



Russell[®]
By Rheem

PROJECT NAME _____
LOCATION _____
ARCHITECT _____
ENGINEER _____
CONTRACTOR _____
SUBMITTED BY _____ DATE _____

UNIT SUMMARY

Quantity						
Unit Designation						
Model No.						
Total Cooling						
Sensible Cooling						
Air Ent. Evaporator						
Air Lvg. Evaporator						
Heating Input						
Heating Output						
CFM/ESP						
EER/SEER						
Electrical						
Minimum Ampacity						
Min.-Max. Breaker						
Net Unit Weight						
Accessory						
Catalog Form Number						

ACCESSORIES:

NOTES:

Vantix™ Line RD18AY Side-Discharge Universal Heat Pumps
Cooling Efficiencies up to: 19 SEER2 / 13 EER2
Heating Efficiencies up to: 10 HSPF2
Nominal Sizes: 2 to 5 Tons [7.0 to 17.6 kW]
Cooling Capacities 22.8 to 53.0 kBTU [6.7 to 16.1 kW]
Refrigerant Type: R-454B

JOB NAME _____ LOCATION _____
 CONTRACTOR _____ ORDER NO. _____
 ENGINEER _____ UNIT MODEL NO. _____
 SUBMITTED FOR APPROVAL RECORD COIL MODEL NO. _____
 DATE _____ AIR HANDLER MODEL NO. _____

UNIT DATA

COOLING PERFORMANCE

EFFICIENCY SEER
 TOTAL CAPACITY* MBH [kW]
 SENSIBLE CAPACITY* MBH [kW]
 OUTDOOR DESIGN TEMP..... °F [°C] DB
 TEMP. OF AIR ENTERING
 EVAPORATOR COIL °F [°C] DB
 °F [°C] WB
 POWER INPUT REQUIREMENT kW
 (*uses blower motor heat)

HEATING PERFORMANCE

EFFICIENCY HSPF
 TOTAL CAPACITY* MBH [kW]
 OUTDOOR DESIGN TEMP..... °F [°C] DB
 TEMP. OF AIR ENTERING
 EVAPORATOR COIL °F [°C] DB

SUPPLY AIR BLOWER PERFORMANCE

TOTAL AIR SUPPLY..... CFM [L/s]
 TOTAL RESISTANCE EXTERNAL
 TO UNIT IWG
 BLOWER SPEED..... RPM
 POWER OUTPUT REQUIREMENT BHP
 MOTOR RATING HP [W]
 POWER INPUT REQUIREMENT kW

ELECTRICAL DATA

POWER SUPPLY Hz
 TOTAL UNIT AMPACITY..... AMPS
 MINIMUM WIRE SIZE AWG
 MAXIMUM OVERCURRENT DEVICE
 FUSES/HACR BREAKER AMPS

CLEARANCES

ACCESS SIDE 24" [609.6 mm]
 AIR INLETS 12" [304.8 mm]
 ABOVE UNIT 60" [1524 mm]



FEATURES

- Flexible and Universal Install Compatibility:**
 - Works with nearly any R-454B HVAC System—including EcoNet® Enabled systems and non-communicating systems
 - Install with any indoor system component via an algorithm (**IMPORTANT:** the indoor system component CFM must match the requirement of the outdoor system component)
 - Install as a Universal Replacement with minimal alterations (**R-454B coil only**—with TXV)
- Space Saver Solution:** The RD18AY—with footprint options as low as 36.6" tall and 40.2" wide—is ideal for when installation locations are constrained; but is also perfect for any system or replacement option where an efficient, streamlined look is desired
- Quiet Operation as low as 50dB¹:** Offers sound dampening features such as a sound blanket, refrigerant tubing design, fan blade approach and innovative compressor and drive technologies—ensure that as efficiency goes up, sound levels stay low
- EcoNet® Enabled²:** Automatic system configuration and optimization
- Diagnostics & Bluetooth³, 4 Connectivity:** With the Contractor & EcoNet® Apps, built-in technology makes advanced set-up, monitoring, troubleshooting, and repairing the product easier than ever before
- Variable Speed Twin Rotary Compressor & Inverter Drive:**
 - Features variable speed operation from 45 to 100% capacity with the EcoNet® Smart Thermostat or with legacy and other thermostats when the utility 1 & 2 jumpers are installed or using the algorithm⁵
 - Provides precise temperature control, advanced humidity control and greater efficiency
- Brushless DC Condenser Motors (BLDC):** Enhances reliability and allows for easier serviceability
- Swept Wing Fan Technology:** Features quieter operation and improved unit acoustics
- 7mm Condenser Copper Coil:** Requires less refrigerant allowing for a smaller and lighter footprint while enhancing reliability
- Optional Base Pan Heater:** Utilizes a built-in thermostat to regulate the heating operation to prevent ice build-up on the base pan during extreme cold weather conditions
- Traditional Refrigerant Piping:** Allows for use of existing refrigerant line sets for further ease of replacement installation flexibility
- 10-Year Conditional Parts Warranty (registration required):** Coverage when installed as a heat pump only or as part of a system—with no AHRI matched system requirement
- Qualifies for Federal Incentives (conditions apply):**
 - Federal Tax Credit compliant system combinations across all product tonnages (effective through 12/31/32)—up to \$2000 for qualified heat pumps



FEATURES (Con't.)

