



Endeavor® Line Choice™ Series iC Heat Pumps



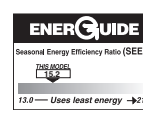
WSP14AY

Cooling Efficiencies up to: 15.2 SEER2 / 11.7 EER2

Heating Efficiencies up to: 7.8 HSPF2

Nominal Sizes: 1.5 to 2.5 Tons [5.28 to 8.79 kW]

Cooling & Heating Capacities: 17.1 to 28.4 kBTU [5.0 to 8.3 kW]



¹Proper sizing and installation of equipment is critical to achieve optimal performance. Split system air conditioners and heat pumps must be matched with appropriate coil components to meet ENERGY STAR®. Ask your Contractor for details or visit www.energystar.gov.

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Features and Benefits

- **Fully Louvered Steel Cabinet:** Features durable construction to add protection from yard hazards, weather corrosion
- **Optimized 7mm Coil Design:** Allows for improved airflow, heat transfer and energy consumption
- **Easily Accessible Control Box:** Ease of installation and serviceability
- **Two-Stage Scroll Compressor:** 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
- **PlusOne® Refrigerant Detection System™¹:** An integrated one-box, patented design featuring the A2L sensor and mitigation board, offering easier commissioning with single component and simplified wiring configuration, compatibility with any 24V thermostat application and system protection by automatically pausing outdoor unit operation – if excess refrigerant is detected

¹Factory or field-installed in the furnace coil or air handler and is applicable to the complete heating and cooling system featuring Low GWP Refrigerant (A2L).

Heat Pumps

<u>W</u>	<u>SP</u>	<u>14</u>	<u>A</u>	<u>Y</u>	<u>18</u>	<u>A</u>	<u>J</u>	<u>2</u>	<u>N</u>	<u>A</u>
Brand	Product Category	SEER2	Region	Refrigerant	Capacity	Major Series	Voltage	Type	Controls	Minor Series
W - Ruud	SP - Legacy Heat Pump	14 - 14.3 SEER2	A - All Regions	Y - R-454B	18 - 18,000 [5.28 kW] 24 - 24,000 [7.03 kW] 30 - 30,000 [8.79 kW]	A - 1st Design	J - 208/230/1/60	2 - 2-Stage	N - Non-Communicating	A - 1st Design

[] Designates Metric Conversions

AVAILABLE MODELS	DESCRIPTION
WSP14AY18AJ2NA	Endeavor® Line Choice Series 1-1/2 ton 14.3 SEER2 Two-Stage Heat Pump-208/230/1/60
WSP14AY24AJ2NA	Endeavor® Line Choice Series 2 ton 14.3 SEER2 Two-Stage Heat Pump-208/230/1/60
WSP14AY30AJ2NA	Endeavor® Line Choice Series 2-1/2 ton 14.3 SEER2 Two-Stage Heat Pump-208/230/1/60

STANDARD EQUIPMENT
R-454B 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
Optimized Venturi Airflow
Single Row Condenser Coil
Rust Resistant Screws
QR Code
External Gauge Ports

General Data			
MODEL NO.	WSP14AY18A	WSP14AY24A	WSP14AY30A
Nominal Tonnage	1.5	2.0	2.5
Valve Connections			
Liquid Line O.D. – in.	3/8	3/8	3/8
Suction Line O.D. – in.	3/4	3/4	3/4
Refrigerant (R-454B) furnished oz. ¹	84	77	102
Compressor Type	Scroll		
Outdoor Coil			
Net face area – Outer Coil	14.5	14.5	18.1
Tube diameter – in.	0.276	0.276	0.276
Number of rows	1	1	1
Fins per inch	22	22	22
Outdoor Fan			
Diameter – in.	18	18	22
Number of blades	3	3	2
Motor hp	1/7	1/7	1/6
CFM	2180	2180	2464
RPM	1075	1075	825
Watts	159	159	128
Shipping weight – lbs.	143	145	170
Operating weight – lbs.	135	137	163

Electrical Data			
Line Voltage Data (Volts-Phase-Hz)	208/230-1-60	208/230-1-60	208/230-1-60
Maximum overcurrent protection (amps) ²	20	25	25
Minimum circuit ampacity ³	13	16	20
Compressor			
Rated load amps	9.6	11.9	14.6
Locked rotor amps	52	65	82
Condenser Fan Motor			
Full load amps	0.80	0.80	1.00
Locked rotor amps	1.5	1.5	1.7

