



The new degree of comfort.®

Endeavor™ Line *Classic®* Series iM Air Conditioners



RA14AZ

Cooling Efficiency up to: 14.3 SEER2/11.7 EER2

Nominal Sizes: 1½ to 5 Ton [5.28 to 17.6 kW]

Cooling Capacities: 17.1 to 55.5 kBTU [5.0 to 16.3 kW]

Table of Contents

Features & Benefits.....3

Model Number Identification.....4

Available SKUs.....4

General Data/Electrical Data.....5

Accessories.....6

Weighted Sound Power.....6

Unit Dimensions.....7

Clearances.....8

Control Wiring.....9

Refrigerant Line Size Information..... 10-13

Performance Data.....14

Limited Warranty.....16

Standard Feature Table

STANDARD FEATURES							
Feature	18	24	30	36	42	48	60
R-410A Refrigerant	✓	✓	✓	✓	✓	✓	✓
Scroll Compressor	✓	✓	✓	✓	✓	✓	✓
Field Installed Filter Drier	✓	✓	✓	✓	✓	✓	✓
Front Seating Service Valves	✓	✓	✓	✓	✓	✓	✓
Internal Pressure Relief Valve	✓	✓	✓	✓	✓	✓	✓
Internal Thermal Overload	✓	✓	✓	✓	✓	✓	✓
Long Line capability	✓	✓	✓	✓	✓	✓	✓
Low Ambient capability with Kit	✓	✓	✓	✓	✓	✓	✓
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	✓	✓	✓	✓	✓	✓	✓
Powder coated paint	✓	✓	✓	✓	✓	✓	✓
Rust resistant screws	✓	✓	✓	✓	✓	✓	✓
QR code	✓	✓	✓	✓	✓	✓	✓
External gauge ports	✓	✓	✓	✓	✓	✓	✓
Service trays	✓	✓	✓	✓	✓	✓	✓

✓ = Standard

Features and Benefits

- **Lighter Footprint & Less Environmental Impact from New 7mm Condenser Coil** provided by a decrease in refrigerant requirements and an overall weight reduction
- **Efficient Cooling** up to 14.3 SEER2/11.7 EER2
- **PlusOne Expanded Value Space:** 3in – 4in – 5 in service valve space – provides a minimum working area of 27-square inches for easier access
- **PlusOne Triple Service Access:** 15 in 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
- **System Matching Simplicity** – matches to all tiers of gas furnaces
- **Modern cabinet aesthetics** – High curb appeal with visually appealing design
- **Curved louver panels** – provide ultimate coil protection, enhance cabinet strength, and increased cabinet rigidity
- **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
- **QR code** – provides technical information on demand for faster service calls
- **Fan motor harness** with extra-long wires allows unit top to be removed without disconnecting fan wire.

Air Conditioners

<u>R</u>	<u>A</u>	<u>14</u>	<u>A</u>	<u>Z</u>	<u>24</u>	<u>A</u>	<u>J</u>	<u>1</u>	<u>N</u>	<u>A</u>	<u>LHP</u>
Brand	Product Category	SEER2	Region	Refrigerant	Capacity BTU/HR	Major Series	Voltage	Type	Controls	Minor Series	Option Code
Rheem	A - Air Conditioners	13.8/14.3 SEER2	A - All	Z - R-410A	18 - 18,000 [5.28 kW] 24 - 24,000 [7.03 kW] 30 - 30,000 [8.79 kW] 36 - 36,000 [10.55 kW] 42 - 42,000 [12.31 kW] 48 - 48,000 [14.07 kW] 60 - 60,000 [17.58 kW]	A - 1st Design	J - 1ph, 208-230/60	1 - Single Stage	N - Non-Communicating	A - 1st Design	LHP - W/HLPC

[] Designates Metric Conversions

Available SKUs

Available Models	Description
RA14AZ18AJ1NA	Endeavor™ Line <i>Classic</i> ® Series 1 1/2 ton 14.3 SEER2 Single-Stage Air Conditioner-208/230/1/60
RA14AZ18AJ1NALHP	Endeavor™ Line <i>Classic</i> ® Series 1 1/2 ton 14.3 SEER2 Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA14AZ24AJ1NA	Endeavor™ Line <i>Classic</i> ® Series 2 ton 14.3 SEER2 Single-Stage Air Conditioner-208/230/1/60
RA14AZ24AJ1NALHP	Endeavor™ Line <i>Classic</i> ® Series 2 ton 14.3 SEER2 Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA14AZ30AJ1NA	Endeavor™ Line <i>Classic</i> ® Series 2 1/2 ton 14.3 SEER2 Single-Stage Air Conditioner-208/230/1/60
RA14AZ30AJ1NALHP	Endeavor™ Line <i>Classic</i> ® Series 2 1/2 ton 14.3 SEER2 Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA14AZ36AJ1NA	Endeavor™ Line <i>Classic</i> ® Series 3 ton 14.3 SEER2 Single-Stage Air Conditioner-208/230/1/60
RA14AZ36AJ1NALHP	Endeavor™ Line <i>Classic</i> ® Series 3 ton 14.3 SEER2 Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA14AZ42AJ1NA	Endeavor™ Line <i>Classic</i> ® Series 3 1/2 ton 14.3 SEER2 Single-Stage Air Conditioner-208/230/1/60
RA14AZ42AJ1NALHP	Endeavor™ Line <i>Classic</i> ® Series 3 1/2 ton 14.3 SEER2 Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA14AZ48AJ1NA	Endeavor™ Line <i>Classic</i> ® Series 4 ton 14.3 SEER2 Single-Stage Air Conditioner-208/230/1/60
RA14AZ48AJ1NALHP	Endeavor™ Line <i>Classic</i> ® Series 4 ton 14.3 SEER2 Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA14AZ60AJ1NA	Endeavor™ Line <i>Classic</i> ® Series 5 ton 14.3 SEER2 Single-Stage Air Conditioner-208/230/1/60
RA14AZ60AJ1NALHP	Endeavor™ Line <i>Classic</i> ® Series 5 ton 14.3 SEER2 Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60

