 FPM and must have a minimum of 100 FPM.
- Liquid lines must be sized to minimize refrigerant pressure change.
- Sufficient refrigerant sub-cooling must be maintained at the expansion device for proper system operation.
- R-410A loses 0.43 PSI for every foot of vertical lift as a liquid. Length of pipe, fittings, liquid line filter drier also add pressure drop thus limiting applications where the outdoor unit is below the indoor unit to much shorter distances than when the outdoor unit is above the indoor unit.
- When the outdoor unit is above the indoor unit, the vertical line experiences an increase in PSIG (Static Gain) which will also lead to changes in subcooling at the metering device.
- The total pressure drop allowed for the liquid line is 50 PSI.

## Vapor Suction Line Selection

The purpose of the suction line is to return superheated vapor to the compressor from the evaporator. Suction line sizing and refrigerant velocity is important as they have a role in ensuring the return of oil to the compressor. An improperly sized suction line can reduce performance of the system.

The procedure for selecting the proper liquid line size is as follows:

Measure the total amount of vertical rise (elevation).

- Measure the actual amount of suction line required.
- Add all of the equivalent lengths associated with any fittings or accessories using Table 1.
- Add the actual length and equivalent lengths. This will equal your total equivalent length of suction line.
- Reference the Line Sizing Charts that matches the application (e.g. ODU above, below, or same elevation as the IDU) and the capacity size of the equipment.
- Verify that the value of the calculated total equivalent length is compatible with the applications vertical rise and diameter of the liquid line.
- Using the equivalent length total and the vertical rise in the application (if required) to determine the size and allowable lengths of the liquid line piping.

### Suction Line General Notes:

- The Manufacturer does NOT require traps in the suction line when the condenser is above the evaporator, and recommends they not be used. The combination of miscibility of the POE oil and R-410A, along with compliance to the refrigerant line design instructions will ensure oil is properly returned without exceeding pressure drop limits in the vapor line. Traps will add to the pressure drop and therefore are counterproductive when the suction line is sized according to these guidelines.
- Refrigerant velocity for vertical suction risers must be maintained at 1100 FPM to ensure oil return. Horizontal suction lines must maintain 800 FPM. This will often result in different size refrigerant lines between horizontal and vertical applications. While gravity has very little effect on the gas itself, oil and pressure drop are still key factors.
- It is acceptable to use the larger size suction line for shorter horizontal runs and in applications where the indoor unit is above the outdoor unit to prevent capacity losses.
- Pressure drop within the suction line should be limited to 5 psi for R410A systems although the longest lines may slightly exceed this limit in an effort to maintain velocity. The maximum pressure is 7 psi.
- Suction line pressure loss reduces capacity by 0.6% for R-410A per psi. In order to minimize capacity loss suction pressure loss must be minimized.

## Refrigerant Level Adjustment

The residential outdoor units (ODU) are R-410A factory charged. The factory charge amount accounts for the ODU volume and an additional 15 feet of refrigerant tubing with a liquid line diameter of 3/8". This factory charge does not account for the volume of the factory supplied, field installed liquid line filter drier. Final adjustment of the refrigerant charge may be necessary during the system commissioning even if the application has exactly 15 feet of line set due to other installation variables such as the filter drier and pressure drops due to vertical separation. If additional refrigerant charge is needed it should be added before opening the ODU valves.

Adjust the refrigerant charge by using the actual liquid line length and the table below that indicates refrigerant charge in ounces per foot of the indicated liquid line size:

- 1/4" line diameter uses 0.3 ounces per foot of line (6.4 mm uses 8.5g per .30 m)
  - 5/16" line diameter uses 0.4 ounces per foot of line (7.9mm uses 11.3g per .30m)
  - 3/8" line diameter uses 0.6 ounces per foot of line (9.5mm uses 17.0g per .30 m)
  - 1/2" line diameter uses 1.2 ounces per foot of line (12.7mm uses 34.0g per .30 m)
  - Note: The factory provided filter drier requires an additional 6.0 ounces of refrigerant.
  - Note: The factory provided charge to account for the 15 feet of line set is 9 oz. (based on 3/8" line, 0.6 oz. per foot)
- Charge Adjustment = (Line Diameter oz. per ft.) x Total Actual Length) – Factory Charge + Filter Drier

