



Ruud Achiever® Series Air Conditioners



RA14 Series

Efficiencies up to 16 SEER/13 EER
Nominal Sizes 1½ to 5 Ton [5.28 to 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.”

- 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
- Scroll compressor – uses 70% fewer moving parts for higher efficiency and increased 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.

Standard Feature Table

Feature	STANDARD FEATURES						
	18	24	30	36	42	48	60
R-410a Refrigerant	√	√	√	√	√	√	√
Maximum SEER	16	16	16	16	16	15.5	15
Maximum EER	13	13	13	13	13	13	12.5
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	√	√	√	√	√	√	√

√ = Standard

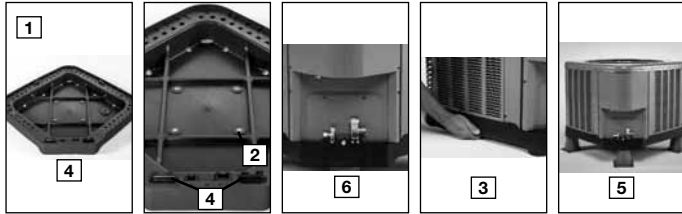
Available SKUs

Available Models	Description
RA1418AJ1NA	Achiever® Series 1 1/2 ton 14 SEER Single-Stage Air Conditioner-208/230/1/60
RA1424AJ1NA	Achiever® Series 2 ton 14 SEER Single-Stage Air Conditioner-208/230/1/60
RA1430AJ1NA	Achiever® Series 2 1/2 ton 14 SEER Single-Stage Air Conditioner-208/230/1/60
RA1436AJ1NA	Achiever® Series 3 ton 14 SEER Single-Stage Air Conditioner-208/230/1/60
RA1442BJ1NA	Achiever® Series 3 1/2 ton 14 SEER Single-Stage Air Conditioner-208/230/1/60
RA1448AJ1NA	Achiever® Series 4 ton 14 SEER Single-Stage Air Conditioner-208/230/1/60
RA1460AJ1NA	Achiever® Series 5 ton 14 SEER Single-Stage Air Conditioner-208/230/1/60
RA1418AJ1NB	Achiever® Series 1 1/2 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1424AJ1NB	Achiever® Series 2 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1430AJ1NB	Achiever® Series 2 1/2 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1436AJ1NB	Achiever® Series 3 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1442BJ1NB	Achiever® Series 3 1/2 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1448AJ1NB	Achiever® Series 4 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1460AJ1NB	Achiever® Series 5 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/1/60
RA1436AC1NB	Achiever® Series 3 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/3/60
RA1442BC1NB	Achiever® Series 3 1/2 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/3/60
RA1448AC1NB	Achiever® Series 4 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/3/60
RA1460AC1NB	Achiever® Series 5 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-208/230/3/60
RA1436AD1NB	Achiever® Series 3 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-460/3/60
RA1442BD1NB	Achiever® Series 3 1/2 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-460/3/60
RA1448AD1NB	Achiever® Series 4 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-460/3/60
RA1460AD1NB	Achiever® Series 5 ton 14 SEER Single-Stage Air Conditioner w/ High/Low Pressure-460/3/60

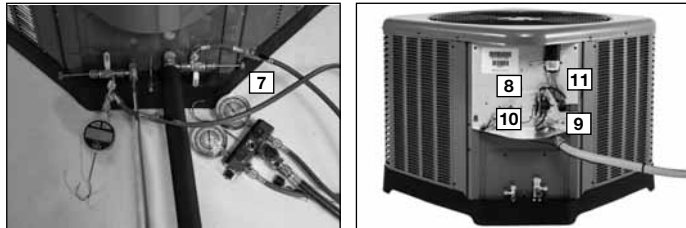
Introduction to RA14 Air Conditioner

The RA14 is our 14 SEER air conditioner and is part of the Ruud air conditioner product line that extends from 13 to 20 SEER. This highly featured and reliable air conditioner is designed for years of reliable, efficient operation when matched with Ruud indoor aluminum evaporator coils and furnaces or air handler units with aluminum evaporators.

