



## Vantix® Line iM Air Conditioners



### **SA19AY**

EcoNet® Enabled

Cooling Efficiencies up to: 20.0 SEER2 / 13 EER2

Nominal Sizes: 2 to 5 Tons [7.0 to 17.6 kW]

Cooling Capacities: 22.8 to 54 kBTU [6.7 to 15.83 kW]

Refrigerant Type: R-454B



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## Features and Benefits

- **EcoNet® Enabled:** Automatic system configuration and optimization
- **Diagnostics & Bluetooth®<sup>1</sup> Connectivity:** With the Russell® By Rheem Contractor & EcoNet® Apps, built-in technology makes advanced set-up, monitoring, troubleshooting, and repairing the product easier than ever before
- **Brushless DC Condenser Motors (BLDC):** Enhances reliability and allows for easier serviceability
- **Swept Wing Fan Technology:** Features quieter operation and improved unit acoustics
- **Expanded Valve Space:** 3 in. – 4 in. – 5 in. service valve space—provides a minimum working area of 27-square inches for easier access
- **Triple Service Access:** 15 in. wide, industry leading corner service access, two fastener, removeable corner and individual louver panels – makes repairs easier and faster
- **Refrigerant Detection System™<sup>2</sup>:** An integrated one-box, patented design featuring the A2L sensor and mitigation board, offering easier commissioning with a 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

<sup>1</sup>The Bluetooth word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Rheem® is under license. Other trademarks and trade names are those of their respective owners. <sup>2</sup>Factory 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).

Air Conditioners

<u>S</u>	<u>A</u>	<u>19</u>	<u>A</u>	<u>Y</u>	<u>24</u>	<u>A</u>	<u>J</u>	<u>V</u>	<u>C</u>	<u>A</u>	<u>A40</u>
Brand	Product Category	SEER2	Region	Refrigerant	Capacity BTU/HR	Major Series	Voltage	Type	Controls	Minor Series	Option Code
S - Russell® By Rheem	A - Air Conditioners	19 - 19 SEER2	A - All	Y - R-454B	24 - 24,000 [7.03 kW] 36 - 36,000 [10.55 kW] 48 - 48,000 [14.07 kW] 60 - 60,000 [17.58 kW]	A - 1st Design	J - 208/230/1/60	V - Fully Variable	C - Communicating	A - 1st Design	A40 - Vertical Louvers

[ ] Designates Metric Conversions

AVAILABLE MODELS
SA19AY24AJVCA
SA19AY36AJVCA
SA19AY48AJVCA
SA19AY60AJVCA
SA19AY24AJVCAA40
SA19AY36AJVCAA40
SA19AY48AJVCAA40
SA19AY60AJVCAA40

STANDARD EQUIPMENT
R-454B Refrigerant
EcoNet® Enabled
Variable Speed Compressor
Compressor Sound Blanket
Variable Speed Outdoor Fan Motor
Swept Wing Fan Blade
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
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

General Data				
GENERAL DATA				
MODEL NO.	SA19AY24A	SA19AY36A	SA19AY48A	SA19AY60A
Nominal Tonnage	2.0	3.0	4.0	5.0
Valve Connections				
Liquid Line O.D. – in.	3/8	3/8	3/8	3/8
Suction Line O.D. – in.	3/4	3/4	7/8	7/8
Refrigerant (R-454B) furnished oz. <sup>1</sup>				
Compressor Type	Variable Speed Scroll			
Outdoor Coil				
Net face area – Outer Coil	28.3	32.5	32.5	32.5
Net face area – Inner Coil	—	—	—	—
Tube diameter – in.	0.375	0.375	0.375	0.375
Number of rows	1	1	1	1
Fins per inch	20	20	20	20
Outdoor Fan				
Diameter – in.	26	26	26	26
Number of blades	3	3	3	3
Motor hp	1/3	1/2	1/2	1/2
Shipping weight – lbs.	238	258	263	263
Operating weight – lbs.	230	250	255	307
Electrical Data				
Line Voltage Data (Volts-Phase-Hz)	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60
Maximum overcurrent protection (amps) <sup>2</sup>	20	35	40	50
Minimum circuit ampacity <sup>3</sup>	12	20	24	30
Compressor				
Rated load amps	9	16	19	25
Locked rotor amps	35	50	50	50

<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 or fuse.

