

## 



#### **RGGE- Series**

A.F.U.E.† up to 92.3% Input Rates from 60 to 120 kBTU [17.58 to 35.16 kW] With Contour Comfort Control®











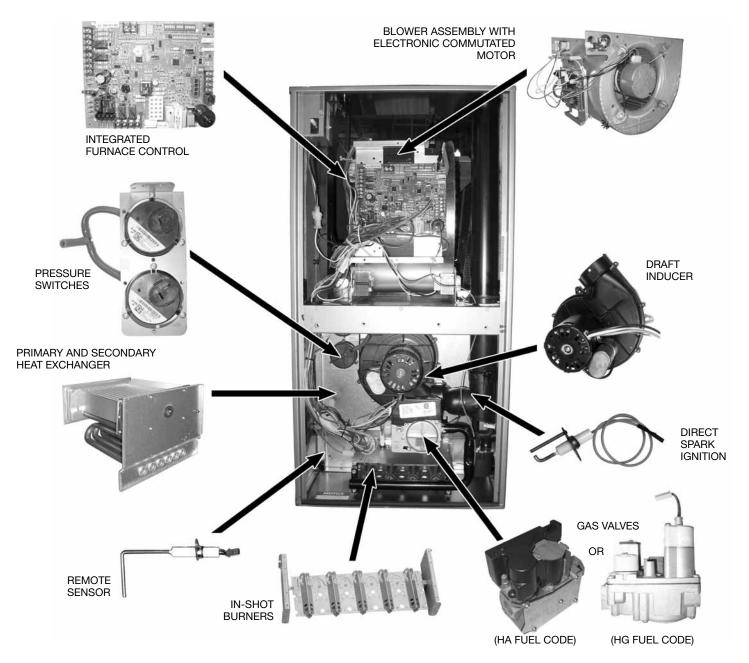
†A.F.U.E. (Annual Fuel Utilization Efficiency) calculated in accordance with Department of Energy test procedures.

- The Ruud *Ultra Series*<sup>™</sup> 90 Plus High Efficiency line of downflow gas furnaces are designed for utility rooms, closets, or alcoves, attics or crawl spaces. The design is certified by CSA.
- The Comfort Control<sup>2</sup> System<sup>™</sup> provides 28 on-board diagnostic and fault history codes on a dual 7-segment LED display, by detecting system and electrical problems. A "Call for Service" alert notification is sent via the thermostat to the homeowner for required service.
- Serial Communication Enhanced When installed with a Serial Communicating Condensing Unit and user interface control (UHC-TST550CMMS) 500 Series thermostat this unit offers 4 or 2 wire installation, auto-configuration, and diagnostic messaging with full communicating capability.
- Heat exchanger is constructed of all stainless steel for maximum corrosion resistance and thermal fatigue reliability.
- Modulating Function: when used with a modulating or communicating thermostat, modulation rate between 40% and 100% of total capacity.
- Two-stage Function: when used with a two-stage thermostat, furnace operates at 40% on first stage, and stages up to 65%, then 100% for second stage.

- Multistage Function: when used with a single-stage thermostat, furnace functions as a three stage furnace operating at 40%, 65% and 100% of total capacity.
- Reduced firing rates, electrically efficient ECM2+ motor, and solid doors provide the ultimate in quiet operation.
- Low speed constant fan.
- Constant temperature rise for superior comfort.
- Seven segment LED for system diagnostics.
- Diagnostic history for troubleshooting.
- Two-speed induced draft motor.
- Direct spark ignition with remote sense.
- Top electrical connections, left or right gas and condensate drainage connections on downflow models.
- Optional indoor or outdoor combustion air.
- A variety of cooling coils and plenums designed to use with the Ruud *Ultra Series™* 90 Plus gas furnaces are available as optional accessories.

# © TABLE OF CONTENTS Ø

Standard & Optional Equipment	3
Model Features	4
Physical Data & Specifications	5
Model Number Identification	6
Dimensional Data	7
Blower Performance Data	8
Accessories	9-10
Limited Warranty	11



## 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 modulating 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; one hour automatic retry; power and self-test diagnostics; flame sense current diagnostics; electronic air cleaner connections; humidifier connections; humidifier on/off delay, dehumidification connection; low speed continuous fan option; transformer; direct drive, ECM variable speed blower motor. (Please note: a thermostat is not included as standard equipment. See "Accessories").

