



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®¹ 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™²:** 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

¹The 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. ²Factory 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.¹ | | | | |
| 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)² | 20 | 35 | 40 | 50 |
| Minimum circuit ampacity³ | 12 | 20 | 24 | 30 |
| Compressor | | | | |
| Rated load amps | 9 | 16 | 19 | 25 |
| Locked rotor amps | 35 | 50 | 50 | 50 |

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. | 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 |

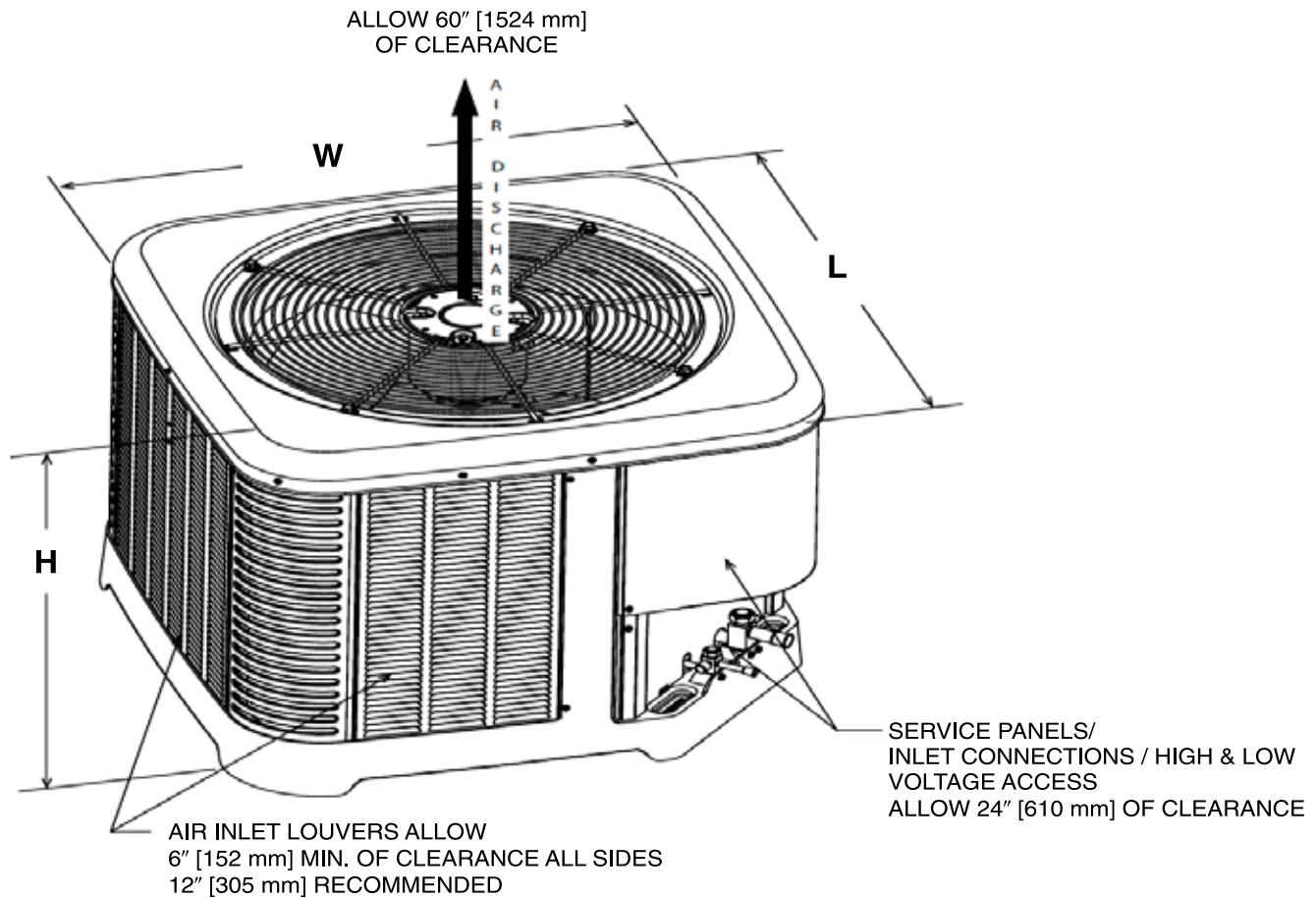
Weighted Sound Power Level

| 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

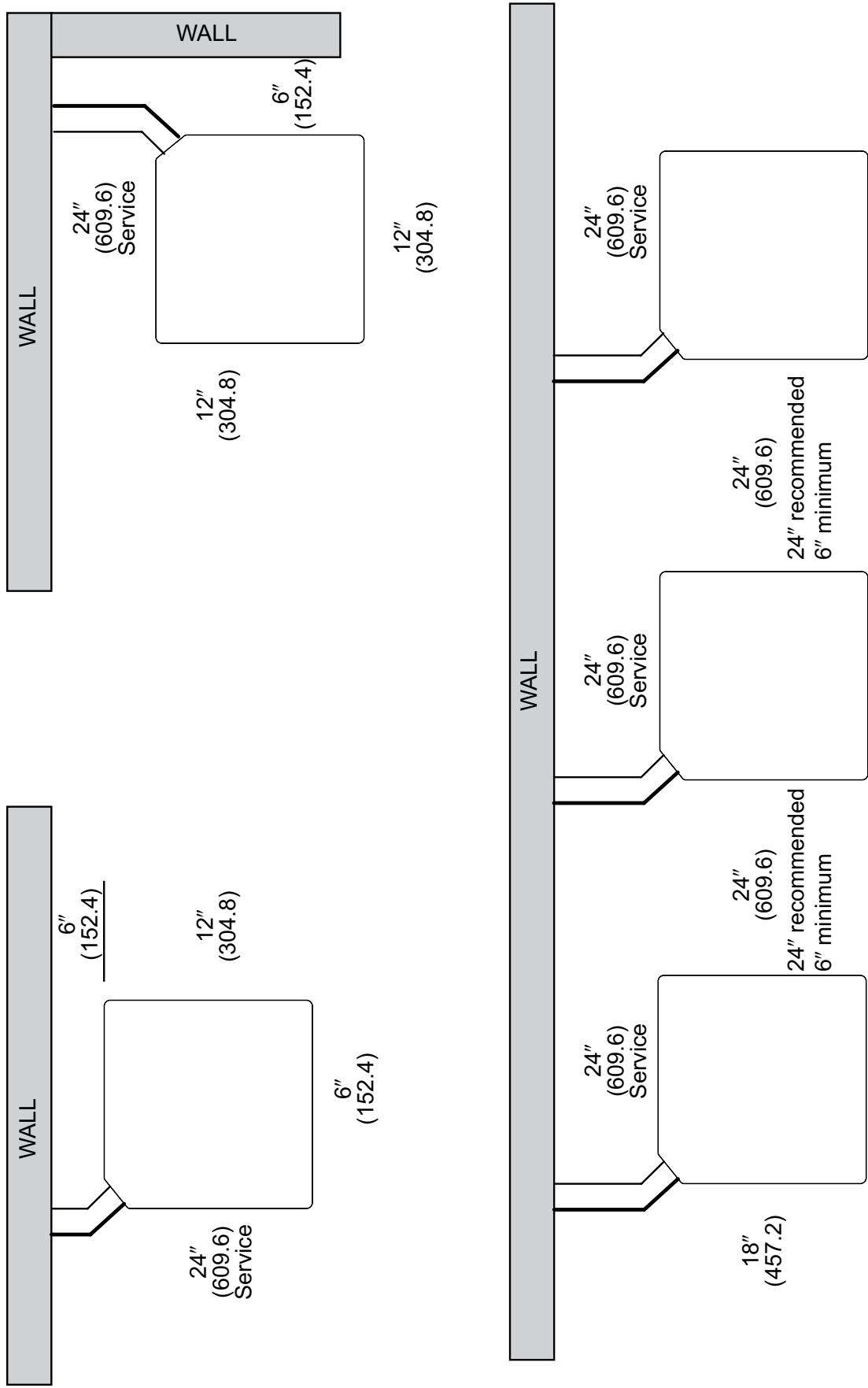
| MODEL NO. | OPERATING | | | | | | SHIPPING | | | | | |
|------------------|------------|------|------------|-----|-----------|-----|------------|------|------------|------|-----------|------|
| | H (Height) | | L (Length) | | W (Width) | | H (Height) | | L (Length) | | W (Width) | |
| | INCHES | mm | 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 recirculation 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 |
| | | | 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 |
| | 5/16" | 5/8" | 25/1.00 | 50/0.99 | 50/0.98 | 50/0.97 | 50/0.96 |
| | 3/8" | 5/8" | 25/1.00 | 50/0.99 | 50/0.98 | 50/0.97 | 50/0.96 |
