



The new degree of comfort.™

Rheem Classic Plus® Series Two-Stage Air Conditioners



RA17 Series

Efficiencies up to 17 SEER/13 EER

Nominal Sizes 2, 3, 4 & 5 Ton

[7.03, 10.6, 14.06 & 17.6 kW]

Cooling Capacities 17.3 to 60.5 kBTU

[5.7 to 17.7 kW]



"Proper 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."



- **EcoNet™ Enabled product.** The EcoNet Smart Home System provides advanced air & water control for maximum energy savings and ideal comfort.
- New composite base pan – dampens sound, captures louver panels, eliminates corrosion and reduces number of fasteners needed
- Powder coat paint system – for a long lasting professional finish
- The Two Stage Copeland Scroll™ UltraTech™ Compressor modulates between two capacity settings – 67% and 100% – providing more precise temperature control, lower humidity and greater efficiency in comparison to single stage compressors. It uses 70% fewer moving parts which also increases efficiency and reliability.
- Modern cabinet aesthetics – increased curb appeal with visually appealing design
- Curved louver panels – provide ultimate coil protection, enhance cabinet strength, and increased cabinet rigidity
- Optimized fan orifice – optimizes airflow and reduces unit sound
- Rust resistant screws – confirmed through 1500-hour salt spray testing
- PlusOne™ **Expanded Valve Space** – 3"-4"-5" service valve space – provides a minimum working area of 27-square inches for easier access
- PlusOne™ **Triple Service Access** – 15" 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
- 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
- Single-row condenser coil – makes unit lighter and allows thorough coil cleaning to maintain "out of the box" performance
- 35% fewer cabinet fasteners and fastener-free base – allow for faster access to internal components and hassle-free panel removal
- Service trays – hold fasteners or caps during service calls
- 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.
- High and low pressure standard on all models.



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Standard Feature Table

| Feature | STANDARD FEATURES | | | |
|--|-------------------|----|----|------|
| | 24 | 36 | 48 | 60 |
| R-410A Refrigerant | √ | √ | √ | √ |
| Maximum SEER | 17 | 17 | 17 | 16 |
| Maximum EER | 13 | 13 | 13 | 12.5 |
| EcoNet Enabled | √ | √ | √ | √ |
| Two Stage Copeland Scroll™ UltraTech™ 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 | √ | √ | √ | √ |

√ = Standard

Available SKUs

| Available Models | Description |
|------------------|---|
| RA1724AJ2CB | <i>Classic Plus</i> ® Series 2 ton 17 SEER Two Stage Air Conditioner-208/230/1/60 |
| RA1736AJ2CB | <i>Classic Plus</i> ® Series 3 ton 17 SEER Two Stage Air Conditioner-208/230/1/60 |
| RA1748AJ2CB | <i>Classic Plus</i> ® Series 4 ton 17 SEER Two Stage Air Conditioner-208/230/1/60 |
| RA1760AJ2CB | <i>Classic Plus</i> ® Series 5 ton 17 SEER Two Stage Air Conditioner-208/230/1/60 |

Introduction to RA17 Air Conditioner

The RA17 is our EcoNet Enabled 17 SEER Two-Stage Air Conditioner and is part of the Rheem Air Conditioner product line that extends from 13 to 20 SEER. This highly featured and reliable air conditioner is designed for years of dependable, efficient operation when matched with Rheem indoor aluminum evaporator coils and furnaces or air handlers.

The Classic Plus® Series RA17 is part of a new line of Rheem smart heating, cooling and water heating products. Using the latest in sensor technology and a powerful EcoNet® monitoring system, Rheem provides homeowners with a new level of protection, control and energy savings. Rheem smart heating, cooling and water heating products will alert the homeowner if there is ever an issue via the EcoNet Smart Thermostat (1) and the EcoNet Mobile app. The EcoNet Mobile App makes it easy for homeowners to manage their home comfort environment at home or on-the-go*, while enjoying the convenience and savings benefits of a highly efficient system.

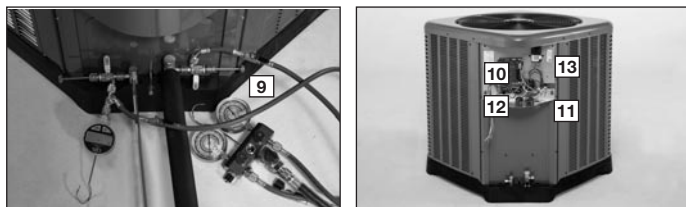


Our unique composite base (3) reduces sound emission, eliminates rattles, significantly reduces fasteners, eliminates corrosion and has integrated brass compressor attachment inserts (4).

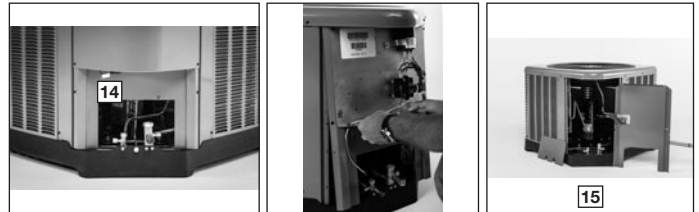


Furthermore it has incorporated into the design, water management features, means for hand placement (5) for unit maneuvering, screw trays (6) and inserts for lifting off unit pad. (7)

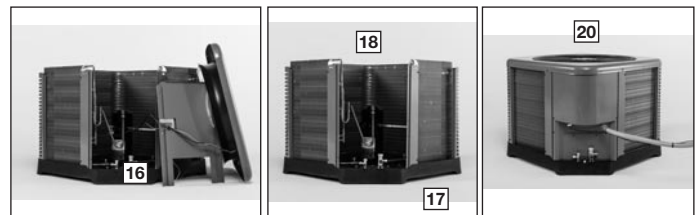
Service Valves (8) are rigidly mounted in the composite base with 3" between suction and discharge valves, 4" clearance below service valves and a minimum of 5" above the service valves, creating industry leading ease of installation. The minimum 27 square-inches around the service valves allows ample room to remove service valve schrader prior to brazing, plenty of clearance for easy brazing of the suction and discharge lines to service valve outlets, easy access and hookup of low loss refrigerant gauges (9), and access to the service valve caps for opening. For applications with long-line lengths up to 250 feet total equivalent length, up to 200 feet condenser above evaporator, or up to 80 feet evaporator above condenser, the long-line instructions in the installation manual should be followed.



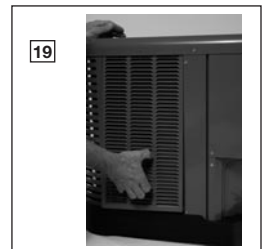
Controls are accessed from the corner of the unit by removing only two fasteners from the control access cover, revealing the industry's largest 15" wide and 14" tall control area (10). With all this room in the control area the high voltage electrical whip (11) can easily be inserted through the right size opening in the bottom of the control area. Routing it leads directly to contractor lugs for connection. The low voltage control wires (12) are easily connected to the units low voltage wiring. If contactor or capacitor (13) needs to be replaced there is more than adequate space to make the repair. The service window (14) can be removed by removing two screws, to access the high and low pressure switches and view interior of unit. (15) (High and low pressure is standard on RA17 models).



