

FOR MODELS PRODUCED ON OR AFTER MAY 18, 2015 ONLY!

NOTE: Read the entire instruction manual before starting the installation

This supplement only applies to RGH/RAH150 units manufactured on or after May 18, 2015. To confirm the date of manufacture of a RGH/RAH unit, locate the unit nameplate and check the second thru fifth digits of the Serial Number. If the number listed in the 2nd thru 5th digits of the Serial Number is 1521 or higher KEEP THIS DOCUMENT and use it along with the furnished Installation Instructions. The Serial Number is located directly below the unit's Model Number.

SERIAL NUMBER NOMENCLATURE

1	2	3	4	5	6	7	8	9	10
U	1	5	2	1	1	2	3	4	5


Manufacture Location		Week of Manufacture (fiscal calendar)	Sequence Number	
Year of Manufacture (15 = 2015)				

C150230

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 RGH/RAH 150 units manufactured on or after May 18, 2015. Check the second thru fifth digits of the Serial Number. If the number listed in the 2nd thru 5th digits of the Serial Number is 1521 or higher keep this document.

 **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.

Table 1 – RGH150 Unit Wire/Fuse or HACR Breaker Sizing Data – Single Speed Indoor Fan Motor

UNIT	NOM. V-Ph-Hz	IFM TYPE	NO C.O. or UNPWR C.O.							
			NO P.E.				w/ P.E. (pwr fr/ unit)			
			MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
					FLA	LRA			FLA	LRA
RGH150 (2-stage cool)	208/230-3-60	STD	57	70	59	340	60	70	63	344
		MED	60	70	62	370	63	80	67	374
		HIGH	70	80	74	376	73	80	78	380
	460-3-60	STD	25	30	26	166	27	30	28	168
		MED	27	30	28	181	28	35	30	183
		HIGH	32	40	33	184	34	40	35	186
	575-3-60	STD	20	25	21	138	24	30	25	142
		MED	20	25	21	138	24	30	25	142
		HIGH	27	30	28	150	31	35	32	154

See: Legend and Notes for Tables 1 – 4 on page 7.

Table 2 – RGH150 Unit Wire/Fuse or HACR Breaker Sizing Data – 2-Speed Indoor Fan Motor

UNIT	NOM. V-Ph-Hz	IFM TYPE	NO C.O. or UNPWR C.O.							
			NO P.E.				w/ P.E. (pwr fr/ unit)			
			MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
					FLA	LRA			FLA	LRA
RGH150	208/230-3-60	STD	58/57	70/70	60/59	337	61/61	80/70	65/64	341
		MED	60/59	70/70	63/62	361	64/63	80/80	67/66	365
		HIGH	70	80	74	376	73	80	78	380
	460-3-60	STD	25	30	26	165	27	30	28	167
		MED	26	30	27	177	28	30	29	179
		HIGH	32	40	33	184	34	40	35	186
	575-3-60	STD	22	25	23	138	26	30	27	142
		MED	22	25	23	138	26	30	27	142
		HIGH	27	30	28	150	31	35	32	154

See: Legend and Notes for Tables 1 – 4 on page 7.

Table 3 – RAH150 Unit Wire/Fuse or HACR Breaker Sizing Data – Single Speed Indoor Fan Motor

