



## Vantix™ Line iM Air Conditioners



This product meets a stringent set of our internally defined sustainability standards

### SA18AZ

EcoNet® Enabled

Cooling Efficiencies up to: 20.0 SEER2/13 EER2

Nominal Sizes: 2 to 5 Tons [7.0 to 17.6 kW]

Cooling Capacities: 22.8 to 54 kBTU [6.7 to 15.83 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](http://www.energystar.gov).***

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## Features and Benefits

- **EcoNet® Enabled:** Automatic system configuration and optimization
- **Diagnostics & Bluetooth Connectivity:** With the Russell® By Rheem Contractor & EcoNet® Apps, built-in technology makes advanced set-up, monitoring, troubleshooting, and repairing the product easier than ever before
- **Brushless DC Condenser Motors (BLDC):** Enhances reliability and allows for easier serviceability
- **Swept Wing Fan Technology:** Features quieter operation and improved unit acoustics
- **Expanded Valve Space:** 3 in. – 4 in. – 5 in. service valve space—provides a minimum working area of 27-square inches for easier access
- **Triple Service Access:** 15 in. wide, industry leading corner service access, makes repairs easier and faster

# Air Conditioners

<u>S</u>	<u>A</u>	<u>18</u>	<u>A</u>	<u>Z</u>	<u>24</u>	<u>A</u>	<u>J</u>	<u>V</u>	<u>C</u>	<u>A</u>
Brand	Product Category	SEER2	Region	Refrigerant	Capacity BTU/HR	Major Series	Voltage	Type	Controls	Minor Series
S - Russell® By Rheem	A - Air Conditioners	18 - 18 SEER2	A - All	Z - R-410A	24 - 24,000 [7.03 kW]	A - 1st Design	J - 1ph, 208-230/60	V - Inverter	C - Communicating	A - 1st Design
					36 - 36,000 [10.55 kW]					
					48 - 48,000 [14.07 kW]					
					60 - 60,000 [17.58 kW]					

[ ] Designates Metric Conversions

AVAILABLE MODELS	DESCRIPTION
SA18AZ24AJVCA	Vantix™ Line 2 ton EcoNet® Enabled Inverter Driven Variable Speed iM Air Conditioner - 208/230/1/60
SA18AZ36AJVCA	Vantix™ Line 3 ton EcoNet® Enabled Inverter Driven Variable Speed iM Air Conditioner - 208/230/1/60
SA18AZ48AJVCA	Vantix™ Line 4 ton EcoNet® Enabled Inverter Driven Variable Speed iM Air Conditioner - 208/230/1/60
SA18AZ60AJVCA	Vantix™ Line 5 ton EcoNet® Enabled Inverter Driven Variable Speed iM Air Conditioner - 208/230/1/60

STANDARD EQUIPMENT
R-410A Refrigerant
EcoNet® Enabled
Variable Speed Compressor
Compressor Sound Blanket
Variable speed outdoor fan motor
Swept wing fan blade
Field Installed Filter Drier
Front Seating Service Valves
Internal Pressure Relief Valve
Internal Thermal Overload
Low Ambient capability
3-4-5 Expanded Valve Space
Composite Basepan
1" Screw Control Box Access
15" Access to Internal Components
No fasteners to remove along bottom
Optimized Venturi Airflow
Single row condenser coil¹
Powder coated paint
Rust resistant screws
QR code
External gauge ports
Service trays

¹5 Ton model includes 2 row condenser coil

General Data				
GENERAL DATA				
MODEL NO.	SA18AZ24AJVCA	SA18AZ36AJVCA	SA18AZ48AJVCA	SA18AZ60AJVCA
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 (R410A) furnished oz. <sup>1</sup>	210	212	222	252
Compressor Type	Scroll			
Outdoor Coil				
Net face area – Outer Coil	22.2	22.3	32.5	32.5
Net face area – Inner Coil	—	—	—	32.5
Tube diameter – in.	0.375	0.375	0.375	0.375
Number of rows	1	1	1	2
Fins per inch	20	20	22	20
Outdoor Fan				
Diameter – in.	24	24	26	26
Number of blades	3	3	3	3
Motor hp	1/5	1/3	1/2	1/2
CFM	3330	4315	6240	6175
RPM	772	825	935	900
watts	83	114	278	278
Shipping weight – lbs.	226	244	263	316
Operating weight – lbs.	214	236	255	307
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) <sup>2</sup>	35	45	70	80
Minimum circuit ampacity <sup>3</sup>	21	29	46	48
Compressor				
Rated load amps	15	20.1	32	34.1
Locked rotor amps	35	35	50	50

<sup>1</sup>Refrigerant 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.

