

50LC WeatherExpert™ Series
Ultra High Efficient
Single Package Rooftop and Single Zone VAV
Cooling Only with Optional Electric Heat
Sizes 07 – 12 with Puron® (R-410A) Refrigerant
6 – 10 Ton



Product Data



WeatherExpert™



C13052

PERFORMANCE, INNOVATION, RELIABILITY

TABLE OF CONTENTS

	PAGE		PAGE
UNIT FEATURES	3	APPLICATION DATA	25
MODEL NUMBER NOMENCLATURE	4	COOLING CAPACITY TABLES	26
FACTORY OPTIONS AND/OR ACCESSORIES	5	STATIC PRESSURE ADDERS	42
AHRI COOLING RATING TABLES	8	ECONO, BARO RELIEF & PE PERFORMANCE ...	43
HEATING RATING TABLES	8	FAN PERFORMANCE	45
PHYSICAL DATA	9	ELECTRICAL INFORMATION	50
ELECTRIC HEAT DATA	11	WIRING DIAGRAMS	60
UNIT: DIMENSIONS, WEIGHTS & CURBS	15	SEQUENCE OF OPERATION	64
OPTIONS AND ACCESSORY WEIGHTS	24	GUIDE SPECIFICATIONS	67



50LC

Carrier’s new Electric Heat / Electric Cooling WeatherExpert™ 6 to 10 ton Commercial Package Rooftop models are designed to provide total low cost of ownership by providing some of the highest cooling efficiencies in the industry with low installed costs, low maintenance costs, and high reliability. These models focus on providing high IEER’s (Integrated Energy Efficiency Ratios) which are a measurement of cooling part load performance and where actual buildings operate nearly all of the time. These high part load values are achieved by using Carrier’s Comfort Control Logic that strategically sequences compressor stages, indoor fan motor and condenser fan motor speeds. These models are in addition to the 3 to 5 ton models with SEERs up to 17.5 and 12.5 to 23 ton models with IEERs up to 19.3 to provide a full range offering.

Ultra high efficiency:

With IEER’s up to 21.0, these new WeatherExpert models will exceed the latest efficiency standards for ASHRAE 90.1, Energy Star, and exceeds Consortium for Energy Efficiency (CEE) Tier 2 criteria. These models help to contribute in LEED credits and help qualify for rebates. The high IEER efficiencies are achieved by utilizing a proven staged compressor design on a single refrigerant circuit that provides three stages of cooling capacity control. The indoor fan motors are high efficiency belt drive and controlled by a VFD (Variable Frequency Drive) that matches the cooling capacity stages for optimum comfort and efficient control. Models also have multi heat capacities for each size.

Easy to install:

All WeatherExpert units have full perimeter base rails with built in rigging capability, plus are fully factory tested, refrigerant charged and assembled at the factory for easy installation. Units are easily field-convertible to horizontal air flow, which makes it easy to adjust to unexpected job-site complications. Many factory options and field installed accessories are also available that are pre-engineered and tested.

Easy to maintain:

Easy access door handles by Carrier provide quick access to all normally serviced components. Our “no-strip” screw system has superior holding power and guides screws into position while preventing the screw from stripping the unit’s metal. Units come with accessible 2 inch filter that have a dedicate access door for easy replacement. Optional hinged panels allow easy access with pull tabs and quarter turn latches.

Reliable:

Carrier conducts rigorous testing to insure your unit will perform as designed. Extensive rain testing is conducted in special designed test areas and under conditions that simulate actual job sites. In addition, units are both shake tested and driven around the country to make sure not only the packaging holds up, but the unit components within. Condensate pans are made of non corrosive – composite material, motors are permanently lubricated and compressors use crankcase heaters, all to further strengthen the units reliability.



UNIT FEATURES

- Three stage cooling capacity control with staged scroll compressors design. Each cooling stage is different in capacity output to better match typical building load profiles.
- Single refrigerant circuit design with precision sized TXV refrigerant metering devices to provide optimum operation through the entire operating range.
- Single full faced evaporator coil for full surface utilization, even at part load operation.
- Crankcase heater on each compressor designed to cycle off during the on cycle.
- IEER up to 21.0 and EER's up to 13.7.
- High efficient permanently lubricated belt driven evaporator-fan motor with VFD (Variable Frequency Drive) controller.
- Electro-Mechanical Control board that provides:
 - Thermostat controls
 - Compressor staging
 - Indoor fan motor staging
 - Field and factory wiring connections
 - Outdoor fan motor staging
 - Crank case heater control
- Sound levels as low as 87 dB.
- Exclusive non-corrosive composite condensate pan in accordance with ASHRAE 62 Standard, sloping design; side or bottom drain.
- Single point electrical connections.
- Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection.
- Fully insulated with foil faced insulation throughout the entire airstream of the cabinet.
- High ambient cooling operation and ratings up to 125°F (52°C).
- Low ambient mechanical cooling operation down to 40°F (4°C). An economizer shall be the source of cooling in low ambient conditions. When the outside air temperature is below 40°F, to improve system reliability, reduce energy usage, and improve system efficiency: mechanical cooling shall not be utilized.
- Access panels with easy grip handles.
- Innovative , easy starting, no-strip screw feature on unit access panels.
- Two-inch disposable return air filters.
- Tool-less filter access door.
- Field convertible airflow capability on all models. On 07 size, switch panels within the units. On 08-12 sizes, a simple field installed supply duct kit is required.
- Provisions for thru-the-bottom power entry capability as standard.
- Full perimeter base rail with built-in rigging adapters and fork truck slots.
- 24-volt control circuit protected with resettable circuit breaker.
- Totally enclosed high efficient ECM outdoor fan motor with permanently lubricated bearings.
- Low Pressure switch and high-pressure switch protection.
- High capacity liquid line filter drier.
- Factory-Installed Humidi-MiZer[®] Adaptive Dehumidification System on all sizes.
- Standard Limited Parts Warranty: 5 yr. Electric heaters, 5 yr. compressor, 1 yr. parts.

MODEL NUMBER NOMENCLATURE

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
5	0	L	C	D	0	1	2	A	2	A	5	-	0	A	0	A	0

Unit Type

50 = Electric Cooling
Packaged Rooftop

Model Series – WeatherExpert™

LC = Ultra High Efficiency

Heat Size

D = Low Electric Heat
E = Medium Electric Heat
F = High Electric Heat

Refrig. System Options

0 = Three stage cooling capacity with TXV
A = Three stage cooling capacity with TXV
and Humidi-MiZer®

Nominal Cooling Tons

07 = 6 Ton
08 = 7.5 Ton
09 = 8.5 Ton
12 = 10 Ton

Sensor Options

A = None
B = RA smoke detector
C = SA smoke detector
D = RA & SA smoke detector
E = CO₂ sensor
F = RA smoke detector & CO₂
G = SA smoke detector & CO₂
H = RA & SA smoke detector & CO₂

Indoor Fan Options

1 = Standard Static Belt Drive with VFD Controller
2 = Medium Static Belt Drive with VFD Controller
3 = High Static Belt Drive with VFD Controller
4 = Ultra High Static Belt Drive with VFD Controller (08, 09 only)

Brand / Packaging

0 = Standard
1 = LTL

Electrical Options

A = None
B = HACR breaker
C = Non-fused disconnect
D = Thru the base connections
E = HACR breaker & thru the base
F = Non-fused & thru the base

Service Options

0 = None
1 = Unpowered convenience outlet
2 = Powered convenience outlet
3 = Hinged panels
4 = Hinged panels, unpwr'd conv outlet
5 = Hinged panels, pwr'd conv outlet

Air Intake / Exhaust Options

A = None
N = Temp ultra low leak econo w/ baro relief
R = Enthalpy ultra low leak econo w/ baro relief

Base Unit Controls

0 = Electro-Mechanical Control
1 = RTU Open Multi-Protocol Controller

Design Rev

- Factory design revision

Voltage

1 = 575/3/60
5 = 208-230/3/60
6 = 460/3/60

Coil Options (Outdoor-Indoor-Hailguard)

A = Al/Cu - Al/Cu
B = Precoat Al/Cu - Al/Cu
C = E coat Al/Cu - Al/Cu
D = E coat Al/Cu - E coat Al/Cu
E = Cu/Cu - Al/Cu
F = Cu/Cu - Cu/Cu
M = Al/Cu - Al/Cu - Louvered Hail Guard
N = Precoat Al/Cu - Al/Cu - Louvered Hail Guard
P = E-coat Al/Cu - Al/Cu - Louvered Hail Guard
Q = E-coat Al/Cu - E-coat Al/Cu - Louvered Hail Guard
R = Cu/Cu - Al/Cu - Louvered Hail Guard
S = Cu/Cu - Cu/Cu - Louvered Hail Guard

Table 1 – FACTORY-INSTALLED OPTIONS AND FIELD-INSTALLED ACCESSORIES

CATEGORY	ITEM	FACTORY INSTALLED OPTION	FIELD INSTALLED ACCESSORY
Cabinet	Thru – the – base electrical connections	X	X
	Hinged access panels	X	
Coil Options	Cu/Cu indoor and/or outdoor coils	X	
	Pre – coated outdoor coils	X	
	Premium, E – coated outdoor coils	X	
Condenser Protection	Condenser coil hail guard (louvered design)	X	X
Humidity Control	Humidi – MiZer [®] Adaptive Dehumidification System	X	
Controls	Thermostats, temperature sensors, and subbases		X
	Smoke detector (supply and/or return air)	X	
	Time Guard II compressor delay control circuit		X
	Phase Monitor		X
Economizers & Outdoor Air Dampers	Ultra Low Leak EconoMi\$er X ¹ .	X	X
	Barometric relief ² .	X	X
	Power exhaust		X
Economizer Sensors & IAQ Devices	Single dry bulb temperature sensors ³ .	X	X
	Differential dry bulb temperature sensors ³ .		X
	Single enthalpy sensors ³ .	X	X
	Differential enthalpy sensors ³ .		X
	CO ₂ sensor (wall, duct, or unit mounted) ³ .	X	X
Electric Heat	Electric Resistance Heaters	X	X
	Single Point Kit	X	X
Indoor Motor & Drive	Multiple motor and drive packages	X	
Power Options	Convenience outlet (powered)	X	
	Convenience outlet (unpowered)	X	
	HACR Circuit Breaker ⁴ , ⁶ .	X	
	Non – fused disconnect ⁵ .	X	
Roof Curbs	Roof curb 14 – in (356mm)		X
	Roof curb 24 – in (610mm)		X

NOTES:

- EconoMi\$er X is currently only available on vertical air flow configuration models.
- Included with economizer.
- Sensors used to optimize economizer performance.
- On 575V applications, HACR breaker can only be used with WYE power distribution systems. Using on Delta power distribution systems is prohibited.
- On 208/230 – 460 units with FIOP Non – Fused Disconnect, and Single Point Box accessory may be required. Refer to Electric Heat – Electrical Data Table for more information.
- When selecting a factory installed HACR breaker or non – fused disconnect, note they are sized for the unit as ordered from the factory. The sizing of these do not accommodate any field items such as power exhaust devices etc.

FACTORY OPTIONS AND/OR ACCESSORIES

Economizer (dry-bulb or enthalpy)

Economizers save money. They bring in fresh, outside air for ventilation; and provide cool, outside air to cool your building. This is the preferred method of low-ambient cooling. When coupled to CO₂ sensors, Economizers can provide even more savings by coupling the ventilation air to only that amount required.

Economizers are available, installed and tested by the factory, with either enthalpy or dry-bulb temperature inputs. Additional sensors are available as accessories to optimize the economizers.

Economizers include gravity controlled, barometric relief equalizes building pressure and ambient air pressures. This can be a cost effective solution to prevent building pressurization.

CO₂ Sensor

Improves productivity and saves money by working with the economizer to intake only the correct amount of outside air for ventilation. As occupants fill your building, the CO₂ sensor detects their presence through increasing CO₂ levels, and opens the economizer appropriately.

When the occupants leave, the CO₂ levels decrease, and the sensor appropriately closes the economizer. This intelligent control of the ventilation air, called Demand Control Ventilation (DCV) reduces the overall load on the rooftop, saving money.

Smoke Detectors

Trust the experts. Smoke detectors make your application safer and your job easier. Carrier smoke detectors immediately shut down the rooftop unit when smoke is detected. They are available, installed by the factory, for supply air, return air, or both.

Louvered Hail Guards

Sleek, louvered panels protect the condenser coil from hail damage, foreign objects, and incidental contact.

Convenience Outlet (powered or un-powered)

Reduce service and/or installation costs by including a convenience outlet in your specification. Carrier will install this service feature at our factory. Provides a convenient, 15 amp, 115v GFCI receptacle with "Wet in Use" cover. The "powered" option allows the installer to power the outlet from the line side of the disconnect or load side as required by code. The "unpowered" option is to be powered from a separate 115/120v power source.

Non-fused Disconnect

This OSHA-compliant, factory-installed, safety switch allows a service technician to locally secure power to the rooftop. When selecting a factory installed Non-fused disconnect, note they are sized for the unit as ordered from the factory. The sizing of these do not accommodate any field items such as power exhaust devices etc.

Power Exhaust

Superior internal building pressure control. This field-installed accessory may eliminate the need for costly, external pressure control fans.

Time Guard II Control Circuit

This accessory protects your compressor by preventing short-cycling in the event of some other failure, prevents the compressor from restarting for 30 seconds after stopping. Not required if built into thermostat or building management system..

Hinged Access Panels

Allows access to unit's major components with specifically designed hinged access panels. Panels are: filter, control box, fan motor and compressor. Comes with quarter turn latches and lift tabs.

Alternate Motors and Drives

Some applications need larger horsepower motors, some need more airflow, and some need both. Regardless of the case, your Carrier expert has a factory installed combination to meet your application. A wide selection of motors and pulleys (drives) are available, factory installed, to handle nearly any application.

Thru-the-Base Connections

Thru-the-base connections, available as either an accessory or as a factory option, are necessary to ensure proper connection and seal when routing wire and piping through the rooftop's basepan and curb. These couplings eliminate roof penetration and should be considered for gas lines, main power lines, as well as control power.

Electric Heaters

Carrier offers a full-line of field-installed accessory heaters. The heaters are very easy to use, install and are all pre-engineered and certified.

HACR Breaker

These manual reset devices provide overload and short circuit protection for the unit. Factory wired and mounted with the units with access cover to help provide environment protection.

When selecting a factory installed Non-fused disconnect, note they are sized for the unit as ordered from the factory. The sizing of these do not accommodate any field items such as power exhaust devices etc.

On 575V applications, HACR breaker can only be used with WYE power distribution systems. Use on Delta power distribution systems is prohibited.

Thermostat

Due to the three stage cooling capacity design of these units, a three stage cooling thermostat is required for the unit to perform at listed operating efficiencies.

Carrier offers a Honeywell branded T7350D (3 Cool/3 Heat) Commercial Programmable Thermostat.

This provides:

- 7-day programmable
- 365-day clock with holiday programming
- Automatic Daylight Saving Time adjustment
- Backlit display
- Changeover selections: automatic or manual
- Fan configurable: continuous or intermittent during occupied

FACTORY OPTIONS AND/OR ACCESSORIES (cont.)

Optional Humidi-MiZer[®] Adaptive Dehumidification System

Carrier's Humidi-MiZer adaptive dehumidification system is an all-inclusive factory installed option that can be ordered with any 50LC WeatherExpert™ rooftop unit.

This system expands the envelope of operation of Carrier's WeatherExpert rooftop products to provide unprecedented flexibility to meet year round comfort conditions.

The Humidi-MiZer adaptive dehumidification system has the industry's only dual dehumidification mode setting. The Humidi-MiZer system includes two new modes of operation.

The 50LC WeatherExpert rooftop coupled with the Humidi-MiZer system is capable of operating in normal design cooling mode, subcooling mode, and hot gas reheat mode. Normal design cooling mode is when the unit will operate under its normal sequence of operation by cycling compressors to maintain comfort conditions.

Subcooling mode will operate to satisfy part load type conditions when the space requires combined sensible and a higher proportion of latent load control. Hot Gas Reheat mode will operate when outdoor temperatures diminish and the need for latent capacity is required for sole humidity control. Hot Gas Reheat mode will provide neutral air for maximum dehumidification operation.

Table 2 – AHRI COOLING RATING TABLE

208V

50LC	COOLING STAGES	NOM. CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	EER	IEER
07	3	6	70.0	5.3	13.1	20.7
08	3	7.5	89.0	6.8	13.1	19.9
09	3	8.5	102.0	7.4	13.7	21.0
12	3	10	116.0	8.9	13.1	20.5

Table 3 – AHRI COOLING RATING TABLE

230/460/575V

50LC	COOLING STAGES	NOM. CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	EER	IEER
07	3	6	70.0	5.3	13.1	20.5
08	3	7.5	89.0	6.8	13.0	19.4
09	3	8.5	102.0	7.6	13.4	19.9
12	3	10	116.0	8.9	13.1	20.8

LEGEND

- AHRI – Air Conditioning, Heating and Refrigeration Institute Test Standard
- ASHRAE – American Society of Heating, Refrigerating and Air Conditioning, Inc.
- EER – Energy Efficiency Ratio
- IEER – Integrated Energy Efficiency

NOTES:

1. Rated in accordance with AHRI Standards.
2. Ratings are based on:
Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temp and 95°F (35°C) db outdoor air temp.
3. All 50LC units comply with ASHRAE 90.1 Energy Star Standard for minimum IEER and EER requirements.
4. 50LC units comply with US Energy Policy Act. To evaluate code compliance requirements, refer to state and local codes.

Table 4 – COOLING MINIMUM - MAXIMUM OPERATION CFM TABLE

LC SIZE	COOLING STAGE	MAX CFM	MIN CFM	MAX OD TEMP	MIN OD TEMP
07	Stage-3	3000	1500	125°	40°
	Stage-2	2000	1000		
	Stage-1	2000	1000		
08	Stage-3	3750	1900	125°	40°
	Stage-2	2500	1250		
	Stage-1	2500	1250		
09	Stage-3	4250	2150	125°	40°
	Stage-2	2800	1400		
	Stage-1	2800	1400		
12	Stage-3	5000	2500	125°	40°
	Stage-2	3000	1500		
	Stage-1	2000	1000		

Table 5 – HEATING MINIMUM / MAXIMUM CFM TABLE

UNIT	Min Air Flow (cfm)	Max Air Flow (cfm)
50LC*07	1,800	3,000
50LC*08	2,250	3,750
50LC*09	2,550	4,250
50LC*12	3,000	5,000

Table 6 – SOUND PERFORMANCE TABLE

50LC	COOLING STAGES	OUTDOOR SOUND (dB) AT 60								
		A-WEIGHTED	63	125	250	500	1000	2000	4000	8000
07	3	87	85.9	87.9	85.6	84.4	82.8	78.5	74.9	72.5
08	3	87	87.0	85.2	84.6	84.9	82.2	78.4	75.3	72.9
09	3	87	87.0	85.2	84.6	84.9	82.2	78.4	75.3	72.9
12	3	87	87.0	85.2	84.6	84.9	82.2	78.4	75.3	72.9

LEGEND

dB – Decibel

NOTES:

1. Outdoor sound data is measure in accordance with AHRI.
2. Measurements are expressed in terms of sound power. Do not compare these values to sound pressure values because sound pressure depends on specific environmental factors which normally do not match individual applications. Sound

power values are independent of the environment and therefore more accurate.