If in the rare event, greater access is needed to internal components, such as the compressor, the entire corner of the unit can be removed along with the top cover assembly to have unprecedented access to interior of the unit (16). Extra wire length is incorporated into each outdoor fan and compressor so top cover and control panel can be positioned next to the unit. With minimal effort the plug can be removed from the compressor and the outdoor fan wires can be removed from the capacitor to allow even more uncluttered access to the interior of the unit (17). Outdoor coil heights range from as short as 35" to 51". Disassembly to this degree and complete reassembly only takes a first time service technician less than 10 minutes. (17)



All units utilize strong formed louver panels which provide industry leading coil protection. Louver removal for coil cleaning is accomplished by removing one screw and lifting the panel out of the composite base pan. (19) All RA17 units utilize single row coils (18) making cleaning easy and complete, restoring the performance of the air conditioner back to out of the box performance levels year after year.



*WiFi broadband internet connection required. Download the EcoNet App from the App Store or Google Play to set up your EcoNet Smart Thermostat. Receipt of notifications depend on home WiFi set up. WiFi broadband internet connection required.

The outdoor fan motor has sleeve bearings and is inherently protected. The motor is totally enclosed for maximum protection from weather, dust and corrosion. (20) Access to the outdoor fan is made by removing four fasteners from the fan grille. The outdoor fan can be removed from the fan grille by removing 4 fasteners in the rare case outdoor fan motor fails.

Each cabinet has optimized composite (21) fan orifice assuring efficient and quiet airflow.



The entire cabinet has post powder paint (22) achieving 1000 hour salt spray rating, allowing the cabinet to retain its aesthetics throughout its life.



Two Stage Copeland Scroll™ UltraTech™ compressors with standard internal pressure relief and internal thermal overload are used on all capacities assuring longevity of high efficient and quiet operation for the life of the product.

All models come standard with high and low pressure controls. Each unit is shipped with filter drier for field installation and will trap any moisture or dirt that could contaminate the refrigerant system.



All cabinets have industry leading structural strength due to the composite base pan (23), interlocking corner post (24), formed curved louver panels (25) and drawn top cover (26) making it the most durable cabinet on the market today.

Each RA17 capacity has undergone rigorous psychometric testing to assure performance ratings of capacity, SEER and EER per AHRI Standard 210/240 rating conditions. Also each unit bears the UL mark and each unit is certified to UL 1995 safety standards.



Each unit has undergone specific strain and modal testing to assure tubing (27) is outside the units natural frequency and that the suction and discharge lines connected to the compressor withstand any starting, steady state operation, or shut down forces imposed by the compressor.

All units have been sound tested in sound chamber to AHRI 270 rating conditions, and A-weighted Sound Power Level tables produced, assuring units have acceptable noise qualities (see page 10). Each unit has been ran in cooling operation at 95°F and 82°F and sound ratings for the RA17 range from as low as 72.3 dBA to 76.7 dBA.

All units have been ship tested to assure units meet stringent “over the road” shipping conditions.

As manufactured, all units in the RA17 family have cooling capability to 55 °F. Addition of low ambient control will allow the unit to operate down to 0°F. Factory testing is performed on each unit. All component parts meet well defined specification and continually go through receiving inspections. Each component installed on a unit is scanned, assuring correct component utilization for a given unit capacity and voltage. All condenser coils are leak tested with pressurization test to 550#’s and once installed and assembled, each units’ complete refrigerant system is helium leak tested. All units are fully charged from the factory for up to 15 feet of piping. All units are factory run tested. The RA17 has a 10-year conditional unit replacement warranty (registration required) and a 10 year limited parts warranty.

Optional Accessories

(Refer to accessory chart for model #)

Compressor Crankcase Heater

Protects against refrigerant migration that can occur during low ambient operation

Compressor Sound Cover

- Reinforced vinyl compressor cover containing a 1½ inch thick batt of fiberglass insulation
- Open edges are sealed with a one-inch wide hook and loop fastening tape

Compressor Hard Start Kit

- Single-phase units are equipped with a PSC compressor motor, this type of motor normally does not need a potential relay and start capacitor
- Kit may be required to increase the compressor starting torque, in conditions such as low voltage

Low Ambient Kit

- Air conditioners operate satisfactorily in the cooling mode down to 55°F outdoor air temperature without any additional controls
- This Kit can be added in the field enabling unit to operate properly down to 0° in the cooling mode
- Crankcase heater and freezestat should be installed on compressors equipped with a low ambient kit

Decorative Top

- Can be installed on fan grille

Accessories

EcoNet Smart Thermostat



RETST700SYS

The EcoNet Smart Thermostat serves as the hub of communication for a home's Heating, Cooling and Water Heating systems, and is required to operate an EcoNet Enabled Heating & Cooling system in a fully communicating mode.

Air Conditioners*

| <u>R</u> | <u>A</u> | <u>17</u> | <u>24</u> | <u>A</u> | <u>J</u> | <u>2</u> | <u>C</u> | <u>B</u> | <u>*</u> |
|----------|----------------------|--------------|---|----------------------------------|--|---------------|-------------------|---|-------------|
| Brand | Product Category | SEER | Capacity BTU/HR | Major Series* | Voltage | Type | Controls | Minor Series** | Option Code |
| Rheem | A - Air Conditioners | 17 - 17 SEER | 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 B - 2nd Design | J - 1ph, 208-230/60 C - 3ph, 208-230/60 | 2 - Two-stage | C - Communicating | A - 1st Design B - High and low pressure control | N/A |

*See page 3 for available SKU's.

Heat Pumps (For Reference)**

| <u>R</u> | <u>P</u> | <u>17</u> | <u>24</u> | <u>A</u> | <u>J</u> | <u>V</u> | <u>C</u> | <u>A</u> | <u>*</u> |
|----------|------------------|--|---|----------------|---|---|--|----------------|-------------|
| Brand | Product Category | SEER | Capacity BTU/HR | Major Series* | Voltage | Type | Controls | Minor Series** | Option Code |
| Rheem | P - Heat Pump | 13 - 13 SEER 14 - 14 SEER 15 - 15 SEER 17 - 17 SEER 20 - 20 SEER | 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 C - 3ph, 208-230/60 D - 3ph, 460/60 | 1 - Single-stage 2 - Two-stage V - Inverter P - Piston | C - Communicating N - Non-Communicating | A - 1st Design | N/A |

Furnace Coils (For Reference)**

| <u>R</u> | <u>C</u> | <u>F</u> | <u>24</u> | <u>17</u> | <u>S</u> | <u>E</u> | <u>A</u> | <u>M</u> | <u>C</u> | <u>A</u> | <u>*</u> |
|----------|------------------|---------------------------------------|---|--|--|----------------------------|----------------|--|--------------------------|----------------|-------------|
| Brand | Product Category | Type | Capacity BTU/HR | Width | Efficiency | Metering Device | Major Series* | Orientation | Casing | Minor Series** | Option Code |
| Rheem | C - Evap Coil | F - Furn Coil H - Air-Handler Coil | 24 - 24,000 [7.03 kW] 36 - 36,000 [10.55 kW] 48 - 48,000 [14.07 kW] 60 - 60,000 [17.58 kW] | 14 - 14" 17 - 17.5" 21 - 21" 24 - 24.5" | S - Standard Eff. M - Mid Eff. H - High Eff. | T-TXV E-EEV P-Piston | A - 1st Design | M - Multipoise V - Vertical only/ convertible H - Ded. Horizontal only | C - Cased U - Uncased | A - 1st Design | N/A |

**Model number ID's are for reference only. See available SKU page of applicable spec sheet for table of available SKU's for a specific model.

