RHS 120
SINGLE PACKAGE ROOFTOP
HEAT PUMP UNIT
WITH R–410A REFRIGERANT

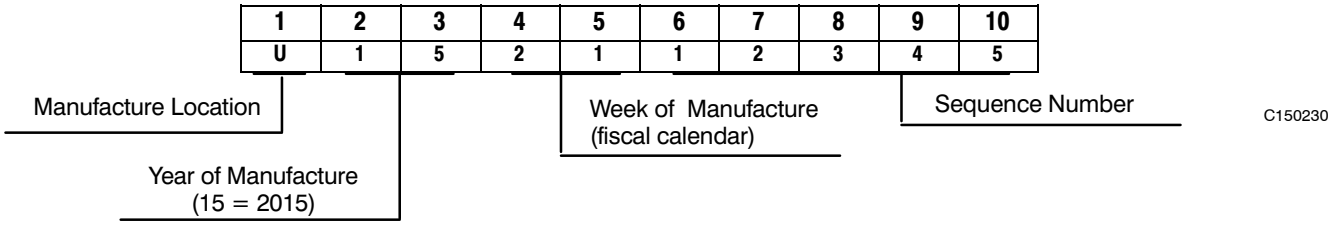
ELECTRICAL DATA SUPPLEMENT

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 RHS120 units manufactured on or after May 18, 2015. To confirm the date of manufacture of a RHS 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



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 RHS 120 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 – RHS120 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.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RHS120	208/230–3–60	STD	NONE	–	–	47	60	49	282	51	60	54	286
			117A	7.8/10.4	21.7/25.0	74/79	80/80	74/78	304/307	78/82	80/90	79/82	308/311
			110A	12.0/16.0	33.4/38.5	89/95	90/100	88/94	315/321	93/99	100/100	92/98	319/325
			112A	24.0/32.0	66.7/77.0	131/144	150/150	126/138	349/359	135/147	150/150	130/142	353/363
			112A+117A	31.8/42.4	88.4/102.0	158/175	175/175	151/167	459/486	162/179	175/200	155/171	463/490
			112A+110A	37.6/50.0	104.2/120.3	178/168	200/175	169/188	490/523	181/171	200/175	174/192	494/527
		MED	NONE	–	–	53	60	56	338	57	70	60	342
			117A	7.8/10.4	21.7/25.0	80/84	80/90	81/84	360/363	84/88	90/90	85/89	364/367
			110A	12.0/16.0	33.4/38.5	94/101	100/110	94/100	371/377	98/105	100/110	98/104	375/381
			112A	24.0/32.0	66.7/77.0	136/149	150/150	132/144	405/415	140/153	150/175	137/148	409/419
			112A+117A	31.8/42.4	88.4/102.0	163/180	175/200	157/173	515/542	167/184	175/200	162/177	519/546
			112A+110A	37.6/50.0	104.2/120.3	183/173	200/200	175/194	546/579	187/177	200/200	180/198	550/583
		HIGH	NONE	–	–	56/55	60/60	59/58	340	60/59	70/70	63/62	344
			117A	7.8/10.4	21.7/25.0	83/86	90/90	84/87	362/365	87/90	90/90	88/91	366/369
			110A	12.0/16.0	33.4/38.5	97/103	100/110	97/102	373/379	101/107	110/110	102/107	377/383
			112A	24.0/32.0	66.7/77.0	139/151	150/175	136/147	407/417	143/155	150/175	140/151	411/421
			112A+117A	31.8/42.4	88.4/102.0	166/182	175/200	161/175	517/544	170/186	175/200	165/180	521/548
			112A+110A	37.6/50.0	104.2/120.3	186/175	200/200	179/196	548/581	190/179	200/200	183/201	552/585
	460–3–60	STD	NONE	–	–	23	30	24	135	25	30	26	137
			116A	13.9	16.7	44	45	43	152	46	50	46	154
			113A	16.5	19.8	48	50	47	155	50	50	49	157
			115A	33.0	39.7	73	80	70	175	75	80	72	177
			114A+116A	41.7	50.2	86	90	82	235	88	90	84	237
			115A+113A	50.0	60.1	84	90	93	255	85	90	95	257
		MED	NONE	–	–	26	30	27	163	28	30	29	165
			116A	13.9	16.7	47	50	47	180	49	50	49	182
			113A	16.5	19.8	51	60	50	183	53	60	52	185
			115A	33.0	39.7	76	80	73	203	78	80	75	205
			114A+116A	41.7	50.2	89	90	85	263	91	100	87	265
			115A+113A	50.0	60.1	86	90	96	283	88	90	99	285
		HIGH	NONE	–	–	27	30	29	164	29	35	31	166
			116A	13.9	16.7	48	50	48	181	50	50	50	183
			113A	16.5	19.8	52	60	51	184	54	60	53	186
			115A	33.0	39.7	77	80	74	204	79	80	76	206
			114A+116A	41.7	50.2	90	90	86	264	92	100	88	266
			115A+113A	50.0	60.1	87	90	98	284	89	100	100	286
	575–3–60	STD	NONE	–	–	18	20	18	105	22	25	23	109
			118A	17.0	20.4	43	45	42	125	47	50	46	129
			119A	34.0	40.9	69	70	65	146	73	80	70	150
			118A+119A	51.0	61.3	79	90	89	228	83	90	93	232
		MED	NONE	–	–	19	20	19	116	23	25	24	120
			118A	17.0	20.4	44	45	43	136	48	50	47	140
			119A	34.0	40.9	70	70	66	157	74	80	71	161
			118A+119A	51.0	61.3	80	90	90	239	84	90	94	243
		HIGH	NONE	–	–	22	25	23	130	25	30	27	134
			118A	17.0	20.4	47	50	46	150	51	60	50	154
			119A	34.0	40.9	73	80	70	171	76	80	74	175
			118A+119A	51.0	61.3	83	90	93	253	87	90	97	257

See: Legend and Notes for Tables 1 and 2 on page 4.