<sup>2</sup>HACR type circuit breaker or fuse.

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

Accessories

MODEL NO.	SA18AZ24AJVCA	SA18AZ36AJVCA	SA18AZ48AJVCA	SA18AZ60AJVCA
EcoNet® Smart Thermostat	CETST800SYS	CETST800SYS	CETST800SYS	CETST800SYS
Compressor Sound Cover	STD	STD	STD	STD
Supply / Return Sensor	RXHT-A02	RXHT-A02	RXHT-A02	RXHT-A02

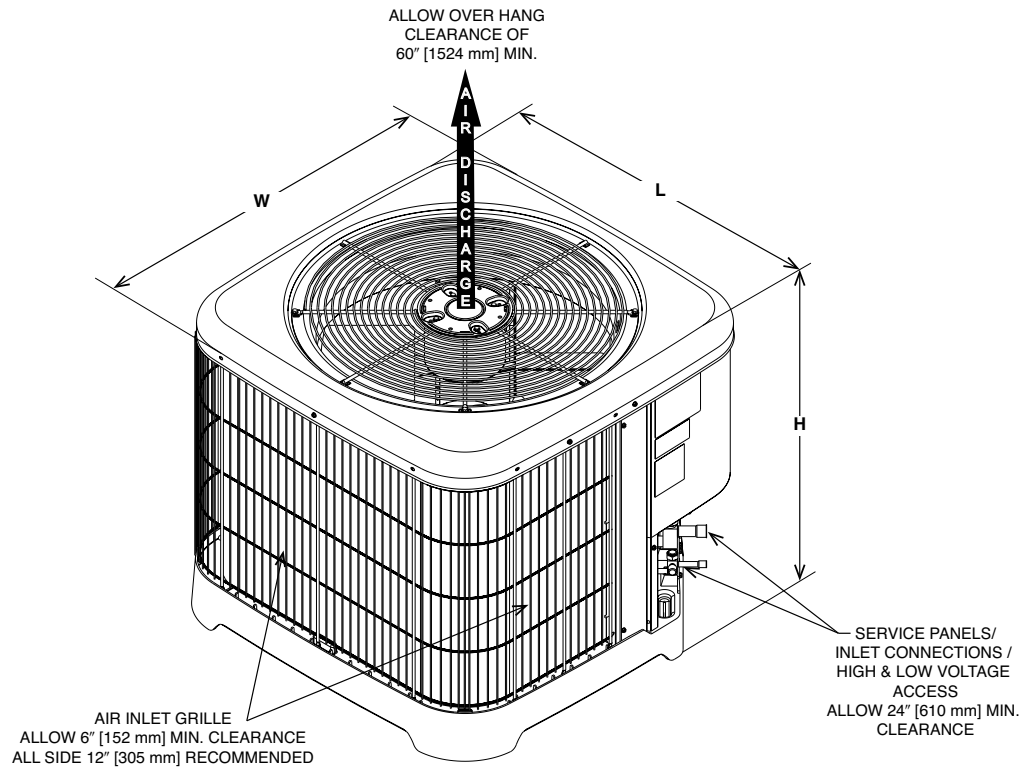
Weighted Sound Power Level

MODEL	SOUND POWER LEVEL [DB(A)] LOW SPEED/ HIGH SPEED	FULL OCTAVE LINEAR SOUND POWER LEVEL DB - CENTER FREQUENCY - HZ							SOUND POWER LEVEL [DB(A)] WITH SOUND BLANKET
		125	250	500	1000	2000	4000	8000	
SA18AZ24AJVCA	58.9	29	36.5	42	45.7	42.3	43.2	33	Sound Blankets - Standard
	68	47.1	47.7	58.8	57.1	55.0	52.7	45.6	
SA18AZ36AJVCA	57	29.2	36.7	44.9	45.4	42.2	39.4	32.2	
	72	42.9	52.8	62.7	63.6	58.7	54.1	52.4	
SA18AZ48AJVCA	54	30.6	39	42.2	42.5	36.5	35.2	35	
	72	48.2	55.3	64.6	61.7	56.2	51.7	46.2	
SA18AZ60AJVCA	70	46.6	50.5	62.7	52.9	49.4	46	41.4	
	76	50.7	62.7	67.7	65.4	64.2	59.2	54.9	

