



MODEL: S802V Upflow/Horizontal Gas Furnaces

FORM NO. GRR-546 REV. 1



Russell™ By Rheem S802V Upflow/Horizontal Gas Furnaces

- **Models with Input Rates from 50 to 125 kBTU [15 to 37 kW]**

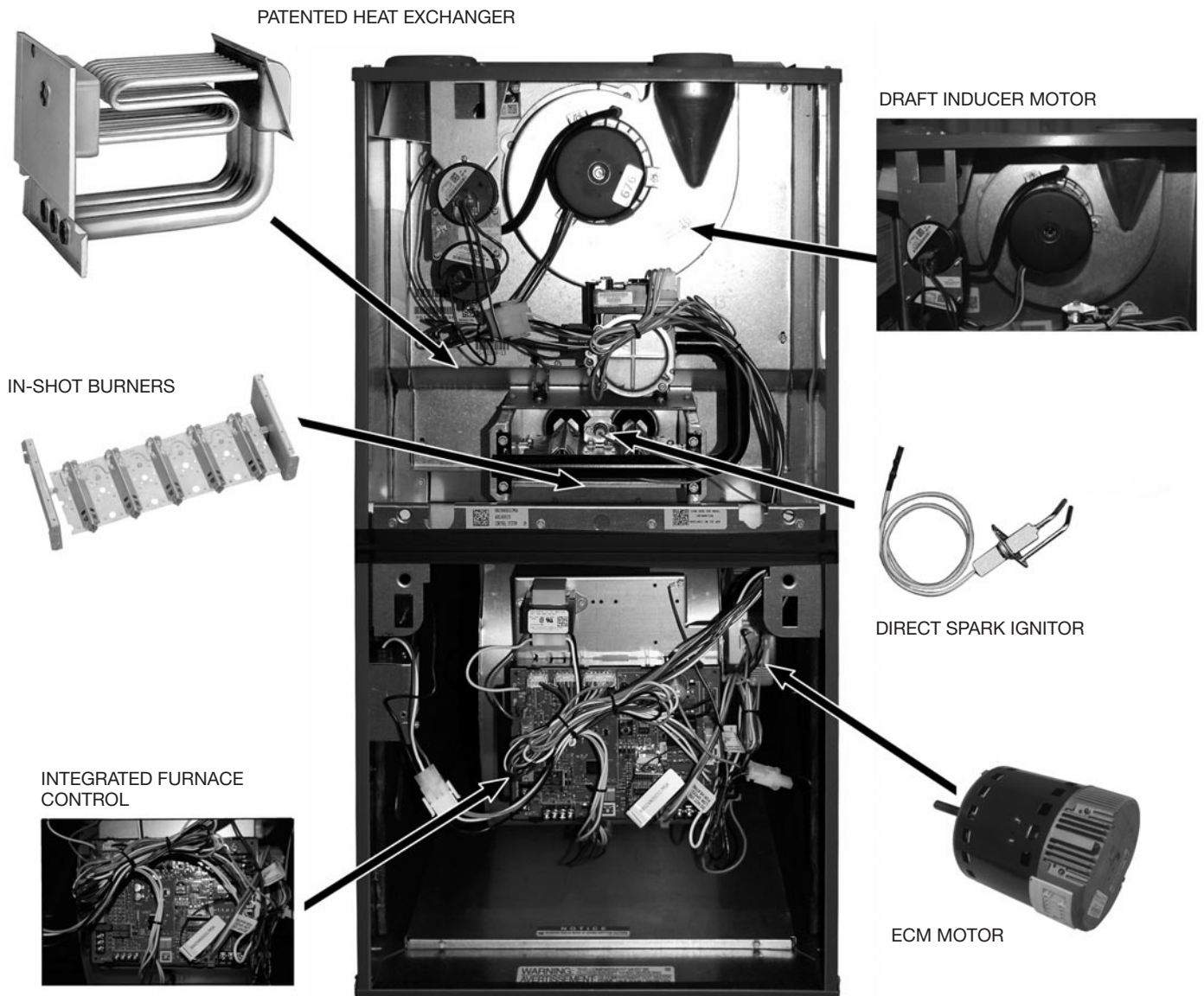


- **80% Residential Gas Furnace** CSA certified
- **Two Stages of Operation** to save energy and maintain optimal comfort level
- **Variable Speed Blower Motor** technology provides ultimate humidity control quieter sound levels and year round energy savings
- **3 Way Multi Poise Design UF / HZ**
- **7 Segment LED** all units
- **DSI** for reliability and longevity
- **Removable Heat Exchanger** for improved serviceability. Aluminized steel construction provides maximum corrosion resistance and thermal fatigue reliability
- **Solid Doors** provide quiet operation
- **Solid Bottom**
- **Insulated Blower Compartment**

- **Low Profile 34" Cabinet** ideal for space constrained installations
- **Blower Shelf Design** – serviceable in all furnace orientations
- **Hemmed Edges** on cabinets and doors
- **1/4 Turn Door Knobs** for tool less access
- **Integrated Control Board** features dip switches for easy system set up
- **QR Code** for quick access to product information from your smart phone or tablet
- **Compatible With Single or Two Stage Thermostats.** For optimal performance a two stage thermostat is recommended
- **Cabinet Air Leakage Less Than 2%** at 1 inch H₂O when tested in accordance with ASHRAE standard 193

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STANDARD EQUIPMENT

Completely assembled and wired; 2 speed induced draft blower; high and low pressure switches; 2 stage redundant main gas control; blower compartment door safety switch; solid state time on/time off blower control; limit control; transformer; ECM blower motor. Furnaces are equipped with cooling/heating relay and transformer (50VA) ready for air conditioning applications. (Please note: a thermostat is not included as standard equipment.) Flame sensor diagnostics; fused-protection (secondary), **3rd speed option for continuous fan.**

