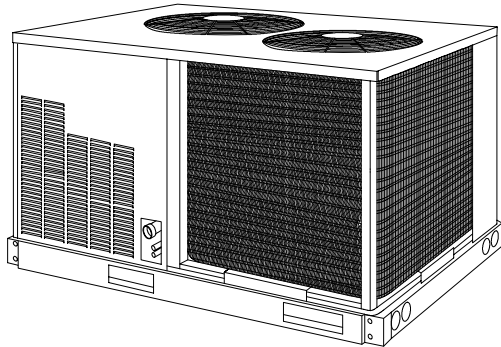


CHE SERIES

10 TON

TEMPSTAR®

Heating and Cooling Products



Representative photo only, some models may vary in appearance.

COMMERCIAL SPLIT SYSTEM HEAT PUMPS

Meets Ashrae 90.1 Standards

FEATURES:

- Single circuit scroll compressor.
- Copper tube–aluminum fin outdoor coil construction.
- Cabinets are constructed of prepainted galvanized steel.
- Safety controls used for system protection include:
 - High Pressure Switch
 - Low Pressure Switch
 - Crankcase Heater
 - Compressor Overload Protection
 - Anti-short cycle protection
- Ground or rooftop installation.
- Top discharge air design.
- Heavy-gage base rail with forklift slots and lifting holes.
- PVC coated steel wire condenser fan guards.
- Compressor mounted on vibration isolators.
- Condenser coil is internally grooved copper tubes with a circuited integral subcooler.
- Liquid line and suction line service valves.
- Low voltage control wire terminal block.
- State of the Art electronic defrost control
- Suction line accumulator
- One (1) year limited warranty on parts and a five (5) year limited warranty on the compressor.



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



9800161
CERTIFIED/CERTIFIED TO
CAN/CSA B140.4

RESIDENTIAL AND COMMERCIAL SYSTEMS • SPLIT SYSTEMS • PACKAGED AIR CONDITIONERS •
COMBINATION GAS / ELECTRIC UNITS • HEAT PUMPS • AIR HANDLERS • MANUFACTURED HOME AIR
CONDITIONERS • GAS, OIL AND ELECTRIC FURNACES

International Comfort Products
650 Heil Quaker Avenue
Lewisburg, Tn. 37091

506 21 1901 03

2/4/04

	UNIT SPECIFICATIONS	
Electrical	CHE120HA	CHE120LA
Volts / Phase / Hertz	208/-230/3/60	460/3/60
Voltage Min - Max	187-253	414-506
Total Unit Amps	37	18.5
Min. Circuit Amp.	45	23
Max. Fuse	60	30
Compressor		
RLA	34.0	17.0
LRA	225.0	114.0
Type	Single Scroll (ZR108)	Single Scroll (ZR108)
Condenser Fan Data		
Quantity	2	2
Volts/Phase/Hertz	208-230/1/60	460/1/60
FLA	1.5	0.7
LRA	3.1	1.9
Blades/Diameter/Pitch	3/22"/	3/22"/
Hp - Rpm - Speeds	1/4-1100-1	1/4-1100-1
Bearing Type	Sleeve	Sleeve
Rotation (Shaft End)	CCW	CCW
Max. CFM	6400	6400
Condenser Coil		
Rows / Fins per Inch	2/17	2/17
Total Face Area-Sq. ft.	29.2	29.2
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	22 lb.	
Line Size Liquid I.D. (in.)	1/2	1/2
Line Size Suction I.D. (in.)	1-3/8	1-3/8
Controls		
High Press. Switch Auto Reset - Open / Close psi	428 (+/-10) / 320 (+/-20)	428 (+/-10) / 320 (+/-20)
Low Press. Switch Auto Reset - Open- Close psi	27 (+/-3) / 44 (+/-5)	27 (+/-3) / 44 (+/-5)
Defrost Sensor - Open- Close psi	28° F	28° F
Contactors Amps. (FLA)	34.0	17.0
Crankcase Heater Type	Band	Band
Misc.		
Shipping Weight (lbs.)	550	550

PERFORMANCE DATA COOLING

Standard Outdoor Unit / Indoor Unit	Rated Net Capacity Btuh*	S/T	EER	Evaporator Rated Airflow
CHE120 / BHC120	105,000	.74	10.1	3000

PERFORMANCE DATA HEATING

Standard Outdoor Unit / Indoor Unit	High Heat Capacity Btuh*	Low Heat Capacity Btuh*	High Heat COP	Low Heat COP
CHE120 / BHC120	100,000	67,000	3.2	2.2

* Net Capacity Ratings based on ARI Test Standards, 95° F Amb. 80° F DB / 67° F WB.

