Vantix™ Line
iM Air Conditioners

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

SA15AZ

Cooling Efficiencies up to: 15.2 SEER2/9.8 EER2
Nominal Sizes: 2 to 5 Ton [7.0 to 17.6 kW]
Cooling Capacities: 22.8 to 56.0 kBTU [6.68 to 16.4 kW]

ISO 9001:2015

AHRI CERTIFIED www.ahridirectory.org Unitary Small AC AHRI Standard 210/240

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Features and Benefits

- **Diagnostics & Bluetooth®[1] Connectivity:** With the Russell® By Rheem Contractor App, 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 Inverter operation from 45 to 70% capacity or 100% capacity via line voltage with the Smart Thermostat
  - — 3-speed operation when installed with a 24V two-stage thermostat
  - — Provides precise temperature control, advanced humidity control and greater efficiency
- **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
- **Expanded Valve Space:** 3 in. – 4 in. – 5 in. service valve space—provides a minimum working area of 27-square inches for easier access[2]
- **Triple Service Access:** 15 in. wide, industry leading access makes repairs easier and faster

[1]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

[2]Does not apply to 2 and 3 ton models

Air Conditioners

S	A	15	A	Z	24	A	J	3	C	A
Brand	**Product Category**	**SEER2**	**Region**	**Refrigerant**	**Capacity BTU/HR**	**Major Series**	**Voltage**	**Type**	**Controls**	**Minor Series**
S - Russell® By Rheem	A - Air Conditioners	15 - 15.2 SEER2	A - All	Z - R-410A	24 - 24,000 [7.03 kW] 36 - 36,000 [10.55 kW] 48 - 48,000 [14.07 kW] 60 - 60,000 [17.58 kW]	A - 1st Design	J - 1ph, 208-230/60	3 - 3+ Stage	C - Communicating	A - 1st Design

[ ] Designates Metric Conversions

Available Models	Description
SA15AZ24AJ3CA	Vantix™ Line 2 ton 3+ Speed iM Air Conditioner – 208/230/1/60
SA15AZ36AJ3CA	Vantix™ Line 3 ton 3+ Speed iM Air Conditioner – 208/230/1/60
SA15AZ48AJ3CA	Vantix™ Line 4 ton 3+ Speed iM Air Conditioner – 208/230/1/60
SA15AZ60AJ3CA	Vantix™ Line 5 ton 3+ Speed iM Air Conditioner – 208/230/1/60

Standard Equipment
R-410A Refrigerant
Variable Speed Twin Rotary Compressor
Field Installed Filter Drier
Front Seating Service Valves
Internal Pressure Relief Valve
Internal Thermal Overload
Long Line capability
3-4-5 Expanded Valve Space
Composite Basepan
2 Screw Control Box Access
15" Access to Internal Components
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

General Data

Model No.	SA15AZ24AJ3	SA15AZ36AJ3	SA15AZ48AJ3	SA15AZ60AJ3
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.[1]	91	119	130	154
Compressor Type	Twin Rotary			
Outdoor Coil				
Net face area – Outer Coil	11.79	14.4	16.42	17.88
Net face area – Inner Coil	—	—	—	—
Tube diameter – in.	0.276	0.276	0.276	0.276
Number of rows	1	1	1	1
Fins per inch	24	24	24	24
Outdoor Fan				
Diameter – in.	20	24	24	26
Number of blades	3	3	3	3
Motor hp	1/5	1/5	1/3	1/2
CFM	2908	4138	4529	5274
RPM	1075	1000	1075	1075
watts	170	267	294	370
Shipping weight – lbs.	174	198	230	251
Operating weight – lbs.	167	191	223	244

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)[2]	20	30	40	50
Minimum circuit ampacity[3]	12	20	25	32
Compressor				
Rated load amps	10	15	20	25
Locked rotor amps	65	70	96	119

[1]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.
[2]HACR type circuit breaker of fuse.
[3]Refer to National Electrical Code manual to determine wire, fuse and disconnect size requirements.