General Data							
GENERAL DATA							
Model No.	RA14AZ18	RA14AZ24	RA14AZ30	RA14AZ36	RA14AZ42	RA14AZ48	RA14AZ60
Nominal Tonnage	1.5	2.0	2.5	3.0	3.5	4.0	5.0
Valve Connections							
Liquid Line O.D. – in.	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
Refrigerant (R410A) furnished oz. ¹	94	115	120	124	149	153	203
Compressor Type	Scroll						
Outdoor Coil							
Net face area – Outer Coil	10.9	13.3	14.3	16.4	19.5	19.5	32.5
Net face area – Inner Coil	10.5	12.9	13.9	15.9	18.8	18.8	—
Tube diameter – in.	0.276	0.276	0.276	0.276	0.276	0.276	3/8
Number of rows	2	2	2	2	2	2	1
Fins per inch	24	24	24	24	24	24	22
Outdoor Fan							
Diameter – in.	20	24	24	24	24	24	26
Number of blades	2	2	2	2	3	3	3
Motor hp	1/7	1/6	1/6	1/6	1/5	1/5	1/3
CFM	2156	2723	2830	2991	3655	3655	5178
RPM	1075	825	825	825	850	850	910
watts	152	161	165	145	214	214	271
Shipping weight – lbs.	151	185	171	185	236	228	294
Operating weight – lbs.	144	178	164	178	229	221	287
Electrical Data							
Line Voltage Data (Volts-Phase-Hz)	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60
Maximum overcurrent protection (amps) ²	20	25	30	30	40	40	60
Minimum circuit ampacity ³	14	18	19	20	24	24	40
Compressor							
Rated load amps	9	12	14	13	18	18	26
Locked rotor amps	43	60	68	83	110	102	150
Condenser Fan Motor							
Full load amps	0.8	0.8	0.8	0.8	1.0	1.0	2.8
Locked rotor amps	1.5	1.5	1.7	1.7	2.6	2.6	—

¹Refrigerant 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.

²HACR type circuit breaker or fuse.

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

Accessories

Model No.		RA14AZ18	RA14AZ24	RA14AZ30	RA14AZ36	RA14AZ42	RA14AZ48	RA14AZ60
Compressor crankcase heater*		44-17402-44	44-17402-44	44-17402-44	44-17402-44	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	68-23427-26	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
Low pressure control		RXAC-A07	RXAC-A07	RXAC-A07	RXAC-A07	RXAC-A07	RXAC-A07	RXAC-A07
High pressure control		RXAB-A07	RXAB-A07	RXAB-A07	RXAB-A07	RXAB-A07	RXAB-A07	RXAB-A07
Liquid Line Solenoid (24 VAC, 50/60 Hz)	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC
	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	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC
	Solenoid Coil	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V
Classic Top Cap w/Label		91-101123-21	91-101123-21	91-101123-21	91-101123-21	91-101123-21	91-101123-21	91-101123-21

*Crankcase Heater recommended with Low Ambient Kit.

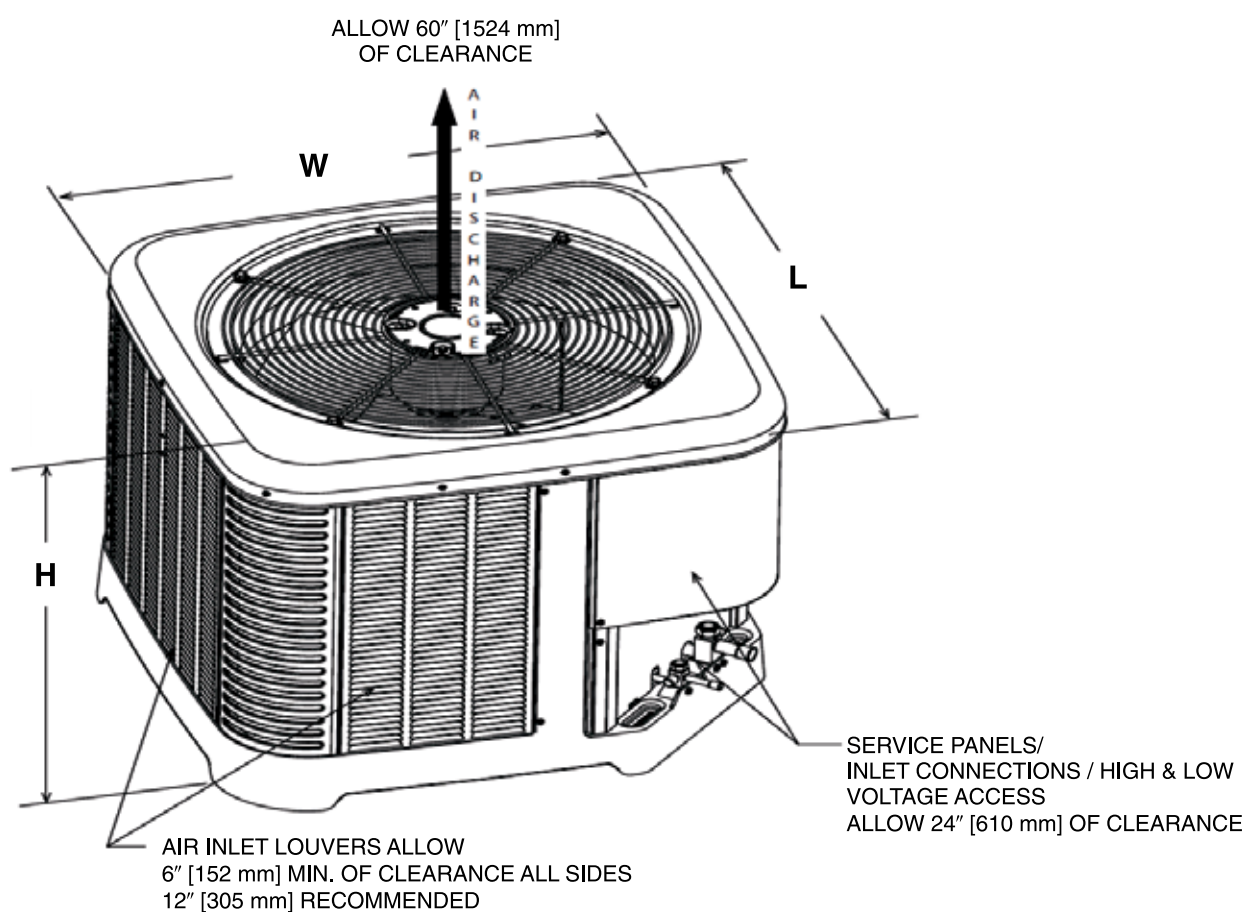
Weighted Sound Power Level (dBA)

