



## Endeavor® Line Air Handlers



### **RHMOVZ**

Motor: Constant CFM

Airflow Stages: Modulating

Efficiencies: 18+ SEER2

Expansion Device: Electronic Expansion Valve (EEV)



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## Features and Benefits

- **Constant CFM Motor:** Truly variable speed technology allows for ultimate humidity control, quieter sound levels and contributes to year-round energy savings
- **Quietest Operation<sup>1</sup>:** Provided by Modulating operation and truly variable speed airflow technology and sturdy cabinet construction with 1.0 inch of foil faced insulation for some of the quietest sound characteristics
- **PlusOne® Diagnostics:** With the Ruud Contractor & EcoNet® Apps, built-in EcoNet® & Bluetooth<sup>2</sup> technology makes monitoring, troubleshooting and repairing the product easier than ever before
- **Dip Switch Free Installation Commissioning via Bluetooth Technology:** Seamless final install step without DIP switch configuration using the Ruud Contractor App.
- **EcoNet® Enabled Air Handler:**
  - The latest in sensor technology and the EcoNet® monitoring system provides a new level of protection, control and energy savings
  - Allows on-the-go control and receipt of system alerts by the homeowner via the EcoNet® Smart Thermostat and EcoNet® App<sup>3</sup>
- **Aluminum Indoor Coil Design:** Are constructed of aluminum fins bonded to internally grooved aluminum tubing and are more corrosion resistant
- **Versatile 4-Way Convertible Compact Design:** Allows for upflow, downflow, horizontal left and horizontal right applications, even in the smallest of spaces
- **Rugged Steel, Compact Cabinet Construction:** Designed for added strength and versatility
- **Field-installed Auxiliary Heater Kits:** Provide exact heat for indoor comfort and include circuit breakers which meet UL and cUL requirements for service disconnect
- **Less than 2% Cabinet Air Leakage at 1-inch H<sub>2</sub>O:** When tested in accordance with ASHRAE Standard 193

<sup>1</sup>Based on manufacturer's air handler offering, and the product's airflow stages, motor type and cabinet insulation. Sound levels are also dependent on air handler location and installation. <sup>2</sup>The 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. <sup>3</sup>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. Amazon, Alexa and all related logos are trademarked of Amazon.com, Inc. or its affiliates.

# Air Handlers

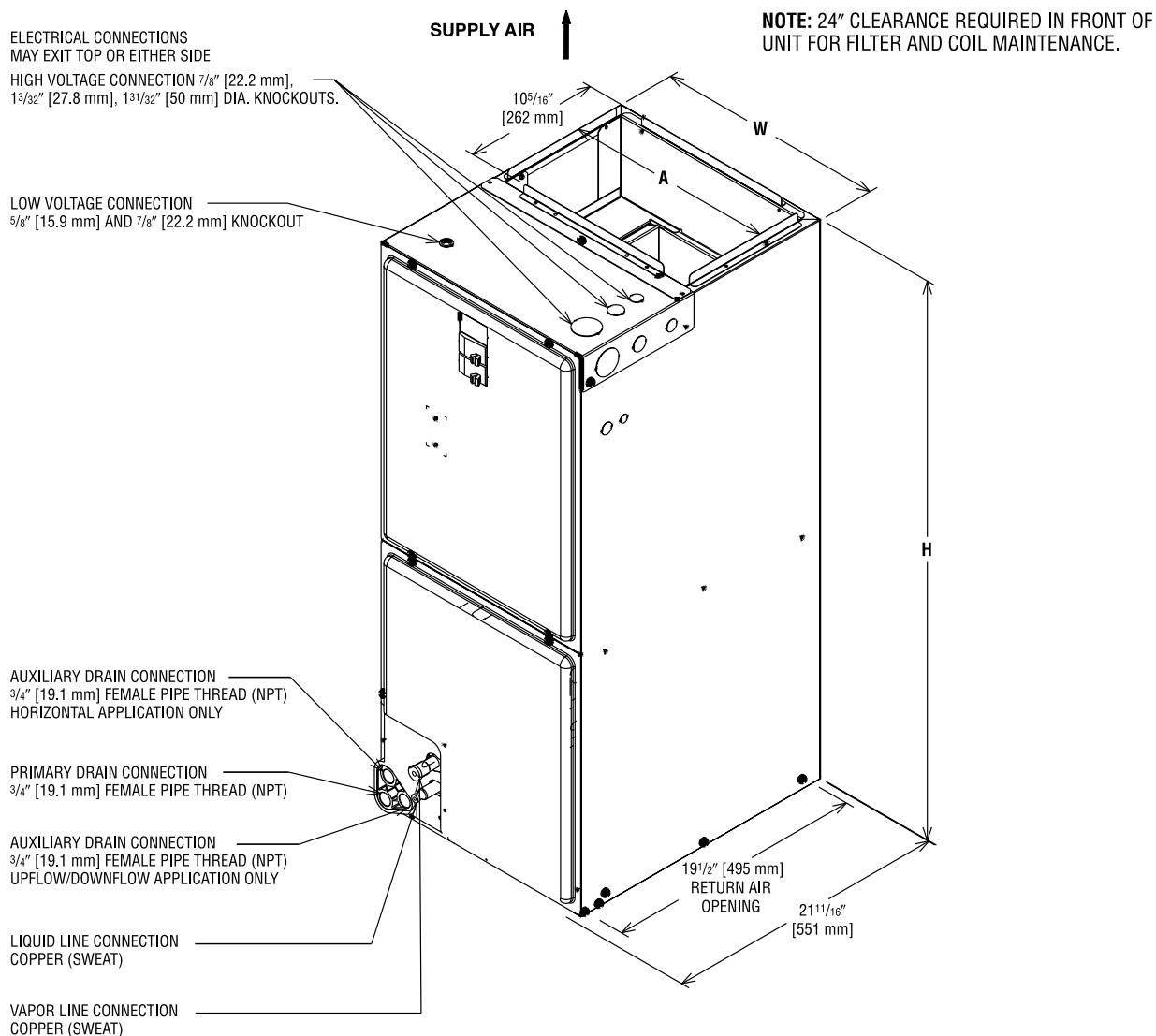
<u>R</u>	<u>H</u>	<u>M</u>	<u>V</u>	<u>Z</u>	<u>24</u>	<u>17</u>	<u>S</u>	<u>E</u>	<u>A</u>	<u>C</u>	<u>N</u>	<u>J</u>
Brand	H	Stages Of Airflow	Motor Type	Refrigerant	Capacity	Width	Efficiency	Metering	Major Series	Controls	Coil Series	Voltage
R - Ruud	H - Multipoise Air Handler	M - Modulating	V - Constant CFM	Z - R-410A	24 - 24,000 [7.03 kW] 60 - 60,000 [17.58 kW]	17 - 17.5" 21 - 21" 24 - 24.5"	S - Standard M - Mid H - High	E - EEV	A - 1st Design	C - Communicating	A - A Coil N - N Coil	J - 208-240/1/60

