



Air Conditioning & Heating

## PRODUCT SPECIFICATIONS



**11.5 EER**  
**COP 3.5/3.4**

**THREE-PHASE**

**COOLING / HEATING CAPACITIES:**

**90,000 — 118,000 BTU/H**



# CPH COMMERCIAL

## 7½- TO 10-TON SELF-CONTAINED

### PACKAGED HEAT PUMP

The new Goodman® CPH Commercial Packaged Heat Pump features the environmentally friendly refrigerant R-410A, which is chlorine-free to help prevent damage to the ozone layer. Other features include a high-efficiency scroll compressor and a high-capacity, steel-cased filter dryer. These units are housed in a heavy-gauge, galvanized-steel cabinet with UV-resistant power-paint finish.

#### Standard Features

- Environmentally friendly R-410A refrigerant
- High-efficiency scroll compressor
- Copper tube / aluminum fin coils
- Contactor with lugs
- High-capacity, steel-cased filter dryer
- Single-point entry
- 24-volt terminal strip
- Convertible
- Easy to service
- Built-in filter rack with standard 2" filters
- Bottom utility entry
- ARI Certified; ETL Listed

#### Cabinet Features

- Heavy-gauge, galvanized-steel cabinet with UV-resistant powder-paint finish
- Full Perimeter Rail
- Curb Fit

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NOMENCLATURE

	C	P	H	060	070	1	D	X	X	X		
	1	2	3	4,5,6	7,8,9	10	11	12	13	14		
<b>Brand</b>											<b>Factory-Installed Options</b> (Coming Soon)	
C Commercial											<b>Special Features</b> X No Features	
<b>Configuration</b>											<b>Special Treatment</b> X No Treatment/ Standard Aluminized Heat Exchanger (AH)	
P Packaged Multi-Position												
<b>Application</b>											<b>Economizer Options (Factory Installed)</b> X No Economizer	
C Cooling												
G Gas Heat												
H Heat Pump												
<b>Nominal Gross Cooling Capacity</b>											<b>Supply Fan/Drive Type/Motor</b> B Belt Drive D Direct Drive H High-Static Belt Drive	
036 3 Tons	120	10 Tons										
048 4 Tons	150	12½ tons										
060 5 Tons	180	15 Tons										
072 6 Tons	240	20 Tons										
090 7½ Tons	300	25 Tons										
102 8½ Tons												
<b>Heating Capacity</b>											<b>Voltage</b> 1 208v 1 Phase      4 460v 3 Phase 2 220/240V 1 Phase 5      5 380/415v 3 Phase 50 Hz 3 208v 3 Phase      7 575v 3 Phase	
<b>CPG</b>												
070 70,000 BTU/h											XXX No Heat	
105 105,000 BTU/h											010 10 kW Electric Heater	
140 140,000 BTU/h											015 15 kW Electric Heater	
210 210,000 BTU/h											020 20 kW Electric Heater	
350 350,000 BTU/h											025 25 kW Electric Heater	
400 400,000 BTU/h												

PRODUCT SPECIFICATIONS — 7½ TONS

	CPH090***3B***	CPH090***4B***	CPH090***7B***
<b>Cooling Capacity</b>			
Total BTU/h	90,000	90,000	90,000
Sensible BTU/h	65,700	65,700	65,700
SEER / EER	11.50	11.50	11.50
IPLV	12.30	12.30	12.30
Decibels	83.0	83.0	83.0
ARI Reference #s	3000984	3000984	3000984
<b>Heating Capacity</b>			
BTU/h / COP (47° F)	90,000 / 3.5	90,000 / 3.5	90,000 / 3.5
BTU/h / COP (17° F)	56,500 / 2.5	56,500 / 2.5	56,500 / 2.5
<b>Evaporator Motor / Coil</b>			
Motor Type	Belt Drive	Belt Drive	Belt Drive
# of Wheels (D x W)	1 (15" x 12")	1 (15" x 12")	1 (15" x 12")
Indoor Nominal CFM	3,000	3,000	3,000
Indoor motor FLA (Cooling)	7.8	3.9	2.7
Horsepower - RPM	2.0 - 1725	2.0 - 1725	2.0 - 1725
Piston Size (Cooling)	0.076	0.076	0.076
Filter Size	16" x 24" x 2"	16" x 24" x 2"	16" x 24" x 2"
Drain Size (NPT)	¾"	¾"	¾"
R-410A Refrigerant Charge: Cir #1 / #2 (oz.)	215 / 215	215 / 215	215 / 215
Evaporator Coil Face Area (ft²)	10.2	10.2	10.2
Rows Deep / Fins per Inch	4 / 16	4 / 16	4 / 16
<b>Belt Drive Evap Fan Data</b>			
# of Wheels (D x W)	1 (15" x 12")	1 (15" x 12")	1 (15" x 12")
Motor Sheave / Blower Sheave	VL40 / AK74	VL40 / AK74	VL40 / AK74
Belt	AX51	AX51	AX51
<b>Condenser Fan / Coil</b>			
Quantity of condenser Fan Motors	2	2	2
Horsepower - RPM	¼ - 1090	¼ - 890	¼ - 1075
Fan Diameter / # Fan Blades	22 / 4	22 / 4	22 / 4
Outdoor Nominal CFM	76,00	76,00	76,00
Face Area (ft²)	32.4	32.4	32.4
Rows Deep / Fins per Inch	2 / 20	2 / 20	2 / 20
Piston Size (Heating)	0.052	0.052	0.052
<b>Electrical Data</b>			
Voltage / Phase / Frequency	208-230 / 3 / 60	460 / 3 / 60	575 / 3 / 60
Quantity of Compressors	2	2	2
Compressor RLA / LRA	13.1 / 83.1	6.1 / 41.0	4.4 / 33.0
Indoor Blower HP / FLA	1.5 / 5.0	1.5 / 2.5	--
Max External Static	1.0"	1.0"	1.0"
Outdoor Fan HP / FLA	¼ / 1.4	¼ / 0.8	¼ / 0.6
Total Unit Amps	36.9	17.7	12.6
Min. Circuit Ampacity <sup>1</sup>	40	19	14
Max. Overcurrent Protection (amps) <sup>2</sup>	50	25	15
Entrance Power Supply & Control Voltage	Locating Dimple	Locating Dimple	Locating Dimple
<b>Operating Weight (lbs)</b>	1135	1135	1135
<b>Ship Weight (lbs)</b>	1175	1175	1175

<sup>1</sup> Wire size should be determined in accordance with National Electrical Codes. Extensive wire runs will require larger wire sizes.

<sup>2</sup> May use fuses or HACR-type circuit breakers of the same size as noted.

Note: Always check the S&R plate for electrical data on the unit being installed.

PRODUCT SPECIFICATIONS — 10 TONS

	CPH120***3B***	CPH120***4B***	CPH120***7B***
<b>Cooling Capacity</b>			
Total BTU/h	118,000	118,000	118,000
Sensible BTU/h	87,300	87,300	87,300
EER / IPLV	11.50 / 12.00	11.50 / 12.00	11.50 / 12.00
Decibels	82.5	82.5	82.5
ARI Reference #s	3023832	3023832	3023832
<b>Heating Capacity</b>			
BTU/h (47° F)	118,000	118,000	118,000
COP (47° F)	3.4	3.4	3.4
BTU/h (17° F)	70,400	70,400	70,400
COP (17° F)	2.4	2.4	2.4
<b>Evaporator Motor / Coil</b>			
Motor Type	Belt Drive	Belt Drive	Belt Drive
Indoor Nominal CFM	4,000	4,000	4,000
Indoor motor FLA (Cooling)	7.8	3.9	2.7
Horsepower - RPM	2.0/1725	2.0/1725	2.0/1725
Piston Size (Cooling)	0.086	0.086	0.086
Filter Size	(4) 16" x 24" x 2"	(4) 16" x 24" x 2"	(4) 16" x 24" x 2"
Drain Size (NPT)	¾"	¾"	¾"
R-410A Refrigerant Charge Cir #1(oz.)	225	225	225
R-410A Refrigerant Charge Cir #2(oz.)	225	225	225
Evaporator Coil Face Area (ft <sup>2</sup> )	10.2	10.2	10.2
Rows Deep/ Fins per Inch	4 / 14	4 / 14	4 / 14
<b>Belt Drive Evap Fan Data</b>			
# of Wheels (D x W)	(1) 15" x 15"	(1) 15" x 15"	(1) 15" x 15"
Motor Sheave	VL40	VL40	VL40
Blower Sheave	AK74	AK74	AK74
Belt	AX51	AX51	AX51
<b>Condenser Fan / Coil</b>			
Quantity of condenser Fan Motors	2	2	2
Horsepower - RPM	⅓ - 1,075	⅓ - 1,075	⅓ - 1,075
Fan Diameter / # Fan Blades	22 / 3	22 / 3	22 / 3
Outdoor Nominal CFM	7,200	7,200	7,200
Face Area (ft <sup>2</sup> )	32.4	32.4	32.4
Rows Deep - Fins per Inch	2/2 rows 22 fpi	2/2 row 22 fpi	2/2 row 22 fpi
Piston Size (Heating)	0.064	0.064	0.064
<b>Electrical Data</b>			
Voltage/Phase/ Frequency	208-230/3/60	460/3/60	575/3/60
Quantity of Compressors	2	2	2
Compressor RLA / LRA ea.	16 / 110.0	7.8 / 52.0	5.7 / 38.9
Standard Max Static	2.0"	2.0"	2.0"
Outdoor Fan RLA ea.	2.40	1.20	0.89
Total Unit Amps	45	22	16
Min. Circuit Ampacity <sup>1</sup>	49	24	17
Max. Overcurrent Protection (amps) <sup>2</sup>	60.0	30	20
Entrance Power Supply	Locating Dimple	Locating Dimple	Locating Dimple
Entrance Control Voltage	Locating Dimple	Locating Dimple	Locating Dimple
<b>Operating Weight (lbs)</b>	1160	1160	1160
<b>Ship Weight (lbs)</b>	1200	1200	1200

<sup>1</sup> Wire size should be determined in accordance with National Electrical Codes. Extensive wire runs will require larger wire sizes.

