

### 6-1/3 and 7-1/2 Ton Split System Heat Pump (3 Phase) 72 to 87 MBtuh

#### REFRIGERATION CIRCUIT

- Copeland scroll compressors on all models with single refrigeration circuit.
- R-22 refrigerant
- Copper tube / aluminum fin coil
- High and Low pressure switches
- 0° F Low ambient fan control device
- Electronic defrost control insures fast, efficient defrost cycle
- Suction Accumulator Standard
- Thermostatic Expansion Valve in Outdoor Unit for Heat Pump Operation
- Crankcase heater for compressor protection in low ambient conditions.



#### BUILT TO LAST

- Triple-coated steel, consisting of a polyester top coat, a urethane primer coat preceded by an oxide pretreatment.
- Enhanced aluminum fins mechanically bonded to copper tubes for improved heat transfer
- Pre-painted fins provide additional corrosion resistance.
- Enhanced inlet grille with 3/8" spacing for extra coil protection.



#### EASY TO INSTALL AND SERVICE

- Easy access service valves on all models
- External high and low refrigerant service ports

#### WARRANTY

- 5 year compressor limited warranty
- 1 year parts limited warranty



Rated in accordance with ARI Standard 210. Certification applies only when used with proper components as listed with ARI.



#### UNIT PERFORMANCE DATA (3 Phase - 60 Hz)

Model Number	COOLING <sup>1</sup>			HEATING <sup>1</sup>		Voltage - Phase - Hz	Unit Dimensions H x W x D	Shipping Weight
	Nominal Capacity BTUH	E.E.R	S/T	Nominal Capacity BTUH	COP			
CHE075GHC	72,000	10.0	.75	68,000	3.0	208/230-3-60	38-1/2 X 33 X 35	345
CHE075GLC	72,000	10.0	.75	68,000	3.0	460-3-60	38-1/2 X 33 X 35	345
CHE075GSC	72,000	10.0	.75	68,000	3.0	575-3-60	38-1/2 X 33 X 35	345
CHE090GHC	87,000	10.1	.74	76,000	3.0	208/230-3-60	42-1/2 X 33 X 35	350
CHE090GLC	87,000	10.1	.74	76,000	3.0	460-3-60	42-1/2 X 33 X 35	350

<sup>1</sup> Net Capacity Ratings based on ARI Test Standards, 95° F Amb. 80° F DB / 67° F WB.

NOTE: CHE075 Models are matched with BHC090 / HBC090 Air Handlers.  
CAE090 Models are matched with BHC120 / HBC120 Air Handlers.

	UNIT SPECIFICATIONS		
Electrical	CHE075GHC	CHE075GLC	CHE075GSC
Volts / Phase / Hertz	208/-230/3/60	460/3/60	575/3/60
Voltage Min - Max	187-253	414-506	517-633
Total Unit Amps	24.0	12.1	8.8
Min. Circuit Amp.	28.7	14.5	10.7
Minimum Fuse Size	35	20	15
Max. Fuse	45	20	15
Compressor			
RLA	18.9	9.5	7.6
LRA	146	73	5
Type	Single Scroll (SRY752AC)	Single Scroll (SRH752AC)	Single Scroll (SRJ752AC)
Condenser Fan Data			
Quantity	1	1	1
Volts/Phase/Hertz	208-230/1/60	460/1/60	575/1/60
FLA	5.1	2.6	1.2
LRA	10.3	5.33	3.9
Blades/Diameter/Pitch	3/26/28	3/26/28	3/26/28
Hp - Rpm - Speeds	3/4-1100-1	3/4-1100-1	3/4-1140-1
Bearing Type	Sleeve	Sleeve	Sleeve
Rotation (Shaft End)	CW	CW	CW
Max. CFM	5000	5000	5000
Condenser Coil			
Rows / Fins per Inch	2 / 18	2 / 18	2 / 18
Total Face Area-Sq. ft.	23.58	23.58	23.58
Tube Diameter	3/8	3/8	3/8
Refrigerant			
Type	R-22	R-22	R-22
Ounces	Units Shipped with Holding Charge		
Approximate Operating Charge - Ounces, Based On BHC Series Air Handler	340		
Line Size Liquid O.D. (in.)	5/8	5/8	5/8
Line Size Suction O.D. (in.)	1-1/8	1-1/8	1-1/8
Controls			
Compressor IPR Valve (psi) Differential	450	450	450
High Press. Switch Auto Reset - Open / Close psi	420-300	420-300	420-300
Low Press. Switch Auto Reset - Open- Close psi	5 - 20	5 - 20	5 - 20
Defrost Sensor - Open- Close psi	51 - 36	51 - 36	51 - 36
Contactors Amps. ( FLA )	30	30	30
Low Ambient Control - Actuation / Release	250 / 100	250 / 100	250 / 100
Crankcase Heater Type	70 Watt Strap On	70 Watt Strap On	70 Watt Strap On
Misc.			
Shipping Weight ( lbs. )	345	345	345

