



## Ruud Achiever Plus® Series Upflow/Horizontal Gas Furnace



### R802P- Upflow/Horizontal Series

80% A.F.U.E. †

Input Rates 50-150 kBTU



†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.
- 3 way multi poise design UF / HZ
- PlusOne™ Diagnostics — 7 Segment LED all units
- PlusOne™ 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

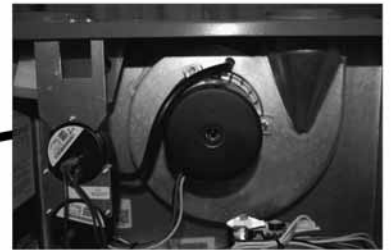
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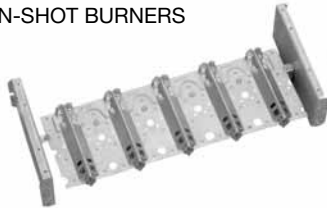
PATENTED HEAT EXCHANGER



DRAFT INDUCER MOTOR



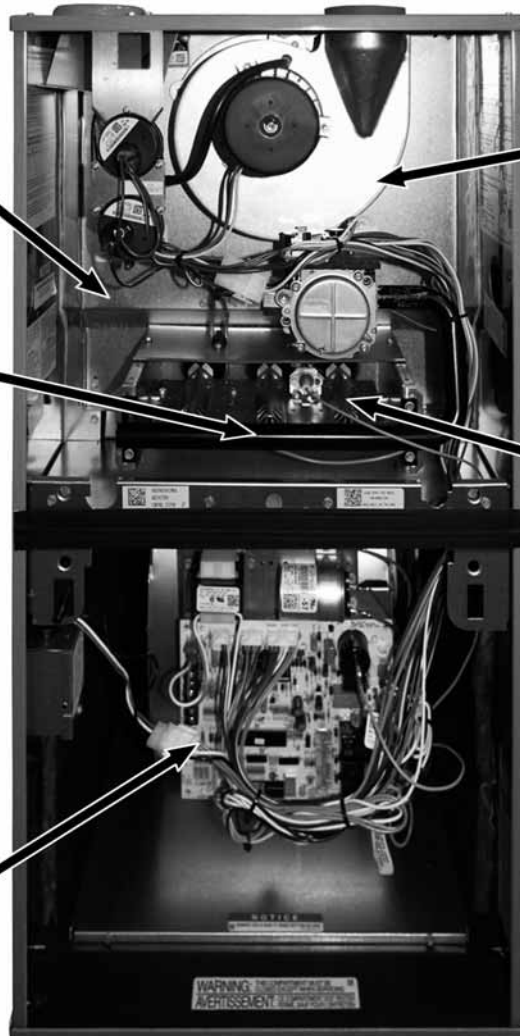
IN-SHOT BURNERS



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 Ruud 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 Ruud 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.
- 3 way multi poise design UF / HZ
- PlusOne™ Diagnostics – 7 Segment LED all units
- PlusOne™ 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 R802P SERIES	R802PA050314M*A	R802PA075317M*A	R802PA075417M*A	R802PA100417M*A	R802PA100521M*A	R802PA125524M*A	R802PA150524M*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	1/3-4-PSC	1/2-4-PSC	1/2-4-PSC	1/2-4-PSC	1/2-4-PSC	3/4-4-PSC	3/4-4-PSC
Min Circuit Ampacity	9	10	12	12	11	12	13
Min. Overload Protection	15	15	15	15	15	15	20
Max. Overload Protection	15	15	15	15	15	20	20
Motor Full Load Amps	5.7	6.7	7.8	7.8	7.5	8.4	9.3
Heating Speed–High Fire	Med-Low	Med-High	Med-High	Med-High	Med-Low	Med-High	Med-High
Heating Speed–Low Fire	Low	Med-Low	Low	Med-Low	Low	Low	Low
Cooling Speed	High	Low	High	Med-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.)	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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

## Model Number Identification

<u>R</u>	<u>80</u>	<u>2</u>	<u>P</u>	<u>A</u>	<u>075</u>	<u>4</u>	<u>17</u>	<u>M</u>	<u>S</u>	<u>A</u>
Ruud	80 = 80% AFUE	2 = Two Stage	P = Premium PSC	Design Series A = 1st Design	Input BTU/HR [kW]	3 = Up to 3 Ton	Cabinet Width	M = Multi	X = Low NO <sub>x</sub> S = Standard	Revision- Marketing (A – First Time Release)
					050 = 50,000	4 = 2½ to 4 Ton	14 = 14"			
					075 = 75,000	5 = 3½ to 5 Ton	17 = 17.5"			
					100 = 100,000		21 = 21"			
					125 = 125,000		24 = 24.5"			
					150 = 150,000					

