

GAS FURNACES



90 PLUS® WITH DUAL COMFORT CONTROL TWO-STAGE UPFLOW GAS FURNACES

The Ruud *Achiever® Series 90 Plus with Dual Comfort Control* line of upflow gas furnaces are designed for utility rooms, closets, alcoves, or attics. **Because of the low-profile 34 inch [864 mm] height, the upflow model can also be used to satisfy most applications that traditionally call for a horizontal furnace.**

The design is certified by CSA.

UGRL- SERIES

Models with Input Rates of
**45,000, 60,000, 75,000 &
90,000 BTU/HR**
[13.19, 17.58, 22, & 26.38 kW]
(All Models 95% A.F.U.E.† or Above)



Features

- Two stages of operation to save energy and maintain optimal comfort level.
- Furnace operates at 70% capacity for low-heat and 100% capacity for high-heat.
- Compatible with single or two-stage thermostat. (For optimal performance a two-stage thermostat is recommended.)
- Heat exchanger is constructed of all stainless steel for maximum corrosion resistance and thermal fatigue reliability.
- Low profile "34 inch" design is lighter and easier to handle and leaves room for optional accessories.
- Left or right side gas, electric, and condensate drainage connections on upflow models.
- Integrated control board manages all operational functions and provides hookups for humidifier and electronic air cleaner.
- An insulated blower compartment, a slow-opening gas valve and a specially designed inducer system make it one of the quietest furnaces on the market today.
- Pre-paint galvanized steel cabinet.
- Molded permanent filters.
- Optional indoor or outdoor combustion air. In addition, combustion air may be piped to either the top or side of the cabinet on all upflow models. A special molded fitting is provided to ease installation.
- Transformer and control fuse protection.
- Solid bottom is standard.
- Control board diagnostics.

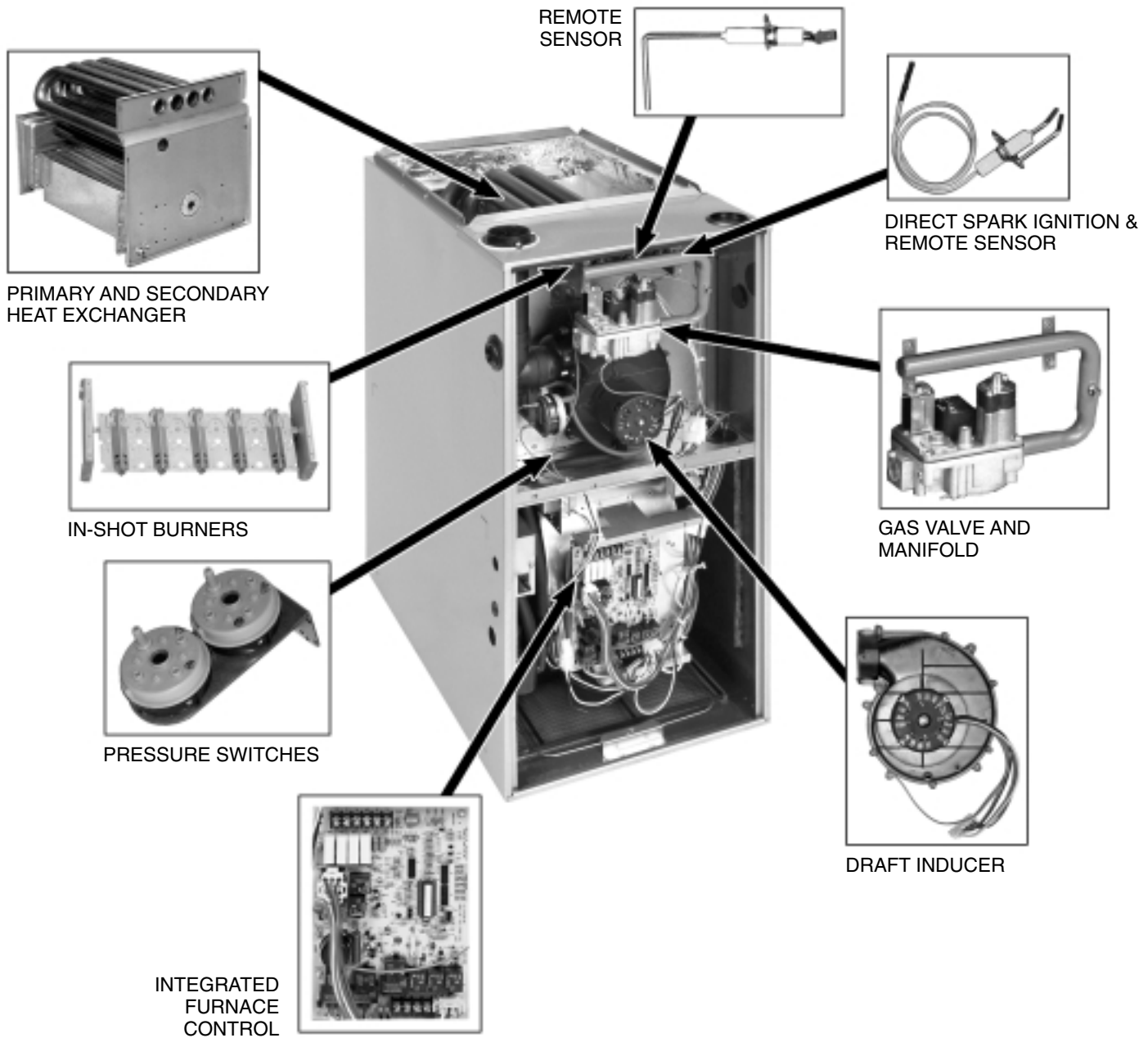
A variety of cooling coils and plenums designed to use with the Ruud *Achiever® Series 90 Plus* gas furnaces are available as optional accessories for air conditioning models.