[ ] Designates Metric Conversions

Available Models
RHMVZ2417SEACNJ
RHMVZ2421HEACNJ
RHMVZ2421MEACNJ
RHMVZ2421HEACAJ
RHMVZ6021SEACAJ
RHMVZ6024SEACNJ

Standard Equipment
Compact unit design - all standard heat air handler models are only 42-1/2 to 57 inches [1079 to 1448 mm] high
Attractive pre-painted cabinet exterior
Rugged wall steel cabinet construction
1.0" foil faced insulation for excellent thermal and sound performance
Four leg blower motor mount
Blower housing with controls, motor and blower.
Slide-out blower design for service & maintenance convenience
Traditional open wire element design for heat applications
Field convertible for vertical, downflow, horizontal left hand or right hand air supply
Indoor coil desing provideds low air side pressure drop, high performance and compact size
Coils constructed of aluminum fins bonded to internally grooved aluminum tubing
Coils are tested at the factory with an extensive refrigerant leak check
Coils have copper sweat refrigerant connections
Coils utilize chatleff metering device connections
Molded poymer corrosion resistant condensate drain pan on all indoor coils
Supply duct flanges
Provisions for field electrical, connections available form either side of top of cabinet
Connection point for high and low voltage wiring
Concentric knockouts are provided for power connection

## Unit Dimensions



### Return Air Opening Dimensions

Model Cabinet Size	Return Air Opening Width (Inches)	Return Air Opening Depth/Length (Inches)
17	15 7/8	19 3/4
21	19 3/8	19 3/4
24	22 7/8	19 3/4

## Unit Dimensions & Weights

Model Size RHMVZ	Refrigerant Connections Sweat (In.) [mm] ID		Unit Width "W" In. [mm]	Unit Height "H" In. [mm]	Supply Duct "A" In. [mm]	Unit Weight/ Shipping Weight (Lbs.) [kg]
	Liquid	Vapor				
2417SEACN	3/8 [9.53]	3/4 [19.05]	17 1/2 [445]	42 1/2 [1080]	16 [406]	91/105 [41/48]
2421MEACN	3/8 [9.53]	3/4 [19.05]	21 [533]	42 1/2 [1080]	19 1/2 [495]	103/118 [47/54]
2421HEACN	3/8 [9.53]	7/8 [22.23]	21 [533]	50 1/2 [1282]	19 1/2 [495]	123/139 [56/63]
2421HEACA	3/8 [9.53]	7/8 [22.23]	21 [533]	57 [1448]	19 1/2 [495]	140/152 [64/69]
6021SEACA	3/8 [9.53]	7/8 [22.23]	21 [533]	57 [1448]	19 1/2 [495]	140/152 [64/69]
6024SEACN	3/8 [9.53]	7/8 [22.23]	24 1/2 [622]	55 1/2 [1410]	23 [584]	159/176 [72/80]