3. A-weighted sound ratings filter out very high and very low frequencies, to better approximate the response of “average” human ear. A-weighted measurements for Carrier units are taken in accordance with AHRI.

Table 7 – PHYSICAL DATA

(COOLING)

6-10 TONS

		50LC*07	50LC*08	50LC*09	50LC*12	
Refrigeration System						
	# Circuits / # Comp. / Type	1/2/Scroll	1/2/Scroll	1/2/Scroll	1/2/Scroll	
	RTPF Models R-410a charge (lbs – oz)	15 – 8	22 – 5	25 – 11	24 – 15	
	Alternate (Humidimizer) R-410a charge (lbs – oz)	23 – 5	27 – 6	34 – 0	31 – 8	
	Metering device	TXV	TXV	TXV	TXV	
	High – press. Trip / Reset (psig)	630 / 505	630 / 505	630 / 505	630 / 505	
	Low – press. Trip / Reset (psig)	N/A	N/A	54/117	54/117	
	Loss of charge Trip / Reset (psig)	27 / 44	27 / 44	N/A	N/A	
Evaporator Coil						
	Material	Cu / Al	Cu / Al	Cu / Al	Cu / Al	
	Coil type	5/16" RTPF	5/16" RTPF	5/16" RTPF	5/16" RTPF	
	Coil Length (in)	40	52.5	52.5	52.5	
	Coil Height (in)	40	48	48	48	
	Rows / FPI	4 / 15	4 / 15	4 / 15	4 / 15	
	Total Face Area (ft ²)	11.1	17.5	17.5	17.5	
	Condensate Drain Conn. Size	3/4"	3/4"	3/4"	3/4"	
Humidi-MiZer Coil						
	Material	Cu / Al	Cu / Al	Cu / Al	Cu / Al	
	Coil type	5/16" RTPF	5/16" RTPF	5/16" RTPF	5/16" RTPF	
	Coil Length (in)	38	49.5	49.5	49.5	
	Coil Height (in)	32	40	40	40	
	Rows / FPI	2 / 18	1 / 18	1 / 18	1 / 18	
	Total Face Area (ft ²)	8.4	13.8	13.8	13.8	
Evaporator Fan and Motor						
	Standard Static	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt
		Max BHP	1.7	1.7	1.7	2.4
		RPM range	356 – 534	338 – 507	338 – 507	375 – 563
		Motor Frame Size	56	56	56	56Z
		Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
		Fan Diameter (in)	15.5 x 15	18.5 x 18	18.5 x 18	18.5 X 18
		Medium Static	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt
	Max BHP		1.7	1.7	1.7	2.9
	RPM range		539 – 809	488 – 675	488 – 675	547 – 757
	Motor Frame Size		56	56	56	56
	Fan Qty / Type		1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)		15.5 x 15	18.5 x 18	18.5 x 18	18.5 X 18
	High Static		Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt
		Max BHP	2.9	2.9	3.7	4.9
		RPM range	799 – 1054	623 – 863	675 – 863	760 – 960
		Motor Frame Size	56	56	56HZ	145TZ
		Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
		Fan Diameter (in)	15.5 x 15	18.5 x 18	18.5 x 18	18.5 X 18
		Ultra High Static	Motor Qty / Drive type	N/A	1 / Belt	1 / Belt
	Max BHP (208/230/460/575v)		N/A	3.7	4.9	N/A
	RPM range		N/A	847 – 1150	832 – 1021	N/A
	Motor Frame Size		N/A	56HZ	145TZ	N/A
	Fan Qty / Type		N/A	1 / Centrifugal	1 / Centrifugal	N/A
	Fan Diameter (in)		N/A	18.5 x 18	18.5 x 18	N/A

Table 7 – PHYSICAL DATA (cont.)

(COOLING)

6-10 TONS

	50LC*07	50LC*08	50LC*09	50LC*12
Condenser Coil 1				
Material	Cu / Al	Cu / Al	Cu / Al	Cu / Al
Coil type	5/16" RTPF	5/16" RTPF	5/16" RTPF	5/16" RTPF
Rows / FPI	2 / 18	2 / 18	2/18	2/18
Total Face Area (ft2)	25.1	36.1	23.1	23.1
Condenser Coil 2				
Material			Cu / Al	Cu / Al
Coil type			5/16" RTPF	5/16" RTPF
Rows / FPI			2/18	2/18
Total Face Area (ft2)			23.1	23.1
Condenser fan / motor				
Qty / Motor drive type	2 / direct	3 / direct	3 / direct	3 / direct
Motor HP / RPM	1/3 / 1000	1/3 / 1000	1/3 / 1000	1/3 / 1000
Fan diameter (in)	22	22	22	22
Filters				
RA Filter # / size (in)	4/ 19 5/8 x 19 5/8 x 2	6/ 18 x 24 x 2	6 / 18 x 24 x 2	6 / 18 x 24 x 2
OA inlet screen # / size (in)	V 2 / 24 x 27 x 1 H 1 / 30 x 39 x1	V 2 / 24 x 27 x 1 H 1 / 30 x 39 x1	V 2 / 24 x 27 x 1H 1 / 30 x 39 x2	V 2 / 24 x 27 x 1 H 1 / 30 x 39 x2

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXA00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/ P.E. (pwrd fr/unit)	NO P.E.	w/ P.E. (pwrd fr/unit)
208/ 230-3-60	STD	316A00	6.5	4.9/6.0	047	047	047	047
		317A00	16.0	12.0/14.7	047	047	049	049
		318A00	24.8	18.6/22.8	049	049	049	049
	MED	316A00	6.5	4.9/6.0	047	047	047	047
		317A00	16.0	12.0/14.7	047	047	049	049
		318A00	24.8	18.6/22.8	049	049	049	049
	HIGH	316A00	6.5	4.9/6.0	047	047	047	047
		317A00	16.0	12.0/14.7	047	049	049	049
		318A00	24.8	18.6/22.8	049	049	049	049
460-3-60	STD	319A00	6.0	5.5	047	047	047	047
		320A00	14.0	12.9	047	047	047	047
		321A00	25.5	23.4	047	047	047	047
	MED	319A00	6.0	5.5	047	047	047	047
		320A00	14.0	12.9	047	047	047	047
		321A00	25.5	23.4	047	047	047	047
	HIGH	319A00	6.0	5.5	047	047	047	047
		320A00	14.0	12.9	047	047	047	047
		321A00	25.5	23.4	047	047	047	047
575-3-60	STD	308A00	18.0	16.5	047	047	047	047
		322A00	28.0	25.7	047	047	047	047
	MED	308A00	18.0	16.5	047	047	047	047
		322A00	28.0	25.7	047	047	047	047
	HIGH	308A00	18.0	16.5	047	047	047	047
		322A00	28.0	25.7	047	047	047	047

LEGEND

- APP PWR – 208 / 230V / 460V / 575V
- C.O. – Convenient outlet
- IFM – Indoor fan motor
- NOM PWR – 240V / 480V / 600V
- P.E. – Power exhaust
- PWRD – Powered convenient outlet
- UNPWRD – Unpowered convenient outlet

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXA00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/ P.E. (pwrd fr/unit)	NO P.E.	w/ P.E. (pwrd fr/unit)
208/ 230-3-60	STD	288A00	10.0	7.5/9.2	-	-	-	-
		291A00	16.5	12.4/15.2	-	049	049	049
		294A00	33.5	25.2/30.8	049	049	049	049
	MED	288A00	10.0	7.5/9.2	-	-	-	-
		291A00	16.5	12.4/15.2	-	049	049	049
		294A00	33.5	25.2/30.8	049	049	049	049
	HIGH	288A00	10.0	7.5/9.2	-	-	-	-
		291A00	16.5	12.4/15.2	-	049	049	049
		294A00	33.5	25.2/30.8	049	049	049	049
	ULTRA HIGH	288A00	10.0	7.5/9.2	-	-	-	-
		291A00	16.5	12.4/15.2	049	049	049	049
		294A00	33.5	25.2/30.8	049	049	049	049
460-3-60	STD	289A00	10.0	9.2	-	-	-	-
		292A00	16.5	15.2	-	-	-	-
		295A00	33.5	30.8	047	047	047	047
	MED	289A00	10.0	9.2	-	-	-	-
		292A00	16.5	15.2	-	-	-	-
		295A00	33.5	30.8	047	047	047	047
	HIGH	289A00	10.0	9.2	-	-	-	-
		292A00	16.5	15.2	-	-	-	-
		295A00	33.5	30.8	047	047	047	050
	ULTRA HIGH	289A00	10.0	9.2	-	-	-	-
		292A00	16.5	15.2	-	-	-	-
		295A00	33.5	30.8	047	047	047	050
575-3-60	STD	293A00	16.5	15.2	-	-	-	-
		296A00	33.5	30.8	047	047	047	047
	MED	293A00	16.5	15.2	-	-	-	-
		296A00	33.5	30.8	047	047	047	047
	HIGH	293A00	16.5	15.2	-	-	-	-
		296A00	33.5	30.8	047	047	047	047
	ULTRA HIGH	293A00	16.5	15.2	-	-	-	-
		296A00	33.5	30.8	047	047	047	047

LEGEND

- APP PWR – 208 / 230V / 460V / 575V
- C.O. – Convenient outlet
- IFM – Indoor fan motor
- NOM PWR – 240V / 480V / 600V
- P.E. – Power exhaust
- PWRD – Powered convenient outlet
- UNPWRD – Unpowered convenient outlet

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXA00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/ P.E. (pwrd fr/unit)	NO P.E.	w/ P.E. (pwrd fr/unit)
208/ 230-3-60	STD	288A00	10.0	7.5/9.2	-	-	-	-
		291A00	16.5	12.4/15.2	-	049	049	049
		294A00	33.5	25.2/30.8	049	049	049	049
	MED	288A00	10.0	7.5/9.2	-	-	-	-
		291A00	16.5	12.4/15.2	-	049	049	049
		294A00	33.5	25.2/30.8	049	049	049	049
	HIGH	288A00	10.0	7.5/9.2	-	-	-	049
		291A00	16.5	12.4/15.2	049	049	049	049
		294A00	33.5	25.2/30.8	049	049	049	049
	ULTRA HIGH	288A00	10.0	7.5/9.2	-	-	049	049
		291A00	16.5	12.4/15.2	049	049	049	049
		294A00	33.5	25.2/30.8	049	049	049	049
460-3-60	STD	289A00	10.0	9.2	-	-	-	-
		292A00	16.5	15.2	-	-	-	-
		295A00	33.5	30.8	047	047	047	047
	MED	289A00	10.0	9.2	-	-	-	-
		292A00	16.5	15.2	-	-	-	-
		295A00	33.5	30.8	047	047	047	047
	HIGH	289A00	10.0	9.2	-	-	-	-
		292A00	16.5	15.2	-	-	-	-
		295A00	33.5	30.8	047	047	047	050
	ULTRA HIGH	289A00	10.0	9.2	-	-	-	-
		292A00	16.5	15.2	-	-	-	-
		295A00	33.5	30.8	047	050	050	050
575-3-60	STD	293A00	16.5	15.2	-	-	-	-
		296A00	33.5	30.8	047	047	047	047
	MED	293A00	16.5	15.2	-	-	-	-
		296A00	33.5	30.8	047	047	047	047
	HIGH	293A00	16.5	15.2	-	-	-	-
		296A00	33.5	30.8	047	047	047	047
	ULTRA HIGH	293A00	16.5	15.2	-	-	-	-
		296A00	33.5	30.8	047	047	047	047

LEGEND

- APP PWR – 208 / 230V / 460V / 575V
- C.O. – Convenient outlet
- IFM – Indoor fan motor
- NOM PWR – 240V / 480V / 600V
- P.E. – Power exhaust
- PWRD – Powered convenient outlet
- UNPWRD – Unpowered convenient outlet

Table 11 – ELECTRIC HEAT - ELECTRICAL DATA

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXA00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/ P.E. (pwrd fr/unit)	NO P.E.	w/ P.E. (pwrd fr/unit)
208/ 230-3-60	STD	288A00	10.0	7.5/9.2	-	-	-	049
		291A00	16.5	12.4/15.2	-	049	049	049
		294A00	33.5	25.2/30.8	049	049	049	049
		291A00,294A00	50.0	37.6/45.9	051	051	051	051
	MED	288A00	10.0	7.5/9.2	-	049	049	049
		291A00	16.5	12.4/15.2	-	049	049	049
		294A00	33.5	25.2/30.8	049	049	049	049
		291A00,294A00	50.0	37.6/45.9	051	051	051	051
	HIGH	288A00	10.0	7.5/9.2	049	049	049	049
		291A00	16.5	12.4/15.2	049	049	049	049
		294A00	33.5	25.2/30.8	049	049	049	049
		291A00,294A00	50.0	37.6/45.9	051	051	051	051
460-3-60	STD	289A00	10.0	9.2	-	-	-	-
		292A00	16.5	15.2	-	-	-	-
		295A00	33.5	30.8	047	047	047	050
		292A00,295A00	50.0	45.9	050	050	050	050
	MED	289A00	10.0	9.2	-	-	-	-
		292A00	16.5	15.2	-	-	-	-
		295A00	33.5	30.8	047	047	047	050
		292A00,295A00	50.0	45.9	050	050	050	050
	HIGH	289A00	10.0	9.2	-	-	-	-
		292A00	16.5	15.2	-	-	-	-
		295A00	33.5	30.8	047	050	050	050
		292A00,295A00	50.0	45.9	050	050	050	050
575-3-60	STD	293A00	16.5	15.2	-	-	-	-
		296A00	33.5	30.8	047	047	047	047
		293A00,296A00	50.0	45.9	047	047	047	047
	MED	293A00	16.5	15.2	-	-	-	-
		296A00	33.5	30.8	047	047	047	047
		293A00,296A00	50.0	45.9	047	047	047	050
	HIGH	293A00	16.5	15.2	-	-	-	-
		296A00	33.5	30.8	047	047	047	047
		293A00,296A00	50.0	45.9	047	050	047	050

LEGEND

- APP PWR – 208 / 230V / 460V / 575V
- C.O. – Convenient outlet
- IFM – Indoor fan motor
- NOM PWR – 240V / 480V / 600V
- P.E. – Power exhaust
- PWRD – Powered convenient outlet
- UNPWRD – Unpowered convenient outlet

UNIT: DIMENSIONS, WEIGHTS & CURBS

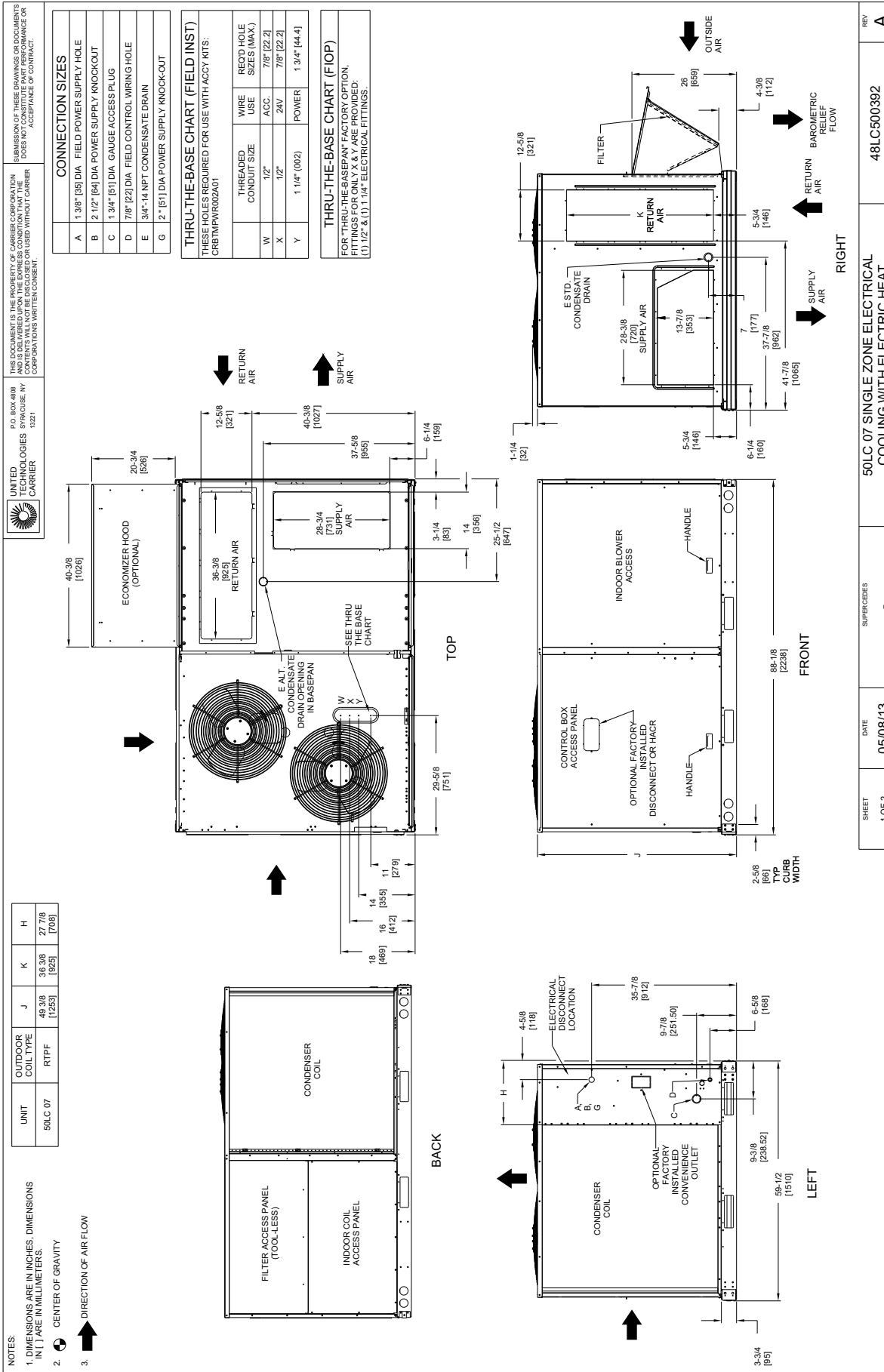


Fig. 1 - Dimensions 50LC 07

UNIT: DIMENSIONS, WEIGHTS & CURBS (cont.)