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

"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 criteria. Ask your Contractor for details or visit www.energystar.gov <<http://www.energystar.gov/>>."



ACHIEVER SERIES 90 PLUS HIGH EFFICIENCY UPFLOW GAS FURNACE



STANDARD EQUIPMENT

Completely assembled and wired; heat exchanger; primary: 409 and aluminized 409 stainless steel, secondary: 29-4C stainless steel; induced draft; pressure switches; redundant main gas control; blower compartment door safety switch; solid state time on/off blower control; limit controls; manual shut-off valve; 100% safety lock out; cool fan off delay; field selectable heat fan off delay; one hour automatic retry; power and self-test diagnostics; flame sense current diagnostics; electronic air cleaner connections; twinning (built-in) features; humidifier connections; humidifier on/off delay; low speed continuous fan option; single speed option for heating and cooling applications; pressure regulator for natural and L.P. (propane) gasses; transformer; direct drive, multi-speed blower motor. (Please note: a thermostat is not included as standard equipment.)

OPTIONAL EQUIPMENT

Side and bottom filter racks; return air cabinet for all sizes.

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

All models can be converted by a qualified 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 parts distributor.

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

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

PHYSICAL DATA AND SPECIFICATIONS—UPFLOW MODELS

U.S. and Canadian Models

MODEL NUMBERS	UGRL-04*MAES	UGRL-06*MAES	UGRL-07*YBGS	UGRL-09*ZAJ S
HIRE FIRE INPUT BTU/HR [kW] ①	45,000 [13.19]	60,000 [17.58]	75,000 [21.98]	90,000 [26.38]
LOW FIRE INPUT BTU/HR [kW] ②	31,500 [9.23]	42,000 [12.31]	52,500 [15.39]	63,000 [18.46]
HEATING CAPACITY BTU/HR [kW]	42,000 [12.31]	56,000 [16.41]	70,000 [20.51]	84,000 [24.62]
HIGH ALTITUDE INPUT 8000' ②	30,600 [8.97]	40,800 [11.96]	51,000 [14.95]	61,200 [17.94]
HIGH ALTITUDE OUTPUT AT 8000' (HIGH FIRE) [kW] ②	28,458 [8.34]	37,944 [11.12]	47,430 [13.90]	56,916 [16.69]
BLOWER (D x W) [mm]	11 x 7 [279 x 178]	11 x 7 [279 x 178]	12 x 7 [305 x 178]	12 x 11 [305 x 279]
MOTOR H.P. [W]-SPEEDS-TYPE	1/2 [373]-4-PSC	1/2 [373]-4-PSC	3/4 [559]-4-PSC	3/4 [559]-4-PSC
MOTOR FULL LOAD AMPS	6.8	6.8	9.5	9.5
HEATING SPEED-HIGH FIRE	MED-LO	MED-LO	MED-HI	MED-HI
HEATING SPEED-LOW FIRE	LOW	LOW	LOW	MED-LO
COOLING SPEED	HIGH	HIGH	HIGH	HIGH
HEAT EXT. STATIC PRESSURE (IN. W.C.) [kPa]	.10 [.025]	.12 [.029]	.12 [.029]	.15 [.037]
RATED EXT. STATIC PRESSURE (IN. W.C.) [kPa]	.50 [.124]	.50 [.124]	.50 [.124]	.50 [.124]
HEATING CFM @ .2" [.049 kPa] W.C. E.S.P. [L/s]	885 [417]	845 [398]	1275 [600]	1465 [691]
COOLING CFM @ .5" [.124 kPa] W.C. E.S.P. [L/s]	1195 [564]	1100 [519]	1540 [725]	1910 [901]
TEMPERATURE RISE-HIGH FIRE RANGE °F [°C]	30-60 [16.7-33.3]	40-70 [22.2-38.9]	35-65 [19.4-36.1]	35-65 [19.4-36.1]
TEMPERATURE RISE-LOW FIRE RANGE °F [°C]	15-45 [8.3-25]	30-60 [16.7-33.3]	25-55 [13.9-30.6]	25-55 [13.9-30.6]
RETURN AIR CABINETS (OPT.) RXGR-FILTER SIZE [mm]	C17B (2) 12" x 16" [305 x 406]	C17B (2) 12" x 16" [305 x 406]	C21B (2) 12" x 20" [305 x 508]	C21B (2) 20" x 16" [508 x 406]
STANDARD, HIGH VELOCITY PERMANENT FILTER (IN.)	15 ³ / ₄ x 25 x 1	15 ³ / ₄ x 25 x 1	15 ³ / ₄ x 25 x 1	19 ¹ / ₄ x 25 x 1
APPROX. SHIPPING WEIGHT (LBS.) [kg]	111 [50.3]	117 [53.1]	145 [65.5]	148 [67.1]
AFUE ③	95.0%	95.0%	95%	95.0%