| | 1/4" | 3/4"** | 25/1.00 | 50/1.00 | 32/0.99 | 40/0.99 | NR |
| | 5/16" | 3/4"** | 25/1.00 | 50/1.00 | 50/0.99 | 50/0.99 | 50/0.99 |
| | 3/8" | 3/4"** | 25/1.00 | 50/1.00 | 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 |
| | 3/8" | 5/8" | 25/0.99 | 50/0.97 | 50/0.95 | 50/0.93 | 50/0.91 |
| | 5/16" | 3/4" | 25/1.00 | 50/0.99 | 50/0.99 | 50/0.98 | 37/0.97 |
| | 3/8" | 3/4" | 25/1.00 | 50/0.99 | 50/0.99 | 50/0.98 | 50/0.97 |
| | 1/2" | 3/4" | 25/1.00 | 50/0.99 | 50/0.99 | 50/0.98 | 50/0.96 |
| 4 Ton | 3/8" | 3/4" | 25/0.99 | 50/0.98 | 50/0.97 | 50/0.96 | 50/0.94 |
| | 1/2" | 3/4" | 25/0.99 | 50/0.98 | 50/0.97 | 50/0.96 | 50/0.94 |
| | 3/8" | 7/8" | 25/1.00 | 50/0.99 | 50/0.99 | 50/0.98 | 50/0.98 |
| | 1/2" | 7/8" | 25/1.00 | 50/0.99 | 50/0.99 | 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 |
| | 1/2" | 3/4" | 25/0.99 | 50/0.97 | 50/0.95 | 50/0.93 | 50/0.91 |
| | 3/8" | 7/8" | 25/1.00 | 50/0.99 | 50/0.98 | 50/0.98 | 50/0.97 |
| | 1/2" | 7/8" | 25/1.00 | 50/0.99 | 50/0.98 | 50/0.98 | 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 |
| | | | 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 |
| | 7.94 [5/16] | 15.88 [5/8] | 8/1.00 | 15/0.99 | 15/0.98 | 15/0.97 | 15/0.96 |
| | 9.53 [3/8] | 15.88 [5/8] | 8/1.00 | 15/0.99 | 15/0.98 | 15/0.97 | 15/0.96 |
| | 6.35 [1/4] | 19.05 [3/4]** | 8/1.00 | 15/0.99 | 10/0.99 | 12/0.99 | NR |