Unit Size - Voltage, Series	Standard Rating (dBA)	TYPICAL OCTAVE BAND SPECTRUM (dBA without tone adjustment)						
		125	250	500	1000	2000	4000	8000
RA14AZ18	70.7	48.2	56.0	61.9	61.0	56.5	53.5	45.7
RA14AZ24	75.7	46.5	62.0	68.1	64.5	60.8	55.2	48.4
RA14AZ30	76.8	48.2	62.5	68.8	65.8	62.0	57.2	49.6
RA14AZ36	76.1	48.4	58.7	67.3	65.5	62.6	58.8	52.1
RA14AZ42	72.5	46.6	55.3	63.9	62.1	59.4	55.2	48.2
RA14AZ48	74.0	45.4	55.7	64.2	62.9	60.8	56.7	51.2
RA14AZ60	75.8	43.4	59.8	67.2	65.5	62.7	59.2	53.1

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

Unit Dimensions

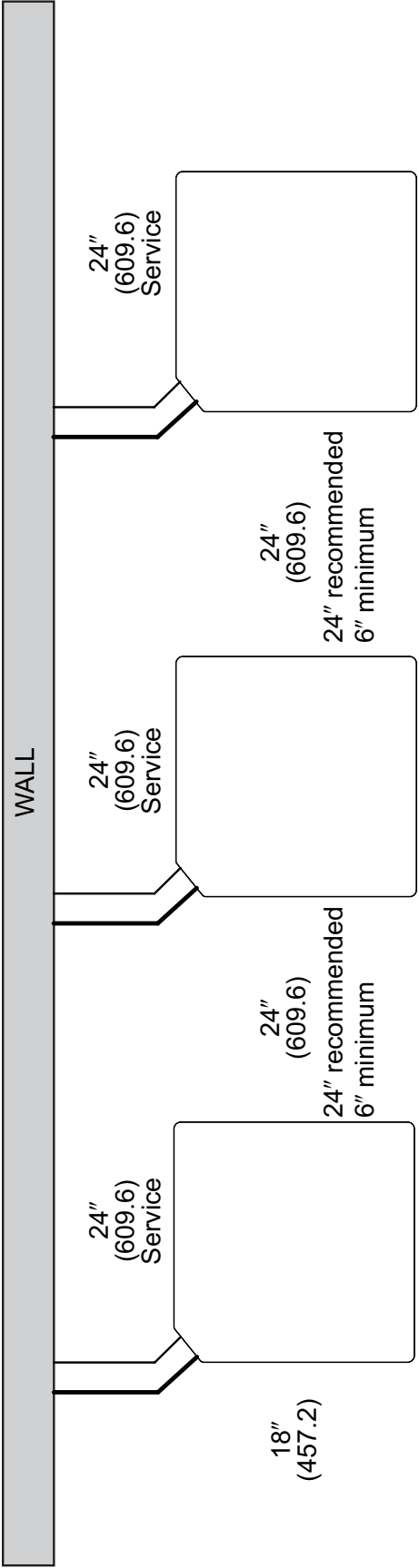
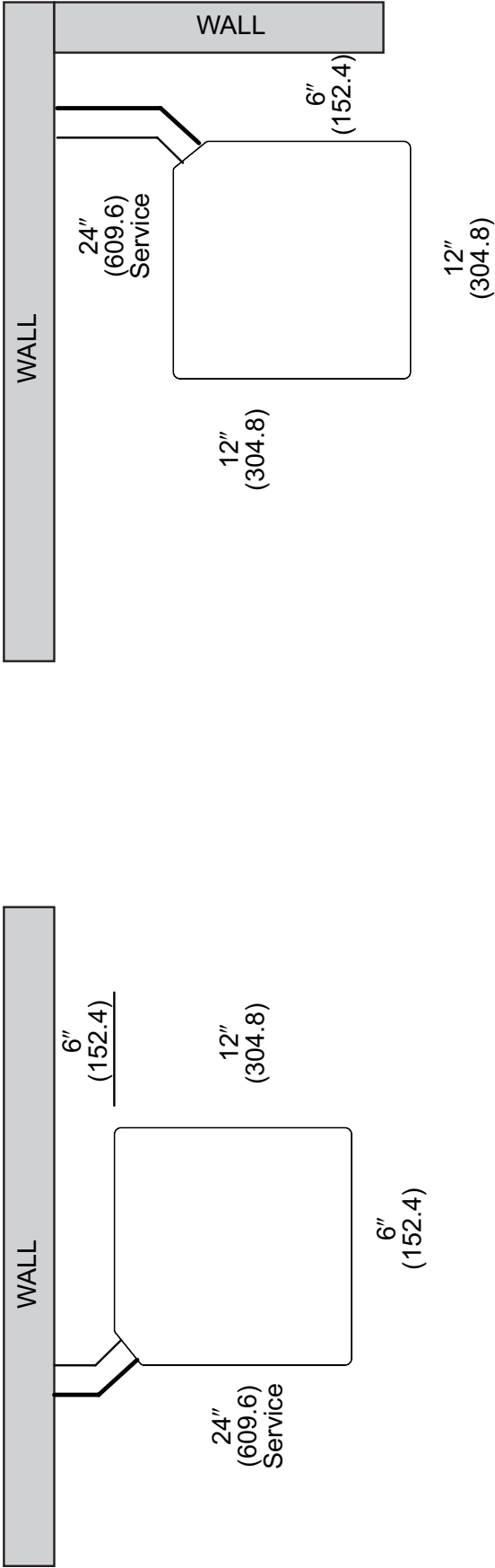
MODEL NO.	OPERATING						SHIPPING					
	H (Height)		L (Length)		W (Width)		H (Height)		L (Length)		W (Width)	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
RA14AZ18	25.00	635	29.75	756	29.75	756	26.50	673	32.38	822	32.38	822
RA14AZ24	25.00	635	33.75	857	33.75	857	26.50	673	36.38	924	36.38	924
RA14AZ30	27.00	686	33.75	857	33.75	857	28.50	724	36.38	924	36.38	924
RA14AZ36	31.00	787	33.75	857	33.75	857	32.50	826	36.38	924	36.38	924
RA14AZ42	35.00	889	33.75	857	33.75	857	36.50	927	36.38	924	36.38	924
RA14AZ48	35.00	889	33.75	857	33.75	857	36.50	927	36.38	924	36.38	924
RA14AZ60	51.00	1295	35.75	908	35.75	908	52.50	1334	38.38	975	38.38	975