OPTIONAL EQUIPMENT

Side and bottom filter frame assembly. 4" Flue Adapter

NOTE: Furnace is not listed for use with fuels other than natural or L.P. (propane) gas.

The complete terms of limited and other warranties are available at our sales office, or through local installer.

All models can be converted by a qualified Russell™ By Rheem distributor or local service dealer to use L.P. (propane) gas without changing burners. Factory approved kits must be used to convert from natural to L.P. (propane) gas and may be ordered as optional accessories from a Russell™ By Rheem parts distributor.

For L.P. (propane) operation, refer to Conversion Kit Index Form.

NOTE: For natural and L.P. (propane) gas models, direct spark ignition is 100% safety lockout type.

WARNING
THIS FURNACE IS NOT APPROVED
OR RECOMMENDED
FOR USE IN MOBILE HOMES

Model Features

- 80% residential Gas Furnace CSA certified
- Two stages of operation to save energy and maintain optimal comfort level.
- Variable speed blower motor technology provides ultimate humidity control quieter sound levels and year round energy savings
- 3 way multi poise design UF / HZ
- 7 Segment LED all units
- DSI for reliability and longevity
- Heat exchanger is removable for improved serviceability. Aluminized steel construction provides maximum corrosion resistance and thermal fatigue reliability.
- Solid doors provide quiet operation
- Solid bottom
- Insulated blower compartment
- Low profile 34" cabinet ideal for space constrained installations
- Blower shelf design serviceable in all furnace orientations
- Hemmed edges on cabinets and doors
- 1/4 turn door knobs for tool less access
- Integrated Controls board features dip switches for easy system set up
- QR code for quick access to product information from your smart phone or tablet
- Compatible with single or two stage thermostats. For optimal performance a two stage thermostat is recommended.