Expanded Performance Data (Cooling) - CHE120 with BHC / HBC120 - (Gross Capacity)

TEMP (F) AIR ENT COND		EVAP AIR - CFM/ BF								
		3000/0.05			4000/0.07			5000/0.08		
		EVAP AIR - EWB (F)								
		62	67	72	62	67	72	62	67	72
80	TCG	106.0	113.0	122.0	111.0	117.0	126.0	116.0	120.0	128.0
	SHG	96.6	80.2	63.1	110.0	92.3	70.4	116.0	103.0	77.4
	CMP	7.61	7.85	8.12	7.79	7.98	8.25	7.95	8.07	8.33
85	TCG	104.0	111.0	120.0	109.0	115.0	124.0	115.0	118.0	126.0
	SHG	95.7	79.4	62.3	109.0	91.4	69.7	115.0	102.0	76.7
	CMP	7.93	8.16	8.44	8.11	8.29	8.56	8.27	8.38	8.64
95	TCG	100.0	107.0	115.0	106.0	111.0	119.0	111.0	114.0	121.0
	SHG	93.8	77.7	60.8	106.0	89.7	68.1	111.0	101.0	75.2
	CMP	8.57	8.79	9.07	8.75	8.92	8.20	8.91	9.01	9.28
100	TCG	98.0	105.0	113.0	104.0	109.0	116.0	109.0	111.0	119.0
	SHG	92.7	76.8	59.9	104.0	88.8	67.3	109.0	99.4	74.3
	CMP	8.93	9.14	9.42	9.11	9.27	9.54	9.27	9.36	9.62
105	TCG	96.0	103.0	110.0	102.0	106.0	114.0	106.0	109.0	116.0
	SHG	91.6	75.9	59.0	102.0	87.8	66.4	106.0	98.4	73.4
	CMP	9.29	9.50	9.77	9.47	9.62	9.88	9.63	9.70	9.96
115	TCG	91.8	97.9	105.0	97.6	101.0	109.0	102.0	104.0	110.0
	SHG	89.3	74.0	57.3	97.6	85.9	64.6	102.0	96.2	71.7
	CMP	10.00	10.20	10.50	10.20	10.30	10.60	10.30	10.40	10.60
125	TCG	87.5	92.9	100.0	93.3	96.0	103.0	97.4	98.3	104.0
	SHG	86.7	72.1	55.3	93.3	83.8	62.8	97.4	93.7	69.8
	CMP	10.80	11.00	11.20	11.00	11.10	11.30	11.10	11.10	11.40