## **OPTIONAL EQUIPMENT**

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. Fossil Fuel Kits for use with heat pumps.

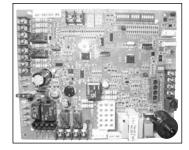
Communicating Thermostat System

## WARNING

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

## The Comfort Control<sup>2</sup> System<sup>™</sup> Features:

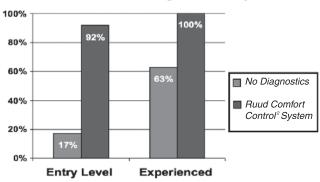
- The Ruud Dual 7-Segment LED Display easily shows system operating status codes and diagnostic codes.
- The Status Indication
  System Diagnostics
  feature thermostat communication capability and
  built-in diagnostics. The
  thermostat communication
  capability and alerts the
  homeowner to any necessary service requirements.
  Faster, more accurate
  service is provided by the
  built-in diagnostics, by pro-



viding the HVAC professional with dependable information.

- The fault recall feature will allow for the last six fault-codes to be displayed, and will retain these codes even if power failure occurs.
- In order to save time and money, replacement automotive style fuses can be utilized instead of replacing the entire control board.

## Problem-Solving Accuracy



## **Features of the RGGE Series:**

- Serial Communication Enhanced When installed with a Serial Communicating Condensing Unit and user interface control (UHC-TST550CMMS) 500 Series thermostat this unit offers 4 or 2 wire installation, auto-configuration, and diagnostic messaging with full communicating capability.
- Heat exchanger is constructed of all stainless steel for maximum corrosion resistance and thermal fatigue reliability.
- Modulating Function: when used with a modulating or communicating thermostat, modulation rate between 40% and 100% of total capacity.
- Two-stage Function: when used with a two-stage thermostat, furnace operates at 40% on first stage, and stages up to 65%, then 100% for second stage.
- Multistage Function: when used with a single-stage thermostat, furnace functions as a three stage furnace operating at 40%, 65% and 100% of total capacity.

- Reduced firing rates, electrically efficient ECM2+ motor, and solid doors provide the ultimate in quiet operation.
- · Low speed constant fan.
- Constant temperature rise for superior comfort.
- · Seven segment LED for system diagnostics.
- · Diagnostic history for troubleshooting.
- Two-speed induced draft motor.
- · Direct spark ignition with remote sense.
- Top electrical connections, left or right gas and condensate drainage connections on downflow models.
- Optional indoor or outdoor combustion air.
- A variety of cooling coils and plenums designed to use with the Ruud *Ultra Series*™ 90 Plus gas furnaces are available as optional accessories.