Physical Data and Specifications

MODEL NUMBERS S802V SERIES	S802VA050317M*A	S802VA075317M*A	S802VA075421M*A	S802VA100521M*A	S802VA125524M*A
High Input-BTU/Hr [kW] ②	50,000 [15]	75,000 [22]	75,000 [22]	100,000 [29]	125,000 [37]
Heating Capacity BTU/Hr [kW] ①	40,000 [12]	60,000 [18]	60,000 [18]	80,000 [23]	100,000 [29]
Low Input BTU/Hr [kW] ②	35,000 [10]	52,500 [15]	52,500 [15]	70,000 [20]	87,500 [25]
Low Heating Capacity BTU/Hr [kW] ①	28,000 [8]	42,000 [12]	42,000 [12]	56,000 [16]	70,000 [20]
Heat Ext. Static Pressure [kPa]	.18 [.045]	.20 [.050]	.20 [.050]	.28 [.070]	.28 [.070]
Blower (D x W) [mm]	11 x 7 [279 x 178]	11 x 7 [279 x 178]	11 x 7 [279 x 178]	11 x 10 [279 x 254]	11 x 10 [279 x 254]
Motor H.P. Type [W]	1/2 ECM [373]	1/2 ECM [373]	3/4 ECM [560]	3/4 ECM [560]	3/4 ECM [560]
Min. Circuit Ampacity	10	9	13	12	12
Min. Overload Protection Device	15	15	15	15	15
Max. Overload Protection Device	15	15	20	20	15
Max. and Factory Heating CFM [L/s]	890 [420]	1375 [649]	1580 [746]	1580 [746]	1985 [937]
Cooling CFM @ Rating Point [L/s]	1200 [566]	1200 [566]	1600 [755]	2000 [944]	2000 [944]
Max. E.S.P. (In. W.C.) [kPa]	1.0 [.249]	1.0 [.249]	1.0 [.249]	1.0 [.249]	1.0 [.249]
Temperature Rise Range °F [°C]-High Input	25-55 [13.9-30.6]	25-55 [13.9-30.6]	25-55 [13.9-30.6]	35-65 [19.4-36.1]	35-65 [19.4-36.1]
Temperature Rise Range °F [°C]-Low Input	20-50 [12.8-29.4]	20-50 [12.8-29.4]	20-50 [12.8-29.4]	30-60 [18.3-35]	30-60 [18.3-35]
Max. Outlet Air Temp. °F [°C]	155 [68.3]	155 [68.3]	165 [73.8]	180 [82.2]	180 [82.2]
Approx. Shipping Weight (Lbs.) [kg]	125 [57]	125 [57]	140 [64]	140 [64]	150 [68]
AFUE ①	80.0%	80.0%	80.0%	80.0%	80.0%

NOTES: All models are 115V, 60HZ, 1 Ph. Gas connection size for all models is 1/2" [12 mm] N.P.T.

① In accordance with D.O.E. test procedures.

② See Conversion Kit Index Form for high altitude derate.

* S = Standard, X = Low Nox

This furnace does not meet air district requirements of 14 ng/J NOx emissions limit, and thus is subject to a mitigation fee of up to \$450. This furnace is not eligible for the Clean Air Furnace Rebate Program: www.CleanAirFurnaceRebate.com.

This furnace is to be installed for propane firing only in air districts requiring 14 ng/J NOx emission limits. Operating in natural gas mode is in violation of these Rules.

[] Designates Metric Conversions

Model Number Identification

<u>S</u>	<u>80</u>	<u>2</u>	<u>V</u>	<u>A</u>	<u>075</u>	<u>4</u>	<u>17</u>	<u>M</u>	<u>S</u>	<u>A</u>
Russell™ By Rheem	80 = 80% AFUE	2 = Two Stage	V = Variable Speed ECM	Design Series A = 1st Design	Input BTU/HR [kW]	3 = Up to 3 Ton 4 = 2 1/2 to 4 Ton 5 = 3 1/2 to 5 Ton	Cabinet Width 17 = 17.5" 21 = 21" 24 = 24.5"	M = Multi	X = Low NO _x S = Standard	Revision- Marketing (A – First Time Release)
					050 = 50,000 [15] 075 = 75,000 [22] 100 = 100,000 [29] 125 = 125,000 [37]					

