

**RGS180  
SINGLE PACKAGE ROOFTOP  
GAS HEATING, ELECTRIC COOLING  
WITH R-410A REFRIGERANT**

**Electrical Data Supplement**

**NOTE:** Read the entire instruction manual before starting the installation

This supplement only applies to RGS180 units when there is “B” in the 9<sup>th</sup> position of the Model Number, as shown in the Model Number Nomenclature diagram below. Check the Unit Nameplate (see Figs. 1 & 2). If there is not a “B” in the 9<sup>th</sup> position of the model number discard this document.


**MODEL NOMENCLATURE**

MODEL SERIES	R	G	S	1	8	0	H	F	B	A	0	A	A	A
Position Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
R = Rooftop														
A = Air Conditioning (Cooling Only) H = Heat Pump G = Gas/Electric	<b>Type</b>													
S = ASHRAE 90.1-2010 Efficient	<b>Efficiency</b>													
180 = 180,000 = 15 Tons (Two Compressors)	<b>Nominal Cooling Capacity</b>													
H = 208/230-3-60 L = 460-3-60 S = 575-3-60	<b>Voltage</b>													
D = Low Heat E = Medium Heat F = High Heat	<b>Heating Capacity</b>													
A = Standard Static Option - Belt Drive ) C = Medium Static Option (Belt Drive) B = High Static Option (Belt Drive) E = High Static Option with High Efficiency Motor	<b>Motor Option</b>													
A = None B = Economizer w/Bara-relief, OA Temp sensor	<b>Outdoor Air Options / Control</b>													
OA = No Options	<b>Factory Installed Options</b>													
A = Aluminum / Cu Cond & Evap Coil	<b>Condenser / Evaporator Coil Configuration</b>													
A = Standard	<b>Sales Digit</b>													

## SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock or other conditions which may cause personal injury or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloths for brazing operations and have a fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions attached to the unit. Consult local building codes and appropriate national electrical codes (in USA, ANSI/NFPA70, National Electrical Code (NEC); in Canada, CSA C22.1) for special requirements.

It is important to recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, CAUTION, and NOTE. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices, which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

## CAUTION

### ELECTRICAL HAZARD

Failure to follow this caution may result in personal injury or product and property damage.

The electrical data contained in this document is only for use with RGS180 which display a "B" in the 9<sup>th</sup> position of the 14 digit model number as displayed on the unit's nameplate.

See Fig. 1 for location of the unit's nameplate.

See Fig. 2 for details of the 14 digit model number.

## WARNING

### ELECTRICAL SHOCK HAZARD

Failure to follow this warning could cause personal injury or death.

Before performing service or maintenance operations on unit, always turn off main power switch to unit and install lockout tag. Unit may have more than one power switch.