[ ] Designates Metric Conversions

FIGURE 6  
VERTICAL DOWNFLOW & HORIZONTAL RIGHT APPLICATION

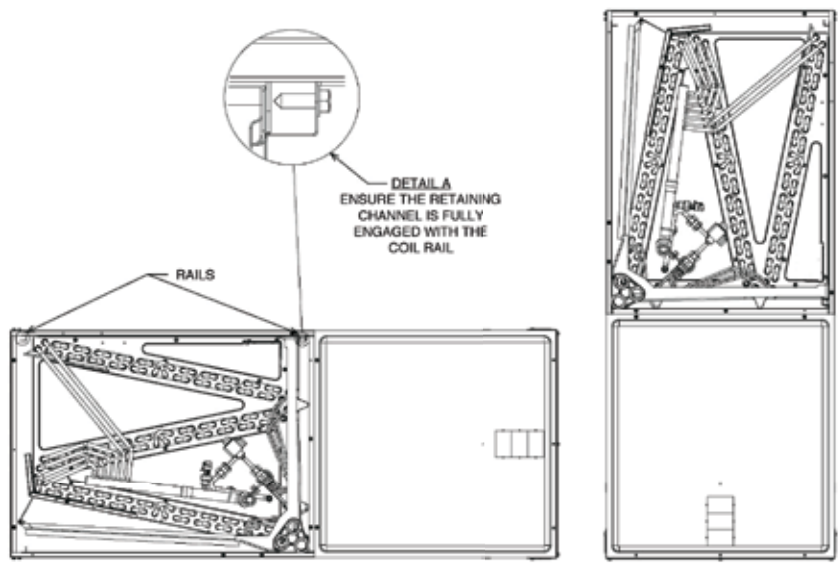
