



Endeavor™ Line Achiever® Series iM Heat Pumps



RP14AZ

Cooling Efficiency: 14.3 SEER2/9.0 EER2

Heating Efficiency: 7.5 HSPF

Nominal Sizes: 1.5 to 5 Tons [5.3 to 17.6 kW]

Cooling & Heating Capacities: 17.1 kBTU to 55.5 kBTU



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Features and Benefits

- **Swept Wing Fan Technology¹:** Features quieter operation and improved unit acoustics
- **Two-Stage Scroll Compressor²:** Features two speeds (high and low) of cooling and heating, providing more precise temperature control, lower humidity and greater efficiency when compared to single stage compressors
- **Inverted Reversing Valve:** Allows for faster heat transfer with gravity assist shifting and reduced joint stress for increased reliability
- **PlusOne® Expanded Valve Space:** 3 in. – 4 in. – 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, two fastener, removeable corner and individual louver panels—makes repairs easier and faster

¹Does not apply to the 3.5 and 4 Ton

²Does not apply to the 1.5 Ton 1-stage model

Heat Pumps

<u>R</u>	<u>P</u>	<u>14</u>	<u>A</u>	<u>Z</u>	<u>18</u>	<u>A</u>	<u>J</u>	<u>1</u>	<u>N</u>	<u>A</u>
Brand	Product Category	SEER2	Region	Refrigerant	Capacity	Major Series	Voltage	Type	Controls	Minor Series
R - Ruud	P - Heat Pump	14 - 14.3 SEER2	A - All Regions	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 - 208/230/1/60	1 - 1-Stage 2 - 2-Stage	N - Non-Comm.	A - 1st Design

[] Designates Metric Conversions

AVAILABLE MODELS	DESCRIPTION
RP14AZ18AJ1NA	Endeavor™ Line <i>Achiever</i> ® Series 1 1/2 ton 14.3 SEER2 1-Stage iM Heat Pump-208/230/1/60
RP14AZ18AJ2NA	Endeavor™ Line <i>Achiever</i> ® Series 1 1/2 ton 14.3 SEER2 2-Stage iM Heat Pump-208/230/1/60
RP14AZ24AJ2NA	Endeavor™ Line <i>Achiever</i> ® Series 2 ton 14.3 SEER2 2-Stage Heat iM Pump-208/230/1/60
RP14AZ30AJ2NA	Endeavor™ Line <i>Achiever</i> ® Series 2 1/2 ton 14.3 SEER2 2-Stage iM Heat Pump-208/230/1/60
RP14AZ36AJ2NA	Endeavor™ Line <i>Achiever</i> ® Series 3 ton 14.3 SEER2 2-Stage iM Heat Pump-208/230/1/60
RP14AZ42AJ2NA	Endeavor™ Line <i>Achiever</i> ® Series 3 1/2 ton 14.3 SEER2 2-Stage iM Heat Pump-208/230/1/60
RP14AZ48AJ2NA	Endeavor™ Line <i>Achiever</i> ® Series 4 ton 14.3 SEER2 2-Stage iM Heat Pump-208/230/1/60
RP14AZ60AJ2NA	Endeavor™ Line <i>Achiever</i> ® Series 5 ton 14.3 SEER2 2-Stage iM Heat Pump-208/230/1/60

STANDARD EQUIPMENT
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
Single row condenser coil
Powder coated paint
Rust resistant screws
QR code
External gauge ports
Service trays
External gauge ports
Service trays

General Data								
GENERAL DATA								
MODEL NO.	RP14AZ18**1	RP14AZ18**2	RP14AZ24	RP14AZ30	RP14AZ36	RP14AZ42	RP14AZ48	RP14AZ60
Nominal Tonnage	1.5	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	3/8
Suction Line O.D. – in.	3/4	3/4	3/4	3/4	3/4	7/8	7/8	7/8
Refrigerant (R410A) furnished oz. ¹	84	88	88	108	118	148	148	247
Compressor Type	Scroll							
Outdoor Coil								
Net face area – Outer Coil	10.9	10.9	10.9	14.4	19.5	19.5	19.5	28.4
Net face area – Inner Coil								
Tube diameter – in.	0.276	0.276	0.276	0.276	0.276	0.276	0.276	0.375
Number of rows	1	1	1	1	1	1	1	1
Fins per inch	22	22	22	22	22	22	24	20
Outdoor Fan								
Diameter – in.	20	20	20	24	24	24	24	26
Number of blades	3	3	3	3	3	3	3	3
Motor hp	1/7	1/7	1/6	1/5	1/5	1/5	1/5	1/5
CFM	2401	2401	2620	3391	4077	4077	4096	4686
RPM	1075	1075	1075	850	850	850	850	850
watts	146	141	145	175	234	222	236	239
Shipping weight – lbs.	157	157	158	196	209	239	245	285
Operating weight – lbs.	150	150	151	189	202	232	238	278

