



MODEL: S802T

Upflow/Horizontal Gas Furnaces

FORM NO. GRR-557



Russell™ S802T

Upflow/Horizontal Gas Furnaces

- **80% A.F.U.E.†**
- **Models with Input Rates from 50 to 150 kBTU [15 to 44 kW]**



†A.F.U.E. (Annual Fuel Utilization Efficiency) calculated in accordance with Department of Energy test procedures.

- **80% residential Gas Furnace** CSA certified
- **Two stages of operation** to save energy and maintain optimal comfort level.
- **Constant Torque** Electrically Commutated Motor
- **3 way multi poise design UF / HZ**
- **Diagnostics** – 7 Segment LED all units
- **Ignition System** – 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 Control board** features dip switches for easy system set up
- **QR code** for quick access to product information from your smart phone or tablet
- **Cabinet air leakage less than 2%** at 1 inch H₂O when tested in accordance with ASHRAE standard 193

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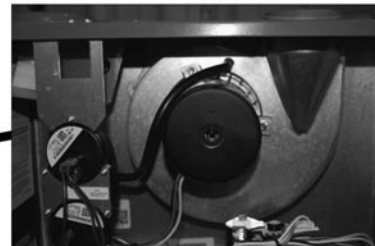
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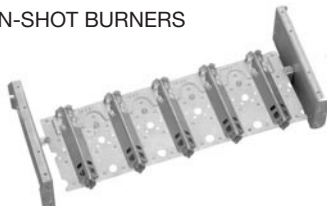
PATENTED HEAT EXCHANGER



DRAFT INDUCER MOTOR



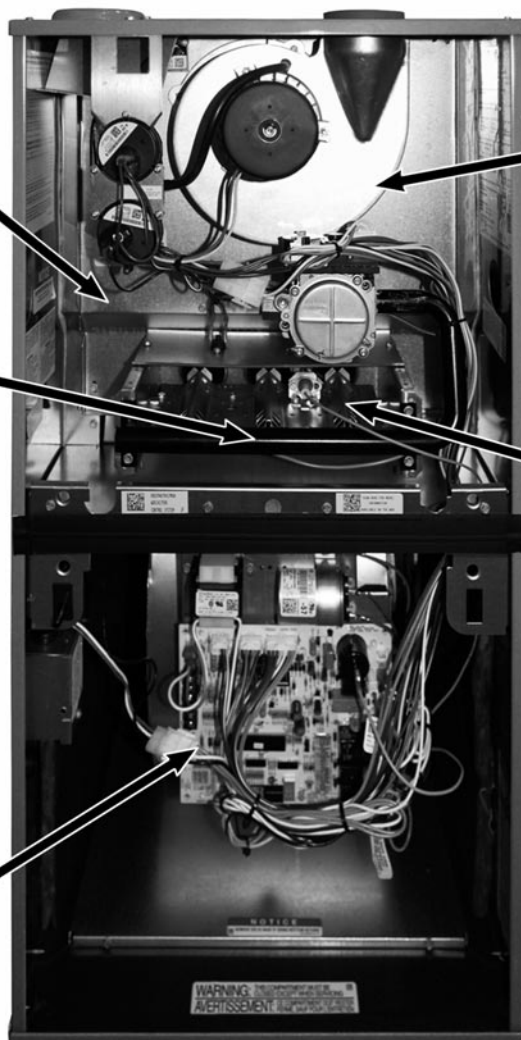
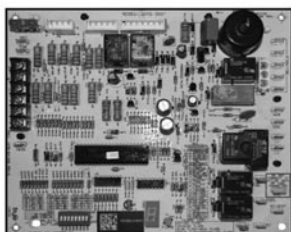
IN-SHOT BURNERS



DIRECT SPARK IGNITOR



INTEGRATED
FURNACE
CONTROL



STANDARD EQUIPMENT

Completely assembled and wired; 2 speed induced draft; high and low fire pressure switches; redundant 2 stage main gas control; blower compartment door safety switch; solid state time on/time off blower control; limit control; manual shut-off valve, pressure regulator for natural and L.P. (propane) gas; transformer; direct drive multi-speed blower motor. Furnaces are equipped with cooling/heating relay and transformer (40VA) ready for air conditioning applications. (Please note: a thermostat is not included as standard equipment.) Flame sensor diagnostics.