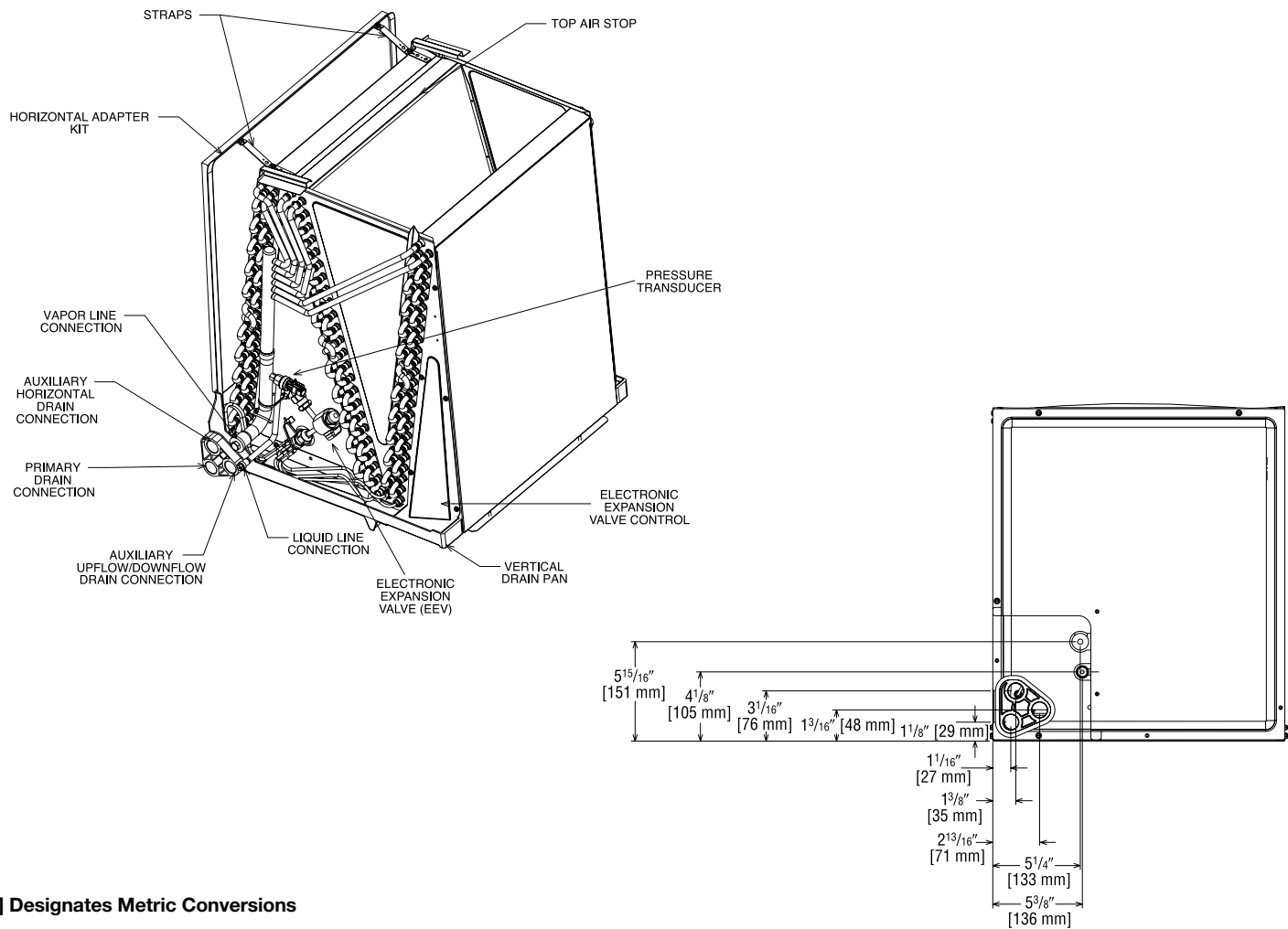
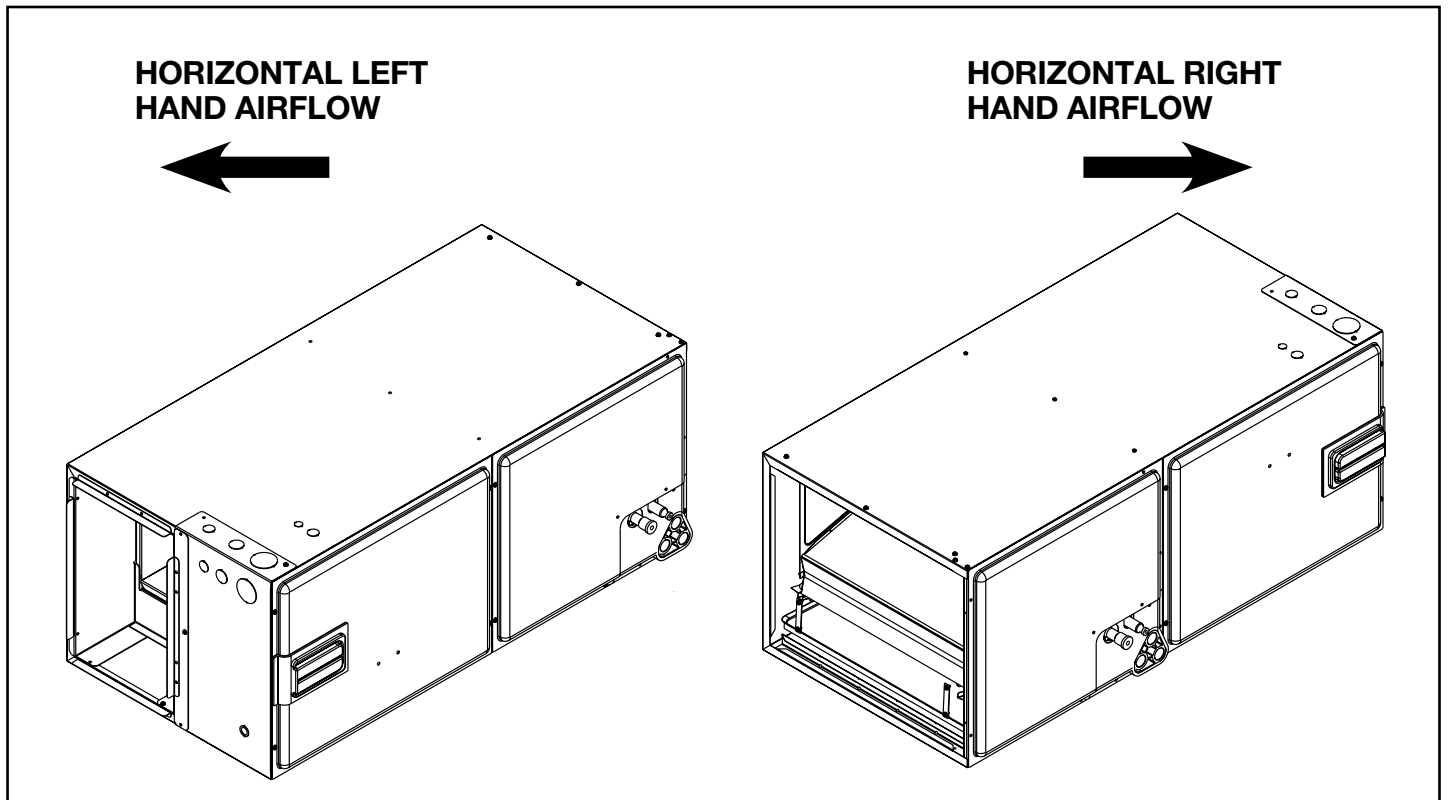
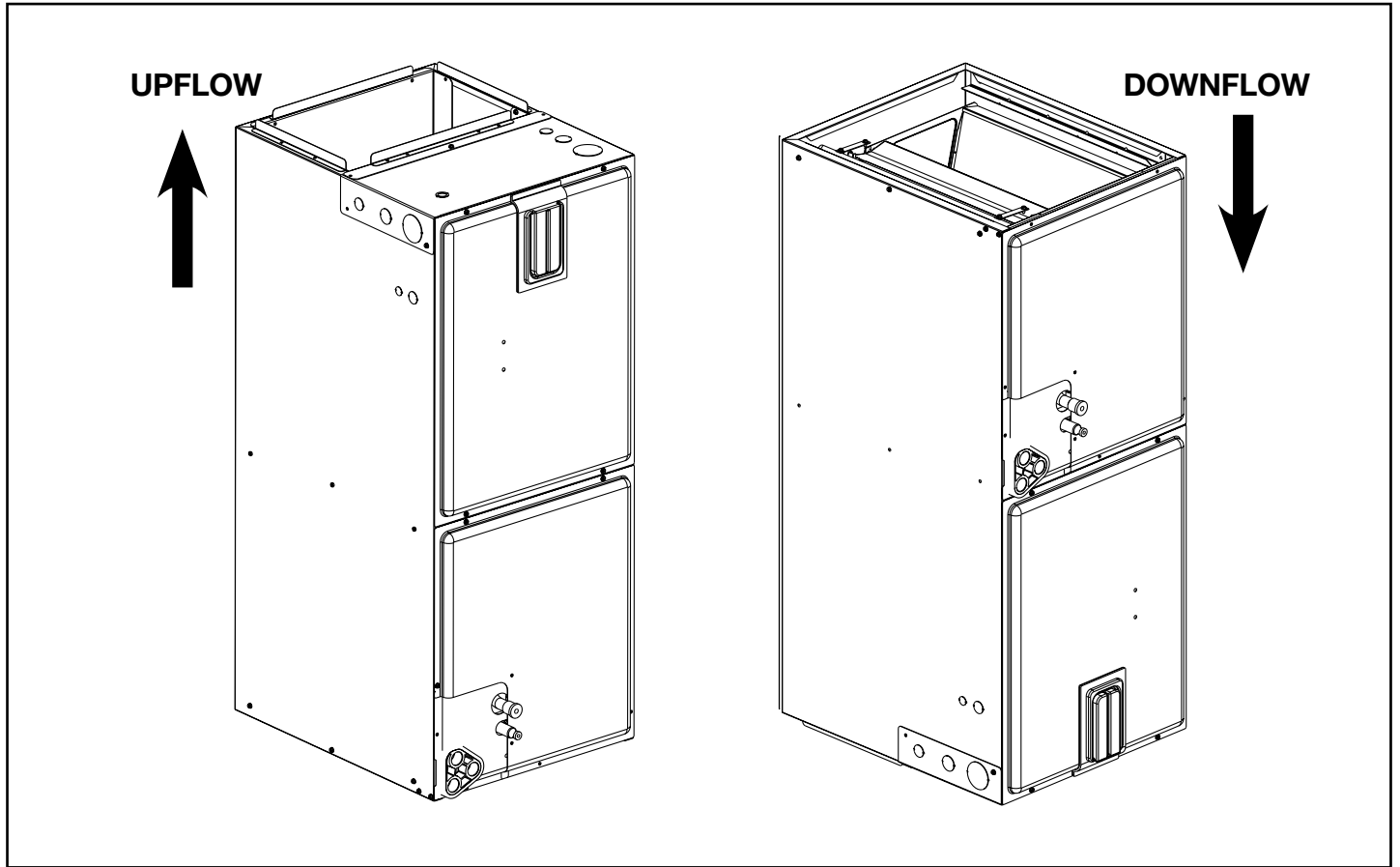


