

EHK

ELECTRIC HEAT KITS

INSTALLATION INSTRUCTIONS

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Attention Installing Personnel

As a professional installer, you have an obligation to know the product better than the customer. This includes all safety precautions and related items.

Prior to actual installation, thoroughly familiarize yourself with this Instruction Manual. Pay special attention to all safety warnings. Often during installation or repair, it is possible to place yourself in a position which is more hazardous than when the unit is in operation.

Remember, it is **your** responsibility to install the product safely and to know it well enough to be able to instruct a customer in its safe use.

Safety is a matter of common sense...a matter of thinking before acting. Most dealers have a list of specific good safety practices...follow them.

The precautions listed in this Installation Manual are intended as supplemental to existing practices. However, if there is a direct conflict between existing practices and the content of this manual, the precautions listed here take precedence.

Description

The following installation instructions supplement is for the EHK heater kits for installation in the following models:

CPC090, CPC102, CPC120, CPC150,
CPH090, CPH102, CPH120, CPH150

These instructions should be used only as a supplement to the installation instructions provided with the above units.

**WARNING**

HIGH VOLTAGE!
DISCONNECT **ALL** POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



**CAUTION**

TO AVOID POSSIBLE PERSONAL INJURY, USE EXTREME CAUTION IF USING POWER TOOLS TO REMOVE THE SMALL BREAKER MOUNTING BRACKETS. THE BRACKETS MAY QUICKLY ROTATE AND CAUSE INJURY.

1. Disconnect all power to the unit, both indoor and outdoor.
2. Remove control box door.
3. Remove blower door.
4. Remove heat access door.
5. Locate heater box. Remove screws holding the heater box cover in place. See Figure 1.

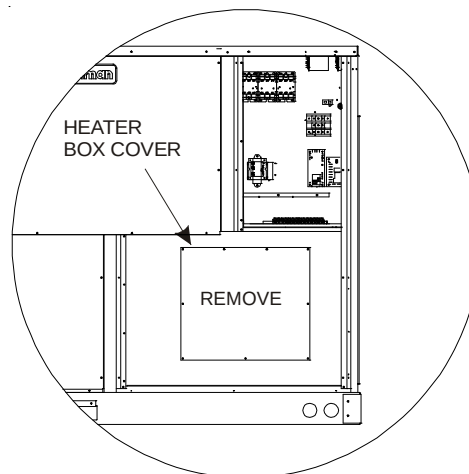


Figure 1

6. Remove EHK Heater Kit from box. Locate support legs and retainer clips.
7. Install support legs on heater element bracket, orienting the support legs down and shifted in the same direction as shown in Figure 2. Install support leg retaining clips on each heater element bracket. Note: The support legs must be installed as shown to provide clearance of bottom supply air opening.



Figure 2



8. Completed heater kit assembly should resemble Figure 3.

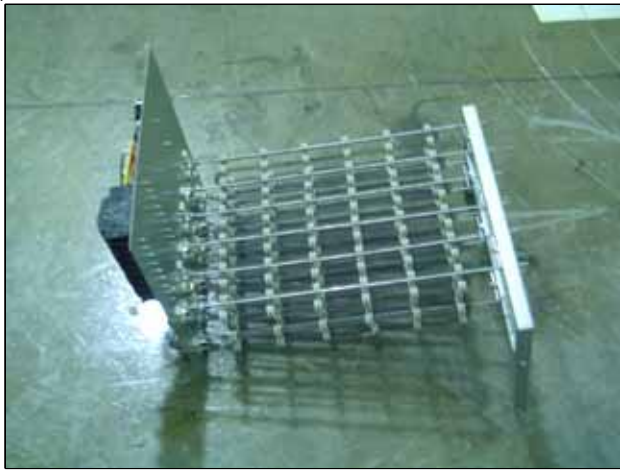


Figure 3

9. Install Heater Kit in opening using screws from cover. Ensure legs are resting on base pan.
10. Route the EHK orange, black and red wires through the hole in the blower deck and into the control box as shown.