[] Designates Metric Conversions



Air

Model Number Identification
RA17 Series**90%+ AFUE Gas Furnaces (For Reference)****

| R | 96 | V | A | 70 | 2 | 3 | 17 | M | S | A |
|--------------|---------------|----------------------------|------------------|--------------------------|------------------|-----------------------|----------------------|----------------------|--------------|------------------|
| Brand | Series | Motor | Major Rev | Input BTU/HR | Stages | Air Flow | Cabinet Width | Configuration | Nox | Minor Rev |
| Rheem | 90 - 90 AFUE | V - Variable speed | A - 1st Design | 040 - 42,000 [12.31 kW] | 1 - Single-stage | 3 - up to 3 ton | 14 - 14" | M - Multi | X - Low Nox | A - 1st Design |
| | 92 - 92 AFUE | T - Constant Torque (X-13) | | 060 - 56,000 [16.41 kW] | 2 - Two-stage | 5 - 3 1/2 up to 5 ton | 17 - 17.5" | | S - Standard | |
| | 95 - 95 AFUE | | | 070 - 70,000 [20.51 kW] | M - Modulating | | 21 - 21" | | | |
| | 96 - 96 AFUE | | | 085 - 84,000 [24.62 kW] | | | 24 - 24.5" | | | |
| | 97 - 97 AFUE | P - PSC | | 100 - 98,000 [28.72 kW] | | | | | | |
| | | | | 115 - 112,000 [32.82 kW] | | | | | | |

80% AFUE Gas Furnaces (For Reference)**

| R | 80 | 2 | V | A | 075 | 3 | 17 | M | S | A |
|--------------|---------------|------------------|----------------------------|------------------|-----------------------|-----------------------|----------------------|-------------------------------------|--------------|------------------|
| Brand | Series | Stages | Motor | Major Rev | Input BTU/HR | Air Flow | Cabinet Width | Configuration | Nox | Minor Rev |
| Rheem | 80 - 80+ AFUE | 1 - Single-stage | V - Variable speed | A - 1st Design | 050 - 50,000 [15 kW] | 3 - up to 3 ton | 14 - 14" | M - Multi | X - Low Nox | A - 1st Design |
| | | 2 - Two-stage | T - Constant Torque (X-13) | | 075 - 75,000 [22 kW] | 4 - 2 1/2 to 4 ton | 17 - 17.5" | D - Down | S - Standard | |
| | | | P - PSC premium | | 100 - 100,000 [29 kW] | 5 - 3 1/2 up to 5 ton | 21 - 21" | Z - Down & zero clearance down flow | | |
| | | | S - PSC standard | | 125 - 125,000 [37 kW] | | 24 - 24.5" | | | |
| | | | | | 150 - 150,000 [44 kW] | | | | | |

Air Handlers (For Reference)**

| R | H | 2 | I | 36 | 17 | S | E | A | C | A | A | 000 | * | - |
|--------------|-------------------------|--------------------------|---------------------|------------------------|--------------|-------------------|------------------------|----------------------|-------------------|---------------------|-----------------------|---------------------------------------|--------------------|----------|
| Brand | Product Category | Stages of Airflow | Motor Type | Capacity BTU/HR | Width | Coil Size | Metering Device | Major Series* | Controls | Voltage | Minor Series** | Factory Heat Cap | Option Code | |
| Rheem | H - Air Handler | 1 - Single-Stage | V - Variable Speed | 24 - 24,000 [7.03 kW] | 14 - 14" | S - Standard Eff. | T - TEV | A - 1st Design | C - Communicating | A - 1ph, 115/60 | A - 1st Design | 00 - no factory heat with option code | *TBD | |
| | | 2 - Two-Stage | T - Constant Torque | 36 - 36,000 [10.55 kW] | 17 - 17.5" | M - Mid Eff. | E - EEV | | N - Non-comm | J - 1ph, 208-240/60 | | | | |
| | | M - Modulating | P - PSC | 48 - 48,000 [14.07 kW] | 21 - 21" | H - High Eff. | P - Piston | | D - 3ph, 480/60 | D - 3ph, 480/60 | | | | |
| | | | | 60 - 60,000 [17.58 kW] | 24 - 24.5" | | | | | | | | | |

**Model number ID's are for reference only. See available SKU page of applicable spec sheet for table of available SKU's for a specific model.

[J Designates Metric Conversions

| Physical Data | | | | |
|--|---------------------|---------------------|---------------------|---------------------|
| Model No. | RA1724A | RA1736A | RA1748A | RA1760A |
| 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-410A) furnished oz. ¹ | 128 | 151 | 204 | 223 |
| Compressor Type | Scroll | | | |
| Outdoor Coil | | | | |
| Net face area – Outer Coil | 19.8 | 22.2 | 32.3 | 32.3 |
| 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 | 22 | 22 | 22 |
| Outdoor Fan | | | | |
| Diameter – in. | 24 | 24 | 26 | 26 |
| Number of blades | 3 | 3 | 3 | 3 |
| Motor hp | 1/5 | 1/5 | 1/2 | 1/2 |
| CFM | 3326 | 3540 | 4251 | 5133 |
| RPM | 850 | 820 | 646 | 825 |
| watts | 112 | 112 | 132 | 113 |
| Shipping weight – lbs. | 200 | 209 | 297 | 298 |
| Operating weight – lbs. | 193 | 202 | 290 | 291 |
| 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 | 25 | 35 | 50 | 60 |
| Minimum circuit ampacity³ | 16 | 21 | 32 | 42 |
| Compressor | | | | |
| Rated load amps | 11.7 | 15.3 | 21.2 | 28.8 |
| Locked rotor amps | 58.3 | 83 | 104 | 152.9 |
| Condenser Fan Motor | | | | |
| Full load amps | 1.4 | 1.2 | 5.3 | 5.3 |
| Locked rotor amps | — | — | — | — |