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

Accessories

MODEL NO.	SA19AY24AJVCA	SA19AY36AJVCA	SA19AY48AJVCA	SA19AY60AJVCA
EcoNet® Smart Thermostat	CETST900SYS	CETST900SYS	CETST900SYS	CETST900SYS
Compressor Sound Cover	686020	686020	686020	686020
Supply/Return Sensor	RXHT-A02	RXHT-A02	RXHT-A02	RXHT-A02

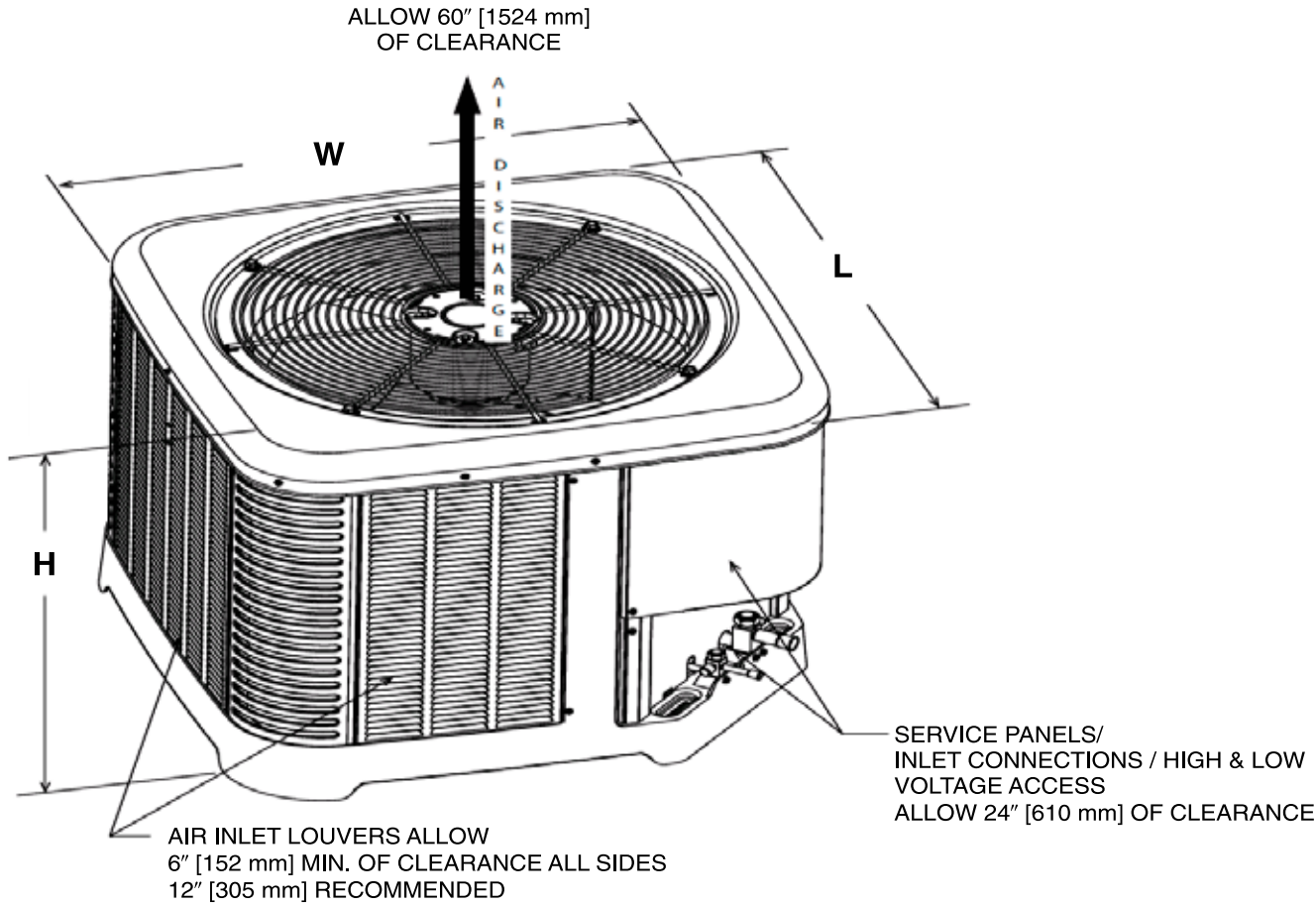
Weighted Sound Power Level

UNIT SIZE - VOLTAGE, SERIES	STANDARD RATING (DBA)	TYPICAL OCTAVE BAND SPECTRUM (DBA WITHOUT TONE ADJUSTMENT)						
		125	250	500	1000	2000	4000	8000
SA19AY24AJVCA	59	29.0	36.5	42.0	45.7	42.3	43.2	33.0
	68	47.1	47.7	58.8	57.1	55.0	52.7	45.6
SA19AY36AJVCA	57	29.2	36.7	44.9	45.4	42.2	39.4	32.2
	72	42.9	52.8	62.7	63.6	58.7	54.1	52.4
SA19AY48AJVCA	54	30.6	39.0	42.2	42.5	36.5	35.2	35.0
