

**50HCQ 3 to 5 Nominal Tons
Single Package Rooftop
Heat Pump
with Puron® (R-410A) Refrigerant
Sizes: 04-06**



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 50HCQ size 04 to 06 units manufactured on or after May 18, 2015. To confirm the date of manufacture of the unit, locate the unit nameplate and check the first four digits of the Serial Number which is located directly below the unit's Model Number at the top of the nameplate. If the number listed in the first 4 digits of the Serial Number is 2115 or higher KEEP THIS DOCUMENT and use it along with the furnished Installation Instructions.

SERIAL NUMBER NOMENCLATURE


Position:	1	2	3	4	5	6	7	8	9	10
Example:	2	1	1	5	X	1	2	3	4	5

Week of manufacture (fiscal calendar)	Sequence number
Year of manufacture ("15" = 2015)	Manufacturing location

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.

C150230

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 50HCQ size 04 to 06 units manufactured on or after May 18, 2015. Check the first 4 digits of the unit's Serial Number (located on the unit's nameplate) if the number listed is 2115 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 – 50HCQ 04-06 Unit Wire/Fuse or HACR Breaker Sizing Data

UNIT	IFM TYPE	ELEC. HTR		NO C.O. or UNPWR C.O.										W/ PWRD C.O.										
		CRHEATER***A00	Nom (kW)	FLA	NO RE.					w/ P.E. (pwrd fr/unit)					NO RE.					w/ P.E. (pwrd fr/unit)				
					MCA	MAX FUSE OF HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE OF HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE OF HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE OF HACR BRKR	FLA	DISC. SIZE	LRA
50HCQ*04	DD-STD	NONE	3.3/4.4	15.9/18.3	30	45	29	88	32	45	31	90	34	50	34	93	36	50	36	50	36	95		
		101A	4.9/6.5	23.5/27.1	59/63	60/70	47/50	104/106	51/54	60/60	49/52	106/108	54/57	60/60	53/65	109/111	56/59	60/60	56/59	60/60	55/58	111/113		
		102A	6.5/8.7	31.4/36.3	69/75	70/80	56/60	112/115	61/65	70/70	58/62	114/117	64/68	70/70	61/65	117/120	66/70	70/70	66/70	70/70	63/68	119/122		
		103B	7.9/10.5	37.9/43.8	77/84	80/90	72/79	119/124	71/77	80/80	67/73	121/126	74/80	80/80	70/76	124/129	76/82	80/80	80/80	80/80	73/78	126/131		
		104B	9.8/13.0	46.9/54.2	88/97	90/100	83/91	126/132	79/86	80/90	75/81	128/134	82/89	90/90	78/85	131/137	84/91	90/100	90/100	80/87	133/139			
		102A+102A	3.3/4.4	9.2/10.6	22	82	24	84	27	30	24	24	84	27	30	87	29	35	29	35	29	89		
		101A	4.9/6.5	13.6/15.6	39/41	45/45	37/40	96/98	41/43	45/45	39/42	98/100	44/46	50/50	43/45	101/103	46/48	50/50	45/47	50/50	45/47	103/105		