PERFORMANCE DATA COOLING (SEE NOTE BELOW)					
UNIT SIZE	Rated Capacity Btuh <sup>1</sup>	S/T	EER	I.P.L.V.	Evaporator Rated Airflow
6 - 1/3 TON	72,000	.75	10.0	N / A	2800

<sup>1</sup> Net Capacity Ratings based on ARI Test Standards, 95° F Amb. 80° F DB / 67° F WB.

NOTE: CHE075 Models are matched with BHC090 / HBC090 Air Handlers.

	UNIT SPECIFICATIONS	
Electrical	CHE090GHC	CHE090GLC
Volts / Phase / Hertz	208/-230/3/60	460/3/60
Voltage Min - Max	187-253	414-506
Total Unit Amps	30.7	15.4
Min. Circuit Amp.	37.2	18.6
Minimum Fuse Size	45	25
Max. Fuse	60	30
Compressor		
RLA	25.6	12.8
LRA	196	100
Type	Single Scroll (ZR84KCTF5250)	Single Scroll (ZR84KCTFD250)
Condenser Fan Data		
Quantity	1	1
Volts/Phase/Hertz	208-230/1/60	460/1/60
FLA	5.1	2.6
LRA	10.3	5.33
Blades/Diameter/Pitch	3/26/28	3/26/28
Hp - Rpm - Speeds	3/4-1100-1	3/4-1100-1
Bearing Type	Sleeve	Sleeve
Rotation (Shaft End)	CW	CW
Max. CFM	5300	5300
Condenser Coil		
Rows / Fins per Inch	2 / 22	2 / 22
Total Face Area-Sq. ft.	26.19	26.19
Tube Diameter	3/8	3/8
Refrigerant		
Type	R-22	R-22
Ounces	Units Shipped with Holding Charge	
Approximate Operating Charge - Ounces, Based On BHC/HBC Series Air Handler	435	
Line Size Liquid I.D. (in.)	5/8	5/8
Line Size Suction I.D. (in.)	1-1/8	1-1/8
Controls		
Compressor IPR Valve (psi) Differential	450	450
High Press. Switch Auto Reset - Open / Close psi	420-300	420-300
Low Press. Switch Auto Reset - Open- Close psi	5 - 20	5 - 20
Defrost Sensor - Open- Close psi	51 - 36	51 - 36
Contactors Amps. ( FLA )	30	30
Low Ambient Control - Actuation / Release	250 / 100	250 / 100
Crankcase Heater Type	70 Watt Strap On	70 Watt Strap On
Misc.		
Shipping Weight ( lbs. )	439	439

PERFORMANCE DATA COOLING					
UNIT SIZE	Rated Capacity Btuh <sup>1</sup>	S/T	EER	I.P.L.V.	Evaporator Rated Airflow
7-1/2 TON	87,000	.74	10.1	N / A	3200

<sup>1</sup> Net Capacity Ratings based on ARI Test Standards, 95° F Amb. 80° F DB / 67° F WB.