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

Unit Dimensions

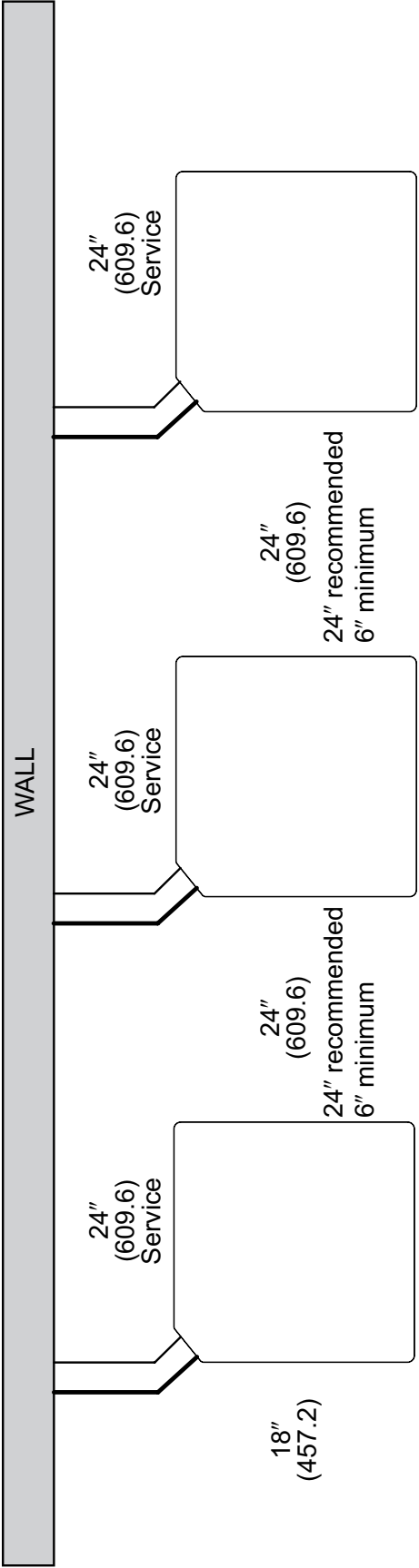
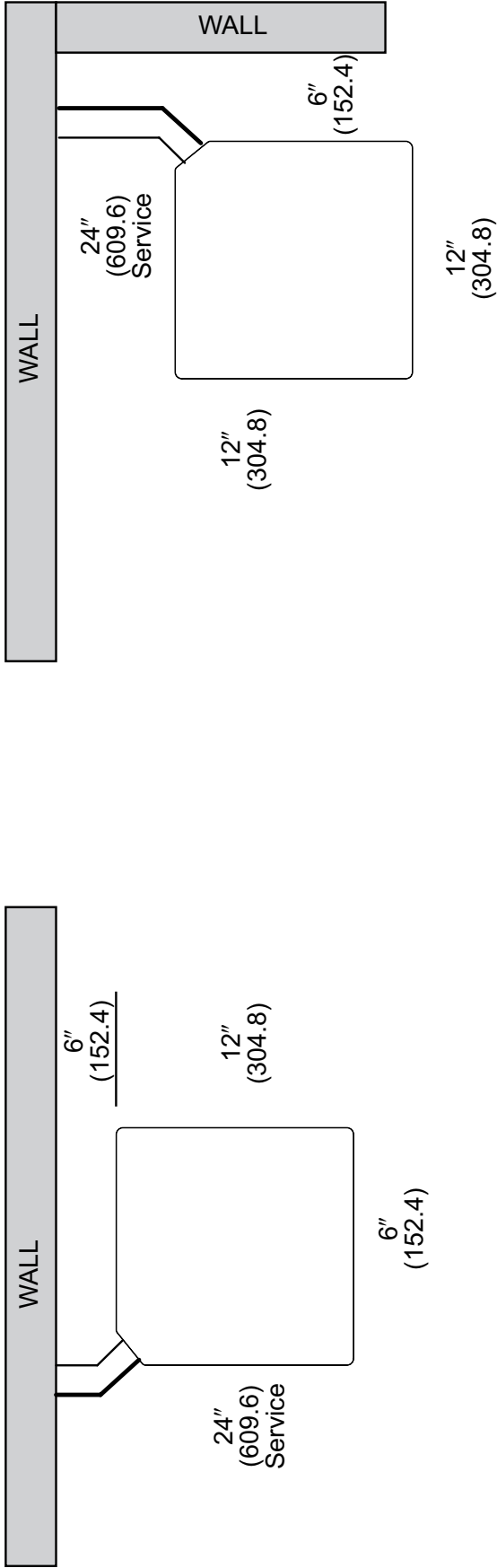
MODEL NO.	OPERATING						SHIPPING					
	H (Height)		L (Length)		W (Width)		H (Height)		L (Length)		W (Width)	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
SA18AZ24AJVCA	39	990	33.75	857	33.75	857	41.56	1055	37.64	956	37.56	954
SA18AZ36AJVCA	39	990	33.75	857	33.75	857	41.56	1055	37.64	956	37.56	954
SA18AZ48AJVCA	51	1295	35.75	908	35.75	908	53.56	1360	39.37	999	39.64	1006
SA18AZ60AJVCA	51	1295	35.75	908	35.75	908	53.56	1360	39.37	999	39.64	1006



