RGS210–303
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 RGS210–303 units when there is "B" in the 9th 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 9th position of the model number discard this document.

MODEL NOMENCLATURE

MODEL SERIES	R	G	S	2	1	0	H	D	A	B	0	A	G	A
Position Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	14

R = Rooftop

A = Air Conditioning (Cooling Only)
G = Gas/Electric — **Type**

S = Standard Efficiency ASHRAE 90.1-2010 — **Efficiency**

210 = 210,000 = 17.5 Tons Dedicated Vertical SA/RA
213 = 210,000 = 17.5 Tons Dedicated Horizontal SA/RA
240 = 240,000 = 20 Tons Dedicated Vertical SA/RA
243 = 240,000 = 20 Tons Dedicated Horizontal SA/RA
300 = 300,000 = 25 Tons Dedicated Vertical SA/RA
303 = 300,000 = 25 Tons Dedicated Horizontal SA/RA
Nominal Cooling Capacity

H = 208/230-3-60
L = 460-3-60
S = 575-3-60 — **Voltage**

D = Low Heat
E = Medium Heat
F = High Heat
S = Low Heat, Stainless Steel Heat Exchanger
R = Medium Heat, Stainless Steel Heat Exchanger
T = High Heat, Stainless Steel Heat Exchanger
Heating Capacity

A = Standard Static Option
B = High Static Option
E = High Static Option with High Efficiency Motor — **Motor Option**

A = None
B = Economizer w/Bara-relief, OA Temp sensor
E = Economizer w/Bara-relief + CO_2 sensor, OA Temp sensor
H = Economizer w/Bara-relief, Enthalpy sensor
L = Economizer w/Bara-relief + CO_2 sensor, Enthalpy sensor
P = 2-Position damper w/Baro-relief — **Outdoor Air Options / Control**

0A = No Options
4B = Non-fused Disconnect
AT = Non-powered 115v Convenience Outlet.
BR = Supply Air Smoke Detector
7C = Non-fused Disconnect + Non-powered 115v Convenience Outlet.
7K = Non-fused Disconnect + Non-powered 115v Convenience Outlet. + Supply Air Smoke Detector
BA = Non-fused Disconnect + Supply Air Smoke Detector — **Factory Installed Options**

G = Alum / Alum Cond & Alum / Cu Evap
K = E-Coated Alum / Alum Cond Coil, Std Alum / Cu Evap Coil — **Condenser / Evaporator Coil Configuration**

A = Standard — **Sales Digit**

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 RGS210−303 which display a “B” in the 9th 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.