NOTE: CHE090 Models are matched with BHC120 / HBC120 Air Handlers.

Expanded Performance Data (Cooling) - CHE075 with BHC/HBC090\*1B (Gross Capacity, See Notes on bottom page 6)

IDB*	Airflow	Outdoor Ambient Temperature - Degrees F. Dry Bulb																											
		65				75				85				95				105				115							
		Entering Indoor Temperature - Degrees F. Wet Bulb																											
70	3136	MBh	73.1	75.8	83.0	-	71.4	74.0	81.1	-	69.7	72.2	79.2	-	68.0	70.5	77.2	-	64.6	67.0	73.4	-	59.8	62.0	68.0	-			
		S/T	0.75	0.63	0.44	-	0.78	0.65	0.45	-	0.80	0.67	0.46	-	0.83	0.69	0.48	-	0.86	0.72	0.50	-	0.86	0.72	0.50	-			
		KW	4.9	5.0	5.2	-	5.3	5.5	5.7	-	5.7	5.8	6.0	-	6.0	6.2	6.4	-	6.3	6.4	6.7	-	6.5	6.7	6.9	-			
	2800	MBh	71.0	73.6	80.6	-	69.3	71.9	78.7	-	67.7	70.1	76.8	-	66.0	68.4	75.0	-	62.7	65.0	71.2	-	58.1	60.2	66.0	-			
		S/T	0.72	0.60	0.42	-	0.74	0.62	0.43	-	0.76	0.64	0.44	-	0.79	0.66	0.46	-	0.82	0.68	0.47	-	0.82	0.69	0.48	-			
		KW	4.9	5.0	5.2	-	5.3	5.4	5.6	-	5.7	5.8	6.0	-	6.0	6.1	6.3	-	6.2	6.4	6.6	-	6.5	6.6	6.9	-			
2464	MBh	67.4	69.9	76.6	-	65.9	68.3	74.8	-	64.3	66.6	73.0	-	62.7	65.0	71.2	-	59.6	61.8	67.7	-	55.2	57.2	62.7	-				
	S/T	0.69	0.57	0.40	-	0.71	0.60	0.41	-	0.73	0.61	0.42	-	0.75	0.63	0.44	-	0.78	0.65	0.45	-	0.79	0.66	0.46	-				
	KW	4.8	4.9	5.1	-	5.2	5.3	5.5	-	5.6	5.7	5.9	-	5.9	6.0	6.2	-	6.1	6.3	6.5	-	6.3	6.5	6.7	-				
75	3136	MBh	74.3	76.5	82.8	88.9	72.6	74.8	80.9	86.9	70.9	73.0	79.0	84.8	69.2	71.2	77.1	82.7	65.7	67.6	73.2	78.6	60.9	62.7	67.8	72.8			
		S/T	0.86	0.77	0.58	0.37	0.89	0.79	0.60	0.39	0.91	0.81	0.62	0.40	0.94	0.84	0.64	0.41	0.97	0.87	0.66	0.42	0.98	0.88	0.67	0.43			
		KW	5.0	5.1	5.3	5.4	5.4	5.5	5.7	5.9	5.8	5.9	6.1	6.3	6.1	6.2	6.4	6.7	6.3	6.5	6.7	7.0	6.6	6.7	7.0	7.2			
	2800	MBh	72.2	74.3	80.4	86.3	70.5	72.6	78.6	84.3	68.8	70.9	76.7	82.3	67.1	69.1	74.8	80.3	63.8	65.7	71.1	76.3	59.1	60.8	65.8	70.7			
		S/T	0.82	0.73	0.55	0.36	0.85	0.76	0.57	0.37	0.87	0.78	0.59	0.38	0.90	0.80	0.61	0.39	0.93	0.83	0.63	0.40	0.94	0.84	0.63	0.41			
		KW	4.9	5.0	5.2	5.4	5.3	5.5	5.7	5.8	5.7	5.8	6.0	6.2	6.0	6.2	6.4	6.6	6.3	6.4	6.7	6.9	6.5	6.7	6.9	7.2			
2464	MBh	68.6	70.6	76.4	82.0	67.0	69.0	74.6	80.1	65.4	67.3	72.9	78.2	63.8	65.7	71.1	76.3	60.6	62.4	67.5	72.5	56.1	57.8	62.6	67.1				
	S/T	0.78	0.70	0.53	0.34	0.81	0.73	0.55	0.35	0.83	0.74	0.56	0.36	0.86	0.77	0.58	0.37	0.89	0.80	0.60	0.39	0.90	0.80	0.61	0.39				