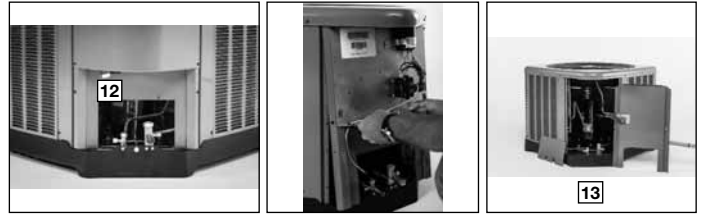
Our unique composite base (1) reduces sound emission, eliminates rattles, significantly reduces fasteners, eliminates corrosion and has integrated brass compressor attachment inserts (2). Furthermore it has incorporated into the design, water management features, means for hand placement (3) for unit maneuvering, screw trays (4) and inserts for lifting off unit pad. (5)



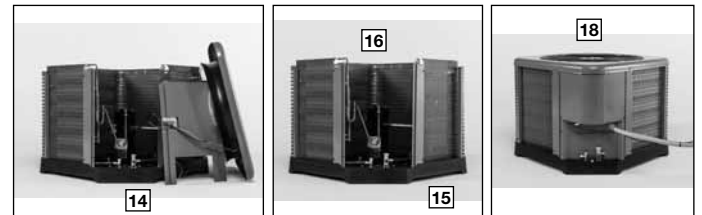
Service Valves (6) are rigidly mounted in the composite base with 3" between suction and discharge valves, 4" clearance below service valves and a minimum of 5" above the service valves, creating industry leading installation ease. The minimum 27 square-inches around the service valves allows ample room 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 (7), 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 (8). With all this room in the control area the high voltage electrical whip (9) 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 (10) are easily connected to units low voltage wiring. If contactor or capacitor (11) needs to be replaced there is more than adequate space to make the repair. Furthermore, if high pressure and low pressure model was not purchased but is desired to be installed in the field, the service window (12) can be removed by removing two screws, to access the high and low side schrader fittings for easy field installation. The entire corner can be removed providing ultimate access to install the high and low pressure switch. (13)



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 (14). 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 (15). Outdoor coil heights range from as short as 22" to 32", aiding access to the compressor. Disassembly to this degree and complete reassembly only takes a first time service technician less than 10 minutes. (15)



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. (17) All RA14 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.



The outdoor fan motor has sleeve bearings and is inherently protected. The motor is totally enclosed for maximum protection from weather, dust and corrosion. 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 (19) fan orifice assuring efficient and quiet airflow.



The entire cabinet has powder post paint (20) achieving 1000 hour salt spray rating, allowing the cabinet to retain its aesthetics throughout its life.



Scroll 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.

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 (21), interlocking corner post (22), formed curved louver panels (23) and drawn top cover (24) making it the most durable cabinet on the market today.

Each RA14 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 (25) 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 8). Each unit has been ran in cooling operation at 95°F and 82°F and sound ratings for the RA14 range from as low as 74 dBA to 77 dBA.

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

As manufactured all units in the RA14 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 RA14 has a 10-year conditional compressor and parts warranty (registration required).

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

3"/6"/12"

- Gray high density polyethylene feet are available to raise unit off of mounting surface away from moisture

Low Pressure

- Can be added in field enabling the unit to shut off compressor on loss of charge

NOTE: Unit can be purchased with high and low pressure installed at factory. (Refer to SKU list)

High Pressure

- Can be added in field enabling unit to shut off compressor if unit loses outdoor fan operation.

NOTE: Unit can be purchased with high and low pressure installed at factory. (Refer to SKU list)

Decorative Top

- Can be installed on fan grille

Air Conditioners*

R	A	14	24	A	J	1	N	A	*
Brand	Product Category	SEER	Capacity BTU/HR	Major Series*	Voltage	Type	Controls	Minor Series**	Option Code
Ruud	A - Air Conditioners	13 - 13 SEER 14 - 14 SEER 16 - 16 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 B - 2nd Design	J - 1ph, 208-230/60 C - 3ph, 208-230/60 D - 3ph, 460/60	1 - Single-stage 2 - Two-stage V - Inverter	C - Communicating N - Non-Communicating	A - 1st Design	N/A

*See page 3 for available SKU's.