<sup>2</sup> May use fuses or HACR-type circuit breakers of the same size as noted.

Note: Always check the S&R plate for electrical data on the unit being installed.

# AIRFLOW DATA — 7½ TONS

## Standard Belt Drive — Down Shot

ESP, In H <sub>2</sub> 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															

## High-Static Belt Drive — Down Shot

ESP, In H <sub>2</sub> 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																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												

## Standard Belt Drive — Horizontal

ESP, In H <sub>2</sub> 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															

## High-Static Belt Drive — Horizontal

ESP, In H <sub>2</sub> 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																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	2.0												
2.1				2527	1124	1.86												

Notes :

Assume dry coil with filter in place; CFM correction for wet coil = 3%

Any adjustment made to the blower should not cause the motor to draw more than the motor rated RLA. Applications that exceed the above could require a larger motor. Minimum rated SCFM is 350 per ton.

# AIRFLOW DATA — 10 TONS

Standard Belt Drive — Down shot

ESP, In H <sub>2</sub> 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													4629	774	1.76	4269	733	1.42
0.4										4539	824	1.86	4198	781	1.53	3797	735	1.21
0.6							4511	868	2.01	4103	829	1.63	3752	787	1.33	3312	745	1.03
0.8				4445	912	2.14	4144	873	1.81	3695	833	1.45	3180	790	1.07			
1	4418	956	2.3	4073	917	1.92	3661	879	1.55									
1.2	4064	967	2.09	3518	923	1.6												
1.4	3555	972	1.77															

High-Static Belt Drive — Down shot

ESP, In H <sub>2</sub> 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													4681	937	2.38	4206	891	1.91
1										4634	985	2.57	4288	948	2.19	3721	897	1.63
1.2							4533	1020	2.63	4367	995	2.41	3845	954	1.91			
1.4				4550	1064	2.83	4290	1042	2.56	3913	1006	2.13						
1.6				4327	1087	2.73	3990	1057	2.37									
1.8	4652	1148	3.33	4023	1105	2.58												
2	4306	1162	3.05															

Standard Belt Drive — Horizontal

ESP, In H <sub>2</sub> 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																4707	724	1.62
0.4													4679	774	1.78	4235	730	1.4
0.6										4595	822	1.91	4223	780	1.55	3679	735	1.16
0.8							4468	862	1.96	4121	824	1.64	3596	785	1.26			
1				4349	907	2.06	3990	868	1.72	3463	829	1.31						
1.2	4486	962	2.35	3923	918	1.84	3267	879	1.33									
1.4	3990	967	2.03															

High-Static Belt Drive — Horizontal

ESP, In H <sub>2</sub> 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																4604	886	2.15
1													4737	940	2.48	4236	890	1.93
1.2										4792	984	2.69	4347	946	2.19	3675	901	1.64
1.4							4431	998	2.46	4404	995	2.45	3710	956	1.82			
1.6				4652	1061	2.93	4183	1028	2.42	3845	1006	2.08						
1.8				4418	1083	2.81	3847	1050	2.22									
2	4823	1149	3.5	4055	1105	2.6												

## EXPANDED HEATING DATA

### 7½ Tons

	Outdoor Ambient Temperature																	
	65	60	55	50	47	45	40	35	30	25	20	17	15	10	5	0	-5	-10
MBh	113.1	107.1	100.8	94.2	90.0	87.2	81.0	74.7	70.5	65.0	59.9	56.6	54.5	48.9	43.3	37.8	32.2	26.4
T/R	34.9	33.1	31.1	29.1	27.8	26.9	25.0	23.1	21.7	20.1	18.5	17.5	16.8	15.1	13.4	11.7	9.9	8.2
kW	8.22	8.07	7.91	7.75	7.66	7.59	7.44	7.28	6.93	6.78	6.63	6.54	6.48	6.33	6.18	6.04	5.88	5.73
Amps	30.2	28.4	26.9	25.6	24.9	24.5	23.4	22.5	21.8	21.1	20.3	20.0	19.8	19.1	18.2	17.4	16.5	15.4
COP	4.03	3.89	3.73	3.56	3.44	3.36	3.19	3.00	2.97	2.81	2.64	2.53	2.46	2.26	2.05	1.83	1.60	1.35
EER	13.8	13.3	12.7	12.2	11.7	11.5	10.9	10.3	10.2	9.6	9.0	8.6	8.4	7.7	7.0	6.3	5.5	4.6
Hi pr	424	406	390	373	365	358	344	330	316	302	290	283	278	267	257	246	238	229
Lo Pr	134	124	117	107	101	97	89	80	72	64	56	52	51	43	37	31	27	21

Calculations are based on nominal CFM and 70°F indoor dry bulb. Instantaneous capacity listed.  
 High pressure is measured at the liquid line gauge port connection  
 Low pressure is measured at the compressor suction gauge port connection.

kW = Total system power  
 Amps = Outdoor unit amps (comp.+fan)

### 10 Tons

	Outdoor Ambient Temperature																	
	65	60	55	50	47	45	40	35	30	25	20	17	15	10	5	0	-5	-10
MBh	150.8	142.8	134.4	125.6	120.0	116.3	108.0	99.6	87.7	81.0	74.6	70.4	67.8	60.8	53.9	47.0	40.1	32.9
T/R	34.9	33.1	31.1	29.1	27.8	26.9	25.0	23.1	20.3	18.7	17.3	16.3	15.7	14.1	12.5	10.9	9.3	7.6
kW	10.70	10.50	10.31	10.11	10.00	9.92	9.73	9.54	8.65	8.47	8.30	8.20	8.13	7.95	7.78	7.61	7.44	7.27
COP	4.13	3.98	3.82	3.64	3.51	3.43	3.25	3.06	2.97	2.80	2.63	2.51	2.44	2.24	2.03	1.81	1.58	1.32
Hi Pr	439	421	405	387	378	371	356	342	328	313	301	293	288	277	266	256	246	238
Lo Pr	133	123	115	106	100	96	89	79	71	64	56	52	50	42	37	31	27	21

Above information is for nominal CFM & 70° indoor dry bulb. Instantaneous capacity listed.  
 High pressure measured at liquid-line gauge port connection  
 Low pressure measured at compressor suction gauge port connection.

Amps = unit amps (comp.+fans)  
 kW = Total system power  
 Design Superheat 7°± 2 @ suction access fittings; 47° test conditions

EXPANDED COOLING DATA — 7½ TONS

IDB*	Airflow	Outdoor Ambient Temperature																								
		65				75				85				95				105				115				
		59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	
70	3375	MBh	88.2	91.4	100.2	-	86.1	89.3	97.8	-	84.1	87.2	95.5	-	82.0	85.0	93.2	-	77.9	80.8	88.5	-	72.2	74.8	82.0	-
		S/T	0.73	0.61	0.42	-	0.76	0.63	0.44	-	0.78	0.65	0.45	-	0.80	0.67	0.47	-	0.83	0.70	0.48	-	0.84	0.70	0.49	-
		ΔT	18	15	12	-	18	15	12	-	18	15	12	-	18	16	12	-	18	15	12	-	17	14	11	-
		kW	6.19	6.32	6.50	-	6.64	6.77	6.98	-	7.03	7.17	7.39	-	7.37	7.53	7.76	-	7.67	7.83	8.08	-	7.92	8.09	8.35	-
	3000	Amps	20.4	20.8	21.2	-	21.6	22.0	22.5	-	23.0	23.4	24.0	-	24.1	24.6	25.2	-	25.3	25.8	26.5	-	26.5	27.0	27.7	-
		Hi-PR	234	252	266	-	262	282	298	-	298	321	339	-	340	366	386	-	382	411	434	-	422	454	480	-
		Lo-PR	108	115	126	-	114	122	133	-	119	126	138	-	125	133	145	-	131	139	152	-	135	144	157	-
		MBh	85.6	88.7	97.2	-	83.6	86.7	95.0	-	81.6	84.6	92.7	-	79.7	82.6	90.5	-	75.7	78.4	85.9	-	70.1	72.6	79.6	-
	2400	S/T	0.70	0.58	0.40	-	0.72	0.61	0.42	-	0.74	0.62	0.43	-	0.77	0.64	0.44	-	0.80	0.66	0.46	-	0.80	0.67	0.46	-
		ΔT	18	16	12	-	19	16	12	-	19	16	12	-	19	16	12	-	18	16	12	-	17	15	11	-
		kW	6.15	6.27	6.45	-	6.59	6.72	6.92	-	6.98	7.12	7.34	-	7.32	7.47	7.70	-	7.61	7.77	8.01	-	7.86	8.03	8.28	-
		Amps	20.3	20.6	21.1	-	21.4	21.8	22.4	-	22.8	23.2	23.8	-	24.0	24.4	25.0	-	25.1	25.6	26.3	-	26.3	26.8	27.5	-
2400	Hi-PR	231	249	263	-	260	279	295	-	295	318	336	-	336	362	382	-	378	407	430	-	418	450	475	-	
	Lo-PR	107	114	124	-	113	120	132	-	118	125	137	-	124	132	144	-	130	138	150	-	134	143	156	-	
	MBh	79.0	81.9	89.7	-	77.2	80.0	87.7	-	75.4	78.1	85.6	-	73.5	76.2	83.5	-	69.8	72.4	79.3	-	64.7	67.1	73.5	-	
	S/T	0.67	0.56	0.39	-	0.70	0.58	0.40	-	0.72	0.60	0.41	-	0.74	0.62	0.43	-	0.77	0.64	0.44	-	0.77	0.65	0.45	-	
2400	ΔT	20	18	13	-	21	18	14	-	21	18	14	-	21	18	14	-	21	18	13	-	19	17	13	-	
	kW	6.01	6.13	6.31	-	6.44	6.57	6.76	-	6.81	6.95	7.16	-	7.15	7.29	7.52	-	7.43	7.58	7.82	-	7.67	7.83	8.08	-	
	Amps	19.9	20.2	20.7	-	21.0	21.4	21.9	-	22.3	22.7	23.3	-	23.5	23.9	24.5	-	24.6	25.1	25.7	-	25.7	26.2	26.9	-	
	Hi-PR	224	242	255	-	252	271	286	-	286	308	326	-	326	351	371	-	367	395	417	-	406	436	461	-	
Lo-PR	104	111	121	-	110	117	128	-	114	121	133	-	120	128	139	-	126	134	146	-	130	138	151	-		