FIGURE 7  
INDOOR COIL AND DRAIN PAN SET-UP



## Airflow Directional Data



Airflow Performance

Airflow performance data is based on cooling performance with a coil and no filter in place. Select performance table for appropriate unit size, voltage and number of electric heaters to be used. Make sure external static applied to unit allows operation within the minimum and maximum limits shown in

table below for both cooling and electric heat operation. For optimum blower performance, operate the unit in the .3 [8 mm] to .7 inches [18 mm] W.C. external static range. Units with coils should be applied with a minimum of .1 inch [3 mm] W.C. external static range.

Airflow Operating Limits

Rated Airflow for RHMVZ Air-Handlers + RA18 Condensing Units & RP18 Heat Pumps					
Air Handler Model	Outdoor Model	RHMVZ Air-Flow (EcoNet®)			
		Cooling Mode CFM [L/s]		Heating Mode CFM [L/s]	
		Minimum	Maximum	Minimum	Maximum
RHMVZ2417SEACN	RA18AZ24	310 [146]	840 [396]	—	—
RHMVZ2421MEACN	RA18AZ24	310 [146]	840 [396]	—	—
RHMVZ2421HEACN	RA18AZ24	310 [146]	840 [396]	—	—
RHMVZ2421HEACA	RP18AZ24	500 [236]	800 [378]	600 [283]	800 [378]
RHMVZ6021SEACA	RA18AZ36	580 [274]	1210 [571]	—	—
	RA18AZ48	475 [224]	1565 [739]	—	—
	RA18AZ60	516 [244]	1725 [814]	—	—
	RP18AZ36	516 [244]	1200 [566]	960 [453]	1300 [614]
	RP18AZ48	550 [260]	1600 [755]	950 [448]	1500 [708]
	RP18AZ60	1100 [519]	1700 [802]	1100 [519]	1800 [850]
RHMVZ6024SEACN	RA18AZ36	500 [236]	1125 [531]	—	—
	RA18AZ48	600 [283]	1500 [708]	—	—
	RA18AZ60	600 [283]	1700 [802]	—	—
	RP18AZ60	600 [283]	1700 [802]	1100 [519]	1800 [850]

[ ] Designates Metric Conversions



## Electrical Data – Blower Motor Only – No Electric Heat RHMVZ

Model RHMVZ	Voltage	Phase*	Hertz	HP [W]	RPM	Motor Amps.	Minimum Circuit Ampacity	Maximum Overcurrent Protection
2417SEACN	208/240	1	60	1/3	300-1300	2.8	4	15
2421MEACN		1		1/3		2.7	4	15
2421HEACN		1		1/2		3.5	5	15
2421HEACA		1		3/4		5.7	8	15
6021SEACA		1		3/4		5.7	8	15
6024SEACN		1		3/4		5.2	7	15