## Upflow Application

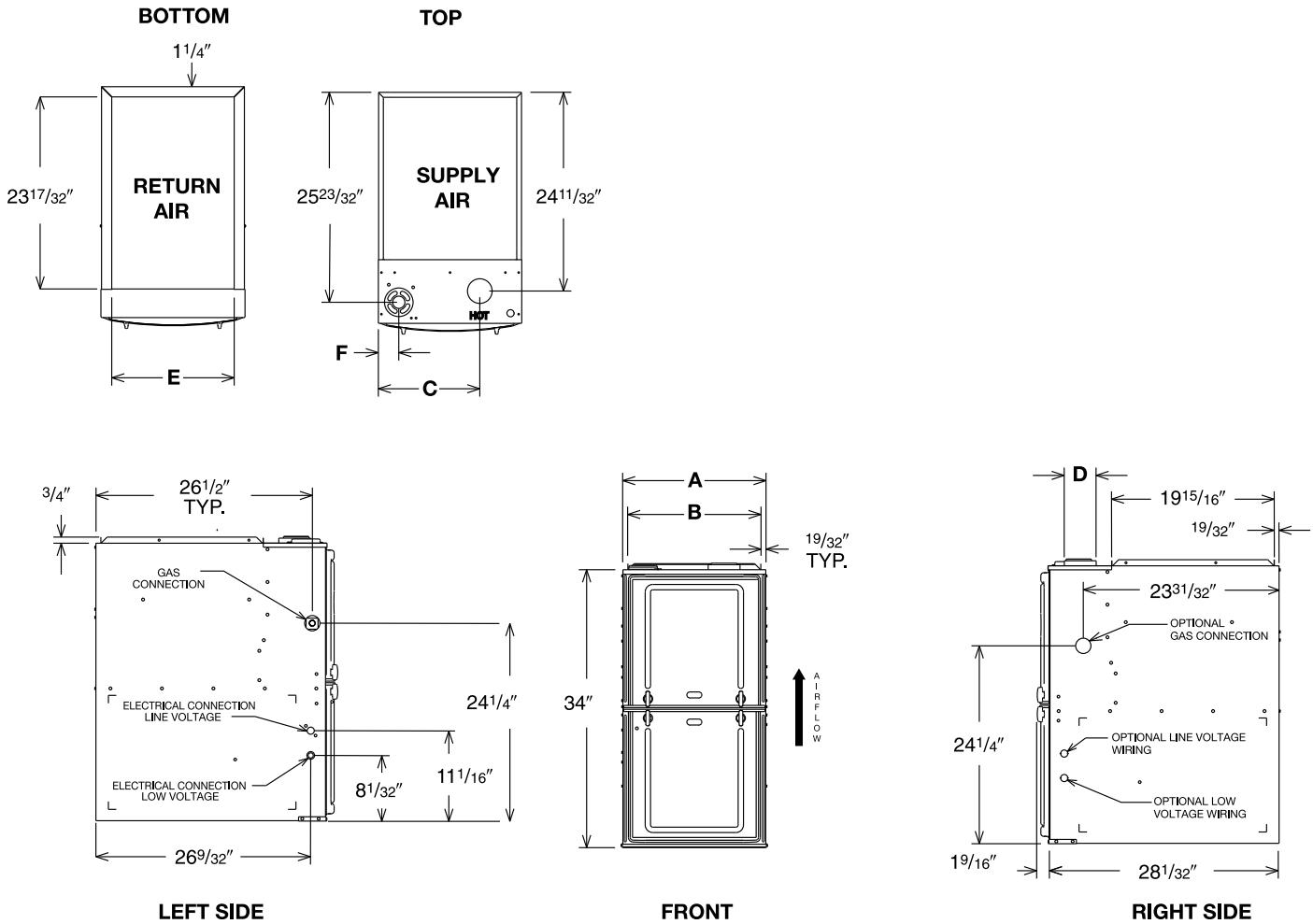


Illustration  
ST-A1220-04-00  
FIGURE 1

## Dimensional Data: Upflow Model

MODEL R802P-	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	17/8	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