LEGEND

TCG - GROSS COOLING CAPACITY 1000 BTU/HR
 SHG - GROSS SENSIBLE CAPACITY 1000 BTU/HR
 CMP - COMPRESSOR POWER KW

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

Extended Performance Data (Heating) - CHE120 with BHC / HBC120

TEMP (F) AIR ENT COND	COND AIR CFM		AIR TEMP ENTERING OUTDOOR COIL (F)									
			-10	0	10	17	20	30	40	47	50	60
			60	3000	TH	44.8	54.0	63.1	69.5	72.5	82.4	94.3
THI	41.2	49.7			57.7	63.4	65.4	72.2	90.1	103.0	106.0	118.0
CMP	5.29	5.62			5.89	6.08	6.18	6.52	7.02	7.37	7.52	8.03
4000	TH	46.7		55.7	64.9	71.3	74.4	84.6	96.9	105.0	109.0	121.0
	THI	43.0		51.3	59.4	65.0	67.1	74.1	92.5	105.0	109.0	121.0
	CMP	5.20		5.45	5.67	5.82	5.91	6.20	6.67	7.00	7.14	7.60
5000	TH	48.1		56.9	66.2	72.7	75.8	86.1	98.5	107.0	111.0	123.0
	THI	44.3		52.4	60.6	66.3	68.4	75.4	94.1	107.0	111.0	123.0
	CMP	5.13		5.34	5.52	5.65	5.73	6.01	6.46	6.77	6.90	7.35
65	3000	TH	42.0	52.5	61.8	68.4	71.3	81.1	93.0	101.0	105.0	117.0
		THI	39.0	48.3	56.6	62.3	64.4	71.1	88.8	101.0	105.0	117.0
		CMP	5.43	5.86	6.17	6.38	6.48	6.82	7.32	7.66	7.81	8.31
	4000	TH	44.6	54.5	63.8	70.2	73.3	83.4	95.6	104.0	108.0	120.0
		THI	41.0	50.1	58.3	64.0	66.1	73.1	91.4	104.0	108.0	120.0
		CMP	5.37	5.72	5.95	6.12	6.21	6.50	6.96	7.28	7.42	7.87
	5000	TH	46.2	55.9	65.1	71.6	74.7	85.0	97.4	106.0	110.0	122.0
		THI	42.5	51.4	59.6	65.3	67.4	74.5	93.0	106.0	110.0	122.0
		CMP	5.32	5.61	5.81	5.95	6.03	6.30	6.74	7.05	7.18	7.62
70	3000	TH	39.7	50.5	60.2	67.0	69.9	79.7	91.4	99.6	103.0	115.0
		THI	36.5	46.4	55.0	61.0	63.1	69.8	87.4	99.6	103.0	115.0
		CMP	5.53	6.07	6.43	6.68	6.78	7.13	7.62	7.96	8.10	8.59
	4000	TH	41.9	52.7	62.3	69.1	72.1	82.1	94.2	103.0	106.0	119.0
		THI	38.6	48.5	57.0	63.0	65.0	71.9	90.0	103.0	106.0	119.0
		CMP	5.49	5.95	6.23	6.43	6.51	6.81	7.26	7.57	7.71	8.16
	5000	TH	43.5	54.2	63.8	70.6	73.6	83.7	96.0	105.0	108.0	121.0
		THI	40.1	49.9	58.4	64.3	66.4	73.4	91.7	105.0	108.0	121.0
		CMP	5.46	5.86	6.10	6.26	6.34	6.60	7.03	7.33	7.46	7.88
75	3000	TH	36.4	48.0	58.2	65.4	68.3	78.1	89.7	97.8	101.0	113.0
		THI	33.4	44.2	53.2	59.6	61.6	68.4	85.7	97.8	101.0	113.0
		CMP	5.58	6.23	6.66	6.97	7.08	7.44	7.93	8.27	8.41	8.90
	4000	TH	38.6	50.3	60.5	67.6	70.6	80.7	92.7	101.0	105.0	117.0
		THI	35.5	46.3	55.3	61.6	63.7	70.7	88.6	101.0	105.0	117.0
		CMP	5.56	6.14	6.49	6.73	6.82	7.13	7.56	7.86	7.99	8.42
	5000	TH	40.3	51.9	62.0	69.1	72.2	82.4	94.6	103.0	107.0	119.0
		THI	37.0	47.8	56.7	63.0	65.1	72.2	90.4	103.0	107.0	119.0
		CMP	5.54	6.07	6.36	6.57	6.65	6.92	7.33	7.61	7.74	8.15

LEGEND

TH - TOTAL HEATING CAPACITY KW
 THI - INTEGRATED HEATING CAP KW
 CMP - COMPRESSOR POWER KW

MODEL NUMBER IDENTIFICATION GUIDE

MODEL NUMBER	C	H	E	120	H	A	SALES CODE			
PRODUCT FAMILY							ELECTRICAL			
C = Condensor							CODE	VOLTS	PHASE	CYCLE
PRODUCT TYPE							H	208/230	3	60
H = Heat Pump							L	460	3	60
SERIES							CAPACITY BTUH 120 = 120,000			
E = Ashrae Compliant Series										

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.