	KW	4.9	5.0	5.1	5.3	5.3	5.4	5.6	5.7	5.6	5.7	5.9	6.1	5.9	6.1	6.3	6.5	6.2	6.3	6.5	6.8	6.4	6.6	6.9	7.0				
80	3136	MBh	75.7	77.3	82.6	88.3	73.9	75.5	80.7	86.2	72.1	73.7	78.8	84.2	70.4	71.9	76.8	82.1	66.9	68.3	73.0	78.0	61.9	63.3	67.6	72.3			
		S/T	0.94	0.88	0.72	0.54	1.00	0.91	0.74	0.56	1.00	0.94	0.76	0.57	1.00	0.97	0.79	0.59	1.00	1.00	0.82	0.61	1.00	1.00	0.82	0.62			
		KW	5.0	5.1	5.3	5.5	5.4	5.6	5.8	6.0	5.8	5.9	6.1	6.4	6.1	6.3	6.5	6.7	6.4	6.5	6.8	7.0	6.6	6.8	7.0	7.3			
	2800	MBh	73.5	75.1	80.2	85.7	71.8	73.3	78.3	83.7	70.0	71.6	76.5	81.7	68.3	69.8	74.6	79.7	64.9	66.3	70.9	75.8	60.1	61.4	65.6	70.2			
		S/T	0.90	0.84	0.68	0.51	0.93	0.87	0.71	0.53	0.95	0.89	0.73	0.54	0.98	0.92	0.75	0.56	1.00	0.96	0.78	0.58	1.00	0.96	0.78	0.59			
		KW	5.0	5.1	5.3	5.4	5.4	5.5	5.7	5.9	5.8	5.9	6.1	6.3	6.1	6.2	6.4	6.7	6.3	6.5	6.7	7.0	6.6	6.7	7.0	7.2			
2464	MBh	69.8	71.3	76.2	81.4	68.2	69.7	74.4	79.5	66.5	68.0	72.6	77.7	64.9	66.3	70.9	75.8	61.7	63.0	67.3	72.0	57.1	58.4	62.4	66.7				
	S/T	0.86	0.80	0.65	0.49	0.89	0.83	0.68	0.51	0.91	0.86	0.70	0.52	0.94	0.88	0.72	0.54	0.98	0.92	0.75	0.56	0.99	0.92	0.75	0.56				
	KW	4.9	5.0	5.2	5.4	5.3	5.4	5.6	5.8	5.7	5.8	6.0	6.2	6.0	6.1	6.3	6.5	6.2	6.4	6.6	6.8	6.5	6.6	6.8	7.1				
85	3136	MBh	77.0	78.5	82.2	87.7	75.2	76.6	80.3	85.6	73.4	74.8	78.4	83.6	71.6	73.0	76.5	81.6	68.0	69.3	72.6	77.5	63.0	64.2	67.3	71.8			
		S/T	0.98	0.95	0.86	0.70	1.00	0.98	0.89	0.72	1.00	1.00	0.91	0.74	1.00	1.00	0.94	0.76	1.00	1.00	0.98	0.79	1.00	1.00	0.98	0.80			
		KW	5.1	5.2	5.4	5.5	5.5	5.6	5.8	6.0	5.9	6.0	6.2	6.4	6.2	6.3	6.5	6.8	6.5	6.6	6.8	7.1	6.7	6.9	7.1	7.3			
	2800	MBh	74.7	76.2	79.8	85.1	73.0	74.4	77.9	83.1	71.3	72.6	76.1	81.2	69.5	70.9	74.2	79.2	66.1	67.3	70.5	75.2	61.2	62.4	65.3	69.7			
		S/T	0.94	0.91	0.82	0.66	0.97	0.94	0.85	0.69	1.00	0.96	0.87	0.71	1.00	0.99	0.90	0.73	1.00	1.00	0.93	0.76	1.00	1.00	0.94	0.76			
		KW	5.0	5.1	5.3	5.5	5.4	5.6	5.8	6.0	5.8	5.9	6.1	6.4	6.1	6.3	6.5	6.7	6.4	6.5	6.8	7.0	6.6	6.8	7.0	7.3			
2464	MBh	71.0	72.4	75.8	80.9	69.4	70.7	74.0	79.0	67.7	69.0	72.3	77.1	66.1	67.3	70.5	75.2	62.7	64.0	67.0	71.5	58.1	59.2	62.1	66.2				
	S/T	0.90	0.87	0.78	0.64	0.93	0.90	0.81	0.66	0.96	0.92	0.83	0.68	0.99	0.95	0.86	0.70	1.00	0.99	0.89	0.72	1.00	1.00	0.90	0.73				
	KW	4.9	5.0	5.2	5.4	5.3	5.5	5.7	5.8	5.7	5.8	6.0	6.2	6.0	6.2	6.4	6.6	6.3	6.4	6.7	6.9	6.5	6.7	6.9	7.2				

