## GAS FURNACES



# RGRA- SERIES Models with Input Rates from 45,000 to 120,000 BTU/HR [13.19 to 35.17 kW]

(All Models 90% A.F.U.E.† or Above)













## CLASSIC® 90 PLUS® HIGH EFFICIENCY UPFLOW GAS FURNACES

The Rheem® 90 Plus High Efficiency line of upflow gas furnaces are designed for utility rooms, closets or alcoves. Because of the low-profile 34 inch height, the RGRA-model installed vertically can satisfy most applications that traditionally call for a horizontal furnace.

The design is certified by CSA.

#### **Features**

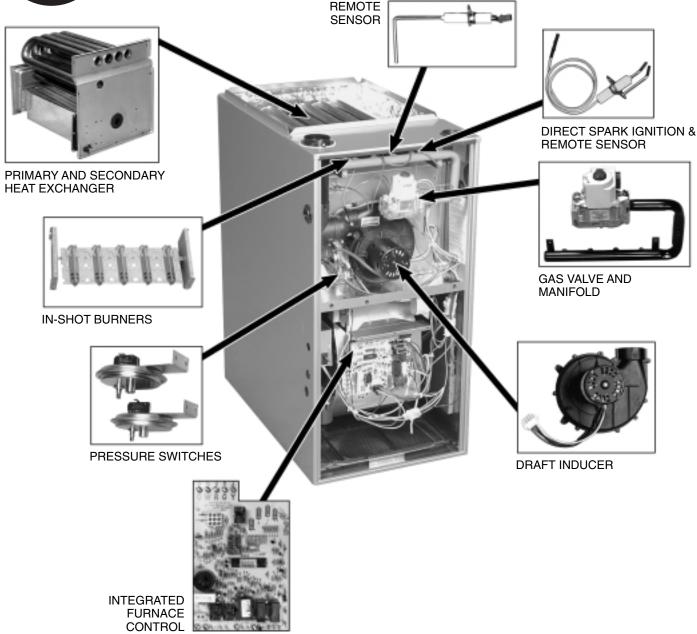
- Heat exchanger is constructed of all stainless steel for maximum corrosion resistance and thermal fatigue reliability.
- Low profile "34 inch" design is lighter and easier to handle and leaves room for optional accessories.
- Left or right side gas, electric, and condensate drainage connections on 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 Classic 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.



## CLASSIC 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, multispeed 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

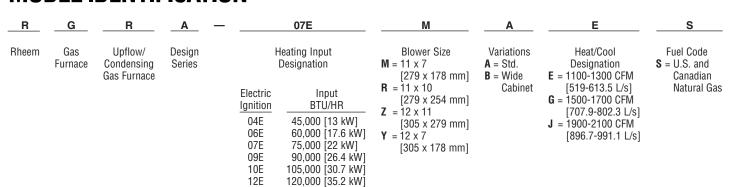
#### **U.S.** and Canadian Models

MODEL NUMBERS	RGRA-04EMAES	RGRA-06EMAES	RGRA-07EMAES	RGRA-07EYBGS	RGRA-09EZAJS	RGRA-10EZAJS	RGRA-12ERAJS
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]	120,000 [35.17]
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]	97,000 [28.43]	113,000 [33.12]
HIGH ALTITUDE INPUT [kW] ②	40,500 [11.87]	54,000 [15.83]	67,500 [19.78]	67,500 [19.78]	81,000 [23.74]	94,500 [27.70]	108,000 [31.65]
HIGH ALTITUDE OUTPUT CAPACITY [kW] ②	37,800 [11.07]	50,400 [14.77]	63,000 [18.46]	63,000 [18.46]	76,000 [22.27]	87,500 [25.64]	100,000 [29.31]
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]	11 x 10 [279 x 254]
MOTOR H.P. [W]- SPEEDS-TYPE	1/2 [373]-4-PSC	1/2 [373]-4-PSC	1/2 [373]-4-PSC	<sup>3</sup> / <sub>4</sub> [559]-4-PSC			
MOTOR FULL LOAD AMPS	6.8	6.8	6.8	9.5	9.5	9.5	9.5
HEATING SPEED	MED-LO	MED-LO	MED-HI	MED-LO	MED-LO	MED-LO	MED-LO
COOLING SPEED	HIGH						
HEAT EXT. STATIC PRESSURE (IN. W.C.) [kPa]	.10 [.025]	.12 [.029]	.12 [.029]	.12 [.029]	.15 [.037]	.20 [.049]	.20 [.049]
RATED EXT. STATIC PRESSURE (IN. W.C.) [kPa]	.50 [.124]	.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]	1580 [745]
COOLING CFM @ .5" [.124 kPa] W.C. E.S.P. [L/s]	1195 [564]	1100 [519]	1110 [524]	1540 [725]	1910 [901]	1810 [854]	1900 [897]
TEMPERATURE RISE RANGE °F [°C]	30-60 [16.7-33.3]	40-70 [22.2-38.9]	45-75 [25-41.7]	40-70 [22.2-38.9]	35-65 [19.4-36.1]	50-80 [27.8-44.4]	50-80 [27.8-44.4]
RETURN AIR CABINETS (OPT.) RXGR- FILTER SIZE [mm]	C17B (2) 12" x 16" [305 x 406]	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]	C21B (2) 20" x 16" [508 x 406]	C24B (2) 24" x 16" [609 x 406]
STANDARD, HIGH VELOCITY PERMANENT FILTER (IN.)	15 <sup>3</sup> / <sub>4</sub> x 25 x 1	15 <sup>3</sup> / <sub>4</sub> x 25 x 1	15 <sup>3</sup> / <sub>4</sub> x 25 x 1	15 <sup>3</sup> / <sub>4</sub> x 25 x 1	19 <sup>1</sup> / <sub>4</sub> x 25 x 1	19 <sup>1</sup> / <sub>4</sub> x 25 x 1	22 <sup>3</sup> /4 x 25 x 1
APPROX. SHIPPING WEIGHT (LBS.) [kg]	111 [50.3]	117 [53.1]	123 [55.8]	123 [55.8]	148 [67.1]	152 [68.9]	160 [72.6]
AFUE ③	93.5%	92.5%	92.8%	92.0%	93.5%	92.0%	93.5%
CALIFORNIA SEASONAL EFFICIENCY ③	86.7%	87.6%	87.9%	85.8%	87.3%	86.9%	89.6%