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.		WSP14AY18A	WSP14AY24A	WSP14AY30A
Compressor crankcase heater with outdoor temperature thermostat		44-101884-08	44-101884-08	44-101884-08
Compressor crankcase heater without outdoor temperature thermostat		44-17402-44	44-17402-44	44-17402-44
Low ambient control		RXAD-A08	RXAD-A08	RXAD-A08
Compressor time delay		RXMD-B01	RXMD-B01	RXMD-B01
Compressor sound cover		68-23427-26	68-23427-26	68-23427-26
Compressor hard start kit		SK-A1	SK-A1	SK-A1
Low pressure control		Factory Standard	Factory Standard	Factory Standard
High pressure control		Factory Standard	Factory Standard	Factory Standard
Liquid Line Solenoid (24 VAC, 50/60 Hz)	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC
	Solenoid Coil	61-AMG24V	61-AMG24V	61-AMG24V
Liquid Line Solenoid (120/240 VAC, 50/60 Hz)	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC
	Solenoid Coil	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V
Bi-Flow Operation Kit*		KS30387	KS30387	KS30387

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

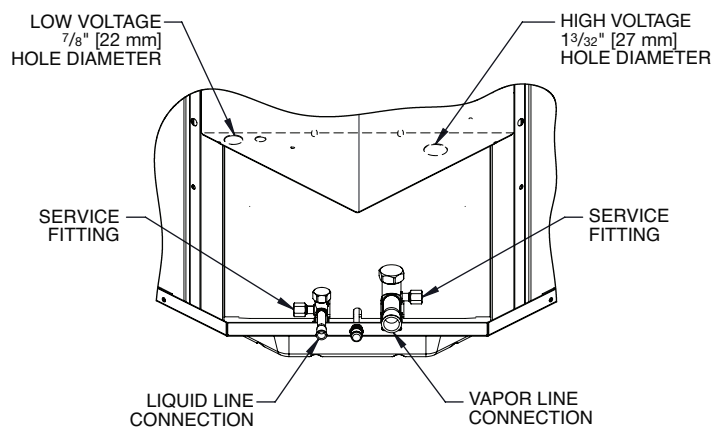
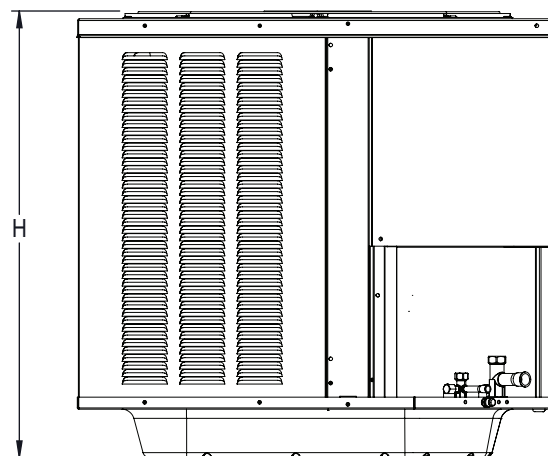
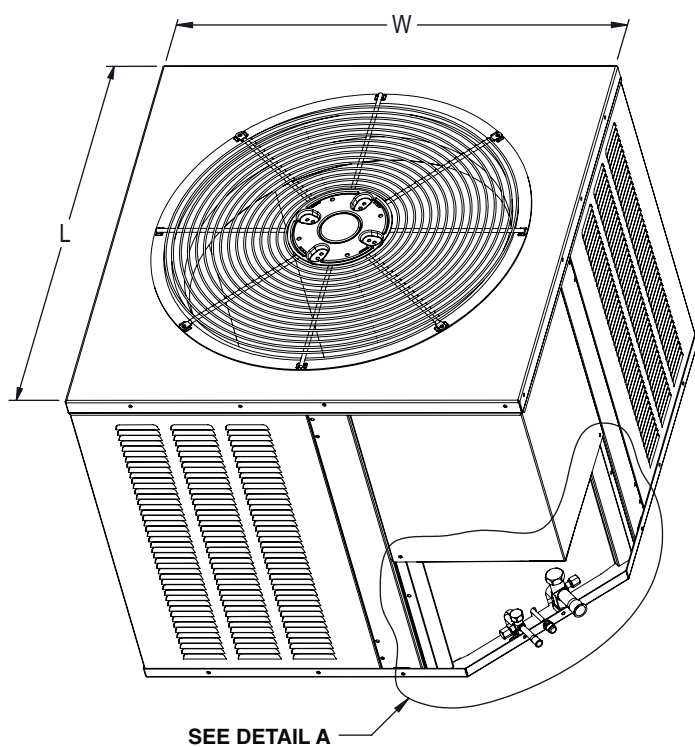
Weighted Sound Power Level (dBA)

