

YEAR-ROUND COMFORT

STARTS HERE

Air | Side-Discharge
Universal Heat Pump
RD18AY



ENDEAVOR[®]

Ruud[®] Endeavor[®] Line *Ultra[™] Series*

Compatible with nearly any existing R-454B HVAC system—or as a universal replacement¹—the EcoNet[®] enabled Ruud Endeavor Line *Ultra[™]* Series RD18AY Universal Heat Pump excels in all install situations. And as part of our Sound & Space Constraint Solution, it features a compact footprint, making it the perfect solution when space is at a premium.

Ruud.com/Endeavor



Most Efficient
2025
www.energystar.gov



Sound and Space
Constraint Solution



RELY ON RUUD.™



Comfort & Efficiency

Innovation You Can Count On

Patented industry-first features and 360+1 design make the Ruud Endeavor RD18AY a smart choice.



Peace-Of-Mind Performance

Relax, you're covered by one of the best warranties in the industry²—10 Year Conditional Parts when installed as a heat pump only or as part of a system.



Energy Savings

Just like a vehicle's MPG rating, the higher the SEER2, EER2 and HSPF2 rating (Seasonal Energy Efficiency Ratio / Energy Efficiency Ratio / Heating Seasonal Performance Factor), the higher the efficiency of your heat pump—resulting in more energy savings. Keep in mind, other factors such as system matching, sizing, ductwork and installation also impact the overall efficiency. By working with a properly trained contractor, you can be confident that you are choosing the best heating and cooling system for your home's comfort—and your finances.



Ultimate Comfort

Inverter driven, variable speed, twin rotary compressor technology features fully variable cooling and heating operation between 45% and 100% of capacity³ to continuously meet your ever-changing needs. You'll enjoy exact temperature and advanced humidity control that combine to exceed your optimal comfort expectations.



Reduced Emissions

Households generate 72%⁴ of greenhouse gas emissions, so switching to a heat pump can make a big difference for the environment—today.



Less Environmental Impact

The 7mm condenser coil reduces refrigerant requirements up to 15%. This lowers the amount of greenhouse gases emitted while contributing to our sustainability goal of a 50% reduction in our greenhouse gas footprint.⁵ A win for all of us.



Universal Install Compatibility

The RD18AY works with nearly any R-454B HVAC system option—including Ruud EcoNet enabled and non-communicating systems, or as a universal replacement with minimal alterations required.¹ Whether your choice is driven by space or sound constraints, electrification initiatives or dual fuel opportunities—this is the comfort solution for you.



Space-Saver Solution

Part of our Sound & Space Constraint Solution, the *Ultra Series Side-Discharge Universal Heat Pump* is the ideal product for when installation locations are cramped. It features a small footprint with size options as low as 40.2" wide, 16.4" deep and 36.6" tall. This unit was designed to deliver whole-home comfort quietly and efficiently—further proof that good (and quiet) things come in small packages.



Rugged Curb Appeal

Steel panels provide excellent support and protection to internal components, while the overall modern cabinet aesthetics, including the powder coat paint system and rust-resistant screws, allow your unit to put its best face forward for years to come.



Quiet Operation

Efficient home comfort shouldn't be noisy. That's why our heat pumps are designed with acoustics in mind. Sound-dampening features such as refrigerant tubing design, fan blade approach and innovative compressor and drive technologies ensure that as efficiency goes up, sound levels stay low—as low as 50 dB.⁶

SOUND RATING

30	Soft Whisper
40	Light Rain
50	Refrigerator Hum
60	Normal Conversation
70	Washing Machine
80	Alarm Clock

THIS MODEL ▶

ENDEAVOR



To learn more visit
Ruud.com/Endeavor

Made Universal



A Smart Way to Live Both Comfortably & Sustainably

Many Ruud products have sustainability features, but the RD18AY has earned our Sustainability Standout® seal, indicating it's among the best of the best. We created the seal to help you more easily find the products that save energy, save money and save the planet.



Among Heat Pumps, This One's A Star[®]

Earning ENERGY STAR® recognition means products meet strict energy efficiency guidelines set by the U.S. Environmental Protection Agency. ENERGY STAR certified heating and cooling equipment can enhance the comfort of your home while saving energy—which saves money on utility bills and protects our climate by reducing harmful carbon pollution and other greenhouse gases.