## Additional Oil Adjustment

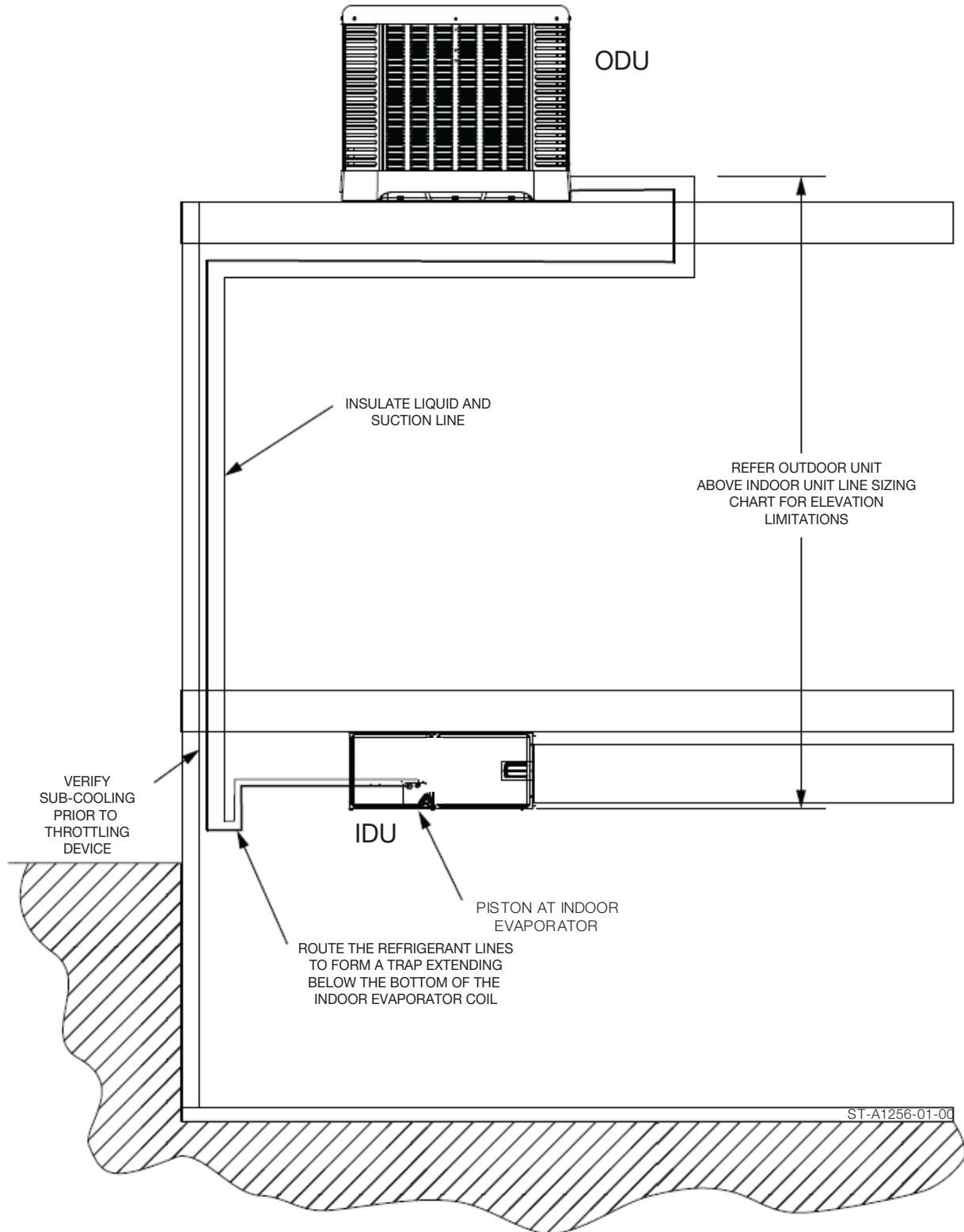
All refrigerant in the system will carry a small amount of oil. As more refrigerant is added to the system, additional oil will also need to be added.

The formula for determining how much oil to add to the system is as follows:

Oil to be Added = [(Charge Adjustment + OD Unit Name Plate Charge (oz.)) x (0.022) – [(0.10) x (Compressor Name Plate Oil Charge (oz.))]



# OUTDOOR UNIT ABOVE THE INDOOR UNIT



ST-A1256-01-00

Note: Following is the chart specific to applications where the outdoor unit is above the indoor coil. Do not confuse charts designated with outdoor unit above indoor coil, with charts designated with outdoor unit below indoor coil.