75	3375	MBh	89.7	92.3	100.0	107.3	87.6	90.2	97.6	104.8	85.5	88.0	95.3	102.3	83.4	85.9	93.0	99.8	79.3	81.6	88.3	94.8	73.4	75.6	81.8	87.8	
		S/T	0.83	0.75	0.56	0.36	0.86	0.77	0.58	0.38	0.89	0.79	0.60	0.39	0.91	0.82	0.62	0.40	0.95	0.85	0.64	0.41	0.96	0.86	0.65	0.42	
		ΔT	20	19	15	11	21	19	16	11	21	19	16	11	21	19	16	11	21	19	15	11	20	19	18	14	10
		kW	6.24	6.36	6.55	6.75	6.69	6.82	7.03	7.25	7.08	7.23	7.45	7.69	7.43	7.59	7.83	8.07	7.73	7.89	8.14	8.40	7.99	8.16	8.42	8.69	
	3000	Amps	20.5	20.9	21.4	22.0	21.7	22.1	22.7	23.3	23.1	23.5	24.1	24.8	24.3	24.8	25.4	26.2	25.5	26.0	26.7	27.5	26.7	27.2	27.9	28.8	
		Hi-PR	236	254	268	280	265	285	301	314	301	324	342	357	343	369	390	407	386	415	439	458	427	459	485	506	
		Lo-PR	109	116	127	135	116	123	134	143	120	128	139	149	126	134	146	156	132	141	154	163	137	145	159	169	
		MBh	87.1	89.7	97.0	104.1	85.1	87.6	94.8	101.7	83.0	85.5	92.5	99.3	81.0	83.4	90.3	96.9	77.0	79.2	85.8	92.0	71.3	73.4	79.4	85.3	
	2400	S/T	0.79	0.71	0.54	0.35	0.82	0.74	0.56	0.36	0.84	0.76	0.57	0.37	0.87	0.78	0.59	0.38	0.90	0.81	0.61	0.39	0.91	0.82	0.62	0.40	
		ΔT	21	20	16	11	21	20	16	11	21	20	16	11	22	20	16	11	21	20	16	11	20	18	15	10	
		kW	6.19	6.32	6.50	6.70	6.64	6.77	6.98	7.19	7.03	7.17	7.39	7.63	7.38	7.53	7.76	8.01	7.67	7.83	8.08	8.34	7.92	8.09	8.35	8.62	
		Amps	20.4	20.8	21.2	21.8	21.6	22.0	22.5	23.1	23.0	23.4	24.0	24.7	24.1	24.6	25.2	26.0	25.3	25.8	26.5	27.3	26.5	27.0	27.7	28.6	
2400	Hi-PR	234	252	266	277	262	282	298	311	298	321	339	354	340	366	386	403	382	411	434	453	422	454	480	501		
	Lo-PR	108	115	126	134	114	122	133	141	119	126	138	147	125	133	145	154	131	139	152	162	135	144	157	167		
	MBh	80.4	82.7	89.6	96.1	78.5	80.8	87.5	93.9	76.6	78.9	85.4	91.7	74.8	77.0	83.3	89.4	71.0	73.1	79.2	85.0	65.8	67.7	73.3	78.7		
	S/T	0.77	0.69	0.52	0.33	0.79	0.71	0.54	0.35	0.81	0.73	0.55	0.35	0.84	0.75	0.57	0.37	0.87	0.78	0.59	0.38	0.88	0.79	0.60	0.38		
2400	ΔT	24	22	18	12	24	22	18	12	24	22	18	12	24	22	18	13	24	22	18	12	22	20	17	12		
	kW	6.06	6.18	6.36	6.55	6.49	6.62	6.82	7.02	6.87	7.01	7.22	7.45	7.20	7.35	7.58	7.82	7.49	7.65	7.88	8.13	7.73	7.90	8.15	8.41		
	Amps	20.0	20.3	20.8	21.4	21.2	21.5	22.0	22.7	22.5	22.9	23.5	24.1	23.6	24.1	24.7	25.4	24.8	25.3	25.9	26.7	25.9	26.4	27.1	27.9		
	Hi-PR	227	244	258	269	254	274	289	302	289	311	329	343	330	355	375	391	371	399	421	439	410	441	466	486		
Lo-PR	105	112	122	130	111	118	129	137	115	123	134	143	121	129	141	150	127	135	147	157	131	140	153	162			

\* Entering Indoor Dry Bulb Temperature Shaded area reflects ACCA (TVA) conditions. High and low pressures are measured at the liquid and suction service ports.

EXPANDED COOLING DATA — 7½ TONS (CONT.)

IDB*	Airflow	Outdoor Ambient Temperature																													
		65					75					85					95					105					115				
		59	63	67	71	75	59	63	67	71	75	59	63	67	71	75	59	63	67	71	75	59	63	67	71	75	59	63	67	71	75
80	3375	MBh	91.3	93.3	99.7	106.5	89.2	91.1	97.3	104.1	87.0	88.9	95.0	101.6	84.9	86.8	92.7	99.1	80.7	82.4	88.1	94.1	74.7	76.4	81.6	87.2					
		S/T	0.91	0.86	0.70	0.52	0.95	0.89	0.72	0.54	1.00	0.91	0.74	0.55	1.00	0.94	0.77	0.57	1.00	1.00	0.79	0.59	1.00	1.00	0.80	0.60					
		ΔT	23	22	19	15	24	22	19	15	24	22	19	15	23	22	19	15	22	22	19	15	20	21	18	14					
		kW	6.29	6.41	6.60	6.80	6.74	6.88	7.08	7.30	7.14	7.29	7.51	7.75	7.49	7.65	7.89	8.14	7.79	7.96	8.21	8.47	8.05	8.22	8.48	8.76					
		Amps	20.7	21.0	21.5	22.1	21.9	22.3	22.8	23.5	23.3	23.7	24.3	25.0	24.5	24.9	25.6	26.3	25.7	26.2	26.9	27.7	26.9	27.4	28.1	29.0					
	3000	Hi PR	238	257	271	283	268	288	304	317	304	328	346	361	347	373	394	411	390	420	443	462	431	464	490	511					
		Lo PR	110	118	128	137	117	124	136	144	121	129	141	150	127	136	148	158	134	142	155	165	138	147	160	171					
		MBh	88.6	90.6	96.8	103.4	86.6	88.5	94.5	101.0	84.5	86.3	92.3	98.6	82.4	84.2	90.0	96.2	78.3	80.0	85.5	91.4	72.5	74.1	79.2	84.7					
		S/T	0.87	0.82	0.67	0.50	0.90	0.85	0.69	0.52	0.93	0.87	0.71	0.53	0.96	0.90	0.73	0.55	0.99	0.93	0.76	0.57	1.00	0.94	0.76	0.57					
		ΔT	24	23	20	16	24	23	20	16	24	23	20	16	24	23	20	16	24	23	20	16	22	21	19	15					
2400	kW	6.24	6.36	6.55	6.75	6.69	6.82	7.03	7.25	7.08	7.23	7.45	7.69	7.43	7.59	7.83	8.07	7.73	7.89	8.14	8.40	7.99	8.16	8.42	8.69						
	Amps	20.5	20.9	21.4	22.0	21.7	22.1	22.7	23.3	23.1	23.5	24.1	24.8	24.3	24.8	25.4	26.2	25.5	26.0	26.7	27.5	26.7	27.2	27.9	28.8						
	Hi PR	236	254	268	280	265	285	301	314	301	324	342	357	343	369	390	407	386	415	439	458	427	459	485	506						
	Lo PR	109	116	127	135	116	123	134	143	120	128	139	149	126	134	147	156	132	141	154	164	137	145	159	169						
	MBh	81.8	83.6	89.3	95.5	79.9	81.6	87.2	93.2	78.0	79.7	85.1	91.0	76.1	77.8	83.1	88.8	72.3	73.9	78.9	84.4	67.0	68.4	73.1	78.1						
85	3375	S/T	0.84	0.79	0.64	0.48	0.87	0.82	0.67	0.50	0.89	0.84	0.68	0.51	0.92	0.86	0.70	0.53	0.96	0.90	0.73	0.55	0.97	0.91	0.74	0.55					
		ΔT	26	25	22	18	27	26	22	18	27	26	22	18	27	26	22	18	27	25	22	18	25	24	21	16					
		kW	6.10	6.22	6.40	6.60	6.54	6.67	6.87	7.08	6.92	7.06	7.28	7.50	7.26	7.41	7.64	7.88	7.55	7.71	7.95	8.20	7.80	7.96	8.21	8.48					
		Amps	20.1	20.5	21.0	21.5	21.3	21.7	22.2	22.8	22.6	23.1	23.6	24.3	23.8	24.2	24.9	25.6	25.0	25.4	26.1	26.9	26.1	26.6	27.3	28.1					
		Hi PR	229	246	260	271	257	277	292	305	292	315	332	346	333	358	378	395	375	403	426	444	414	445	470	490					
	3000	Lo PR	106	113	123	131	112	119	130	139	116	124	135	144	122	130	142	151	128	136	149	159	133	141	154	164					
		MBh	92.9	94.7	99.2	105.8	90.7	92.5	96.8	103.3	88.6	90.3	94.5	100.9	86.4	88.1	92.2	98.4	82.1	83.7	87.6	93.5	76.0	77.5	81.2	86.6					
		S/T	0.96	0.92	0.83	0.68	0.99	0.96	0.86	0.70	1.00	0.98	0.89	0.72	1.00	1.00	0.92	0.74	1.00	1.00	0.95	0.77	1.00	1.00	0.96	0.78					
		ΔT	24	24	23	20	25	24	23	20	24	24	23	20	24	24	23	20	22	23	23	20	21	21	21	18					
		kW	6.33	6.46	6.65	6.85	6.79	6.93	7.14	7.36	7.19	7.34	7.57	7.81	7.55	7.71	7.95	8.20	7.85	8.02	8.27	8.54	8.12	8.29	8.55	8.83					
2400	Amps	20.8	21.2	21.7	22.3	22.0	22.4	23.0	23.6	23.4	23.9	24.5	25.2	24.7	25.1	25.8	26.5	25.9	26.4	27.1	27.9	27.1	27.6	28.4	29.2						
	Hi PR	241	259	274	285	270	291	307	320	307	331	349	364	350	377	398	415	394	424	448	467	435	468	495	516						
	Lo PR	112	119	130	138	118	125	137	146	122	130	142	152	129	137	149	159	135	143	157	167	139	148	162	173						
	MBh	90.2	91.9	96.3	102.7	88.1	89.8	94.0	100.3	86.0	87.6	91.8	97.9	83.9	85.5	89.6	95.5	79.7	81.2	85.1	90.8	73.8	75.2	78.8	84.1						
	S/T	0.91	0.88	0.80	0.65	0.95	0.91	0.82	0.67	0.97	0.94	0.85	0.69	1.00	0.97	0.87	0.71	1.00	1.00	0.91	0.74	1.00	1.00	0.91	0.74						
85	3000	ΔT	25	25	23	20	26	25	24	21	26	25	24	21	26	25	24	21	24	25	24	20	23	23	22	19					
		kW	6.29	6.41	6.60	6.80	6.74	6.88	7.08	7.30	7.14	7.29	7.51	7.75	7.49	7.65	7.89	8.14	7.79	7.96	8.21	8.47	8.05	8.22	8.48	8.76					
		Amps	20.7	21.0	21.5	22.1	21.9	22.3	22.8	23.5	23.3	23.7	24.3	25.0	24.5	24.9	25.6	26.3	25.7	26.2	26.9	27.7	26.9	27.4	28.1	29.0					
		Hi PR	238	257	271	283	268	288	304	317	304	328	346	361	347	373	394	411	390	420	443	462	431	464	490	511					
		Lo PR	110	118	128	137	117	124	136	144	121	129	141	150	127	136	148	158	134	142	155	165	138	147	160	171					
	2400	MBh	83.2	84.8	88.9	94.8	81.3	82.9	86.8	92.6	79.4	80.9	84.7	90.4	77.4	78.9	82.7	88.2	73.6	75.0	78.5	83.8	68.1	69.4	72.7	77.6					
		S/T	0.88	0.85	0.77	0.62	0.91	0.88	0.80	0.65	0.94	0.90	0.82	0.66	0.97	0.93	0.84	0.68	1.00	0.97	0.87	0.71	1.00	0.98	0.88	0.71					
		ΔT	28	28	26	23	28	28	26	23	28	28	26	23	29	28	27	23	28	28	26	23	26	26	25	21					
		kW	6.15	6.27	6.45	6.65	6.59	6.72	6.92	7.13	6.97	7.12	7.33	7.56	7.32	7.47	7.70	7.94	7.61	7.77	8.01	8.27	7.86	8.02	8.28	8.55					
		Amps	20.3	20.6	21.1	21.7	21.4	21.8	22.3	23.0	22.8	23.2	23.8	24.5	24.0	24.4	25.0	25.8	25.1	25.6	26.3	27.1	26.3	26.8	27.5	28.4					
Hi PR	231	249	263	274	260	279	295	308	295	318	335	350	336	362	382	399	378	407	430	448	418	450	475	495							
Lo PR	107	114	124	133	113	120	131	140	118	125	137	146	124	131	144	153	130	138	150	160	134	143	156	166							