ENDEAVOR[®]

AVAILABLE MODELS

Model No.	Description
RD18AY24AJVCA	2 ton
RD18AY36AJVCA	3 ton
RD18AY48AJVCA	4 ton
RD18AY60AJVCA	5 ton



The Ruud Endeavor RD18AY—when installed as part of a complete AHRI-matched, Ruud EcoNet-enabled system—operates with the easy-to-use EcoNet Smart Thermostat, which optimizes system performance and provides a new level of protection and precision comfort **with features like:**

- Communication with latest sensor technology
- Control of your thermostat from anywhere via the EcoNet App⁹
- Alerts sent directly to your phone or email



EcoNet Mobile App



EcoNet Smart Thermostat



General Data

ENDEAVOR®



To learn more visit
Ruud.com/Endeavor



GENERAL DATA				
Model No.	RD18AY24AJVCA	RD18AY36AJVCA	RD18AY48AJVCA	RD18AY60AJVCA
Nominal Tonnage	2	3	4	5
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.	76	141	194	222
Coil Type	7mm	7mm	7mm	7mm
Outdoor Coil				
Net Face Area – Outer Coil – sq. ft.	11.0	15.1	17.2	17.2
Net Face Area – Inner Coil – sq. ft.	N/A	15.1	17.2	17.2
Tube Diameter – in.	0.276	0.276	0.276	0.276
Number of Rows	1	2	3	3
Fins Per Inch	18	18	16	16
Outdoor Fan				
Diameter – in.	26	28	24	24
Number of Blades	3	3	3	3
Motor HP	1/2	1/2	1/3	1/3
Number of Fans	1	1	2	2
CFM	3,175	2,820	4,350	5,400
RPM	550	450	550	675
Watts	115	106	191	327
Shipping Weight – lbs.	205	272	347	354
Operating Weight – lbs.	177	230	296	306



Unit Dimensions &

ENDEAVOR



To learn more visit
Ruud.com/Endeavor

UNIT DIMENSIONS						
Model No.	OPERATING			SHIPPING		
	Height in. (mm)	Length in. (mm)	Width in. (mm)	Height in. (mm)	Length in. (mm)	Width in. (mm)
RD18AY24AJVCA	36.6 (930)	40.4 (1,026)	19.8 (503)	43.31 (1,100)	48.43 (1,230)	22.05 (560)
RD18AY36AJVCA	46.4 (1,178)	42.3 (1,074)	22.8 (579)	53.94 (1,370)	50 (1,270)	25 (635)
RD18AY48AJVCA	58.0 (1,473)	40.4 (1,026)	19.8 (503)	65.16 (1,655)	48.43 (1,230)	22.05 (560)
RD18AY60AJVCA	58.0 (1,473)	40.4 (1,026)	19.8 (503)	65.16 (1,655)	48.43 (1,230)	22.05 (560)



2 ton
RD18AY24AJVCA



3 ton
RD18AY36AJVCA



4 ton
RD18AY48AJVCA



5 ton
RD18AY60AJVCA

Available Accessories

ACCESSORIES					
Model No.		RD18AY24AJVCA	RD18AY36AJVCA	RD18AY48AJVCA	RD18AY60AJVCA
Compressor Crankcase Heater		44-103663-15	44-103663-15	44-103663-15	44-103663-15
Base Pan Heater Connector Kit*		45-110492-01	45-110492-01	45-110492-01	45-110492-01
Low Ambient Control		Included	Included	Included	Included
Compressor Sound Cover		Included	Included	Included	Included
Low Pressure Control		Included	Included	Included	Included
High Pressure Control		Included	Included	Included	Included
Liquid Line Solenoid (24 VAC, 50/60 Hz)	Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC
	Coil	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V
Liquid Line Solenoid (120/240 VAC, 50/60 Hz)	Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC
	Coil	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V

*Required for heating element commissioning.

We Thought of Everything... & Then Some



We evaluate every detail of a product from top to bottom, inside and out and every angle in between. That's 360+1. And that's why you can count on this heat pump to bring you and your family years of efficient and dependable comfort.



TESTED. TRUSTED. TOUGH.

From the smallest part to complete comfort systems, we engineer quality into everything we make to be sure it's tough enough to deliver the ultimate performance you count on day after day, year after year. That reliability is what makes Ruud different—and better.

ENDEAVOR[®]



Simplified Install & Service with Bluetooth Technology

Built-in Bluetooth[®] connectivity makes it faster and easier for your contractor to install and service your new system.¹⁰ This can help lower your costs and help make your home comfortable again—fast.



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%¹¹ 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.