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. | | RA1724 | RA1736 | RA1748 | RA1760 |
|---|----------------|----------------|----------------|----------------|----------------|
| EcoNet Smart Thermostat | | RETST700SYS | RETST700SYS | RETST700SYS | RETST700SYS |
| Compressor crankcase heater* | | 44-17402-44 | 44-17402-44 | 44-101884-05 | 44-101884-05 |
| Low ambient control | | RXAD-A08 | RXAD-A08 | RXAD-A08 | RXAD-A08 |
| Freeze Stat | | 50313 | 50313 | 50313 | 50313 |
| Compressor sound cover | | 68-23427-26 | 68-23427-26 | 68-25217-10 | 68-25217-10 |
| Compressor hard start kit | | SK-A1 | SK-A1 | SK-A1 | SK-A1 |
| Liquid Line Solenoid (24 VAC, 50/60 Hz) | Solenoid Valve | 200RD2T3TVLC | 200RD2T3TVLC | 200RD3T3TVLC | 200RD3T3TVLC |
| | Solenoid Coil | 61-AMG24V | 61-AMG24V | 61-AMG24V | 61-AMG24V |
| Liquid Line Solenoid (120/240 VAC, 50/60 Hz) | Solenoid Valve | 200RD2T3TVLC | 200RD2T3TVLC | 200RD3T3TVLC | 200RD3T3TVLC |
| | Solenoid Coil | 61-AMG120/240V | 61-AMG120/240V | 61-AMG120/240V | 61-AMG120/240V |

*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 |
| RA1724A | 72.5 | 48.6 | 53.7 | 62.9 | 63.0 | 60.5 | 57.3 | 54.6 |
| RA1736A | 72.3 | 53.1 | 52.7 | 60.9 | 62.4 | 61.2 | 58.4 | 51.6 |
| RA1748A | 73.0 | 46.1 | 50.4 | 59.5 | 64.6 | 59.6 | 55.8 | 54.6 |
| RA1760A | 76.7 | 58.8 | 60.5 | 65.6 | 65.2 | 62.9 | 62.4 | 55.5 |

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



Integrated Controls



EcoNet is smart, new technology developed exclusively by Rheem that allows Heating, Cooling, and Water Heating 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

MOTION SENSOR – Automatically wakes the screen as you approach

STANDBY SCREEN – Displays indoor temperature and current weather



RETST700SYS

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

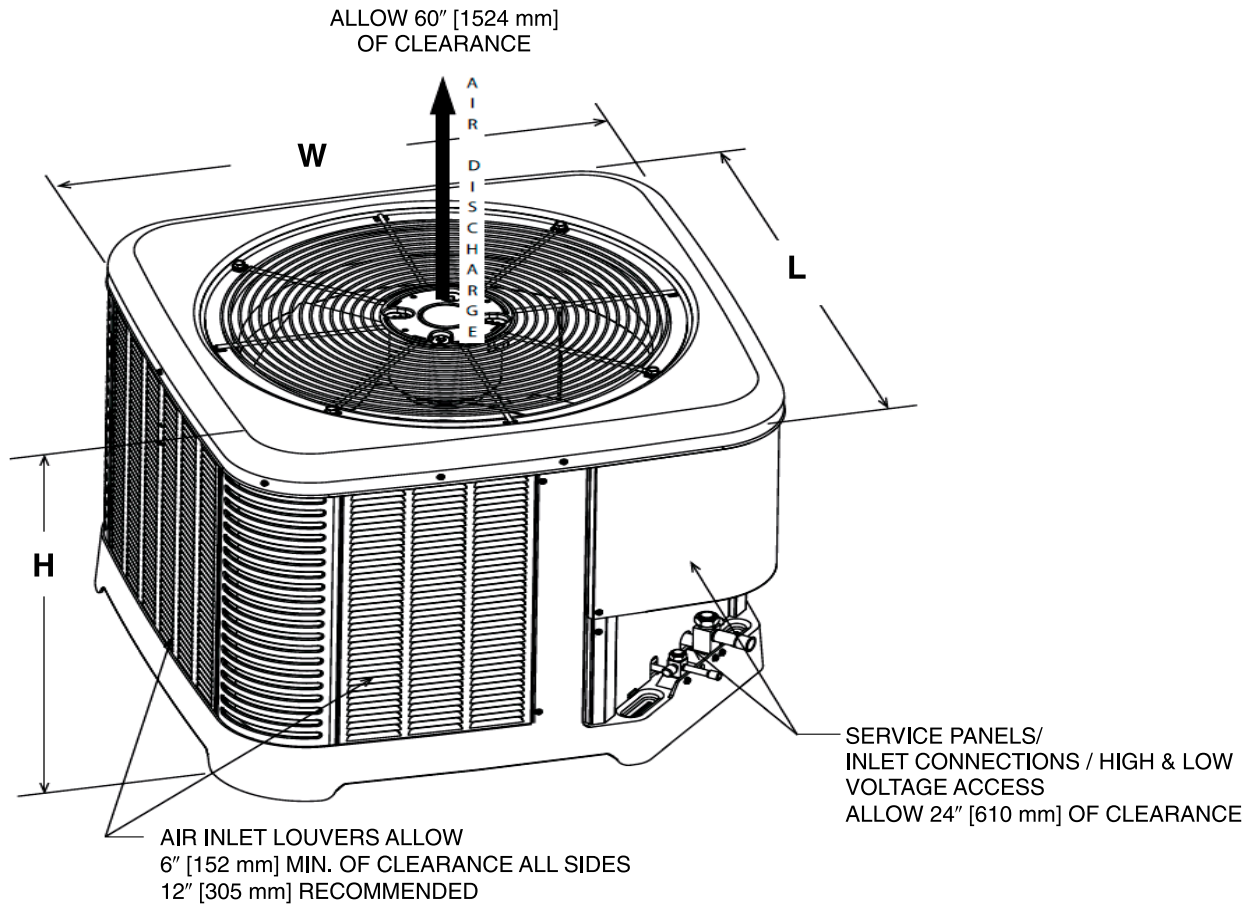
ECONET SMART THERMOSTAT COMPATIBILITY

| Models | Heating & Cooling | | | | | | | | | |
|-------------|-------------------|------|------|------|--------------|------|------------------|-------|------------|------|
| | Gas Furnaces | | | | Air Handlers | | Air Conditioners | | Heat Pumps | |
| | R802V | R96V | R97V | R98V | RHMV | RH2T | RA20 | RA17* | RP20 | RP17 |
| RETST700SYS | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