[] Designates Metric Conversions

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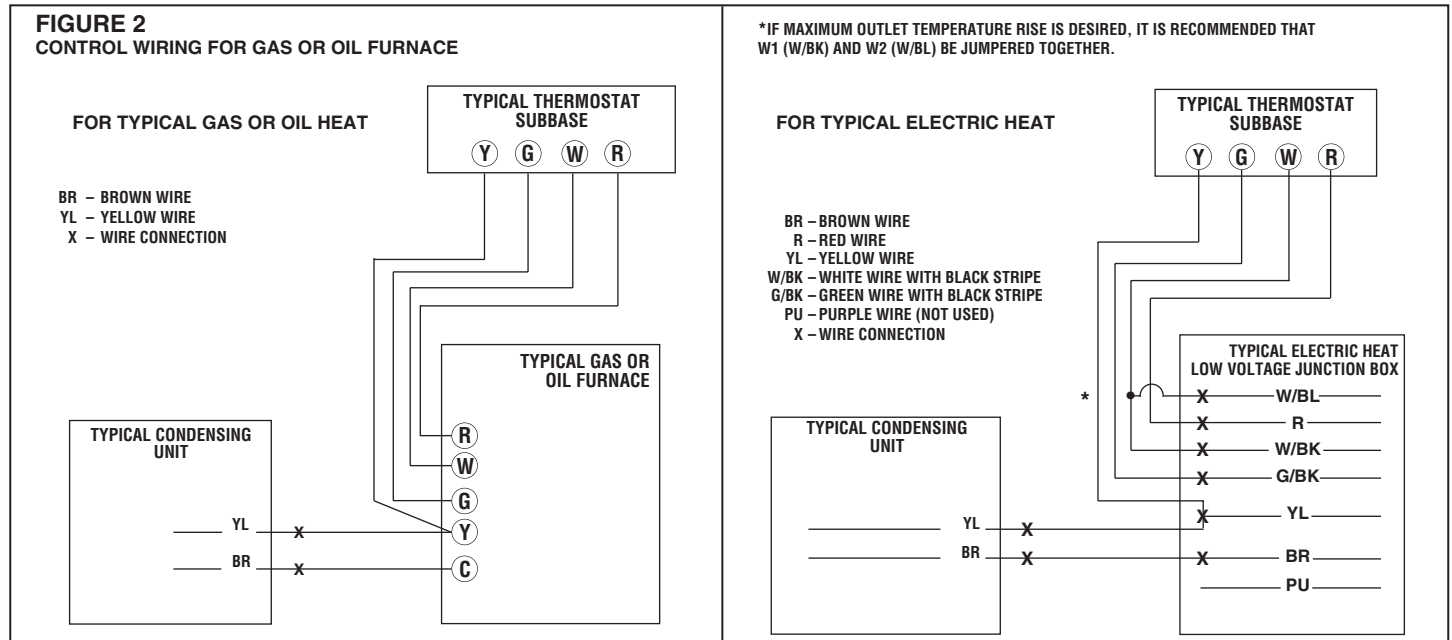
CLEARANCES



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.

Control Wiring



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 operation air temperature for cooling mode without low-ambient operation accessory is 55°F (12.8°C).
3. Maximum outdoor operating air temperature is 125°F (51.7°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.

