

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.

RGRK- SERIES

Models with Input Rates

120,000 BTU/HR [35.17 kW]

(All Models 90% 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 two-stage thermostat 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 Achiever 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.





ACHIEVER® SERIES 90 PLUS HIGH EFFICIENCY UPFLOW GAS FURNACE

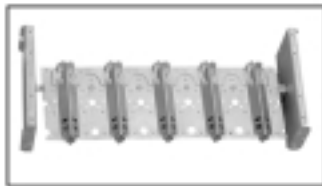


PRIMARY AND SECONDARY HEAT EXCHANGER

REMOTE SENSOR



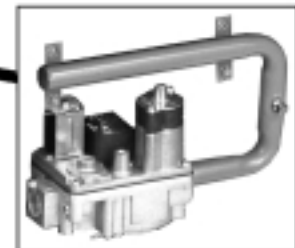
DIRECT SPARK IGNITION & REMOTE SENSOR



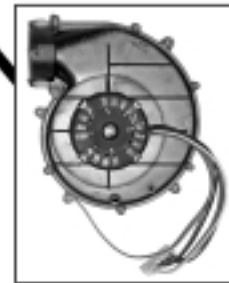
IN-SHOT BURNERS



PRESSURE SWITCHES



GAS VALVE AND MANIFOLD



DRAFT INDUCER



INTEGRATED FURNACE CONTROL

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

BEFORE PURCHASING THIS APPLIANCE, READ IMPORTANT ENERGY COST AND EFFICIENCY INFORMATION AVAILABLE FROM YOUR RETAILER.

PHYSICAL DATA AND SPECIFICATIONS—UPFLOW MODELS

U.S. and Canadian Models

MODEL NUMBERS	RGRK-12+RAJS
HIRE FIRE INPUT BTU/HR [kW] ①	120,000 [35.17]
LOW FIRE INPUT BTU/HR [kW] ②	84,000 [24.62]
HEATING CAPACITY BTU/HR [kW]	113,000 [33.12]
HIGH ALTITUDE INPUT 8000' ②	81,600 [23.91]
HIGH ALTITUDE OUTPUT AT 8000' (HIGH FIRE) [kW] ②	75,888 [22.24]
BLOWER (D x W) [mm]	11 x 10 [279 x 254]
MOTOR H.P. [W]—SPEEDS—TYPE	3/4 [559]-4-PSC
MOTOR FULL LOAD AMPS	9.5
HEATING SPEED—HIGH FIRE	MED-HI
HEATING SPEED—LOW FIRE	LOW
COOLING SPEED	HIGH
MINIMUM EXT. STATIC PRESSURE (IN. W.C.) [kPa]	.20 [.049]
MAXIMUM EXT. STATIC PRESSURE (IN. W.C.) [kPa]	.50 [.124]
HEATING CFM @ .2" [.049 kPa] W.C. E.S.P. [L/s]	1580 [745]
COOLING CFM @ .5" [.124 kPa] W.C. E.S.P. [L/s]	1900 [897]
TEMPERATURE RISE-HIGH FIRE RANGE °F [°C]	50-80 [27.8-44.4]
TEMPERATURE RISE-LOW FIRE RANGE °F [°C]	40-70 [22.2-38.9]
RETURN AIR CABINETS (OPT.) RXGR-FILTER SIZE [mm]	C24B (2) 24" x 16" [609 x 406]
STANDARD, HIGH VELOCITY PERMANENT FILTER (IN.)	22 ³ / ₄ x 25 x 1
APPROX. SHIPPING WEIGHT (LBS.) [kg]	160 [72.6]
AFUE ③	92.0%