\* Entering Indoor Dry Bulb Temperature Shaded area reflects ARI Rating Conditions High and low pressures are measured at the liquid and suction service ports.

EXPANDED COOLING DATA — 10 TONS

IDB		Outdoor Ambient Temperature																													
		65					75					85					95					105					115				
		Airflow	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71					
		Entering Indoor Wet Bulb Temperature																													
4500	MBh	115.6	119.8	131.3	-	112.9	117.1	128.3	-	110.3	114.3	125.2	-	107.6	111.5	122.1	-	102.2	105.9	116.0	-	94.7	98.1	107.5	-						
	S/T	0.74	0.62	0.43	-	0.77	0.64	0.45	-	0.79	0.66	0.46	-	0.82	0.68	0.47	-	0.85	0.71	0.49	-	0.85	0.71	0.49	-						
	ΔT	18	15	12	-	18	15	12	-	18	15	12	-	18	16	12	-	18	15	12	-	17	14	11	-						
	Hi Pr	246	264	279	-	276	297	313	-	314	337	356	-	357	384	406	-	402	432	457	-	444	478	504	-						
70	Lo Pr	107	114	124	-	113	120	131	-	118	125	137	-	124	131	144	-	130	138	150	-	134	143	156	-						
	MBh	112.3	116.4	127.5	-	109.7	113.7	124.5	-	107.0	110.9	121.6	-	104.4	108.2	118.6	-	99.2	102.8	112.7	-	91.9	95.3	104.4	-						
	S/T	0.71	0.59	0.41	-	0.73	0.61	0.43	-	0.75	0.63	0.44	-	0.78	0.65	0.45	-	0.81	0.67	0.47	-	0.81	0.68	0.47	-						
	ΔT	18	16	12	-	19	16	12	-	19	16	12	-	19	16	12	-	18	16	12	-	17	15	11	-						
3200	Hi Pr	243	262	276	-	273	294	310	-	310	334	353	-	354	381	402	-	398	428	452	-	440	473	499	-						
	Lo Pr	106	113	123	-	112	119	130	-	116	124	135	-	122	130	142	-	128	136	149	-	133	141	154	-						
	MBh	103.6	107.4	117.7	-	101.2	104.9	114.9	-	98.8	102.4	112.2	-	96.4	99.9	109.5	-	91.6	94.9	104.0	-	84.8	87.9	96.3	-						
	S/T	0.68	0.57	0.40	-	0.71	0.59	0.41	-	0.73	0.61	0.42	-	0.75	0.63	0.43	-	0.78	0.65	0.45	-	0.78	0.66	0.45	-						
75	ΔT	20	18	13	-	21	18	14	-	21	18	14	-	21	18	14	-	20	18	13	-	19	17	13	-						
	Hi Pr	236	254	268	-	265	285	301	-	301	324	342	-	343	369	390	-	386	415	438	-	426	459	484	-						
	Lo Pr	103	109	120	-	109	116	126	-	113	120	131	-	119	126	138	-	124	132	144	-	129	137	149	-						
	MBh	117.6	121.1	131.0	140.6	114.9	118.3	128.0	137.4	112.1	115.4	125.0	134.1	109.4	112.6	121.9	130.8	103.9	107.0	115.8	124.3	96.3	99.1	107.3	115.1						
4500	S/T	0.84	0.76	0.57	0.37	0.88	0.78	0.59	0.38	0.90	0.80	0.61	0.39	0.93	0.83	0.63	0.40	0.96	0.86	0.65	0.42	0.97	0.87	0.66	0.42						
	ΔT	20	19	15	11	21	19	16	11	21	19	16	11	21	19	16	11	20	19	15	11	19	18	14	10						
	Hi Pr	248	267	282	294	279	300	316	330	317	341	360	375	361	388	410	428	406	437	461	481	448	483	510	531						
	Lo Pr	108	115	126	134	114	122	133	141	119	126	138	147	125	133	145	154	131	139	152	162	135	144	157	167						
75	MBh	114.2	117.5	127.2	136.6	111.5	114.8	124.3	133.4	108.9	112.1	121.3	130.2	106.2	109.3	118.4	127.0	100.9	103.9	112.4	120.7	93.5	96.2	104.2	111.8						
	S/T	0.81	0.72	0.55	0.35	0.84	0.75	0.57	0.36	0.86	0.77	0.58	0.37	0.88	0.79	0.60	0.38	0.92	0.82	0.62	0.40	0.93	0.83	0.63	0.40						
	ΔT	21	19	16	11	21	20	16	11	21	20	16	11	22	20	16	11	21	20	16	11	20	18	15	10						
	Hi Pr	246	264	279	291	276	297	313	327	314	337	356	372	357	384	406	423	402	432	457	476	444	478	505	526						
3200	Lo Pr	107	114	124	133	113	120	131	140	118	125	137	146	124	131	144	153	130	138	150	160	134	143	156	166						
	MBh	105.4	108.5	117.4	126.0	102.9	106.0	114.7	123.1	100.5	103.4	112.0	120.2	98.0	100.9	109.2	117.2	93.1	95.9	103.8	111.4	86.3	88.8	96.1	103.2						
	S/T	0.78	0.69	0.53	0.34	0.81	0.72	0.55	0.35	0.83	0.74	0.56	0.36	0.85	0.76	0.58	0.37	0.88	0.79	0.60	0.39	0.89	0.80	0.60	0.39						
	ΔT	24	22	18	12	24	22	18	12	24	22	18	12	24	22	18	13	24	22	18	12	22	20	17	12						
75	Hi Pr	238	257	271	283	267	288	304	317	304	327	346	361	346	373	394	411	390	419	443	462	431	463	489	510						
	Lo Pr	104	111	121	129	110	117	128	136	114	121	133	141	120	128	139	148	126	134	146	155	130	138	151	161						

IDB = Entering Indoor Dry Bulb Temperature      Design Superheat 7±2 °F, Design Subcooling 12 ±2 °F pressures measured @ the suction and liquid access fittings; ARI 95° test conditions  
 High and low pressures are measured at the liquid and suction service access fittings.      Shaded area reflects ACCA (TVA) conditions

EXPANDED COOLING DATA — 10 TONS (CONT.)