Accessories

Model No.		SA15AZ24AJ3	SA15AZ36AJ3	SA15AZ48AJ3	SA15AZ60AJ3
Compressor crankcase heater*		N/A	N/A	N/A	N/A
Compressor sound cover		68-23427-27	68-23427-28	68-23427-29	68-23427-29
Low pressure control		47-103454-01	47-103454-01	47-103454-01	47-103454-01
High pressure control		47-103669-02	47-103669-02	47-103669-02	47-103669-02
Liquid Line Solenoid (24 VAC, 50/60 Hz)	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC
	Solenoid Coil	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V
Liquid Line Solenoid (120/240 VAC, 50/60 Hz)	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC
	Solenoid Coil	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V

*Crankcase Heater recommended with Low Ambient Kit.

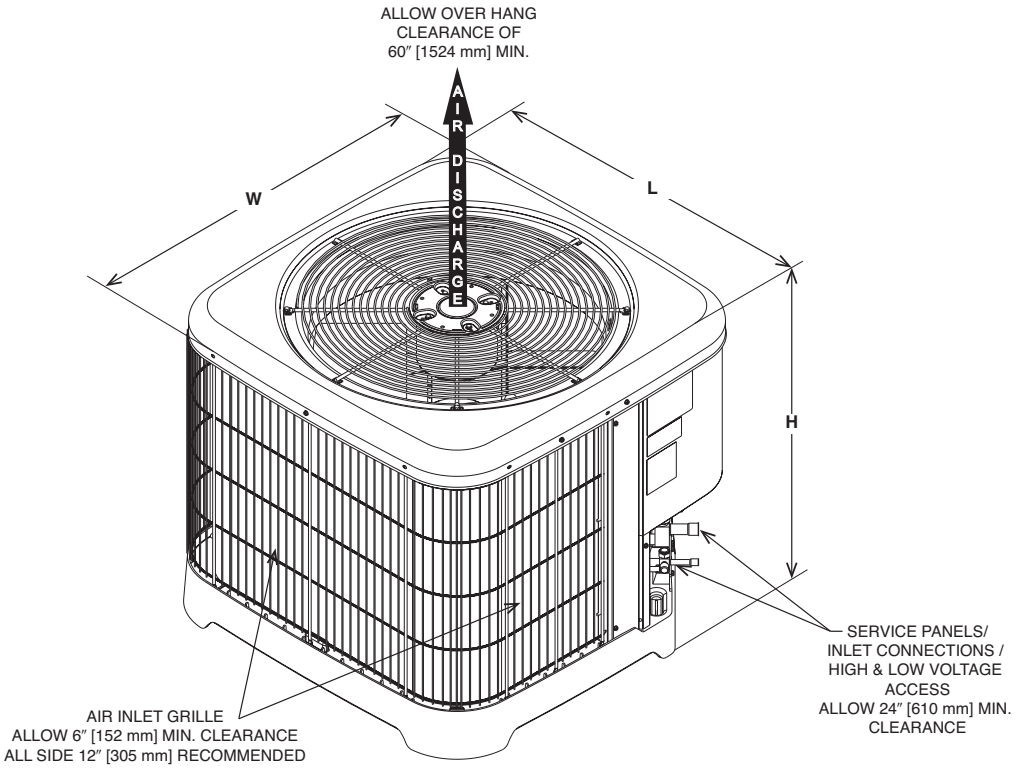
Weighted Sound Power Level (dBA)