[ ] Designates Metric Conversions

ST-A1226-24-00

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.



## Refrigerant Line Size Information

18 SEER2 VARIABLE SPEED AIR CONDITIONERS								
UNIT SIZE	ALLOWABLE LIQUID LINE SIZE	ALLOWABLE VAPOR LINE SIZE	OUTDOOR UNIT ABOVE OR BELOW INDOOR UNIT EQUIVALENT LENGTH (FEET)					
			< 25	26-50	51-75	76-100	101-125	126-150
			MAXIMUM VERTICAL SEPARATION/CAPACITY MULTIPLIER					
2 Ton* SEE NOTE 3	1/4"	5/8"	25/1.00	50/0.99	32/0.98	40/0.97	NR	NR
	5/16"	5/8"	25/1.00	50/0.99	50/0.98	50/0.97	50/0.96	50/0.95
	3/8"	5/8"	25/1.00	50/0.99	50/0.98	50/0.97	50/0.96	50/0.95
	1/4"	3/4"	25/1.00	50/1.00	32/0.99	40/0.99	NR	NR
	5/16"	3/4"	25/1.00	50/1.00	50/0.99	50/0.99	50/0.99	50/0.98
	3/8"	3/4"	25/1.00	50/1.00	50/0.99	50/0.99	50/0.99	50/0.98
3 Ton	5/16"	5/8"	25/0.99	50/0.97	50/0.95	50/0.93	37/0.91	NR
	3/8"	5/8"	25/0.99	50/0.97	50/0.95	50/0.93	50/0.91	NR
	5/16"	3/4"	25/1.00	50/0.99	50/0.99	50/0.98	37/0.97	22/0.96
	3/8"	3/4"	25/1.00	50/0.99	50/0.99	50/0.98	50/0.97	50/0.96
	1/2"	3/4"	25/1.00	50/0.99	50/0.99	50/0.98	50/0.97	50/0.96
4 Ton	3/8"	3/4"	25/0.99	50/0.98	50/0.97	50/0.96	50/0.94	50/0.93
	1/2"	3/4"	25/0.99	50/0.98	50/0.97	50/0.96	50/0.94	50/0.93
	3/8"	7/8"	25/1.00	50/0.99	50/0.99	50/0.98	50/0.98	50/0.97
	1/2"	7/8"	25/1.00	50/0.99	50/0.99	50/0.98	50/0.98	50/0.97
5 Ton	3/8"	3/4"	25/0.99	50/0.97	50/0.95	50/0.93	50/0.91	NR
	1/2"	3/4"	25/0.99	50/0.97	50/0.95	50/0.93	50/0.91	NR
	3/8"	7/8"	25/1.00	50/0.99	50/0.98	50/0.98	50/0.97	38/0.96
	1/2"	7/8"	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" suction 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 Size Information (Con't.)