\*Entering Indoor Temperature-Degrees F. Dry Bulb  Standard Rating

Extended Performance Data (Heating) - CHE075 with BHC/HBC090\*1B

IDB*	Airflow	Outdoor Ambient Temperature																		
		65	60	55	50	47	45	40	35	30	25	20	17	15	10	5	0	-5	-10	
70	2800	MBh	85.5	80.9	76.2	71.2	68.0	65.9	61.2	56.4	45.4	41.9	38.5	36.4	35.1	31.4	27.9	24.3	20.7	17.0
		T/R	28.3	26.8	25.2	23.5	22.5	21.8	20.2	18.7	15.0	13.8	12.7	12.0	11.6	10.4	9.2	8.0	6.9	5.6
		KW	7.19	7.04	6.89	6.73	6.64	6.58	6.43	6.28	5.70	5.55	5.42	5.33	5.28	5.14	5.00	4.86	4.72	4.58
		COP	3.48	3.36	3.24	3.10	3.00	2.93	2.79	2.63	2.33	2.21	2.08	2.00	1.94	1.79	1.63	1.46	1.29	1.09
		EER	11.9	11.5	11.1	10.6	10.2	10.0	9.5	9.0	8.0	7.5	7.1	6.8	6.6	6.1	5.6	5.0	4.4	3.7

Condenser Capacity Data

SATURATED SUCTION TEMP. -°F	OUTDOOR TEMPERATURE °F									
	75	80	85	90	95	100	105	110	115	
<b>GROSS CONDENSER CAPACITY (MBTU/HR)</b>										
35	71.37	69.63	67.88	66.07	64.22	62.42	60.51	58.35	56.23	
40	78.53	76.64	74.72	72.80	70.58	68.72	66.44	64.21	61.77	
45	86.12	83.90	81.79	79.57	77.64	75.23	72.84	70.33	67.75	
50	94.16	91.87	89.56	87.19	84.76	82.23	79.63	76.92	74.08	
<b>COMPRESSOR &amp; CONDENSER FAN POWER (kW)</b>										
35	4.09	4.29	4.49	4.71	4.96	5.21	5.47	5.74	6.03	
40	4.66	4.86	5.07	5.29	5.52	5.78	6.04	6.31	6.84	
45	4.77	4.97	5.18	5.41	5.66	5.89	6.16	6.43	6.71	
50	4.88	5.09	5.31	5.54	5.78	6.04	6.28	6.56	6.85	
<b>GROSS EER (GROSS CAPACITY ÷ COMPRESSOR &amp; FAN POWER)</b>										
35	17.46	16.24	15.12	14.02	12.95	11.98	11.06	10.16	9.33	
40	16.85	15.77	14.73	13.75	12.78	11.89	11.01	10.18	9.03	
45	18.05	16.89	15.79	14.72	13.72	12.77	11.83	10.94	10.09	
50	19.31	18.04	16.87	15.75	14.65	13.63	12.68	11.73	10.82	