IDB		Outdoor Ambient Temperature																													
		65					75					85					95					105					115				
		Entering Indoor Wet Bulb Temperature																													
Airflow	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71			
4500	MBh	119.7	122.3	130.7	139.7	116.9	119.4	127.6	136.4	114.1	116.6	124.6	133.2	111.3	113.8	121.5	129.9	105.8	108.1	115.5	123.4	98.0	100.1	107.0	114.3						
	S/T	0.93	0.87	0.71	0.53	0.96	0.90	0.73	0.55	1.00	0.92	0.75	0.56	1.00	0.95	0.78	0.58	1.00	1.00	0.81	0.60	1.00	1.00	0.81	0.61						
	ΔT	23	22	19	15	23	22	19	15	23	22	19	15	23	22	19	15	22	22	19	15	20	20	18	14						
	Hi Pr	251	270	285	297	281	303	320	333	320	344	364	379	364	392	414	432	410	441	466	486	453	487	515	537						
80	Lo Pr	109	116	127	135	116	123	134	143	120	128	139	148	126	134	146	156	132	141	153	163	137	145	159	169						
	MBh	116.2	118.7	126.9	135.6	113.5	116.0	123.9	132.4	110.8	113.2	121.0	129.3	108.1	110.4	118.0	126.1	102.7	104.9	112.1	119.8	95.1	97.2	103.8	111.0						
	S/T	0.88	0.83	0.67	0.50	0.92	0.86	0.70	0.52	0.94	0.88	0.72	0.54	0.97	0.91	0.74	0.55	1.00	0.94	0.77	0.57	1.00	0.95	0.77	0.58						
	ΔT	24	23	20	16	24	23	20	16	24	23	20	16	24	23	20	16	24	23	20	16	22	21	18	15						
3200	Hi Pr	248	267	282	294	279	300	317	330	317	341	360	375	361	388	410	428	406	437	461	481	448	483	510	532						
	Lo Pr	108	115	126	134	114	122	133	141	119	126	138	147	125	133	145	154	131	139	152	162	135	144	157	167						
	MBh	107.2	109.6	117.1	125.2	104.8	107.0	114.4	122.3	102.3	104.5	111.6	119.3	99.8	101.9	108.9	116.4	94.8	96.8	103.5	110.6	87.8	89.7	95.8	102.5						
	S/T	0.85	0.80	0.65	0.49	0.88	0.83	0.67	0.50	0.91	0.85	0.69	0.52	0.93	0.88	0.71	0.53	0.97	0.91	0.74	0.55	0.98	0.92	0.75	0.56						
85	ΔT	26	25	22	17	27	25	22	18	27	25	22	18	27	26	22	18	26	25	22	18	25	24	21	16						
	Hi Pr	241	259	274	285	270	291	307	320	307	331	349	364	350	377	398	415	394	424	447	467	435	468	494	516						
	Lo Pr	105	112	122	130	111	118	129	137	115	123	134	143	121	129	141	150	127	135	147	157	131	140	152	162						
	MBh	121.8	124.1	130.0	138.7	118.9	121.2	127.0	135.5	116.1	118.4	124.0	132.2	113.3	115.5	120.9	129.0	107.6	109.7	114.9	122.6	99.7	101.6	106.4	113.5						
4500	S/T	0.97	0.94	0.85	0.69	1.00	0.97	0.88	0.71	1.00	1.00	0.90	0.73	1.00	1.00	0.93	0.75	1.00	1.00	0.96	0.78	1.00	1.00	0.97	0.79						
	ΔT	24	24	22	19	24	24	23	20	24	24	23	20	23	24	23	20	22	22	23	20	20	21	21	18						
	Hi Pr	253	272	288	300	284	306	323	337	323	348	367	383	368	396	418	436	414	446	471	491	457	492	520	542						
	Lo Pr	110	117	128	137	117	124	135	144	121	129	141	150	127	135	148	158	133	142	155	165	138	147	160	171						
85	MBh	118.2	120.5	126.2	134.7	115.5	117.7	123.3	131.5	112.7	114.9	120.3	128.4	110.0	112.1	117.4	125.3	104.5	106.5	111.5	119.0	96.8	98.7	103.3	110.2						
	S/T	0.93	0.89	0.81	0.65	0.96	0.93	0.84	0.68	0.98	0.95	0.86	0.70	1.00	0.98	0.89	0.72	1.00	1.00	0.92	0.75	1.00	1.00	0.93	0.75						
	ΔT	25	25	23	20	25	25	24	21	26	25	24	21	25	25	24	21	24	24	24	20	22	23	22	19						
	Hi Pr	251	270	285	297	281	303	320	333	320	344	364	379	364	392	414	432	410	441	466	486	453	487	515	537						
3200	Lo Pr	109	116	127	135	116	123	134	143	120	128	139	148	126	134	146	156	132	141	153	163	137	145	159	169						
	MBh	109.1	111.2	116.5	124.3	106.6	108.6	113.8	121.4	104.0	106.1	111.1	118.5	101.5	103.5	108.4	115.6	96.4	98.3	103.0	109.8	89.3	91.1	95.4	101.7						
	S/T	0.89	0.86	0.78	0.63	0.93	0.89	0.81	0.65	0.95	0.92	0.83	0.67	0.98	0.95	0.85	0.69	1.00	0.98	0.89	0.72	1.00	0.99	0.89	0.72						
	ΔT	28	28	26	23	28	28	26	23	28	28	26	23	29	28	27	23	28	28	26	23	26	26	24	21						
85	Hi Pr	243	262	276	288	273	294	310	323	310	334	353	368	353	380	402	419	398	428	452	471	439	473	499	521						
	Lo Pr	106	113	123	131	112	119	130	139	116	124	135	144	122	130	142	151	128	136	149	159	133	141	154	164						

IDB = Entering Indoor Dry Bulb Temperature      Design Superheat 7±2 °F, Design Subcooling 12 ±2 °F, pressures measured @ the suction and liquid access fittings; ARI 95° test conditions  
 High and low pressures are measured at the liquid and suction service access fittings.      Shaded area reflects ARI Rating conditions

## HEAT KIT ELECTRICAL DATA (BLOWER ONLY, HEAT MODE) — 7½ TONS

Model and Heat Kit Usage	MCA <sup>1</sup> @ 208 / 240V	MOP <sup>2</sup> (amps) @ 208 / 240V	Actual kW & BTU @ 240V	Speed Tap
CPH090***3B***	40	50		
EHK3-16	74 / 85	80 / 90	15	3000-3375 CFM
EHK3-30	113 / 130	120 / 150	30	3000-3375 CFM
EHK3-45	147 / 169	150 / 175	43	3000-3375 CFM

Model and Heat Kit Usage	MCA <sup>1</sup> @ 480V	MOP <sup>2</sup> (amps) @ 480V	Actual kW & BTU @ 480V	Recommended Airflow Range
CPH090***4B***	19	25		
EHK4-16	42	45	15	3000-3375 CFM
EHK4-30	64	70	30	3000-3375 CFM
EHK4-45	84	90	43	3000-3375 CFM

Model and Heat Kit Usage	MCA <sup>1</sup> @ 575V	MOP <sup>2</sup> (amps) @ 575V	Actual kW & BTU @ 575V	Recommended Airflow Range
CPH090***7B***	14	15		
EHK7-16	33	35	15	---
EHK7-30	51	60	30	---
EHK7-45	68	70	43	---

<sup>1</sup> Minimum Circuit Ampacity

<sup>2</sup> Maximum Overcurrent Protection device

### KW CORRECTION FACTORS

kW Correction Factor for 1- & 3-Phase Units					
Supply Voltage	240	230	220	210	208
Correction Factor	1	0.93	0.82	0.78	0.76

kW Correction Factor for 480V Units			
Supply Voltage	460	440	430
Correction Factor	0.92	0.84	0.8

For other voltage, use  $\text{voltage}^2 / 480^2$

kW Correction Factor for 575V Units			
Supply Voltage	560	550	540
Correction Factor	0.95	0.91	0.88

Multiply rated kW by correction factor to get actual kW.

### MINIMUM AIRFLOW FOR ELECTRIC HEAT

Heater Size (kW)	Minimum CFM
15	3,000
30	3,000
43	3,000

## HEAT KIT ELECTRICAL DATA (BLOWER ONLY, HEAT MODE) — 10 TONS

Model and Heat Kit Usage	MCA <sup>1</sup> @ 208 / 240V	MOP <sup>2</sup> (amps) @ 208 / 240V	Actual kW & BTU @ 240V	Recommended Airflow Range
CPH120***3B***	49	60		
EHK3-16	81 / 94	90 / 100	15	3500 - 4500 CFM
EHK3-30	122 / 139	125 / 150	35	3500 - 4500 CFM
EHK3-45	154 / 178	175 / 200	43	4000 - 4500 CFM
Model and Heat Kit Usage	MCA <sup>1</sup> @ 208 / 240V	MOP <sup>2</sup> (amps) @ 208 / 240V	Actual kW & BTU @ 240V	Recommended Airflow Range
CPH120***3H***	50	60		
EHK3-16	82 / 95	90 / 100	15	
EHK3-30	122 / 140	125 / 150	35	
EHK3-45	155 / 179	175 / 200	43	

Model and Heat Kit Usage	MCA <sup>1</sup> @ 480V	MOP <sup>2</sup> (amps) @ 480V	Actual kW & BTU @ 480V	Recommended Airflow Range
CPH120***4B***	24	30		
EHK4-16	46	50	15	3500 - 4500 CFM
EHK4-30	69	70	30	3500 - 4500 CFM
EHK4-45	89	90	43	4000 - 4500 CFM

Model and Heat Kit Usage	MCA <sup>1</sup> @ 575V	MOP <sup>2</sup> (amps) @ 575V	Actual kW & BTU @ 575V	Recommended Airflow Range
CPH0120***7B***	17	20		
EHK7-16	36	40	15	3500 - 4500 CFM
EHK7-30	55	60	30	3500 - 4500 CFM
EHK7-45	71	80	43	4000 - 4500 CFM