Heat Pumps (For Reference)**

R	P	14	24	A	J	1	N	A	*
Brand	Product Category	SEER	Capacity BTU/HR	Major Series*	Voltage	Type	Controls	Minor Series**	Option Code
Ruud	P - Heat Pump	13 - 13 SEER 14 - 14 SEER 16 - 16 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)**

R	C	F	24	17	S	I	A	M	C	A	*
Brand	Product Category	Type	Capacity BTU/HR	Width	Efficiency	Metering Device	Major Series*	Orientation	Casing	Minor Series**	Option Code
Ruud	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. Available SKU's are listed on the standard features/available SKU page of model spec sheets.

[] Designates Metric Conversions

Physical Data

PHYSICAL DATA							
Model No.	RA1418A	RA1424A	RA1430A	RA1436A	RA1442B	RA1448A	RA1460A
Nominal Tonnage	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
Suction Line O.D. – in.	3/4	3/4	3/4	3/4	7/8	7/8	7/8
Refrigerant (R410A) furnished oz. ¹	68	72	12.1	106	121	129	162
Compressor Type	Scroll						
Outdoor Coil							
Net face area – Outer Coil	9.1	11.1	12.1	14.8	17.3	18.9	21.5
Net face area – Inner Coil	—	—	—	—	—	—	—
Tube diameter – in.	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Number of rows	1	1	1	1	1	1	1
Fins per inch	22	22	22	22	22	22	22
Outdoor Fan							
Diameter – in.	20	20	20	24	24	26	26
Number of blades	2	2	2	3	2	2	3
Motor hp	1/10	1/8	1/8	1/6	1/7	1/5	1/5
CFM	2225	2505	2605	3105	3670	4264	4139
RPM	1075	1075	1075	850	1075	820	850
watts	130	163	142	173	190	236	254
Shipping weight – lbs.	143	148	158	178	207	228	247
Operating weight – lbs.	122	141	151	171	200	221	240

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
Maximum overcurrent protection (amps) ²	20	25	25	30	40	45	50
Minimum circuit ampacity ³	13	15	17	19	24	27	32
Compressor							
Rated load amps	9.7	11.2	12.8	14.1	17.9	19.9	23.7
Locked rotor amps	48	60.8	64	77	112	109	152.5
Condenser Fan Motor							
Full load amps	0.6	0.8	0.8	0.8	0.8	1.2	1.4
Locked rotor amps	1.1	1.5	1.4	1.5	1.5	2.3	2.8
Line Voltage Data (Volts-Phase-Hz)	—	—	—	208/230-3-60	208/230-3-61	208/230-3-62	208/230-3-63
Maximum overcurrent protection (amps) ²	—	—	—	20	30	30	35
Minimum circuit ampacity ³	—	—	—	13	18	18	22
Compressor							
Rated load amps	—	—	—	9	13.2	13.1	15.9
Locked rotor amps	—	—	—	71	88	83.1	110
Condenser Fan Motor							
Full load amps	—	—	—	0.8	1.5	1.2	1.4
Locked rotor amps	—	—	—	1.5	0.8	2.3	2.8
Line Voltage Data (Volts-Phase-Hz)	—	—	—	480-3-60	480-3-60	480-3-60	480-3-60
Maximum overcurrent protection (amps) ²	—	—	—	15	—	15	15
³ Minimum circuit ampacity	—	—	—	8	—	9	10
Compressor							
Rated load amps	—	—	—	56	—	6.1	7.1
Locked rotor amps	—	—	—	38	—	41	52
Condenser Fan Motor							
Full load amps	—	—	—	.5	—	.6	.5
Locked rotor amps	—	—	—	1.1	—	1.6	1.4