Nameplate Location

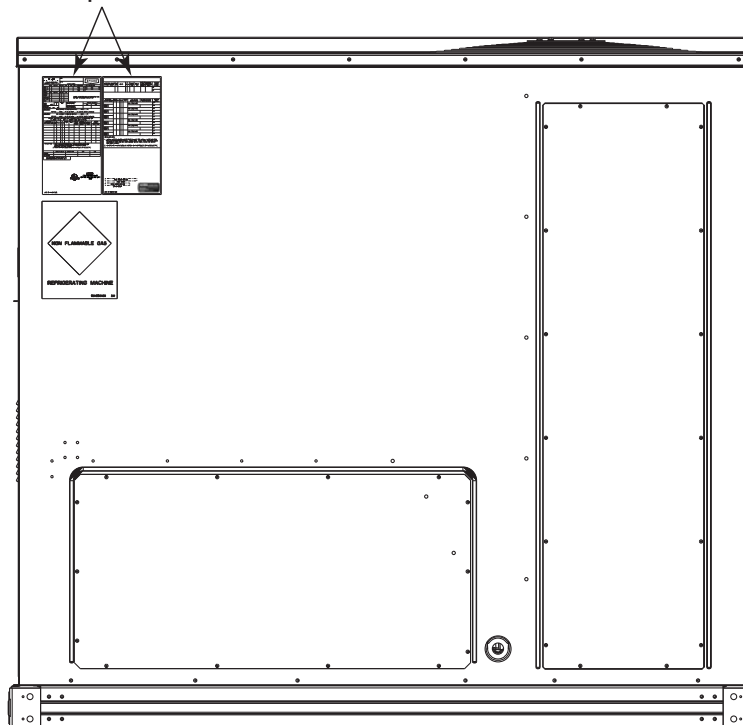


Fig. 1 – Location of Unit Nameplate




<b>INTERNATIONAL COMFORT PRODUCTS, LLC</b> Leisberg, TN 37091		MODEL <b>RGS180HFBA0AAA</b>		<b>ICP</b>							
		SERIAL		FACTORY CHARGED							
	QTY	VOLTS AC	PH	HZ	FLA	LRA	REF. SYSTEM R-410A	TEST PRESSURE GAGE			
COMPR A							LBS	kg	HI	PSI	kPa
COMPR B							LBS	kg	LO	PSI	kPa
COMPR C							LBS	kg			
FAN MTR	QTY	VOLTS AC	PH	HZ	FLA	CHARGE SYSTEM PER INSTALLATION INSTRUCTIONS FOR OUTDOOR INSTALLATION ONLY COMBINATION COOLING AND HEATING UNIT					
OUTDOOR											
INDOOR											
PWR EXHAUST						POWER SUPPLY			PERMISSIBLE VOLTAGE TO UNIT		
COMBUST						VOLTS	PH	HZ	MAX	MIN	
OTHER											
ACCESSORY POWER EXHAUST MODEL		VOLTS	PH	HZ	ACCESSORY POWER EXHAUST FLA	MINIMUM CIRCUIT AMPS	MAX FUSE OR HACR BREAKER PER NEC	MAXIMUM OVERCURRENT PROTECTION DEVICE	MINIMUM UNIT DISCONNECT		
NONE									FLA	LRA	
MINIMUM CLEARANCE TO COMBUSTIBLE MATERIALS											
TOP			BOTTOM *			SIDES			FLUE SIDE **		
DOWN SUPPLY											
SIDE SUPPLY											
* FOR INSTALLATION ON COMBUSTIBLE FLOORING OR CLASS A,B, OR C ROOFING MATERIAL ** 18 INCHES (457mm) WITH ACCESSORY FLUE DISCHARGE DEFLECTOR											
DEVICE CERTIFIED AS A FORCED AIR FURNACE WITH COOLING UNIT CSA APPROVED FOR NON-RESIDENTIAL USE TO -40° F AMBIENT.											
AIR TEMP RISE		MAX EXTERNAL STATIC PRESSURE			DESIGNED MAXIMUM OUTLET AIR TEMPERATURE						
	INPUT MIN	INPUT MAX	OUTPUT CAP	THERMAL EFFICIENCY	EQUIPED FOR USE WITH						
BTU/HR					GAS						
KW											
GAS SUPPLY PRESSURE		MAX			MIN						
MANIFOLD PRESSURE											
 ANSI 221.47-CAN/CGA-2.3-(2003) CENTRAL FURNACE				 LISTED COOLING PORTION OF HEATING AND COOLING UNIT 36N2							
	CAPACITY Btu/Hr	CAPACITY KW	EER	COP							
COOLING											
HP HEATING											
THIS EQUIPMENT COMPLIES WITH THE 2004 REQUIREMENTS OF ASHRAE 90.1											
MODEL NUMBER BAR CODE											
MODEL NUMBER											
SERIAL NUMBER BAR CODE											
SERIAL NUMBER											
											

Fig. 2 – Example of Nameplate with Model Number

<b>MODEL SERIES</b>	<b>R</b>	<b>G</b>	<b>S</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>H</b>	<b>F</b>	<b>B</b>	<b>A</b>	<b>0</b>	<b>A</b>	<b>A</b>	<b>A</b>
<b>Position Number</b>	1	2	3	4	5	6	7	8	9	10	11	12	13	14

**Table 1 – Unit Wire/Fuse or HACR Breaker Sizing Data**

UNIT	NOM. V–Ph–Hz	IFM TYPE	COMBUSTION FAN MOTOR	POWER EXHAUST	NO C.O. or UNPWR C.O.							
			FLA	FLA	NO PE.				w/ PE. (pwrd fr/ unit)			
					MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
							FLA	LRA			FLA	LRA
RGS180	208/230–3–60	STD	0.48	3.8	68.3	80	71	396	72.1	80	76	400
		MED			70.8	80	74	413	74.6	90	79	417
		HIGH			77.8/75.8	100/100	82/80	424	81.6/79.6	100/100	87/84	428
	460–3–60	STD	0.25	1.8	34.0	45	35	234	35.8	45	37	236
		MED			35.0	45	37	243	36.8	45	39	245
		HIGH			38.2	50	40	248	40.0	50	42	250
	575–3–60	STD	0.24	3.8	26.5	30	28	184	30.3	40	32	188
		MED			26.5	30	28	184	30.3	40	32	188
		HIGH			29.8	35	31	187	33.6	40	36	191

**Legend and Notes for Table 1**

**LEGEND:**

- BRKR – Circuit breaker
- CO – Convenience outlet
- DISC – Disconnect
- FLA – Full load amps
- IFM – Indoor fan motor
- LRA – Locked rotor amps
- MCA – Minimum circuit amps
- PE – Power exhaust
- UNPWR CO – Unpowered convenient outlet



Example: Supply voltage is 230-3-60



- AB = 224 v
- BC = 231 v
- AC = 226 v

$$\text{Average Voltage} = \frac{(224 + 231 + 226)}{3} = \frac{681}{3} = 227$$

Determine maximum deviation from average voltage.

(AB) 227 – 224 = 3 v

(BC) 231 – 227 = 4 v

(AC) 227 – 226 = 1 v

Maximum deviation is 4 v.

Determine percent of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{4}{227} = 1.76\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

**IMPORTANT:** If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

**NOTES:**

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**  
Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percentage of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$