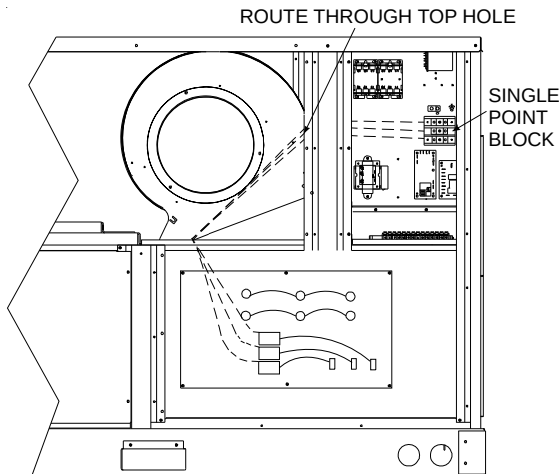


Figure 4

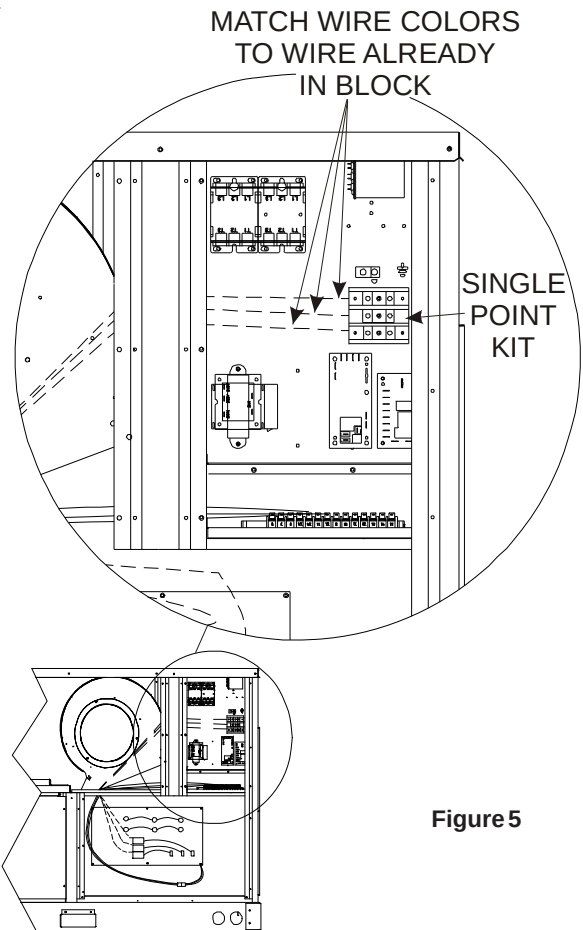


Figure 5

11. Connect EHK wires to the single point wire kit as shown in Figure 5.
12. Locate the 9-pin harness in the unit and remove and discard the empty male plug if so equipped.
13. Connect the 9-pin plug from the unit to the 9-pin plug in the heater kit.

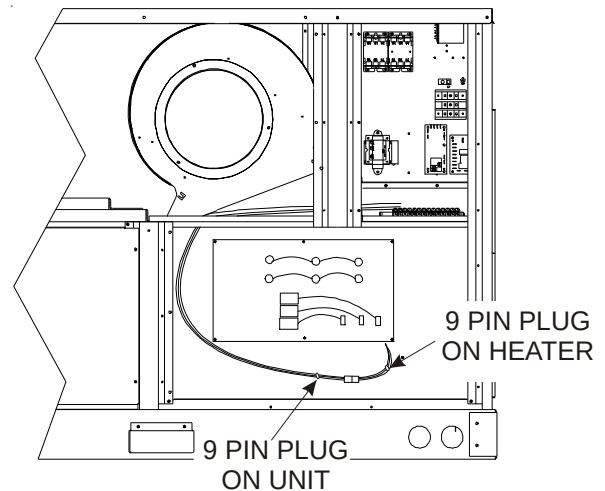


Figure 6

14. Set minimum CFM for unit based on Appendix B, Minimum Airflow for Electric Heat Table. See unit literature for instructions on how to change fan CFM.
15. Install control box door, blower door, and heat access door.
16. Reconnect power.
17. Test unit to ensure it is functioning properly.