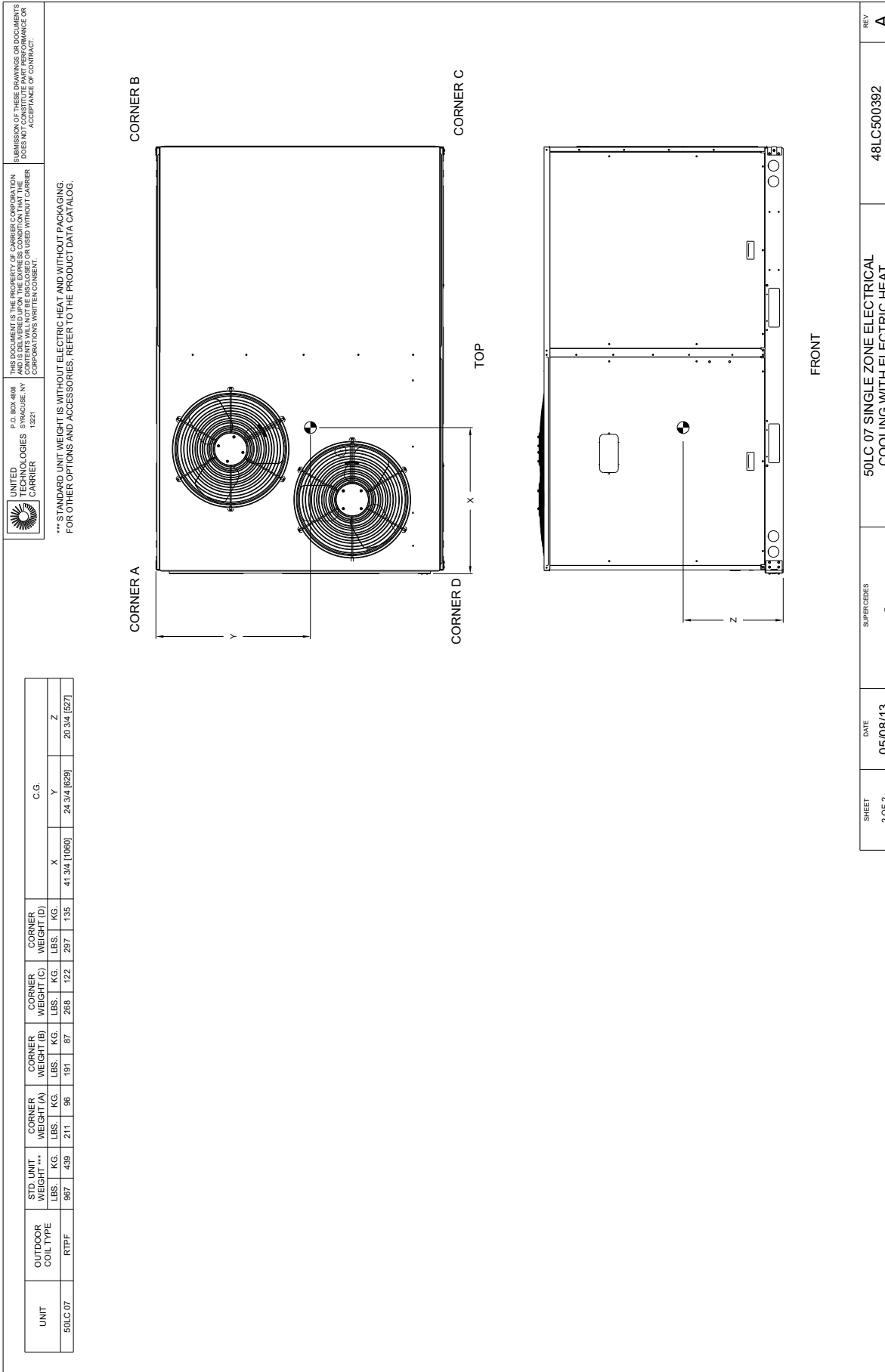


Fig. 2 - Dimensions 50LC 07

UNIT: DIMENSIONS, WEIGHTS & CURBS (cont.)

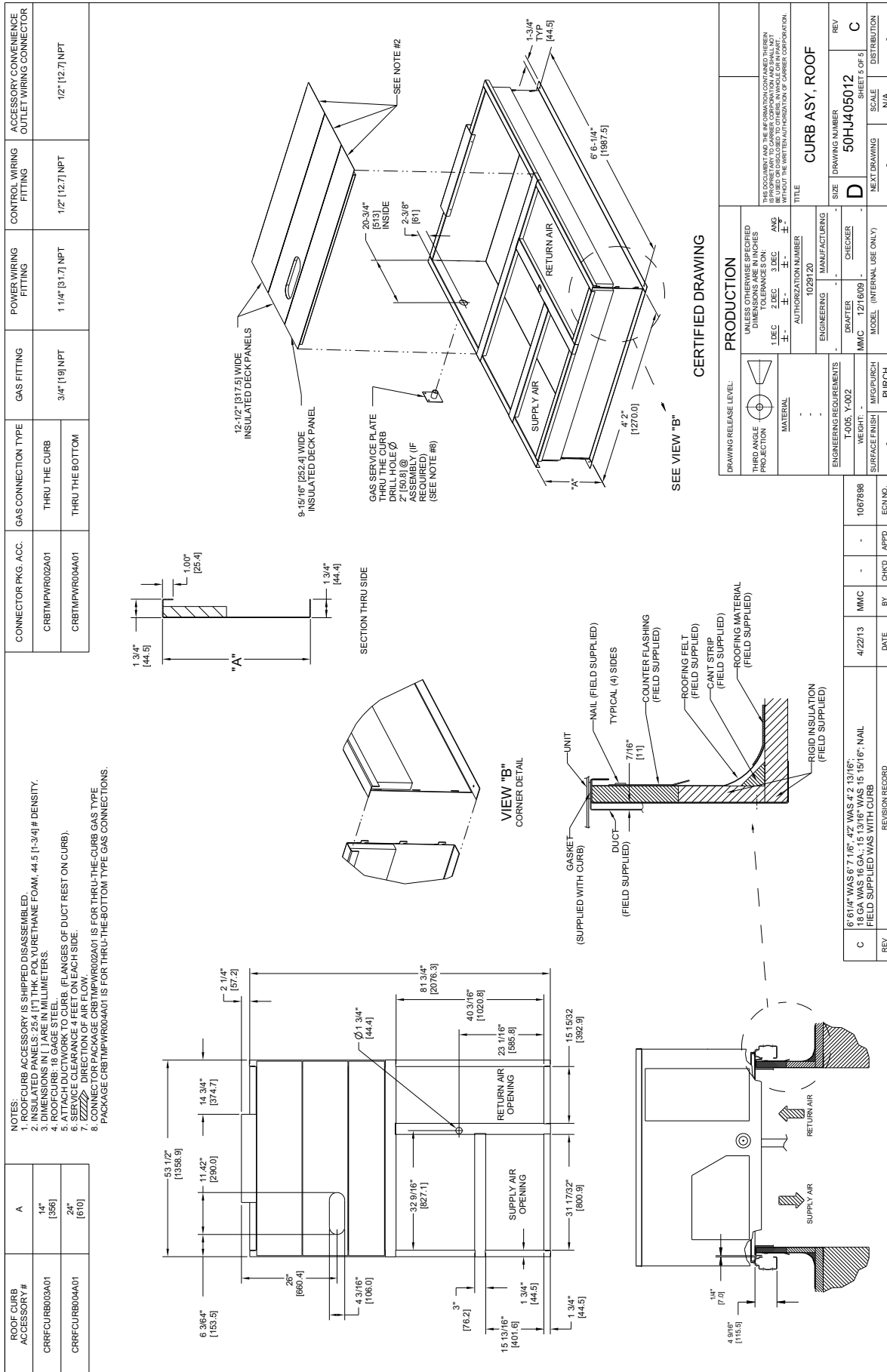


Fig. 3 - Roof Curb Details Size 07

UNIT: DIMENSIONS, WEIGHTS & CURBS (cont.)

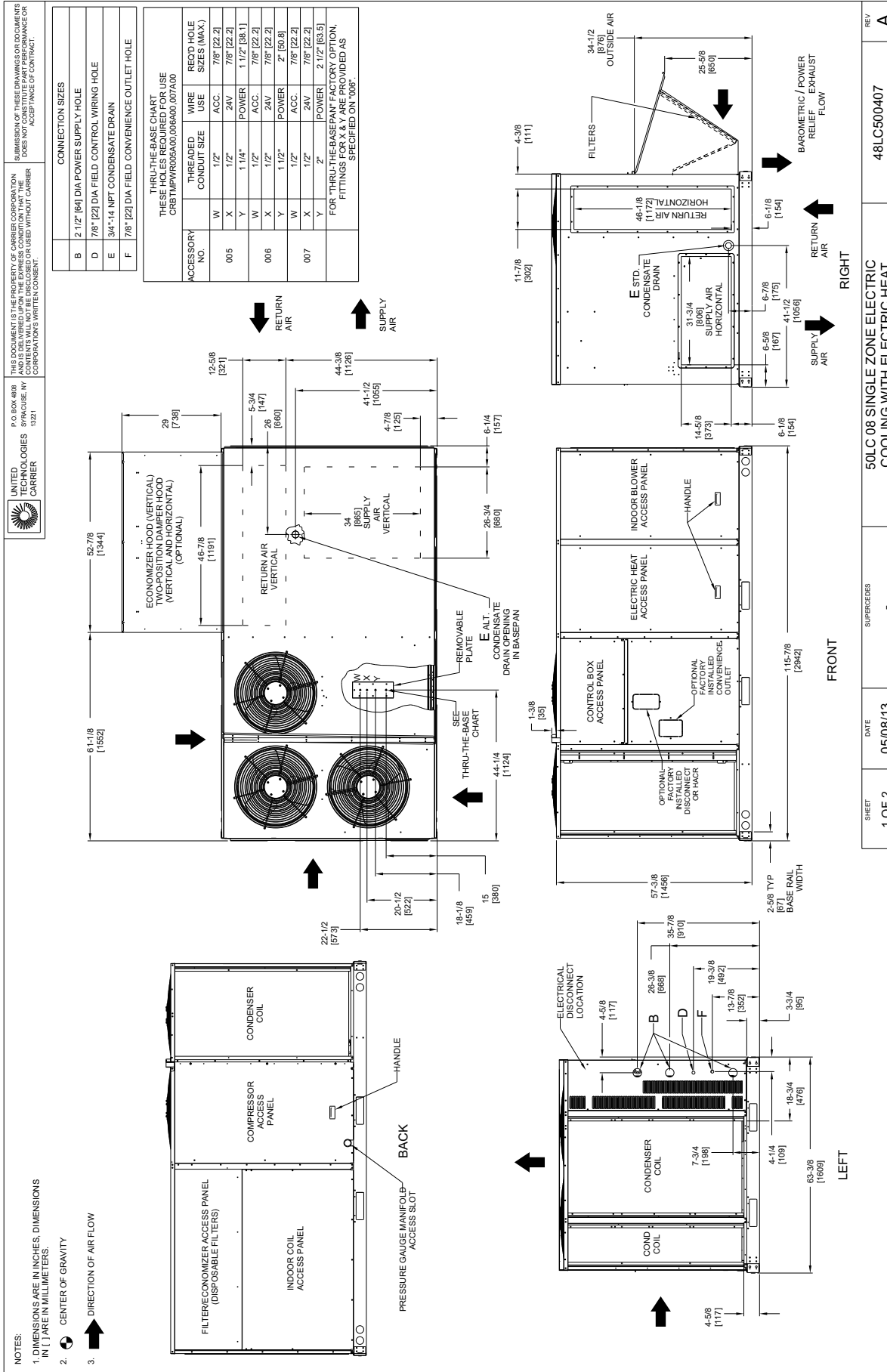


Fig. 4 - 50LC 08

UNIT: DIMENSIONS, WEIGHTS & CURBS (cont.)

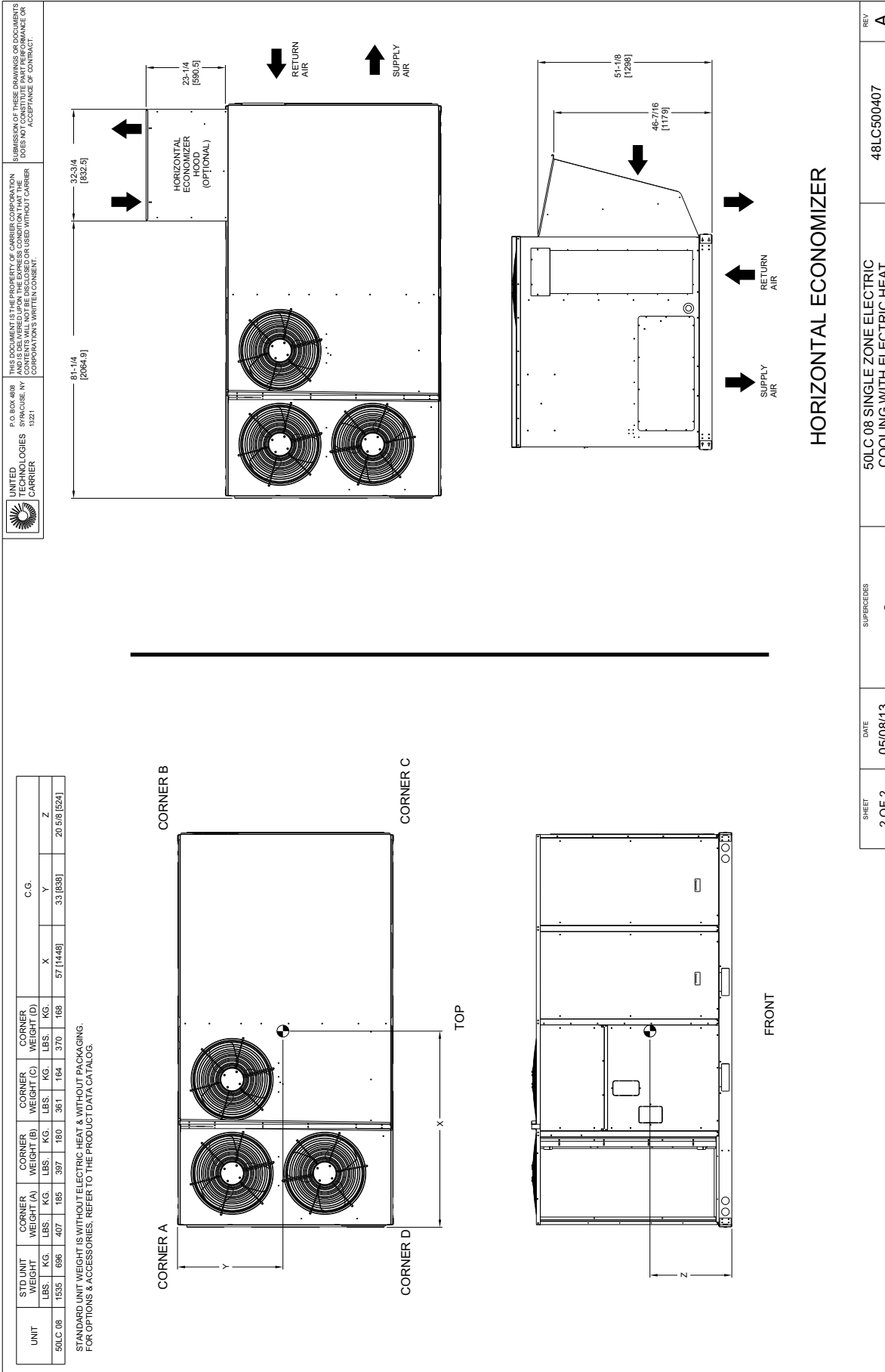
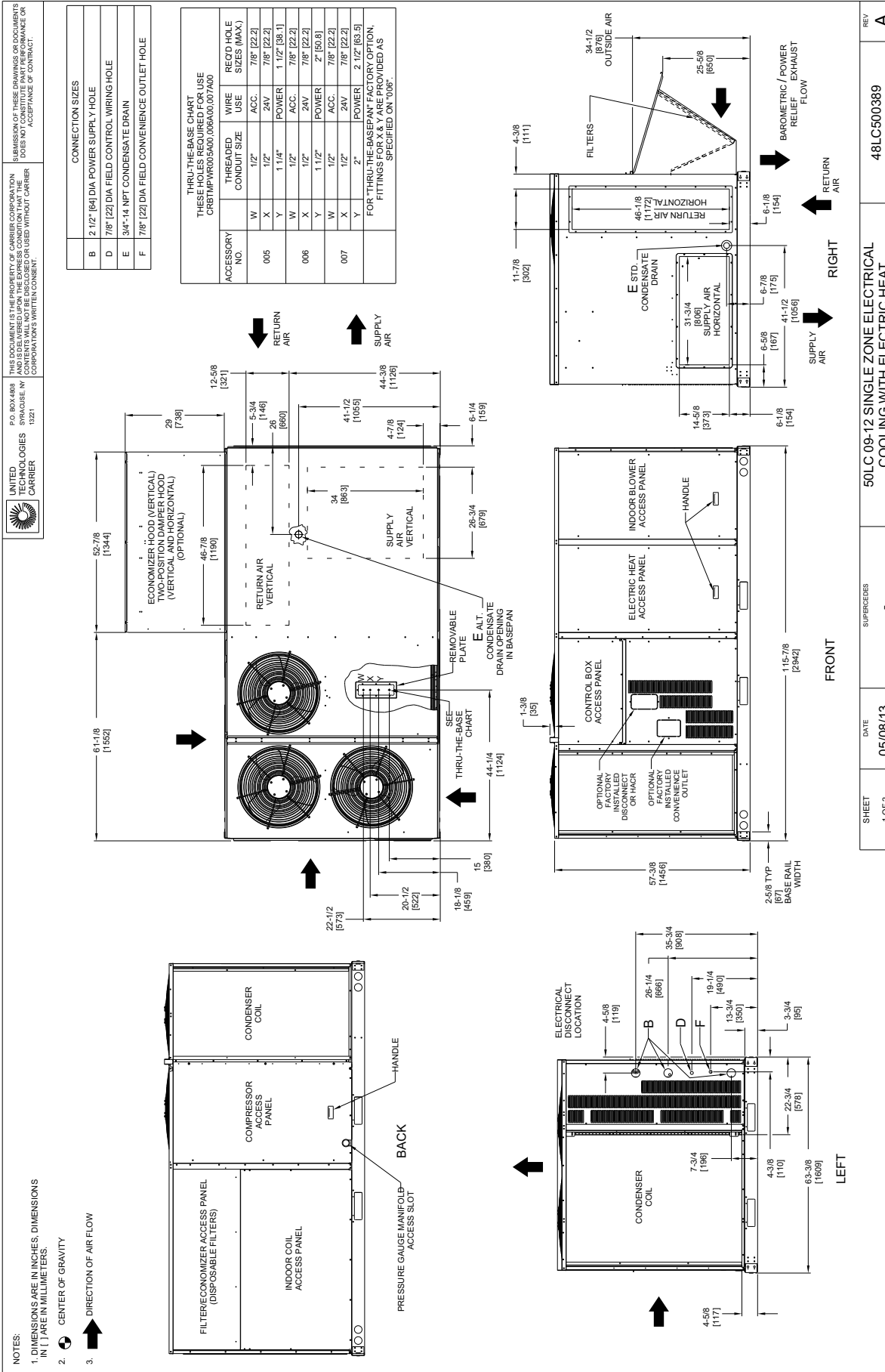


Fig. 5 - 50LC 08

UNIT: DIMENSIONS, WEIGHTS & CURBS (cont.)