Table 2 – RHS120 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.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RHS120	208/230–3–60	STD	NONE	–	–	49/49	60/60	52/51	279	53/53	60/60	56/56	283
			117A	7.8/10.4	21.7/25.0	76/80	80/80	76/80	301/304	80/84	80/90	81/84	305/308
			110A	12.0/16.0	33.4/38.5	91/97	100/100	90/95	312/318	95/101	100/110	94/100	316/322
			112A	24.0/32.0	66.7/77.0	133/145	150/150	128/140	346/356	136/149	150/150	133/144	350/360
			112A+117A	31.8/42.4	88.4/102.0	160/176	175/200	153/168	456/483	164/180	175/200	158/173	460/487
			112A+110A	37.6/50.0	104.2/120.3	179/169	200/175	171/190	487/520	183/173	200/200	176/194	491/524
		MED	NONE	–	–	53/52	60/60	56/55	329	57/56	70/60	60/59	333
			117A	7.8/10.4	21.7/25.0	80/83	80/90	81/83	351/354	84/87	90/90	85/88	355/358
			110A	12.0/16.0	33.4/38.5	95/100	100/100	94/99	362/368	98/104	100/110	99/103	366/372
			112A	24.0/32.0	66.7/77.0	136/148	150/150	132/143	396/406	140/152	150/175	137/148	400/410
			112A+117A	31.8/42.4	88.4/102.0	163/179	175/200	157/172	506/533	167/183	175/200	162/176	510/537
			112A+110A	37.6/50.0	104.2/120.3	183/172	200/200	176/193	537/570	187/176	200/200	180/197	541/574
		HIGH	NONE	–	–	56/55	60/60	59/58	340	60/59	70/70	63/62	344
			117A	7.8/10.4	21.7/25.0	83/86	90/90	84/87	362/365	87/90	90/90	88/91	366/369
			110A	12.0/16.0	33.4/38.5	97/103	100/110	97/102	373/379	101/107	110/110	102/107	377/383
			112A	24.0/32.0	66.7/77.0	139/151	150/175	136/147	407/417	143/155	150/175	140/151	411/421
			112A+117A	31.8/42.4	88.4/102.0	166/182	175/200	161/175	517/544	170/186	175/200	165/180	521/548
			112A+110A	37.6/50.0	104.2/120.3	186/175	200/200	179/196	548/581	190/179	200/200	183/201	552/585
	460–3–60	STD	NONE	–	–	24	30	25	134	26	30	27	136
			116A	13.9	16.7	45	45	44	151	47	50	46	153
			113A	16.5	19.8	49	50	48	154	51	60	50	156
			115A	33.0	39.7	74	80	71	174	76	80	73	176
			114A+116A	41.7	50.2	87	90	83	234	89	90	85	236
			115A+113A	50.0	60.1	84	90	94	254	86	90	96	256
		MED	NONE	–	–	26	30	27	159	28	30	29	161
			116A	13.9	16.7	47	50	46	176	48	50	48	178
			113A	16.5	19.8	51	60	50	179	52	60	52	181
			115A	33.0	39.7	75	80	73	199	77	80	75	201
			114A+116A	41.7	50.2	89	90	85	259	90	90	87	261
			115A+113A	50.0	60.1	86	90	96	279	88	90	98	281
		HIGH	NONE	–	–	27	30	29	164	29	35	31	166
			116A	13.9	16.7	48	50	48	181	50	50	50	183
			113A	16.5	19.8	52	60	51	184	54	60	53	186
			115A	33.0	39.7	77	80	74	204	79	80	76	206
			114A+116A	41.7	50.2	90	90	86	264	92	100	88	266
			115A+113A	50.0	60.1	87	90	98	284	89	100	100	286
	575–3–60	STD	NONE	–	–	19	25	20	107	23	25	24	111
			118A	17.0	20.4	45	45	44	127	49	50	48	131
			119A	34.0	40.9	71	80	67	148	74	80	72	152
			118A+119A	51.0	61.3	81	90	91	230	85	90	95	234
		MED	NONE	–	–	20	25	21	116	24	30	26	120
			118A	17.0	20.4	46	50	45	136	50	50	49	140
			119A	34.0	40.9	72	80	68	157	75	80	73	161
			118A+119A	51.0	61.3	82	90	92	239	86	90	96	243
		HIGH	NONE	–	–	22	25	23	130	26	30	28	134
			118A	17.0	20.4	48	50	47	150	52	60	51	154
			119A	34.0	40.9	73	80	70	171	77	80	75	175
			118A+119A	51.0	61.3	84	90	94	253	87	90	98	257

See: Legend and Notes for Tables 1 and 2 on page 4.

Legend and Notes for Tables 1 and 2

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

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

$$= 227$$

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.