## Physical Data and Specifications—Downflow Models U.S. and Canadian Models

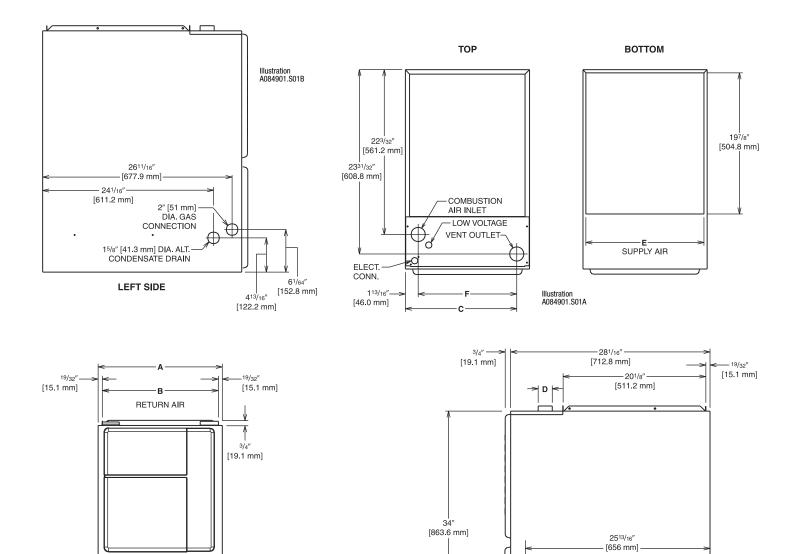
MODEL NUMBERS	RGGE-06EMCKS	RGGE-07EMCKS	RGGE-09EZCMS	RGGE-10EZCMS	RGGE-12ERCMS
INPUT-MAXIMUM (BTU/HR) [kW]	60,000 [17.58]	75,000 [21.98]	90,000 [26.38]	105,000 [30.77]	120,000 [35.17]
HEATING CAPACITY-MAXIMUM [kW]	54,720 [16.03]	69,000 [20.22]	83,160 [24.37]	95,865 [28.09]	110,880 [32.49]
INPUT-MINIMUM (BTU/HR) [kW]	24,000 [7.03]	30,000 [8.79]	36,000 [10.55]	42,000 [12.31]	48,000 [14.07]
HEATING CAPACITY-MINIMUM [kW]	21,888 [6.41]	27,600 [8.09]	33,264 [9.75]	38,346 [11.24]	44,352 [12.99]
HEATING EXT. STATIC PRESSURE [kPa]	0.12 [.029]	0.12 [.029]	0.15 [.037]	0.20 [.049]	0.20 [.049]
BLOWER (D X W IN.) [mm]	11 x 7 [279 x 178]	11 x 7 [279 x 178]	12 x 11 [305 x 279]	12 x 11 [305 x 279]	11 x 10 [279 x 254]
ECM MOTOR HP [W]	1/2 [373]	1/2 [373]	1 [746]	1 [746]	1 [746]
UNIT AMPS	8.7	8.7	12.0	12.0	12.0
MAXIMUM OVERCURRENT PROTECTION	15	15	15	15	15
HEATING CFM-MAXIMUM [L/s]	795 [375]	995 [470]	1195 [564]	1395 [658]	1595 [753]
HEATING CFM-MINIMUM [L/s]	320 [151]	430 [203]	515 [243]	600 [283]	685 [323]
COOLING CFM-RANGE [L/s]	600-1200 [283-566]	600-1200 [283-566]	1200-2000 [566-944]	1200-2000 [566-944]	1200-2000 [566-944]
MAXIMUM EXT. STATIC PRESSURE [kPa]	0.80 [0.20]	0.80 [0.20]	0.80 [0.20]	0.80 [0.20]	0.80 [0.20]
TEMPERATURE RISE RANGE °F [°C]	40-70 [22.2-38.9]	40-70 [22.2-38.9]	40-70 [22.2-38.9]	40-70 [22.2-38.9]	40-70 [22.2-38.9]
MAX OUTLET AIR TEMPERATURE °F [°C]	180 [82.2]	180 [82.2]	180 [82.2]	190 [87.8]	195 [90.6]
RETURN AIR CABINETS-RXGR-	C17B	C17B	C21B	C21B	C24B
FILTER SIZE (IN.) [mm] BOTTOM	15 <sup>3</sup> / <sub>4</sub> x 25 [400 x 635]	15 <sup>3</sup> / <sub>4</sub> x 25 [400 x 635]	19 <sup>1</sup> / <sub>4</sub> x 25 [489 x 635]	19 <sup>1</sup> / <sub>4</sub> x 25 [489 x 635]	22 <sup>3</sup> / <sub>4</sub> x 25 [578 x 635]
FILTER SIZE (IN.) [mm] SIDE	15 <sup>3</sup> / <sub>4</sub> x 25 [400 x 635]	15 <sup>3</sup> / <sub>4</sub> x 25 [400 x 635]	15 <sup>3</sup> / <sub>4</sub> x 25 [400 x 635]	15 <sup>3</sup> / <sub>4</sub> x 25 [400 x 635]	15 <sup>3</sup> / <sub>4</sub> x 25 [400 x 635]
APPROX. SHIPPING WEIGHT (LBS.) [kg]	127 [57.6]	133 [60.3]	158 [71.7]	162 [73.5]	170 [77.1]
AFUE	91.2%	92.3%	92.3%	91%	92.2%