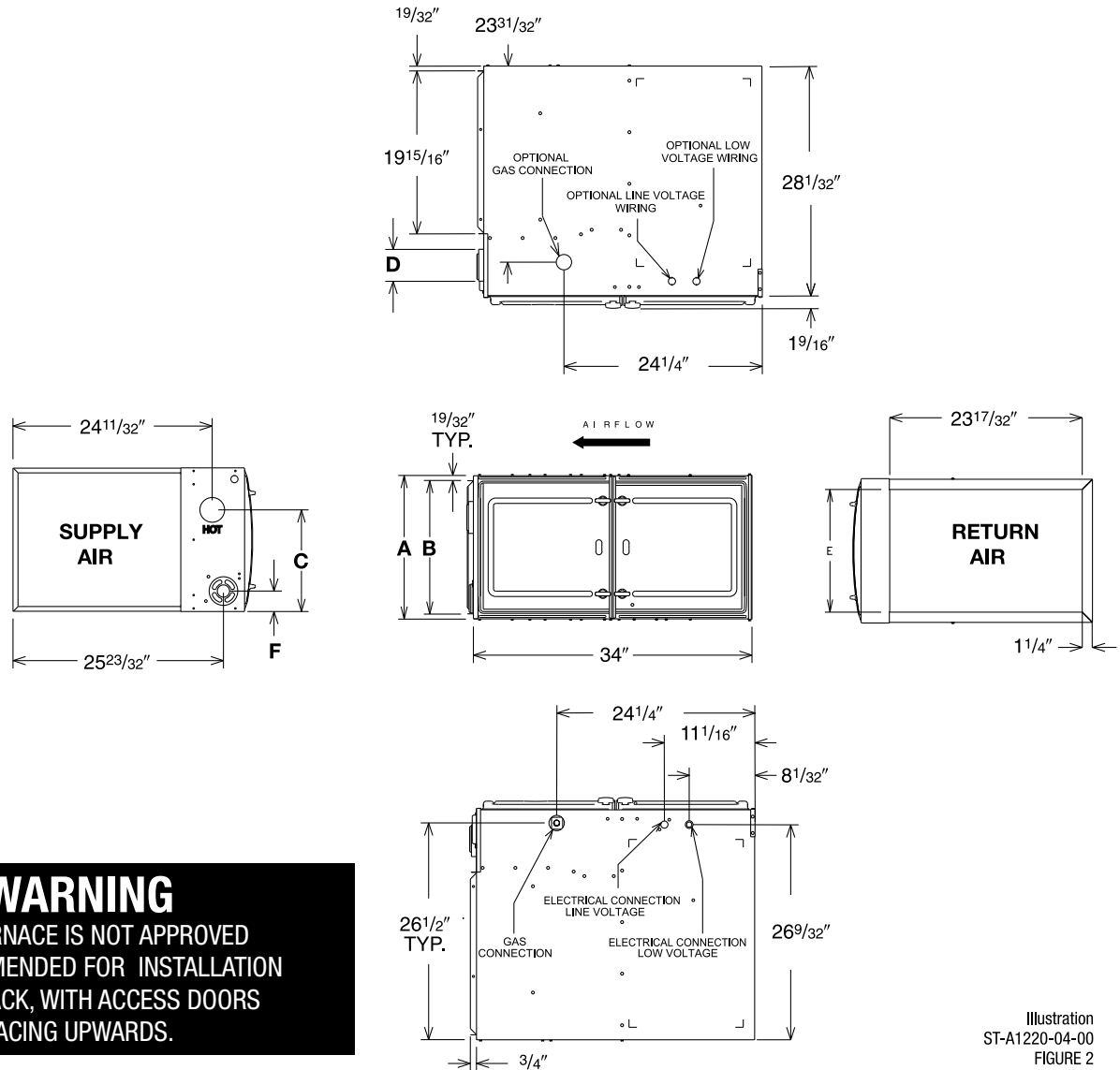


Illustration  
ST-A1220-04-00  
FIGURE 2

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

## Dimensional Data: Horizontal Model

MODEL R802P-	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 <sup>27/32</sup>	10 <sup>5/8</sup>	①	11 1/2	17/8	4 ②	0	0	1	3	6 ③	110
075/ 100417	17 1/2	16 <sup>11/32</sup>	12 <sup>3/8</sup>	①	15	2 1/2	3 ②	0	0	1	3	6 ③	125
100521	21	19 <sup>27/32</sup>	14 <sup>1/8</sup>	①	18 1/2	2 1/2	0	0	0	1	3	6 ③	140
125	24 1/2	23 <sup>11/32</sup>	15 <sup>7/8</sup>	①	22	2 1/2	0	0	0	1	3	6 ③	150
150	24 1/2	23 <sup>11/32</sup>	15 <sup>7/8</sup>	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	MOTOR H.P. [W] BLOWER SIZE IN	SPEED TAP	CFM AIR DELIVERY EXTERNAL STATIC PRESSURE INCHES WATER COLUMN [kPa]							
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
(-)802PA050314M*A	1/3 11 x 6	Low**	823	803	787	732	718	691	651	593
		Med. Lo*	1030	1018	1006	976	929	897	850	808
		Med. Hi	1129	1132	1112	1087	1054	1028	971	919
		High	1361	1353	1331	1297	1264	1232	1164	1117
(-)802PA075317M*A	1/2 11 x 7	Low	1008	977	935	893	854	823	777	735
		Med. Lo**	1215	1181	1133	1098	1065	1023	975	937
		Med. Hi*	1421	1408	1372	1326	1299	1247	1198	1152
		High	1668	1648	1633	1580	1545	1481	1442	1373
(-)802PA075417M*A	1/2 11 x 7	Low**	1229	1200	1181	1155	1120	1078	1013	970
		Med. Lo	1308	1267	1266	1233	1204	1176	1113	1062
		Med. Hi*	1553	1542	1516	1491	1451	1417	1358	1306
		High	1969	1924	1893	1840	1803	1728	1657	1570
(-)802PA100417M*A	1/2 11 x 7	Low	1211	1183	1148	1116	1077	1040	984	953
		Med. Lo**	1305	1261	1225	1185	1157	1113	1068	1012
		Med. Hi*	1520	1498	1464	1427	1387	1340	1292	1226
		High	1874	1810	1767	1686	1678	1650	1582	1497
(-)802PA100521M*A	1/2 11 x 10	Low**	1209	1182	1131	1112	1051	976	929	867
		Med. Lo*	1438	1420	1386	1350	1320	1293	1248	1186
		Med. Hi	1902	1883	1844	1817	1753	1700	1636	1547