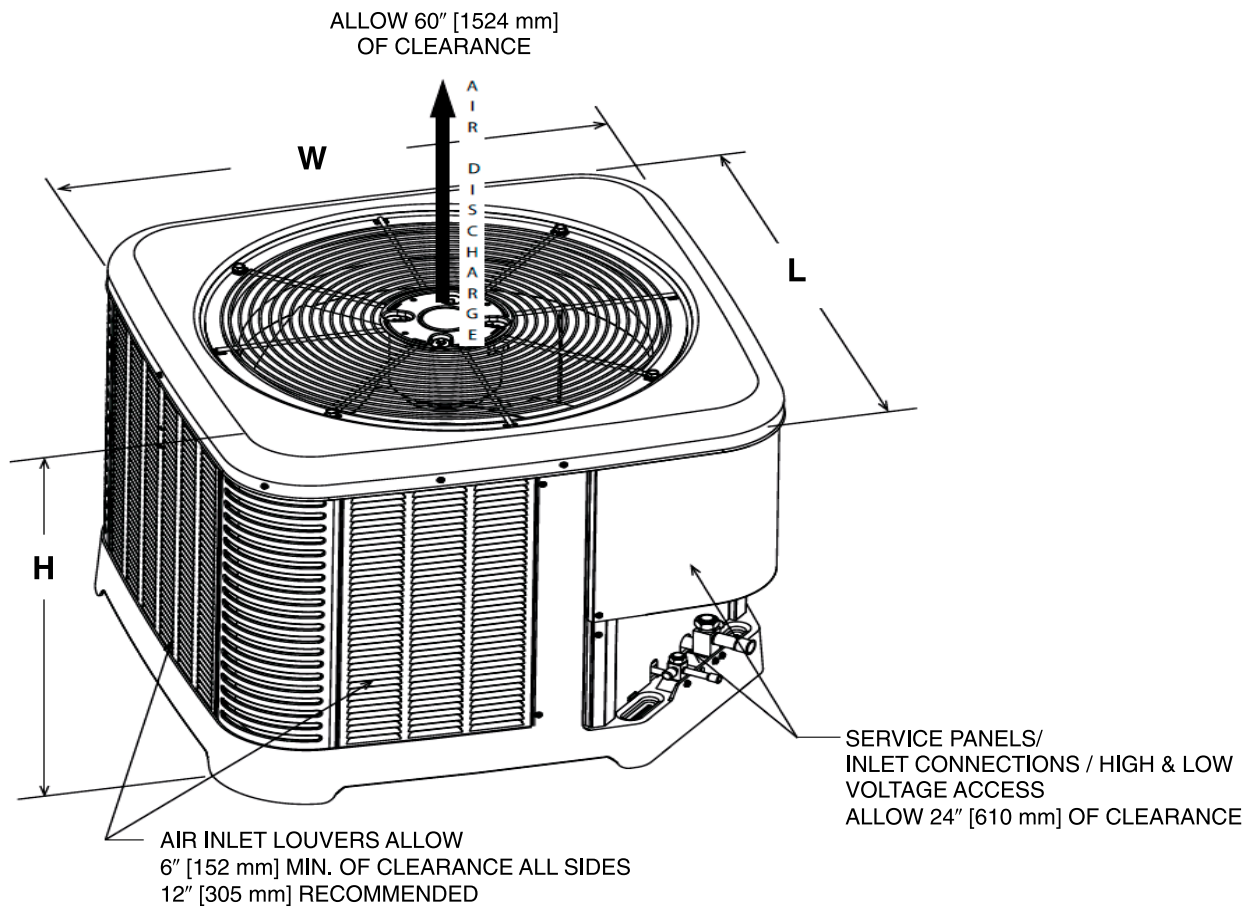
¹Refrigerant charge sufficient for 15 ft. length of refrigerant lines. For longer line set requirements see the installation instructions for information about set length and additional refrigerant charge required.

²HACR type circuit breaker or fuse.

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

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
RA1418A	25	635	29.75	755	29.75	755	26.75	679	32.38	822	32.38	822
RA1424A	25	635	29.75	755	29.75	755	26.75	679	32.38	822	32.38	822
RA1430A	27	685	29.75	755	29.75	755	28.75	730	32.38	822	32.38	822
RA1436A	27	685	33.75	857	33.75	857	28.75	730	36.38	924	36.38	924
RA1442B	31	787	33.75	859	33.75	859	32.75	832	36.38	924	36.38	924
RA1448A	31	787	35.75	908	35.75	908	32.75	832	38.38	975	38.38	975
RA1460A	35	889	35.75	908	35.75	908	36.75	933	38.38	975	38.38	975



[] Designates Metric Conversions

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