[ ] Designates Metric Conversions

## **Model Number Identification**

<u>R</u>	<u>G</u>	<u>G</u>	<u>E</u>		<u>07E</u>	<u>M</u>	<u>c</u>	<u>K</u>	<u>s</u>
Ruud	Gas Furnace	Downflow Modulating <i>Ultra</i> <i>Series™</i> 90 Plus Gas Furnace	Design Series E – Communicating	Electric Ignition MOGE 07E 09E 10E 12E	Heating I Designa Electric Ignition— NOX Models 06N 07N 09N 10N 12N	Blower Size  M = 11 x 7	Variations <b>C</b> = Single/ Multi Zone	Heat/Cool Designation <b>K</b> = 600-1200 CFM [283-566 L/s] <b>M</b> = 1200-2000 CFM [566-944 L/s]	Fuel Code <b>S</b> = U.S. or Canadian Natural Gas

<sup>[ ]</sup> Designates Metric Conversions



## **Dimensional Data**

FRONT

MODEL					LEFT	MINIMUM CLEARANCE (IN.) [mm]						
RGGE-	Α	В	C	D	E	F	SIDE	RIGHT SIDE	BACK	ТОР	FRONT	VENT
06	171/2 [445]	16 <sup>11</sup> /32 [415]	155/8 [397]	2 [51]	165/8 [422]	137/8 [352]	0	0	0	1 [25]	2 [51]	0
07	171/2 [445]	16 <sup>11</sup> /32 [415]	155/8 [397]	2 [51]	165/8 [422]	137/8 [352]	0	0	0	1 [25]	2 [51]	0
09	21 [533]	1927/32 [504]	193/16 [487]	2 [51]	201/8 [511]	173/8 [441]	0	0	0	1 [25]	2 [51]	0
10	21 [533]	1927/32 [504]	193/16 [487]	2 [51]	201/8 [511]	173/8 [441]	0	0	0	1 [25]	2 [51]	0
12	241/2 [622]	2311/32 [593]	225/8 [575]	2 [51]	235/8 [600]	207/8 [530]	0	0	0	1 [25]	2 [51]	0

413/16"

[122.2 mm]

[111 mm]

Illustration A084901.S01C

#### [ ] Designates Metric Conversions

— 24<sup>1</sup>/<sub>16</sub>" — [611.2 mm]

-2" [51 mm] DIA. ALT GAS CONNECTION

-15/8" [41.3 mm] DIA. CONDENSATE DRAIN

RIGHT SIDE

Illustration A084901.S01D

## **Blower Performance Data**

MODEL RGGE-	BLOWER SIZE (D x W) IN. [mm]	ICM Motor H.P. [W]	BLOWER SPEED (SELECTED W/DIP SWITCHES)	CFM [L/s] AIR DELIVERY EXTERNAL STATIC PRESSURE INCHES WATER COLUMN [kPa] 0.1 [.02]-0.8 [.20]
06	11 x 7 [279 x 178]	1/2 [373]	HIGH MED-HI MED LOW	1200 [566] 1000 [472] 800 [378] 600 [283]
07	11 x 7 [279 x 178]	1/2 [373]	HIGH MED-HI MED LOW	1200 [566] 1000 [472] 800 [378] 600 [283]
09	12 x 11 [305 x 279]	1 [746]	HIGH MED-HI MED LOW	2000 [944] 1600 [755] 1400 [661] 1200 [566]
10	12 x 11 [305 x 279]	1 [746]	HIGH MED-HI MED LOW	2000 [944] 1600 [755] 1400 [661] 1200 [566]
12	11 x 10 [279 x 254]	1 [746]	HIGH MED-HI MED LOW	2000 [944] 1600 [755] 1400 [661] 1200 [566]

<sup>[ ]</sup> 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)

**NEUTRALIZER KIT: RXGY-A01** 

**COMBUSTIBLE FLOOR BASE: RXGC-B17** 

RXGC-B21 RXGC-B24

**EXTERNAL FILTER RACK: RXGF-CC** 

FILTER RACK FILTER SIZES* INCHES [mm]				
MODEL RGGE-	RXGF-CC			
06	(2) 12 x 20 [305 x 508]			
07	(2) 12 x 20 [305 x 508]			
09	(2) 12 x 20 [305 x 508]			
10	(2) 12 x 20 [305 x 508]			
12	(2) 14 x 20 [305 x 508]			