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

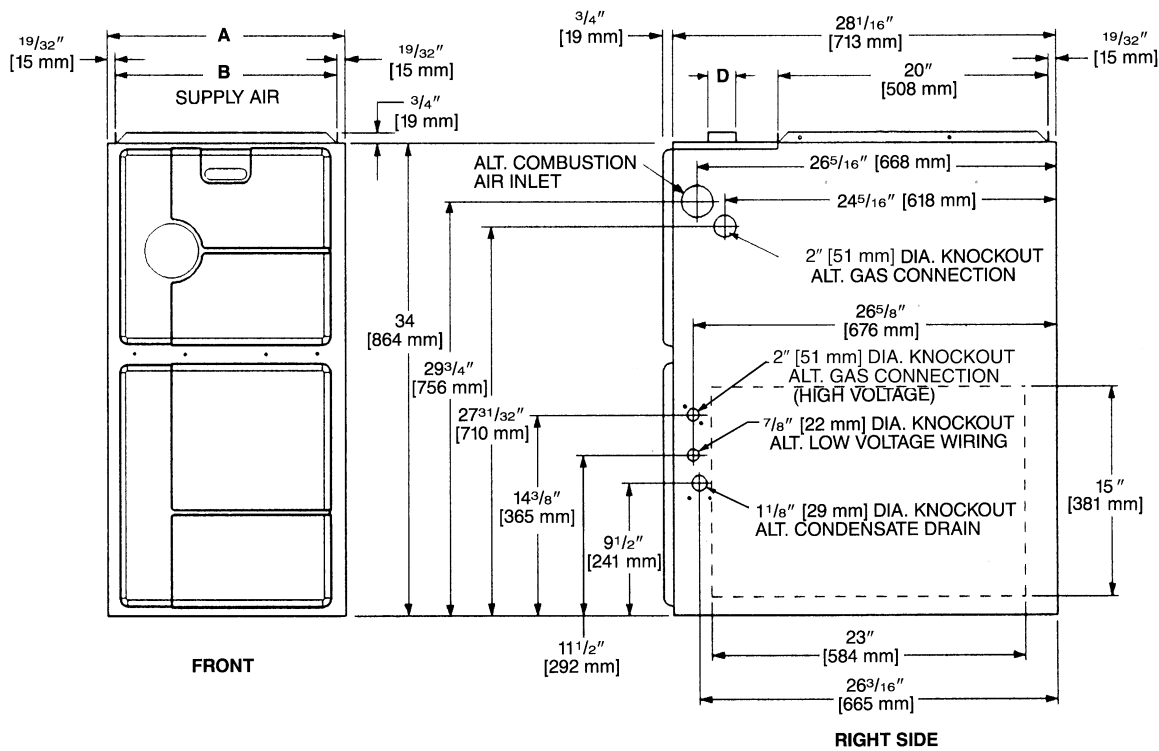
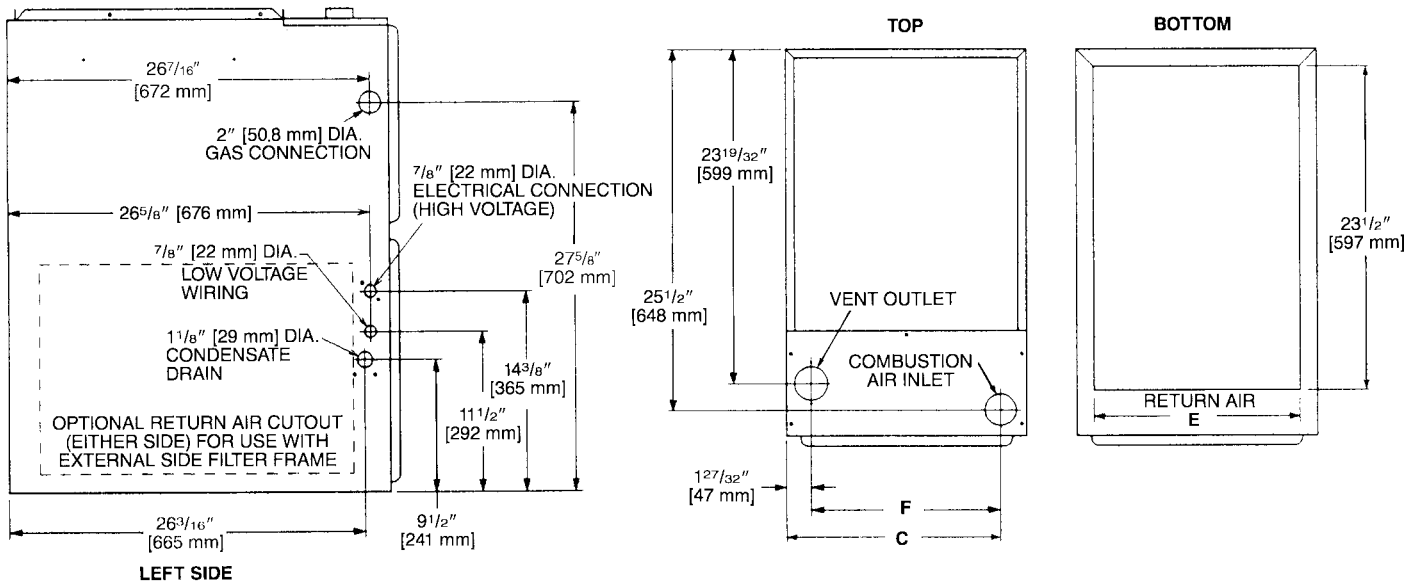
*N = NO_x Models