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	208/230-1-60
Maximum overcurrent protection (amps) ²	20	15	20	25	25	35	35	40
Minimum circuit ampacity ³	11	11	15	18	21	26	29	31
Compressor								
Rated load amps	10	8	11	13	15	20	22	24
Locked rotor amps	46	56	66	71	78	151	127	118
Condenser Fan Motor								
Full load amps	0.75	0.75	0.75	1.0	1.0	1.0	1.0	1.0
Locked rotor amps	1.4	1.4	1.5	2.6	2.56	2.56	2.56	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.	RP14AZ18**1	RP14AZ18**2	RP14AZ24	RP14AZ30	RP14AZ36	RP14AZ42	RP14AZ48	RP14AZ60	
Compressor crankcase heater*	44-17402-44	44-17402-44	44-17402-44	44-17402-44	44-17402-44	44-17402-45	44-17402-45	Factory Standard	
Low ambient control	RXAD-A08	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	68-23427-26	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	SK-A1	
Low pressure control	Factory Standard	Factory Standard	Factory Standard	Factory Standard	Factory Standard	Factory Standard	Factory Standard	Factory Standard	
High pressure control	Factory Standard	Factory Standard	Factory Standard	Factory Standard	Factory Standard	Factory Standard	Factory Standard	Factory Standard	
Liquid Line Solenoid (24 VAC, 50/60 Hz)	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD3T3TVLC	200RD3T3TVLC
	Solenoid Coil	61-AMG24V	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	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	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	91-101123-21	

*Bi-flow kits are required when installing a liquid line solenoid on a heat pump.

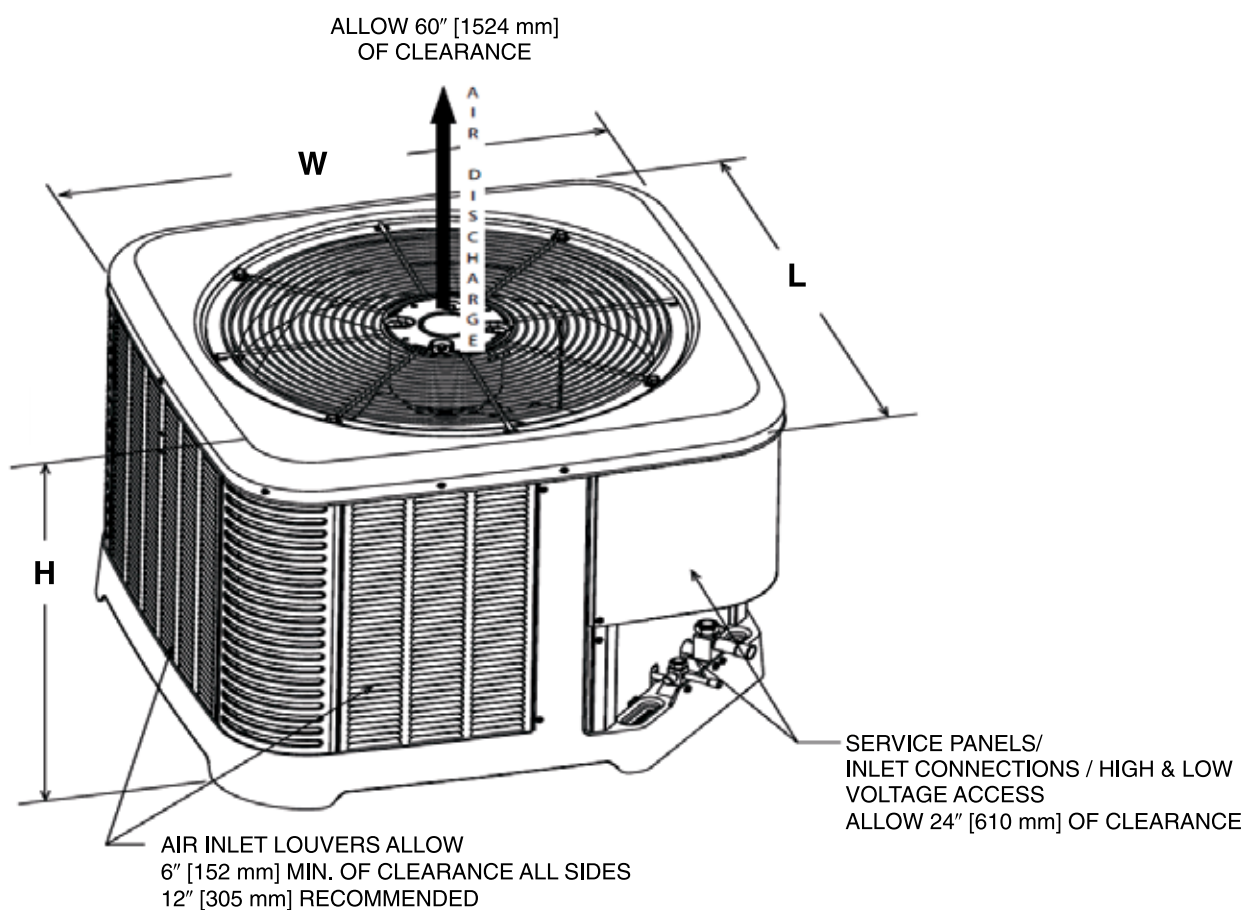
Weighted Sound Power Level (dBA)