	72	48.2	55.0	64.6	61.7	56.2	51.7	46.2
SA19AY60AJVCA	70	46.6	50.5	62.7	52.9	49.4	46.0	41.4
	76	50.7	62.7	67.7	65.4	64.2	59.2	54.9

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

Unit Dimensions

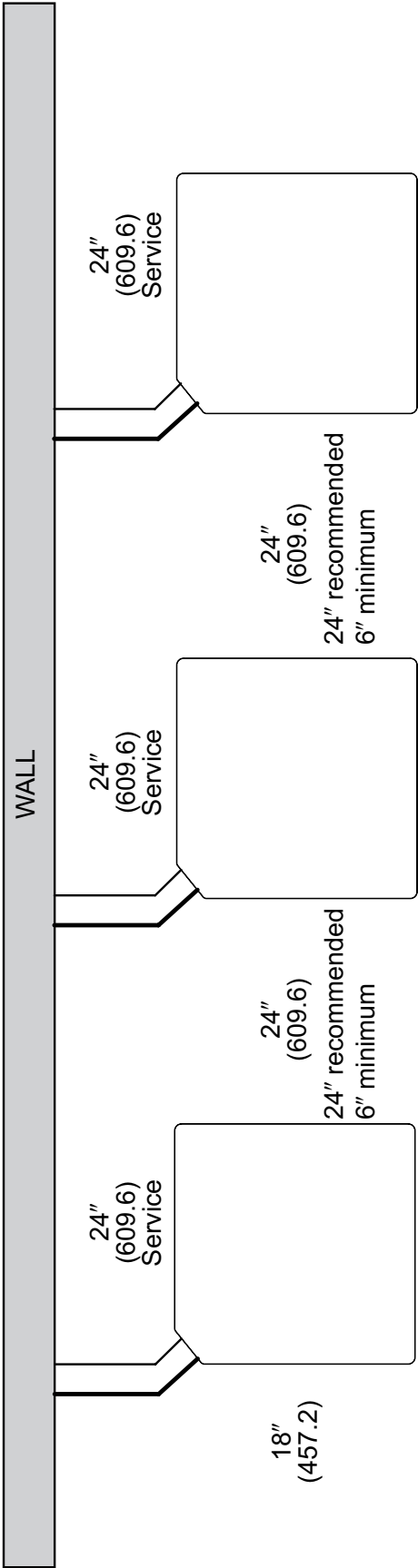
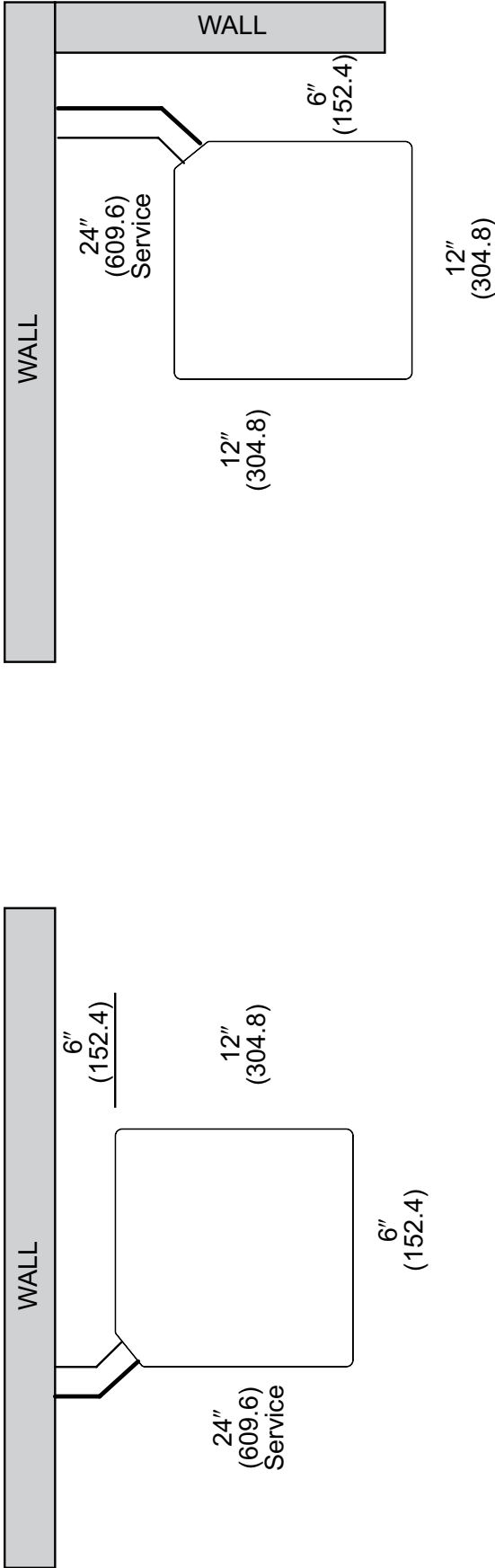
MODEL NO.	OPERATING						SHIPPING					
	H (Height)		L (Length)		W (Width)		H (Height)		L (Length)		W (Width)	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
SA19AY24AJVCAA40	45.17	1147	36.13	918	36.13	918	48.18	1224	39.37	1000	39.64	1007
SA19AY36AJVCAA40	51.17	1300	36.13	918	36.13	918	53.56	1360	39.37	1000	39.64	1007
SA19AY48AJVCAA40	51.17	1300	36.13	918	36.13	918	53.56	1360	39.37	1000	39.64	1007
SA19AY60AJVCAA40	51.17	1300	36.13	918	36.13	918	53.56	1360	39.37	1000	39.64	1007