Unit Size - Voltage, Series	Standard Rating (dBA) Low Speed/ High Speed	TYPICAL OCTAVE BAND SPECTRUM (dBA without tone adjustment)							Sound Power Level [dB(A)] with Sound Blanket
		125	250	500	1000	2000	4000	8000	
SA15AZ24AJ3	63.3	35.9	47.9	55.3	53.2	50.4	47.1	43.8	Sound Blankets - Standard
	71.7	46.1	59.1	63.2	60.8	58.7	56.5	47.9	
SA15AZ36AJ3	61.4	38.5	48.0	53.8	49.2	45.9	47.0	47.4	
	72.9	47.5	59.5	64.9	60.7	62.6	57.0	49.6	
SA15AZ48AJ3	63.8	42.3	45.9	53.5	48.9	45.8	59.1	36.4	
	76.2	49.4	61.4	68.1	53.9	60.8	57.4	48.5	
SA15AZ60AJ3	65.7	39.7	49.0	58.2	54.5	52.2	53.8	41.3	
	76.7	49.3	64.6	68.1	65.1	62.6	58.6	53.0	

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
SA15AZ24AJ3	27.00	686	29.75	756	29.75	756	28.50	724	32.38	822	32.38	822
SA15AZ36AJ3	27.00	686	33.75	857	33.75	857	28.50	724	36.38	924	36.38	924
SA15AZ48AJ3	31.00	787	33.75	857	33.75	857	32.50	826	36.38	924	36.38	924
SA15AZ60AJ3	31.00	787	35.75	908	35.75	908	32.50	826	38.38	975	38.38	975



[ ] Designates Metric Conversions

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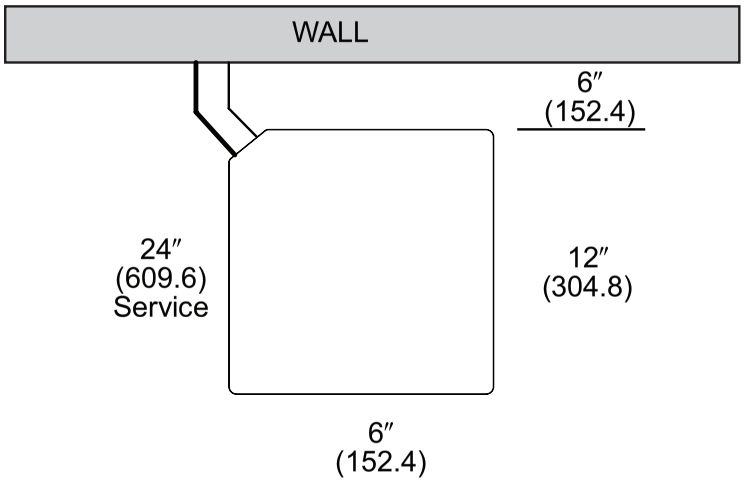
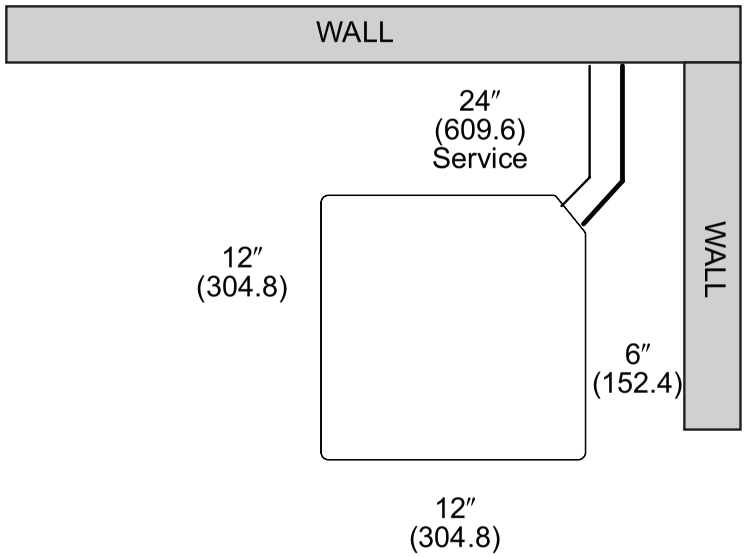
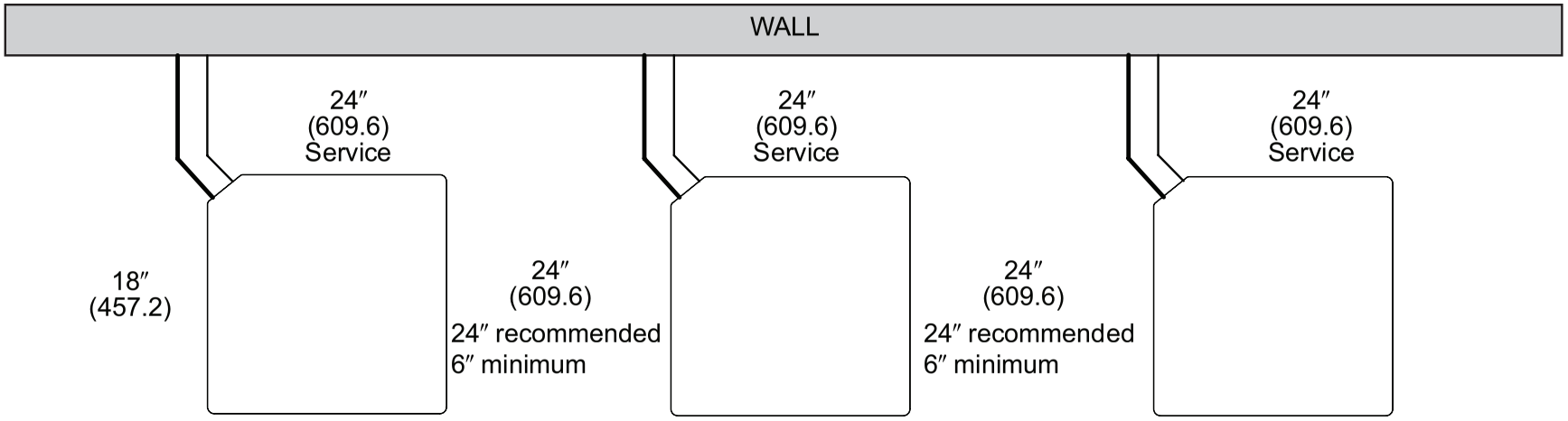
CLEARANCES