# PIPE SIZE CHART

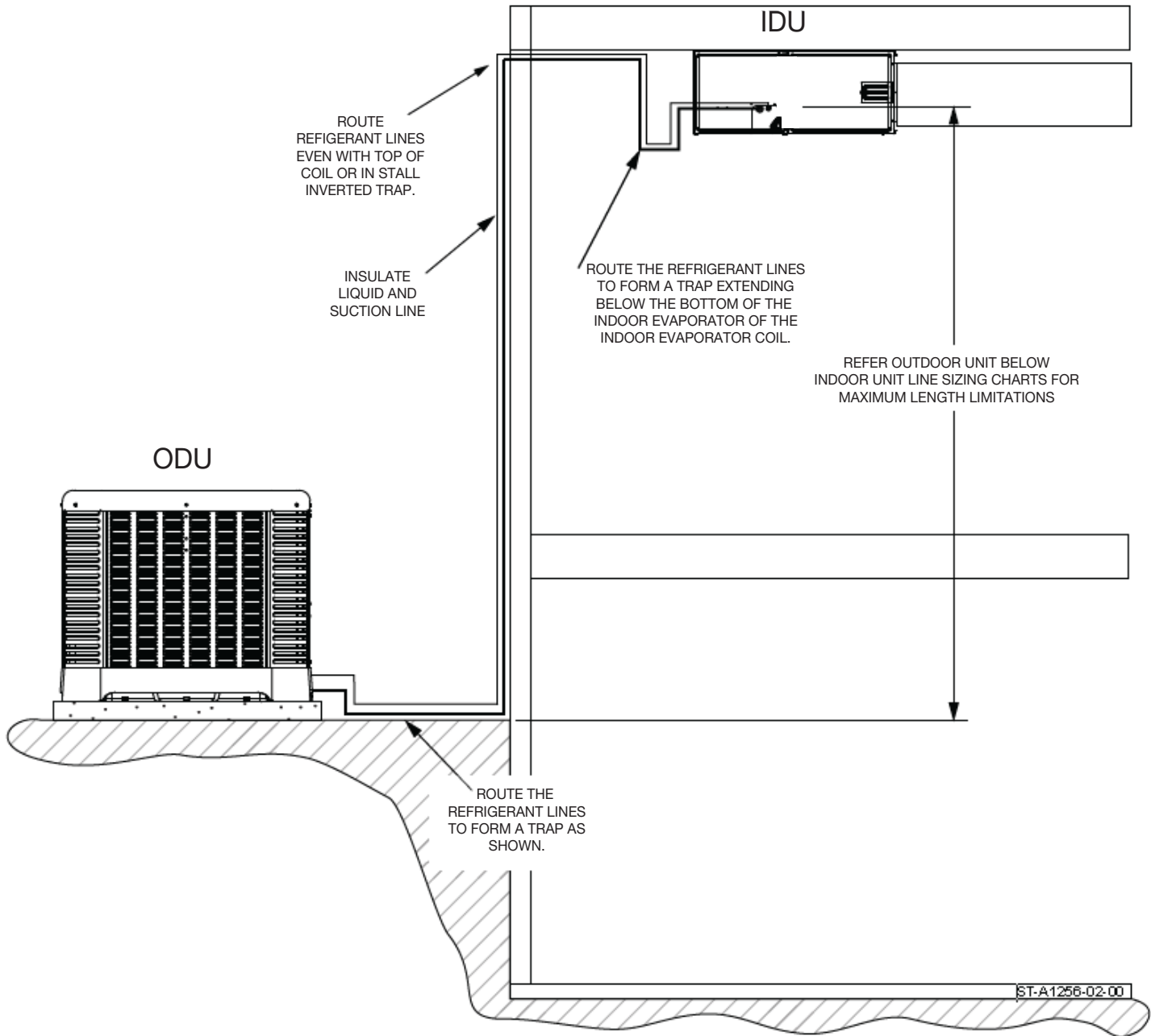
Single Stage EA14	Liquid Line Size [mm]	Suction Line Size [mm]	Outdoor Unit ABOVE Indoor Unit														
			Condition - A					Condition - B					Condition - C				
			Equivalent Length in Meters														
			<15	15.5-22.5	23-45	38-45	45-75	75-90	45.5-52.5	53-60	61.5-67.5	68-75	75.5-82.5	83-90			
			Maximum Vertical Separation / Capacity Multiplier														
			52.5 / 0.97														
EA1418	1/4" [6.35]	5/8" [15.88]	15 / 1.00	22.5 / 0.99	33.5 / 0.99	40 / 0.98	45 / 0.96	45 / 0.95	52.5 / 0.97	58 / 0.97	56 / 0.96	55 / 0.96	52.5 / 0.96	52.5 / 0.95			
	5/16" [7.94]	5/8" [15.88]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.98	45 / 0.96	45 / 0.95	52.5 / 0.97	58 / 0.97	56 / 0.96	55 / 0.96	52.5 / 0.96	52.5 / 0.95			
	3/8" [9.525]	5/8" [15.88]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.98	45 / 0.96	45 / 0.95	52.5 / 0.97	58 / 0.97	56 / 0.96	55 / 0.96	52.5 / 0.96	52.5 / 0.95			
EA1424	1/4" [6.35]	5/8" [15.88]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.97	45 / 0.95	45 / 0.94	52 / 0.97	55 / 0.96	50 / 0.95	47 / 0.95					
	5/16" [7.94]	5/8" [15.88]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.97	45 / 0.95	45 / 0.94	52.5 / 0.97	58 / 0.97	56 / 0.96	55 / 0.96	52.5 / 0.96	52.5 / 0.95			
	3/8" [9.525]	5/8" [15.88]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.97	45 / 0.95	45 / 0.94	52.5 / 0.97	58 / 0.97	56 / 0.96	55 / 0.96	52.5 / 0.96	52.5 / 0.95			
EA1436	5/16" [7.94]	5/8" [15.88]	15 / 0.98	22.5 / 0.97	33.5 / 0.96	40 / 0.93	45 / 0.90	45 / 0.88	52.5 / 0.93	60 / 0.91	60 / 0.90	60 / 0.90	60* / 0.89	60* / 0.88			
	3/8" [9.525]	5/8" [15.88]	15 / 0.98	22.5 / 0.97	33.5 / 0.96	40 / 0.93	45 / 0.90	45 / 0.88	52.5 / 0.93	60 / 0.91	60 / 0.90	60 / 0.90	60* / 0.89	60* / 0.88			
	5/16" [7.94]	3/4" [19.06]	15 / 1.00	22.5 / 0.99	33.5 / 0.99	40 / 0.98	45 / 0.97	45 / 0.96	52.5 / 0.96	60 / 0.98	60 / 0.97	60 / 0.97	60* / 0.96	60* / 0.96			
EA1442	5/16" [7.94]	3/4" [19.06]	15 / 1.00	22.5 / 0.99	33.5 / 0.99	40 / 0.98	45 / 0.96	45 / 0.95	52.5 / 0.98	60 / 0.97	60 / 0.97	60* / 0.96	60* / 0.96	60* / 0.95			
	3/8" [9.525]	7/8" [22.22.5]	15 / 1.00	22.5 / 1.00	33.5 / 1.00	40 / 1.00	45 / 0.96	45 / 0.95	52.5 / 0.99	60 / 0.99	60* / 0.99	60* / 0.96	60* / 0.96	60* / 0.95			