UNIT SIZE - VOLTAGE, SERIES	STANDARD RATING (DBA)	TYPICAL OCTAVE BAND SPECTRUM (dBA without tone adjustment)						
		125	250	500	1000	2000	4000	8000
RP14AZ18A	73	39.8	55	62.1	67.0	60.0	57.4	51.2
RP14AZ24A	73	40.4	55.4	62.5	65.9	58.7	56.4	48.9
RP14AZ30A	72	48.9	55.3	63.6	61.0	59.1	56.5	48.7
RP14AZ36A	72	50.1	55.8	64.4	61.5	58.7	55.1	50.9
RP14AZ42A	72	48.6	56.2	63.1	61.7	60.0	56	50.0
RP14AZ48A	74	49.3	56	64.5	64.5	60.1	54.9	47.7
RP14AZ60A	74	43.9	55.2	63.4	65.8	61.7	57.9	52.9

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

Unit Dimensions

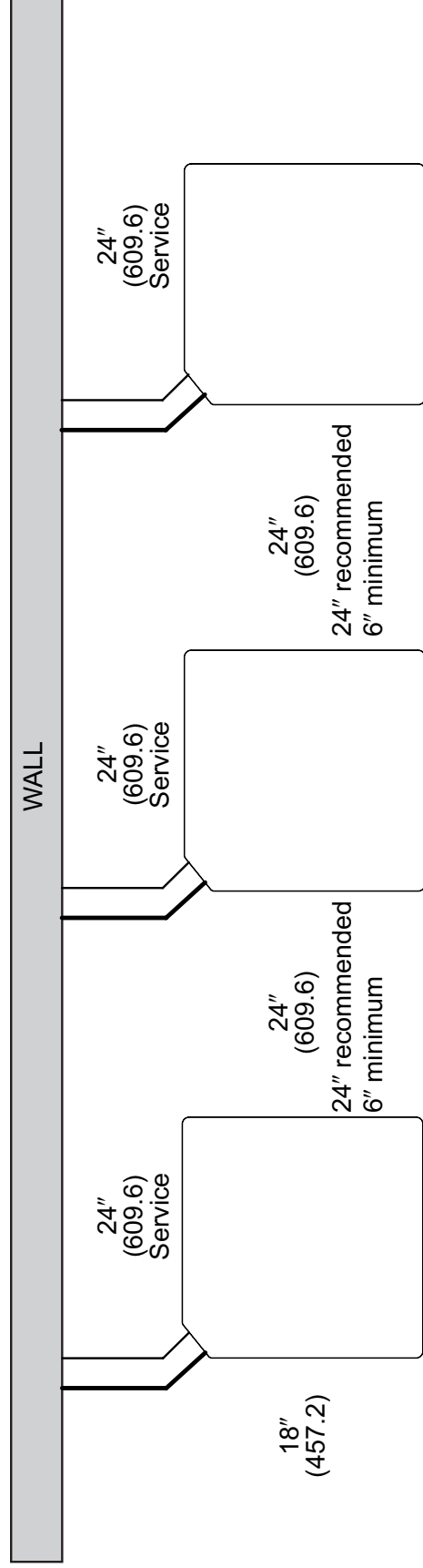
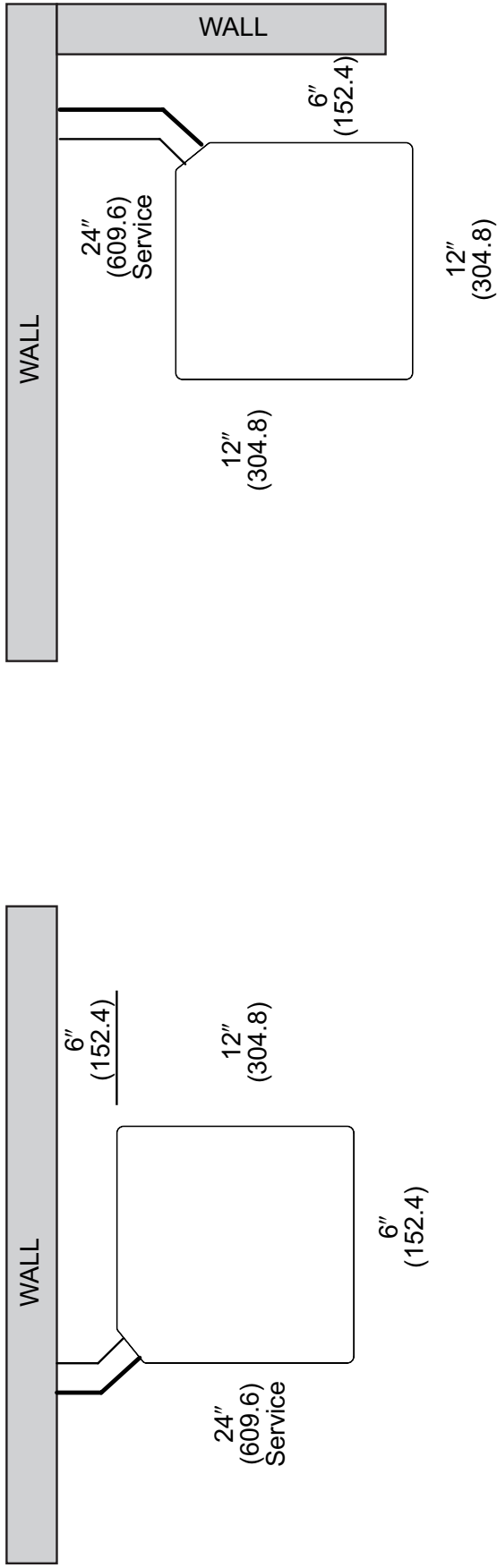
MODEL NO.	OPERATING						SHIPPING					
	H (Height)		L (Length)		W (Width)		H (Height)		L (Length)		W (Width)	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
RP14AZ18**1	25.00	635	29.75	756	29.75	756	27.90	709	33.25	845	33.25	845
RP14AZ18**2	25.00	635	29.75	756	29.75	756	27.90	709	33.25	845	33.25	845
RP14AZ24	25.00	635	29.75	756	29.75	756	27.90	709	33.25	845	33.25	845
RP14AZ30	27.00	686	33.75	857	33.75	857	30.08	764	37.64	956	37.64	956
RP14AZ36	35.00	889	33.75	857	33.75	857	38.35	974	37.64	956	37.64	956
RP14AZ42	35.00	889	33.75	857	33.75	857	38.35	974	37.64	956	37.64	956
RP14AZ48	35.00	889	33.75	857	33.75	857	38.35	974	37.64	956	37.64	956
RP14AZ60	45.00	1143	35.75	908	35.75	908	48.50	1232	39.37	1000	39.37	1000