*Models not EcoNet Enabled: RA1724AJ2NB, RA1736AJ2NB, RA1748AJ2NB, RA1760AJ2NB

Unit Dimensions

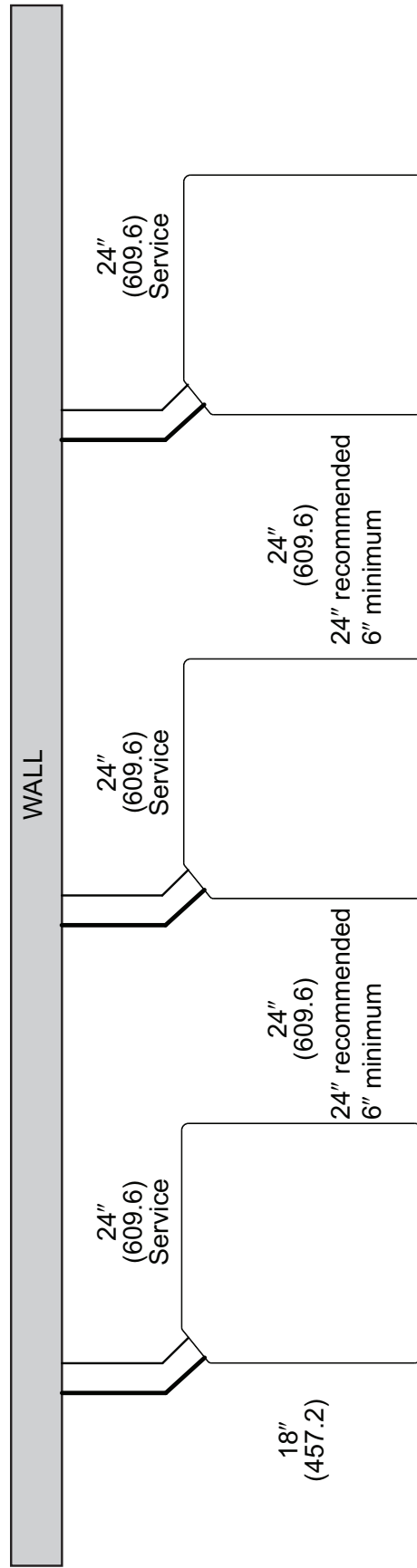
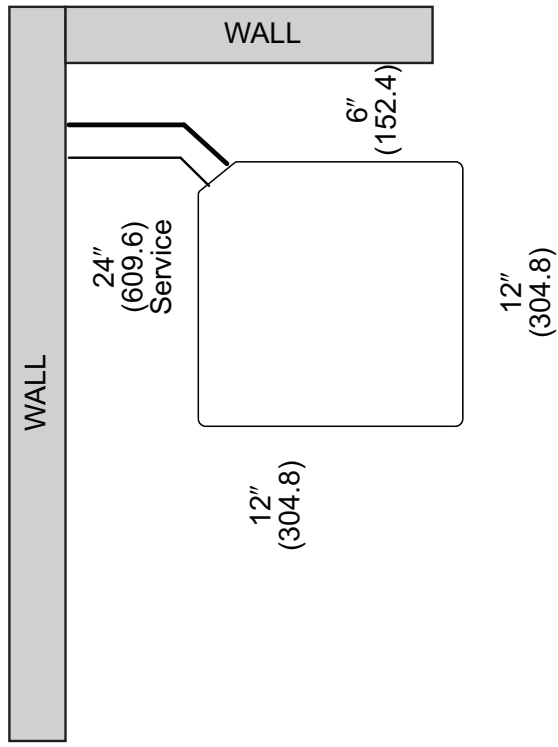
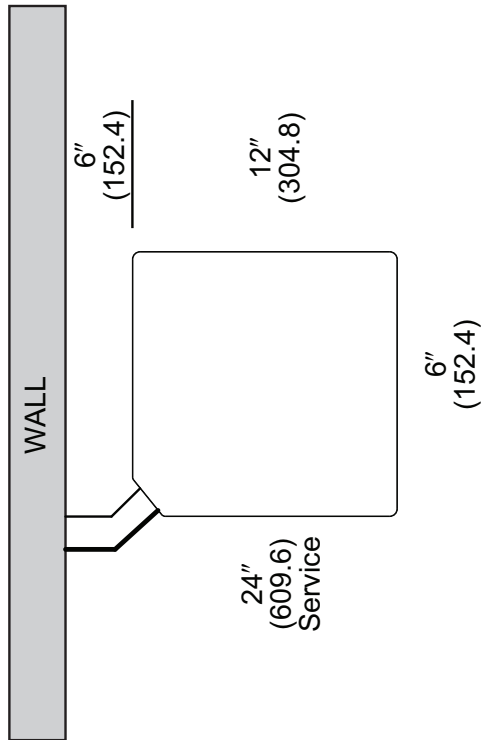
| MODEL NO. | OPERATING | | | | | | SHIPPING | | | | | |
|-----------|------------|------|------------|-----|-----------|-----|------------|------|------------|-----|-----------|-----|
| | H (Height) | | L (Length) | | W (Width) | | H (Height) | | L (Length) | | W (Width) | |
| | INCHES | mm | INCHES | mm | INCHES | mm | INCHES | mm | INCHES | mm | INCHES | mm |
| RA1724 | 35 | 889 | 33.75 | 857 | 33.75 | 857 | 36.75 | 933 | 36.38 | 924 | 36.38 | 924 |
| RA1736 | 39 | 990 | 33.75 | 857 | 33.75 | 857 | 40.75 | 1035 | 36.38 | 924 | 36.38 | 924 |
| RA1748 | 51 | 1295 | 35.75 | 908 | 35.75 | 908 | 52.75 | 1339 | 38.38 | 974 | 38.38 | 974 |
| RA1760 | 51 | 1295 | 35.75 | 908 | 35.75 | 908 | 52.75 | 1339 | 38.38 | 974 | 38.38 | 974 |



[] Designates Metric Conversions

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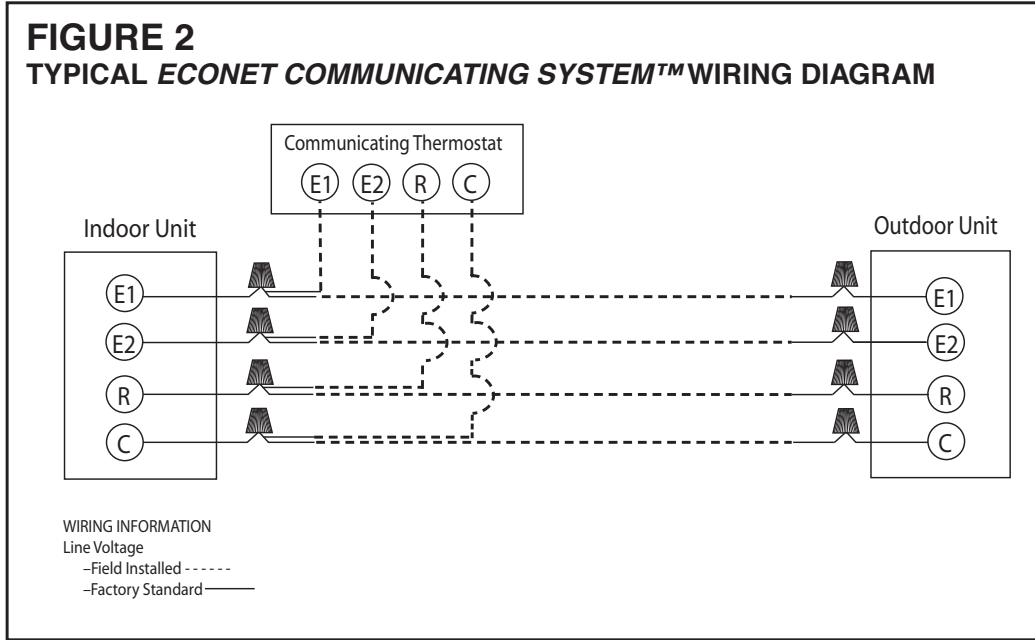
CLEARANCES