P.O. BOX 4808 SPRINGHOUSE, NY 13271	UNITED TECHNOLOGIES CARRIER	THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE USER SHALL NOT REPRODUCE, COPIY, OR TRANSMIT THIS DOCUMENT OR ITS CONTENTS WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT.	SUBMISSION OF THESE DRAWINGS OR COMMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT.
SHEET 1 OF 2		DATE 05/08/13	SUPERSEDES -
50LC 09-12 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT		REV A	

Fig. 6 - 50LC 09 - 12

UNIT: DIMENSIONS, WEIGHTS & CURBS (cont.)

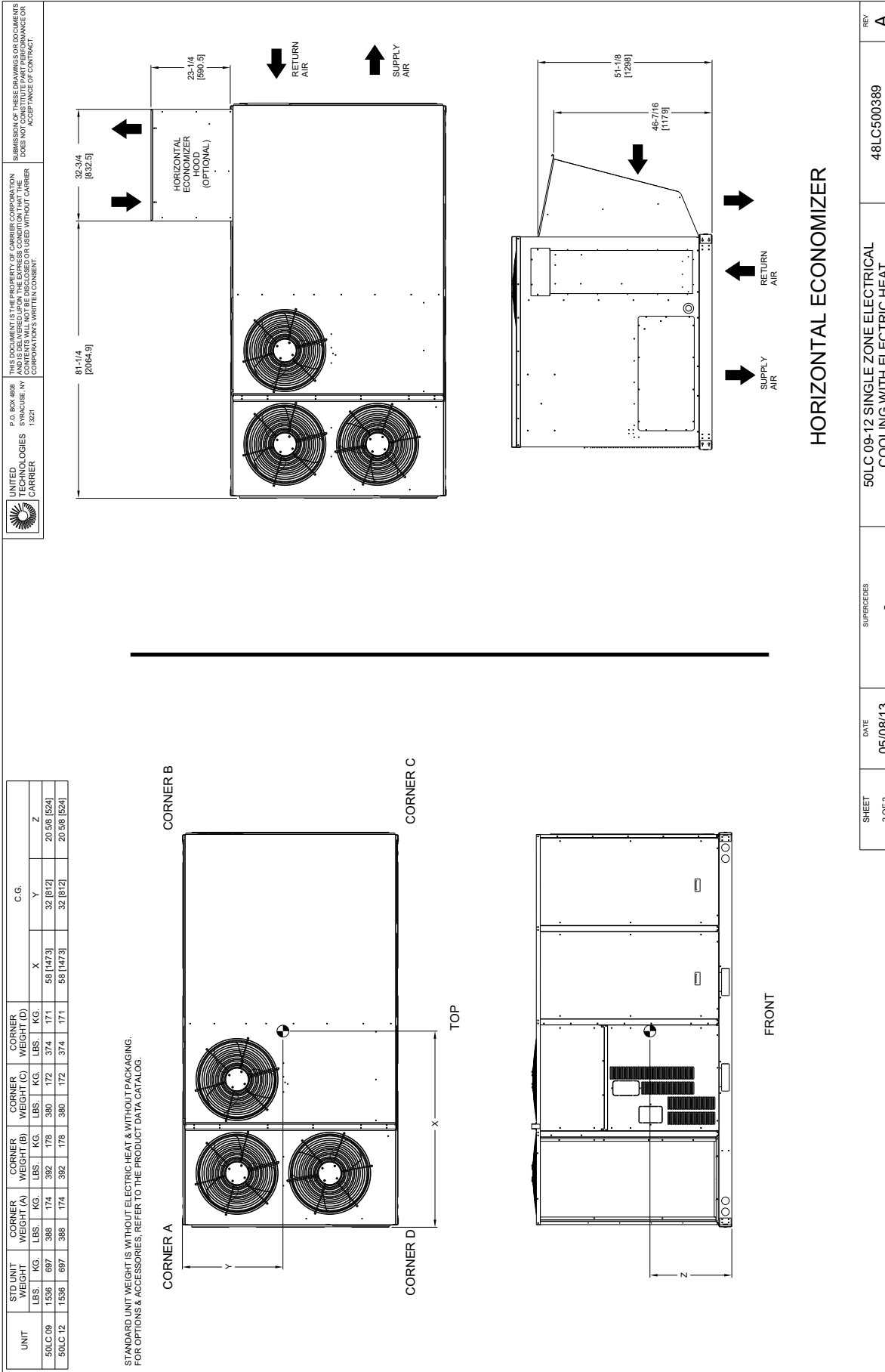


Fig. 7 - 50LC 09 - 12

UNIT: DIMENSIONS, WEIGHTS & CURBS (cont.)

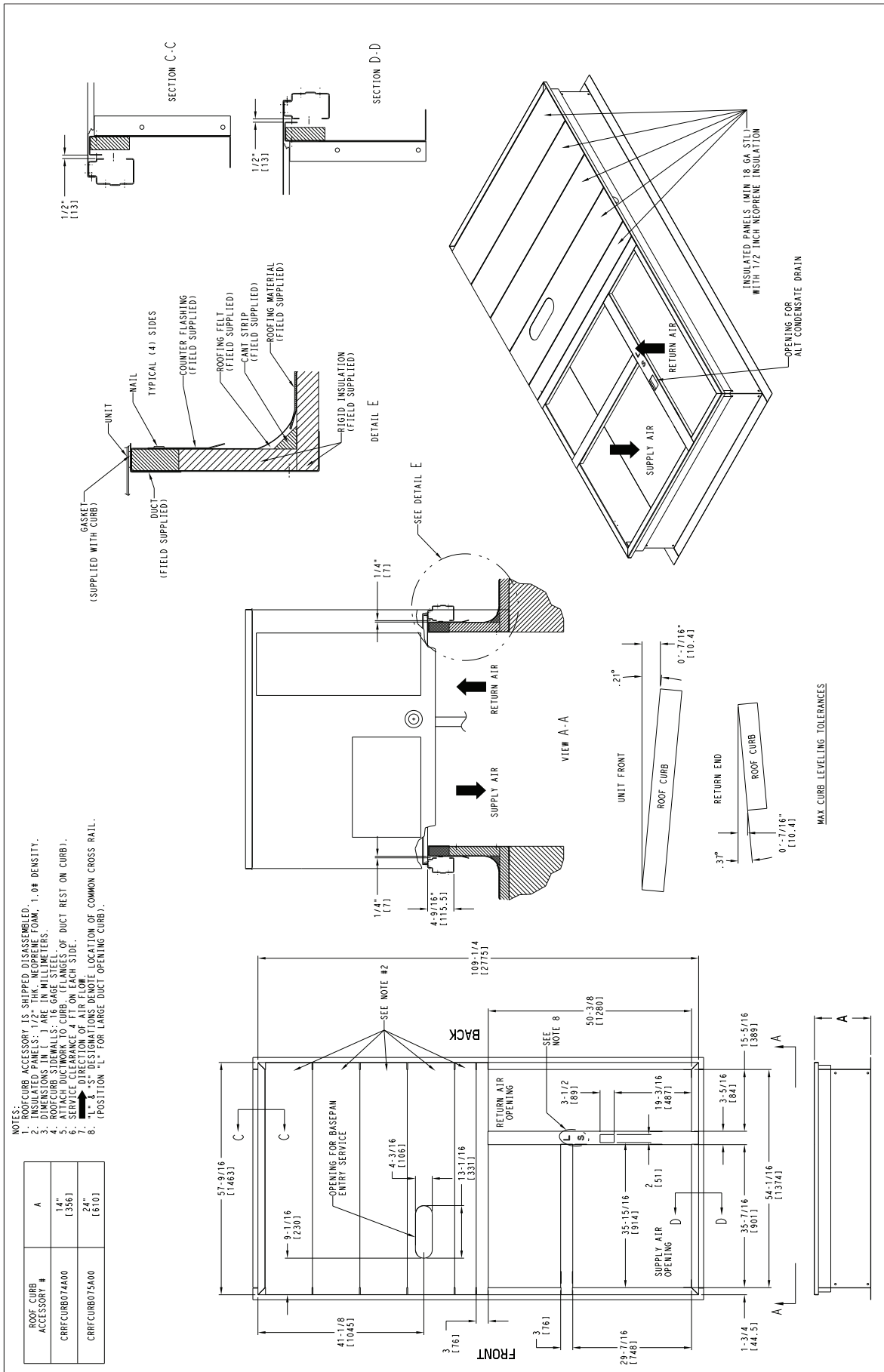
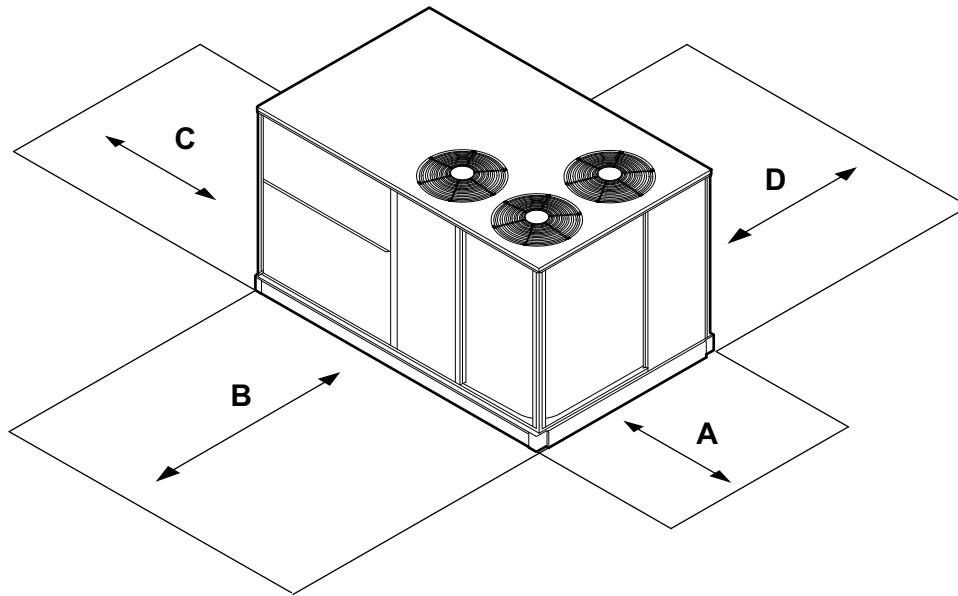


Fig. 8 - Roof Curb Details Size 08 - 12

UNIT: DIMENSIONS, WEIGHTS & CURBS (cont.)



C13291

LOCATION	DIMENSION	CONDITION
A	48-in (1219 mm) 18-in (457 mm) 18-in (457 mm) 12-in (305 mm)	Unit disconnect is mounted on panel No disconnect, convenience outlet option Recommended service clearance Minimum clearance
B	40-in (1067 mm) 36-in (914 mm) Special	Surface behind servicer is grounded (e.g., metal, masonry wall) Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass) Check sources of flue products within 10-ft of unit fresh air intake hood
C	36-in (914 mm) 18-in (457 mm)	Side condensate drain is used Minimum clearance
D	42-in (1067 mm) 36-in (914 mm)	Surface behind servicer is grounded (e.g., metal, masonry wall, another unit) Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass)

NOTE: 1. Unit not designed to have overhead obstruction. Contact Application Engineering for guidance on any application planning overhead obstruction or for vertical clearances.

2. The number of fans varies with the unit size. Depending on size unit will have two or three fans.

Fig. 9 - Service Clearance Dimensional Drawing — Typical All 50LC 07-12 Units

OPTIONS & ACCESSORY WEIGHTS

OPTION / ACCESSORY	WEIGHTS in LBS			
	50LC**07	50LC**08	50LC**09	50LC**12
Humidi–MiZer®	80	90	90	90
Low Electric Heat	57	49	49	49
Medium Electric Heat	69	62	62	62
High Electric Heat	105	65	65	65
Return Smoke Detector	5	5	5	5
Supply Smoke Detector	5	5	5	5
RA & SA Smoke Detector	10	10	10	10
CO2 sensor	5	5	5	5
RA Smoke Detector & CO2	10	10	10	10
SA Smoke Detector & CO2	10	10	10	10
RA & SA Smoke Detector & CO2	15	15	15	15
Medium Static Option – Belt Drive	15	45	45	45
High Static Option – Belt Drive	15	45	45	45
Cu/Cu Cond & Al/Cu Evap	23	25	25	25
Cu/Cu Cond & Cu/Cu Evap	49	47	47	47
Al/Cu Cond & Al/Cu Evap + Hail Guard	34	45	45	45
Precoat Al/Cu Cond & Al/Cu Evap + Hail Guard	34	45	45	45
Ecoat Al/Cu Cond & Al/Cu Evap + Hail Guard	34	45	45	45
Ecoat Al/Cu Cond & Ecoat Al/Cu Evap + Hail Guard	34	45	45	45
Cu/Cu Cond & Al/Cu Evap + Hail Guard	57	70	70	70
Cu/Cu Cond & Cu/Cu Evap + Hail Guard	83	92	92	92
Temp Ultra Low Leak Econo w/Baro Relief	74	103	103	103
Enthalpy Ultra Low Leak Econo w/Baro Relief	74	103	103	103
Unpowered Convenience Outlet	5	5	5	5
Powered Convenience outlet	35	35	35	35
Hinged Panels	5	5	5	5
Hinged Panels with Unpowered Convenience Outlet	10	10	10	10
Hinged Panels with Powered Convenience Outlet	40	40	40	40
HACR Breaker	10	10	10	10
Non–Fused Disconnect	15	15	15	15
Thru the base	4	4	4	4
HACR Breaker w/thru base connections	14	14	14	14
Non–Fused Disconnect + Thru the base	19	19	19	19

APPLICATION DATA

Min operating ambient temp (cooling):

In mechanical cooling mode, your Carrier rooftop can safely operate down to an outdoor ambient temperature of 40°F (4°C).

An economizer shall be the source of cooling in low ambient conditions. When the outside air temperature is below 40° F, to improve system reliability, reduce energy usage, and improve system efficiency: mechanical cooling shall not be utilized. Therefore, an economizer shall be used in these conditions to provide efficient low ambient cooling. Using an economizer for low ambient cooling merely requires fan energy to satisfy space requirements. The compressors shall not be required to run which will provide exceptional energy savings due to less power draw, improved system reliability due to fewer compressor run hours, improved reliability through fewer starts/stops, and lower life cycle costs due to reduced compressor maintenance.

Max operating ambient temp (cooling):

The maximum operating ambient temperature for cooling mode is 125°F (52°C). While cooling operation above 125°F (52°C) may be possible, it could cause either a reduction in performance, reliability, or a protective action by the unit's internal safety devices.

Min and max airflow (cooling mode):

To maintain safe and reliable operation of your rooftop, operate within the cooling airflow limits. Operating above the max may cause blow-off, undesired airflow noise, or airflow related problems with the rooftop unit. Operating below the min may cause problems with coil freeze-up.

Airflow:

All units are draw-through in cooling mode and blow-through in heating mode.

Outdoor air application strategies:

Economizers reduce operating expenses and compressor run time by providing a free source of cooling and a means of ventilation to match application changing needs. In fact, they should be considered for most applications. Also, consider the various economizer control methods and their benefits, as well as sensors required to accomplish your application goals. Please contact your local Carrier representative for assistance.

Motor limits, break horsepower (BHP):

Due to Carrier's internal unit design, air path, and specially designed motors, the full horsepower (maximum continuous BHP) band, as listed in Table 7 can be used with the utmost confidence. There is no need for extra safety factors, as Carrier's motors are designed and rigorously tested to use the entire, listed BHP range without either nuisance tripping or premature motor failure.

Sizing a rooftop

Bigger isn't necessarily better. While an air conditioner needs to have enough capacity to meet the load, it doesn't need excess capacity. In fact, having excess capacity typically results in very poor part load performance and humidity control.

Using higher design temperatures than ASHRAE recommends for your location, adding "safety factors" to the calculated load, and rounding up to the next largest unit, are all signs of oversizing air conditioners. Oversizing can cause short-cycling, and short cycling leads to poor humidity control, reduced efficiency, higher utility bills, drastic indoor temperature swings, excessive noise, and increased wear and tear on the air conditioner.

Rather than oversizing an air conditioner, wise contractors and engineers "right-size" or even slightly undersize air conditioners. Correctly sizing an air conditioner controls humidity better; promotes efficiency; reduces utility bills; extends equipment life, and maintains even, comfortable temperatures.