[ ] Designates Metric Conversions

ST-A1226-02-00

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

19 SEER2 VARIABLE SPEED AIR CONDITIONERS								
UNIT SIZE	ALLOWABLE LIQUID LINE SIZE	ALLOWABLE VAPOR LINE SIZE	OUTDOOR UNIT ABOVE OR BELOW INDOOR UNIT EQUIVALENT LENGTH (FEET)					
			< 25	26-50	51-75	76-100	101-125	126-150
			MAXIMUM VERTICAL SEPARATION/CAPACITY MULTIPLIER					
2 Ton* SEE NOTE 3	1/4"	5/8"	25/1.00	50/0.99	32/0.98	40/0.97	NR	NR
	5/16"	5/8"	25/1.00	50/0.99	50/0.98	50/0.97	50/0.96	50/0.95
	3/8"	5/8"	25/1.00	50/0.99	50/0.98	50/0.97	50/0.96	50/0.95
	1/4"	3/4"	25/1.00	50/1.00	32/0.99	40/0.99	NR	NR
	5/16"	3/4"	25/1.00	50/1.00	50/0.99	50/0.99	50/0.99	50/0.98
	3/8"	3/4"	25/1.00	50/1.00	50/0.99	50/0.99	50/0.99	50/0.98
3 Ton	5/16"	5/8"	25/0.99	50/0.97	50/0.95	50/0.93	37/0.91	NR
	3/8"	5/8"	25/0.99	50/0.97	50/0.95	50/0.93	50/0.91	NR
	5/16"	3/4"	25/1.00	50/0.99	50/0.99	50/0.98	37/0.97	22/0.96
	3/8"	3/4"	25/1.00	50/0.99	50/0.99	50/0.98	50/0.97	50/0.96
	1/2"	3/4"	25/1.00	50/0.99	50/0.99	50/0.98	50/0.97	50/0.96
4 Ton	3/8"	3/4"	25/0.99	50/0.98	50/0.97	50/0.96	50/0.94	50/0.93
	1/2"	3/4"	25/0.99	50/0.98	50/0.97	50/0.96	50/0.94	50/0.93
	3/8"	7/8"	25/1.00	50/0.99	50/0.99	50/0.98	50/0.98	50/0.97
	1/2"	7/8"	25/1.00	50/0.99	50/0.99	50/0.98	50/0.98	50/0.97
5 Ton	3/8"	3/4"	25/0.99	50/0.97	50/0.95	50/0.93	50/0.91	NR
	1/2"	3/4"	25/0.99	50/0.97	50/0.95	50/0.93	50/0.91	NR
	3/8"	7/8"	25/1.00	50/0.99	50/0.98	50/0.98	50/0.97	38/0.96
	1/2"	7/8"	25/1.00	50/0.99	50/0.98	50/0.98	50/0.97	50/0.96