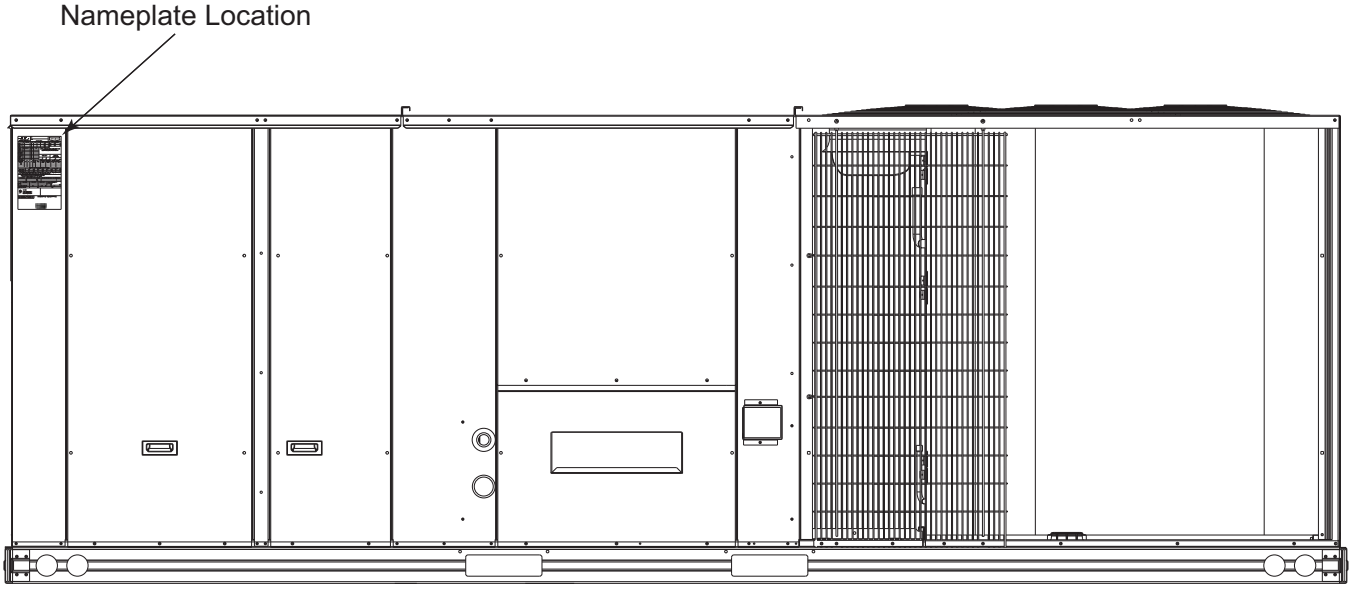
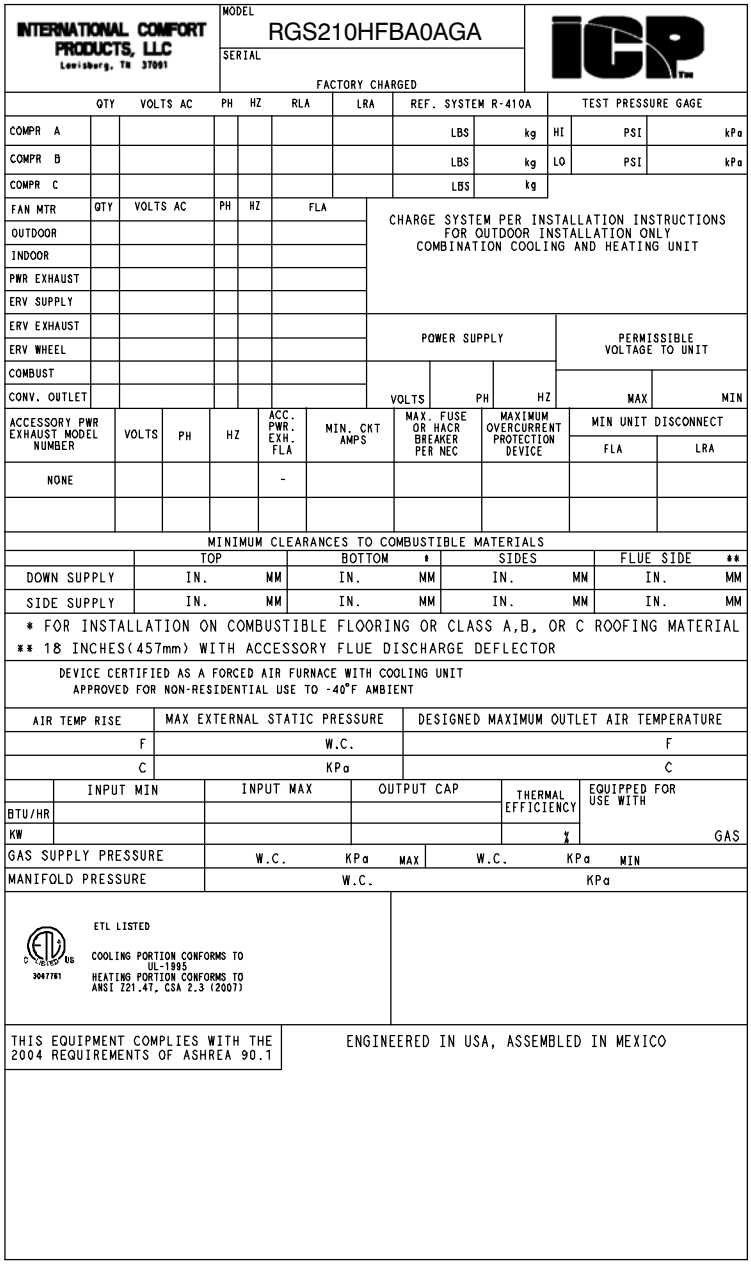


Fig. 1 − Location of Unit Nameplate



INTERNATIONAL COMFORT PRODUCTS, LLC
Lewisberg, TN 37091

MODEL
RGS210HFBA0AGA

SERIAL

FACTORY CHARGED

	QTY	VOLTS AC	PH	HZ	RLA	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			

	QTY	VOLTS AC	PH	HZ	FLA
FAN MTR					
OUTDOOR					
INDOOR					
PWR EXHAUST					
ERV SUPPLY					
ERV EXHAUST					
ERV WHEEL					
COMBUST					
CONV. OUTLET					