APPENDIX A BLOWER PERFORMANCE TABLES

BELT DRIVE-STANDARD

HORIZONTAL

CPC/H090 STANDARD BELT DRIVE HORIZONTAL

ESP, In H ₂ O	TURNS OPEN																	
	0			1			2			3			4			5		
	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP
0.1													3625	701	1.08	3309	660	0.86
0.3							3815	797	1.44	3468	747	1.11	3177	703	0.88	2796	663	0.68
0.5				3780	841	1.52	3405	803	1.23	3053	753	0.94	2608	709	0.68	2225	665	0.53
0.7	3687	885	1.6	3327	847	1.29	2968	805	1.02	2423	758	0.73						
0.9	3236	891	1.39	2850	852	1.1	2352	807	0.8									
1.1	2713	896	1.17															

CPC/H102 STANDARD BELT DRIVE HORIZONTAL

ESP, In H ₂ O	TURNS OPEN																	
	0			1			2			3			4			5		
	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP
0.1													3475	698	1.05	3159	657	0.83
0.3							3665	794	1.41	3318	744	1.08	3027	700	0.85	2646	660	0.65
0.5				3630	838	1.49	3255	800	1.2	2903	750	0.91	2458	706	0.65			
0.7	3537	882	1.57	3177	844	1.26	2818	802	0.99									
0.9	3086	888	1.36	2700	849	1.07												
1.1	2563	893	1.14															

CPC/H120 STANDARD BELT DRIVE HORIZONTAL

ESP, In H ₂ O	TURNS OPEN																	
	0			1			2			3			4			5		
	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP
0.2										4562	736	1.58	4253	691	1.29	3893	642	1
0.4							4497	780	1.7	4200	736	1.41	3735	691	1.06	3322	648	0.83
0.6				4467	824	1.81	4221	784	1.55	3689	741	1.18						
0.8	4564	873	2.06	4170	830	1.68	3677	785	1.29									
1	4129	875	1.81	3498	835	1.34												
1.2	3558	879	1.49															

CPC/H150 STANDARD BELT DRIVE HORIZONTAL

ESP, In H ₂ O	0 TURNS		1 TURN		2 TURNS		3 TURNS		4 TURNS		5 TURNS	
	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
0.2							5570	2.27	4935	1.70	4584	1.36
0.4	5871	3.20	5639	2.77	5307	2.31	4902	1.88	4637	1.55	4178	1.19
0.6	5610	3.00	5358	2.57	5051	2.15	4603	1.72	4341	1.41		
0.8	5391	2.83	5010	2.33	4799	2.00	4393	1.61				
1.0	5078	2.59	4676	2.11	4448	1.79						
1.2	4521	2.20	4226	1.83								

NOTE: Unit factory shipped at 2.5 turns open.

APPENDIX A BLOWER PERFORMANCE TABLES

BELT DRIVE-STANDARD

DOWN SHOT

CPC/H090 STANDARD BELT DRIVE DOWN SHOT

ESP, In H ₂ O	TURNS OPEN																	
	0			1			2			3			4			5		
	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP
0.1													3617	704	1.07	3293	653	0.84
0.3										3541	749	1.15	3179	704	0.88	2757	656	0.66
0.5							3447	798	1.23	3049	754	0.94	2606	710	0.71			
0.7				3400	848	1.33	2950	798	1.01	2474	754	0.75						
0.9	3303	890	1.41	2871	848	1.11	2408	804	0.82									
1.1	2838	897	1.23															