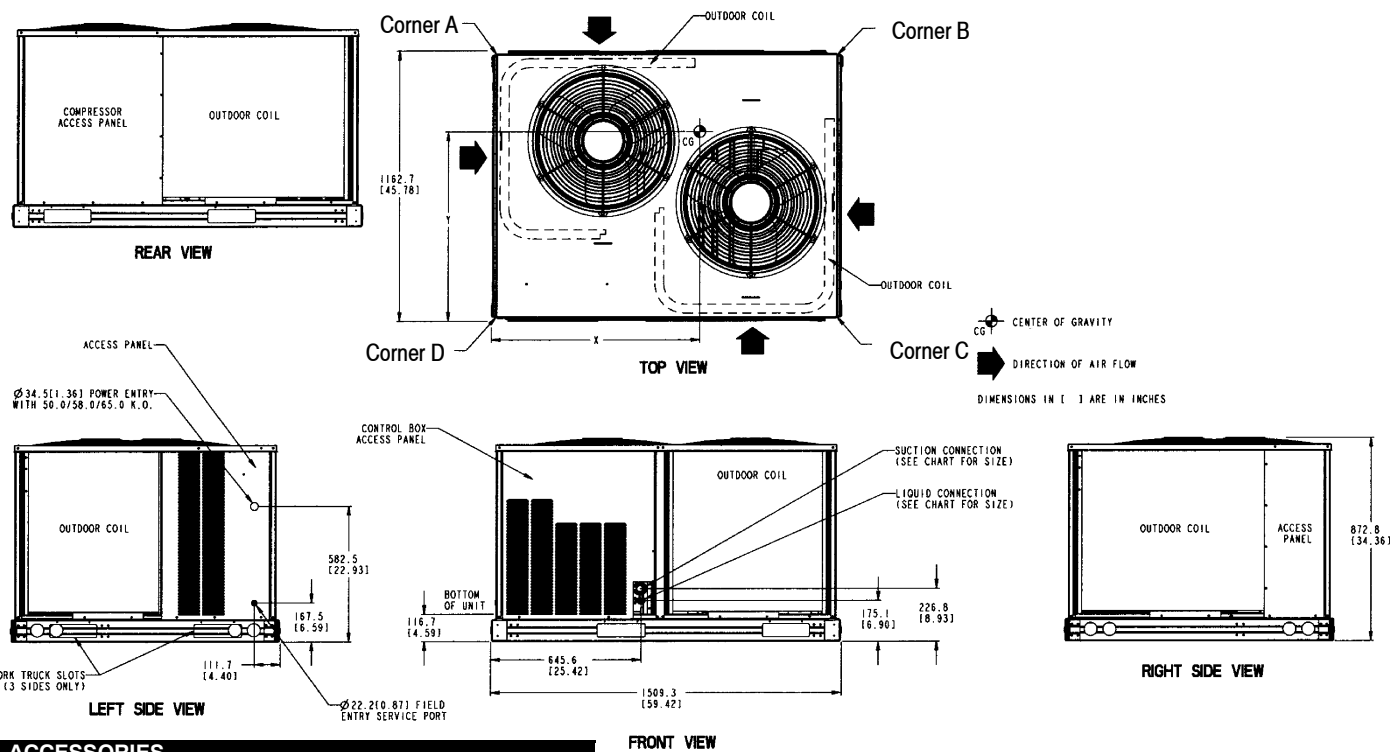
LEGEND

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

DIMENSIONS & WEIGHT

Weights					
Unit	Weight	Corner A	Corner B	Corner C	Corner D
CHE120	506	120	168	127	91

CENTER OF GRAVITY	
X	Y
35"	26-1/4"



ACCESSORIES

DESCRIPTION	Model Number	Used On
Low Ambient Control	AXB175LAA	208/230 Volt
	AXB275LAA	460 Volt
Hail Guard	AXB070HGA	ALL
Coil Guard	AXB070CGA	ALL