	5/16" [7.94]	7/8" [22.22.5]	15 / 1.00	22.5 / 1.00	33.5 / 1.00	40 / 1.00	45 / 0.96	45 / 0.95	52.5 / 0.99	60 / 0.99	60* / 0.99	60* / 0.96	60* / 0.96	60* / 0.95			
EA1448	3/8" [9.525]	3/4" [19.06]	15 / 0.98	22.5 / 0.97	33.5 / 0.96	40 / 0.95	45 / 0.92	45 / 0.91	52.5 / 0.94	60* / 0.93	60* / 0.92	58* / 0.92	52* / 0.92	47* / 0.91			
	1/2" [12.71]	3/4" [19.06]	15 / 0.98	22.5 / 0.97	33.5 / 0.96	40 / 0.95	45 / 0.92	45 / 0.91	52.5 / 0.94	60* / 0.93	60* / 0.92	58* / 0.92	52* / 0.92	47* / 0.91			
	3/8" [9.525]	7/8" [22.22.5]	15 / 1.00	22.5 / 0.98	33.5 / 0.98	40 / 0.97	45 / 0.96	45 / 0.96	52.5 / 0.97	60* / 0.97	60* / 0.96	58* / 0.96	52* / 0.96	47* / 0.96			
EA1455	1/2" [12.71]	7/8" [22.22.5]	15 / 1.00	22.5 / 0.98	33.5 / 0.98	40 / 0.97	45 / 0.96	45 / 0.96	52.5 / 0.97	60* / 0.97	60* / 0.96	58* / 0.96	52* / 0.96	47* / 0.96			
	3/8" [9.525]	3/4" [19.06]	15 / 0.98	22.5 / 0.96	33.5 / 0.95	40 / 0.93	45 / 0.90	45 / 0.89	52.5 / 0.92	60* / 0.92	55* / 0.91	49* / 0.90	60* / 0.96	60* / 0.96			
	1/2" [12.71]	3/4" [19.06]	15 / 0.98	22.5 / 0.96	33.5 / 0.95	40 / 0.93	45 / 0.90	45 / 0.89	52.5 / 0.92	60* / 0.92	55* / 0.91	49* / 0.90	60* / 0.96	60* / 0.96			
EA1465	3/8" [9.525]	7/8" [22.22.5]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.97	45 / 0.95	45 / 0.94	52.5 / 0.97	60 / 0.96	60 / 0.96	60* / 0.95	60* / 0.94	60* / 0.94			
	1/2" [12.71]	7/8" [22.22.5]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.97	45 / 0.95	45 / 0.94	52.5 / 0.97	60 / 0.96	60 / 0.96	60* / 0.95	60* / 0.94	60* / 0.94			
	3/8" [9.525]	3/4" [19.06]	15 / 0.98	22.5 / 0.96	33.5 / 0.95	40 / 0.93	45 / 0.90	45 / 0.90	52.5 / 0.92	60* / 0.92	55* / 0.91	49* / 0.90	60* / 0.96	60* / 0.96			
EA1465	3/8" [9.525]	7/8" [22.22.5]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.97	45 / 0.95	45 / 0.94	52.5 / 0.97	60 / 0.96	60 / 0.96	60* / 0.95	60* / 0.94	60* / 0.94			
	1/2" [12.71]	7/8" [22.22.5]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.97	45 / 0.95	45 / 0.94	52.5 / 0.97	60 / 0.96	60 / 0.96	60* / 0.95	60* / 0.94	60* / 0.94			
	3/8" [9.525]	3/4" [19.06]	15 / 0.98	22.5 / 0.96	33.5 / 0.95	40 / 0.93	45 / 0.90	45 / 0.90	52.5 / 0.92	60* / 0.92	55* / 0.91	49* / 0.90	60* / 0.96	60* / 0.96			