		103B	6.5/8.7	18.1/20.9	44/48	45/50	42/46	100/103	46/50	50/60	45/48	102/105	49/53	50/60	48/51	105/108	51/55	60/60	50/53	60/60	50/53	107/110		
		104B	7.9/10.5	21.9/25.3	49/53	50/60	47/51	104/107	51/55	60/60	49/53	106/109	54/58	60/60	52/56	109/112	56/60	60/60	55/58	60/60	55/58	111/114		
		105A	12.0/16.0	33.4/38.5	64/70	70/70	60/66	115/121	66/72	70/80	62/68	117/123	68/75	70/80	66/71	120/126	70/77	70/80	66/74	70/80	66/74	122/128		
208/230-3-60	MED	NONE	3.3/4.4	9.2/10.6	20/19	25/25	19/19	111	22/21	30/30	21/21	113	24/24	30/30	25/24	116	26/26	30/30	27/26	30/30	27/26	118		
		101A	4.9/6.5	13.6/15.6	37/39	40/40	35/37	120/122	33/35	40/40	32/33	122/124	36/37	40/40	35/36	125/127	38/39	45/45	37/39	45/45	37/39	127/129		
		102A	6.5/8.7	18.1/20.9	42/45	45/50	40/43	129/132	44/47	45/50	42/45	131/134	47/50	50/50	45/48	134/137	49/52	50/60	48/50	48/50	45/48	136/139		
		103B	7.9/10.5	21.9/25.3	47/51	50/60	44/48	133/136	49/53	50/60	45/48	135/138	52/56	60/60	50/53	138/141	54/58	60/60	52/56	60/60	52/56	140/143		
		104B	9.8/13.0	33.4/38.5	61/67	70/70	58/63	144/150	63/69	70/70	60/65	146/152	66/72	70/80	63/69	149/155	68/74	70/80	65/71	70/80	65/71	151/157		
		NONE	3.3/4.4	9.2/10.6	23/23	30/30	23/23	147	25/25	30/30	25/25	149	28/28	30/30	28/28	152	30/29	35/35	30/30	30/30	30/30	154		
		101A	4.9/6.5	13.6/15.6	40/42	45/45	38/41	161/163	42/44	45/50	36/38	158/160	39/41	45/45	39/40	161/163	41/43	45/45	41/43	45/45	41/43	163/165		
		102A	6.5/8.7	18.1/20.9	45/49	50/50	44/47	165/168	47/51	50/60	46/49	167/170	50/54	60/60	49/52	170/173	52/56	60/60	48/48	48/48	48/48	168/170		
		103B	7.9/10.5	21.9/25.3	50/54	50/60	48/52	169/172	52/56	60/60	50/54	171/174	55/59	60/60	53/57	174/177	57/61	60/60	51/54	51/54	51/54	172/175		
		104B	9.8/13.0	33.4/38.5	65/71	70/80	61/67	180/186	67/73	70/80	63/69	182/188	69/76	70/80	67/72	185/191	71/78	80/80	69/75	69/75	69/75	176/179		
460-3-60	DD-STD	NONE	6.0	7.2	12	15	12	43	13	15	13	44	14	20	14	45	15	20	16	20	16	46		
		106A	8.8	10.6	25	25	24	54	26	30	25	55	23	25	23	52	24	25	24	25	24	53		
		107A	11.5	13.8	29	30	28	57	30	30	29	58	28	30	27	56	29	30	28	30	28	54		
		108A	14.0	16.8	33	35	31	60	34	35	32	61	35	35	35	59	33	35	31	35	31	60		
		109A	6.0	7.2	11	15	10	57	12	15	11	58	13	15	13	59	14	15	14	15	14	60		
		NONE	8.8	10.6	24	25	22	68	25	25	23	69	26	30	25	70	27	30	26	30	26	71		
		106A	11.5	13.8	28	30	26	71	29	30	27	72	29	30	29	73	31	35	30	30	28	74		
		107A	14.0	16.8	32	35	29	74	33	35	32	75	34	35	32	76	35	35	33	35	33	77		
		108A	6.0	7.2	12	15	12	75	13	15	13	76	15	20	15	77	16	20	16	20	16	78		
		109A	8.8	10.6	26	30	24	86	27	30	25	87	28	24	25	84	25	25	24	25	24	85		