<sup>1</sup> Minimum Circuit Ampacity

<sup>2</sup> Maximum Overcurrent Protection device

### kW CORRECTION FACTOR

kW Correction Factor (for 1- & 3-Phase Units)					
Supply Voltage	240	230	220	210	208
Correction Factor	1	0.93	0.82	0.78	0.76

kW Correction Factor for 480V Units			
Actual Voltage	460	440	430
Correction Factor	0.92	0.84	0.8

For other voltage use  $\text{voltage}^2 / 480^2$

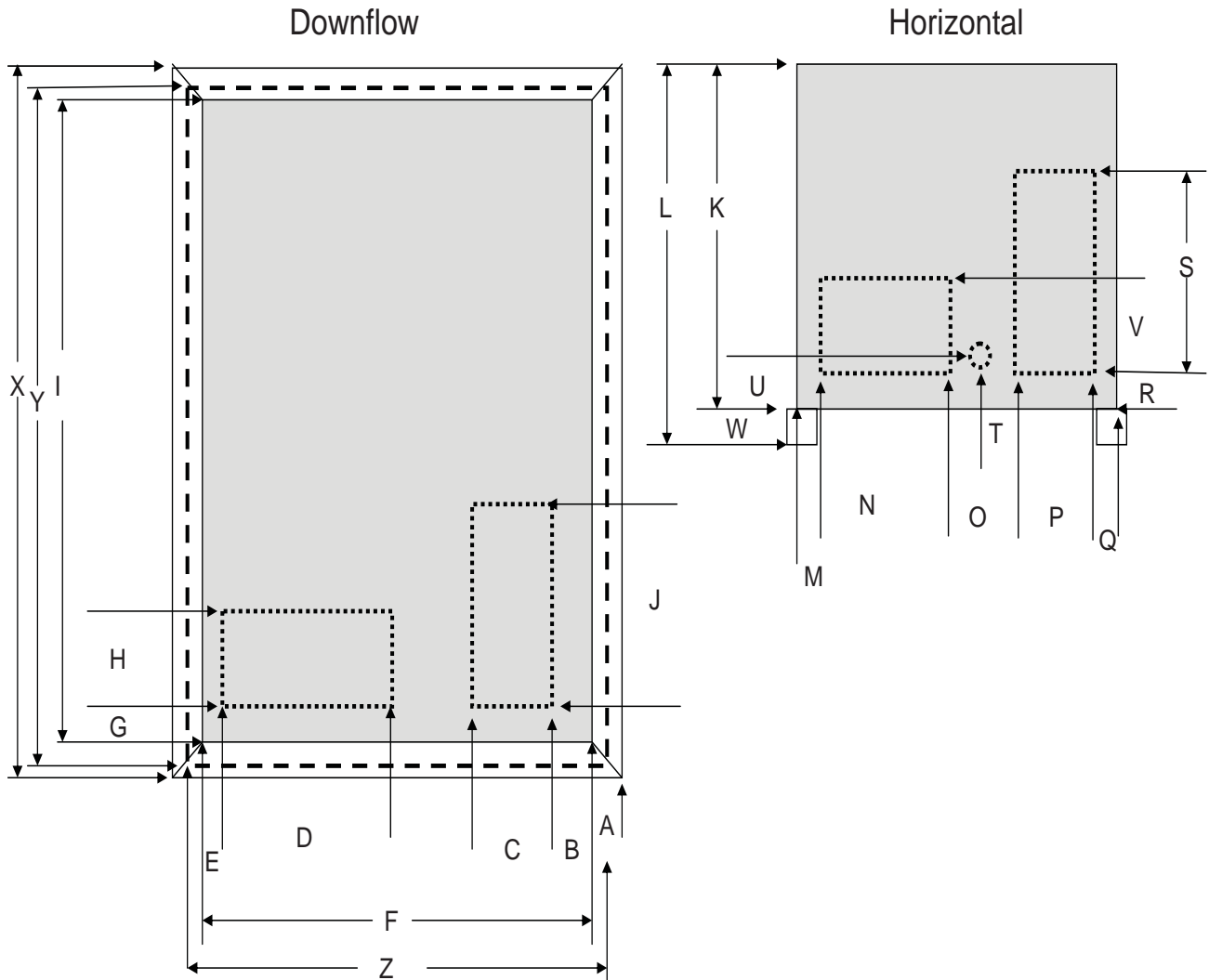
kW Correction Factor for 575V Units			
Supply Voltage	560	550	540
Correction Factor	0.95	0.91	0.88

Multiply rated kW by correction factor to get actual kW

### MINIMUM AIRFLOW FOR ELECTRIC HEAT

Heater Size (kW)	Min. CFM Down-shot	Min. CFM Horizontal
15	4,000	4,000
30	4,000	4,000
43	4,000	4,000

**DIMENSIONS**

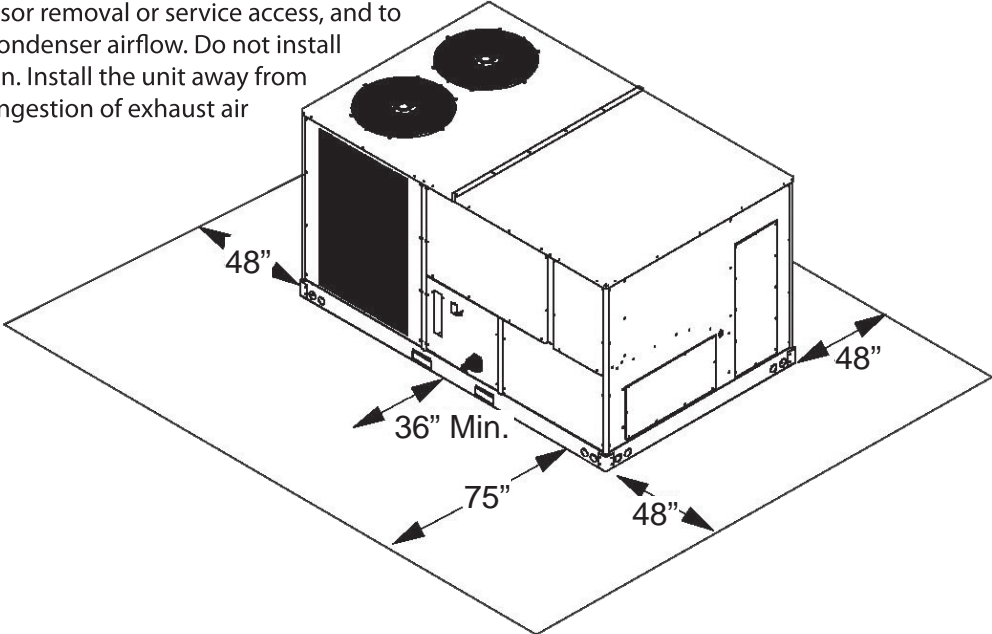


Point	Dimension (")
A	3½
B	4½
C	12 <sup>5</sup> / <sub>8</sub>
D	28 <sup>5</sup> / <sub>16</sub>
E	4
F	54¾
G	3
H	14
I	92 <sup>15</sup> / <sub>16</sub>
J	36 <sup>3</sup> / <sub>8</sub>
K	48 <sup>3</sup> / <sub>8</sub>
L	52 <sup>7</sup> / <sub>8</sub>
M	6 <sup>13</sup> / <sub>16</sub>

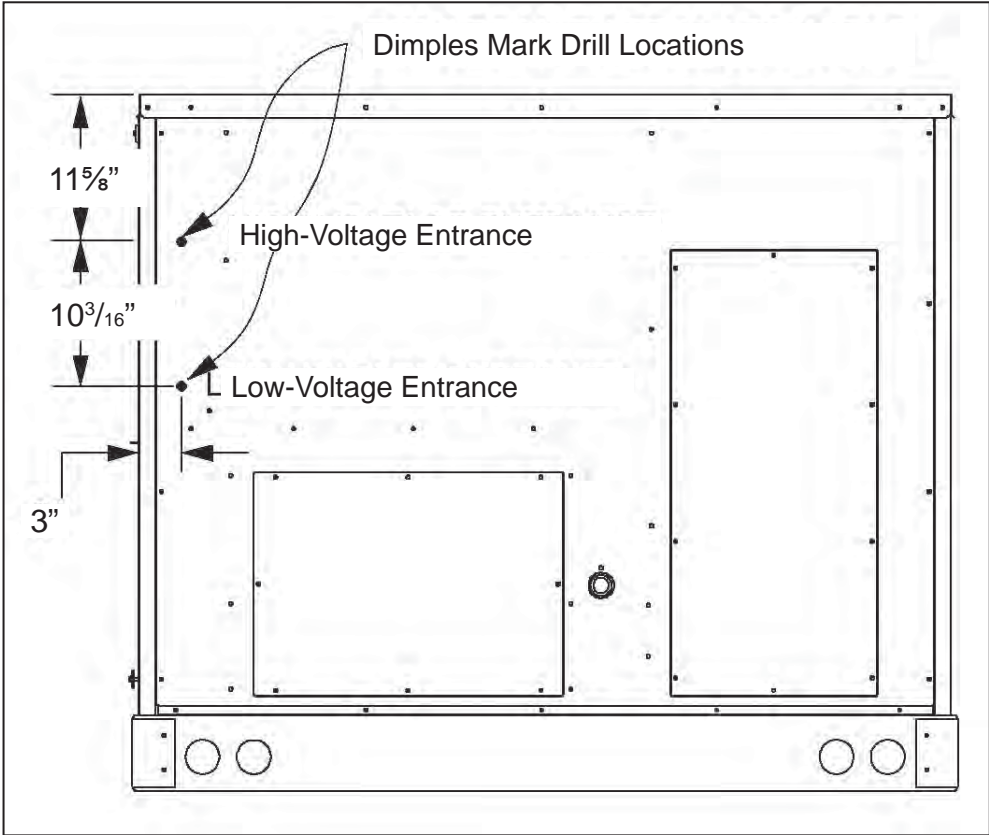
Point	Dimension (")
N	28 <sup>3</sup> / <sub>8</sub>
O	7 <sup>3</sup> / <sub>8</sub>
P	12 <sup>5</sup> / <sub>8</sub>
Q	5 <sup>7</sup> / <sub>8</sub>
R	1¾
S	36 <sup>3</sup> / <sub>8</sub>
T	5
U	15½
V	13 <sup>3</sup> / <sub>8</sub>
W	4½
X	99¾
Y	99 <sup>1</sup> / <sub>8</sub>
Z	61

### UNIT CLEARANCES

Maintain an adequate clearance around the unit for safety, service, maintenance, and proper unit operation. Leave a total clearance of 75" on the main control panel side of the unit for possible removal of fan shaft, coil, electric heat, and gas furnace. Leave a clearance of 48" on all other sides of the unit for possible compressor removal or service access, and to ensure proper ventilation and condenser airflow. Do not install the unit beneath any obstruction. Install the unit away from all building exhausts to inhibit ingestion of exhaust air into the unit's fresh-air intake.