NOTES: All models are 115V, 60HZ, 1Ø. Gas connection size for all models is 1/2" [13 mm] N.P.T.

① See Conversion Kit Index Form for high altitude derate.

② Canadian installations only.

③ In accordance with D.O.E. test procedures.

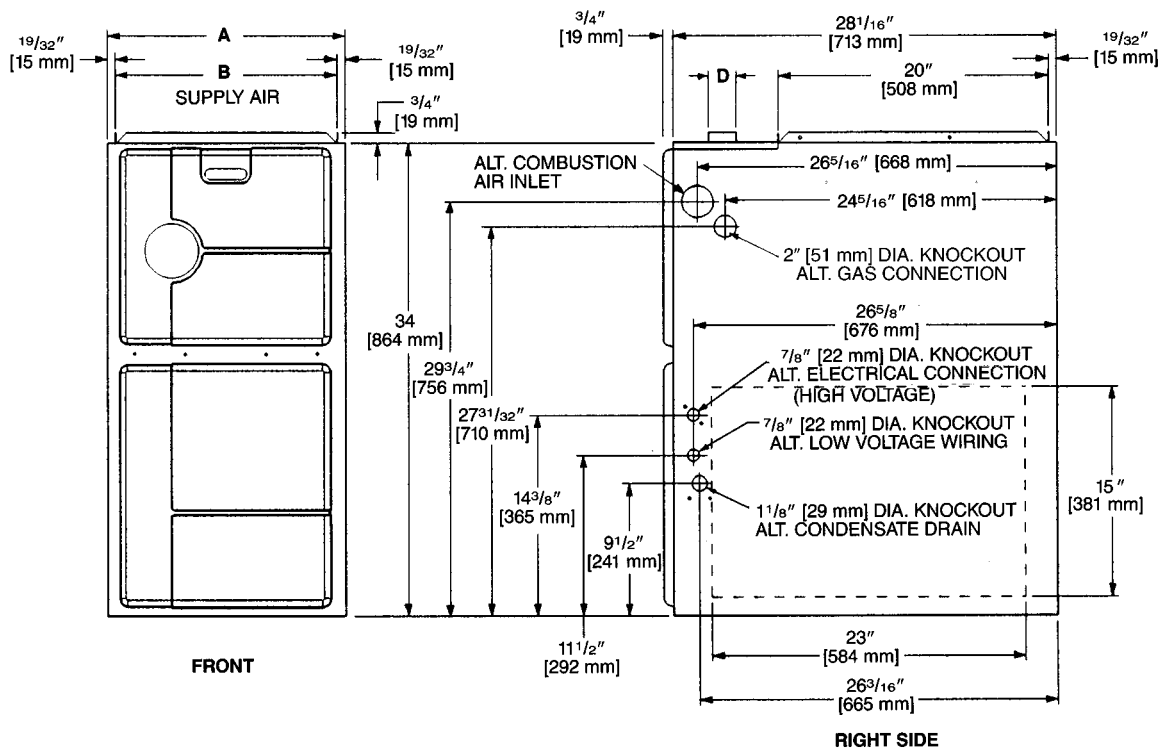
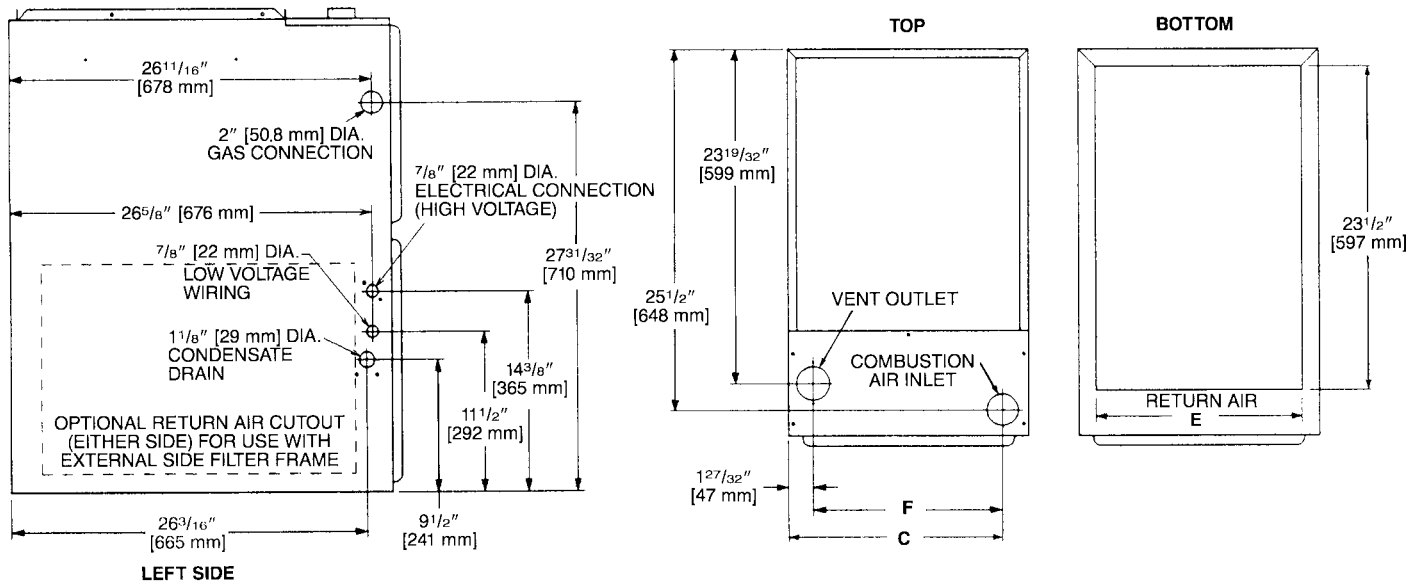
*E = Standard

*N = NO_x Models

MODEL IDENTIFICATION

<u>U</u>	<u>G</u>	<u>R</u>	<u>L</u>	<u>—</u>	<u>07E*</u>	<u>Y</u>	<u>B</u>	<u>G</u>	<u>S</u>	<u>278</u>
Ruud	Gas Furnace	Upflow/Condensing Gas Furnace	Design Series		Heating Input Designation	Blower Size	Variations	Heat/Cool Designation	Fuel Code	Option Code for High Altitude
					Electric Ignition	M = 11 x 7 [279 x 178 mm] R = 11 x 10 [279 x 254 mm] Z = 12 x 11 [305 x 279 mm] Y = 12 x 7 [305 x 178 mm]	A = Std. B = Wide Cabinet	E = 1100-1300 CFM [519-613.5 L/s] G = 1500-1700 CFM [707.9-802.3 L/s] J = 1900-2100 CFM [896.7-991.1 L/s]	S = U.S. and Canadian Natural Gas	
					Input BTU/HR					
					04* 45,000 [13 kW] 06* 60,000 [17.6 kW] 07* 75,000 [22 kW] 09* 90,000 [26.4 kW]					
					NOTES: *E = Standard *N = NO _x Models			Available Models:		
								UGRL-04EMAES UGRL-04NMAES UGRL-06EMAES UGRL-06NMAES UGRL-06EMAES278	UGRL-07EYBGS UGRL-07NYBGS UGRL-09EZAJS UGRL-09NZAJS UGRL-09EZAJS278	