Refrigerant Line Size Information

14.3 SEER2 Single-Stage Air-Conditioners													
Unit Size	Allowable Liquid Line Size	Allowable Suction Line Size	Apply Long Line Guidelines if Linear Line Length Exceeds Those Shown Below (Feet)	Equivalent Length (Feet)									
				< 25	26-50	51-75	76-100	101-125	126-150	151-175	176-200	201-225	226-250
			(-)A14AZ	Maximum Vertical Rise (Outdoor Unit Below Indoor Unit) * / Capacity Multiplier									
1.5 Ton **SEE NOTE 3	1/4"	5/8"	N/A	25 / 1.00	50 / 0.99	62 / 0.98	43 / 0.98	24 / 0.97	5 / 0.97	NR	NR	NR	NR
	5/16"	5/8"	223	25 / 1.00	50 / 0.99	75 / 0.98	98 / 0.98	93 / 0.97	88 / 0.97	83 / 0.96	78 / 0.96	73 / 0.95	68 / 0.94
	3/8"	5/8"	148	25 / 1.00	50 / 0.99	75 / 0.98	100 / 0.98	100 / 0.97	100 / 0.97	100 / 0.96	100 / 0.96	100 / 0.95	100 / 0.94
	1/4"	3/4***	N/A	25 / 1.00	50 / 1.00	62 / 0.99	43 / 0.99	24 / 0.99	5 / 0.99	NR	NR	NR	NR
	5/16"	3/4**	223	25 / 1.00	50 / 1.00	75 / 0.99	98 / 0.99	93 / 0.99	88 / 0.99	83 / 0.99	78 / 0.98	73 / 0.98	68 / 0.98
	3/8"	3/4***	148	25 / 1.00	50 / 1.00	75 / 1.00	100 / 0.99	100 / 0.99	100 / 0.99	100 / 0.99	100 / 0.98	100 / 0.98	100 / 0.98
2 Ton	1/4"	5/8"	N/A	25 / 0.99	50 / 0.98	21 / 0.97	NR	NR	NR	NR	NR	NR	NR
	5/16"	5/8"	213	25 / 0.99	50 / 0.98	75 / 0.97	87 / 0.96	77 / 0.95	69 / 0.94	61 / 0.93	53 / 0.92	45 / 0.91	37 / 0.90
	3/8"	5/8"	142	25 / 0.99	50 / 0.98	75 / 0.97	100 / 0.96	100 / 0.95	100 / 0.94	98 / 0.93	95 / 0.92	92 / 0.91	89 / 0.90
	1/4"	3/4"	N/A	25 / 1.00	50 / 1.00	21 / 0.99	NR	NR	NR	NR	NR	NR	NR
	5/16"	3/4"	213	25 / 1.00	50 / 1.00	75 / 0.99	87 / 0.99	77 / 0.98	69 / 0.98	61 / 0.98	53 / 0.97	45 / 0.97	37 / 0.96
	3/8"	3/4"	142	25 / 1.00	50 / 1.00	75 / 0.99	100 / 0.99	100 / 0.98	100 / 0.98	98 / 0.98	95 / 0.97	93 / 0.97	90 / 0.96
2.5 Ton	5/16"	5/8"	N/A	25 / 0.99	50 / 0.98	75 / 0.96	70 / 0.94	59 / 0.93	48 / 0.91	36 / 0.90	NR	NR	NR
	3/8"	5/8"	117	25 / 0.99	50 / 0.98	75 / 0.96	100 / 0.94	98 / 0.93	94 / 0.91	90 / 0.90	NR	NR	NR
	5/16"	3/4"	175	25 / 1.00	50 / 0.99	75 / 0.99	70 / 0.98	59 / 0.98	48 / 0.97	36 / 0.96	25 / 0.96	13 / 0.95	NR
	3/8"	3/4"	117	25 / 1.00	50 / 0.99	75 / 0.99	100 / 0.98	98 / 0.98	94 / 0.97	90 / 0.96	86 / 0.96	82 / 0.95	78 / 0.95
	5/16"	5/8"	N/A	25 / 0.99	50 / 0.97	66 / 0.94	49 / 0.92	32 / 0.90	NR	NR	NR	NR	NR
	3/8"	5/8"	85	25 / 0.99	50 / 0.97	75 / 0.94	95 / 0.92	89 / 0.90	NR	NR	NR	NR	NR
3 Ton	5/16"	3/4"	128	25 / 1.00	50 / 0.99	66 / 0.98	49 / 0.98	32 / 0.97	15 / 0.96	NR	NR	NR	NR
	3/8"	3/4"	85	25 / 1.00	50 / 0.99	75 / 0.98	95 / 0.98	89 / 0.97	84 / 0.96	78 / 0.95	72 / 0.94	67 / 0.93	61 / 0.93
	1/2"	3/4"	43	25 / 1.00	50 / 0.99	75 / 0.98	100 / 0.98	100 / 0.97	100 / 0.96	100 / 0.95	100 / 0.94	100 / 0.93	100 / 0.93
	5/16"	7/8"	128	25 / 1.00	50 / 1.00	66 / 1.00	49 / 0.99	32 / 0.99	15 / 0.99	NR	NR	NR	NR
	3/8"	7/8"	85	25 / 1.00	50 / 1.00	75 / 1.00	95 / 0.99	89 / 0.99	84 / 0.99	78 / 0.98	72 / 0.98	67 / 0.98	61 / 0.97
	1/2"	7/8"	43	25 / 1.00	50 / 1.00	75 / 1.00	100 / 0.99	100 / 0.99	100 / 0.99	100 / 0.98	100 / 0.98	100 / 0.98	100 / 0.97
3.5 Ton	3/8"	3/4"	102	25 / 0.99	50 / 0.98	75 / 0.97	88 / 0.96	80 / 0.95	72 / 0.94	65 / 0.92	57 / 0.91	49 / 0.90	NR
	1/2"	3/4"	51	25 / 0.99	50 / 0.98	75 / 0.97	100 / 0.96	100 / 0.95	100 / 0.94	100 / 0.92	100 / 0.91	100 / 0.90	NR
	3/8"	7/8"	102	25 / 1.00	50 / 1.00	75 / 0.99	88 / 0.99	80 / 0.99	72 / 0.98	65 / 0.97	57 / 0.97	49 / 0.96	42 / 0.96
	1/2"	7/8"	51	25 / 1.00	50 / 1.00	75 / 0.99	100 / 0.99	100 / 0.99	100 / 0.98	100 / 0.97	100 / 0.97	100 / 0.96	100 / 0.96

NOTES:

- 1) Do not exceed 200 ft linear line length.
- 2) *Do not exceed 100 ft vertical separation if outdoor unit is above indoor unit.
- 3) **3/4" suction line should only be used for 1.5 ton systems if outdoor unit is below or at same level as indoor to assure proper oil return.
- 4) Always use the smallest liquid line allowable to minimize refrigerant charge.
- 5) Applications shaded in light gray indicate capacity multipliers between 0.90 and 0.96 which are not recommended, but are allowed.
- 6) Applications shaded in dark gray are not recommended due to excessive liquid or suction pressure drop.