575-3-60	HIGH	NONE	11.5	13.8	30	30	28	89	31	35	29	90	32	35	91	33	35	30	30	28	30	85		
		106A	14.0	16.8	33	35	31	92	34	35	33	93	36	40	94	37	40	35	35	32	92			
		107A	6.0	7.2	12	15	10	42	12	15	12	44	11	15	12	44	13	15	14	15	14	46		
		108A	8.8	10.6	21	25	20	51	23	25	22	53	23	25	22	53	25	25	24	25	24	55		
		109A	11.5	13.8	27	30	25	56	29	30	28	58	29	30	27	56	31	35	30	30	28	55		
		NONE	13.8	16.8	33	35	31	92	34	35	33	93	36	40	35	94	37	40	35	35	32	92		
		106A	14.0	16.8	33	35	31	92	34	35	33	93	36	40	35	94	37	40	35	35	32	92		
		107A	6.0	7.2	12	15	10	42	12	15	12	44	11	15	12	44	13	15	14	15	14	46		
		108A	8.8	10.6	21	25	20	51	23	25	22	53	23	25	22	53	25	25	24	25	24	55		
		109A	11.5	13.8	27	30	25	56	29	30	28	58	29	30	27	56	31	35	30	30	28	55		
208/230-1-60	DD-STD	NONE	3.3/4.4	9.2/10.6	22	30	22	82	24	30	24	84	27	30	27	87	29	35	29	35	29	89		
		101A	4.9/6.5	13.6/15.6	39/41	45/45	37/40	96/98	41/43	45/45	39/42	98/100	44/46	50/50	43/45	101/103	46/48	50/50	45/47	50/50	45/47	103/105		
		102A	6.5/8.7	18.1/20.9	44/48	45/50	42/46	100/103	46/50	50/60	45/48	102/105	49/53	50/60	48/51	105/108	51/55	60/60	50/53	60/60	50/53	107/110		
		103B	7.9/10.5	21.9/25.3	49/53	50/60	47/51	104/107	51/55	60/60	49/53	106/109	54/58	60/60	52/56	109/112	56/60	60/60	55/58	60/60	55/58	111/114		
		104B	9.8/13.0	33.4/38.5	64/70	70/70	60/66	115/121	66/72	70/80	62/68	117/123	68/75	70/80	66/71	120/126	70/77	70/80	66/74	70/80	66/74	122/128		
		NONE	3.3/4.4	9.2/10.6	20/19	25/25	19/19	111	22/21	30/30	21/21	113	24/24	30/30	25/24	116	26/26	30/30	27/26	30/30	27/26	118		
		101A	4.9/6.5	13.6/15.6	37/39	40/40	35/37	125/127	39/41	45/45	37/39	127/129	41/44	45/45	45/45	130/132	43/46	45/50	42/44	45/50	42/44	132/134		
		102A	6.5/8.7	18.1/20.9	42/45	45/50	40/43	129/132	44/47	45/50	42/45	131/134	47/50	50/50	45/48	134/137	49/52	50/60	48/50	48/50	45/48	136/139		
		103B	7.9/10.5	21.9/25.3	47/51	50/60	44/48	133/136	49/53	50/60	45/48	135/138	52/56	60/60	50/53	138/141	54/58	60/60	52/56	60/60	52/56	140/143		
		104B	9.8/13.0	33.4/38.5	61/67	70/70	58/63	144/150	63/69	70/70	60/65	146/152	66/72	70/80	63/69	149/155	68/74	70/80	65/71	70/80	65/71	151/157		
50HCQ*04	HIGH	NONE	3.3/4.4	9.2/10.6	23/23	30/30	23/23	147	25/25	30/30	25/25	149	28/28	30/30	28/28	152	30/29	35/35	30/30	30/30	30/30	154		
		101A	4.9/6.5	13.6/15.6	40/42	45/45	38/41	161/163	42/44	45/50	36/38	158/160	39/41	45/45	39/40	161/163	41/43	45/45	41/43	45/45	41/43	163/165		
		102A	6.5/8.7	18.1/20.9	45/49	50/50	44/47	165/168	47/51	50/60	46/49	167/170	50/54	60/60	49/52	170/173	52/56	60/60	48/48	48/48	48/48	168/170		
		103B	7.9/10.5	21.9/25.3	50/54	50/60	48/52	169/172	52/56	60/60														