COOLING CAPACITIES

Table 12 – COOLING CAPACITIES - FIRST STAGE, PART LOAD

6 TONS

07 SIZE				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
1200 Cfm	EAT (wB)	58	THC	36.7	36.7	40.8	36.8	36.8	40.7	36.8	36.8	40.5	36.6	36.6	40.2	36.3	36.3	39.7	
			SHC	32.6	36.7	40.8	32.9	36.8	40.7	33.1	36.8	40.5	33.1	36.6	40.2	33.0	36.3	39.7	
		62	THC	36.7	36.7	42.1	36.8	36.8	42.0	36.8	36.8	41.7	36.7	36.7	41.3	36.3	36.3	40.8	
			SHC	31.2	36.7	42.1	31.6	36.8	42.0	31.8	36.8	41.7	31.9	36.7	41.3	31.9	36.3	40.8	
		67	THC	38.1	38.1	38.3	37.9	37.9	39.1	37.6	37.6	39.8	37.2	37.2	40.5	36.7	36.7	41.0	
			SHC	25.9	32.1	38.3	26.7	32.9	39.1	27.5	33.6	39.8	28.2	34.3	40.5	28.8	34.9	41.0	
	72	THC	40.8	40.8	40.8	40.5	40.5	40.5	40.0	40.0	40.0	39.4	39.4	39.4	38.6	38.6	38.6		
		SHC	19.1	25.4	31.6	19.9	26.1	32.4	20.7	26.9	33.2	21.5	27.7	33.8	22.1	28.4	34.5		
	76	THC	-	43.2	43.2	-	42.7	42.7	-	42.1	42.1	-	41.3	41.3	-	40.5	40.5		
		SHC	-	19.8	26.0	-	20.6	26.9	-	21.4	27.7	-	22.1	28.4	-	22.8	29.1		
	1400 Cfm	EAT (wB)	58	THC	37.6	37.6	41.8	37.6	37.6	41.7	37.5	37.5	41.4	37.2	37.2	41.0	36.9	36.9	40.4
				SHC	33.3	37.6	41.8	33.5	37.6	41.7	33.6	37.5	41.4	33.6	37.2	41.0	33.4	36.9	40.4
62			THC	37.6	37.6	43.3	37.6	37.6	43.1	37.5	37.5	42.7	37.2	37.2	42.2	36.9	36.9	41.5	
			SHC	32.0	37.6	43.3	32.2	37.6	43.1	32.4	37.5	42.7	32.4	37.2	42.2	32.3	36.9	41.5	
67			THC	38.5	38.5	41.3	38.3	38.3	42.1	37.9	37.9	42.7	37.5	37.5	43.2	37.0	37.0	43.5	
			SHC	27.2	34.2	41.3	28.0	35.0	42.1	28.7	35.7	42.7	29.3	36.3	43.2	29.8	36.7	43.5	
72		THC	41.1	41.1	41.1	40.8	40.8	40.8	40.3	40.3	40.3	39.6	39.6	39.6	38.7	38.7	38.7		
		SHC	19.5	26.6	33.8	20.3	27.5	34.6	21.1	28.2	35.4	21.8	29.0	36.1	22.5	29.6	36.8		
76		THC	-	43.6	43.6	-	43.1	43.1	-	42.4	42.4	-	41.6	41.6	-	40.7	40.7		
		SHC	-	20.4	27.6	-	21.2	28.4	-	21.9	29.2	-	22.7	29.9	-	23.4	30.6		
1600 Cfm		EAT (wB)	58	THC	38.4	38.4	42.8	38.3	38.3	42.5	38.1	38.1	42.1	37.8	37.8	41.6	37.3	37.3	41.0
				SHC	34.0	38.4	42.8	34.1	38.3	42.5	34.1	38.1	42.1	34.0	37.8	41.6	33.8	37.3	41.0
	62		THC	38.4	38.4	44.3	38.3	38.3	44.0	38.1	38.1	43.5	37.8	37.8	42.9	37.3	37.3	42.1	
			SHC	32.6	38.4	44.3	32.8	38.3	44.0	32.8	38.1	43.5	32.8	37.8	42.9	32.6	37.3	42.1	
	67		THC	38.9	38.9	44.3	38.6	38.6	44.9	38.3	38.3	45.2	37.8	37.8	45.4	37.3	37.3	44.6	
			SHC	28.4	36.3	44.3	29.2	37.0	44.9	29.7	37.5	45.2	30.2	37.8	45.4	30.2	37.3	44.6	
	72	THC	41.4	41.4	41.4	41.0	41.0	41.0	40.5	40.5	40.5	39.7	39.7	39.7	38.8	38.8	38.9		
		SHC	19.9	28.0	36.1	20.7	28.8	36.9	21.5	29.5	37.5	22.2	30.2	38.3	22.8	30.9	38.9		
	76	THC	-	44.0	44.0	-	43.4	43.4	-	42.6	42.6	-	41.8	41.8	-	40.8	40.8		
		SHC	-	21.0	29.2	-	21.8	29.9	-	22.6	30.7	-	23.3	31.4	-	24.0	32.1		
	1800 Cfm	EAT (wB)	58	THC	39.0	39.0	43.6	38.9	38.9	43.2	38.7	38.7	42.8	38.3	38.3	42.2	37.7	37.7	41.4
				SHC	34.5	39.0	43.6	34.6	38.9	43.2	34.6	38.7	42.8	34.4	38.3	42.2	34.1	37.7	41.4
62			THC	39.1	39.1	45.0	38.9	38.9	44.8	38.7	38.7	44.2	38.3	38.3	43.5	37.8	37.8	42.7	
			SHC	33.1	39.1	45.0	33.2	38.9	44.8	33.2	38.7	44.2	33.2	38.3	43.5	32.9	37.8	42.7	
67			THC	39.3	39.3	46.8	39.1	39.1	46.2	38.7	38.7	47.0	38.3	38.3	46.1	37.8	37.8	45.1	
			SHC	29.4	38.1	46.8	29.7	38.0	46.2	30.5	38.7	47.0	30.5	38.3	46.1	30.5	37.8	45.1	
72		THC	41.7	41.7	41.7	41.1	41.1	41.1	40.6	40.6	40.6	39.9	39.9	40.5	38.9	38.9	41.0		
		SHC	20.3	29.3	38.2	21.1	30.0	39.0	21.8	30.8	39.7	22.6	31.5	40.5	23.2	32.2	41.0		
76		THC	-	44.2	44.2	-	43.6	43.6	-	42.8	42.8	-	41.9	41.9	-	40.9	40.9		
		SHC	-	21.6	30.6	-	22.4	31.4	-	23.2	32.2	-	23.9	32.9	-	24.6	33.5		
2000 Cfm		EAT (wB)	58	THC	39.6	39.6	44.3	39.4	39.4	43.9	39.1	39.1	43.4	38.7	38.7	42.7	38.1	38.1	41.8
				SHC	35.0	39.6	44.3	35.0	39.4	43.9	34.9	39.1	43.4	34.7	38.7	42.7	34.4	38.1	41.8
	62		THC	39.6	39.6	45.8	39.5	39.5	45.3	39.2	39.2	44.8	38.7	38.7	44.1	38.1	38.1	43.1	
			SHC	33.4	39.6	45.8	33.5	39.5	45.3	33.5	39.2	44.8	33.4	38.7	44.1	33.2	38.1	43.1	
	67		THC	39.7	39.7	48.8	39.5	39.5	48.4	39.2	39.2	47.6	38.7	38.7	46.7	38.1	38.1	45.6	
			SHC	30.4	39.7	48.8	30.6	39.5	48.4	30.7	39.2	47.6	30.8	38.7	46.7	30.7	38.1	45.6	
	72	THC	41.8	41.8	41.8	41.3	41.3	41.3	40.7	40.7	41.8	40.0	40.0	42.5	39.0	39.0	43.1		
		SHC	20.8	30.5	40.4	21.5	31.3	41.0	22.2	32.1	41.8	23.0	32.8	42.5	23.6	33.3	43.1		
	76	THC	-	44.5	44.5	-	43.8	43.8	-	43.0	43.0	-	42.0	42.0	-	41.0	41.0		
		SHC	-	22.2	32.1	-	23.0	32.9	-	23.8	33.5	-	24.5	34.3	-	25.2	34.9		

LEGEND:

- Do not operate
- Cfm - Cubic feet per minute (supply air)
- EAT(db) - Entering air temperature (dry bulb)
- EAT(wb) - Entering air temperature (wet bulb)
- SHC - Sensible heat capacity
- TC - Total capacity

COOLING CAPACITIES (cont.)

Table 13 – COOLING CAPACITIES - SECOND STAGE, PART LOAD

6 TONS

07 SIZE				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
1200 Cfm	EAT (wB)	58	THC	42.3	42.3	47.6	41.0	41.0	46.1	39.7	39.7	44.5	38.1	38.1	42.7	36.6	36.6	40.9	
			SHC	37.1	42.3	47.6	36.1	41.0	46.1	34.9	39.7	44.5	33.6	38.1	42.7	32.2	36.6	40.9	
		62	THC	43.4	43.4	46.6	41.7	41.7	45.9	40.1	40.1	45.1	38.3	38.3	44.1	36.6	36.6	42.3	
			SHC	34.2	40.4	46.6	33.5	39.8	45.9	32.9	39.0	45.1	32.1	38.1	44.1	30.8	36.6	42.3	
		67	THC	47.0	47.0	47.0	45.1	45.1	45.1	43.2	43.2	43.2	41.0	41.0	41.0	38.8	38.8	38.8	
			SHC	27.9	34.1	40.5	27.3	33.5	39.9	26.7	33.0	39.2	26.0	32.3	38.5	25.4	31.6	37.8	
	72	THC	51.1	51.1	51.1	49.0	49.0	49.0	46.9	46.9	46.9	44.6	44.6	44.6	42.0	42.0	42.0		
		SHC	21.4	27.7	34.0	20.9	27.1	33.4	20.3	26.5	32.9	19.6	25.8	32.2	18.9	25.2	31.4		
	76	THC	–	54.6	54.6	–	52.5	52.5	–	50.0	50.0	–	47.5	47.5	–	44.8	44.8		
		SHC	–	22.4	28.9	–	21.9	28.3	–	21.4	27.7	–	20.7	27.0	–	20.0	26.3		
	1400 Cfm	EAT (wB)	58	THC	44.3	44.3	49.7	42.9	42.9	48.2	41.3	41.3	46.3	39.7	39.7	44.5	37.9	37.9	42.4
				SHC	38.8	44.3	49.7	37.6	42.9	48.2	36.4	41.3	46.3	34.9	39.7	44.5	33.3	37.9	42.4
62			THC	44.6	44.6	50.7	43.0	43.0	49.7	41.4	41.4	48.1	39.7	39.7	46.1	37.9	37.9	43.9	
			SHC	36.6	43.6	50.7	35.8	42.7	49.7	34.7	41.4	48.1	33.3	39.7	46.1	31.9	37.9	43.9	
67			THC	48.0	48.0	48.0	46.0	46.0	46.0	44.0	44.0	44.0	41.7	41.7	41.9	39.4	39.4	41.1	
			SHC	29.4	36.7	43.9	28.9	36.1	43.3	28.3	35.4	42.6	27.5	34.7	41.9	26.8	33.9	41.1	
72		THC	52.2	52.2	52.2	50.0	50.0	50.0	47.7	47.7	47.7	45.2	45.2	45.2	42.7	42.7	42.7		
		SHC	22.0	29.3	36.6	21.5	28.7	36.0	20.9	28.1	35.3	20.2	27.4	34.6	19.5	26.7	33.8		
76		THC	–	55.7	55.7	–	53.3	53.3	–	50.9	50.9	–	48.3	48.3	–	45.4	45.4		
		SHC	–	23.2	30.6	–	22.7	30.0	–	22.0	29.3	–	21.5	28.7	–	20.7	28.0		
1600 Cfm		EAT (wB)	58	THC	45.8	45.8	51.6	44.4	44.4	49.8	42.7	42.7	47.9	41.0	41.0	45.8	39.0	39.0	43.7
				SHC	40.2	45.8	51.6	38.9	44.4	49.8	37.5	42.7	47.9	36.0	41.0	45.8	34.3	39.0	43.7
	62		THC	45.9	45.9	53.5	44.4	44.4	51.7	42.7	42.7	49.7	41.0	41.0	47.6	39.0	39.0	45.2	
			SHC	38.3	45.9	53.5	37.1	44.4	51.7	35.8	42.7	49.7	34.4	41.0	47.6	32.9	39.0	45.2	
	67		THC	48.8	48.8	48.8	46.7	46.7	46.7	44.7	44.7	45.9	42.3	42.3	45.1	40.0	40.0	44.2	
			SHC	30.9	39.1	47.3	30.3	38.5	46.6	29.7	37.8	45.9	29.0	37.1	45.1	28.2	36.2	44.2	
	72	THC	52.9	52.9	52.9	50.7	50.7	50.7	48.4	48.4	48.4	45.8	45.8	45.8	43.1	43.1	43.1		
		SHC	22.6	30.8	38.9	22.0	30.1	38.3	21.4	29.5	37.6	20.8	28.9	37.0	20.0	28.1	36.2		
	76	THC	–	56.5	56.5	–	54.0	54.0	–	51.5	51.5	–	48.8	48.8	–	45.8	45.8		
		SHC	–	24.0	32.3	–	23.4	31.7	–	22.8	31.0	–	22.1	30.2	–	21.5	29.4		
	1800 Cfm	EAT (wB)	58	THC	47.2	47.2	53.0	45.6	45.6	51.2	43.9	43.9	49.2	41.9	41.9	47.0	39.9	39.9	44.7
				SHC	41.3	47.2	53.0	40.0	45.6	51.2	38.5	43.9	49.2	36.9	41.9	47.0	35.1	39.9	44.7
62			THC	47.2	47.2	55.1	45.6	45.6	53.1	43.9	43.9	51.0	42.0	42.0	48.8	40.0	40.0	46.3	
			SHC	39.4	47.2	55.1	38.1	45.6	53.1	36.8	43.9	51.0	35.2	42.0	48.8	33.5	40.0	46.3	
67			THC	49.3	49.3	50.4	47.3	47.3	49.7	45.1	45.1	49.0	42.8	42.8	48.2	40.5	40.5	47.1	
			SHC	32.4	41.4	50.4	31.8	40.8	49.7	31.1	40.1	49.0	30.3	39.2	48.2	29.4	38.3	47.1	
72		THC	53.5	53.5	53.5	51.3	51.3	51.3	48.8	48.8	48.8	46.2	46.2	46.2	43.5	43.5	43.5		
		SHC	23.1	32.2	41.2	22.5	31.6	40.7	21.9	30.9	40.0	21.3	30.2	39.2	20.5	29.4	38.4		
76		THC	–	57.0	57.0	–	54.6	54.6	–	52.0	52.0	–	49.1	49.1	–	46.2	46.2		
		SHC	–	24.7	33.8	–	24.1	33.2	–	23.5	32.5	–	22.8	31.8	–	22.0	31.0		
2000 Cfm		EAT (wB)	58	THC	48.4	48.4	54.3	46.6	46.6	52.4	44.9	44.9	50.3	42.8	42.8	48.0	40.7	40.7	45.5
				SHC	42.3	48.4	54.3	40.9	46.6	52.4	39.3	44.9	50.3	37.6	42.8	48.0	35.8	40.7	45.5
	62		THC	48.4	48.4	56.4	46.7	46.7	54.4	44.9	44.9	52.2	42.9	42.9	49.8	40.8	40.8	47.2	
			SHC	40.4	48.4	56.4	39.0	46.7	54.4	37.5	44.9	52.2	36.0	42.9	49.8	34.2	40.8	47.2	
	67		THC	49.9	49.9	53.5	47.9	47.9	52.7	45.6	45.6	51.9	43.3	43.3	50.9	40.9	40.9	49.5	
			SHC	33.7	43.6	53.5	33.1	42.9	52.7	32.4	42.1	51.9	31.6	41.2	50.9	30.6	40.1	49.5	
	72	THC	54.0	54.0	54.0	51.7	51.7	51.7	49.1	49.1	49.1	46.5	46.5	46.5	43.7	43.7	43.7		
		SHC	23.7	33.5	43.5	23.1	33.0	42.8	22.4	32.3	42.1	21.7	31.6	41.4	21.0	30.8	40.6		
	76	THC	–	57.5	57.5	–	55.0	55.0	–	52.4	52.4	–	49.5	49.5	–	46.5	46.5		
		SHC	–	25.4	35.3	–	24.8	34.7	–	24.2	34.0	–	23.4	33.2	–	22.7	32.4		

LEGEND:

- Do not operate
- Cfm – Cubic feet per minute (supply air)
- EAT(db) – Entering air temperature (dry bulb)
- EAT(wb) – Entering air temperature (wet bulb)
- SHC – Sensible heat capacity
- TC – Total capacity

COOLING CAPACITIES (cont.)