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

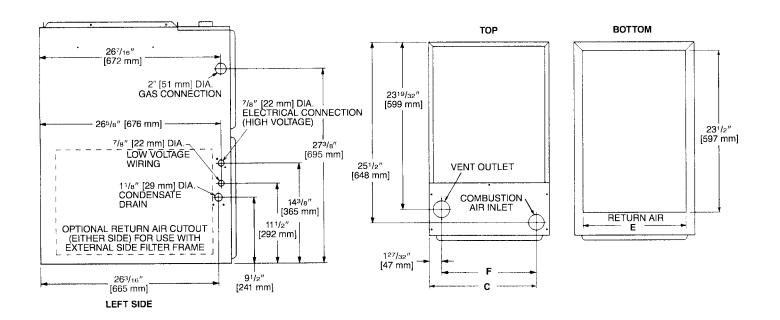
- ① See Conversion Kit Index Form for high altitude derate.
- 2 Canadian installations only.
- ③ In accordance with D.O.E. test procedures.

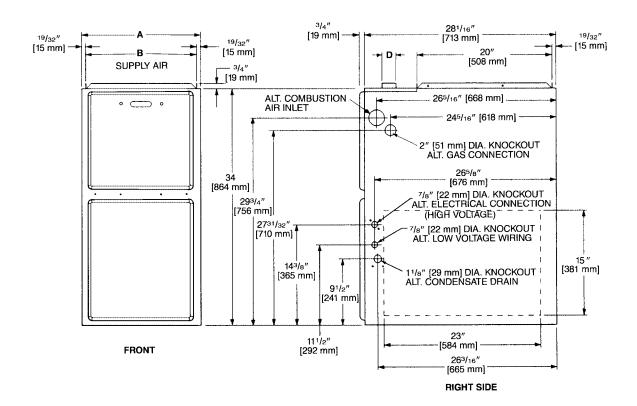
#### **MODEL IDENTIFICATION**



[ ] Designates Metric Conversions

## **UPFLOW MODELS**





MODEL						_ LEFT		MINIMUM CLEARANCE (IN.) [mm]				m]	SHIP
RGRA-	A	В	C	D	E	F SIDE	RIGHT SIDE	BACK	ТОР	FRONT	VENT	WGTS. [kg]	
04EM	171/2 [445]	16 <sup>11</sup> /32 [415]	15 <sup>5</sup> /8 [397]	2 [51]	15 [422]	13 <sup>25</sup> / <sub>32</sub> [352]	0	0	0	1 [25]	2 [51]	0	111 [50]
06EM	171/2 [445]	16 <sup>11</sup> /32 [415]	15 <sup>5</sup> /8 [397]	2 [51]	15 [422]	13 <sup>25</sup> / <sub>32</sub> [352]	0	0	0	1 [25]	2 [51]	0	117 [53]
07EM	17 <sup>1</sup> / <sub>2</sub> [445]	16 <sup>11</sup> /32 [415]	15 <sup>5</sup> /8 [397]	2 [51]	15 [422]	13 <sup>25</sup> /32 [352]	0	0	0	1 [25]	2 [51]	0	123 [56]
07EY	21 [533]	19 <sup>27</sup> /32 [504]	19 <sup>1</sup> /8 [487]	2 [51]	18 <sup>1</sup> / <sub>2</sub> [511]	179/32 [441]	0	0	0	1 [25]	2 [51]	0	123 [56]
09EZ	21 [533]	1927/32 [504]	191/8 [487]	2 [51]	181/2 [511]	179/32 [441]	0	0	0	1 [25]	2 [51]	0	148 [67]
10EZ	21 [533]	1927/32 [504]	191/8 [487]	2 [51]	181/2 [511]	179/32 [441]	0	0	0	1 [25]	2 [51]	0	152 [69]
12ER	241/2 [622]	2311/32 [593]	22 <sup>5</sup> /8 [575]	2 [51]	22 [600]	20 <sup>25</sup> /32 [530]	0	0	0	1 [25]	2 [51]	0	160 [73]

