Ruud *Achiever®* Series Two-Stage Upflow Gas Furnaces

RGRL- Series

95% A.F.U.E. or Above
Input Rates 45, 60, 75, 90 & 105 kBTU
[13.19, 17.58, 22, 26.38 & 30.77 kW]
With *Dual Comfort Control™*

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

- 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. The design is certified by CSA.
- 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 aluminized 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.
- 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.
- Features a Limited Lifetime Warranty on the primary and secondary heat exchanger and a 10-Year Limited Warranty on all other parts.
- 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.
- Dual certified for sealed combustion (2-pipe) or non-direct (1-pipe) applications.
- 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.

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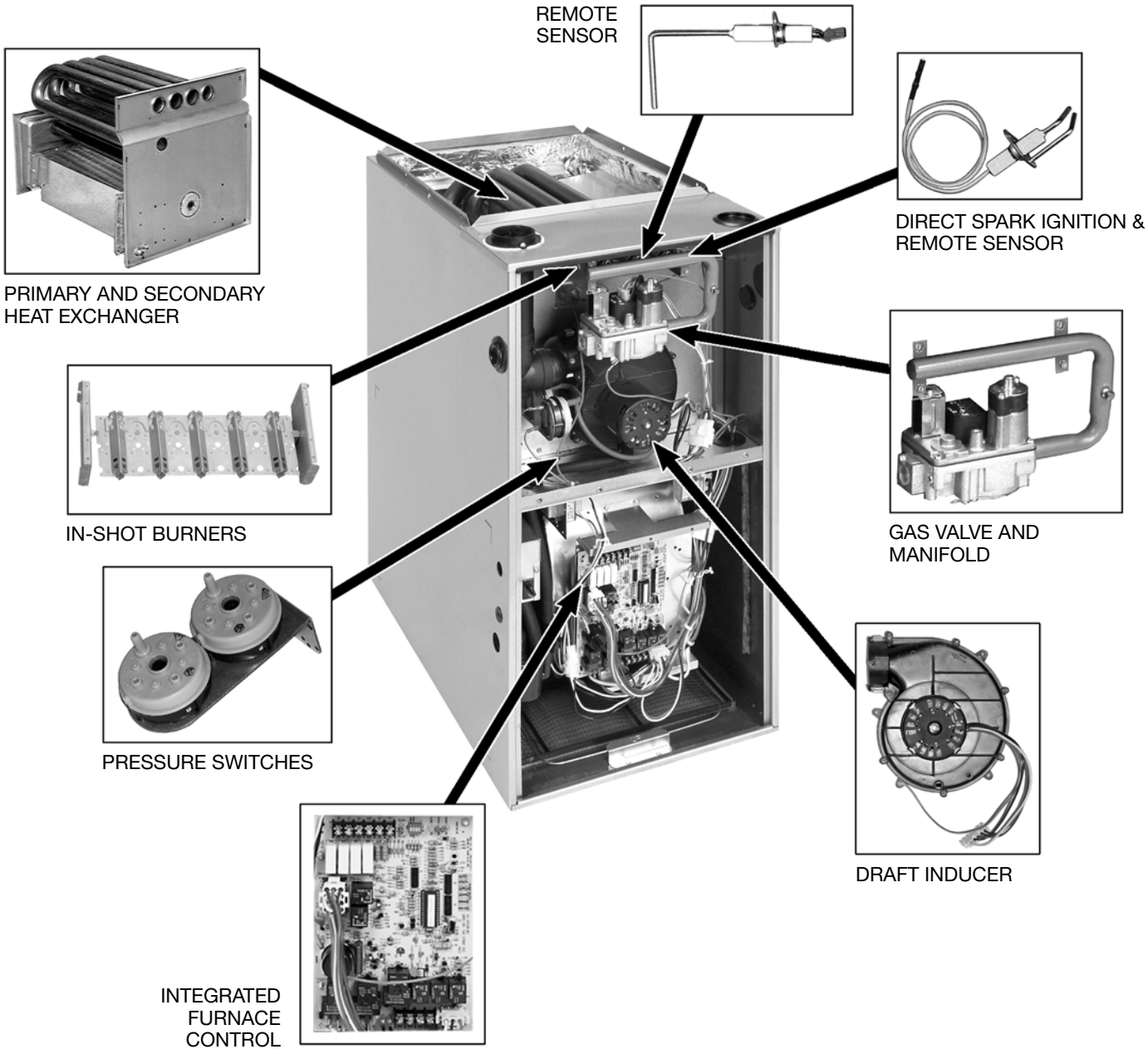