Condition:	Total Equivalent Length	Max. Vertical Separation
A	Standard Unit	<33.5
B	Use Oil Separator recommended and Crank case heater.	38 ~ 45
C	Use Oil Separator, Crank case heater, Hard Start Kit and Non-bleed TXV.	34 ~ 45
Black	Not Recommended	45.1 ~ 60
*	* Applications with asterisks (*) require a minimum of 15m vertical separation.	

Note: This chart is applicable for ODU with scroll compressor only



# OUTDOOR UNIT BELOW THE INDOOR UNIT



Note: Following is the chart specific to applications where the outdoor unit is below the indoor coil. Do not confuse charts designated with outdoor unit below indoor coil, with charts designated with outdoor unit above indoor coil.

# PIPE SIZE CHART

Single Stage EA14	Liquid Line Size [mm]	Suction Line Size [mm]	Outdoor Unit <b>BELOW</b> Indoor Unit																			
			Equivalent Length in Meter																			
			15.5-22.5	23-30	30.5-37.5	38 - 45	45.5-52.5	53-60	61.5-67.5	68-75	75.6-82.5	83-90										
	<15		Maximum vertical Separation / Capacity Multiplier																			
EA1418	5/16" [7.94]	5/8" [15.88]	15/0.99	18/0.98	13.5/0.98	10.5/0.98	6/0.97	3/0.97														
	3/8" [9.525]	5/8" [15.88]	15/0.99	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96
	5/16" [7.94]	3/4" [19.06]	15/1.00	21.0/1.00	18/1.00	13.5/1.00	10.5/0.99	6/0.99	3/0.99													
EA1424	3/8" [9.525]	3/4" [19.06]	15/1.00	22.5/1.00	24.5/1.00	24.5/1.00	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99
	5/16" [7.94]	5/8" [15.88]	15/1.00	22.5/0.99	24.5/0.98	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.95	24.5/0.94	24.5/0.94	24.5/0.94	24.5/0.94	24.5/0.94	24.5/0.94	24.5/0.94	24.5/0.94	24.5/0.94	24.5/0.94	24.5/0.94	24.5/0.94	24.5/0.94
	3/8" [9.525]	3/4" [19.06]	15/1.00	22.5/1.00	24.5/1.00	24.5/1.00	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99
EA1436	5/16" [7.94]	3/4" [19.06]	10.5/1.00	10/0.99																		
	3/8" [9.525]	3/4" [19.06]	15/1.00	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97
	1/2" [12.71]	3/4" [19.06]	15/1.00	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97
EA1442	3/8" [9.525]	7/8" [22.23]	15/1.00	22.5/1.00	24.5/1.00	24.5/1.00	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96
	1/2" [12.71]	7/8" [22.23]	15/1.00	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.97
	3/8" [9.525]	3/4" [19.06]	15/0.99	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96
EA1448	1/2" [12.71]	3/4" [19.06]	15/0.99	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96
	3/8" [9.525]	7/8" [22.23]	15/1.00	22.5/1.00	24.5/1.00	24.5/1.00	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96
	1/2" [12.71]	7/8" [22.23]	15/1.00	22.5/1.00	24.5/1.00	24.5/1.00	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96
EA1455	3/8" [9.525]	3/4" [19.06]	15/0.98	22.5/0.98	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.95	24.5/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94
	1/2" [12.71]	3/4" [19.06]	15/0.98	22.5/0.98	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.95	24.5/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94
	3/8" [9.525]	7/8" [22.23]	15/1.00	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96
EA1465	1/2" [12.71]	7/8" [22.23]	15/1.00	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96
	3/8" [9.525]	3/4" [19.06]	15/0.98	22.5/0.98	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.95	24.5/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94	21.0/0.94
	1/2" [12.71]	7/8" [22.23]	15/1.00	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96	24.5/0.96

**Notes:**

- Always use the smallest Liquid Line allowable to keep system charge to a minimum
- Additional refrigerant and oil may be required (see Application Notes)
- Vertical separation cannot exceed 24.5 meter of length.
- Light grey shaded areas require long line set application (Oil Separator, Crank Case Heater, Hard Start Kit and Non-bleed TXV).
- These areas in the chart are not applicable for installation.

Note: This chart is applicable for ODU with scroll compressor only





## LONG LINE SET APPLICATIONS

This section is intended for long line applications as noted in the light grey shaded areas in the Line Sizing Charts. Long line set applications require accessories, unit specific requirements, and long line set installation considerations. The following are special considerations required when installing a line set that is considered to be a long line set.

- Long line Set Accessories
- Long Line Set Unit Requirements
- Long Line Installations Considerations
- Additional Refrigerant Charge
- Additional Oil Level Adjustment
- Fitting losses and maximum equivalent length considerations.
- Refrigerant Migration in the off cycle
- Oil Return to the compressor
- Capacity losses

### Long Line Set Accessories

#### **Crankcase Heater**

Some models come from the factory with crankcase heaters already installed. See the Crankcase Heater table to determine if the accessory needs to be ordered and field installed.