UPFLOW MODELS



MODEL UGRL-	A	B	C	D	E	F	LEFT SIDE	MINIMUM CLEARANCE (IN.) [mm]					SHIP WGTS. [kg]
								RIGHT SIDE	BACK	TOP	FRONT	VENT	
04*M	17 1/2 [445]	16 ^{11/32} [415]	15 ^{5/8} [397]	2 [51]	15 [422]	13 ^{25/32} [352]	0	0	0	1 [25]	2 [51]	0	111 [50]
06*M	17 1/2 [445]	16 ^{11/32} [415]	15 ^{5/8} [397]	2 [51]	15 [422]	13 ^{25/32} [352]	0	0	0	1 [25]	2 [51]	0	117 [53]
07*Y	21 [533]	19 ^{27/32} [504]	19 1/8 [487]	2 [51]	18 1/2 [511]	17 ^{9/32} [441]	0	0	0	1 [25]	2 [51]	0	145 [66]
09*Z	21 [533]	19 ^{27/32} [504]	19 1/8 [487]	2 [51]	18 1/2 [511]	17 ^{9/32} [441]	0	0	0	1 [25]	2 [51]	0	148 [67]

*E=Standard
*N=NO_x Models

BLOWER PERFORMANCE DATA** —UGRL MODELS

MODEL UGRL-	BLOWER SIZE [mm]	MOTOR H.P. [W]	BLOWER SPEED	CFM [L/s] AIR DELIVERY EXTERNAL STATIC PRESSURE INCHES WATER COLUMN [kPa]						
				0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]
04*M	11 x 7 [279 x 178]	1/2 [373]	LOW	805 [380]	780 [368]	760 [358]	720 [340]	685 [323]	645 [304]	605 [285]
			MED-LO	920 [434]	885 [417]	850 [401]	810 [382]	775 [365]	730 [344]	690 [325]
			MED-HI	1140 [538]	1110 [524]	1085 [512]	1045 [493]	1010 [476]	950 [448]	890 [420]
			HIGH	1360 [642]	1320 [623]	1280 [604]	1235 [583]	1195 [564]	1140 [538]	1080 [500]
06*M	11 x 7 [279 x 178]	1/2 [373]	LOW	770 [363]	740 [349]	710 [335]	675 [318]	645 [304]	605 [285]	570 [269]
			MED-LO	880 [415]	845 [398]	815 [384]	790 [373]	760 [358]	715 [337]	670 [316]
			MED-HI	1060 [500]	1025 [483]	990 [467]	960 [453]	925 [436]	880 [415]	835 [394]
			HIGH	1260 [594]	1215 [573]	1175 [554]	1135 [535]	1100 [519]	1040 [491]	985 [465]
07*Y	12 x 7 [305 x 178]	3/4 [559]	LOW	1105 [522]	1096 [517]	1080 [610]	1050 [498]	1030 [466]	1010 [477]	990 [467]
			MED-LO	1290 [609]	1275 [602]	1280 [605]	1220 [678]	1195 [564]	1170 [552]	1140 [538]
			MED-HI	1480 [698]	1435 [677]	1415 [668]	1390 [658]	1370 [647]	1300 [614]	1255 [592]
			HIGH	1705 [805]	1665 [788]	1615 [762]	1570 [741]	1540 [727]	1475 [696]	1400 [661]
09*Z	12 x 11 [305 x 279]	3/4 [559]	LOW	1235 [582]	1210 [571]	1185 [559]	1150 [543]	1120 [528]	1075 [507]	1035 [488]
			MED-LO	1490 [703]	1465 [691]	1440 [679]	1405 [663]	1375 [649]	1315 [620]	1255 [592]
			MED-HI	1720 [811]	1670 [788]	1620 [764]	1600 [755]	1580 [746]	1520 [717]	1460 [689]
			HIGH	2100 [991]	2050 [967]	2000 [944]	1955 [923]	1910 [901]	1825 [861]	1745 [823]

*E=Standard
 *N=NO_x Models
 **Blower performance measured with filter in place.

[] Designates Metric Conversions

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 Warranty, Including Applicable Terms and Conditions, See Your Local Installer or Contact the Manufacturer for a Copy.