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.
- Constant Torque Electrically Commutated Motor
- 3 way multi poise design UF / HZ
- Diagnostics — 7 Segment LED all units
- Ignition System – 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

Physical Data and Specifications

MODEL NUMBERS S802T SERIES	S802T A050314M*A	S802T A075317M*A	S802T A075417M*A	S802T A100417M*A	S802T A100521M*A	S802T A125524M*A	S802T A150524M*A
High Input-BTU/Hr ②	50,000	75,000	75,000	100,000	100,000	125,000	150,000
Heating Capacity BTU/Hr ①	41,000	60,000	61,000	81,000	81,000	101,000	121,000
Low Input BTU/Hr ②	35,000	52,500	52,500	70,000	70,000	87,500	105,000
Heating Capacity BTU/Hr ①	28,000	42,000	42,000	56,000	56,000	70,000	84,000
Heat Ext. Static Pressure	.18	.20	.20	.28	.28	.28	.28
Blower (D x W)	11 x 6	11 x 7	11 x 7	11 x 7	11 x 10	11 x 10	11 x 10
Motor H.P.–Speed–Type	1/2-5- Constant Torque	1/2-5- Constant Torque	3/4-5- Constant Torque	3/4-5- Constant Torque	3/4-5- Constant Torque	3/4-5- Constant Torque	3/4-5- Constant Torque
Min Circuit Ampacity	8	9	13	12	11	11	13
Min. Overload Protection	15	15	15	15	15	15	15
Max. Overload Protection	15	15	20	15	15	15	20
Motor Full Load Amps	6.4	5.8	8.8	8.8	8.8	8.8	8.8
Heating Speed–High Fire	Medium	Medium	Medium	Med-High	Medium	Med-High	Med-High
Heating Speed–Low Fire	Med-Low	Med-Low	Low	Medium	Med-Low	Med-Low	Med-Low
Cooling Speed	High	High	High	High	High	High	High
Cooling CFM @ .70" W.C. E.S.P.	1164	1198	1657	1292	1807	1742	1916
Max. E.S.P. (In. W.C.)	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Temperature Rise Range °F –High Input	25-55	25-55	25-55	35-65	35-65	35-65	45-75
Temperature Rise Range °F –Low Input	20-50	20-50	20-50	25-55	25-55	30-60	35-65
Max. Outlet Air Temp. °F	155	180	155	165	180	165	190
Approx. Shipping Weight (Lbs.)	110	110	125	110	140	150	160
AFUE ①	80.0%	80.0%	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" 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>T</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	T = Constant Torque w/Premium Cabinet	Design Series A = 1st Design	Input BTU/HR [kW] 050 = 50,000 075 = 75,000 100 = 100,000 125 = 125,000 150 = 150,000	3 = Up to 3 Ton 4 = 2½ to 4 Ton 5 = 3½ to 5 Ton	Cabinet Width 14 = 14" 17 = 17.5" 21 = 21" 24 = 24.5"	M = Multi	X = Low NO _x S = Standard	Revision- Marketing (A – First Time Release)