18 SEER2 VARIABLE SPEED AIR CONDITIONERS								
UNIT SIZE	ALLOWABLE LIQUID LINE SIZE	ALLOWABLE VAPOR LINE SIZE	OUTDOOR UNIT ABOVE OR BELOW INDOOR UNIT EQUIVALENT LENGTH (METERS)					
			< 8	8-15	16-23	24-30	31-38	39-46
			MAXIMUM VERTICAL SEPARATION/CAPACITY MULTIPLIER					
2 Ton* SEE NOTE 3	6.35 [1/4]	15.88 [5/8]	8/1.00	15/0.99	10/0.98	10/0.97	NR	NR
	7.94 [5/16]	15.88 [5/8]	8/1.00	15/0.99	15/0.98	15/0.97	15/0.96	15/0.95
	9.53 [3/8]	15.88 [5/8]	8/1.00	15/0.99	15/0.98	15/0.97	15/0.96	15/0.95
	6.35 [1/4]	19.05 [3/4]**	8/1.00	15/0.99	10/0.99	12/0.99	NR	NR
	7.94 [5/16]	19.05 [3/4]**	8/1.00	15/0.99	15/0.99	15/0.99	15/0.99	15/0.98
	9.53 [3/8]	19.05 [3/4]**	8/1.00	15/0.99	15/0.99	15/0.99	15/0.99	15/0.98
3 Ton	7.94 [5/16]	15.88 [5/8]	8/0.99	15/0.97	15/0.95	15/0.93	11/0.91	NR
	9.53 [3/8]	15.88 [5/8]	8/0.99	15/0.97	15/0.95	15/0.93	15/0.91	NR
	7.94 [5/16]	19.05 [3/4]	8/1.00	15/0.99	15/0.99	15/0.98	11/0.97	7/0.96
	9.53 [3/8]	19.05 [3/4]	8/1.00	15/0.99	15/0.99	15/0.98	15/0.97	15/0.96
	12.70 [1/2]	19.05 [3/4]	8/1.00	15/0.99	15/0.99	15/0.98	15/0.97	15/0.96
4 Ton	9.53 [3/8]	19.05 [3/4]	8/0.99	15/0.98	15/0.97	15/0.96	15/0.94	15/0.93
	12.70 [1/2]	19.05 [3/4]	8/0.99	15/0.98	15/0.97	15/0.96	15/0.94	15/0.93
	9.53 [3/8]	22.23 [7/8]	8/1.00	15/0.99	15/0.99	15/0.98	15/0.98	15/0.97
	12.70 [1/2]	22.23 [7/8]	8/1.00	15/0.99	15/0.99	15/0.98	15/0.98	15/0.97
5 Ton	9.53 [3/8]	19.05 [3/4]	8/0.99	15/0.97	15/0.95	15/0.93	15/0.91	NR
	12.70 [1/2]	19.05 [3/4]	8/0.99	15/0.97	15/0.95	15/0.93	15/0.91	NR
	9.53 [3/8]	22.23 [7/8]	8/1.00	15/0.99	15/0.98	15/0.98	15/0.97	12/0.96
	12.70 [1/2]	22.23 [7/8]	8/1.00	15/0.99	15/0.98	15/0.98	15/0.97	15/0.97

**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.

## 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]	SEER2	EER2	INDOOR CFM [L/S]
SA18AZ24AJVC	SHMVZ2421MEACN	22,400 [6.6]	17,200 [5.0]	5,200 [1.5]	18.0	10.5	825 [389.4]
SA18AZ36AJVC	SHMVZ6021SEACA	34,600 [10.1]	25,800 [7.6]	8,800 [2.6]	18.0	10.5	1,225 [578.1]
SA18AZ48AJVC	SHMVZ6021SEACA	45,000 [13.2]	32,600 [9.6]	12,400 [3.6]	18.0	10.5	1,575 [743.3]
SA18AZ60AJVC	SHMVZ6024SEACN	55,000 [16.1]	40,200 [11.8]	14,800 [4.3]	18.0	10.5	1,650 [778.7]

**NOTE:** This data includes DTC (Designated Test Combination) ratings and is for reference purposes only. A full listing of official ratings and system match-ups, along with downloadable certificates, can be accessed from the AHRI website: [www.ahridirectory.org](http://www.ahridirectory.org).

[ ] Designates Metric Conversions

## Integrated Controls



EcoNet® is smart, technology that allows Heating and Cooling, 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

**STANDBY SCREEN** – Displays indoor temperature and current weather



**CETST800SYS**

### 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









## GENERAL TERMS OF LIMITED WARRANTY\*

Russell® By 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

**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, Russell by Rheem reserves the right to make changes without notice.*

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