Table 14 – COOLING CAPACITIES - THIRD STAGE, FULL LOAD

6 TONS

07 SIZE				AMBIENT TEMPERATURE																
				85			95			105			115			125				
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)				
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85		
1800 Cfm	EAT (wB)	58	THC	63.9	63.9	72.2	61.1	61.1	69.1	58.1	58.1	65.8	55.0	55.0	62.2	51.6	51.6	58.4		
			SHC	55.6	63.9	72.2	53.1	61.1	69.1	50.5	58.1	65.8	47.7	55.0	62.2	44.7	51.6	58.4		
		62	THC	66.4	66.4	68.9	63.0	63.0	67.1	59.5	59.5	65.0	55.7	55.7	63.0	51.8	51.8	60.4		
			SHC	50.2	59.6	68.9	48.5	57.7	67.1	46.5	55.8	65.0	44.5	53.7	63.0	42.2	51.3	60.4		
		67	THC	72.8	72.8	72.8	69.0	69.0	69.0	65.0	65.0	65.0	60.7	60.7	60.7	56.4	56.4	56.4		
			SHC	41.1	50.6	60.0	39.4	48.8	58.1	37.5	46.9	56.3	35.6	44.9	54.3	33.5	42.9	52.3		
		72	THC	80.0	80.0	80.0	75.9	75.9	75.9	71.6	71.6	71.6	67.0	67.0	67.0	62.0	62.0	62.0		
			SHC	31.9	41.3	50.8	30.1	39.6	49.0	28.3	37.7	47.1	26.4	35.8	45.1	24.4	33.7	43.1		
		76	THC	–	85.9	85.9	–	81.5	81.5	–	76.9	76.9	–	72.0	72.0	–	66.8	66.8		
			SHC	–	33.8	43.5	–	32.1	41.7	–	30.2	39.9	–	28.4	37.9	–	26.3	35.8		
		2100 Cfm	EAT (wB)	58	THC	67.5	67.5	76.1	64.4	64.4	72.8	61.2	61.2	69.2	57.8	57.8	65.4	54.1	54.1	61.3
					SHC	58.7	67.5	76.1	56.1	64.4	72.8	53.2	61.2	69.2	50.2	57.8	65.4	46.9	54.1	61.3
62	THC			68.6	68.6	75.7	65.1	65.1	73.6	61.5	61.5	71.3	57.9	57.9	68.1	54.2	54.2	63.8		
	SHC			54.2	64.9	75.7	52.4	63.0	73.6	50.2	60.7	71.3	47.7	57.9	68.1	44.6	54.2	63.8		
67	THC			74.7	74.7	74.7	70.8	70.8	70.8	66.6	66.6	66.6	62.2	62.2	62.2	57.5	57.5	57.5		
	SHC			43.8	54.6	65.4	41.9	52.7	63.6	40.0	50.8	61.6	38.0	48.8	59.6	36.0	46.7	57.4		
72	THC			81.9	81.9	81.9	77.6	77.6	77.6	73.1	73.1	73.1	68.3	68.3	68.3	63.3	63.3	63.3		
	SHC			33.1	43.9	54.8	31.3	42.1	52.9	29.3	40.2	51.0	27.4	38.2	48.9	25.4	36.1	46.9		
76	THC			–	87.8	87.8	–	83.3	83.3	–	78.5	78.5	–	73.3	73.3	–	68.0	68.0		
	SHC			–	35.2	46.3	–	33.4	44.5	–	31.6	42.5	–	29.5	40.5	–	27.5	38.4		
2400 Cfm	EAT (wB)			58	THC	70.4	70.4	79.5	67.2	67.2	75.9	63.8	63.8	72.1	60.2	60.2	68.1	56.3	56.3	63.7
					SHC	61.3	70.4	79.5	58.5	67.2	75.9	55.5	63.8	72.1	52.3	60.2	68.1	48.8	56.3	63.7
		62	THC	70.7	70.7	81.6	67.3	67.3	78.9	63.9	63.9	75.0	60.2	60.2	70.8	56.3	56.3	66.2		
			SHC	57.8	69.7	81.6	55.6	67.3	78.9	52.7	63.9	75.0	49.6	60.2	70.8	46.3	56.3	66.2		
		67	THC	76.2	76.2	76.2	72.2	72.2	72.2	67.9	67.9	67.9	63.4	63.4	64.5	58.6	58.6	62.3		
			SHC	46.2	58.4	70.6	44.3	56.5	68.6	42.4	54.5	66.7	40.4	52.5	64.5	38.2	50.3	62.3		
		72	THC	83.5	83.5	83.5	79.0	79.0	79.0	74.4	74.4	74.4	69.4	69.4	69.4	64.2	64.2	64.2		
			SHC	34.0	46.3	58.5	32.3	44.5	56.6	30.3	42.5	54.6	28.4	40.5	52.6	26.3	38.3	50.4		
		76	THC	–	89.4	89.4	–	84.6	84.6	–	79.7	79.7	–	74.4	74.4	–	68.8	68.8		
			SHC	–	36.5	48.9	–	34.7	47.0	–	32.8	45.0	–	30.7	42.9	–	28.7	40.8		
		2700 Cfm	EAT (wB)	58	THC	72.8	72.8	82.2	69.5	69.5	78.5	65.9	65.9	74.5	62.1	62.1	70.2	58.0	58.0	65.6
					SHC	63.5	72.8	82.2	60.5	69.5	78.5	57.3	65.9	74.5	53.9	62.1	70.2	50.3	58.0	65.6
62	THC			72.9	72.9	85.4	69.5	69.5	81.6	65.9	65.9	77.4	62.1	62.1	73.0	58.0	58.0	68.3		
	SHC			60.4	72.9	85.4	57.5	69.5	81.6	54.5	65.9	77.4	51.3	62.1	73.0	47.8	58.0	68.3		
67	THC			77.4	77.4	77.4	73.3	73.3	73.6	68.9	68.9	71.5	64.3	64.3	69.3	59.5	59.5	67.0		
	SHC			48.5	62.0	75.6	46.6	60.1	73.6	44.6	58.0	71.5	42.5	56.0	69.3	40.4	53.6	67.0		
72	THC			84.6	84.6	84.6	80.0	80.0	80.0	75.3	75.3	75.3	70.3	70.3	70.3	64.9	64.9	64.9		
	SHC			35.0	48.6	62.0	33.2	46.6	60.2	31.2	44.7	58.1	29.3	42.6	56.0	27.1	40.5	53.8		
76	THC			–	90.6	90.6	–	85.7	85.7	–	80.6	80.6	–	75.2	75.2	–	69.4	69.4		
	SHC			–	37.6	51.3	–	35.8	49.4	–	33.8	47.4	–	31.8	45.2	–	29.6	42.9		
3000 Cfm	EAT (wB)			58	THC	74.9	74.9	84.5	71.4	71.4	80.6	67.7	67.7	76.4	63.7	63.7	72.1	59.4	59.4	67.3
					SHC	65.2	74.9	84.5	62.1	71.4	80.6	58.9	67.7	76.4	55.4	63.7	72.1	51.6	59.4	67.3
		62	THC	75.0	75.0	87.8	71.5	71.5	83.8	67.7	67.7	79.5	63.8	63.8	74.9	59.5	59.5	69.9		
			SHC	62.1	75.0	87.8	59.1	71.5	83.8	56.0	67.7	79.5	52.6	63.8	74.9	49.0	59.5	69.9		
		67	THC	78.5	78.5	80.2	74.2	74.2	78.3	69.8	69.8	76.1	65.1	65.1	73.8	60.3	60.3	71.3		
			SHC	50.7	65.4	80.2	48.8	63.5	78.3	46.7	61.4	76.1	44.6	59.2	73.8	42.3	56.7	71.3		
		72	THC	85.6	85.6	85.6	80.9	80.9	80.9	76.1	76.1	76.1	70.9	70.9	70.9	65.5	65.5	65.5		
			SHC	35.9	50.7	65.4	34.0	48.8	63.5	32.1	46.8	61.4	30.0	44.7	59.3	27.9	42.5	57.0		
		76	THC	–	91.5	91.5	–	86.6	86.6	–	81.3	81.3	–	75.9	75.9	–	70.0	70.0		
			SHC	–	38.8	53.6	–	36.9	51.7	–	34.9	49.5	–	32.9	47.4	–	30.6	45.0		

LEGEND:

- Do not operate
- Cfm – Cubic feet per minute (supply air)
- EAT(db) – Entering air temperature (dry bulb)
- EAT(wb) – Entering air temperature (wet bulb)
- SHC – Sensible heat capacity
- TC – Total capacity

COOLING CAPACITIES (cont.)

Table 15 – REHEAT PERFORMANCE TABLE

6 TONS

50LC*A07 REHEAT MODE #1 CAPACITIES (MBTUH), STANDARD UNITS

Reheat-1 (Subcooler Mode)		AIR ENTERING EVAPORATOR - SCFM/BF (80db)								
		1800			2400			3000		
Outdoor Air Temp ° F		Air Entering Evaporator -- Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	82	74	64	86	75	71	89	81	72
	SHC	37	46	52	43	51	66	48	62	72
	kW	3.5	3.4	3.4	3.5	3.4	3.4	3.5	3.5	3.4
85	TC	77	69	62	81	73	66	84	72	66
	SHC	33	42	51	38	49	61	43	53	66
	kW	3.9	3.9	3.9	4.0	3.9	3.9	4.0	3.9	3.9
95	TC	72	64	58	76	68	61	78	70	65
	SHC	28	37	47	33	45	57	38	52	65
	kW	4.5	4.4	4.4	4.5	4.5	4.4	4.5	4.5	4.4
105	TC	66	58	53	70	62	56	72	65	60
	SHC	23	32	42	28	40	52	33	47	60
	kW	5.1	5.0	5.0	5.1	5.0	5.0	5.1	5.1	5.0
115	TC	60	52	47	64	55	51	66	59	54
	SHC	18	27	38	23	34	47	27	42	54
	kW	5.7	5.7	5.7	5.8	5.7	5.7	5.8	5.7	5.7
125	TC	54	48	42	57	51	45	59	52	48
	SHC	13	23	33	17	30	42	21	36	48
	kW	6.5	6.5	6.4	6.5	6.5	6.4	6.5	6.5	6.4

LEGEND AND NOTES

- kW --- Compressor Power Input
- SHC --- Sensible Capacity (1000 Btuh) Gross
- TC --- Total Capacity(1000 Btuh) Gross

50LC*A07 REHEAT MODE #2 CAPACITIES (MBTUH), STANDARD UNITS

Reheat-2 (Hot Gas Reheat Mode)		AIR ENTERING EVAPORATOR - SCFM/BF (80db)								
		3750			5000			6250		
Outdoor Air Temp ° F		Air Entering Evaporator -- Ewb (F)								
		62.5	64	65.3	62.5	64	65.3	62.5	64	65.3
80	TC	27	28	29	28	29	30	29	30	31
	SHC	5	1	-2	10	6	2	16	10	6
	kW	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.6
75	TC	28	29	31	30	31	32	31	32	33
	SHC	7	3	0	12	8	4	17	12	8
	kW	4.2	4.2	4.3	4.2	4.3	4.3	4.3	4.3	4.3
70	TC	30	31	32	32	33	34	33	34	35
	SHC	8	5	2	14	9	6	19	14	10
	kW	4.0	4.0	4.0	4.0	4.0	4.1	4.0	4.1	4.1
60	TC	34	35	36	36	37	38	37	38	39
	SHC	12	9	6	18	3	10	23	18	14
	kW	3.6	3.6	3.6	3.6	3.6	3.7	3.6	3.7	3.7
50	TC	38	39	41	40	41	43	41	42	44
	SHC	16	13	10	22	18	14	28	23	19
	kW	3.2	3.3	3.3	3.2	3.3	3.3	3.3	3.3	3.3
40	TC	42	44	45	44	46	47	46	47	49
	SHC	22	19	17	28	24	21	33	29	25
	kW	2.9	3.0	3.0	3.0	3.0	3.1	3.0	3.0	3.1

LEGEND AND NOTES

- kW --- Compressor Power Input
- SHC --- Sensible Capacity (1000 Btuh) Gross
- TC --- Total Capacity(1000 Btuh) Gross

COOLING CAPACITIES (cont.)

Table 16 – COOLING CAPACITIES - FIRST STAGE, PART LOAD

7.5 TONS

08 SIZE				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
1500 Cfm	EAT (wB)	58	THC	39.3	39.3	45.0	36.1	36.1	41.5	32.7	32.7	37.8	29.2	29.2	34.0	25.4	25.4	30.0	
			SHC	33.6	39.3	45.0	30.6	36.1	41.5	27.5	32.7	37.8	24.2	29.2	34.0	20.8	25.4	30.0	
		62	THC	39.4	39.4	47.0	36.1	36.1	43.4	32.7	32.7	39.7	29.2	29.2	35.8	25.4	25.4	31.7	
			SHC	31.8	39.4	47.0	28.9	36.1	43.4	25.7	32.7	39.7	22.6	29.2	35.8	19.3	25.4	31.7	
		67	THC	43.9	43.9	43.9	39.9	39.9	39.9	35.8	35.8	36.1	31.5	31.5	33.3	27.1	27.1	30.7	
			SHC	25.4	33.2	41.1	22.8	30.7	38.6	20.2	28.1	36.1	17.6	25.5	33.3	14.9	22.8	30.7	
	72	THC	49.3	49.3	49.3	45.1	45.1	45.1	40.8	40.8	40.8	36.3	36.3	36.3	31.6	31.6	31.6		
		SHC	18.3	26.2	34.2	15.8	23.8	31.7	13.3	21.2	29.2	10.6	18.6	26.5	8.0	16.0	23.9		
	76	THC	–	53.9	53.9	–	49.6	49.6	–	45.0	45.0	–	40.4	40.4	–	35.5	35.5		
		SHC	–	20.6	28.6	–	18.0	26.1	–	15.5	23.5	–	13.0	21.0	–	10.3	18.3		
	1750 Cfm	EAT (wB)	58	THC	41.8	41.8	47.8	38.3	38.3	44.1	34.8	34.8	40.2	31.1	31.1	36.2	27.2	27.2	32.0
				SHC	35.9	41.8	47.8	32.7	38.3	44.1	29.3	34.8	40.2	25.9	31.1	36.2	22.3	27.2	32.0
62			THC	41.8	41.8	49.8	38.4	38.4	46.0	34.8	34.8	42.0	31.1	31.1	37.9	27.2	27.2	33.6	
			SHC	33.9	41.8	49.8	30.8	38.4	46.0	27.6	34.8	42.0	24.3	31.1	37.9	20.8	27.2	33.6	
67			THC	45.0	45.0	45.9	41.0	41.0	43.3	36.8	36.8	40.7	32.4	32.4	37.8	27.9	27.9	35.0	
			SHC	27.6	36.8	45.9	25.1	34.1	43.3	22.4	31.5	40.7	19.7	28.8	37.8	17.0	26.0	35.0	
72		THC	50.5	50.5	50.5	46.1	46.1	46.1	41.7	41.7	41.7	37.1	37.1	37.1	32.3	32.3	32.3		
		SHC	19.3	28.6	37.7	16.8	26.0	35.2	14.2	23.4	32.6	11.6	20.8	29.9	8.9	18.0	27.2		
76		THC	–	55.2	55.2	–	50.7	50.7	–	46.0	46.0	–	41.2	41.2	–	36.2	36.2		
		SHC	–	21.8	31.1	–	19.3	28.6	–	16.8	25.9	–	14.1	23.3	–	11.4	20.7		
2000 Cfm		EAT (wB)	58	THC	43.9	43.9	50.0	40.3	40.3	46.1	36.5	36.5	42.1	32.7	32.7	37.9	28.6	28.6	33.5
				SHC	37.7	43.9	50.0	34.3	40.3	46.1	30.9	36.5	42.1	27.3	32.7	37.9	23.6	28.6	33.5
	62		THC	43.9	43.9	52.1	40.3	40.3	48.2	36.6	36.6	44.1	32.7	32.7	39.8	28.7	28.7	35.3	
			SHC	35.7	43.9	52.1	32.5	40.3	48.2	29.1	36.6	44.1	25.6	32.7	39.8	22.0	28.7	35.3	
	67		THC	45.9	45.9	50.3	41.8	41.8	47.7	37.5	37.5	44.9	33.2	33.2	41.9	28.8	28.8	38.3	
			SHC	29.7	40.1	50.3	27.1	37.3	47.7	24.5	34.7	44.9	21.6	31.8	41.9	18.6	28.5	38.3	
	72	THC	51.3	51.3	51.3	46.9	46.9	46.9	42.4	42.4	42.4	37.6	37.6	37.6	32.8	32.8	32.8		
		SHC	20.3	30.7	41.1	17.7	28.1	38.5	15.1	25.4	35.9	12.4	22.8	33.2	9.8	20.1	30.5		
	76	THC	–	56.1	56.1	–	51.5	51.5	–	46.7	46.7	–	41.8	41.8	–	36.8	36.8		
		SHC	–	23.0	33.5	–	20.5	30.9	–	17.8	28.3	–	15.2	25.6	–	12.5	22.9		
	2250 Cfm	EAT (wB)	58	THC	45.5	45.5	51.9	41.8	41.8	47.9	37.9	37.9	43.7	33.9	33.9	39.4	29.7	29.7	34.9
				SHC	39.2	45.5	51.9	35.8	41.8	47.9	32.2	37.9	43.7	28.6	33.9	39.4	24.7	29.7	34.9
62			THC	45.5	45.5	54.0	41.8	41.8	49.9	38.0	38.0	45.6	34.0	34.0	41.2	29.8	29.8	36.7	
			SHC	37.1	45.5	54.0	33.7	41.8	49.9	30.3	38.0	45.6	26.7	34.0	41.2	23.0	29.8	36.7	
67			THC	46.7	46.7	54.6	42.6	42.6	51.7	38.3	38.3	48.7	34.1	34.1	44.6	29.8	29.8	40.1	
			SHC	31.7	43.1	54.6	29.0	40.4	51.7	26.2	37.4	48.7	23.0	33.8	44.6	19.7	29.8	40.1	
72		THC	52.0	52.0	52.0	47.6	47.6	47.6	42.9	42.9	42.9	38.1	38.1	38.1	33.2	33.2	33.5		
		SHC	21.2	32.8	44.4	18.5	30.1	41.7	15.9	27.5	39.1	13.3	24.8	36.4	10.5	22.0	33.5		
76		THC	–	56.7	56.7	–	52.2	52.2	–	47.3	47.3	–	42.3	42.3	–	37.1	37.1		
		SHC	–	24.2	35.8	–	21.5	33.2	–	18.9	30.5	–	16.3	27.8	–	13.6	25.1		
2500 Cfm		EAT (wB)	58	THC	46.9	46.9	53.4	43.1	43.1	49.3	39.2	39.2	45.0	35.1	35.1	40.6	30.8	30.8	36.0
				SHC	40.5	46.9	53.4	37.0	43.1	49.3	33.2	39.2	45.0	29.5	35.1	40.6	25.5	30.8	36.0
	62		THC	47.0	47.0	55.7	43.2	43.2	51.4	39.2	39.2	47.1	35.1	35.1	42.5	30.8	30.8	37.7	
			SHC	38.3	47.0	55.7	34.9	43.2	51.4	31.4	39.2	47.1	27.7	35.1	42.5	23.9	30.8	37.7	
	67		THC	47.5	47.5	58.3	43.5	43.5	54.6	39.4	39.4	50.7	35.1	35.1	46.2	30.8	30.8	41.2	
			SHC	33.5	45.9	58.3	30.5	42.5	54.6	27.4	39.0	50.7	24.1	35.1	46.2	20.5	30.8	41.2	
	72	THC	52.6	52.6	52.6	48.0	48.0	48.0	43.3	43.3	43.3	38.5	38.5	39.4	33.4	33.4	36.6		
		SHC	21.9	34.7	47.5	19.4	32.1	44.9	16.7	29.4	42.1	14.0	26.7	39.4	11.2	23.9	36.6		
	76	THC	–	57.3	57.3	–	52.7	52.7	–	47.8	47.8	–	42.7	42.7	–	37.4	37.4		
		SHC	–	25.2	38.0	–	22.6	35.4	–	19.9	32.7	–	17.3	29.9	–	14.4	27.1		

LEGEND:

- Do not operate
- Cfm – Cubic feet per minute (supply air)
- EAT(db) – Entering air temperature (dry bulb)
- EAT(wb) – Entering air temperature (wet bulb)
- SHC – Sensible heat capacity
- TC – Total capacity

COOLING CAPACITIES (cont.)