CPC/H102 STANDARD BELT DRIVE DOWN SHOT

ESP, In H ₂ O	TURNS OPEN																	
	0			1			2			3			4			5		
	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP
0.1													3467	701	1.04	3143	650	0.81
0.3										3391	746	1.12	3029	701	0.85	2607	653	0.63
0.5							3297	795	1.20	2899	751	0.91	2456	707	0.68			
0.7				3250	845	1.30	2800	795	0.98									
0.9	3153	887	1.38	2721	845	1.08												
1.1	2688	894	1.20															

CPC/H120 STANDARD BELT DRIVE DOWN SHOT

ESP, In H ₂ O	TURNS OPEN																	
	0			1			2			3			4			5		
	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP
0.2							4632	781	1.76	4203	742	1.41	3927	691	1.17	3510	658	0.9
0.4				4488	825	1.85	4183	783	1.54	3733	748	1.23	3512	693	1			
0.6	4442	880	2.02	4066	830	1.63	3717	786	1.31									
0.8	4001	885	1.77	3622	835	1.41												
1	3603	890	1.55															
1.2																		

CPC/H150 STANDARD BELT DRIVE DOWN SHOT

ESP, In H ₂ O	0 TURNS		1 TURN		2 TURNS		3 TURNS		4 TURNS		5 TURNS	
	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
0.2					5378	2.35	4967	1.92	4710	1.59	4512	1.33
0.4	5514	2.92	5349	2.56	4750	1.97	4583	1.71	4319	1.40	4030	1.13
0.6	5204	2.69	4919	2.27	4488	1.81	4258	1.54				
0.8	4830	2.42	4649	2.09	4019	1.55						
1.0	4497	2.19	4264	1.86								

NOTE: Unit factory shipped at 2.5 turns open.

BELT DRIVE - HIGH STATIC

HORIZONTAL

CPC/H090 HIGH STATIC BELT DRIVE HORIZONTAL

ESP, In H ₂ O	TURNS OPEN																	
	0			1			2			3			4			5		
	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP
0.9	DO NOT OPERATE															3447	902	1.54
1.1													3398	956	1.65	3006	908	1.31
1.3										3486	1008	1.87	2960	962	1.44			
1.5							3514	1057	2.07	2949	1019	1.62						
1.7				3388	1103	2.18	3036	1069	1.84									
1.9				2959	1114	2												
2.1				2527	1124	1.86												

CPC/H102 HIGH STATIC BELT DRIVE HORIZONTAL

ESP, In H ₂ O	TURNS OPEN																	
	0			1			2			3			4			5		
	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP
0.9																3297	899	1.51
1.1													3248	953	1.62	2856	905	1.28
1.3										3336	1005	1.84	2810	959	1.41			
1.5							3364	1054	2.04	2799	1016	1.59						
1.7				3238	1100	2.15	2886	1066	1.81									
1.9	3188	1146	2.23	2809	1111	1.97												

CPC/H120 HIGH STATIC BELT DRIVE HORIZONTAL

ESP, In H ₂ O	TURNS OPEN																	
	0			1			2			3			4			5		
	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP
0.8	DO NOT OPERATE															4602	884	2.13
1													4749	940	2.44	4180	885	1.89
1.2													4251	945	2.12	3642	896	1.58
1.4										4443	1001	2.5	3744	951	1.8			
1.6							4587	1056	2.82	3971	1006	2.17						
1.8				4760	1105	3.23	4071	1061	2.43	3342	1012	1.86						
2				4364	1114	2.91	3579	1067	2.05									

CPC/H150 HIGH STATIC BELT DRIVE HORIZONTAL

ESP, In H ₂ O	0 TURNS		1 TURN		2 TURNS		3 TURNS		4 TURNS		5 TURNS	
	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
0.8									5858	3.51	5538	2.97
1.0							5894	3.85	5502	3.20	5282	2.78
1.2					5780	4.04	5570	3.55	5110	2.88	4869	2.47
1.4			5900	4.49	5501	3.77	5312	3.33	4793	2.64	4598	2.28
1.6	5860	4.76	5514	4.08	5257	3.54	4945	3.01	4382	2.34		
1.8	5615	4.49	5315	3.88	5020	3.32	4504	2.66				
2.0	5529	4.40	4906	3.49	4601	2.96						
2.2	4938	3.78	4541	3.15	4222	2.65						

NOTE: High static airflow requires installation of High Static Kit (HSKT*). Unit factory shipped at 2.5 turns open.