CHARGE SYSTEM PER INSTALLATION INSTRUCTIONS
FOR OUTDOOR INSTALLATION ONLY
COMBINATION COOLING AND HEATING UNIT

POWER SUPPLY			PERMISSIBLE VOLTAGE TO UNIT	
VOLTS	PH	HZ	MAX	MIN

ACCESSORY PWR EXHAUST MODEL NUMBER	VOLTS	PH	HZ	ACC. PWR. EXH. FLA	MIN. CKT AMPS	MAX. FUSE OR HACR BREAKER PER NEC	MAXIMUM OVERCURRENT PROTECTION DEVICE	MIN UNIT DISCONNECT	
								FLA	LRA
NONE				-					

MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS

	TOP		BOTTOM *		SIDES		FLUE SIDE **	
DOWN SUPPLY	IN.	MM	IN.	MM	IN.	MM	IN.	MM
SIDE SUPPLY	IN.	MM	IN.	MM	IN.	MM	IN.	MM

* 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
APPROVED FOR NON-RESIDENTIAL USE TO -40°F AMBIENT

AIR TEMP RISE	MAX EXTERNAL STATIC PRESSURE	DESIGNED MAXIMUM OUTLET AIR TEMPERATURE
F	W.C.	F
C	KPa	C

	INPUT MIN	INPUT MAX	OUTPUT CAP	THERMAL EFFICIENCY	EQUIPPED FOR USE WITH
BTU/HR					
KW				%	GAS

GAS SUPPLY PRESSURE	W.C.	KPa	MAX	W.C. KPa	MIN
MANIFOLD PRESSURE	W.C.	KPa			

ETL LISTED
3047761
COOLING PORTION CONFORMS TO UL-1995
HEATING PORTION CONFORMS TO ANSI Z21.47, CSA 2.3 (2007)

THIS EQUIPMENT COMPLIES WITH THE 2004 REQUIREMENTS OF ASHREA 90.1

ENGINEERED IN USA, ASSEMBLED IN MEXICO

Fig. 2 – Example of Nameplate with Model Number

MODEL SERIES	R	G	S	2	1	0	H	D	B	A	0	A	G	A
Position Number	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.							
					NO P.E.				w/ P.E. (pwrd fr/ unit)			
			FLA	FLA	MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
							FLA	LRA			FLA	LRA
RGS210/213	208/230–3–60	STD	0.52	5.9	81.8	100.0	85	502	93.6	110.0	99	502
		MED			86.6	100.0	91	511	98.4	125.0	105	511
		HIGH			84.4	100.0	88	513	96.2	125.0	102	513
	460–3–60	STD	0.3	3.1	43.1	50	45	252	49.3	60	52	252
		MED			45.7	60.0	48	256	51.9	60.0	55	256
		HIGH			44.7	60.0	47	257	50.9	60.0	54	257
	575–3–60	STD	0.24	2.4	32.1	40	33	188	36.9	45	39	188
		MED			34.9	45.0	37	202	39.7	50.0	42	202
		HIGH			34.4	45	36	191	39.2	50	42	191
RGS240/243	208/230–3–60	STD	0.52	5.9	110.6	150.0	113	534	122.4	150.0	127	534
		MED			108.4	150.0	111	536	120.2	150.0	124	536
		HIGH			115.0	150.0	118	572	126.8	150.0	132	572
	460–3–60	STD	0.3	3.1	49	60	51	269	55.2	60	58	269
		MED			48.0	60.0	50	270	54.2	60.0	57	270
		HIGH			51.3	60.0	54	288	57.5	70.0	61	288
	575–3–60	STD	0.24	2.4	38.6	50	40	224	43.4	50	46	224
		MED			38.1	50.0	40	213	42.9	50.0	45	213
		HIGH			40.8	50	43	239	45.6	60	48	239
RGS300/303	208/230–3–60	STD	0.52	5.9	129.2	175.0	135	584	141.0	175.0	148	584
		MED			127.0	175.0	132	586	138.8	175.0	146	586
		HIGH			133.6	175.0	140	622	145.4	175.0	153	622
	460–3–60	STD	0.3	3.1	52.9	60	55	299	59.1	70	63	299
		MED			51.9	60.0	54	300	58.1	70.0	61	300
		HIGH			55.2	60.0	58	318	61.4	70.0	65	318
	575–3–60	STD	0.24	2.4	41.1	50	43	244	45.9	60	49	244
		MED			40.6	50.0	42	233	45.4	60.0	48	233
		HIGH			43.3	50	46	259	48.1	60	51	259

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

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.

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

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.