UNIT SIZE - VOLTAGE, SERIES	STANDARD RATING (dBA)	TYPICAL OCTAVE BAND SPECTRUM (dBA without tone adjustment)						
		125	250	500	1000	2000	4000	8000
WSP14AY18AJ2	73	47.8	52.0	60.8	65.5	61.7	56.4	48.6
WSP14AY24AJ2	74	125.0	53.0	60.0	67.0	58.6	55.5	47.6
WSP14AY30AJ2	76	49.6	67.7	63.4	68.6	62.1	63.7	50.8

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

Unit Dimensions

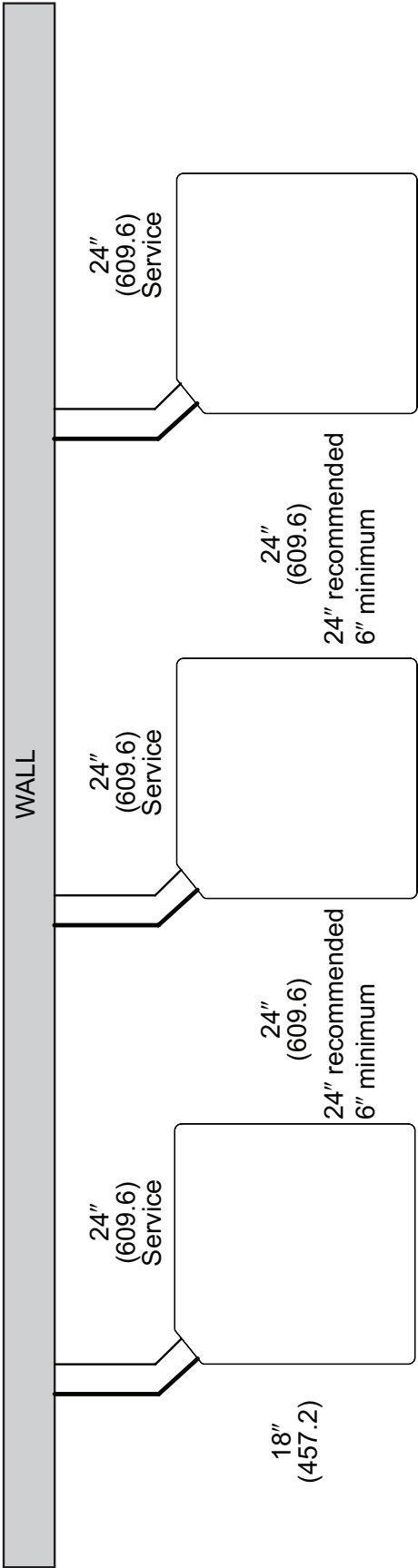
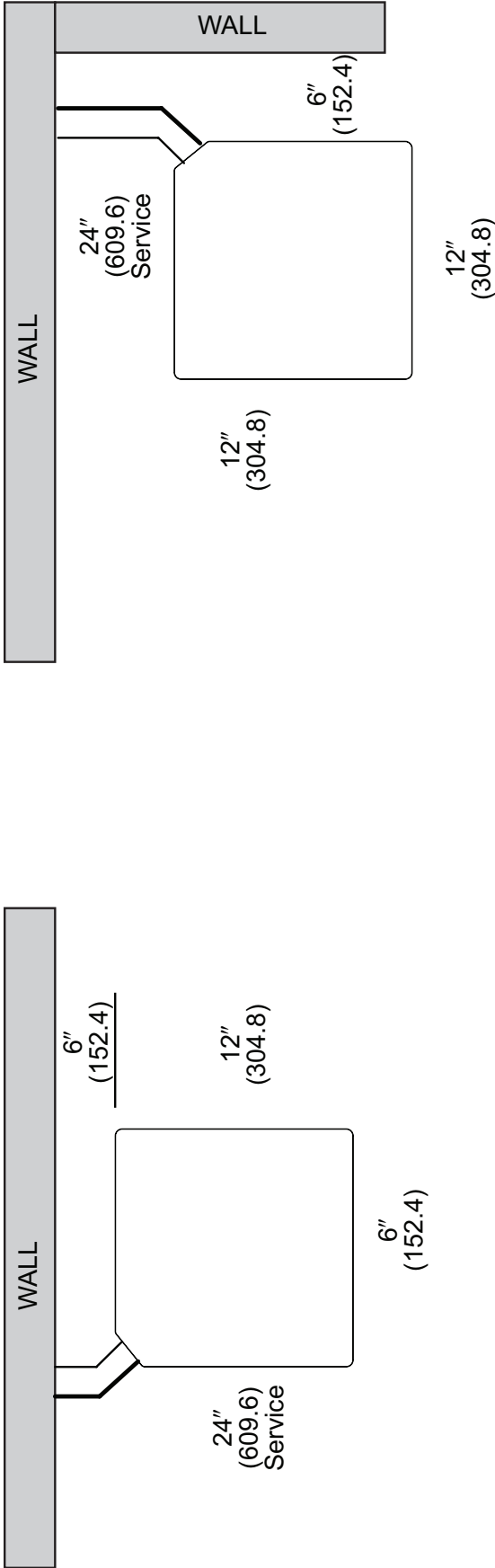
MODEL NO.	OPERATING						SHIPPING					
	H (Height)		L (Length)		W (Width)		H (Height)		L (Length)		W (Width)	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
WSP14AY18A	35.38	899	23.63	600	23.63	600	35.63	905	24.75	629	24.75	629
WSP14AY24A	35.38	899	23.63	600	23.63	600	35.63	905	24.75	629	24.75	629
WSP14AY30A	35.38	899	27.63	702	27.63	702	35.63	905	28.75	730	28.75	730