Expanded Performance Data (Cooling) - CHE090 with BHC / HBC120\*\*A - (Gross Capacity, See Notes on page 6)

Table with columns: IDB\*, Airflow, Outdoor Ambient Temperature - Degrees F. Dry Bulb (65, 75, 85, 95, 105, 115), and Entering Indoor Temperature - Degrees F. Wet Bulb (59, 63, 67, 71). Rows include MBh, S/T, and KW values for various airflows and IDB ratings (70, 2816, 3584, 75, 80, 85).

\*Entering Indoor Temperature - Degrees F. Dry Bulb [ ] Standard Rating

Extended Performance Data (Heating) - CHE090 with BHC / HBC120\*\*A

Table with columns: IDB\*, Airflow, Outdoor Ambient Temperature (65, 50, 40, 25, 15, 0), and rows for MBh, T/R, KW, COP, and EER.

Condenser Capacity Data

Table with columns: SATURATED SUCTION TEMP. - °F, OUTDOOR TEMPERATURE °F (75, 80, 85, 90, 95, 100, 105, 110, 115), and rows for GROSS CONDENSER CAPACITY (MBTU/HR), COMPRESSOR & CONDENSER FAN POWER (kW), and GROSS EER.

**MODEL NUMBER IDENTIFICATION GUIDE**

<b>MODEL NUMBER</b>	<b>C</b>	<b>H</b>	<b>E</b>	<b>090</b>	<b>G</b>	<b>H</b>	<b>C</b>	<b>SALES CODE</b>
<b>PRODUCT FAMILY</b>								<b>ELECTRICAL</b>
C = Condensor								<b>CODE VOLTS PHASE CYCLE</b>
<b>PRODUCT TYPE</b>								H 208/230 3 60
H = Heat Pump								L 460 3 60
								S 575 3 60
<b>SERIES</b>								<b>Factory Installed Hail Guard</b>
E = Series								<b>CAPACITY BTUH 075 = 75,000 090 = 90,000</b>

**NOTES AND FORMULAS FOR USING EXPANDED PERFORMANCE DATA**

To find leaving wet bulb and dry bulb from the expanded performance charts on the previous page, use the following formulas. Direct interpolation is permissible. Do not extrapolate.

$$t_{/db} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

$t_{/wb}$  = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil ( $h_{/wb}$ ).

$$h_{/wb} = h_{ewb} - \frac{\text{sensible capacity (Btuh)}}{4.5 \times \text{cfm}}$$

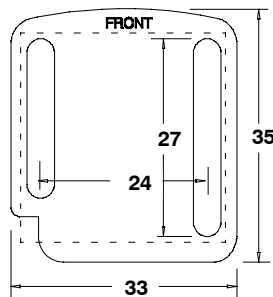
Where:  $h_{ewb}$  = Enthalpy of air entering evaporator coil.

**LEGEND**

- MBh** = Total Capacity (Gross)
- KW** = Unit Operating Watts
- t/db** = Leaving Dry Bulb
- edb** = Entering Dry Bulb
- h/wb** = Enthalpy of leaving wet bulb
- S/T** = Sensible to Total Ratio
- IDB** = Indoor Dry Bulb
- t/wb** = Leaving Wet Bulb
- ewb** = Entering Wet Bulb

**DIMENSIONS**

ALL DIMENSIONS IN INCHES



Chassis #3

Minimum Mounting Pad Sizes with pad starting at 9" from structure for minimum clearance of 6".

Chassis #3 27" W X 28" D