UNIT	NO M. V.—Ph—HZ	IFM-TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER ***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH150 (2—stage cool)	208/230—3—60	STD	NONE	—	—	57	70	59	340	60	70	63	344
			291A	12.4/16.5	34.4/39.7	57/59	70/70	59/59	340/340	60/64	70/70	63/63	344/344
			288A+291A	19.9/26.5	55.3/63.8	79/90	80/90	72/82	340/340	84/94	90/100	77/86	344/344
			294A	25.2/33.5	69.9/80.6	97/111	100/125	89/101	340/340	102/115	110/125	93/106	344/344
			288A+294A	32.7/43.5	90.7/104.7	123/141	125/150	113/129	340/340	128/145	150/150	117/133	344/344
			291A+294A	37.6/50.0	104.3/120.3	140/130	150/150	129/147	340/340	145/135	150/150	133/151	344/344
		MED	NONE	—	—	60	70	62	370	63	80	67	374
			291A	12.4/16.5	34.4/39.7	60/63	70/70	62/62	370/370	63/68	80/80	67/67	374/374
			288A+291A	19.9/26.5	55.3/63.8	83/93	90/100	76/86	370/370	88/98	90/100	80/90	374/374
			294A	25.2/33.5	69.9/80.6	101/114	110/125	93/105	370/370	106/119	110/125	97/109	374/374
			288A+294A	32.7/43.5	90.7/104.7	127/145	150/150	116/133	370/370	132/149	150/150	121/137	374/374
			291A+294A	37.6/50.0	104.3/120.3	144/134	150/150	132/151	370/370	149/139	150/150	137/155	374/374
	HIGH	NONE	—	—	70	80	74	376	73	80	78	380	
		291A	12.4/16.5	34.4/39.7	70/76	80/80	74/74	376/376	74/80	80/80	78/78	380/380	
		288A+291A	19.9/26.5	55.3/63.8	95/106	100/110	87/97	376/376	100/110	100/125	91/101	380/380	
		294A	25.2/33.5	69.9/80.6	113/127	125/150	104/116	376/376	118/131	125/150	108/121	380/380	
		288A+294A	32.7/43.5	90.7/104.7	139/157	150/175	128/144	376/376	144/162	150/175	132/148	380/380	
		291A+294A	37.6/50.0	104.3/120.3	156/146	175/175	143/162	376/376	161/151	175/175	148/166	380/380	
	460—3—60	STD	NONE	—	—	25	30	26	166	27	30	28	168
			292A	16.5	19.9	30	30	27	166	32	35	29	168
			289A+292A	26.5	31.9	45	45	41	166	47	50	43	168
			295A	33.5	40.3	55	60	50	166	57	60	52	168
			289A+295A	43.5	52.3	70	70	64	166	72	80	66	168
			292A+295A	50.0	60.2	65	70	73	166	67	70	75	168
MED		NONE	—	—	27	30	28	181	28	35	30	183	
		292A	16.5	19.9	32	35	29	181	34	35	31	183	
		289A+292A	26.5	31.9	47	50	43	181	49	50	45	183	
		295A	33.5	40.3	57	60	52	181	60	60	55	183	
		289A+295A	43.5	52.3	72	80	66	181	75	80	68	183	
		292A+295A	50.0	60.2	67	80	75	181	70	80	77	183	
HIGH		NONE	—	—	32	40	33	184	34	40	35	186	
		292A	16.5	19.9	38	40	35	184	40	40	37	186	
		289A+292A	26.5	31.9	53	60	48	184	55	60	50	186	
		295A	33.5	40.3	64	70	58	184	66	70	60	186	
		289A+295A	43.5	52.3	79	80	72	184	81	90	74	186	
		292A+295A	50.0	60.2	73	80	81	184	76	80	83	186	
0	STD	NONE	—	—	20	25	21	138	24	30	25	142	
		293A	16.5	15.9	24	25	22	138	29	30	26	142	
		290A+293A	26.5	25.5	36	40	33	138	41	45	37	142	
		296A	33.5	32.2	44	45	40	138	49	50	45	142	
		290A+296A	43.5	41.8	56	60	51	138	61	70	56	142	
		293A+296A	50.0	48.1	52	60	59	138	57	60	63	142	
	0	STD	NONE	—	—	20	25	21	138	24	30	25	142
			293A	16.5	15.9	24	25	22	138	29	30	26	142

575-3-60	MED	290A+293A	26.5	25.5	36	40	33	138	41	45	37	142
		296A	33.5	32.2	44	45	40	138	49	50	45	142
		290A+296A	43.5	41.8	56	60	51	138	61	70	56	142
		293A+296A	50.0	48.1	52	60	59	138	57	60	63	142
	HIGH	NONE	-	-	27	30	28	150	31	35	32	154
		293A	16.5	15.9	32	35	29	150	36	40	33	154
		290A+293A	26.5	25.5	44	45	40	150	48	50	44	154
		296A	33.5	32.2	52	60	47	150	57	60	52	154
		290A+296A	43.5	41.8	64	70	58	150	69	70	63	154
		293A+296A	50.0	48.1	60	70	66	150	65	70	70	154

See: Legend and Notes for Tables 1 – 4 on page 7.

Table 4 – RAH150 Unit Wire/Fuse or HACR Breaker Sizing Data – 2-Speed Indoor Fan Motor