## Electrical Data – With Electric Heat RHMVZ

Air Handler Model	Heater Model Number	Heater kW (208/240V)	Ph/Hz	No. Elements - kW per	Type Supply Circuit Single Circuit Multiple Circuit	Heater Circuit Amps	Tested Blower Motor Amps	Minimum Circuit Ampacity	Maximum Overcurrent Protection
RHMVZ2417SEACNJ	RXBH-1724?03J-B	2.3/3.0	1/60	1-3.0	SINGLE	11.1/12.5	2.8	18/20	20/20
	RXBH-1724?05J-B	3.6/4.8	1/60	1-4.8	SINGLE	17.4/20	2.8	26/29	30/30
	RXBH-1724?07J-B	5.4/7.2	1/60	2-3.6	SINGLE	26/30	2.8	36/41	40/45
	RXBH-1724?10J-B	7.2/9.6	1/60	2-4.8	SINGLE	34.7/40	2.8	47/54	50/60
	RXBH-1724A13J-B	9.4/12.5	1/60	3-4.17	SINGLE	45.2/52.1	2.8	60/69	60/70
		3.1/4.2	1/60	1-4.17	MULTIPLE CKT 1	15/17.5	2.8	23/26	25/30
		6.3/8.3	1/60	2-4.17	MULTIPLE CKT 2	30.3/34.6	0	38/44	40/45
RHMVZ2421MEACNJ	RXBH-1724?03J-B	2.3/3.0	1/60	1-3.0	SINGLE	11.1/12.5	2.7	18/19	20/20
	RXBH-1724?05J-B	3.6/4.8	1/60	1-4.8	SINGLE	17.4/20	2.7	26/29	30/30
	RXBH-1724?07J-B	5.4/7.2	1/60	2-3.6	SINGLE	26/30	2.7	36/41	40/45
	RXBH-1724?10J-B	7.2/9.6	1/60	2-4.8	SINGLE	34.7/40	2.7	47/54	50/60
	RXBH-1724A13J-B	9.4/12.5	1/60	3-4.17	SINGLE	45.2/52.1	2.7	60/69	60/70
		3.1/4.2	1/60	1-4.17	MULTIPLE CKT 1	15/17.5	2.7	23/26	25/30
		6.3/8.3	1/60	2-4.17	MULTIPLE CKT 2	30.3/34.6	0	38/44	40/45
RHMVZ2421HEACNJ	RXBH-1724?03J-B	2.3/3.0	1/60	1-3.0	SINGLE	11.1/12.5	3.5	19/20	20/20
	RXBH-1724?05J-B	3.6/4.8	1/60	1-4.8	SINGLE	17.4/20	3.5	27/30	30/30
	RXBH-1724?07J-B	5.4/7.2	1/60	2-3.6	SINGLE	26/30	3.5	37/42	40/45
	RXBH-1724?10J-B	7.2/9.6	1/60	2-4.8	SINGLE	34.7/40	3.5	48/55	50/60
	RXBH-1724A13J-B	9.4/12.5	1/60	3-4.17	SINGLE	45.2/52.1	3.5	61/70	70/70
		3.1/4.2	1/60	1-4.17	MULTIPLE CKT 1	15/17.5	3.5	24/27	25/30
		6.3/8.3	1/60	2-4.17	MULTIPLE CKT 2	30.3/34.6	0	38/44	40/45
RHMVZ2421HEACAJ	RXBH-1724?03J-B	2.3/3.0	1/60	1-3.0	SINGLE	11.1/12.5	5.7	21/23	25/25
	RXBH-1724?05J-B	3.6/4.8	1/60	1-4.8	SINGLE	17.4/20	5.7	29/33	30/35
	RXBH-1724?07J-B	5.4/7.2	1/60	2-3.6	SINGLE	26/30	5.7	40/45	40/45
	RXBH-1724?10J-B	7.2/9.6	1/60	2-4.8	SINGLE	34.7/40	5.7	51/58	60/60
	RXBH-1724A13J-B	9.4/12.5	1/60	3-4.17	SINGLE	45.2/52.1	5.7	64/73	70/80
		3.1/4.2	1/60	1-4.17	MULTIPLE CKT 1	15/17.5	5.7	26/29	30/30
		6.3/8.3	1/60	2-4.17	MULTIPLE CKT 2	30.3/34.6	0	38/44	40/45