Upflow Application

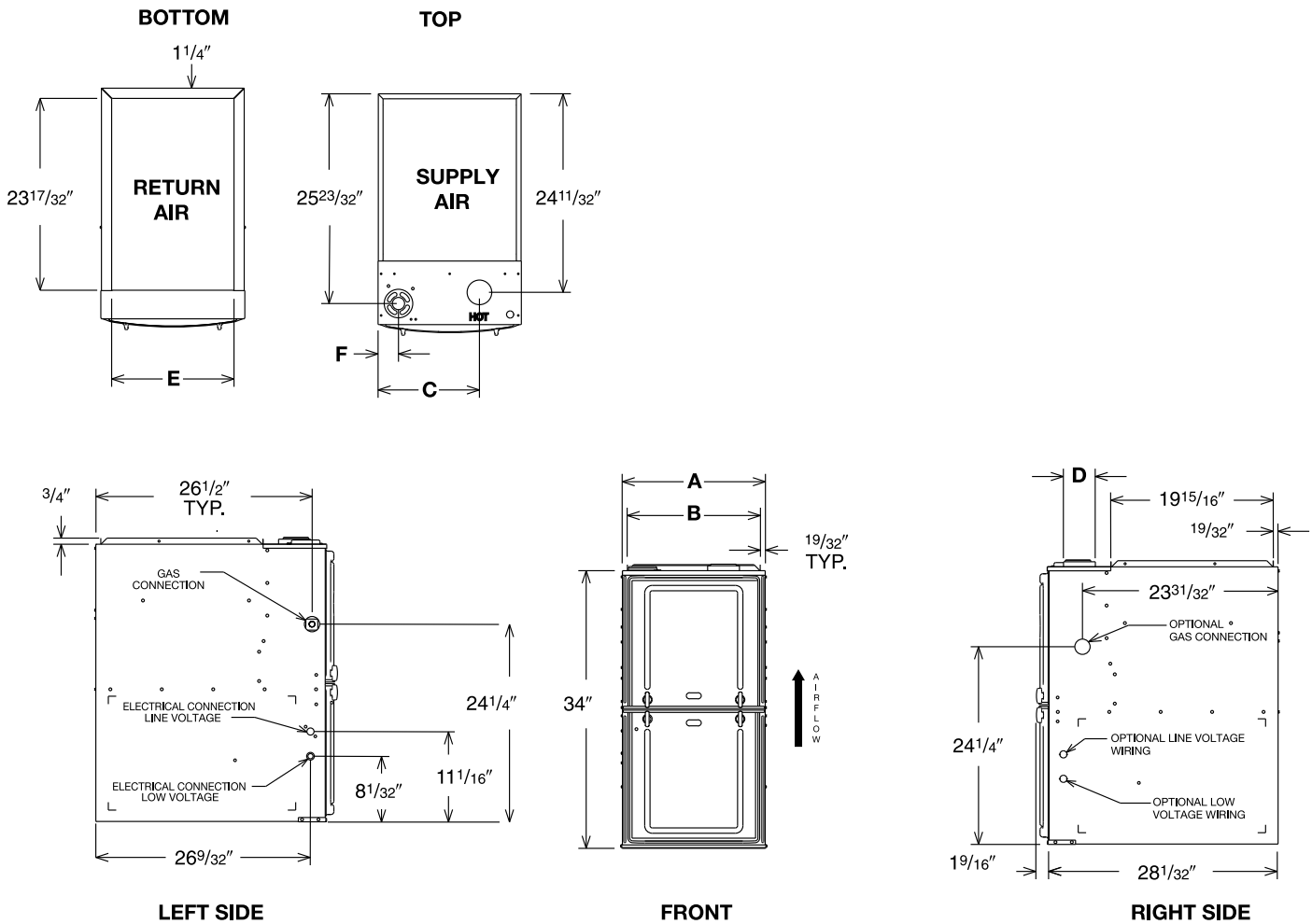


Illustration
 ST-A1220-04-00
 FIGURE 1

Dimensional Data: Upflow Model

MODEL S802T-	A	B	C	D	E	F	MINIMUM CLEARANCE (IN.)						SHIP WGTS. (LBS.)
							LEFT SIDE	RIGHT SIDE	BACK	TOP	FRONT	VENT	
050	14	12 27/32	10 5/8	①	11 1/2	1 7/8	0	4 ②	0	1	3	6 ③	110
075/ 100417	17 1/2	16 11/32	12 3/8	①	15	2 1/2	0	3 ②	0	1	3	6 ③	125
100521	21	19 27/32	14 1/8	①	18 1/2	2 1/2	0	0	0	1	3	6 ③	140
125	24 1/2	23 11/32	15 7/8	①	22	2 1/2	0	0	0	1	3	6 ③	150
150	24 1/2	23 11/32	15 7/8	①	22	2 1/2	0	0	0	1	3	6 ③	160

NOTES: ① May require a 3" to 4" or 3" to 5" adapter.

② May be 0" with type B vent.

③ May be 1" with type B vent.