## **BLOWER PERFORMANCE DATA\*—RGRA MODELS**

MODEL RGRA-	BLOWER SIZE	MOTOR H.P. [W]	BLOWER SPEED	CFM [L/s] AIR DELIVERY EXTERNAL STATIC PRESSURE INCHES WATER COLUMN [kPa]						
nuna-	[mm]			0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]
04EM	11 x 7 [279 x 178]	1/2 [373]	LOW MED-LO MED-HI HIGH	805 [380] 920 [434] 1140 [538] 1360 [642]	780 [368] 885 [417] 1110 [524] 1320 [623]	760 [358] 850 [401] 1085 [512] 1280 [604]	720 [340] 810 [382] 1045 [493] 1235 [583]	685 [323] 775 [365] 1010 [476] 1195 [564]	645 [304] 730 [344] 950 [448] 1140 [538]	605 [285] 690 [325] 890 [420] 1080 [500]
06EM	11 x 7 [279 x 178]	1/2 [373]	LOW MED-LO MED-HI HIGH	770 [363] 880 [415] 1060 [500] 1260 [594]	740 [349] 845 [398] 1025 [483] 1215 [573]	710 [335] 815 [384] 990 [467] 1175 [554]	675 [318] 790 [373] 960 [453] 1135 [535]	645 [304] 760 [358] 925 [436] 1100 [519]	605 [285] 715 [337] 880 [415] 1040 [491]	570 [269] 670 [316] 835 [394] 985 [465]
07EM	11 x 7 [279 x 178]	1/2 [373]	LOW MED-LO MED-HI HIGH	780 [368] 880 [415] 1090 [514] 1300 [613]	745 [351] 850 [401] 1050 [495] 1255 [592]	710 [335] 825 [389] 1010 [477] 1210 [571]	675 [318] 785 [370] 970 [458] 1160 [547]	640 [302] 750 [354] 925 [436] 1110 [524]	595 [281] 702 [331] 875 [413] 1055 [498]	555 [261] 655 [309] 825 [389] 1005 [474]
07EY	12 x 7 [305 x 178]	3/4 [559]	LOW MED-LO MED-HI HIGH	1185 [559] 1405 [663] 1595 [753] 1835 [866]	1160 [547] 1375 [649] 1560 [736] 1780 [840]	1140 [538] 1350 [637] 1525 [720] 1730 [816]	1115 [526] 1310 [618] 1480 [698] 1675 [791]	1095 [517] 1270 [599] 1440 [679] 1625 [767]	1065 [503] 1235 [583] 1380 [651] 1555 [734]	1040 [491] 1195 [564] 1325 [625] 1480 [698]
09EZ	12 x 11 [305 x 279]	3/4 [559]	LOW MED-LO MED-HI HIGH	1235 [582] 1490 [703] 1720 [811] 2100 [991]	1210 [571] 1465 [691] 1670 [788] 2050 [967]	1185 [559] 1440 [679] 1620 [764] 2000 [944]	1150 [543] 1405 [663] 1600 [755] 1955 [923]	1120 [528] 1375 [649] 1580 [746] 1910 [901]	1075 [507] 1315 [620] 1520 [717] 1825 [861]	1035 [488] 1255 [592] 1460 [689] 1745 [823]
10EZ	12 x 11 [305 x 279]	3/4 [559]	LOW MED-LO MED-HI HIGH	1230 [580] 1490 [703] 1710 [807] 2010 [949]	1205 [567] 1445 [682] 1665 [786] 1955 [923]	1180 [557] 1405 [663] 1620 [764] 1900 [897]	1155 [545] 1375 [649] 1580 [746] 1855 [875]	1130 [533] 1350 [637] 1540 [727] 1810 [854]	1090 [514] 1295 [611] 1475 [696] 1710 [807]	1050 [495] 1240 [585] 1410 [665] 1610 [759]
12ER	11 x 10 [279 x 254]	3/4 [559]	LOW MED-LO MED-HI HIGH	1320 [623] 1610 [760] 1870 [882] 2115 [998]	1305 [616] 1580 [746] 1820 [860] 2050 [967]	1290 [608] 1555 [734] 1775 [838] 1990 [939]	1260 [596] 1515 [715] 1715 [809] 1945 [917]	1230 [580] 1475 [696] 1660 [783] 1900 [897]	1185 [559] 1415 [668] 1590 [750] 1795 [847]	1140 [538] 1355 [639] 1520 [717] 1690 [795]

<sup>\*</sup>Blower performance measured with filter in place.