Federal Incentives Available (conditions apply)

As part of the Inflation Reduction Act of 2022, homeowners may be eligible for up to \$2,000 for qualified heat pumps as part of the Energy Efficient Home Improvement Federal Tax Credit (Tax Section 25C). The RD18AY also meets the High Efficiency Electric Home Rebate Program criteria and may qualify for additional funds—dependent on state participation and household income.

Visit Ruud.com/Federal-Incentives for complete details and conditions.



Ruud.com

Innovating Since 1925

As the only brand bringing innovative air and water solutions to homes and businesses around the world, Ruud continues to deliver advanced comfort, savings and experiences to our customers—just as we've done since 1925.

FEATURES AT A GLANCE

Cooling & Heating Efficiencies Up To:
19 SEER2 / 13 EER2 / 10 HSPF2

Nominal Sizes: 2 to 5 Tons

Cooling & Heating Capacities:
22.8 to 53 kBTU

EcoNet[®] Enabled: Yes¹²

Sound Rating⁶: As low as 50 dB

Compressor Type: Inverter Driven,
Variable Speed³ Twin Rotary

Condenser Coil Type: 7mm

Operating Range:

Cooling: 50–125°F

Heating: -22–70°F

Refrigerant Type: R-454B

PlusOnes:



PlusOne[®] Variable Speed Twin Rotary Compressor & Inverter Drive – Variable speed operation with EcoNet[®] Smart Thermostat or legacy and other thermostats^{3,12}



PlusOne Diagnostics¹⁰ – Bluetooth technology aids in quick & easy service



PlusOne Refrigerant Detection System[™] 13– Integrated, patented design providing system protection and homeowner peace-of-mind with low GWP refrigerant monitoring

Additional Standard Features:

- Filter Drier (Field-installed)
- Front Seating Service Valves
- Internal Pressure Relief Valve
- Powder Coated Paint
- Rust-resistant Screws
- Optimized Venturi Airflow
- External Gauge Ports
- Easy Accessibility
- Base Pan Heating Element

(Commissioning Kit Required)

Limited Warranty²:

Conditional Parts – 10 Years

(registration required—no AHRI-matched system requirement)



Ruud USA

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Rheem Sales Company, Inc. manufactures the Ruud brand of residential heating & cooling products. In keeping with its policy of continuous progress and product improvement, Rheem reserves the right to make changes without notice.

¹R-454B coil only – with TXV, with minimum alterations. ²For complete details of the limited and conditional warranties, including applicable terms and conditions, contact your local Contractor or go to Ruud.com for a copy of the product warranty certificate; warranty applies to a heat pump only or system installation; Does not require the heat pump to be part of a properly matched system as specified by the Manufacturer and the Air Conditioning Heating & Refrigeration Institute (AHRI). ³When installed with the EcoNet Smart Thermostat or with legacy and other thermostats when the utility 1 and 2 jumpers are installed. Features two-stage (70% and 100% capacity) operation when installed with legacy and other thermostats when the utility 1 and 2 jumpers are not installed; The 2-ton model features a single rotary compressor. ⁴Residential Building Electrification in CA: Consumer economics, greenhouse gases and grid impacts, April 2019. ⁵Rheem's goal is to release by 2025 a line of heating, cooling, and water heating products that reduce greenhouse gas emissions by 50% as compared to products available in 2019. Reduction calculations will be based on the products' use phase emissions only and utilize average emission factors to account for variability in electricity grids. Reduction calculations will not consider upstream or manufacturing impacts, but use phase emissions account for the majority of the products' impact. At this time, these figures have not been independently verified by a third party. ⁶Based on Internal R&D Testing, 2024. Sound levels are also dependent on proper installation and location of outdoor product. ⁷When installed as part of a complete AHRI-matched Ruud EcoNet-enabled system; Does not apply to coil-only matched systems. ⁸Valid for qualifying AHRI-matched Ruud systems; Proper sizing and installation of equipment is critical to achieve optimal performance. Ask your contractor for details or visit EnergyStar.gov. ⁹Wi-Fi 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 Wi-Fi setup. Amazon, Alexa and all related logos are trademarks of Amazon.com, Inc. or its affiliates. ¹⁰When installed as part of a complete Ruud system where both the outdoor and indoor components feature Bluetooth technology. ¹¹When comparing the GWP of R-454B to R-410A refrigerant. ¹²When installed as part of a complete AHRI-matched Ruud EcoNet-enabled system. ¹³Factory- 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).

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