UNIT	NO M. V-Ph-HZ	IFM-TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER ***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
208/230-3-60	STD	NONE	-	-	58/57	70/70	60/59	337	61/61	80/70	65/64	341	
		291A	12.4/16.5	34.4/39.7	58/60	70/70	60/59	337/337	61/65	80/70	65/64	341/341	
		288A+291A	19.9/26.5	55.3/63.8	80/90	80/90	73/82	337/337	85/95	90/100	78/87	341/341	
		294A	25.2/33.5	69.9/80.6	99/111	100/125	90/102	337/337	103/116	110/125	95/106	341/341	
		288A+294A	32.7/43.5	90.7/104.7	125/141	125/150	114/129	337/337	129/146	150/150	119/134	341/341	
		291A+294A	37.6/50.0	104.3/120.3	142/131	150/150	130/147	337/337	146/135	150/150	134/152	341/341	
	MED	NONE	-	-	60/59	70/70	63/62	361	64/63	80/80	67/66	365	
		291A	12.4/16.5	34.4/39.7	60/62	70/70	63/62	361/361	64/67	80/80	67/66	365/365	
		288A+291A	19.9/26.5	55.3/63.8	83/92	90/100	76/85	361/361	88/97	90/100	80/89	365/365	
		294A	25.2/33.5	69.9/80.6	101/113	110/125	93/104	361/361	106/118	110/125	97/108	365/365	
		288A+294A	32.7/43.5	90.7/104.7	127/144	150/150	117/132	361/361	132/148	150/150	121/136	365/365	
		291A+294A	37.6/50.0	104.3/120.3	144/133	150/150	132/150	361/361	149/138	150/150	137/154	365/365	
	HIGH	NONE	-	-	70	80	74	376	73	80	78	380	
		291A	12.4/16.5	34.4/39.7	70/76	80/80	74/74	376/376	74/80	80/80	78/78	380/380	
		288A+291A	19.9/26.5	55.3/63.8	95/106	100/110	87/97	376/376	100/110	100/125	91/101	380/380	
		294A	25.2/33.5	69.9/80.6	113/127	125/150	104/116	376/376	118/131	125/150	108/121	380/380	
		288A+294A	32.7/43.5	90.7/104.7	139/157	150/175	128/144	376/376	144/162	150/175	132/148	380/380	
		291A+294A	37.6/50.0	104.3/120.3	156/146	175/175	143/162	376/376	161/151	175/175	148/166	380/380	
460-3-60	STD	NONE	-	-	25	30	26	165	27	30	28	167	
		292A	16.5	19.9	30	30	27	165	32	35	29	167	
		289A+292A	26.5	31.9	45	45	41	165	47	50	43	167	
		295A	33.5	40.3	56	60	51	165	58	60	53	167	
		289A+295A	43.5	52.3	71	80	65	165	73	80	67	167	
		292A+295A	50.0	60.2	65	70	74	165	68	80	76	167	
	MED	NONE	-	-	26	30	27	177	28	30	29	179	
		292A	16.5	19.9	31	35	29	177	34	35	31	179	
		289A+292A	26.5	31.9	46	50	42	177	49	50	44	179	
		295A	33.5	40.3	57	60	52	177	59	60	54	179	
		289A+295A	43.5	52.3	72	80	66	177	74	80	68	179	
		292A+295A	50.0	60.2	67	80	75	177	69	80	77	179	
	HIGH	NONE	-	-	32	40	33	184	34	40	35	186	
		292A	16.5	19.9	38	40	35	184	40	40	37	186	
		289A+292A	26.5	31.9	53	60	48	184	55	60	50	186	
		295A	33.5	40.3	64	70	58	184	66	70	60	186	
		289A+295A	43.5	52.3	79	80	72	184	81	90	74	186	
		292A+295A	50.0	60.2	73	80	81	184	76	80	83	186	
0	STD	NONE	-	-	22	25	23	138	26	30	27	142	
		293A	16.5	15.9	26	30	23	138	31	35	28	142	
		290A+293A	26.5	25.5	38	40	35	138	43	45	39	142	
		296A	33.5	32.2	46	50	42	138	51	60	47	142	
		290A+296A	43.5	41.8	58	60	53	138	63	70	58	142	
		293A+296A	50.0	48.1	54	60	60	138	59	60	65	142	
		NONE	-	-	22	25	23	138	26	30	27	142	
		293A	16.5	15.9	26	30	23	138	31	35	28	142	

575-3-60	MED	290A+293A	26.5	25.5	38	40	35	138	43	45	39	142
		296A	33.5	32.2	46	50	42	138	51	60	47	142
		290A+296A	43.5	41.8	58	60	53	138	63	70	58	142
		293A+296A	50.0	48.1	54	60	60	138	59	60	65	142
	HIGH	NONE	-	-	27	30	28	150	31	35	32	154
		293A	16.5	15.9	32	35	29	150	36	40	33	154
		290A+293A	26.5	25.5	44	45	40	150	48	50	44	154
		296A	33.5	32.2	52	60	47	150	57	60	52	154
		290A+296A	43.5	41.8	64	70	58	150	69	70	63	154
		293A+296A	50.0	48.1	60	70	66	150	65	70	70	154

See: Legend and Notes for Tables 1 – 4 on page 7.

Legend and Notes for Tables 1 – 4

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
MOCP	-	MAX FUSE or HACR Breaker
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

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

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.

$$\begin{aligned} \% \text{ Voltage Imbalance} &= 100 \times \frac{4}{227} \\ &= 1.76\% \end{aligned}$$

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.