[] Designates Metric Conversions

Upflow Application

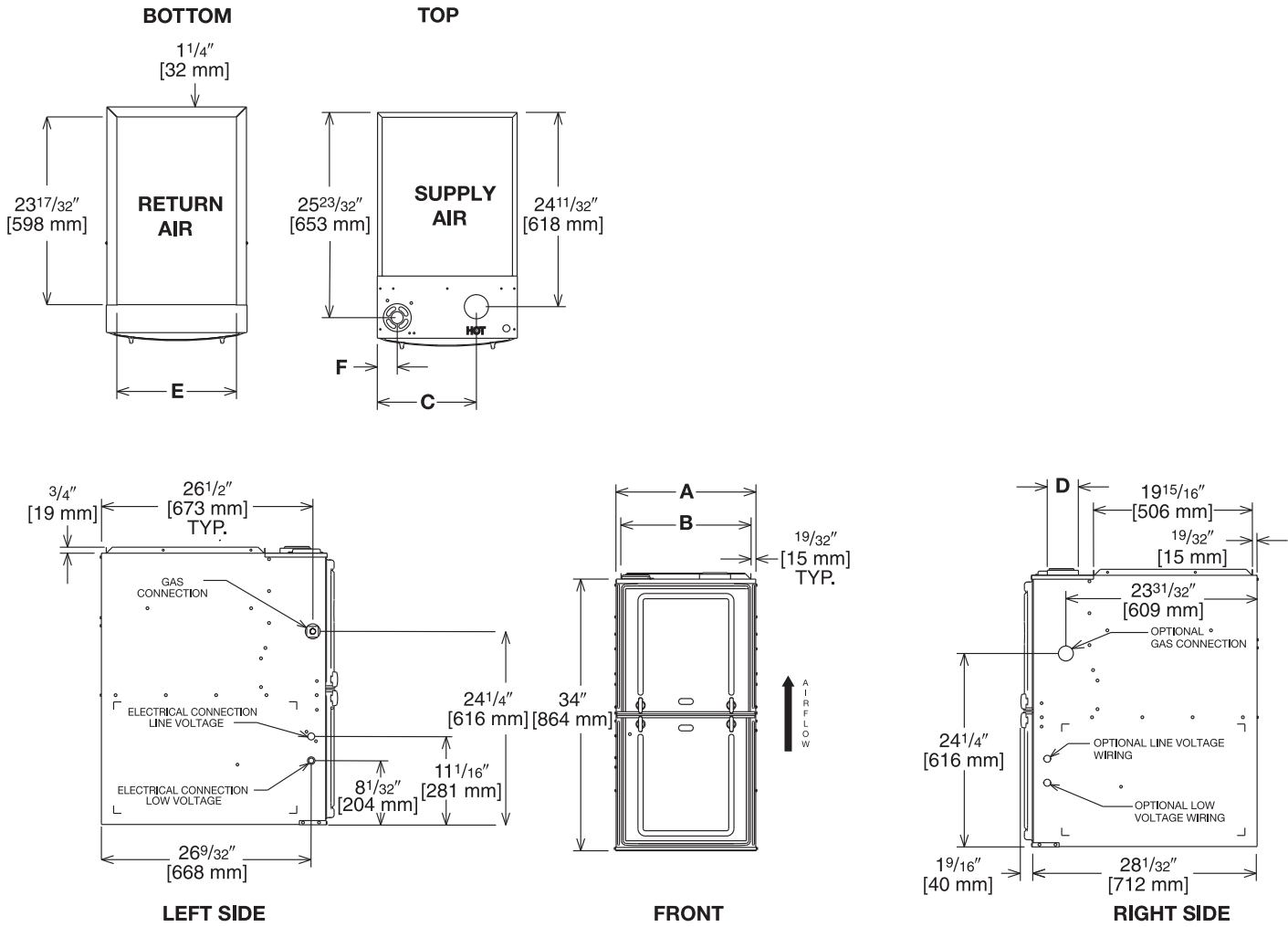


Illustration
 ST-A1220-04-00
 FIGURE 1

Dimensional Data: Upflow Model

MODEL S802V-	A	B	C	D	E	F	MINIMUM CLEARANCE (IN.) [mm]						SHIP WGTS. (LBS.) [kg]
							LEFT SIDE	RIGHT SIDE	BACK	TOP	FRONT	VENT	
050, 075317	17 1/2 [445]	16 11/32 [415]	12 3/8 [314]	①	15 [381]	2 1/2 [64]	0	3 [76] ②	0	1 [25]	3 [76]	6 [152] ③	125 [57]
075421, 100	21 [533]	19 27/32 [504]	14 1/8 [359]	①	18 1/2 [470]	2 1/2 [64]	0	0	0	1 [25]	3 [76]	6 [152] ③	140 [64]
125	24 1/2 [622]	23 11/32 [593]	15 7/8 [403]	①	22 [559]	2 1/2 [64]	0	0	0	1 [25]	3 [76]	6 [152] ③	150 [68]

NOTES: ① May require a 3" [76 mm] to 4" [102 mm] or 3" [76 mm] to 5" [127 mm] adapter.

② May be 0" [0 mm] with type B vent.

③ May be 1" [25 mm] with type B vent.

Furnaces must be vented in accordance with the National Fuel Gas Code, ANSI Z223.1 in accordance with local codes.