? = A/B/C Heater Connection Types

A = Breaker

B = Terminal Block

C = Pullout Disconnect

## Electrical Data – With Electric Heat RHMVZ (Con't.)

Air Handler Model	Heater Model Number	Heater kW (208/240V)	Ph/Hz	No. Elements - kW per	Type Supply Circuit Single Circuit Multiple Circuit	Heater Circuit Amps	Tested Blower Motor Amps	Minimum Circuit Ampacity	Maximum Overcurrent Protection
RHMVZ6021SEACAJ	RXBH-1724?03J-B	2.3/3.0	1/60	1-3.0	SINGLE	11.1/12.5	5.7	21/23	25/25
	RXBH-1724?05J-B	3.6/4.8	1/60	1-4.8	SINGLE	17.4/20	5.7	29/33	30/35
	RXBH-1724?07J-B	5.4/7.2	1/60	2-3.6	SINGLE	26/30	5.7	40/45	40/45
	RXBH-1724?10J-B	7.2/9.6	1/60	2-4.8	SINGLE	34.7/40	5.7	51/58	60/60
	RXBH-1724A13J-B	9.4/12.5	1/60	3-4.17	SINGLE	45.2/52.1	5.7	64/73	70/80
		3.1/4.2	1/60	1-4.17	MULTIPLE CKT 1	15/17.5	5.7	26/29	30/30
		6.3/8.3	1/60	2-4.17	MULTIPLE CKT 2	30.3/34.6	0	38/44	40/45
	RXBH-1724A15J-B	10.8/14.4	1/60	3-4.8	SINGLE	52/60	5.7	73/83	80/90
	RXBH-1724A15J-B	3.6/4.8	1/60	1-4.8	MULTIPLE CKT 1	17.4/20	5.7	29/33	30/35
		7.2/9.6	1/60	2-4.8	MULTIPLE CKT 2	34.7/40	0	44/50	45/50
	RXBH-1724A18J-B	12.8/17.0	1/60	3-5.68	SINGLE	61.6/70.9	5.7	85/96	90/100
	RXBJ-1724A18J-B	4.3/5.7	1/60	1-5.68	MULTIPLE CKT 1	20.7/23.8	5.7	33/37	35/40
		8.5/11.3	1/60	2-5.68	MULTIPLE CKT 2	40.9/47.1	0	52/59	60/60
	RXBH-24A20J-B	14.4/19.2	1/60	4-4.8	SINGLE	69.3/80	5.7	94/108	100/110
	RXBH-1724A20J-B	7.2/9.6	1/60	2-4.8	MULTIPLE CKT 1	34.7/40	5.7	51/58	60/60
		7.2/9.6	1/60	2-4.8	MULTIPLE CKT 2	34.7/40	0	44/50	45/50
	RXBH-24A25J-B	18.0/24.0	1/60	6-4.0	SINGLE	86.6/100	5.7	116/133	125/150
		6.0/8.0	1/60	2-4.0	MULTIPLE CKT 1	28.9/33.4	5.7	44/49	45/50
		6.0/8.0	1/60	2-4.0	MULTIPLE CKT 2	28.9/33.4	0	37/42	40/45
		6.0/8.0	1/60	2-4.0	MULTIPLE CKT 3	28.9/33.4	0	37/42	40/45
	RXBH-24A30J-B	21.6/28.8	1/60	6-4.8	SINGLE	103.9/120	5.7	137/158	150/175
	RXBH-1724A30J-B	7.2/9.6	1/60	2-4.8	MULTIPLE CKT 1	34.7/40	5.7	51/58	60/60
		7.2/9.6	1/60	2-4.8	MULTIPLE CKT 2	34.7/40	0	44/50	45/50
		7.2/9.6	1/60	2-4.8	MULTIPLE CKT 3	34.7/40	0	44/50	45/50
RHMVZ6024SEACNJ	RXBH-1724?03J-B	2.3/3.0	1/60	1-3.0	SINGLE	11.1/12.5	5.2	21/23	25/25
	RXBH-1724?05J-B	3.6/4.8	1/60	1-4.8	SINGLE	17.4/20	5.2	29/32	30/35
	RXBH-1724?07J-B	5.4/7.2	1/60	2-3.6	SINGLE	26/30	5.2	39/44	40/45
	RXBH-1724?10J-B	7.2/9.6	1/60	2-4.8	SINGLE	34.7/40	5.2	50/57	50/60
	RXBH-1724A13J-B	9.4/12.5	1/60	3-4.17	SINGLE	45.2/52.1	5.2	63/72	70/80
	RXBH-1724A13J-B	3.1/4.2	1/60	1-4.17	MULTIPLE CKT 1	15/17.5	5.2	26/29	30/30
		6.3/8.3	1/60	2-4.17	MULTIPLE CKT 2	30.3/34.6	0	38/44	40/45
	RXBH-1724A15J-B	10.8/14.4	1/60	3-4.8	SINGLE	52/60	5.2	72/82	80/90
	RXBH-1724A15J-B	3.6/4.8	1/60	1-4.8	MULTIPLE CKT 1	17.4/20	5.2	29/32	30/35
		7.2/9.6	1/60	2-4.8	MULTIPLE CKT 2	34.7/40	0	44/50	45/50
	RXBH-1724A18J-B	12.8/17.0	1/60	3-5.68	SINGLE	61.6/70.9	5.2	84/96	90/100
	RXBJ-1724A18J-B	4.3/5.7	1/60	1-5.68	MULTIPLE CKT 1	20.7/23.8	5.2	33/37	35/40
		8.5/11.3	1/60	2-5.68	MULTIPLE CKT 2	40.9/47.1	0	52/59	60/60
	RXBH-24A20J-B	14.4/19.2	1/60	4-4.8	SINGLE	69.3/80	5.2	94/107	100/110
	RXBH-1724A20J-B	7.2/9.6	1/60	2-4.8	MULTIPLE CKT 1	34.7/40	5.2	50/57	50/60
		7.2/9.6	1/60	2-4.8	MULTIPLE CKT 2	34.7/40	0	44/50	45/50
	RXBH-24A25J-B	18.0/24.0	1/60	6-4.0	SINGLE	86.6/100	5.2	115/132	125/150
		6.0/8.0	1/60	2-4.0	MULTIPLE CKT 1	28.9/33.4	5.2	43/49	45/50
		6.0/8.0	1/60	2-4.0	MULTIPLE CKT 2	28.9/33.4	0	37/42	40/45
		6.0/8.0	1/60	2-4.0	MULTIPLE CKT 3	28.9/33.4	0	37/42	40/45
	RXBH-24A30J-B	21.6/28.8	1/60	6-4.8	SINGLE	103.9/120	5.2	137/157	150/175
	RXBH-1724A30J-B	7.2/9.6	1/60	2-4.8	MULTIPLE CKT 1	34.7/40	5.2	50/57	50/60
		7.2/9.6	1/60	2-4.8	MULTIPLE CKT 2	34.7/40	0	44/50	45/50
		7.2/9.6	1/60	2-4.8	MULTIPLE CKT 3	34.7/40	0	44/50	45/50

? = A/B/C Heater Connection Types

A = Breaker

B = Terminal Block

C = Pullout Disconnect

## Electrical Wiring

### Power Wiring

- Field wiring must comply with the National Electrical Code (C.E.C. in Canada) and any applicable local ordinance.
- Supply wiring must be 75°C minimum copper conductors only.
- See electrical data for product Ampacity rating and Circuit Protector requirement.