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

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

**FOSSIL FUEL KIT: RXPF-F02** 

## PLENUM DATA FOR "A" COILS

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

FURNACE PLENUM WIDTH WIDTH IN. [mm] IN. [mm]		PLENUM ADAPTER UPFLOW	COIL Plenum		
171/2 [445]	16¹/4 [413]	RXAA-C186	RXAL-B16BU		
171/2 [445]	201/4 [514]	RXAA-C173	RXAL-B20BU		
171/2 [445]	215/8 [549]	RXAA-C187	RXAL-B21BU		
17 <sup>1</sup> /2 [445]	25 <sup>1</sup> / <sub>4</sub> [641]	RXAA-C174	RXAL-B25BU		
21 [533]	25 <sup>1</sup> / <sub>4</sub> [641]	RXAA-C175	RXAL-B25BU		
21 [533]	22 <sup>1</sup> /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		
24 <sup>1</sup> / <sub>2</sub> [622]	21 <sup>5</sup> /8 [549]	RXAA-C187	RXAL-B21BU		

LP KIT: (Available through PROSTOCK®)

U.S./Canadian = RXGJ-FP27 (HA & HB Fuel codes only). U.S./Canadian = RXGJ-FP07 (HG & HH Fuel codes only).

### **THERMOSTATS**

## RECOMMENDED MODULATING FURNACE THERMOSTAT



**UHC-TST550CMMS** 

#### **CONTRACTOR BENEFITS:**

- Multi-Purpose Thermostat-Setup, Control & Diagnostics
- Auto-Configuration No Manual Settings Required in the Field
- System History More Accurate Diagnostics
- Easy Installation Requires only 4 wires
- Diagnostic Messages (Service Access to Fault Codes)
- Blower Adjustment in Heat and Cool
- Programmable Fan
- USB Interface for contractor contact information and thermostat programming

#### **HOMEOWNER BENEFITS:**

- Scrolling System Status
- De-Humidification Control
- Humidification Control
- Heat/Cool/Auto Change-over
- Outdoor Temperature Display
- Backlight On/Off
- Intelligent Scheduling Ramp-Up/Program Anticipation
- Audio Notifications On/Off
- Air Filter, UV Lights & Humidifier Maintenance Reminder
- Temperature Offset
- Continuous Fan (Hi, Med, Lo)

#### \*PROGRAMMABLE THERMOSTAT ACCESSORIES:

Adapter Plate = F61-2600

Remote F1451328 and F1451378 Sensor

[ ] Designates Metric Conversions

<sup>\*</sup>Available through PROSTOCK®.

## **FOR HIGH ALTITUDES:**

#### **RGGE HIGH ALTITUDE FIELD CONVERSION KITS:**

MODEL	INPUT (KBTU)	KIT NO.			
RGGE-06	60,000	None Needed			
RGGE-07	75,000	RXGY-F23			
RGGE-09*	90,000	RXGY-F24			
RGGE-10*	105,000	RXGY-F25			
RGGE-12*	120,000	RXGY-F26			
*5000 ft. & above only (except where noted).					

OPTION CODE FOR HIGH ALTITUDE: None Available - Kit must be purchased

NOTE: High altitude kits 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. the burner orifice size must be recalculated and verified. A burner orifice change may still be required. See Installation Instructions for more information.

Manifold gas pressure reduction methods may NOT be used on these models. The only method permitted on modulating furnace models is to recalculate the burner orifice size. See Installation Instructions for more information.

## **ALTERNATE (LEFT SIDE) CONDENSATE DRAIN KIT:**

RXGY-H01 (All Models)

[ ] 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 and Conditional Warranties, including applicable terms and conditions, contact your local contractor or the Manufacturer for a copy of the product warranty certificate.

Conditional Unit Replacement
(Registration Required) .....Limited Lifetime
Parts ......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.

Ruud Heating, Cooling & Water Heating • P.O. Box 17010 Fort Smith, Arkansas 72917 • www.ruud.com Ruud Canada • 125 Edgeware Road, Unit 1 Brampton, Ontario • L6Y 0P5