| | 7.94 [5/16] | 19.05 [3/4]** | 8/1.00 | 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 | 15/0.98 |
| 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 |
| | 9.53 [3/8] | 15.88 [5/8] | 8/0.99 | 15/0.97 | 15/0.95 | 15/0.93 | NR |
| | 7.94 [5/16] | 19.05 [3/4] | 8/1.00 | 15/0.99 | 15/0.99 | 15/0.98 | 11/0.97 |
| | 9.53 [3/8] | 19.05 [3/4] | 8/1.00 | 15/0.99 | 15/0.99 | 15/0.98 | 15/0.97 |
| | 12.70 [1/2] | 19.05 [3/4] | 8/1.00 | 15/0.99 | 15/0.99 | 15/0.98 | 15/0.97 |
| 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 |
| | 12.70 [1/2] | 19.05 [3/4] | 8/0.99 | 15/0.98 | 15/0.97 | 15/0.96 | 15/0.94 |
| | 9.53 [3/8] | 22.23 [7/8] | 8/1.00 | 15/0.99 | 15/0.99 | 15/0.98 | 15/0.98 |
| | 12.70 [1/2] | 22.23 [7/8] | 8/1.00 | 15/0.99 | 15/0.99 | 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 |
| | 12.70 [1/2] | 19.05 [3/4] | 8/0.99 | 15/0.97 | 15/0.95 | 15/0.93 | NR |
| | 9.53 [3/8] | 22.23 [7/8] | 8/1.00 | 15/0.99 | 15/0.98 | 15/0.98 | 15/0.97 |
| | 12.70 [1/2] | 22.23 [7/8] | 8/1.00 | 15/0.99 | 15/0.98 | 15/0.98 | 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.

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.

*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 Unit Replacement (Registration Required) | Ten (10) Years |
| Parts | 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, manufacturer reserves the right to make changes without notice.

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