BELT DRIVE - HIGH STATIC

DOWN SHOT

CPC/H090 HIGH STATIC BELT DRIVE DOWN SHOT

ESP, In H ₂ O	TURNS OPEN																	
	0			1			2			3			4			5		
	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP
0.9	DO NOT OPERATE															3401	909	1.51
1.1													3428	965	1.71	2943	915	1.3
1.3										3471	1015	1.9	3012	971	1.5	2423	920	1.12
1.5							3722	1063	2.25	3041	1023	1.67	2503	976	1.31			
1.7							3359	1075	2.04	2540	1031	1.5						
1.9				3381	1119	2.22	2890	1080	1.78									
2.1				3089	1129	2.04												

CPC/H102 HIGH STATIC BELT DRIVE DOWN SHOT

ESP, In H ₂ O	TURNS OPEN																	
	0			1			2			3			4			5		
	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP
0.9																3251	906	1.48
1.1													3278	962	1.68	2793	912	1.27
1.3										3321	1012	1.87	2862	968	1.47			
1.5							3572	1060	2.22	2891	1020	1.64						
1.7							3209	1072	2.01									
1.9				3231	1116	2.19	2740	1077	1.75									
2.1	3256	1156	2.31	2939	1126	2.01												

CPC/H120 HIGH STATIC BELT DRIVE DOWN SHOT

ESP, In H ₂ O	TURNS OPEN																	
	0			1			2			3			4			5		
	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP	CFM	RPM	BHP
0.8													4435	940	2.22	4078	886	1.82
1										4462	997	2.47	4103	944.5	2.05	3539	892	1.52
1.2							4513	1054	2.75	4127	1003	2.26	3568	950	1.71			
1.4							4126	1064	2.52	3597	1008	1.92						
1.6				4438	1116	2.97	3759	1069	2.25									
1.8				3956	1124	2.55												
2	4050	1179	3.05	3473	1132	2.32												

CPC/H150 HIGH STATIC BELT DRIVE DOWN SHOT

ESP, In H ₂ O	0 TURNS		1 TURN		2 TURNS		3 TURNS		4 TURNS		5 TURNS	
	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
0.8							5978	3.87	5691	3.38	5324	2.81
1.0					5947	4.16	5656	3.58	5376	3.12	4933	2.52
1.2					5708	3.93	5459	3.40	4950	2.79	4441	2.18
1.4	5776	4.64	5510	4.07	5245	3.48	4844	2.88	4525	2.45		
1.6	5465	4.30	5199	3.74	4894	3.17	4404	2.54				
1.8	5145	3.97	4871	3.41	4495	2.83						
2.0	4805	3.63	4565	3.13	4142	2.55						
2.2	4429	3.27	4233	2.85								

NOTE: High static airflow requires installation of High Static Kit (HSKT*). Unit factory shipped at 2.5 turns open.

APPENDIX B MINIMUM AIRFLOW FOR ELECTRIC HEAT

MINIMUM AIR FLOW FOR ELECTRIC HEAT

UNIT	HEATER KIT MODEL NUMBER	MINIMUM CFM Down Shot	MINIMUM CFM Horizontal
7.5 TON	EHK*-16	3000	3200
	EHK*-30	3000	3200
	EHK*-45	3000	3200
8.5 TON	EHK*-16	3400	3400
	EHK*-30	3400	3400
	EHK*-45	3400	3400
10 TON	EHK*-16	3500	3500
	EHK*-30	3500	3500
	EHK*-45	4000	4000
12.5 TON	EHK*-16	4000	4000
	EHK*-30	4300	4300
	EHK*-45	4500	4500