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



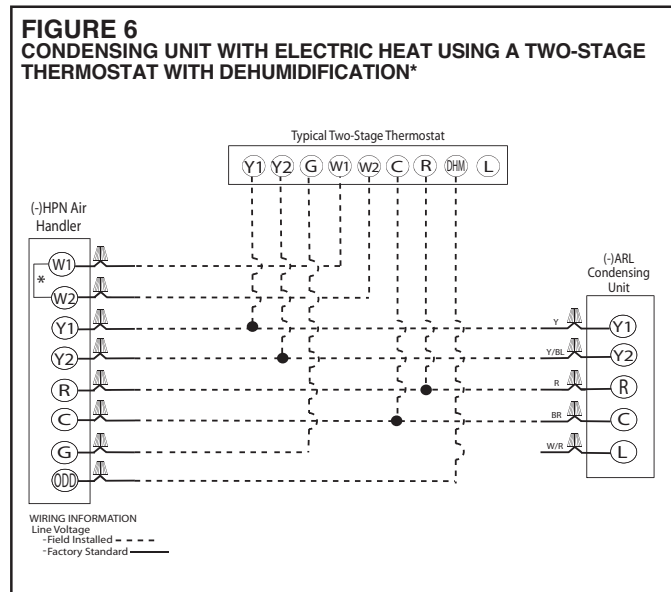
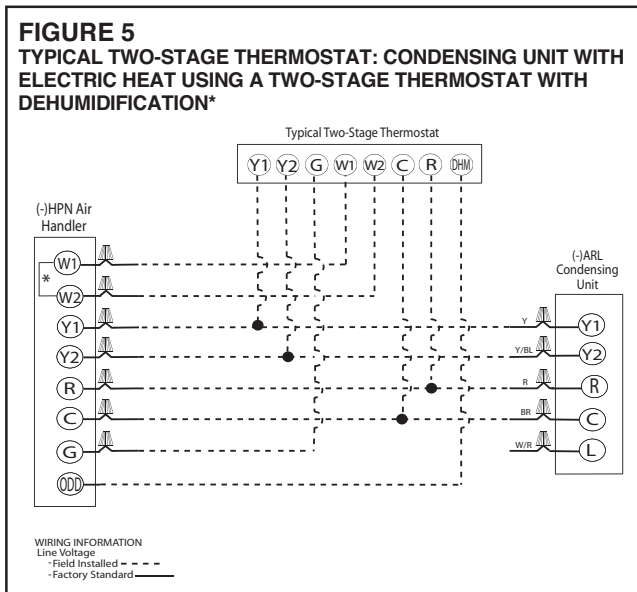
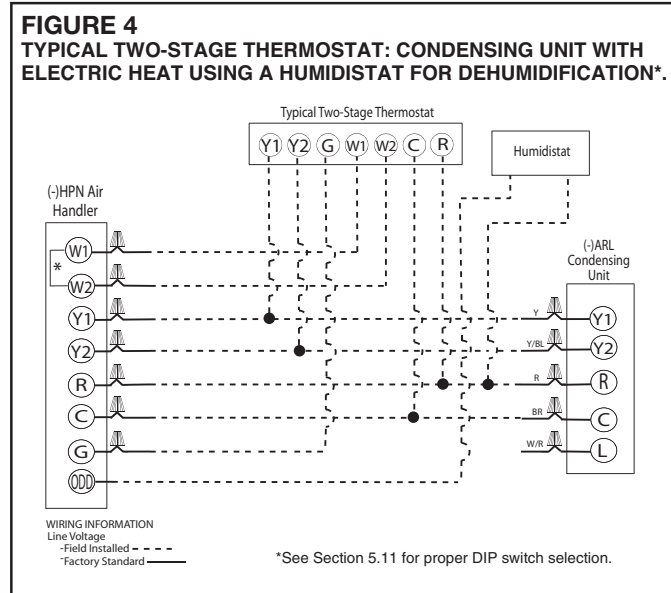
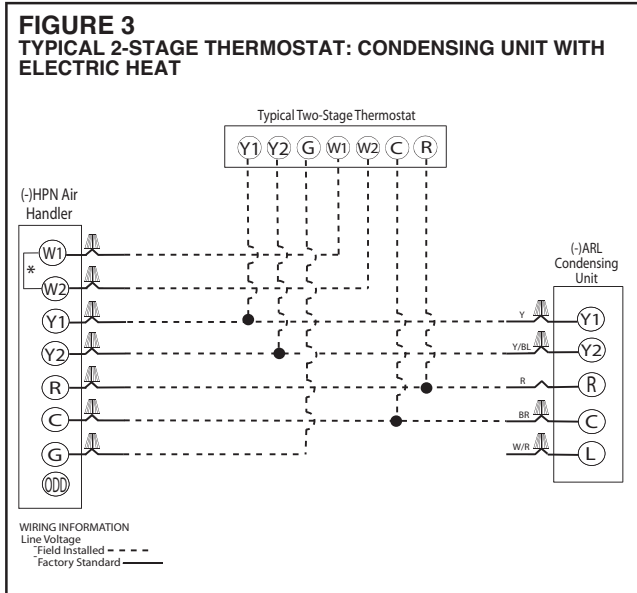
Application Guidelines

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.

Non-communicating Thermostat Wiring Diagrams

The following figures show the typical wiring diagrams with (-)HPN air handler and (-)ARL condensing unit. Cooling and heat pump airflows may need to be adjusted for homeowner comfort once the system is operational.

| WIRE COLOR CODE | | | |
|-----------------|------------|-------------|------------|
| BK – BLACK | G – GREEN | PR – PURPLE | Y – YELLOW |
| BR – BROWN | GY – GRAY | R – RED | |
| BL – BLUE | O – ORANGE | W – WHITE | |



Conventional Thermostat Wiring

*If maximum outlet temperature rise is desired, it is recommended that W1 and W2 be jumpered together.