[] Designates Metric Conversions

Horizontal Application

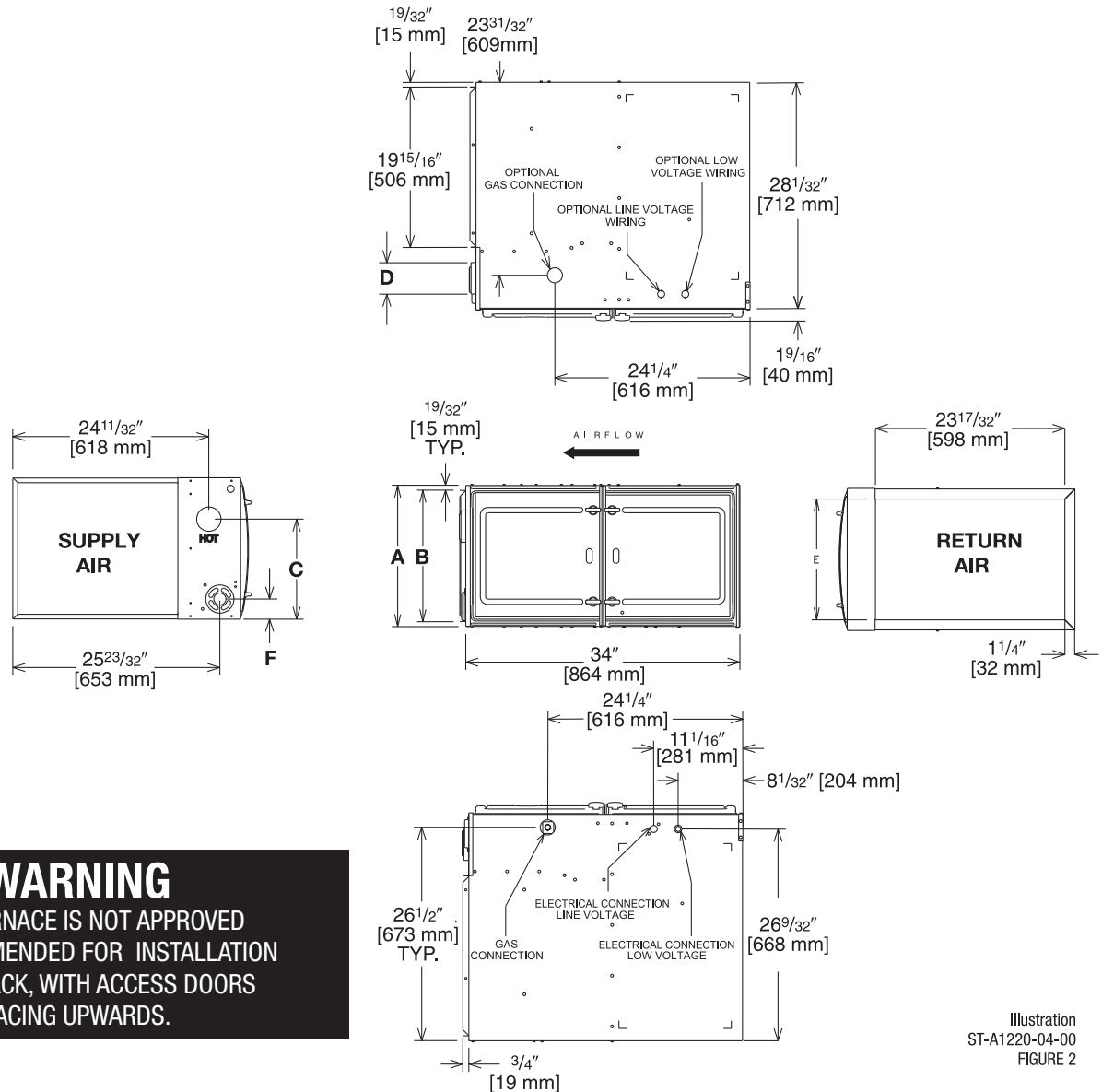


Illustration
ST-A1220-04-00
FIGURE 2

WARNING
THIS FURNACE IS NOT APPROVED
OR RECOMMENDED FOR INSTALLATION
ON ITS BACK, WITH ACCESS DOORS
FACING UPWARDS.

Dimensional Data: Horizontal Model

MODEL S802V-	A	B	C	D	E	F	MINIMUM CLEARANCE (IN.) [mm]						SHIP WGTS. (LBS.) [kg]
							SUPPLY AIR SIDE	RETURN AIR SIDE	BACK	TOP	FRONT	VENT	
050, 075317	17 ¹ / ₂ [445]	16 ¹ / ₃₂ [415]	12 ³ / ₈ [314]	①	15 [381]	2 ¹ / ₂ [64]	3 [76] ②	0	0	1 [25]	3 [76]	6 [152] ③	125 [57]
075421, 100	21 [533]	19 ²⁷ / ₃₂ [504]	14 ¹ / ₈ [359]	①	18 ¹ / ₂ [470]	2 ¹ / ₂ [64]	0	0	0	1 [25]	3 [76]	6 [152] ③	140 [64]
125	24 ¹ / ₂ [622]	23 ¹ / ₃₂ [593]	15 ⁷ / ₈ [403]	①	22 [559]	2 ¹ / ₂ [64]	0	0	0	1 [25]	3 [76]	6 [152] ③	150 [68]

NOTES: ① May require a 3" [76 mm] to 4" [102 mm] or 3" [76 mm] to 5" [127 mm] adapter.

② May be 0" [0 mm] with type B vent.

③ May be 1" [25 mm] with type B vent.

Furnaces must be vented in accordance with the National Fuel Gas Code, ANSI Z223.1 in accordance with local codes.