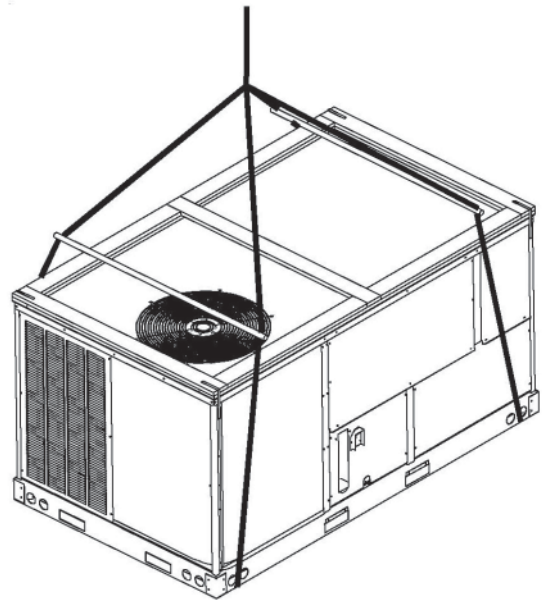
### ELECTRICAL ENTRANCE LOCATIONS



## ROOF CURB INSTALLATION — RIGGING

Provisions for forks have been included in the unit base frame. No other fork locations are approved.

- Unit must be lifted by the four lifting holes located at the base frame corners.
- Lifting cables should be attached to the unit with shackles.
- The distance between the crane hook and the top of the unit must not be less than 60”.
- Two spreader bars must span over the unit to prevent damage to the cabinet by the lift cables. Spreader bars must be of sufficient length so that cables do not come in contact with the unit during transport. Remove wood struts mounted beneath unit base frame before setting unit on roof curb. These struts are intended to protect unit base frame from fork lift damage. To remove the struts, extract the sheet metal retainers and pull the struts through the base of the unit. Refer to rigging label on the unit.

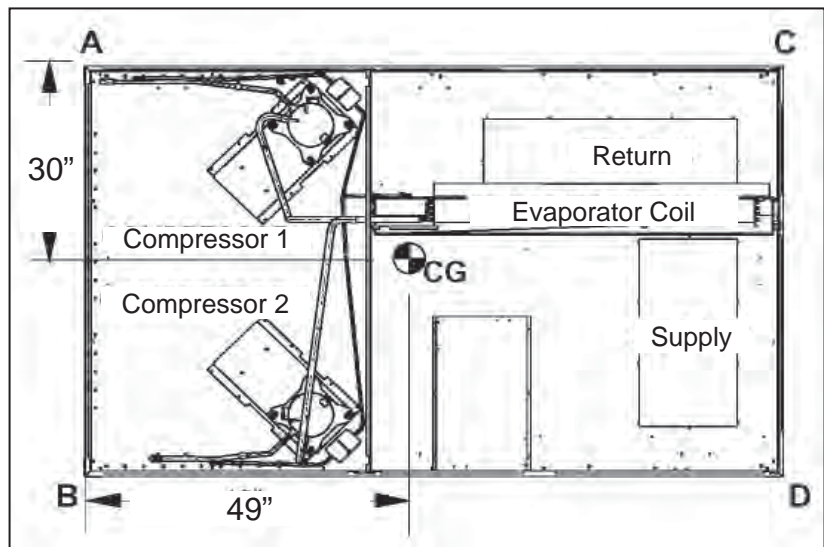


**Important:** If using bottom discharge with roof curb, duct-work should be attached to the curb prior to installing the unit. Duct-work dimensions are shown in Roof Curb Installation Instructions Manual.

Refer to the Roof Curb Installation Instructions for proper curb installation. Curbing must be installed in compliance with the National Roofing Contractors Association Manual.

Lower unit carefully onto roof mounting curb. While rigging the unit, the center of gravity will cause the condenser end to be lower than the supply air end.

Bring condenser end of unit into alignment with the curb. With condenser end of the unit resting on curb member and using curb as a fulcrum, lower opposite end of the unit until entire unit is seated on the curb. When a rectangular cantilever curb is used, take care to center the unit. Check for proper alignment and orientation of supply and return openings with duct.



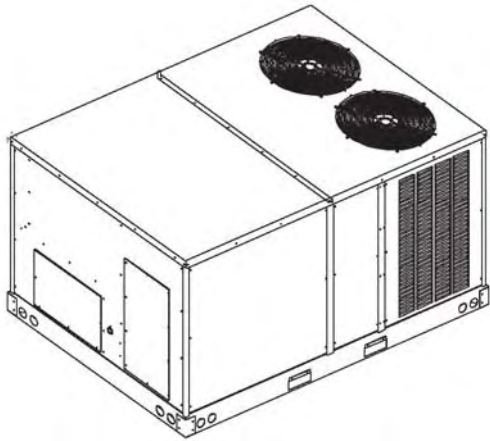
Corner & Center-of-Gravity Locations

To assist in determining rigging requirements, unit weights are shown to the right.

**Note:** These weights are calculated without accessories installed.

Unit Weights	7½-Ton Weights (lbs)	10-Ton Weights (lbs)
Weight A	285	290
Weight B	285	290
Weight C	285	290
Weight D	285	290
Shipping Weight	1175	1200
Operating Weight	1135	1160

## ROOF CURB INSTALLATION (CONT.)



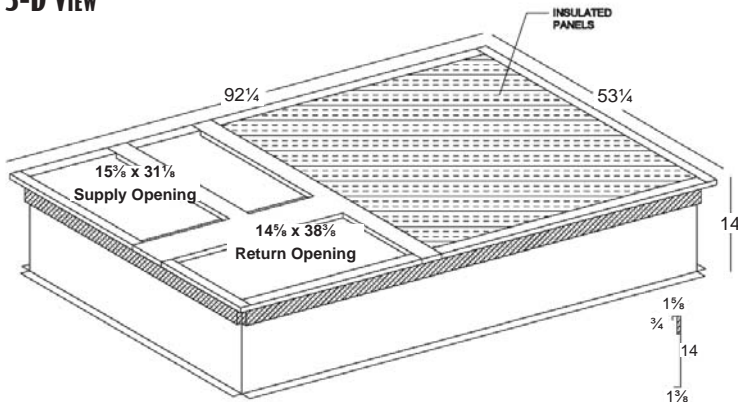
Curb installations must comply with local codes and should follow the established guidelines of the National Roofing Contractors Association.

Proper unit installation requires that the roof curb be firmly and permanently attached to the roof structure. Check for adequate fastening method prior to setting the unit on the curb.

Full perimeter roof curbs are available from the factory and are shipped unassembled. The installing contractor is responsible for field assembly, squaring, leveling, and mounting on the roof structure. All required hardware necessary for the assembly of the sheet metal curb is included in the curb accessory package.

- Determine sufficient structural support before locating and mounting the curb and package unit.
- Duct-work must be constructed using industry guidelines. The duct-work must be placed into the roof curb before mounting the package unit. Our full perimeter curbs include duct connection frames to be assembled with the curb. Cantilevered-type curbs are not available from the factory.

### 3-D VIEW

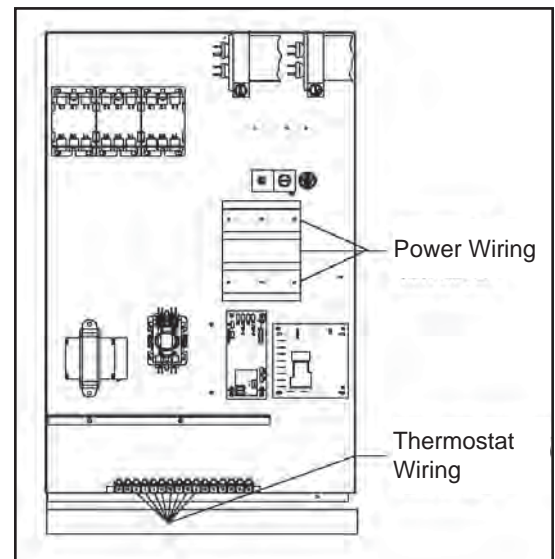
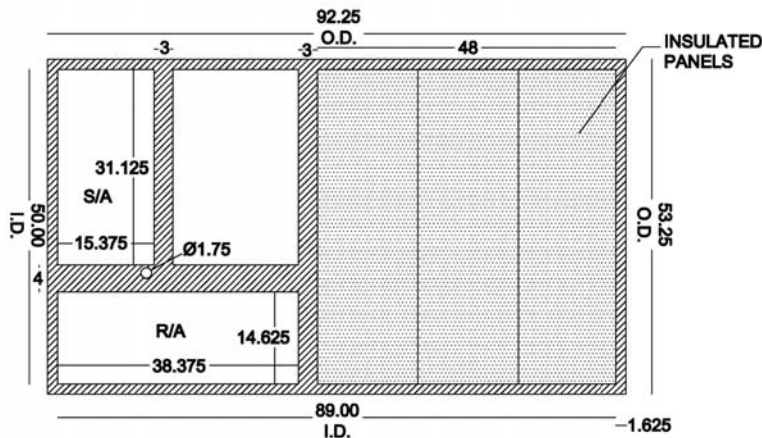


- Contractor furnishes curb insulation, cant strips, flashing, and general roofing material.
- Support curbs on parallel sides with roof members. To prevent damage to the unit, the roof members cannot penetrate supply and return duct openings.