ST-A1331-01

DETAIL A

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.

Refrigerant Line Size Information

TWO-STAGE HEAT PUMPS												
UNIT SIZE	Allowable Liquid Line Size	Allowable Suction Line Size	Outdoor Unit ABOVE or BELOW Indoor Unit Equivalent Length (Feet)									
			0-25	26-50	51-75	76-100	101-125	126-150	151-175	176-200	201-225	226-250
			Maximum Vertical Separation / Capacity Multiplier									
1.5 Ton	1/4"	1/2"	25 / 1.00	50 / 0.98	66 / 0.97	47 / 0.95	27 / 0.94	7 / 0.92	0 / 0.91	0 / 0.89	0 / 0.88	0 / 0.87
	5/16"	1/2"	25 / 1.00	50 / 0.98	75 / 0.97	100 / 0.95	99 / 0.94	94 / 0.92	89 / 0.91	84 / 0.89	79 / 0.88	76 / 0.87
	3/8"	1/2"	25 / 1.00	50 / 0.98	75 / 0.97	100 / 0.95	117 / 0.94	116 / 0.92	115 / 0.91	113 / 0.89	111 / 0.88	110 / 0.87
	1/4"	5/8"	25 / 1.00	50 / 1.00	66 / 0.99	47 / 0.99	27 / 0.98	7 / 0.98	0 / 0.97	0 / 0.97	0 / 0.97	0 / 0.96
	5/16"	5/8"	25 / 1.00	50 / 1.00	75 / 0.99	100 / 0.99	99 / 0.98	94 / 0.98	89 / 0.97	84 / 0.97	79 / 0.97	76 / 0.96
	3/8"	5/8"	25 / 1.00	50 / 1.00	75 / 0.99	100 / 0.99	117 / 0.98	116 / 0.98	115 / 0.97	113 / 0.97	111 / 0.97	110 / 0.96
	1/4"	3/4"	25 / 1.00	50 / 1.00	66 / 1.00	47 / 1.00	27 / 0.99	7 / 0.99	0 / 0.99	0 / 0.99	0 / 0.99	0 / 0.99
	5/16"	3/4"	25 / 1.00	50 / 1.00	75 / 1.00	100 / 1.00	99 / 0.99	94 / 0.99	89 / 0.99	84 / 0.99	79 / 0.99	76 / 0.99
	3/8"	3/4"	25 / 1.00	50 / 1.00	75 / 1.00	100 / 1.00	117 / 0.99	116 / 0.99	115 / 0.99	113 / 0.99	111 / 0.99	110 / 0.99
2 Ton	1/4"	5/8"	25 / 1.00	50 / 0.99	33 / 0.98	3 / 0.98	0 / 0.97	0 / 0.96	0 / 0.95	0 / 0.95	0 / 0.94	0 / 0.94
	5/16"	5/8"	25 / 1.00	50 / 0.99	75 / 0.98	91 / 0.98	82 / 0.97	73 / 0.96	65 / 0.95	56 / 0.95	48 / 0.94	42 / 0.94
	3/8"	5/8"	25 / 1.00	50 / 0.99	75 / 0.98	100 / 0.98	110 / 0.97	107 / 0.96	104 / 0.95	101 / 0.95	98 / 0.94	95 / 0.94
	1/4"	3/4"	25 / 1.00	50 / 1.00	33 / 0.99	3 / 0.99	0 / 0.99	0 / 0.99	0 / 0.98	0 / 0.98	0 / 0.98	0 / 0.98
	5/16"	3/4"	25 / 1.00	50 / 1.00	75 / 0.99	91 / 0.99	82 / 0.99	73 / 0.99	65 / 0.98	56 / 0.98	48 / 0.98	42 / 0.98
	3/8"	3/4"	25 / 1.00	50 / 1.00	75 / 0.99	100 / 0.99	110 / 0.99	107 / 0.99	104 / 0.98	101 / 0.98	98 / 0.98	95 / 0.98
2.5 Ton	1/4"	5/8"	25 / 1.00	42 / 0.99	1 / 0.98	0 / 0.97	0 / 0.95	0 / 0.94	0 / 0.93	0 / 0.92	0 / 0.91	0 / 0.9
	5/16"	5/8"	25 / 1.00	50 / 0.99	75 / 0.98	73 / 0.97	60 / 0.95	47 / 0.94	34 / 0.93	22 / 0.92	10 / 0.91	1 / 0.9
	3/8"	5/8"	25 / 1.00	50 / 0.99	75 / 0.98	100 / 0.97	103 / 0.95	98 / 0.94	93 / 0.93	89 / 0.92	85 / 0.91	80 / 0.9
	1/4"	3/4"	25 / 1.00	42 / 1.00	1 / 0.99	0 / 0.99	0 / 0.98	0 / 0.98	0 / 0.97	0 / 0.97	0 / 0.97	0 / 0.96
	5/16"	3/4"	25 / 1.00	50 / 1.00	75 / 0.99	73 / 0.99	60 / 0.98	47 / 0.98	34 / 0.97	22 / 0.97	10 / 0.97	1 / 0.96
	3/8"	3/4"	25 / 1.00	50 / 1.00	75 / 0.99	100 / 0.99	103 / 0.98	98 / 0.98	93 / 0.97	89 / 0.97	85 / 0.97	80 / 0.96