Table 1 - 50HCQ 04-06 Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER***A00	Nom (kW)	FLA	NO RE.					w/ P.E. (pwrd fr/unit)					NO RE.					w/ P.E. (pwrd fr/unit)				
					MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA
NO M.V-PH-HZ	DD-STD	NONE	3.3/4.4	-	34	50	33	51/54	119	35	35/56	121	36	50	50	38	124	41	60	41	33	100	126	
		101A	15.9/18.3	15.9/18.3	54/57	60/60	51/54	135/137	119	53/56	137/139	121	56/59	60/60	60/60	57/59	140/142	61/64	70/70	60	33	40	126	
		103B	6.5/8.7	31.4/36.3	73/79	80/80	69/75	150/155	150/155	71/77	152/157	152/157	75/81	80/90	80/90	75/80	155/160	80/86	80/80	80/80	54/57	54/57	118/121	142/144
		102A+102A	9.8/13.0	46.9/54.2	93/102	100/110	87/95	213/227	213/227	89/97	215/229	215/229	95/104	100/110	100/110	92/101	218/232	99/108	100/110	100/110	55/58	55/58	183/186	220/234
		103B+103B	13.1/17.4	62.8/72.5	113/125	125/125	105/116	245/264	245/264	107/118	247/266	247/266	114/127	125/150	125/150	111/122	250/269	119/131	125/150	125/150	69/75	69/75	171/177	252/271
		104B+104B	15.8/21.0	75.8/87.5	129/143	150/150	120/134	271/294	271/294	122/136	273/296	273/296	131/145	150/150	150/150	126/139	278/299	135/150	150/150	150/150	83/91	83/91	188/201	278/301
		NONE	4.9/6.5	13.6/15.6	43/45	50/50	41/43	107/109	107/109	43/45	109/111	109/111	45/47	50/50	50/50	46/49	112/114	49/52	50/60	50/60	49/51	49/51	114/116	114/116
		103B	6.5/8.7	18.1/20.9	48/52	50/60	46/49	111/114	111/114	48/51	113/116	113/116	50/54	50/60	50/60	52/55	116/119	55/58	60/60	60/60	54/57	54/57	118/121	118/121
		105A	12.0/16.0	33.4/38.5	67/74	70/80	64/69	126/132	126/132	66/72	128/134	128/134	69/76	70/80	70/80	67/75	131/137	74/80	80/90	80/90	71/77	71/77	133/139	133/139
		104B+104B	15.8/21.0	43.8/50.5	80/89	80/90	76/83	181/194	181/194	78/85	183/196	183/196	82/91	90/100	90/100	81/89	186/199	87/95	90/100	90/100	83/91	83/91	188/201	188/201
208/230-3-60	MED	NONE	4.9/6.5	13.6/15.6	23/23	30/30	23/22	122	25/25	25/24	124	28/28	30/30	30/30	28/28	127	30/30	30/30	30/30	30/30	30/30	129	143/145	
		102A	6.5/8.7	18.1/20.9	46/49	50/50	43/46	140/143	140/143	48/51	142/145	142/145	51/54	50/60	50/60	49/52	145/148	53/56	60/60	60/60	51/54	51/54	147/150	147/150
		103B	12.0/16.0	33.4/38.5	65/71	70/80	61/67	155/161	155/161	63/69	157/163	157/163	70/76	70/80	70/80	67/72	160/166	72/78	80/80	80/80	69/74	69/74	162/168	162/168
		105A	15.8/21.0	43.8/50.5	78/86	80/90	73/80	210/223	210/223	75/83	212/225	212/225	83/91	90/100	90/100	79/86	215/228	85/93	90/100	90/100	81/88	81/88	217/230	217/230
		NONE	4.9/6.5	13.6/15.6	44/46	50/50	42/44	172/174	172/174	46/48	174/176	174/176	51/55	50/60	50/60	47/50	177/179	50/53	60/60	60/60	50/52	50/52	179/181	179/181