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

Horizontal Application

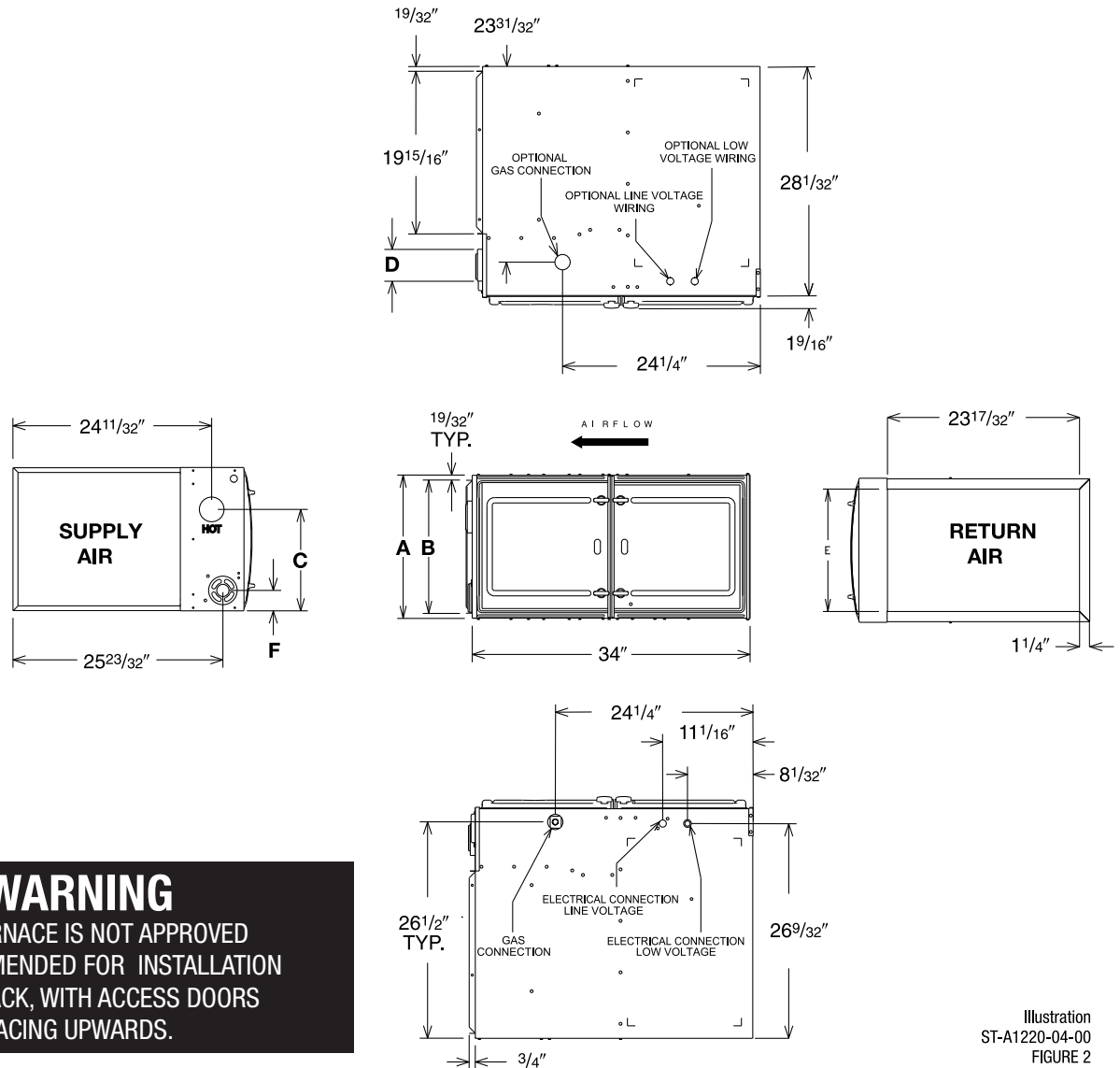


Illustration
ST-A1220-04-00
FIGURE 2

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

Dimensional Data: Horizontal Model

MODEL S802T-	A	B	C	D	E	F	MINIMUM CLEARANCE (IN.)						SHIP WGTS. (LBS.)
							SUPPLY AIR SIDE	RETURN AIR SIDE	BACK	TOP	FRONT	VENT	
050	14	12 ²⁷ / ₃₂	10 ⁵ / ₈	①	11 ¹ / ₂	17 ⁷ / ₈	4 ②	0	0	1	3	6 ③	110
075/ 100417	17 ¹ / ₂	16 ¹¹ / ₃₂	12 ³ / ₈	①	15	2 ¹ / ₂	3 ②	0	0	1	3	6 ③	125
100521	21	19 ²⁷ / ₃₂	14 ¹ / ₈	①	18 ¹ / ₂	2 ¹ / ₂	0	0	0	1	3	6 ③	140
125	24 ¹ / ₂	23 ¹¹ / ₃₂	15 ⁷ / ₈	①	22	2 ¹ / ₂	0	0	0	1	3	6 ③	150
150	24 ¹ / ₂	23 ¹¹ / ₃₂	15 ⁷ / ₈	①	22	2 ¹ / ₂	0	0	0	1	3	6 ③	160

NOTES: ① May require a 3" to 4" or 3" to 5" adapter.

② May be 0" with type B vent.

③ May be 1" with type B vent.