NOTE: NUMBERS IN () = mm

IMPORTANT: When installing multiple units in an alcove, roof well or partially enclosed area, ensure there is adequate ventillation to prevent re-circulation of discharge air.

Refrigerant Line Size Information

15/16 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					
2.0 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.)

15/16 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)					
			< 25	26-50	51-75	76-100	101-125	126-150
			Maximum Vertical Separation / Capacity Multiplier					
2.0 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
	12.7 [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
	12.7 [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
	12.7 [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
	12.7 [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
	12.7 [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.

Additional Oil, Oz.											
Lineset Length	50	60	70	80	90	100	110	120	130	140	150
2T	N/A	N/A	N/A	N/A	N/A	1	2	3	5	6	7
3T	N/A	N/A	N/A	N/A	N/A	N/A	1	2	3	5	6
4T	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5T	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Performance Data @ AHRI Standard Conditions – Cooling

Designated Tested Combination (DTC)							
Outdoor Unit	**Air Handler**	**Total Capacity BTU/H [kW]**	**Net Sensible BTU/H [kW]**	**Net Latent BTU/H [kW]**	**SEER2**	**EER2**	**Indoor CFM [L/s]**
SA15AZ24AJ3	SH3VZ2417STACN	22,800 [6.7]	17,600 [5.2]	5,200 [1.5]	15.2	9.8	750 [354.0]
SA15AZ36AJ3	SH3VZ3617STACN	34,200 [10.0]	26,600 [7.8]	7,600 [2.2]	15.2	9.8	1,125 [530.9]
SA15AZ48AJ3	SH3VZ4821STACN	45,500 [13.3]	35,500 [10.4]	10,000 [2.9]	15.2	9.8	1,425 [672.5]
SA15AZ60AJ3	SH3VZ6024STACN	55,500 [16.3]	43,000 [12.6]	12,500 [3.7]	15.2	9.8	1,675 [790.5]

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.

[ ] Designates Metric Conversions

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 Parts
(Registration Required)..... 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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