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Blower Performance Data

MODEL NUMBER				S802VA050317MSA	S802VA075317MSA	S802VA075421MSA	S802VA100521MSA	S802VA125524MSA	
TARGET GAS HEATING AIRFLOW	HIGH HEATING CFM	SW15 = OFF	SW16 = OFF	890	1425	1345	1400	1985	
		SW15 = ON	SW16 = OFF	790	1200	1100	1250	1700	
		SW15 = OFF	SW16 = ON	DO NOT USE					
		SW15 = ON	SW16 = ON	735	1075	960	1150	1530	
	LOW HEATING CFM	SW13 = OFF	SW14 = OFF	835	1125	1045	1200	1500	
		SW13 = ON	SW14 = OFF	590	950	865	1050	1275	
		SW13 = OFF	SW14 = ON	DO NOT USE					
		SW13 = ON	SW14 = ON	510	825	665	950	1150	
TARGET COOLING/HEAT-PUMP AIRFLOW	HIGH COOLING CFM	SW4 = OFF	SW5 = OFF	1200	1200	1600	2000	2000	
		SW4 = ON	SW5 = OFF	1000	1000	1400	1600	1600	
		SW4 = OFF	SW5 = ON	800	800	1200	1400	1400	
		SW4 = ON	SW5 = ON	600	600	1000	1200	1200	
	LOW COOLING CFM	SW4 = OFF	SW5 = OFF	900	900	1200	1500	1500	
		SW4 = ON	SW5 = OFF	750	750	1050	1200	1200	
		SW4 = OFF	SW5 = ON	600	600	900	1050	1050	
		SW4 = ON	SW5 = ON	450	450	750	900	900	

Table represents blower performance data without filters.

[] Designates Metric Conversions

SIDE RETURN FILTER RACK: RXGF-CD

BOTTOM RETURN FILTER RACK FOR UPFLOW APPLICATION: RXGF-CB

FILTER RACK FILTER SIZES* INCHES [mm]		
MODEL S802V	RXGF-CB (UPFLOW/HORIZONTAL)	RXGF-CD (UPFLOW) SIDE RETURN
050 & 075317	15 ³ / ₄ x 25 [400 x 635]	15 ³ / ₄ x 25 [400 x 635]
075421 & 100	19 ¹ / ₄ x 25 [489 x 635]	15 ³ / ₄ x 25 [400 x 635]
125	22 ³ / ₄ x 25 [578 x 635]	15 ³ / ₄ x 25 [400 x 635]

FOR HIGH ALTITUDES:

OPTION CODE FOR HIGH ALTITUDE: U.S.
None required for high altitudes.

HIGH ALTITUDE CONVERSION KITS: U.S.
None required for high altitudes.

80+ HIGH ALTITUDE INSTRUCTIONS

CAUTION: Always follow National Fuel Gas Code (NFPA) guidelines when converting for high altitudes.

High altitude option codes are not required for these models. However, the burner orifice size needs to be recalculated and verified at elevations above 2000 ft. See Installation Instructions for more information.

[] Designates Metric Conversions

INDOOR COIL CASINGS

MODEL NUMBER
RXBC-D17AI
RXBC-D21AI
RXBC-D21BI
RXBC-D24AI

4" FLUE ADAPTER: RXGW-C01

WARNING: IMPORTANT NOTICE

A SOLID METAL BASE PLATE (SEE TABLE) MUST BE IN PLACE WHEN THE FURNACE IS INSTALLED WITH SIDE AIR RETURN DUCTS. FAILURE TO INSTALL A BASE PLATE COULD CAUSE PRODUCTS OF COMBUSTION TO BE CIRCULATED INTO THE LIVING SPACE AND CREATE POTENTIALLY HAZARDOUS CONDITIONS.

FURNACE WIDTH IN. [mm]	SOLID BOTTOM KIT NO.	BASE PLATE NO.	BASE PLATE SIZE IN. [mm]
17 ¹ / ₂ [445]	RXGB-D17	AE-61874-02	15 ¹ / ₈ x 23 ⁹ / ₁₆ [384 x 598]
21 [533]	RXGB-D21	AE-61874-03	18 ⁵ / ₈ x 23 ⁹ / ₁₆ [473 x 598]
24 ¹ / ₂ [622]	RXGB-D24	AE-61874-04	25 ⁵ / ₈ x 23 ⁹ / ₁₆ [651 x 598]

GENERAL TERMS OF LIMITED WARRANTY*

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.

PartsTen (10) Years
Heat ExchangerLimited Lifetime



Russell[™]
By Rheem

Russell[™] **By Rheem**

5600 Old Greenwood Road, Fort Smith, AR 72908

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.