1) Maximum Equivalent Line Length may not exceed 250'

2) Maximum Actual Line Length may not exceed 200'

3) Maximum Actual Line Length may not exceed 200'

4) **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.)

TWO-STAGE HEAT PUMPS												
UNIT SIZE	Allowable Liquid Line Size	Allowable Suction Line Size	Outdoor Unit ABOVE or BELOW Indoor Unit Equivalent Length (Meters)									
			0-8	8-15	16-23	23-30	31-38	38-46	46-53	54-61	61-69	69-76
			Maximum Vertical Separation / Capacity Multiplier									
1.5 Ton	1/4"	1/2"	8 / 1.00	15 / 0.98	20 / 0.97	14 / 0.95	8 / 0.94	2 / 0.92	0 / 0.91	0 / 0.89	0 / 0.88	0 / 0.87
	5/16"	1/2"	8 / 1.00	15 / 0.98	23 / 0.97	30 / 0.95	30 / 0.94	29 / 0.92	27 / 0.91	26 / 0.89	24 / 0.88	23 / 0.87
	3/8"	1/2"	8 / 1.00	15 / 0.98	23 / 0.97	30 / 0.95	36 / 0.94	35 / 0.92	35 / 0.91	34 / 0.89	34 / 0.88	34 / 0.87
	1/4"	5/8"	8 / 1.00	15 / 1.00	20 / 0.99	14 / 0.99	8 / 0.98	2 / 0.98	0 / 0.97	0 / 0.97	0 / 0.97	0 / 0.96
	5/16"	5/8"	8 / 1.00	15 / 1.00	23 / 0.99	30 / 0.99	30 / 0.98	29 / 0.98	27 / 0.97	26 / 0.97	24 / 0.97	23 / 0.96
	3/8"	5/8"	8 / 1.00	15 / 1.00	23 / 0.99	30 / 0.99	36 / 0.98	35 / 0.98	35 / 0.97	34 / 0.97	34 / 0.97	34 / 0.96
	1/4"	3/4"	8 / 1.00	15 / 1.00	20 / 1.00	14 / 1.00	8 / 0.99	2 / 0.99	0 / 0.99	0 / 0.99	0 / 0.99	0 / 0.99
	5/16"	3/4"	8 / 1.00	15 / 1.00	23 / 1.00	30 / 1.00	30 / 0.99	29 / 0.99	27 / 0.99	26 / 0.99	24 / 0.99	23 / 0.99
	3/8"	3/4"	25 / 1.00	15 / 1.00	23 / 1.00	30 / 1.00	36 / 0.99	35 / 0.99	35 / 0.99	34 / 0.99	34 / 0.99	34 / 0.99
2 Ton	1/4"	5/8"	25 / 1.00	15 / 0.99	10 / 0.98	1 / 0.98	0 / 0.97	0 / 0.96	0 / 0.95	0 / 0.95	0 / 0.94	0 / 0.94
	5/16"	5/8"	25 / 1.00	15 / 0.99	23 / 0.98	28 / 0.98	25 / 0.97	22 / 0.96	20 / 0.95	17 / 0.95	15 / 0.94	13 / 0.94
	3/8"	5/8"	25 / 1.00	15 / 0.99	23 / 0.98	30 / 0.98	34 / 0.97	33 / 0.96	32 / 0.95	31 / 0.95	30 / 0.94	29 / 0.94
	1/4"	3/4"	25 / 1.00	15 / 1.00	10 / 0.99	1 / 0.99	0 / 0.99	0 / 0.99	0 / 0.98	0 / 0.98	0 / 0.98	0 / 0.98