STANDARD EQUIPMENT

Completely assembled and wired; heat exchanger; primary: aluminized 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	RGRL-04*MAES	RGRL-06*MAES	RGRL-07*MAES	RGRL-07*YBGS	RGRL-09*ZAJS	RGRL-10*ZAJS
HIRE FIRE INPUT BTU/HR [kW] ①	45,000 [13.19]	60,000 [17.58]	75,000 [21.98]	75,000 [21.98]	90,000 [26.38]	105,000 [30.77]
LOW FIRE INPUT BTU/HR [kW] ②	31,500 [9.23]	42,000 [12.31]	52,500 [15.39]	52,500 [15.39]	63,000 [18.46]	73,500 [21.54]
HEATING CAPACITY BTU/HR [kW]	42,000 [12.31]	56,000 [16.41]	70,000 [20.51]	70,000 [20.51]	84,000 [24.62]	100,000 [29.27]
HIGH ALTITUDE INPUT 8000' ②	30,600 [8.97]	40,800 [11.96]	51,000 [14.95]	51,000 [14.95]	61,200 [17.94]	71,400 [20.93]
HIGH ALTITUDE OUTPUT AT 8000' (HIGH FIRE) [kW] ②	28,458 [8.34]	37,944 [11.12]	47,430 [13.90]	47,430 [13.90]	56,916 [16.69]	66,402 [19.46]
BLOWER (D x W) [mm]	11 x 7 [279 x 178]	11 x 7 [279 x 178]	11 x 7 [279 x 178]	12 x 7 [305 x 178]	12 x 11 [305 x 279]	12 x 11 [305 x 279]
MOTOR H.P. [W]– SPEEDS–TYPE	1/2 [373]-4-PSC	1/2 [373]-4-PSC	1/2 [373]-4-PSC	3/4 [559]-4-PSC	3/4 [559]-4-PSC	3/4 [559]-4-PSC
MOTOR FULL LOAD AMPS	6.8	6.8	6.8	9.5	9.5	9.5
HEATING SPEED-HIGH FIRE	MED-LO	MED-LO	MED-HI	MED-HI	MED-HI	MED-HI
HEATING SPEED-LOW FIRE	LOW	LOW	MED-LOW	LOW	MED-LO	MED-LO
COOLING SPEED	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
HEAT EXT. STATIC PRESSURE (IN. W.C.) [kPa]	.10 [.025]	.12 [.029]	.12 [.029]	.12 [.029]	.15 [.037]	.20 [.049]
RATED EXT. STATIC PRESSURE (IN. W.C.) [kPa]	.50 [.124]	.50 [.124]	.50 [.124]	.50 [.124]	.50 [.124]	.50 [.124]
HEATING CFM @ .2" [.049 kPa] W.C. E.S.P. [L/s]	885 [417]	845 [398]	1050 [495]	1275 [600]	1465 [691]	1445 [682]
COOLING CFM @ .5" [.124 kPa] W.C. E.S.P. [L/s]	1195 [564]	1100 [519]	1100 [519]	1540 [725]	1910 [901]	1810 [854]
TEMPERATURE RISE-HIGH FIRE RANGE °F [°C]	30-60 [16.7-33.3]	40-70 [22.2-38.9]	40-70 [22.2-38.9]	35-65 [19.4-36.1]	35-65 [19.4-36.1]	50-80 [27.8-44.4]
TEMPERATURE RISE-LOW FIRE RANGE °F [°C]	15-45 [8.3-25]	30-60 [16.7-33.3]	40-70 [22.2-38.9]	25-55 [13.9-30.6]	25-55 [13.9-30.6]	35-65 [19.4-36.1]
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) 12" x 20" [305 x 508]	C21B (2) 20" x 16" [508 x 406]	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	15 3/4 x 25 x 1	19 1/4 x 25 x 1	19 1/4 x 25 x 1
APPROX. SHIPPING WEIGHT (LBS.) [kg]	111 [50.3]	117 [53.1]	123 [55.8]	145 [65.5]	148 [67.1]	152 [68.9]
AFUE ③	95.0%	95.0%	95%	95%	95.0%	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

[ ] Designates Metric Conversions

Model Number Identification

R	G	R	L	—	07E*	Y	B	G	S	278
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	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