Refrigerant Line Size Information (con't.)

14.3 SEER2 Single-Stage Air-Conditioners													
Unit Size	Allowable Liquid Line Size	Allowable Suction Line Size	Apply Long Line Guidelines if Linear Line Length Exceeds Those Shown Below (Feet)	Equivalent Length (Feet)									
				< 25	26-50	51-75	76-100	101-125	126-150	151-175	176-200	201-225	226-250
				Maximum Vertical Rise (Outdoor Unit Below Indoor Unit) * / Capacity Multiplier									
4 Ton	3/8"	3/4"	110	25 / 0.99	50 / 0.98	75 / 0.96	77 / 0.95	67 / 0.93	57 / 0.92	46 / 0.91	NR	NR	NR
	1/2"	3/4"	55	25 / 0.99	50 / 0.98	75 / 0.96	100 / 0.95	100 / 0.93	100 / 0.92	100 / 0.91	NR	NR	NR
	3/8"	7/8"	110	25 / 1.00	50 / 0.99	75 / 0.99	77 / 0.98	67 / 0.97	57 / 0.97	46 / 0.96	36 / 0.96	26 / 0.95	15 / 0.95
	1/2"	7/8"	55	25 / 1.00	50 / 0.99	75 / 0.99	100 / 0.98	100 / 0.97	100 / 0.97	100 / 0.96	100 / 0.96	99 / 0.95	97 / 0.95
5 Ton	3/8"	3/4"	0	25 / 0.99	50 / 0.97	75 / 0.94	61 / 0.92	46 / 0.90	NR	NR	NR	NR	NR
	1/2"	3/4"	0	25 / 0.99	50 / 0.97	75 / 0.94	100 / 0.92	100 / 0.90	NR	NR	NR	NR	NR
	3/8"	7/8"	0	25 / 1.00	50 / 0.99	75 / 0.98	61 / 0.97	46 / 0.96	32 / 0.95	18 / 0.94	NR	NR	NR
	1/2"	7/8"	0	25 / 1.00	50 / 0.99	75 / 0.98	100 / 0.97	100 / 0.96	100 / 0.95	97 / 0.94	95 / 0.94	92 / 0.93	89 / 0.92
	3/8"	1-1/8"	0	25 / 1.01	50 / 1.01	75 / 1.00	61 / 1.00	46 / 0.99	32 / 0.99	18 / 0.99	NR	NR	NR
	1/2"	1-1/8"	0	25 / 1.01	50 / 1.01	75 / 1.00	100 / 1.00	100 / 0.99	100 / 0.99	97 / 0.99	95 / 0.99	92 / 0.99	89 / 0.98

NOTES:

- 1) Do not exceed 200 ft linear line length.
- 2) *Do not exceed 100 ft vertical separation if outdoor unit is above indoor unit.
- 3) **3/4" suction line should only be used for 1.5 ton systems if outdoor unit is below or at same level as indoor to assure proper oil return.
- 4) Always use the smallest liquid line allowable to minimize refrigerant charge.
- 5) Applications shaded in light gray indicate capacity multipliers between 0.90 and 0.96 which are not recommended, but are allowed.
- 6) Applications shaded in dark gray are not recommended due to excessive liquid or suction pressure drop.