		High	2071	2037	2001	1962	1905	1856	1807	1709
(-)802PA125524M*A	3/4 11 x 10	Low**	1358	1354	1331	1301	1250	1224	1154	1089
		Med. Lo	1541	1517	1476	1453	1416	1371	1339	1277
		Med. Hi*	1799	1774	1746	1712	1691	1629	1554	1495
		High	2015	1989	1929	1902	1862	1815	1742	1665
(-)802PA150524M*A	3/4 11 x 10	Low**	1411	1395	1370	1334	1310	1252	1220	1150
		Med. Lo	1606	1579	1569	1537	1499	1468	1407	1346
		Med. Hi*	1889	1891	1849	1828	1764	1717	1659	1609
		High	2178	2160	2105	2067	2024	1976	1916	1832

\*High Heat Factory Speed Tap

\*\*Low Heat Factory Speed Tap

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
R802PA050	12 <sup>1</sup> / <sub>4</sub> x 25	15 <sup>3</sup> / <sub>4</sub> x 25
R802PA075/ R802P100521	15 <sup>3</sup> / <sub>4</sub> x 25	15 <sup>3</sup> / <sub>4</sub> x 25
R802PA100417	19 <sup>1</sup> / <sub>4</sub> x 25	15 <sup>3</sup> / <sub>4</sub> x 25
R802PA125	22 <sup>3</sup> / <sub>4</sub> x 25	15 <sup>3</sup> / <sub>4</sub> x 25
R802PA150	22 <sup>3</sup> / <sub>4</sub> x 25	15 <sup>3</sup> / <sub>4</sub> 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 <sup>5</sup> / <sub>8</sub> x 23 <sup>9</sup> / <sub>16</sub>
17 <sup>1</sup> / <sub>2</sub>	RXGB-D17	AE-61874-02	15 <sup>1</sup> / <sub>8</sub> x 23 <sup>9</sup> / <sub>16</sub>
21	RXGB-D21	AE-61874-03	18 <sup>5</sup> / <sub>8</sub> x 23 <sup>9</sup> / <sub>16</sub>
24 <sup>1</sup> / <sub>2</sub>	RXGB-D24	AE-61874-04	25 <sup>5</sup> / <sub>8</sub> x 23 <sup>9</sup> / <sub>16</sub>

**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 (NFGC) 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\***

Ruud 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 Exchanger .....Limited Lifetime





*In keeping with its policy of continuous progress and product improvement, Ruud reserves the right to make changes without notice.*

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