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

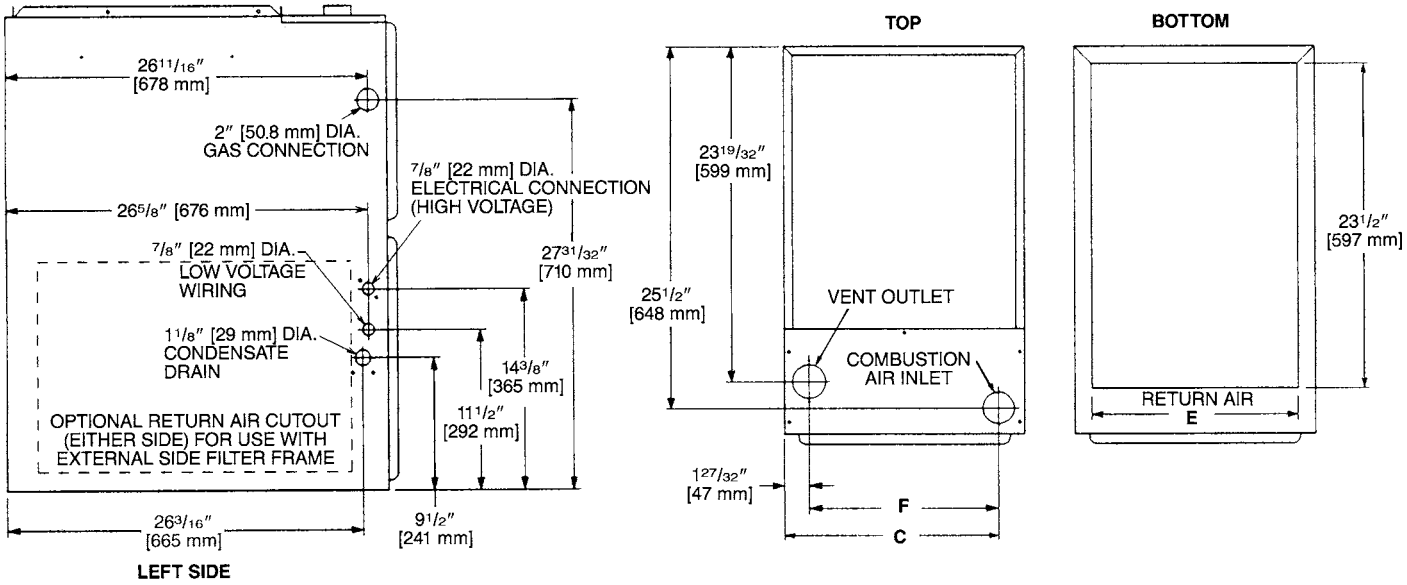
E = 1100-1300 CFM [519-613.5 L/s]
G = 1500-1700 CFM [707.9-802.3 L/s]
J = 1900-2100 CFM [896.7-991.1 L/s]