Refrigerant Line Size Information

14.3 SEER2 Single-Stage Air-Conditioners													
Unit Size	Allowable Liquid Line Size mm [in.]	Allowable Suction Line Size mm [in.]	Apply Long Line Guidelines if Linear Line Length Exceeds Those Shown Below (Feet)	Equivalent Length (Meters)									
				< 8	8-15	16-23	24-30	31-38	39-46	47-53	54-61	62-69	70-76
				Maximum Vertical Rise (Outdoor Unit Below Indoor Unit) * / Capacity Multiplier									
5.3 KW [1.5 Ton] **SEE NOTE 3	6.35 [1/4]	15.88 [5/8]	N/A	8 / 1.00	15 / 0.99	19 / 0.98	13 / 0.98	7 / 0.97	2 / 0.97	NR	NR	NR	NR
	7.94 [5/16]	15.88 [5/8]	68	8 / 1.00	15 / 0.99	23 / 0.98	30 / 0.98	28 / 0.97	27 / 0.97	25 / 0.96	24 / 0.96	22 / 0.95	21 / 0.94
	9.53 [3/8]	15.88 [5/8]	45	8 / 1.00	15 / 0.99	23 / 0.98	30 / 0.98	30 / 0.97	30 / 0.97	30 / 0.96	30 / 0.96	30 / 0.95	30 / 0.94
	6.35 [1/4]	19.05 [3/4]**	N/A	8 / 1.00	15 / 1.00	19 / 0.99	13 / 0.99	7 / 0.99	2 / 0.99	NR	NR	NR	NR
	7.94 [5/16]	19.05 [3/4]**	68	8 / 1.00	15 / 1.00	23 / 0.99	30 / 0.99	28 / 0.99	27 / 0.99	25 / 0.99	24 / 0.98	22 / 0.98	21 / 0.98
7.0 KW [2 Ton]	9.53 [3/8]	19.05 [3/4]**	Metric	8 / 1.00	15 / 1.00	23 / 0.99	30 / 0.99	30 / 0.99	30 / 0.99	30 / 0.99	30 / 0.99	30 / 0.98	30 / 0.98
	6.35 [1/4]	15.88 [5/8]	N/A	8 / 0.99	15 / 0.98	6 / 0.97	NR	NR	NR	NR	NR	NR	NR
	7.94 [5/16]	15.88 [5/8]	59	8 / 0.99	15 / 0.98	23 / 0.97	27 / 0.96	23 / 0.95	21 / 0.94	19 / 0.93	16 / 0.92	14 / 0.91	11 / 0.90
	9.53 [3/8]	15.88 [5/8]	39	8 / 0.99	15 / 0.98	23 / 0.97	30 / 0.96	30 / 0.95	30 / 0.94	30 / 0.93	29 / 0.92	28 / 0.91	27 / 0.90
	6.35 [1/4]	19.05 [3/4]	N/A	8 / 1.00	15 / 1.00	6 / 0.99	NR	NR	NR	NR	NR	NR	NR
8.8 KW [2.5 Ton]	7.94 [5/16]	19.05 [3/4]	59	8 / 1.00	15 / 1.00	23 / 0.99	27 / 0.99	23 / 0.98	21 / 0.98	19 / 0.98	16 / 0.97	14 / 0.97	11 / 0.96
	9.53 [3/8]	19.05 [3/4]	39	8 / 1.00	15 / 1.00	23 / 0.99	30 / 0.99	30 / 0.98	30 / 0.98	30 / 0.98	29 / 0.97	28 / 0.97	27 / 0.96
	7.94 [5/16]	15.88 [5/8]	N/A	8 / 0.99	15 / 0.98	23 / 0.96	21 / 0.94	18 / 0.93	15 / 0.91	11 / 0.90	NR	NR	NR
	9.53 [3/8]	15.88 [5/8]	36	8 / 0.99	15 / 0.98	23 / 0.96	30 / 0.94	30 / 0.93	29 / 0.91	27 / 0.90	NR	NR	NR
	7.94 [5/16]	19.05 [3/4]	53	8 / 1.00	15 / 0.99	23 / 0.99	21 / 0.98	18 / 0.98	15 / 0.97	11 / 0.96	8 / 0.96	4 / 0.95	NR
10.6 KW [3 Ton]	9.53 [3/8]	19.05 [3/4]	36	8 / 1.00	15 / 0.99	23 / 0.99	30 / 0.98	30 / 0.98	29 / 0.97	27 / 0.96	26 / 0.96	25 / 0.95	24 / 0.95
	7.94 [5/16]	15.88 [5/8]	N/A	8 / 0.99	15 / 0.97	20 / 0.94	15 / 0.92	10 / 0.90	NR	NR	NR	NR	NR
	9.53 [3/8]	15.88 [5/8]	26	8 / 0.99	15 / 0.97	23 / 0.94	29 / 0.92	27 / 0.90	NR	NR	NR	NR	NR
	7.94 [5/16]	19.05 [3/4]	39	8 / 1.00	15 / 0.99	20 / 0.98	15 / 0.98	10 / 0.97	5 / 0.96	NR	NR	NR	NR
	9.53 [3/8]	19.05 [3/4]	26	8 / 1.00	15 / 0.99	23 / 0.98	29 / 0.98	27 / 0.97	26 / 0.96	24 / 0.95	22 / 0.94	20 / 0.93	19 / 0.93
12.3 KW [3.5 Ton]	12.70 [1/2]	19.05 [3/4]	13	8 / 1.00	15 / 0.99	23 / 0.98	30 / 0.98	30 / 0.97	30 / 0.96	30 / 0.95	30 / 0.94	30 / 0.93	30 / 0.93
	7.94 [5/16]	22.23 [7/8]	39	8 / 1.00	15 / 1.00	20 / 1.00	15 / 0.99	10 / 0.99	5 / 0.99	NR	NR	NR	NR
	9.53 [3/8]	22.23 [7/8]	26	8 / 1.00	15 / 1.00	23 / 1.00	29 / 0.99	27 / 0.99	26 / 0.99	24 / 0.98	22 / 0.98	20 / 0.98	19 / 0.97
	12.70 [1/2]	22.23 [7/8]	13	8 / 1.00	15 / 1.00	23 / 1.00	30 / 0.99	30 / 0.99	30 / 0.99	30 / 0.98	30 / 0.98	30 / 0.98	30 / 0.97
	9.53 [3/8]	19.05 [3/4]	31	8 / 0.99	15 / 0.98	23 / 0.97	27 / 0.96	24 / 0.95	22 / 0.94	20 / 0.92	17 / 0.91	15 / 0.90	NR
12.3 KW [3.5 Ton]	12.70 [1/2]	19.05 [3/4]	15	8 / 0.99	15 / 0.98	23 / 0.97	30 / 0.96	30 / 0.95	30 / 0.94	30 / 0.92	30 / 0.91	30 / 0.90	NR
	9.53 [3/8]	22.23 [7/8]	31	8 / 1.00	15 / 1.00	23 / 0.99	27 / 0.99	24 / 0.99	22 / 0.98	20 / 0.97	17 / 0.97	15 / 0.96	13 / 0.96
	12.70 [1/2]	22.23 [7/8]	15	8 / 1.00	15 / 1.00	23 / 0.99	30 / 0.99	30 / 0.99	30 / 0.98	30 / 0.97	30 / 0.97	30 / 0.96	30 / 0.96

NOTES:

- 1) Do not exceed 200 ft linear line length.
- 2) *Do not exceed 100 ft vertical separation if outdoor unit is above indoor unit.
- 3) **3/4" suction line should only be used for 1.5 ton systems if outdoor unit is below or at same level as indoor to assure proper oil return.
- 4) Always use the smallest liquid line allowable to minimize refrigerant charge.
- 5) Applications shaded in light gray indicate capacity multipliers between 0.90 and 0.96 which are not recommended, but are allowed.
- 6) Applications shaded in dark gray are not recommended due to excessive liquid or suction pressure drop.