[] Designates Metric Conversions

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CLEARANCES

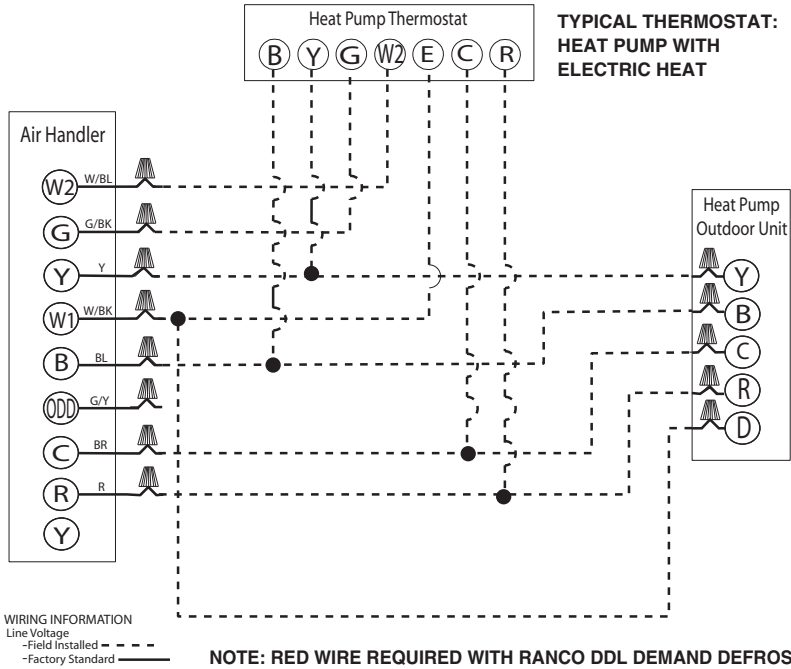


NOTE: NUMBERS IN () = mm

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

FIGURE 4
CONTROL WIRING FOR AIR HANDLER



**TYPICAL THERMOSTAT:
 HEAT PUMP WITH
 ELECTRIC HEAT**

- NOTES:**
1. Jumper “E” to “W2” to transfer control of supplemental heat to 1st stage when the emergency heat switch is on.
 2. This wire turns on heat for defrost, omit for most economical operation.
 3. Wire with colored tracing stripe.

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

SINGLE AND TWO-STAGE HEAT PUMPS									
UNIT SIZE	MAX. LIQUID LINE SIZE	SUCTION LINE SIZE	OUTDOOR UNIT ABOVE OR BELOW INDOOR UNIT EQUIVALENT LENGTH IN FEET						
			0-15	16-25	26-50	51-80	81-100	101-125	126-150
			MAXIMUM VERTICAL SEPARATION/CAPACITY MULTIPLIER						
1.5 TON	3/8"	1/2"	15 / 1	25 / 1	50 / 0.99	80 / 0.97	100 / 0.97	115 / 0.96	115 / 0.95
		5/8"	15 / 1	25 / 1	50 / 1	80 / 0.99	100 / 0.99	115 / 0.99	115 / 0.98
		3/4"	15 / 1	25 / 1	50 / 1	80 / 0.99	100 / 0.99	115 / 0.99	115 / 0.98
2 TON	3/8"	5/8"	15 / 1	25 / 1	50 / 0.99	80 / 0.98	100 / 0.97	100 / 0.96	95 / 0.95
		3/4"	15 / 1	25 / 1	50 / 1	80 / 0.99	100 / 0.99	100 / 0.99	95 / 0.98
2.5 TON	3/8"	5/8"	15 / 1	25 / 0.99	50 / 0.98	80 / 0.97	95 / 0.96	90 / 0.94	85 / 0.93
		3/4"	15 / 1	25 / 1	50 / 0.99	80 / 0.99	95 / 0.98	90 / 0.98	85 / 0.97
3 TON	3/8"	5/8"	15 / 1	25 / 0.99	50 / 0.97	80 / 0.95	85 / 0.94	80 / 0.92	75 / 0.9
		3/4"	15 / 1	25 / 1	50 / 0.99	80 / 0.98	85 / 0.98	80 / 0.97	75 / 0.96
		7/8"	15 / 1	25 / 1	50 / 1	80 / 0.99	85 / 0.99	80 / 0.99	75 / 0.98
3.5 TON	3/8"	3/4"	15 / 1	25 / 0.99	50 / 0.98	80 / 0.97	80 / 0.97	70 / 0.96	65 / 0.95
		7/8"	15 / 1	25 / 1	50 / 0.99	80 / 0.99	80 / 0.99	70 / 0.98	65 / 0.98
4 TON	3/8"	3/4"	15 / 1	25 / 0.99	50 / 0.98	75 / 0.97	70 / 0.96	60 / 0.95	50 / 0.94
		7/8"	15 / 1	25 / 1	50 / 0.99	75 / 0.99	70 / 0.98	60 / 0.98	50 / 0.97
5 TON	3/8"	3/4"	15 / 1	25 / 0.99	50 / 0.97	65 / 0.95	45 / 0.94	30 / 0.92	15 / 0.9
		7/8"	15 / 1	25 / 0.99	50 / 0.99	65 / 0.98	45 / 0.97	30 / 0.96	15 / 0.96