	5/16"	3/4"	25 / 1.00	15 / 1.00	23 / 0.99	28 / 0.99	25 / 0.99	22 / 0.99	20 / 0.98	17 / 0.98	15 / 0.98	13 / 0.98
	3/8"	3/4"	25 / 1.00	15 / 1.00	23 / 0.99	30 / 0.99	34 / 0.99	33 / 0.99	32 / 0.98	31 / 0.98	30 / 0.98	29 / 0.98
2.5 Ton	1/4"	5/8"	25 / 1.00	13 / 0.99	0.3 / 0.98	0 / 0.97	0 / 0.95	0 / 0.94	0 / 0.93	0 / 0.92	0 / 0.91	0 / 0.9
	5/16"	5/8"	25 / 1.00	15 / 0.99	23 / 0.98	22 / 0.97	18 / 0.95	14 / 0.94	10 / 0.93	7 / 0.92	3 / 0.91	0.3 / 0.9
	3/8"	5/8"	25 / 1.00	15 / 0.99	23 / 0.98	30 / 0.97	31 / 0.95	30 / 0.94	28 / 0.93	27 / 0.92	26 / 0.91	24 / 0.9
	1/4"	3/4"	25 / 1.00	13 / 1.00	0.3 / 0.99	0 / 0.99	0 / 0.98	0 / 0.98	0 / 0.97	0 / 0.97	0 / 0.97	0 / 0.96
	5/16"	3/4"	25 / 1.00	15 / 1.00	23 / 0.99	22 / 0.99	18 / 0.98	14 / 0.98	10 / 0.97	7 / 0.97	3 / 0.97	0.3 / 0.96
	3/8"	3/4"	25 / 1.00	15 / 1.00	23 / 0.99	30 / 0.99	31 / 0.98	30 / 0.98	28 / 0.97	27 / 0.97	26 / 0.97	24 / 0.96

- 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) **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	
WSP14AY18AJ2N	RH2TY2417STANN	17,100 [5.0]	13,100 [3.8]	4,000 [1.2]	14.3	9.0	575 [271.4]	16,600 [5.0]	3.60	11,000 [3.2]	2.40	7.5	
WSP14AY24AJ2N	RH2TY2417STANN	22,800 [6.7]	17,500 [5.1]	5,300 [1.6]	14.3	9.0	750 [354.0]	22,800 [6.7]	3.60	15,100 [4.4]	2.50	7.5	
WSP14AY30AJ2N	RH2TY3617STANN	28,600 [8.4]	21,900 [6.4]	6,700 [2.0]	14.3	9.0	925 [436.6]	28,500 [8.4]	3.66	17,900 [5.3]	2.60	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, can be accessed from the AHRI website: www.ahridirectory.org.

[] 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.

Conditional Parts
(Registration Required) Ten (10) Years

***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.**

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, manufacturer reserves the right to make changes without notice.

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