Refrigerant Line Size Information (con't.)

14.3 SEER2 Single-Stage Air-Conditioners													
Unit Size	Allowable Liquid Line Size mm [in.]	Allowable Suction Line Size mm [in.]	Apply Long Line Guidelines if Linear Line Length Exceeds Those Shown Below (Feet)	Equivalent Length (Meters)									
				< 25	26-50	51-75	76-100	101-125	126-150	151-175	176-200	201-225	226-250
				Maximum Vertical Rise (Outdoor Unit Below Indoor Unit) * / Capacity Multiplier									
14.1 KW [4 Ton]	9.53 [3/8]	19.05 [3/4]	34	8 / 0.99	15 / 0.98	23 / 0.96	24 / 0.95	20 / 0.93	17 / 0.92	14 / 0.91	NR	NR	NR
	12.7 [1/2]	19.05 [3/4]	17	8 / 0.99	15 / 0.98	23 / 0.96	30 / 0.95	30 / 0.93	30 / 0.92	30 / 0.91	NR	NR	NR
	9.53 [3/8]	22.23 [7/8]	34	8 / 1.00	15 / 0.99	23 / 0.99	24 / 0.98	20 / 0.97	17 / 0.97	14 / 0.96	11 / 0.96	8 / 0.95	5 / 0.95
	12.7 [1/2]	22.23 [7/8]	17	8 / 1.00	15 / 0.99	23 / 0.99	30 / 0.98	30 / 0.97	30 / 0.97	30 / 0.96	30 / 0.96	30 / 0.95	30 / 0.95
17.6 KW [5 Ton]	9.53 [3/8]	19.05 [3/4]	0	8 / 0.99	15 / 0.97	23 / 0.94	19 / 0.92	14 / 0.90	NR	NR	NR	NR	NR
	12.7 [1/2]	19.05 [3/4]	0	8 / 0.99	15 / 0.97	23 / 0.94	30 / 0.92	30 / 0.90	NR	NR	NR	NR	NR
	9.53 [3/8]	22.23 [7/8]	0	8 / 1.00	15 / 0.99	23 / 0.98	19 / 0.97	14 / 0.96	10 / 0.95	5 / 0.94	NR	NR	NR
	12.7 [1/2]	22.23 [7/8]	0	8 / 1.00	15 / 0.99	23 / 0.98	30 / 0.97	30 / 0.96	30 / 0.95	30 / 0.94	29 / 0.94	28 / 0.93	27 / 0.92
	9.53 [3/8]	28.58 [1-1/8]	0	8 / 1.01	15 / 1.01	23 / 1.00	19 / 1.00	14 / 0.99	10 / 0.99	5 / 0.99	NR	NR	NR
	12.7 [1/2]	28.58 [1-1/8]	0	8 / 1.01	15 / 1.01	23 / 1.00	30 / 1.00	30 / 0.99	30 / 0.99	30 / 0.99	29 / 0.99	28 / 0.99	27 / 0.98

NOTES:

- 1) Do not exceed 200 ft linear line length.
- 2) *Do not exceed 100 ft vertical separation if outdoor unit is above indoor unit.
- 3) **3/4" suction line should only be used for 1.5 ton systems if outdoor unit is below or at same level as indoor to assure proper oil return.
- 4) Always use the smallest liquid line allowable to minimize refrigerant charge.
- 5) Applications shaded in light gray indicate capacity multipliers between 0.90 and 0.96 which are not recommended, but are allowed.
- 6) Applications shaded in dark gray are not recommended due to excessive liquid or suction pressure drop.

Performance Data @ AHRI Standard Conditions – Cooling

Designated Tested Combination (DTC)							
Outdoor Unit	Indoor Coil	Total Capacity BTU/H [kW]	Net Sensible BTU/H [kW]	Net Latent BTU/H [kW]	SEER2	EER2	Indoor CFM [L/s]
RA14AZ18AJ1	RCFZ2417STAN	17100 [5.0]	13100 [3.8]	4000 [1.2]	14.3	11.7	600 [283.2]
RA14AZ24AJ1	RCFZ2417STAN	22800 [6.7]	17000 [5.0]	5800 [1.7]	14.3	11.7	735 [346.9]
RA14AZ30AJ1	RCFZ3617STAN	28600 [8.4]	20800 [6.1]	7800 [2.3]	14.3	11.7	910 [429.5]
RA14AZ36AJ1	RCFZ3617STAN	34200 [10.0]	25000 [7.3]	9200 [2.7]	14.3	11.7	1030 [486.1]
RA14AZ42AJ1	RCFZ4821STAN	39500 [11.6]	28500 [8.4]	11000 [3.2]	14.3	11.7	1295 [611.2]
RA14AZ48AJ1	RCFZ4821STAN	46000 [13.5]	32500 [9.5]	13500 [4.0]	13.8	11.2	1420 [670.2]
RA14AZ60AJ1	RCFZ6024STAN	55500 [16.3]	39500 [11.6]	16000 [4.7]	13.8	11.2	1595 [752.8]

NOTE: This data includes DTC (Designated Test Combination) ratings and is for reference purposes only. A full listing of official ratings and system match-ups, along with downloadable certificates, can be accessed from the AHRI website: www.ahrirectory.org.

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