NOTES:

- 1) Maximum Equivalent Line Length may not exceed 250'.
- 2) Maximum Actual Line Length may not exceed 200'.
- 3) Light Grey shaded areas are considered long line and may require accessories as recommended in Long Line Set Guide.
- 4) Refer to supplemental Long Line Set Guide for applications that require liquid line size other than 3/8".
- 5) **DO NOT** use suction line traps in the suction riser as this adds additional unwanted pressure drop in the system.

Refrigerant Line Size Information (Con't.)

SINGLE AND TWO-STAGE HEAT PUMPS									
UNIT SIZE	MAX. LIQUID LINE SIZE	SUCTION LINE SIZE	OUTDOOR UNIT ABOVE OR BELOW INDOOR UNIT EQUIVALENT LENGTH IN METERS						
			0-5	5.5-8	8.5-15	15.5-24	24.5-30	30.5-38	38.5-46
			MAXIMUM VERTICAL SEPARATION/CAPACITY MULTIPLIER						
1.5 TON	3/8"	1/2"	5 / 1	8 / 1	15 / 0.99	24 / 0.97	30 / 0.97	35 / 0.96	35 / 0.95
		5/8"	5 / 1	8 / 1	15 / 1	24 / 0.99	30 / 0.99	35 / 0.99	35 / 0.98
		3/4"	5 / 1	8 / 1	15 / 1	24 / 0.99	30 / 0.99	35 / 0.99	35 / 0.98
2 TON	3/8"	5/8"	5 / 1	8 / 1	15 / 0.99	24 / 0.98	30 / 0.97	30 / 0.96	29 / 0.95
		3/4"	5 / 1	8 / 1	15 / 1	24 / 0.99	30 / 0.99	30 / 0.99	29 / 0.98
2.5 TON	3/8"	5/8"	5 / 1	8 / 0.99	15 / 0.98	24 / 0.97	29 / 0.96	27 / 0.94	26 / 0.93
		3/4"	5 / 1	8 / 1	15 / 0.99	24 / 0.99	29 / 0.98	27 / 0.98	26 / 0.97
3 TON	3/8"	5/8"	5 / 1	8 / 0.99	15 / 0.97	24 / 0.95	26 / 0.94	24 / 0.92	23 / 0.9
		3/4"	5 / 1	8 / 1	15 / 0.99	24 / 0.98	26 / 0.98	24 / 0.97	23 / 0.96
		7/8"	5 / 1	8 / 1	15 / 1	24 / 0.99	26 / 0.99	24 / 0.99	23 / 0.98
3.5 TON	3/8"	3/4"	5 / 1	8 / 0.99	15 / 0.98	24 / 0.97	24 / 0.97	21 / 0.96	20 / 0.95
		7/8"	5 / 1	8 / 1	15 / 0.99	24 / 0.99	24 / 0.99	21 / 0.98	20 / 0.98
4 TON	3/8"	3/4"	5 / 1	8 / 0.99	15 / 0.98	23 / 0.97	21 / 0.96	18 / 0.95	15 / 0.94
		7/8"	5 / 1	8 / 1	15 / 0.99	23 / 0.99	21 / 0.98	18 / 0.98	15 / 0.97
5 TON	3/8"	3/4"	5 / 1	8 / 0.99	15 / 0.97	20 / 0.95	14 / 0.94	9 / 0.92	5 / 0.9
		7/8"	5 / 1	8 / 0.99	15 / 0.99	20 / 0.98	14 / 0.97	9 / 0.96	5 / 0.96