**Note:** The unit and curb accessories are designed to allow vertical duct installation before unit placement. Duct installation after unit placement is not recommended.

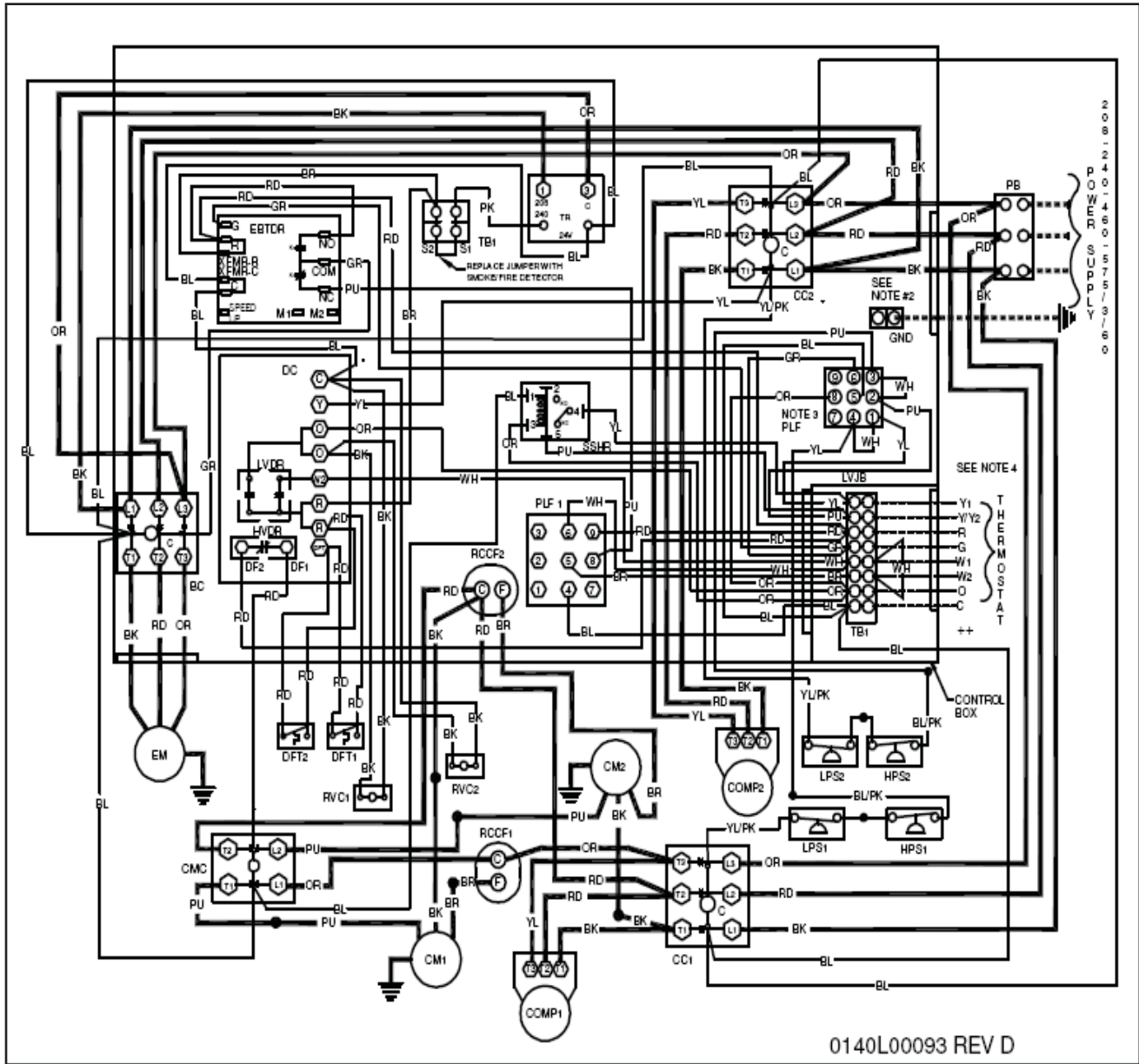
See the manual shipped with the roof curb for assembly and installation instructions.

### TOP VIEW



POWER AND LOW-VOLTAGE BLOCK LOCATIONS

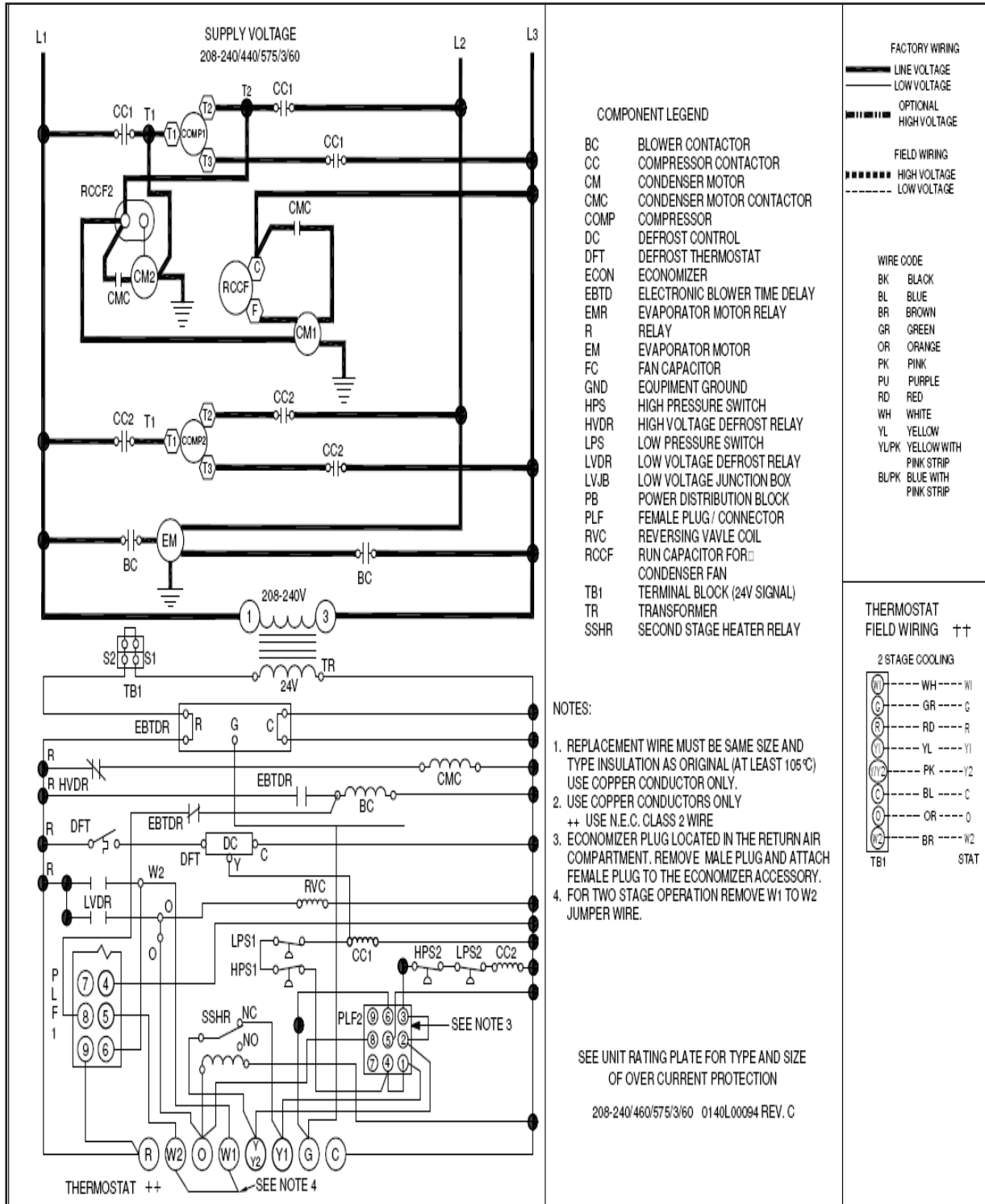
# WIRING DIAGRAM — CPH090/120\*\*\*B\*\*\* (THREE-PHASE/ 460V/ 575V BELT DRIVE)



Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.

 <p><b>WARNING</b></p>	<p><b>High Voltage:</b> 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.</p>	
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# WIRING DIAGRAM — CPH090/120\*\*\*B\*\*\* (CONT.)



Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.

 <p><b>WARNING</b></p>	<p><b>High Voltage:</b> 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.</p>	
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**ACCESSORIES**

Item #	Description	Fits Model Sizes	Package Dimensions ("	Ship Weight
14CURB90150	Roof Curb 14" Tall	7½-12½ tons	16 x 6 x 94	160
25FD90150	25% Manual Fresh Air Damper	7½-12½ tons	13 x 15½ x 37½	11
25MFD90150	25% Motorized Fresh Air Damper	7½-12½ tons	13 x 15½ x 37½	12
DNECONHP90150	Downflow Economizer for CPH	7½-12½ tons	40 x 20 x 41	135
DNSQRRND90	Downflow Square-to-Round Adapter 20" Round	7½ tons	15 x 37½ x 10	16
HZECONHP90150	Horizontal Economizer for CPH	7½-12½ tons	21 x 21 x 48	110
BRD3672	Horizontal Barometric Relief Damper	7½-12½ tons		
CDK120	Concentric Duct Kit	10 tons		
CDK150	Concentric Duct Kit	12½ tons		
CDK90102	Concentric Duct Kit	7½-8½ tons	31 x 48 x 18	55
HailGD02	Condenser Coil Hail Guard	7½ - 10 tons	64 x 52 x 2	
HAKT36300	High-Altitude Kit	All Models		
HSKT090	High Static Kit	7½ tons		
HSKT120	High Static Kit	10 tons		
LPKT36150	LP Conversion Kit	3 - 12½ tons		