### NOTES:

- 1) Do not exceed 150 ft linear line length.
- 2) \*Do not exceed 50 ft vertical separation between indoor and outdoor units.
- 3) \*\*3/4" suction line should only be used for 2 ton systems if outdoor unit is below or at same level as indoor unit 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.

[ ] Designates Metric Conversions

## Refrigerant Line Size Information (Con't.)

19 SEER2 VARIABLE SPEED AIR CONDITIONERS								
UNIT SIZE	ALLOWABLE LIQUID LINE SIZE	ALLOWABLE VAPOR LINE SIZE	OUTDOOR UNIT ABOVE OR BELOW INDOOR UNIT EQUIVALENT LENGTH (METERS)					
			< 8	8-15	16-23	24-30	31-38	39-46
			MAXIMUM VERTICAL SEPARATION/CAPACITY MULTIPLIER					
2 Ton* SEE NOTE 3	6.35 [1/4]	15.88 [5/8]	8/1.00	15/0.99	10/0.98	10/0.97	NR	NR
	7.94 [5/16]	15.88 [5/8]	8/1.00	15/0.99	15/0.98	15/0.97	15/0.96	15/0.95
	9.53 [3/8]	15.88 [5/8]	8/1.00	15/0.99	15/0.98	15/0.97	15/0.96	15/0.95
	6.35 [1/4]	19.05 [3/4]**	8/1.00	15/0.99	10/0.99	12/0.99	NR	NR
	7.94 [5/16]	19.05 [3/4]**	8/1.00	15/0.99	15/0.99	15/0.99	15/0.99	15/0.98
	9.53 [3/8]	19.05 [3/4]**	8/1.00	15/0.99	15/0.99	15/0.99	15/0.99	15/0.98
3 Ton	7.94 [5/16]	15.88 [5/8]	8/0.99	15/0.97	15/0.95	15/0.93	11/0.91	NR
	9.53 [3/8]	15.88 [5/8]	8/0.99	15/0.97	15/0.95	15/0.93	15/0.91	NR
	7.94 [5/16]	19.05 [3/4]	8/1.00	15/0.99	15/0.99	15/0.98	11/0.97	7/0.96
	9.53 [3/8]	19.05 [3/4]	8/1.00	15/0.99	15/0.99	15/0.98	15/0.97	15/0.96
	12.70 [1/2]	19.05 [3/4]	8/1.00	15/0.99	15/0.99	15/0.98	15/0.97	15/0.96
4 Ton	9.53 [3/8]	19.05 [3/4]	8/0.99	15/0.98	15/0.97	15/0.96	15/0.94	15/0.93
	12.70 [1/2]	19.05 [3/4]	8/0.99	15/0.98	15/0.97	15/0.96	15/0.94	15/0.93
	9.53 [3/8]	22.23 [7/8]	8/1.00	15/0.99	15/0.99	15/0.98	15/0.98	15/0.97
	12.70 [1/2]	22.23 [7/8]	8/1.00	15/0.99	15/0.99	15/0.98	15/0.98	15/0.97
5 Ton	9.53 [3/8]	19.05 [3/4]	8/0.99	15/0.97	15/0.95	15/0.93	15/0.91	NR
	12.70 [1/2]	19.05 [3/4]	8/0.99	15/0.97	15/0.95	15/0.93	15/0.91	NR
	9.53 [3/8]	22.23 [7/8]	8/1.00	15/0.99	15/0.98	15/0.98	15/0.97	12/0.96
	12.70 [1/2]	22.23 [7/8]	8/1.00	15/0.99	15/0.98	15/0.98	15/0.97	15/0.97