Primary and Secondary Heat Exchanger.....Limited Lifetime
 *Any Other Part.....Five (5) Years

***This five year limited warranty is applicable only to single-phase products installed in residential applications.**

ACCESSORIES—UPFLOW

VENT TERMINATION KITS

CONCENTRIC: Horizontal/Vertical = RXGY-E03

HORIZONTAL TWO PIPE: RXGY-D02, RXGY-D03

CONDENSATE PUMP KIT: RXGY-B01

NEUTRALIZER KIT: RXGY-A01

FOSSIL FUEL KIT: RXPF-F01, RXPF-F02 (TVA)

RETURN AIR PLENUM: RXGR-C17B, RXGR-C21B, RXGR-C24B

PLENUM DATA FOR “A” COILS

Plenum adapters are required in some instances for use on upflow applications when plenum and furnace size do not match.

FURNACE WIDTH IN. [mm]	PLENUM WIDTH IN. [mm]	PLENUM ADAPTER UPFLOW	COIL PLENUM
14 [356]	16 ¹ / ₄ [413]	RXAA-C171	RXAL-B16BU
14 [356]	20 ¹ / ₄ [514]	RXAA-C172	RXAL-B20BU
17 ¹ / ₂ [445]	16 ¹ / ₄ [413]	RXAA-C185	RXAL-B16BU
17 ¹ / ₂ [445]	20 ¹ / ₄ [514]	RXAA-C173	RXAL-B20BU
17 ¹ / ₂ [445]	21 ⁵ / ₈ [549]	RXAA-C187	RXAL-B21BU
17 ¹ / ₂ [445]	25 ¹ / ₄ [641]	RXAA-C174	RXAL-B25BU
21 [533]	25 ¹ / ₄ [641]	RXAA-C175	RXAL-B25BU
21 [533]	22 ¹ / ₄ [565]	RXAA-C176	RXAL-B22BU
21 [533]	21 ⁵ / ₈ [549]	RXAA-C188	RXAL-B21BU
24 ¹ / ₂ [622]	25 ¹ / ₄ [641]	RXAA-C177	RXAL-B25BU
24 ¹ / ₂ [622]	21 ⁵ / ₈ [549]	RXAA-C187	RXAL-B21BU

Note: See Form Number C22-206 for MultiFlex® coil data.

LP CONVERSION KITS:

U.S./Canadian RXGJ-FP19 or RXGJ-FP21

EXTERNAL BOTTOM FILTER RACK: RXGF-CB

EXTERNAL SIDE FILTER RACK: RXGF-CA

FILTER RACK FILTER SIZES* INCHES [mm]		
MODEL UGRL-	RXGF-CB (BOTTOM)	RXGF-CA (SIDE)
04	15 ³ / ₄ x 25 [400 x 635]	15 ³ / ₄ x 25 [400 x 635]
06	15 ³ / ₄ x 25 [400 x 635]	15 ³ / ₄ x 25 [400 x 635]
07EY 07NY	19 ¹ / ₄ x 25 [489 x 635]	15 ³ / ₄ x 25 [400 x 635]
09	19 ¹ / ₄ x 25 [489 x 635]	15 ³ / ₄ x 25 [400 x 635]

*Filter racks are shipped without filters.

Filters shipped with furnace may be used or a suitable 1" [25.4 mm] filter.

[] Designates Metric Conversions

FOR HIGH ALTITUDES:

HIGH ALTITUDE KIT:

INPUT BTU/HR [kW]	HIGH ALTITUDE KIT NO.
45,000 [13]	RXGY-F18
60,000 [18]	RXGY-F18
75,000 [22]	Not Required
90,000 [26]	RXGY-F20

NOTE: High altitude kits and options do **NOT** include additional burner orifices. If a burner orifice change is necessary, they must be ordered through PROSTOCK®. See Installation Instructions for more information.

Option – 278 furnaces are shipped with #51 DMS orifices installed. This is one drill size smaller than standard furnaces to account for expected average elevations and heating values typically seen in these areas.

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

For all installations above 2000 ft. (including all option – 278 models), the burner orifice size needs to be recalculated and verified. A burner orifice change may still be required. See Installation Instructions for more information.

NOTE: For Canadian installations only, an optional derate (manifold gas pressure reduction) method may be used to adjust the furnace for altitude. See Installation Instructions for more information. This optional method may **NOT** be used for U.S. installations.

(U.S. Models—Kit packaged with furnace.
Requires field installation).

NOTES

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.

**Ruud Heating,
Cooling and
Water Heating**

P.O. Box 17010, Fort Smith, AR 72917



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