#### **Hard Start Kit (SK-A1)**

In applications with long line sets, one characteristic will be added refrigerant. Hard Start components will increase the starting torque of the compressor in order to overcome the pressure differential on the compressor. See the Hard Start Kit Accessory Part number SK-A1 to order and field install.

### Long Line Installation Considerations

#### **Liquid Line Sizing**

Reference the Selection and Sizing Line Sets section, Liquid Lines in this guide.

- Minimize pressure change
- Ensure sub-cooled liquid at the expansion device
- Size as small as possible without exceeding the recommended maximum pressure drop

#### **Liquid Line Insulation**

When the liquid line is run through an unconditioned space for any significant length, it is subject to losing or gaining heat from the ambient air. This can cause refrigerant to flash in the liquid line prior to the expansion device.

#### **Suction Line Sizing**

Reference the Selection and Sizing Line Sets section, Suction Lines in this guide.

- Minimize pressure loss
- In applications where ODU is Above IDU maintain refrigerant gas velocity to ensure oil return



## **Suction Line Insulation**

Insulation may be required on the vapor line if it is traveling through, at extended distances, an unconditioned space. Insulation slows the transfer of heat absorbed by the cool vapor line preventing excess superheat by the time the refrigerant gets to the compressor.

## **Inverted Trap**

When the system is installed with the outdoor unit below the indoor coil, an inverted trap, installed at the indoor coil will prevent oil and refrigerant drainage to the outdoor unit in the off cycle. An inverted trap is simply a matter of making sure the refrigerant lines exit the indoor coil and go upward to a height above the top of the coil before going back down toward the outdoor unit.

## **Refrigerant Level Adjustment**

Longline sets will require the refrigerant charge level to be adjusted. Reference the Refrigerant Level Adjustment section to determine the amount of R-410A refrigerant is required.

- Always recheck and readjust system refrigerant charge levels as needed during the final commissioning phase.

## **Additional Oil**

With long line sets as more refrigerant is added to the system, additional oil will need to be added. Reference the Additional Oil Adjustment section to determine the quantity of POE oil to add.

## **Capacity**

Use the capacity multiplier in the Line Sizing Charts to determine the impact to the system capacity based on long line set applications. Determine that the capacity meets the application requirements.

## **Summary of Important Notes:**

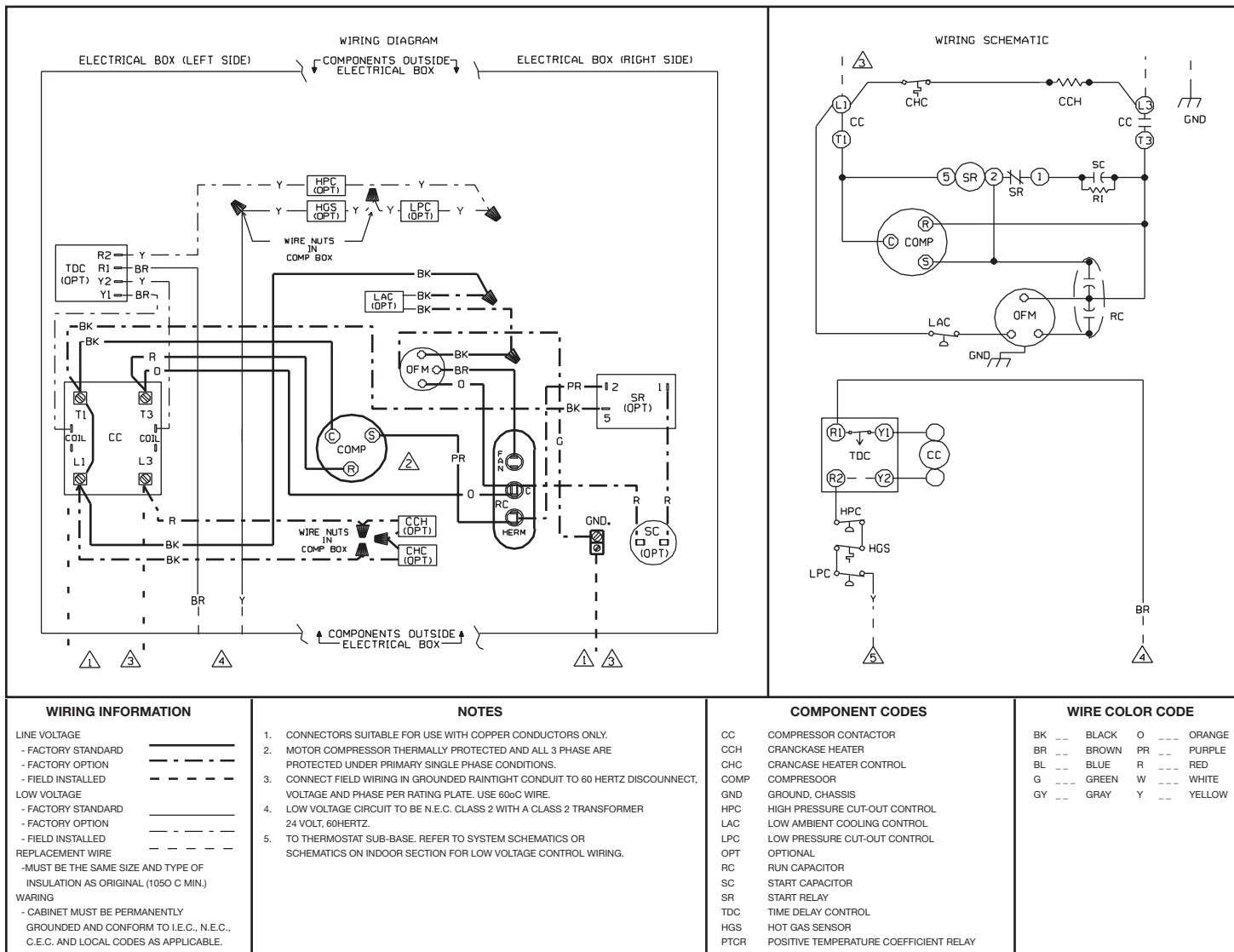
- The Maximum Actual Linear Length of the refrigerant lines shall not exceed 200 ft. [61 m].
- Equivalent Length shall not exceed 300 ft. [91.4 m].
- Maximum Vertical Separation may not exceed 200 ft. [61 m].
- Maximum Vertical Separation may not exceed 90% of the total actual length.
- Maximum Vertical Lift on liquid line may not exceed 80 ft. [24.5 m] (Outdoor Unit Below and all Heat Pumps).
- Follow Refrigerant Line Sizing Charts, do not exceed lengths, vertical separation, line diameters or total actual length described in these charts.
- Understand the difference between Actual and Equivalent Lengths. Refrigerant lines are measured in terms of actual length and equivalent length. Actual length is used for refrigerant charge applications. This is the actual line set distance between the indoor and outdoor units. Equivalent length takes into account pressure losses from refrigerant line lengths, fittings, vertical separation, accessories, and filter dryers. Table 1 references different commonly used equivalent lengths for fittings and parts.
- Applications in the grey shaded areas of the Line Size Charts (Long Line Set) require the use of appropriate accessories, unit requirements, and installation considerations.