- **Refrigerant Detection System⁶:** 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 the any 24V thermostat application and system protection by automatically pausing outdoor unit operation—if excess refrigerant is detected
- **Designing for Sustainability with Low GWP:** For 2025, the Environmental Protection Agency (EPA) has set a global warming potential (GWP) limit of 700 for refrigerant used in heating and cooling systems. This new requirement will result in a 78%⁷ lower GWP than previous-generation refrigerants—with only minimal changes to system installation. For us, this is another step toward our continued sustainability goal of reducing greenhouse gas emissions, while still delivering an exceptional level of energy efficient, dependable comfort

ACCESSORIES/OPTIONS

- Compressor Crankcase Heater.....
- Base Pan Connector Kit (45-110492-01).....
- Liquid Line Solenoid (24 VAC, 50/60 Hz).....
- Liquid Line Solenoid (120/240 VAC).....
- Low Ambient Control.....
- Compressor Sound Cover.....

¹Based on Internal R&D Testing, 2023 Sound levels are also dependent on proper installation and location of outdoor product. ²When installed as part of a complete AHRI-matched, EcoNet[®] Enabled system. ³The Bluetooth[®] word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by is under license. Other trademarks and trade names are those of their respective owners. ⁴When installed as part of a complete system where both the outdoor & indoor components feature Bluetooth[®] Technology. ⁵Two-Stage (70% & 100% capacity) operation when installed with legacy and other thermostats when the utility 1 & 2 jumpers are not installed. The 2-Ton model features a single rotary compressor. ⁶Factory 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). ⁷When comparing the GWP of R-454B to R-410A refrigerant.

RD18AY

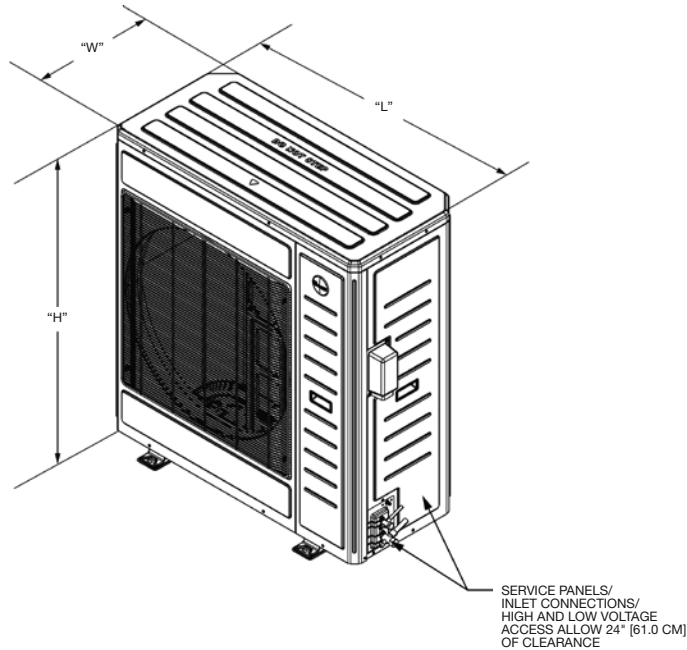


Illustration
A1345-02-00

Unit Dimensions

MODEL NO.	OPERATING						SHIPPING					
	H (Height)		L (Length)		W (Width)		H (Height)		L (Length)		W (Width)	
	INCHES	cm	INCHES	cm	INCHES	cm	INCHES	cm	INCHES	cm	INCHES	cm
RD18AY24AJVCA	36.6	93.0	40.4	102.6	19.8	50.3	43.31	110.0	48.43	123.0	22.05	56.0
RD18AY36AJVCA	46.4	117.8	42.3	107.4	22.8	57.8	53.94	137.0	50.00	127.0	25.00	63.5
RD18AY48AJVCA	58.0	147.3	40.4	102.6	19.8	50.3	65.16	165.5	48.43	123.0	22.05	56.0
RD18AY60AJVCA	58.0	147.3	40.4	102.6	19.8	50.3	65.16	165.5	48.43	123.0	22.05	56.0

[] Designates Metric Conversions

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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