Table 17 – COOLING CAPACITIES - SECOND STAGE, PART LOAD

7.5 TONS

08 SIZE				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
1500 Cfm	EAT (wB)	58	THC	45.7	45.7	52.3	42.4	42.4	48.7	39.0	39.0	44.9	35.3	35.3	41.0	31.5	31.5	37.0	
			SHC	39.2	45.7	52.3	36.2	42.4	48.7	33.0	39.0	44.9	29.6	35.3	41.0	26.1	31.5	37.0	
		62	THC	47.1	47.1	52.2	43.2	43.2	49.5	39.2	39.2	46.8	35.4	35.4	43.0	31.6	31.6	38.8	
			SHC	36.2	44.2	52.2	33.6	41.5	49.5	30.9	38.8	46.8	27.8	35.4	43.0	24.4	31.6	38.8	
		67	THC	53.1	53.1	53.1	48.8	48.8	48.8	44.5	44.5	44.5	40.0	40.0	40.0	35.2	35.2	35.2	
			SHC	29.3	37.2	45.2	26.6	34.7	42.7	24.0	32.1	40.1	21.4	29.3	37.3	18.6	26.6	34.6	
	72	THC	59.7	59.7	59.7	55.2	55.2	55.2	50.5	50.5	50.5	45.7	45.7	45.7	40.7	40.7	40.7		
		SHC	22.1	30.1	38.2	19.5	27.6	35.6	17.0	25.0	33.1	14.2	22.3	30.3	11.6	19.6	27.7		
	76	THC	–	65.3	65.3	–	60.6	60.6	–	55.8	55.8	–	50.7	50.7	–	45.3	45.3		
		SHC	–	24.4	32.4	–	21.8	29.8	–	19.2	27.3	–	16.6	24.6	–	13.8	21.9		
	1750 Cfm	EAT (wB)	58	THC	48.9	48.9	55.9	45.4	45.4	52.1	41.7	41.7	48.1	37.9	37.9	43.9	33.9	33.9	39.5
				SHC	42.1	48.9	55.9	38.8	45.4	52.1	35.5	41.7	48.1	32.0	37.9	43.9	28.3	33.9	39.5
62			THC	49.1	49.1	58.2	45.5	45.5	54.3	41.8	41.8	50.2	38.0	38.0	46.0	33.9	33.9	41.5	
			SHC	39.9	49.0	58.2	36.7	45.5	54.3	33.4	41.8	50.2	30.0	38.0	46.0	26.4	33.9	41.5	
67			THC	54.8	54.8	54.8	50.4	50.4	50.4	45.9	45.9	45.9	41.1	41.1	42.3	36.3	36.3	39.5	
			SHC	31.7	41.0	50.4	29.1	38.4	47.8	26.4	35.8	45.0	23.7	33.1	42.3	20.9	30.2	39.5	
72		THC	61.5	61.5	61.5	56.8	56.8	56.8	52.0	52.0	52.0	47.0	47.0	47.0	41.7	41.7	41.7		
		SHC	23.3	32.7	42.0	20.7	30.0	39.5	18.0	27.4	36.8	15.3	24.7	34.0	12.6	21.9	31.3		
76		THC	–	67.3	67.3	–	62.3	62.3	–	57.2	57.2	–	52.0	52.0	–	46.5	46.5		
		SHC	–	25.8	35.2	–	23.2	32.7	–	20.6	29.9	–	17.9	27.3	–	15.1	24.6		
2000 Cfm		EAT (wB)	58	THC	51.7	51.7	58.9	48.0	48.0	54.8	44.1	44.1	50.6	40.1	40.1	46.3	35.9	35.9	41.7
				SHC	44.5	51.7	58.9	41.0	48.0	54.8	37.5	44.1	50.6	33.8	40.1	46.3	30.0	35.9	41.7
	62		THC	51.8	51.8	61.3	48.1	48.1	57.2	44.2	44.2	52.9	40.2	40.2	48.5	35.9	35.9	43.7	
			SHC	42.2	51.8	61.3	38.8	48.1	57.2	35.4	44.2	52.9	31.8	40.2	48.5	28.1	35.9	43.7	
	67		THC	56.2	56.2	56.2	51.6	51.6	52.7	47.0	47.0	49.9	42.1	42.1	47.1	37.1	37.1	44.2	
			SHC	34.1	44.7	55.3	31.4	42.0	52.7	28.7	39.3	49.9	25.9	36.5	47.1	23.1	33.6	44.2	
	72	THC	62.8	62.8	62.8	58.0	58.0	58.0	53.0	53.0	53.0	47.9	47.9	47.9	42.5	42.5	42.5		
		SHC	24.4	35.1	45.7	21.7	32.4	43.1	19.0	29.7	40.4	16.3	27.0	37.6	13.5	24.2	34.8		
	76	THC	–	68.6	68.6	–	63.6	63.6	–	58.4	58.4	–	52.9	52.9	–	47.3	47.3		
		SHC	–	27.2	37.9	–	24.6	35.3	–	21.9	32.7	–	19.2	29.8	–	16.4	27.1		
	2250 Cfm	EAT (wB)	58	THC	53.9	53.9	61.3	50.1	50.1	57.1	46.0	46.0	52.8	41.8	41.8	48.3	37.4	37.4	43.5
				SHC	46.5	53.9	61.3	43.0	50.1	57.1	39.3	46.0	52.8	35.5	41.8	48.3	31.5	37.4	43.5
62			THC	54.0	54.0	64.0	50.1	50.1	59.7	46.1	46.1	55.2	41.9	41.9	50.5	37.5	37.5	45.5	
			SHC	44.1	54.0	64.0	40.7	50.1	59.7	37.1	46.1	55.2	33.3	41.9	50.5	29.4	37.5	45.5	
67			THC	57.2	57.2	60.1	52.6	52.6	57.3	47.9	47.9	54.6	43.0	43.0	51.7	37.9	37.9	48.6	
			SHC	36.4	48.3	60.1	33.6	45.5	57.3	30.9	42.7	54.6	28.1	39.9	51.7	25.2	36.9	48.6	
72		THC	63.9	63.9	63.9	59.0	59.0	59.0	53.9	53.9	53.9	48.7	48.7	48.7	43.1	43.1	43.1		
		SHC	25.4	37.3	49.3	22.7	34.6	46.6	20.0	31.9	43.9	17.3	29.2	41.0	14.4	26.3	38.2		
76		THC	–	69.7	69.7	–	64.5	64.5	–	59.2	59.2	–	53.7	53.7	–	48.0	48.0		
		SHC	–	28.5	40.5	–	25.8	37.8	–	23.1	35.1	–	20.4	32.3	–	17.6	29.4		
2500 Cfm		EAT (wB)	58	THC	55.9	55.9	63.6	51.9	51.9	59.2	47.7	47.7	54.7	43.4	43.4	50.0	38.8	38.8	45.0
				SHC	48.3	55.9	63.6	44.6	51.9	59.2	40.8	47.7	54.7	36.9	43.4	50.0	32.7	38.8	45.0
	62		THC	56.0	56.0	66.2	52.0	52.0	61.7	47.8	47.8	57.0	43.5	43.5	52.3	38.9	38.9	47.2	
			SHC	45.7	56.0	66.2	42.2	52.0	61.7	38.5	47.8	57.0	34.7	43.5	52.3	30.6	38.9	47.2	
	67		THC	58.1	58.1	64.7	53.4	53.4	61.9	48.7	48.7	58.9	44.0	44.0	55.2	39.1	39.1	50.9	
			SHC	38.5	51.6	64.7	35.8	48.8	61.9	33.0	45.9	58.9	29.8	42.5	55.2	26.4	38.7	50.9	
	72	THC	64.7	64.7	64.7	59.7	59.7	59.7	54.5	54.5	54.5	49.1	49.1	49.1	43.6	43.6	43.6		
		SHC	26.3	39.5	52.7	23.6	36.9	50.0	20.9	34.0	47.3	18.0	31.3	44.5	15.2	28.4	41.5		
	76	THC	–	70.6	70.6	–	65.3	65.3	–	60.0	60.0	–	54.3	54.3	–	48.5	48.5		
		SHC	–	29.6	42.9	–	27.0	40.3	–	24.2	37.4	–	21.5	34.6	–	18.6	31.8		

LEGEND:

- Do not operate
- Cfm – Cubic feet per minute (supply air)
- EAT(db) – Entering air temperature (dry bulb)
- EAT(wb) – Entering air temperature (wet bulb)
- SHC – Sensible heat capacity
- TC – Total capacity

COOLING CAPACITIES (cont.)

Table 18 – COOLING CAPACITIES - THIRD STAGE, FULL LOAD

7.5 TONS

08 SIZE				AMBIENT TEMPERATURE																
				85			95			105			115			125				
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)				
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85		
2250 Cfm	EAT (wB)	58	THC	77.4	77.4	88.3	72.3	72.3	82.9	67.0	67.0	77.1	61.4	61.4	71.0	55.6	55.6	64.6		
			SHC	66.5	77.4	88.3	61.8	72.3	82.9	56.9	67.0	77.1	51.9	61.4	71.0	46.5	55.6	64.6		
		62	THC	82.3	82.3	83.8	76.1	76.1	79.8	69.6	69.6	75.7	63.0	63.0	71.5	56.1	56.1	67.1		
			SHC	59.8	71.8	83.8	55.8	67.8	79.8	51.7	63.7	75.7	47.6	59.5	71.5	43.2	55.2	67.1		
		67	THC	92.3	92.3	92.3	85.7	85.7	85.7	78.8	78.8	78.8	71.5	71.5	71.5	64.0	64.0	64.0		
			SHC	49.2	61.2	73.2	45.2	57.2	69.2	41.1	53.1	65.1	37.0	49.0	61.0	32.8	44.8	56.7		
		72	THC	103.3	103.3	103.3	96.1	96.1	96.1	88.7	88.7	88.7	81.0	81.0	81.0	72.9	72.9	72.9		
			SHC	38.4	50.5	62.5	34.4	46.5	58.6	30.4	42.4	54.5	26.2	38.3	50.4	22.0	34.0	46.1		
		76	THC	–	112.4	112.4	–	104.9	104.9	–	97.1	97.1	–	89.0	89.0	–	80.4	80.4		
			SHC	–	41.6	53.6	–	37.6	49.7	–	33.6	45.6	–	29.4	41.5	–	25.3	37.3		
		2650 Cfm	EAT (wB)	58	THC	83.5	83.5	95.1	78.0	78.0	89.1	72.2	72.2	83.0	66.3	66.3	76.4	60.1	60.1	69.6
					SHC	71.9	83.5	95.1	66.9	78.0	89.1	61.6	72.2	83.0	56.2	66.3	76.4	50.5	60.1	69.6
62	THC			85.9	85.9	94.1	79.5	79.5	89.9	72.8	72.8	85.6	66.4	66.4	80.0	60.2	60.2	72.9		
	SHC			66.0	80.0	94.1	61.9	76.0	89.9	57.7	71.7	85.6	52.8	66.4	80.0	47.4	60.2	72.9		
67	THC			95.8	95.8	95.8	88.8	88.8	88.8	81.6	81.6	81.6	74.0	74.0	74.0	66.2	66.2	66.2		
	SHC			53.3	67.5	81.6	49.2	63.4	77.5	45.1	59.2	73.3	40.9	55.0	69.0	36.6	50.6	64.6		
72	THC			106.9	106.9	106.9	99.4	99.4	99.4	91.7	91.7	91.7	83.6	83.6	83.6	75.1	75.1	75.1		
	SHC			40.5	54.6	68.8	36.4	50.5	64.7	32.3	46.4	60.5	28.0	42.2	56.4	23.7	37.8	52.0		
76	THC			–	116.1	116.1	–	108.2	108.2	–	100.0	100.0	–	91.6	91.6	–	82.7	82.7		
	SHC			–	44.1	58.2	–	40.0	54.2	–	35.9	50.1	–	31.7	45.9	–	27.4	41.6		
3000 Cfm	EAT (wB)			58	THC	87.9	87.9	100.0	82.1	82.1	93.8	76.1	76.1	87.3	69.8	69.8	80.3	63.3	63.3	73.2
					SHC	75.8	87.9	100.0	70.5	82.1	93.8	65.0	76.1	87.3	59.3	69.8	80.3	53.3	63.3	73.2
		62	THC	88.6	88.6	102.6	82.3	82.3	97.7	76.2	76.2	91.1	70.0	70.0	84.0	63.4	63.4	76.6		
			SHC	71.2	86.9	102.6	66.7	82.2	97.7	61.4	76.2	91.1	55.9	70.0	84.0	50.1	63.4	76.6		
		67	THC	98.2	98.2	98.2	91.0	91.0	91.0	83.5	83.5	83.5	75.8	75.8	75.8	67.7	67.7	71.4		
			SHC	56.7	72.6	88.5	52.7	68.5	84.4	48.4	64.3	80.1	44.1	60.0	75.9	39.7	55.5	71.4		
		72	THC	109.2	109.2	109.2	101.6	101.6	101.6	93.6	93.6	93.6	85.2	85.2	85.2	76.5	76.5	76.5		
			SHC	42.0	58.0	74.0	37.9	53.9	69.8	33.7	49.6	65.6	29.4	45.3	61.3	25.1	41.0	56.9		
		76	THC	–	118.5	118.5	–	110.4	110.4	–	102.0	102.0	–	93.2	93.2	–	84.0	84.0		
			SHC	–	45.9	62.0	–	41.9	58.0	–	37.7	53.7	–	33.4	49.4	–	29.1	45.0		
		3400 Cfm	EAT (wB)	58	THC	92.2	92.2	104.8	86.2	86.2	98.2	79.9	79.9	91.4	73.3	73.3	84.1	66.4	66.4	76.6
					SHC	79.7	92.2	104.8	74.1	86.2	98.2	68.3	79.9	91.4	62.4	73.3	84.1	56.1	66.4	76.6
62	THC			92.3	92.3	109.2	86.3	86.3	102.4	80.0	80.0	95.4	73.4	73.4	87.9	66.5	66.5	80.1		
	SHC			75.6	92.3	109.2	70.2	86.3	102.4	64.5	80.0	95.4	58.8	73.4	87.9	52.7	66.5	80.1		
67	THC			100.3	100.3	100.3	92.9	92.9	92.9	85.2	85.2	87.8	77.3	77.3	83.4	69.1	69.1	78.7		
	SHC			60.5	78.4	96.2	56.3	74.2	92.0	52.0	69.8	87.8	47.6	65.4	83.4	43.1	60.9	78.7		
72	THC			111.3	111.3	111.3	103.4	103.4	103.4	95.3	95.3	95.3	86.7	86.7	86.7	77.8	77.8	77.8		
	SHC			43.7	61.6	79.7	39.5	57.5	75.5	35.3	53.2	71.2	30.9	48.8	66.8	26.5	44.5	62.3		
76	THC			–	120.6	120.6	–	112.3	112.3	–	103.6	103.6	–	94.7	94.7	–	85.2	85.2		
	SHC			–	48.0	66.1	–	43.9	61.9	–	39.6	57.6	–	35.3	53.2	–	30.8	48.7		
3750 Cfm	EAT (wB)			58	THC	95.5	95.5	108.4	89.2	89.2	101.6	82.7	82.7	94.5	75.9	75.9	87.0	68.6	68.6	79.2
					SHC	82.5	95.5	108.4	76.7	89.2	101.6	70.8	82.7	94.5	64.6	75.9	87.0	58.1	68.6	79.2
		62	THC	95.6	95.6	112.9	89.3	89.3	105.9	82.8	82.8	98.6	76.0	76.0	90.9	68.7	68.7	82.9		
			SHC	78.3	95.6	112.9	72.7	89.3	105.9	67.0	82.8	98.6	60.9	76.0	90.9	54.7	68.7	82.9		
		67	THC	101.9	101.9	102.9	94.4	94.4	98.6	86.6	86.6	94.2	78.5	78.5	89.6	70.2	70.2	84.9		
			SHC	63.5	83.2	102.9	59.3	78.9	98.6	55.0	74.6	94.2	50.5	70.1	89.6	46.0	65.4	84.9		
		72	THC	112.8	112.8	112.8	104.8	104.8	104.8	96.4	96.4	96.4	87.8	87.8	87.8	78.7	78.7	78.7		
			SHC	44.9	64.7	84.4	40.8	60.5	80.2	36.6	56.2	75.9	32.2	51.8	71.5	27.7	47.3	67.0		
		76	THC	–	122.1	122.1	–	113.6	113.6	–	104.7	104.7	–	95.6	95.6	–	86.0	86.0		
			SHC	–	49.6	69.4	–	45.4	65.2	–	41.1	60.8	–	36.8	56.4	–	32.2	51.6		

LEGEND:

- Do not operate
- Cfm – Cubic feet per minute (supply air)
- EAT(db) – Entering air temperature (dry bulb)
- EAT(wb) – Entering air temperature (wet bulb)
- SHC – Sensible heat capacity
- TC – Total capacity

COOLING CAPACITIES (cont.)