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 Sizing Chart (Metric Units)

| 17 SEER 2-Stage Air-Conditioners | | | | | | | | | |
|------------------------------------|-------------------------------------|------------------------------------|--|---|---------|---------|---------|---------|---------|
| Unit Size | Allowable Liquid Line Size mm [in.] | Allowable Vapor Line Size mm [in.] | Use Long Line Guidelines for Linear Line Lengths Greater Than Shown Below (Meters) | Outdoor Unit ABOVE or BELOW Indoor Unit | | | | | |
| | | | | Equivalent Length (Meters) | | | | | |
| | | | | < 8 | 8-15 | 16-23 | 24-30 | 31-38 | 39-46 |
| | | | | Maximum Vertical Rise (Outdoor Unit Below Indoor Unit)*/Capacity Multiplier | | | | | |
| 7.0 kW [2.0 Ton] *SEE NOTE 3 | 6.35 [1/4] | 15.88 [5/8] | N/A | 8/0.99 | 15/0.98 | 9/0.97 | 1/0.97 | NR | NR |
| | 7.94 [5/16] | 15.88 [5/8] | 22 | 8/0.99 | 15/0.98 | 15/0.97 | 15/0.97 | 15/0.96 | 15/0.95 |
| | 9.53 [3/8] | 15.88 [5/8] | 15 | 8/0.99 | 15/0.99 | 15/0.97 | 15/0.97 | 15/0.96 | 15/0.95 |
| | 6.35 [1/4] | 19.05 [3/4]* | N/A | 8/1.00 | 15/0.99 | 9/0.99 | 1/0.99 | NR | NR |
| | 7.94 [5/16] | 19.05 [3/4]* | 22 | 8/1.00 | 15/0.99 | 15/0.99 | 15/0.99 | 15/0.98 | 15/0.98 |
| | 9.53 [3/8] | 19.05 [3/4]* | 15 | 8/1.00 | 15/0.99 | 15/0.99 | 15/0.99 | 15/0.98 | 15/0.98 |
| 10.6 kW [3 Ton] | 7.94 [5/16] | 15.88 [5/8] | 6 | 8/0.99 | 15/0.97 | 15/0.95 | 15/0.93 | 10/0.91 | NR |
| | 9.53 [3/8] | 15.88 [5/8] | 5 | 8/0.99 | 15/0.97 | 15/0.95 | 15/0.93 | 15/0.91 | NR |
| | 7.94 [5/16] | 19.05 [3/4] | 6 | 8/1.00 | 15/0.99 | 15/0.99 | 15/0.98 | 10/0.97 | 5/0.96 |
| | 9.53 [3/8] | 19.05 [3/4] | 5 | 8/1.00 | 15/0.99 | 15/0.99 | 15/0.98 | 15/0.97 | 15/0.96 |
| | 12.7 [1/2] | 19.05 [3/4] | 0 | 8/1.00 | 15/0.99 | 15/0.99 | 15/0.98 | 15/0.97 | 15/0.96 |
| 14.1 kW [4 Ton] | 9.53 [3/8] | 19.05 [3/4] | 0 | 8/0.99 | 15/0.98 | 15/0.97 | 15/0.95 | 15/0.94 | 15/0.93 |
| | 12.7 [1/2] | 19.05 [3/4] | 0 | 8/0.99 | 15/0.98 | 15/0.97 | 15/0.95 | 15/0.94 | 15/0.93 |
| | 9.53 [3/8] | 22.23 [7/8] | 0 | 8/1.00 | 15/0.99 | 15/0.99 | 15/0.98 | 15/0.98 | 15/0.97 |
| | 12.7 [1/2] | 22.23 [7/8] | 0 | 8/1.00 | 15/0.99 | 15/0.99 | 15/0.98 | 15/0.98 | 15/0.97 |
| 17.6 kW [5 Ton] | 9.53 [3/8] | 19.05 [3/4] | 0 | 8/0.99 | 15/0.97 | 15/0.95 | 15/0.93 | 15/0.91 | NR |
| | 12.7 [1/2] | 19.05 [3/4] | 0 | 8/0.99 | 15/0.97 | 15/0.95 | 15/0.93 | 15/0.91 | NR |
| | 9.53 [3/8] | 22.23 [7/8] | 0 | 8/1.00 | 15/0.99 | 15/0.98 | 15/0.98 | 15/0.97 | 12/0.96 |
| | 12.7 [1/2] | 22.23 [7/8] | 0 | 8/1.00 | 15/0.99 | 15/0.98 | 15/0.98 | 15/0.97 | 15/0.96 |

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.

[] Designates Metric Conversions

Refrigerant Line Sizing Chart (English Units)

| 17 SEER 2-Stage Air-Conditioners | | | | | | | | | |
|----------------------------------|----------------------------|---------------------------|---|---|---------|---------|---------|---------|---------|
| Unit Size | Allowable Liquid Line Size | Allowable Vapor Line Size | Use Long Line Guidelines for Linear Line Lengths Greater Than Shown Below | Outdoor Unit ABOVE or BELOW Indoor Unit | | | | | |
| | | | | Equivalent Length (Feet) | | | | | |
| | | | | < 25 | 26-50 | 51-75 | 76-100 | 101-125 | 126-150 |
| | | | | Maximum Vertical Rise (Outdoor Unit Below Indoor Unit)*/Capacity Multiplier | | | | | |
| 2.0 Ton *SEE NOTE 3 | 1/4" | 5/8" | N/A | 25/0.99 | 50/0.98 | 31/0.97 | 3/0.97 | NR | NR |
| | 5/16" | 5/8" | 73 | 25/0.99 | 50/0.98 | 50/0.97 | 50/0.97 | 50/0.96 | 50/0.95 |
| | 3/8" | 5/8" | 48 | 25/0.99 | 50/0.98 | 50/0.97 | 50/0.97 | 50/0.96 | 50/0.95 |
| | 1/4" | 3/4" | N/A | 25/1.00 | 50/1.00 | 31/0.99 | 3/0.99 | NR | NR |
| | 5/16" | 3/4" | 73 | 25/1.00 | 50/1.00 | 50/0.99 | 50/0.99 | 50/0.98 | 50/0.98 |
| | 3/8" | 3/4" | 48 | 25/1.00 | 50/1.00 | 50/0.99 | 50/0.99 | 50/0.98 | 50/0.98 |
| 3 Ton | 5/16" | 5/8" | 20 | 25/0.99 | 50/0.97 | 50/0.95 | 50/0.93 | 34/0.91 | NR |
| | 3/8" | 5/8" | 15 | 25/0.99 | 50/0.97 | 50/0.95 | 50/0.93 | 50/0.91 | NR |
| | 5/16" | 3/4" | 20 | 25/1.00 | 50/0.99 | 50/0.99 | 50/0.98 | 34/0.97 | 18/0.96 |
| | 3/8" | 3/4" | 15 | 25/1.00 | 50/0.99 | 50/0.99 | 50/0.98 | 50/0.97 | 50/0.96 |
| | 1/2" | 3/4" | 0 | 25/1.00 | 50/0.99 | 50/0.99 | 50/0.98 | 50/0.97 | 50/0.96 |
| 4 Ton | 3/8" | 3/4" | 0 | 25/0.99 | 50/0.98 | 50/0.97 | 50/0.95 | 50/0.94 | 50/0.93 |
| | 1/2" | 3/4" | 0 | 25/0.99 | 50/0.98 | 50/0.97 | 50/0.95 | 50/0.94 | 50/0.93 |
| | 3/8" | 7/8" | 0 | 25/1.00 | 50/0.99 | 50/0.99 | 50/0.98 | 50/0.98 | 50/0.97 |
| | 1/2" | 7/8" | 0 | 25/1.00 | 50/0.99 | 50/0.99 | 50/0.98 | 50/0.98 | 50/0.97 |
| 5 Ton | 3/8" | 3/4" | 0 | 25/0.99 | 50/0.97 | 50/0.95 | 50/0.93 | 50/0.91 | NR |
| | 1/2" | 3/4" | 0 | 25/0.99 | 50/0.97 | 50/0.95 | 50/0.93 | 50/0.91 | NR |
| | 3/8" | 7/8" | 0 | 25/1.00 | 50/0.99 | 50/0.98 | 50/0.98 | 50/0.97 | 39/0.96 |
| | 1/2" | 7/8" | 0 | 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" 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.