- Applications in the blacked out areas on the liquid line tables exceed manufacture recommendations.
- Additional refrigerant may be required depending on the system application.
- Additional Oil will be required when the refrigerant volume is increased.
- Additional refrigerant line insulation may be required on the vapor line and/or liquid line.
- Inverted Traps are used when the indoor coil is above the outdoor coil. This prevents oil from draining out of the evaporator in the off cycle which can accumulate near the compressor.



# EA14 WIRING DIAGRAM





# GUIDE SPECIFICATIONS

## General

### Condensing Unit Description

Outdoor-mounted, air-cooled, split-system air conditioner composite base pan unit suitable for ground or rooftop installation. Unit consists of a hermetic compressor, an air-cooled coil, propeller-type condenser fan, suction and legend line service valve, and a control box. Unit will discharge supply air upward as shown on contract drawings. Unit will be used in a refrigeration circuit to match up to a coil / air handler unit.

### Quality Assurance

- Unit will be rated in accordance with the latest edition of AHRI Standard 210/240.
- Unit will be certified for capacity and efficiency.
- Unit construction will comply with latest edition of ANSI/ASHRAE and with NEC.
- Unit will be constructed in accordance with UL standards.
- Unit cabinet will be capable of withstanding ASTM B117 1008-hr salt spray test.
- Air-cooled condenser coils will be leak tested at 150 psig and pressure tested at 550 psig.
- Unit constructed in ISO9001 approved facility.

### Delivery, Storage, and Handling

- Unit will be shipped as single package only and is stored and handled per unit manufacturer's recommendations.

### Products Equipment

Factory assembled, single piece, air-cooled air conditioner unit. Contained within the unit enclosure is all factory wiring, piping, controls, compressor, refrigerant charge R-410A, and special features required prior to field start-up.

### Unit Cabinet

- Unit cabinet will be constructed of galvanized steel, bonderized, and coated with a powder coat paint.
- All units constructed with louver coil protection and corner post. Louver can be removed by removing one fastener per louver panel.

### Fans

- Condenser fan will be direct-drive propeller type, discharging air upward.
- Condenser fan motors will be totally enclosed, 1-phase type with class B insulation and permanently lubricated bearings. Shafts will be corrosion resistant.
- Fan blades will be statically and dynamically balanced.
- Condenser fan openings will be equipped with coated steel wire safety guards.

### Compressor

- Compressor will be hermetically sealed.
- Compressor will be mounted on rubber vibration isolators.

### Condenser Coil

- Condenser coil will be air cooled.
- Coil will be constructed of aluminum fins mechanically bonded to copper tubes.

### Refrigeration Components

- Refrigeration circuit components will include liquid-line shutoff valve with sweat connections, vapor-line shutoff valve with sweat connections, system charge of R-410A refrigerant, and compressor oil.
- Unit will be equipped with factory provided filter drier for R-410A refrigerant for field installation.