NOTES:

- 1) Maximum Equivalent Line Length may not exceed 76 Meters.
- 2) Maximum Actual Line Length may not exceed 61 Meters.
- 3) Light Grey shaded areas are considered long line and may require accessories as recommended in Long Line Set Guide.
- 4) Refer to supplemental Long Line Set Guide for applications that require liquid line size other than 3/8".
- 5) **DO NOT** use suction line traps in the suction riser as this adds additional unwanted pressure drop in the system.

Performance Data @ AHRI Standard Conditions – Cooling

DESIGNATED TESTED COMBINATION (DTC)													
OUTDOOR UNIT	AIR HANDLER	TOTAL CAPACITY BTU/H [kW]	NET SENSIBLE BTU/H [kW]	NET LATENT BTU/H [kW]	SEER2	EER2	INDOOR CFM [L/S]	47 DEGREE HEATING CAPACITY BTU/H [KW]	47 DEGREE COP	17 DEGREE HEATING CAPACITY BTU/H [KW]	17 DEGREE COP	REGION IV HSPF2	
RP14AZ18AJ1	RH2TZ2417STANN	17100 [5.0]	13100 [3.8]	4000 [1.2]	14.3	9.0	575 [271.4]	17100 [5.0]	3.78	11100 [3.3]	2.56	7.5	
RP14AZ18AJ2	RH2TZ2417STANN	17100 [5.0]	13100 [3.8]	4000 [1.2]	14.3	9.0	550 [259.6]	17100 [5.0]	3.58	11000 [3.2]	2.52	7.5	
RP14AZ24AJ2	RH2TZ2417STANN	22800 [6.7]	17500 [5.1]	5300 [1.6]	14.3	9.0	775 [365.8]	22800 [6.7]	3.51	14600 [4.3]	2.55	7.5	
RP14AZ30AJ2	RH2TZ3617STANN	28600 [8.4]	21900 [6.4]	6700 [2.0]	14.3	9.0	950 [448.4]	28600 [8.4]	3.56	18200 [5.3]	2.57	7.5	
RP14AZ36AJ2	RH2TZ3617STANN	34200 [10.0]	26200 [7.7]	8000 [2.3]	14.3	9.0	1050 [495.5]	34200 [10.0]	3.27	23600 [6.9]	2.49	7.5	
RP14AZ42AJ2	RH2TZ4821STANN	39500 [11.6]	30300 [8.9]	9200 [2.7]	14.3	9.0	1275 [601.7]	39500 [11.6]	3.69	25500 [7.5]	2.67	7.5	
RP14AZ48AJ2	RH2TZ4821STANN	45500 [13.3]	34900 [10.2]	10600 [3.1]	14.3	9.0	1450 [684.3]	45500 [13.0]	3.65	27500 [8.1]	2.54	7.5	
RP14AZ60AJ2	RH2TZ6024STANN	55500 [16.3]	42600 [12.5]	12900 [3.8]	14.3	9.0	1800 [849.5]	55500 [16.3]	2.66	34000 [10.0]	2.56	7.5	

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, will be accessible from the AHRI website: www.ahridirectory.org later this year.

[] Designates Metric Conversions



GENERAL TERMS OF LIMITED WARRANTY*

Ruud will furnish a replacement for any part of this product which fails in normal use and service within the applicable period stated, in accordance with the terms of the limited warranty.

***For complete details of the Limited and Conditional Warranties, including applicable terms and conditions, contact your local contractor or the Manufacturer for a copy of the product warranty certificate.**

Conditional Parts
(Registration Required)..... Ten (10) Years

Before proceeding with installation, refer to installation instructions packaged with each model, as well as complying with all Federal, State, Provincial, and Local codes, regulations, and practices.

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In keeping with its policy of continuous progress and product improvement, Ruud reserves the right to make changes without notice.

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