		103B	6.5/8.7	18.1/20.9	49/53	50/60	47/50	176/179	176/179	51/55	178/181	178/181	57/77	60/60	60/60	53/56	181/184	56/59	60/60	60/60	55/58	55/58	183/186	183/186
		105A	12.0/16.0	33.4/38.5	68/75	70/80	65/70	191/197	191/197	68/75	193/199	193/199	73/79	70/80	70/80	70/76	196/202	75/81	80/90	80/90	72/78	72/78	198/204	198/204
		104B+104B	15.8/21.0	43.8/50.5	81/90	90/90	77/84	246/259	246/259	83/92	248/261	248/261	86/94	90/100	90/100	79/86	251/264	88/96	90/100	90/100	84/92	84/92	253/266	253/266
		NONE	6.0	7.2	22	25	21	54	54	22	55	55	14	15	15	14	48	15	15	20	16	16	50	50
		106A	11.5	13.8	30	30	28	61	61	31	62	62	14	15	15	14	48	15	15	20	16	16	50	50
460-3-60	DD-STD	108A	14.0	16.8	34	35	32	64	64	35	33	65	35	35	33	66	37	40	40	36	36	67	67	
		109A	23.0	27.7	48	50	44	102	102	49	103	103	50	50	47	104	51	60	60	48	48	105	105	
		108A+108A	6.0	7.2	20	20	19	68	68	21	69	69	23	25	25	22	70	24	25	25	23	23	71	71
		NONE	11.5	13.8	29	30	27	75	75	30	76	76	31	35	35	29	77	32	35	35	30	30	78	78
		108A	14.0	16.8	32	35	30	78	78	33	79	79	35	35	33	80	36	40	40	36	36	81	81	
		109A	23.0	27.7	46	50	43	116	116	47	117	117	50	50	44	118	49	50	50	46	46	119	119	
		108A+108A	6.0	7.2	13	15	13	79	79	14	80	80	14	20	20	14	81	15	20	20	16	16	82	82
		NONE	11.5	13.8	28	30	28	86	86	23	87	87	24	25	25	24	88	25	25	25	25	25	89	89
		106A	14.0	16.8	34	35	32	96	96	35	97	97	36	35	35	31	98	37	40	40	36	36	99	99
		109A	23.0	27.7	48	50	45	134	134	49	135	135	50	50	47	136	51	60	60	48	48	100	100	
575-3-60	DD-STD	NONE	9.2	9.2	22	25	21	48	48	24	24	23	25	25	23	50	26	30	30	25	25	52	52	
		297A	13.8	13.8	28	30	26	53	53	30	53	53	30	30	29	55	32	35	35	31	31	57	57	
		NONE	9.2	9.2	8	15	8	42	42	10	44	44	10	15	15	10	44	12	15	15	12	12	46	46
		297A	13.8	13.8	26	30	24	56	56	28	58	58	27	30	30	26	58	29	30	30	28	28	60	60
		NONE	9.2	9.2	9	15	8	46	46	11	48	48	11	15	15	10	48	12	15	15	12	12	50	50
		297A	13.8	13.8	26	30	24	56	56	28	58	58	27	30	30	26	58	29	30	30	28	28	60	60
		NONE	9.2	9.2	20	20	19	55	55	22	55	55	22	25	25	20	53	23	25	25	23	23	55	55
		298A	13.8	13.8	26	30	24	56	56	28	58	58	27	30	30	26	58	29	30	30	28	28	60	60
		NONE	9.2	9.2	20	20	19	55	55	22	55	55	22	25	25	20	53	23	25	25	23	23	55	55
		298A	13.8	13.8	26	30	24	56	56	28	58	58	27	30	30	26	58	29	30	30	28	28	60	60

See: "Legend and Notes for Table 1" on page 5.

Legend and Notes for Table 1

LEGEND:

BRKR	-	Circuit breaker
CO	-	Convenience outlet
DD	-	Direct drive (indoor fan motor)
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
PWRD CO	-	Powered convenient outlet
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.

$$(AB) 227 - 224 = 3 \text{ v}$$

$$(BC) 231 - 227 = 4 \text{ v}$$

$$(AC) 227 - 226 = 1 \text{ v}$$

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.