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

Blower Performance Data

MODEL INPUT	AIRFLOW CONTROL SETTINGS	CFM AIR DELIVERY EXTERNAL STATIC PRESSURE, " W.C.									
		SPEED TAP	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
050314	Factory Circ Fan	Low	816	821	788	735	680	625	563	512	472
	Factory Low Heat	Med. Low	816	821	788	735	680	625	563	512	472
	Factory High Heat	Medium	988	986	945	902	866	823	779	730	686
	Cooling	Med. High	1115	1113	1121	1091	1056	1018	982	951	910
	Factory Cooling	High	1299	1303	1265	1265	1236	1202	1172	1142	1112
075317	Factory Circ Fan	Low	998	934	869	811	748	687	615	551	500
	Factory Low Heat	Med. Low	1124	1076	1020	964	912	861	811	761	709
	Factory High Heat	Medium	1289	1245	1195	1153	1105	1059	1008	966	923
	Cooling	Med. High	1456	1400	1361	1315	1275	1237	1195	1147	1106
	Factory Cooling	High	1570	1542	1504	1468	1426	1394	1351	1314	1280
075417	Factory Low Heat	Low	1185	1115	1056	1001	933	870	810	740	689
	Factory Circ Fan	Med. Low	1302	1263	1210	1161	1111	1062	1012	956	910
	Factory High Heat	Medium	1401	1377	1319	1271	1232	1178	1125	1078	1027
	Cooling	Med. High	1586	1581	1520	1483	1440	1394	1342	1304	1277
	Factory Cooling	High	1834	1823	1778	1770	1741	1695	1656	1625	1588
100417	Factory Circ Fan	Low	987	923	868	808	732	670	607	555	516
	Cooling	Med. Low	1287	1243	1195	1148	1106	1061	1018	970	924
	Factory Low Heat	Medium	1363	1316	1277	1233	1189	1150	1105	1067	1019
	Factory High Heat	Med. High	1550	1519	1488	1450	1404	1363	1334	1296	1259
	Factory Cooling	High	1836	1809	1782	1752	1717	1679	1639	1610	1580
100521	Factory Circ Fan	Low	1301	1226	1157	1089	1020	949	860	788	722
	Factory Low Heat	Med. Low	1314	1251	1189	1125	1063	1000	930	861	790
	Factory High Heat	Medium	1568	1513	1459	1406	1348	1294	1244	1188	1134
	Cooling	Med. High	1904	1858	1816	1770	1724	1681	1635	1592	1548
	Factory Cooling	High	2047	2005	1964	1921	1885	1838	1798	1753	1711
125524	Factory Circ Fan	Low	1287	1210	1129	1061	989	909	841	779	716
	Factory Low Heat	Med. Low	1525	1468	1411	1355	1299	1237	1186	1128	1063
	Cooling	Medium	1687	1641	1584	1535	1480	1427	1380	1334	1278
	Factory High Heat	Med. High	1893	1841	1791	1750	1698	1650	1606	1559	1515
	Factory Cooling	High	2073	2025	1985	1934	1891	1849	1802	1765	1721
150524	Factory Circ Fan	Low	1363	1296	1230	1146	1082	1011	948	883	840
	Factory Low Heat	Med. Low	1586	1523	1467	1417	1364	1306	1253	1195	1145
	Cooling	Medium	1744	1691	1633	1590	1536	1491	1437	1389	1339
	Factory High Heat	Med. High	1989	1925	1883	1832	1782	1741	1695	1653	1603
	Factory Cooling	High	2233	2182	2140	2094	2054	2015	1964	1921	1882

Note: Table represents blower performance data WITHOUT filters.

SIDE RETURN FILTER RACK: RXGF-CD

**BOTTOM RETURN FILTER RACK FOR
UPFLOW APPLICATION:** RXGF-CB

FILTER RACK FILTER SIZES* INCHES		
MODEL	RXGF-CB (UPFLOW/ HORIZONTAL)	RXGF-CD (UPFLOW) SIDE RETURN
S802TA050	12 ¹ / ₄ x 25	15 ³ / ₄ x 25
S802TA075/ S802T100521	15 ³ / ₄ x 25	15 ³ / ₄ x 25
S802TA100417	19 ¹ / ₄ x 25	15 ³ / ₄ x 25
S802TA125	22 ³ / ₄ x 25	15 ³ / ₄ x 25
S802TA150	22 ³ / ₄ x 25	15 ³ / ₄ x 25

INDOOR COIL CASINGS

MODEL NUMBER
RXBC-D14AI
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.	SOLID BOTTOM KIT NO.	BASE PLATE NO.	BASE PLATE SIZE IN.
14	RXGB-D14	AE-61874-01	11 ⁵ / ₈ x 23 ⁹ / ₁₆
17 ¹ / ₂	RXGB-D17	AE-61874-02	15 ¹ / ₈ x 23 ⁹ / ₁₆
21	RXGB-D21	AE-61874-03	18 ⁵ / ₈ x 23 ⁹ / ₁₆
24 ¹ / ₂	RXGB-D24	AE-61874-04	25 ⁵ / ₈ x 23 ⁹ / ₁₆

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.

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.**

Conditional Parts* (Registration Required)Ten (10) Years
Heat ExchangerLimited Lifetime



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.

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