## Accessories

### • Combustible Floor Base RXHB-

Model Cabinet Size	Combustible Floor Base Model Number
17	RXHB-17
21	RXHB-21
24	RXHB-24

- Jumper Bar Kit 3 Ckt. to 1 Ckt. RXBJ-A31** is used to convert single phase multiple three circuit units to a single supply circuit. Kit includes cover and screw for line side terminals.
- Jumper Bar Kit 2 Ckt. to 1 Ckt. RXBJ-A21** is used to convert single phase multiple two circuit units to a single supply circuit. Kit includes cover and screw for line side terminals.
- Note:** No jumper bar kit is available to convert three phase multiple two circuit units to a single supply circuit.

### • Auxiliary Horizontal Overflow Pan Accessory RXBM-

Nominal Cooling Capacity-Tons	Auxiliary Horizontal Overflow Pan Accessory Model Number
2 - 3	RXBM-AC48
4 - 5	RXBM-AC61

### • Supply and Return Air Sensor Kit RXHT-A02

The RXHT-A02 Thermistor Kit is to be used with the air handler control to monitor the system return and leaving air temperatures. These temperatures can be monitored with the EcoNet communicating thermostat.

### Grounding

- This product must be sufficiently grounded in accordance with National Electrical Code (C.E.C. in Canada) and any applicable local ordinance.
- A grounding lug is provided.

### • Auxiliary Electric Heater Kits RXBH-

Heater Kits include circuit breakers which meet UL and cUL requirements for service disconnect. See the Electric Heat Electrical Data in this specification sheet for specific Heater Kit Model numbers.

### • Horizontal Adapter Kit RXHH-

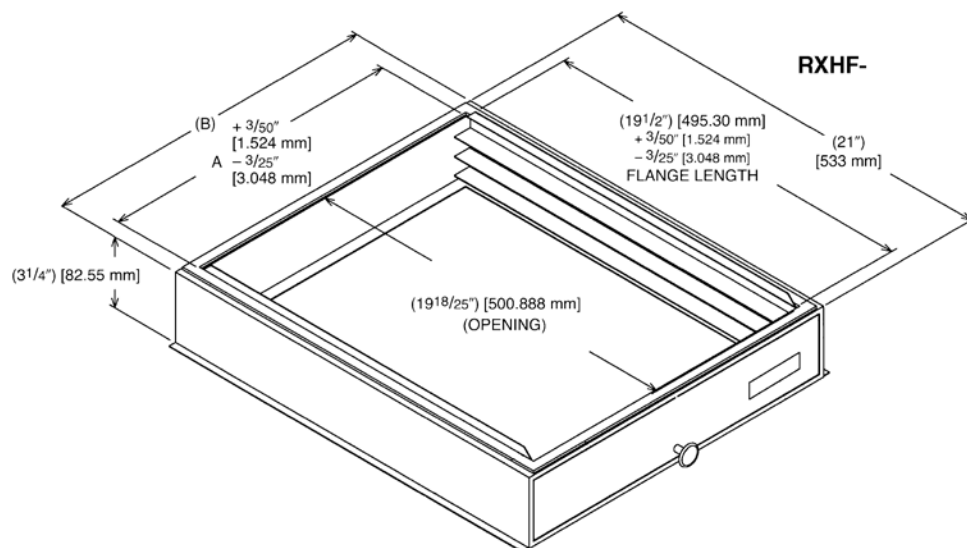
This horizontal adapter kit is used to convert Upflow/Downflow only models to horizontal flow. See the following table to order proper horizontal adapter kit.

Coil Model	Horizontal Adapter Kit Model Number (Single Qty.)	Horizontal Adapter Kit Model Number (10-Pack Qty.)
2414	RXHH-A01	RXHH-A01 x 10
2417	RXHH-A02	RXHH-A02 x 10
2421/3617/3621	RXHH-A03	RXHH-A03 x 10
4821/4824/6021	RXHH-A06	RXHH-A06 x 10
6024	RXHH-A05	RXHH-A05 x 10

### • External Filter Base RXHF-

Model Cabinet Size	Filter Size In. [mm]	Part Number*	A	B
17	16 x 20 [406 x 508]	RXHF-17	15.70	17.5
21	20 x 20 [508 x 508]	RXHF-21	19.20	21.0
24	25 x 20 [635 x 508]	RXHF-24	22.70	25.5

\*Accommodates 1" or 2" filter



[ ] Designates Metric Conversions



## GENERAL TERMS OF LIMITED WARRANTY\*

Ruud will furnish a replacement for any part of this product which fails in normal use and service within the applicable periods stated, in accordance with the terms of the limited warranty.

Parts ..... Ten (10) Years

**\*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.**

**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, Ruud reserves the right to make changes without notice.*

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