### NOTES:

- 1) Do not exceed 46 meters linear line length.
- 2) \*Do not exceed 15 meters vertical separation between indoor and outdoor units.
- 3) \*\*19.05mm [3/4 in.] vapor line should only be used for 2 ton systems if outdoor unit is below or at same level as indoor unit 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	AIR HANDLER	TOTAL CAPACITY BTU/H [KW]	NET SENSIBLE BTU/H [KW]	NET LATENT BTU/H [KW]	SEER2	EER2	INDOOR CFM [L/S]
SA19AY24AJVC	SHMVY3621MEACA	22,800 [6.7]	17,500 [5.1]	5,300 [1.6]	19.0	12.0	785 [370.5]
SA19AY36AJVC	SHMVY3621MEACA	34,200 [10.0]	26,200 [7.7]	8,000 [2.3]	19.0	12.0	1,225 [578.1]
SA19AY48AJVC	SHMVY4821SEACA	45,500 [13.3]	34,900 [10.2]	10,600 [3.1]	19.0	12.0	1,590 [750.4]
SA19AY60AJVC	SHMVY6021SEACA	54,000 [15.8]	41,400 [12.1]	12,600 [3.7]	17.5	10.5	1,685 [795.2]

**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](http://www.ahridirectory.org).

[ ] Designates Metric Conversions

## Integrated Controls



EcoNet® is smart, technology that allows Heating and Cooling, products to communicate with each other on one integrated network.

### THE ECONET® SMART THERMOSTAT

#### BUILT-IN WIFI

#### 4.3" LCD TOUCH SCREEN

**LOCAL WEATHER** – Current conditions plus 6-day forecast

**5 OPERATING MODES** – Heat, Cool, Auto, Emergency Heat and Fan Only

**7-DAY PROGRAMMABLE SCHEDULE** – Offers comfort without thought

**ONE-TOUCH AWAY** – Quickly switch to your energy-saving away preferences

**VACATION SCHEDULING** – Allows you to save while you're away and come home to comfort

**STANDBY SCREEN** – Displays indoor temperature and current weather



**CETST900SYS**

### OPERATIONAL FEATURES

**AUTOMATIC CHANGEOVER** – Transitions between heating and cooling automatically to keep the house comfortable

**INTEGRATED WATER CONTROL** – Enables easy water heater management

**SMOOTH ARRIVAL** – Prompts the system to start ahead of schedule to ensure the home is at the desired temperature at the scheduled time

**HUMIDITY CONTROL** – Supports humidifier accessories or over-cool based dehumidification

**DETAILED OPERATING STATUS** – View pertinent equipment status information and run times

**CONTINUOUS FAN** – Offers 5 speeds (Low, Medium Low, Medium, Medium High, High)

**SHORT-CYCLE PROTECTION** – Avoids damage to equipment from short run cycles

### MONITORING & REMOTE CONTROL FEATURES

**ACTIVE MONITORING** – Alerts to problems that need immediate attention

**REMOTE CONTROL** – Allows adjusting of comfort and settings from anywhere using a mobile device

**SERVICE ALERTS** – Sends routine maintenance reminders

**AIR FILTER MONITORING** – Detects when it's time to replace the air filter

**ALARM HISTORY** – Displays time-stamped alarm codes with clear descriptions



## GENERAL TERMS OF LIMITED WARRANTY\*

Russell® By Rheem 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 Unit Replacement (Registration Required).....	Ten (10) Years
Parts .....	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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