### Operating Characteristics

- The capacity of the unit will meet or exceed \_\_\_\_\_ Btuh at a suction temperature of \_\_\_\_\_ °F/°C. The power consumption at full load will not exceed \_\_\_\_\_ kW.
- Combination of the unit and the evaporator or fan coil unit will have a total net cooling capacity of \_\_\_\_\_ Btuh or greater at conditions of \_\_\_\_\_ CFM entering air temperature at the evaporator at \_\_\_\_\_ °F/°C wet bulb and \_\_\_\_\_ °F/°C dry bulb, and air entering the unit at \_\_\_\_\_ °F/°C.
- The system will have a SEER of \_\_\_\_\_ Btuh/watt or greater at DOE conditions.

### Electrical Requirements

- Nominal unit electrical characteristics will be \_\_\_\_\_ v, single phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of \_\_\_\_\_ v to \_\_\_\_\_ v.
- Nominal unit electrical characteristics will be \_\_\_\_\_ v, three phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of \_\_\_\_\_ v to \_\_\_\_\_ v.
- Unit electrical power will be single point connection.
- Control circuit will be 24v.

### Special Features

- Refer to section of this literature identifying accessories and descriptions for specific features and available enhancements.



# GUIDE SPECIFICATIONS

## General

### System Description

Indoor installed, draw through type Blower coil unit with factory fitted air filter. Unconditioned return air is drawn through a cooling heat exchanger via synthetic media filter. The cooling heat exchanger cools and dehumidifies the air and supplies to the zone to be conditioned.

Furnish and install as shown on the drawing Rheem Model \_\_\_\_\_ draw through air handler suitable for horizontal applications.

### Quality Assurance

- Unit will be rated in accordance with the latest edition of AHRI Standard 210/240 and or ISO 13253.
- Unit construction will comply with latest edition of ANSI/ASHRAE and NEC.
- Unit will be constructed in accordance with UL standards and according to appropriate section of IEC 60335 -1,-2-40.
- Unit cabinet will be capable of withstanding ASTM B117 1008-hr salt spray test.
- Direct Expansion Cooling coils will be leak tested at 150 psig and pressure tested at 550 psig.
- Unit constructed in ISO9001 approved facility.

### Delivery, Storage, and Handling

- Unit will be shipped as single package only and is stored and handled per unit manufacturer's recommendations.

### Equipment

Factory assembled, single piece, draw through type blower coil unit. Contained within the unit enclosure are all factory wiring, piping, controls, filters, insulation,blower,motor ,coil and special features required prior to field start-up.

Unit Cabinet

- Unit cabinet will be constructed of galvanized steel and coated with paint. The thickness of the powder coat paint will be up to 40 Microns

### Unit Cabinet

- Unit cabinet will be constructed of galvanized steel and coated with paint. The thickness of the powder coat painted.

### Motor

Motor shall be permanent Split Capacitor type single Phase, Class B internally protected. The motor will be with Class B insulation and permanently lubricated type.

### Coils

Coils shall be fabricated of 3/8" [10 mm] O.D. seamless copper tubing expanded into aluminum fins. All coils shall be submitted to an air pressure test of up to 550 PSIG [2068 kPa]. Units shall be shipped with a nitrogen holding charge. Airflow shall be draw through design providing uniform air distribution across the coil surface.

### Blower, Bearings And Shaft

Blower shall be a double width, double inlet, forward curve, centrifugal type, statically and dynamically balanced, and constructed of galvanized steel.

### Drain Pan

The drain pan shall be manufactured of plastic to protect against corrosion. The pan shall have internally threaded pipe size drain connections and shall be designed to accept condensate in either horizontal or vertical type applications.The drain pan shall be double slope design in accordance with Ashrae 62 requirement.

### Filters

Duly factory fitted filter made up of synthetic woven media. Synthetic media permanently molded in the plastic frame.

### Cabinet

Cabinets shall be manufactured of galvanized steel subjected to multi-stage cleaning and finished with Pre paint. Units shall have removable service access panels.

### Insulation

Cabinets shall be insulated with 1/2" [13 mm] by 11/2 pound [.68 kg] density fiberglass insulation coated with neoprene and bonded to the cabinet surface with a U.L. approved adhesive. Insulation shall have fire retarding characteristics in accordance with UL smoke developed rating not to exceed 50 and flame spread rating of 25 per Underwriters Laboratories testing procedures.

### Factory Testing

In addition to the pre-assembly testing mentioned above, each coil shall be leak tested after assembly into the unit. While under pressure, the coil shall be leak tested using an Electronic Leak Detector.

### Special Features

- Brass distributor is used in all the indoor units to distribute refrigerant uniformly in the evaporator circuits for best performance in the evaporator coil.
- 5mm woven synthetic, permanent washable filters are standard on all units.
- Anti-freeze temperature sensor is provided on coil against freezing during abnormal operating conditions.
- Microprocessor based electronic controller with built in programming for complete control of system, time delays for refrigeration systems protection & interlocking arrangement with safeties are provided as standard feature on all the indoor units.







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