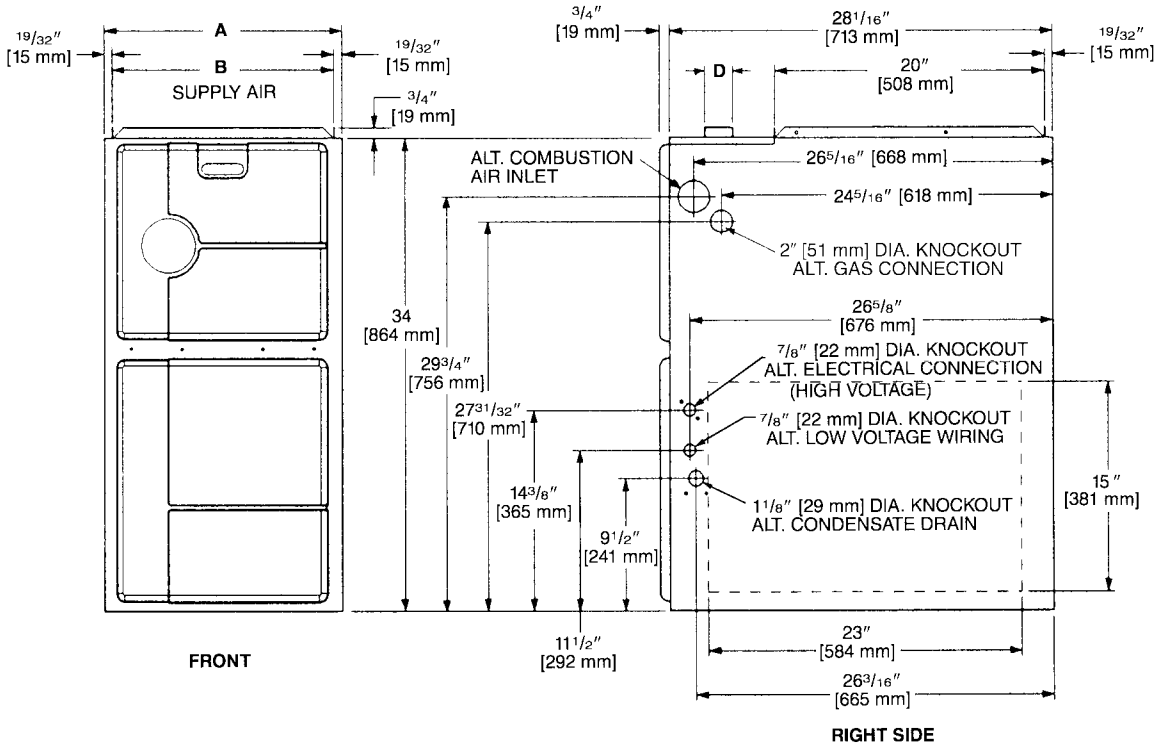
S = U.S. and Canadian Natural Gas

Available Models:

RGRL-04EMAES	RGRL-07EYBGS
RGRL-04NMAES	RGRL-07NYBGS
RGRL-04EMAES278	RGRL-09EZAJS
RGRL-06EMAES	RGRL-09NZAJS
RGRL-06NMAES	RGRL-09EZAJS278
RGRL-06EMAES278	RGRL-10EZAJS
RGRL-07EMAES	RGRL-10NZAJS
RGRL-07NMAES	

[ ] Designates Metric Conversions





MODEL RGRL-	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*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	123 [56]
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]
10*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	152 [69]

*E=Standard
*N=NO_x Models

[ ] Designates Metric Conversions

MODEL RGRL-	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]
07*M	11 x 7 [279 x 178]	1/2 [373]	LOW	780 [368]	745 [351]	710 [335]	675 [318]	640 [302]	595 [281]	555 [261]
			MED-LO	880 [415]	850 [401]	825 [389]	785 [370]	750 [354]	702 [331]	655 [309]
			MED-HI	1090 [514]	1050 [495]	1010 [477]	970 [458]	925 [436]	875 [413]	825 [389]
			HIGH	1300 [613]	1255 [592]	1210 [571]	1160 [547]	1110 [524]	1055 [498]	1005 [474]
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]
10*Z ***	12 x 11 [305 x 279]	3/4 [559]	LOW	1230 [680]	1205 [567]	1160 [557]	1155 [545]	1130 [583]	1090 [514]	1050 [495]
			MED-LO	1490 [703]	1445 [682]	1405 [663]	1375 [649]	1350 [637]	1295 [611]	1240 [585]
			MED-HI	1710 [807]	1665 [786]	1620 [764]	1570 [746]	1540 [727]	1475 [696]	1410 [665]
			HIGH	2010 [949]	1955 [923]	1900 [897]	1655 [875]	1810 [854]	1710 [607]	1610 [769]

*E=Standard
*N=NO_x Models
***Where the maximum airflow is above 1800 CFM or more, both sides or 1 side and the bottom must be used for return air to maximize airflow.
NOTE: CFM values represent furnace-only airflow ratings.

[ ] Designates Metric Conversions

VENT TERMINATION KITS CONCENTRIC: HORIZONTAL/VERTICAL =

RXGY-E03A (US & Canadian Installations)

HORIZONTAL TWO PIPE: RXGY-D02, RXGY-D03, RXGY-D04 (US Installations)

RXGY-D02A, RXGY-D03A, RXGY-D04A (Canadian Installations)

RXGY-G02 (US Only)

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

LP CONVERSION KITS:
U.S./Canadian RXGJ-FP26 or RXGJ-FP21

EXTERNAL BOTTOM FILTER RACK: RXGF-CB

EXTERNAL SIDE FILTER RACK: RXGF-CA

FILTER RACK FILTER SIZES* INCHES [mm]		
MODEL RGRL-	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]
07EM 07NM	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]
10	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
105,000 [31]	Not Required

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 (NFGC) 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).

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

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