[] Designates Metric Conversions

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] | SEER | EER | Indoor CFM [L/s] |
| RA1724AJ2 | RCF2417STA | 24000 [7.0] | 18000 [5.3] | 6000 [1.8] | 14.00 | 12.20 | 800 [377.6] |
| RA1736AJ2 | RCF3621MTA | 34800 [10.2] | 26000 [7.6] | 8800 [2.6] | 14.00 | 12.20 | 1050 [507.4] |
| RA1748AJ2 | RCF6021MTA | 46000 [13.5] | 34400 [10.1] | 11600 [3.4] | 14.00 | 11.70 | 1500 [708.0] |
| RA1760AJ2 | RCF6024STA | 55500 [16.3] | 41700 [12.2] | 13800 [4.0] | 14.00 | 11.70 | 1575 [755.2] |

| Air Handler | | | | | | | |
|--------------|--------------|------------------------------|----------------------------|--------------------------|------|------|---------------------|
| Outdoor Unit | Indoor Coil | Total Capacity BTU/H [kW] | Net Sensible BTU/H [kW] | Net Latent BTU/H [kW] | SEER | EER | Indoor CFM [L/s] |
| RA1724AJ2 | RH2T2421MEAC | 24000 [7.0] | 18000 [5.3] | 6000 [1.8] | 17.0 | 13.0 | 525 [495.5] |
| RA1736AJ2 | RH2T3621MEAC | 34800 [10.2] | 26000 [7.6] | 8800 [2.6] | 17.0 | 13.0 | 800 [377.6] |
| RA1748AJ2 | RH2T4821MEAC | 47000 [13.7] | 34400 [10.1] | 11600 [3.4] | 17.0 | 13.0 | 1150 [542.7] |
| RA1760AJ2 | RH2T6024MEAC | 56000 [16.4] | 41700 [12.2] | 13800 [4.0] | 16.0 | 12.5 | 1175 [554.5] |

Note: Additional ratings and system match ups can be accessed on MyRheem.com at: <https://my.rheem.com/static/private/ahriresidential.html>
 Additional ratings and system match ups and downloadable ratings certificates can be accessed from the AHRI website: www.ahridirectory.org

[] Designates Metric Conversions

GUIDE SPECIFICATIONS

General

System Description

Outdoor-mounted, air-cooled, split-system air conditioner composite base pan unit suitable for ground or rooftop installation. Unit consists of a hermetic compressor, an air-cooled coil, propeller-type condenser fan, suction and legend line service valve, and a control box. Unit will discharge supply air upward as shown on contract drawings. Unit will be used in a refrigeration circuit to match up to a coil unit.

Quality Assurance

- Unit will be rated in accordance with the latest edition of AHRI Standard 210.
- Unit will be certified for capacity and efficiency, and listed in the latest AHRI directory.
- Unit construction will comply with latest edition of ANSI/ASHRAE and with NEC.
- Unit will be constructed in accordance with UL standards and will carry the UL label of approval. Unit will have c-UL-us approval.
- Unit cabinet will be capable of withstanding ASTM B117 1000-hr salt spray test.
- Air-cooled condenser coils will be leak tested at 150 psig and pressure tested at 550 psig.
- Unit constructed in ISO9001 approved facility.

Delivery, Storage, and Handling

- Unit will be shipped as single package only and is stored and handled per unit manufacturer's recommendations.

Warranty (for inclusion by specifying engineer) – U.S. and Canada only.

Products

Equipment

Factory assembled, single piece, air-cooled air conditioner unit. Contained within the unit enclosure is all factory wiring, piping, controls, compressor, refrigerant charge R-410A, and special features required prior to field start-up.

Unit Cabinet

- Unit cabinet will be constructed of galvanized steel, bonderized, and coated with a powder coat paint.
- All units constructed with louver coil protection and corner post. Louver can be removed by removing one fastener per louver panel.

AIR-COOLED, SPLIT-SYSTEM AIR CONDITIONER

RA17

1-1/2 TO 5 NOMINAL TONS

Fans

- Condenser fan will be direct-drive propeller type, discharging air upward.
- Condenser fan motors will be totally enclosed, 1-phase type with class B insulation and permanently lubricated bearings. Shafts will be corrosion resistant.
- Fan blades will be statically and dynamically balanced.
- Condenser fan openings will be equipped with coated steel wire safety guards.

Compressor

- Compressor will be hermetically sealed.
- Compressor will be mounted on rubber vibration isolators.

Condenser Coil

- Condenser coil will be air cooled.
- Coil will be constructed of aluminum fins mechanically bonded to copper tubes.

Refrigeration Components

- Refrigeration circuit components will include liquid-line shutoff valve with sweat connections, vapor-line shutoff valve with sweat connections, system charge of R-410A refrigerant, and compressor oil.
- Unit will be equipped with filter drier for R-410A refrigerant for field installation.

Operating Characteristics

- The capacity of the unit will meet or exceed ____ Btuh at a suction temperature of ____ °F/°C. The power consumption at full load will not exceed ____ kW.
- Combination of the unit and the evaporator or fan coil unit will have a total net cooling capacity of ____ Btuh or greater at conditions of ____ CFM entering air temperature at the evaporator at ____ °F/°C wet bulb and ____ °F/°C dry bulb, and air entering the unit at ____ °F/°C.
- The system will have a SEER of ____ Btuh/watt or greater at DOE conditions.

Electrical Requirements

- Nominal unit electrical characteristics will be ____ v, single phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of ____ v to ____ v.
- Nominal unit electrical characteristics will be ____ v, three phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of ____ v to ____ v.
- Unit electrical power will be single point connection.
- Control circuit will be 24v.

Special Features

- Refer to section of this literature identifying accessories and descriptions for specific features and available enhancements.

GENERAL TERMS OF LIMITED WARRANTY*

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 |



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

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Fort Smith, Arkansas 72908 • www.rheem.com

Rheem Canada Ltd./Ltée • 125 Edgeware Road, Unit 1
Brampton, Ontario • L6Y 0P5



INTEGRATED HOME COMFORT

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