MODEL IDENTIFICATION

R	G	R	K —	12E*	M	A	E	S	278
Ruud	Gas Furnace	Upflow/Condensing Gas Furnace	Design Series	Heating Input Designation	Blower Size R = 11 x 10 [279 x 254 mm]	Variations A = Std.	Heat/Cool Designation J = 1900-2100 CFM [896.7-991.1 L/s]	Fuel Code S = U.S. and Canadian Natural Gas	Option Code for High Altitude
			Electric Ignition	Input BTU/HR					
			12*	120,000 [35.2 kW]					
			NOTES: *E = Standard						
			*N = NO _x Models						

[] Designates Metric Conversions

UPFLOW MODELS



MODEL RGRK-	A	B	C	D	E	F	LEFT SIDE	MINIMUM CLEARANCE (IN.) [mm]					SHIP WGTs. [kg]
								RIGHT SIDE	BACK	TOP	FRONT	VENT	
12-R	24 1/2 [622]	23 11/32 [593]	22 5/8 [575]	2 [51]	22 [600]	20 25/32 [530]	0	0	0	1 [25]	2 [51]	0	160 [73]

*E=Standard
*N=NO_x Models

BLOWER PERFORMANCE DATA**—RGRK MODELS

MODEL RGRK-	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]
12*R	11 x 10 [279 x 254]	3/4 [559]	LOW	1320 [623]	1305 [616]	1290 [608]	1260 [596]	1230 [580]	1185 [559]	1140 [538]
			MED-LO	1610 [760]	1580 [746]	1555 [734]	1515 [715]	1475 [696]	1415 [668]	1355 [639]
			MED-HI	1870 [882]	1820 [860]	1775 [838]	1715 [809]	1660 [783]	1590 [750]	1520 [717]
			HIGH	2115 [998]	2050 [967]	1990 [939]	1945 [917]	1900 [897]	1795 [847]	1690 [795]

*E=Standard

*N=NO_x Models

**Note: CFM values represent furnace-only airflow ratings.

[] 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.

Primary and Secondary Heat Exchanger.....Limited Lifetime
Conditional Parts Warranty*
(Registration Required)Ten (10) Years

***For Complete Details of the Limited Warranty, Including Applicable Terms and Conditions, See Your Local Installer or Contact the Manufacturer for a Copy.**

ACCESSORIES—UPFLOW

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

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
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 RGRK-	RXGF-CB (BOTTOM)	RXGF-CA (SIDE)
12	22 ³ / ₄ x 25 [578 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.
120,000 [35]	RXGY-F21

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).

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."