#### [ ] Designates Metric Conversions

## **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 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

<sup>\*</sup>This five year limited warranty is applicable only to single-phase products installed in residential applications on or after January 1, 2001.

### **ACCESSORIES—UPFLOW**

VENT TERMINATION KITS

**CONCENTRIC:** Horizontal/Vertical = RXGY-E03

HORIZONTAL TWO PIPE: RXGY-D02, RXGY-D03, RXGY-D04

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

EXTERNAL BOTTOM FILTER RACK: RXGF-CB
EXTERNAL SIDE FILTER RACK: RXGF-CA

FILTER RACK FILTER SIZES* INCHES [mm]						
MODEL RGRA-	RXGF-CB (BOTTOM)	RXGF-CA (SIDE)				
04	15 <sup>3</sup> / <sub>4</sub> x 25 [400 x 635]	15 <sup>3</sup> /4 x 25 [400 x 635]				
06	15 <sup>3</sup> /4 x 25 [400 x 635]	15 <sup>3</sup> /4 x 25 [400 x 635]				
07EM	15 <sup>3</sup> / <sub>4</sub> x 25 [400 x 635]	15 <sup>3</sup> /4 x 25 [400 x 635]				
07EY	19¹/₄ x 25 [489 x 635]	15 <sup>3</sup> / <sub>4</sub> x 25 [400 x 635]				
09	19 <sup>1</sup> / <sub>4</sub> x 25 [489 x 635]	15 <sup>3</sup> / <sub>4</sub> x 25 [400 x 635]				
10	19 <sup>1</sup> / <sub>4</sub> x 25 [489 x 635]	15 <sup>3</sup> /4 x 25 [400 x 635]				
12	22 <sup>3</sup> /4 x 25 [578 x 635]	15 <sup>3</sup> /4 x 25 [400 x 635]				

<sup>\*</sup>Filter racks are shipped without filters.

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

#### 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 PLENUM WIDTH IN. [mm] IN. [mm]		PLENUM ADAPTER UPFLOW	COIL Plenum		
14 [356]	16¹/4 [413]	RXAA-C171	RXAL-B16BU		
14 [356]	20 <sup>1</sup> / <sub>4</sub> [514]	RXAA-C172	RXAL-B20BU		
17 <sup>1</sup> / <sub>2</sub> [445]	16 <sup>1</sup> / <sub>4</sub> [413]	RXAA-C185	RXAL-B16BU		
17 <sup>1</sup> / <sub>2</sub> [445]	201/4 [514]	RXAA-C173	RXAL-B20BU		
17 <sup>1</sup> /2 [445]	215/8 [549]	RXAA-C187	RXAL-B21BU		
171/2 [445]	251/4 [641]	RXAA-C174	RXAL-B25BU		
21 [533]	251/4 [641]	RXAA-C175	RXAL-B25BU		
21 [533]	221/4 [565]	RXAA-C176	RXAL-B22BU		
21 [533]	215/8 [549]	RXAA-C188	RXAL-B21BU		
241/2 [622]	251/4 [641]	RXAA-C177	RXAL-B25BU		
241/2 [622]	215/8 [549]	RXAA-C187	RXAL-B21BU		

Note: See Form Number C11-206 for MultiFlex® coil data.

#### **FOR HIGH ALTITUDES:**

\*HIGH ALTITUDE KIT: RXGY-F04 (105 KBTU/H)

RXGY-F05 (120 KBTU/H)

RXGY-F06 (45 KBTU/H/60 KBTU/H/

90 KBTU/H) RXGY-F07 (75 KBTU/H)

\*For installations over 5000 ft.

**OPTION CODE FOR HIGH ALTITUDE:** US & Canada – 278

**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.

**CAUTION:** Always follow National Fuel Gas Code (NFGC) guidelines when converting furnaces 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).

**EXTERNAL BOTTOM FILTER RACK:** RXGF-CB

**EXTERNAL SIDE FILTER RACK: RXGF-CA** 

[ ] Designates Metric Conversions

## **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.

RHEEM AIR CONDITIONING DIVISION

5600 Old Greenwood Road, Fort Smith, Arkansas 72908