Table 19 – REHEAT PERFORMANCE TABLE

7.5 TONS

50LC*A08 REHEAT MODE #1 CAPACITIES (MBTUH), STANDARD UNITS

Reheat-1 (Subcooler Mode)		AIR ENTERING EVAPORATOR - SCFM/BF (80db)								
		1800			2400			3000		
Outdoor Air Temp ° F		Air Entering Evaporator -- Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	109	97	86	113	101	93	116	108	99
	SHC	48	58	69	53	68	84	60	81	96
	kW	4.5	4.5	4.5	5.3	5.1	4.5	5.3	4.6	4.5
85	TC	101	89	79	108	95	85	109	100	91
	SHC	41	52	62	48	62	77	53	73	88
	kW	5.2	5.1	5.1	5.2	5.1	5.1	5.1	5.1	5.1
95	TC	93	82	72	99	87	77	102	91	82
	SHC	34	45	56	41	56	70	47	65	82
	kW	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
105	TC	84	74	64	90	79	69	93	82	75
	SHC	27	38	49	33	48	63	39	58	72
	kW	6.6	6.6	6.5	6.6	6.6	6.5	6.6	6.6	6.5
115	TC	76	66	56	80	70	61	83	73	66
	SHC	19	31	42	25	40	56	31	50	64
	kW	7.5	7.4	7.4	7.5	7.4	7.4	7.5	7.4	7.4
125	TC	67	57	48	71	61	53	73	63	57
	SHC	11	23	35	17	32	48	22	41	57
	kW	8.5	8.5	8.4	8.5	8.5	8.4	8.5	8.5	8.4

LEGEND AND NOTES

- kW --- Compressor Power Input
- SHC --- Sensible Capacity (1000 Btuh) Gross
- TC --- Total Capacity(1000 Btuh) Gross

50LC*A08 REHEAT MODE #2 CAPACITIES (MBTUH), STANDARD UNITS

Reheat-2 (Hot Gas Reheat Mode)		AIR ENTERING EVAPORATOR - SCFM/BF (80db)								
		3750			5000			6250		
Outdoor Air Temp ° F		Air Entering Evaporator -- Ewb (F)								
		62.5	64	65.3	62.5	64	65.3	62.5	64	65.3
80	TC	31	33	35	33	34	36	33	35	36
	SHC	3	-1	-5	10	4	-1	16	10	4
	kW	6.8	6.8	6.9	6.8	6.8	6.9	6.8	6.8	6.9
75	TC	35	36	38	36	38	39	37	39	40
	SHC	6	2	-2	13	7	2	20	13	7
	kW	6.4	6.5	6.5	6.4	6.5	6.5	6.5	6.5	6.6
70	TC	38	40	41	40	41	43	40	42	44
	SHC	10	5	2	16	11	6	23	16	11
	kW	6.1	6.1	6.2	6.1	6.2	6.2	6.1	6.2	6.2
60	TC	44	46	48	46	48	50	47	49	51
	SHC	16	12	8	22	17	12	30	23	18
	kW	5.5	5.6	5.6	5.5	5.6	5.6	5.6	5.6	5.7
50	TC	51	53	54	53	55	57	54	56	58
	SHC	22	18	15	29	24	19	37	30	25
	kW	5.0	5.0	5.1	5.0	5.1	5.1	5.1	5.1	5.2
40	TC	57	59	61	60	62	64	61	63	65
	SHC	29	25	22	36	31	27	44	38	32
	kW	4.6	4.6	4.7	4.6	4.7	4.7	4.6	4.7	4.7

LEGEND AND NOTES

- kW --- Compressor Power Input
- SHC --- Sensible Capacity (1000 Btuh) Gross
- TC --- Total Capacity(1000 Btuh) Gross

COOLING CAPACITIES (cont.)

Table 20 – COOLING CAPACITIES - FIRST STAGE, PART LOAD

8.5 TONS

09 SIZE				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
1700 Cfm	EAT (wB)	58	THC	45.6	45.6	51.5	43.5	43.5	49.1	41.2	41.2	46.6	38.8	38.8	43.9	36.3	36.3	41.0	
			SHC	39.7	45.6	51.5	37.8	43.5	49.1	35.8	41.2	46.6	33.6	38.8	43.9	31.4	36.3	41.0	
		62	THC	45.6	45.6	53.5	43.5	43.5	51.1	41.2	41.2	48.5	38.8	38.8	45.7	36.3	36.3	42.7	
			SHC	37.7	45.6	53.5	36.0	43.5	51.1	34.0	41.2	48.5	32.0	38.8	45.7	29.8	36.3	42.7	
		67	THC	48.8	48.8	48.8	46.0	46.0	47.6	43.2	43.2	46.3	40.2	40.2	44.9	37.1	37.1	43.4	
			SHC	31.0	39.9	48.8	29.7	38.6	47.6	28.5	37.3	46.3	27.1	36.0	44.9	25.7	34.5	43.4	
	72	THC	53.7	53.7	53.7	50.8	50.8	50.8	47.8	47.8	47.8	44.5	44.5	44.5	41.0	41.0	41.0		
		SHC	22.3	31.3	40.3	21.1	30.1	39.1	19.8	28.9	37.8	18.5	27.5	36.5	17.2	26.1	35.1		
	76	THC	–	58.1	58.1	–	55.0	55.0	–	51.8	51.8	–	48.3	48.3	–	44.7	44.7		
		SHC	–	24.3	33.3	–	23.1	32.2	–	21.8	30.9	–	20.6	29.5	–	19.2	28.3		
	2000 Cfm	EAT (wB)	58	THC	47.9	47.9	54.0	45.5	45.5	51.5	43.2	43.2	48.8	40.6	40.6	45.9	37.8	37.8	42.9
				SHC	41.6	47.9	54.0	39.7	45.5	51.5	37.5	43.2	48.8	35.2	40.6	45.9	32.9	37.8	42.9
62			THC	47.9	47.9	56.2	45.6	45.6	53.5	43.2	43.2	50.7	40.7	40.7	47.8	37.9	37.9	44.7	
			SHC	39.7	47.9	56.2	37.7	45.6	53.5	35.7	43.2	50.7	33.4	40.7	47.8	31.2	37.9	44.7	
67			THC	49.7	49.7	54.2	47.0	47.0	52.8	44.1	44.1	51.5	41.0	41.0	49.9	38.0	38.0	47.9	
			SHC	33.4	43.8	54.2	32.2	42.5	52.8	30.8	41.1	51.5	29.4	39.7	49.9	27.8	37.8	47.9	
72		THC	54.7	54.7	54.7	51.8	51.8	51.8	48.6	48.6	48.6	45.2	45.2	45.2	41.7	41.7	41.7		
		SHC	23.3	33.8	44.3	22.1	32.6	43.1	20.9	31.3	41.7	19.5	29.9	40.5	18.1	28.6	39.1		
76		THC	–	59.1	59.1	–	56.0	56.0	–	52.6	52.6	–	49.0	49.0	–	45.3	45.3		
		SHC	–	25.5	36.2	–	24.4	34.9	–	23.1	33.6	–	21.8	32.4	–	20.5	30.9		
2250 Cfm		EAT (wB)	58	THC	49.3	49.3	55.8	47.0	47.0	53.1	44.5	44.5	50.3	41.8	41.8	47.3	39.0	39.0	44.2
				SHC	43.0	49.3	55.8	41.0	47.0	53.1	38.7	44.5	50.3	36.3	41.8	47.3	33.8	39.0	44.2
	62		THC	49.4	49.4	57.9	47.1	47.1	55.2	44.6	44.6	52.3	41.8	41.8	49.1	39.0	39.0	45.9	
			SHC	41.0	49.4	57.9	38.9	47.1	55.2	36.8	44.6	52.3	34.5	41.8	49.1	32.1	39.0	45.9	
	67		THC	50.5	50.5	58.4	47.7	47.7	56.9	44.8	44.8	55.3	41.9	41.9	52.7	39.0	39.0	49.4	
			SHC	35.3	46.9	58.4	34.0	45.4	56.9	32.6	43.9	55.3	30.8	41.8	52.7	28.7	39.0	49.4	
	72	THC	55.4	55.4	55.4	52.3	52.3	52.3	49.0	49.0	49.0	45.6	45.6	45.6	42.1	42.1	42.2		
		SHC	24.1	35.8	47.5	22.9	34.6	46.2	21.6	33.2	44.9	20.3	32.0	43.6	18.9	30.5	42.2		
	76	THC	–	59.8	59.8	–	56.6	56.6	–	53.1	53.1	–	49.4	49.4	–	45.7	45.7		
		SHC	–	26.6	38.4	–	25.4	37.1	–	24.2	35.9	–	22.8	34.5	–	21.5	33.2		
	2550 Cfm	EAT (wB)	58	THC	50.9	50.9	57.4	48.5	48.5	54.7	45.8	45.8	51.8	43.0	43.0	48.7	40.1	40.1	45.3
				SHC	44.4	50.9	57.4	42.2	48.5	54.7	39.9	45.8	51.8	37.3	43.0	48.7	34.7	40.1	45.3
62			THC	51.0	51.0	59.7	48.5	48.5	56.8	45.8	45.8	53.8	43.0	43.0	50.6	40.1	40.1	47.2	
			SHC	42.2	51.0	59.7	40.1	48.5	56.8	37.8	45.8	53.8	35.5	43.0	50.6	33.0	40.1	47.2	
67			THC	51.3	51.3	62.9	48.6	48.6	60.8	45.9	45.9	57.4	43.1	43.1	54.4	40.1	40.1	50.7	
			SHC	37.4	50.1	62.9	35.9	48.4	60.8	33.8	45.6	57.4	31.8	43.1	54.4	29.5	40.1	50.7	
72		THC	55.9	55.9	55.9	52.8	52.8	52.8	49.5	49.5	49.5	46.0	46.0	47.3	42.4	42.4	45.8		
		SHC	25.0	38.1	51.2	23.8	36.9	49.9	22.5	35.6	48.7	21.2	34.2	47.3	19.8	32.8	45.8		
76		THC	–	60.4	60.4	–	57.0	57.0	–	53.6	53.6	–	49.9	49.9	–	46.0	46.0		
		SHC	–	27.8	41.0	–	26.6	39.7	–	25.4	38.4	–	24.0	37.1	–	22.6	35.7		
2800 Cfm		EAT (wB)	58	THC	52.0	52.0	58.7	49.4	49.4	55.9	46.7	46.7	52.8	43.9	43.9	49.6	40.9	40.9	46.2
				SHC	45.3	52.0	58.7	43.1	49.4	55.9	40.7	46.7	52.8	38.1	43.9	49.6	35.4	40.9	46.2
	62		THC	52.1	52.1	60.9	49.5	49.5	58.0	46.8	46.8	54.9	43.9	43.9	51.6	40.9	40.9	48.1	
			SHC	43.1	52.1	60.9	41.0	49.5	58.0	38.6	46.8	54.9	36.2	43.9	51.6	33.6	40.9	48.1	
	67		THC	52.2	52.2	65.1	49.6	49.6	61.9	46.8	46.8	59.0	44.0	44.0	55.5	40.9	40.9	51.7	
			SHC	38.6	51.9	65.1	36.6	49.2	61.9	34.6	46.8	59.0	32.5	44.0	55.5	30.1	40.9	51.7	
	72	THC	56.3	56.3	56.3	53.1	53.1	53.1	49.8	49.8	51.6	46.3	46.3	50.2	42.7	42.7	48.8		
		SHC	25.7	40.0	54.2	24.5	38.7	52.9	23.2	37.4	51.6	21.8	36.1	50.2	20.5	34.6	48.8		
	76	THC	–	60.7	60.7	–	57.4	57.4	–	53.9	53.9	–	50.2	50.2	–	46.3	46.3		
		SHC	–	28.8	43.1	–	27.5	41.8	–	26.2	40.5	–	24.9	39.1	–	23.5	37.7		

LEGEND:

- Do not operate
- Cfm – Cubic feet per minute (supply air)
- EAT(db) – Entering air temperature (dry bulb)
- EAT(wb) – Entering air temperature (wet bulb)
- SHC – Sensible heat capacity
- TC – Total capacity

COOLING CAPACITIES (cont.)

Table 21 – COOLING CAPACITIES - SECOND STAGE, PART LOAD

8.5 TONS

09 SIZE				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
1700 Cfm	EAT (wb)	58	THC	57.8	57.8	65.3	55.3	55.3	62.6	52.7	52.7	59.7	49.8	49.8	56.5	46.7	46.7	53.0	
			SHC	50.2	57.8	65.3	48.0	55.3	62.6	45.6	52.7	59.7	43.1	49.8	56.5	40.4	46.7	53.0	
		62	THC	59.7	59.7	64.0	56.6	56.6	62.2	53.4	53.4	60.5	50.0	50.0	58.4	46.8	46.8	55.3	
			SHC	46.0	55.0	64.0	44.4	53.3	62.2	42.6	51.5	60.5	40.8	49.5	58.4	38.2	46.8	55.3	
		67	THC	65.8	65.8	65.8	62.5	62.5	62.5	59.0	59.0	59.0	55.2	55.2	55.2	51.2	51.2	51.2	
			SHC	37.5	46.6	55.6	36.0	44.9	53.9	34.2	43.2	52.3	32.5	41.4	50.4	30.5	39.5	48.6	
	72	THC	72.6	72.6	72.6	69.1	69.1	69.1	65.3	65.3	65.3	61.3	61.3	61.3	56.9	56.9	56.9		
		SHC	29.0	37.9	47.0	27.3	36.4	45.4	25.6	34.6	43.7	23.9	32.9	41.9	21.9	31.0	40.1		
	76	THC	-	78.6	78.6	-	74.9	74.9	-	70.8	70.8	-	66.5	66.5	-	61.9	61.9		
		SHC	-	30.9	40.0	-	29.3	38.4	-	27.6	36.8	-	25.8	35.0	-	24.1	33.2		
	2000 Cfm	EAT (wb)	58	THC	61.2	61.2	69.2	58.6	58.6	66.3	55.8	55.8	63.1	52.7	52.7	59.8	49.3	49.3	56.1
				SHC	53.3	61.2	69.2	50.9	58.6	66.3	48.4	55.8	63.1	45.6	52.7	59.8	42.7	49.3	56.1
62			THC	61.8	61.8	70.8	58.8	58.8	68.7	55.8	55.8	65.7	52.7	52.7	62.2	49.4	49.4	58.3	
			SHC	50.1	60.5	70.8	48.3	58.5	68.7	45.9	55.8	65.7	43.3	52.7	62.2	40.5	49.4	58.3	
67			THC	67.7	67.7	67.7	64.3	64.3	64.3	60.5	60.5	60.5	56.6	56.6	56.6	52.5	52.5	54.0	
			SHC	40.3	50.8	61.3	38.6	49.1	59.7	36.9	47.4	57.9	35.1	45.5	56.1	33.2	43.6	54.0	
72		THC	74.7	74.7	74.7	71.0	71.0	71.0	67.0	67.0	67.0	62.8	62.8	62.8	58.2	58.2	58.2		
		SHC	30.1	40.7	51.3	28.5	39.0	49.6	26.7	37.3	47.9	25.0	35.5	46.0	23.1	33.6	44.2		
76		THC	-	80.6	80.6	-	76.7	76.7	-	72.5	72.5	-	68.1	68.1	-	63.2	63.2		
		SHC	-	32.5	43.1	-	30.8	41.4	-	29.1	39.8	-	27.3	37.9	-	25.4	36.1		
2250 Cfm		EAT (wb)	58	THC	63.7	63.7	72.0	60.8	60.8	68.8	57.9	57.9	65.5	54.7	54.7	62.0	51.2	51.2	58.1
				SHC	55.5	63.7	72.0	52.9	60.8	68.8	50.2	57.9	65.5	47.4	54.7	62.0	44.3	51.2	58.1
	62		THC	63.8	63.8	74.9	60.9	60.9	71.6	58.0	58.0	68.2	54.8	54.8	64.4	51.3	51.3	60.5	
			SHC	52.7	63.8	74.9	50.3	60.9	71.6	47.8	58.0	68.2	45.0	54.8	64.4	42.0	51.3	60.5	
	67		THC	68.9	68.9	68.9	65.3	65.3	65.3	61.6	61.6	62.4	57.6	57.6	60.5	53.3	53.3	58.5	
			SHC	42.4	54.2	65.9	40.8	52.5	64.3	39.0	50.7	62.4	37.1	48.8	60.5	35.2	46.8	58.5	
	72	THC	76.0	76.0	76.0	72.1	72.1	72.1	68.1	68.1	68.1	63.7	63.7	63.7	59.1	59.1	59.1		
		SHC	31.0	42.8	54.7	29.3	41.1	52.9	27.7	39.4	51.2	25.8	37.6	49.3	23.9	35.7	47.4		
	76	THC	-	82.0	82.0	-	77.9	77.9	-	73.6	73.6	-	69.0	69.0	-	64.1	64.1		
		SHC	-	33.6	45.5	-	32.0	43.9	-	30.2	42.1	-	28.4	40.3	-	26.5	38.3		
	2550 Cfm	EAT (wb)	58	THC	66.2	66.2	74.8	63.2	63.2	71.5	60.1	60.1	68.0	56.7	56.7	64.3	53.0	53.0	60.2
				SHC	57.6	66.2	74.8	55.0	63.2	71.5	52.2	60.1	68.0	49.1	56.7	64.3	45.9	53.0	60.2
62			THC	66.3	66.3	77.7	63.3	63.3	74.3	60.2	60.2	70.7	56.7	56.7	66.9	53.1	53.1	62.7	
			SHC	54.8	66.3	77.7	52.3	63.3	74.3	49.6	60.2	70.7	46.7	56.7	66.9	43.6	53.1	62.7	
67			THC	70.1	70.1	71.2	66.5	66.5	69.5	62.6	62.6	67.7	58.6	58.6	65.6	54.2	54.2	63.5	
			SHC	44.9	58.0	71.2	43.2	56.4	69.5	41.3	54.5	67.7	39.5	52.6	65.6	37.4	50.5	63.5	
72		THC	77.1	77.1	77.1	73.1	73.1	73.1	69.0	69.0	69.0	64.5	64.5	64.5	59.9	59.9	59.9		
		SHC	32.1	45.3	58.5	30.4	43.6	56.8	28.7	41.8	55.1	26.8	40.0	53.2	24.9	38.0	51.3		
76		THC	-	83.3	83.3	-	79.1	79.1	-	74.6	74.6	-	69.9	69.9	-	64.8	64.8		
		SHC	-	34.9	48.3	-	33.2	46.5	-	31.5	44.8	-	29.6	42.9	-	27.8	41.0		
2800 Cfm		EAT (wb)	58	THC	68.0	68.0	76.7	64.9	64.9	73.3	61.6	61.6	69.7	58.2	58.2	65.9	54.4	54.4	61.7
				SHC	59.2	68.0	76.7	56.5	64.9	73.3	53.5	61.6	69.7	50.5	58.2	65.9	47.1	54.4	61.7
	62		THC	68.1	68.1	79.8	64.9	64.9	76.2	61.7	61.7	72.5	58.2	58.2	68.5	54.4	54.4	64.2	
			SHC	56.3	68.1	79.8	53.6	64.9	76.2	50.9	61.7	72.5	48.0	58.2	68.5	44.8	54.4	64.2	
	67		THC	71.0	71.0	75.5	67.3	67.3	73.7	63.4	63.4	71.8	59.3	59.3	69.7	54.9	54.9	67.3	
			SHC	46.9	61.1	75.5	45.1	59.4	73.7	43.3	57.5	71.8	41.3	55.5	69.7	39.2	53.2	67.3	
	72	THC	77.9	77.9	77.9	73.9	73.9	73.9	69.7	69.7	69.7	65.1	65.1	65.1	60.4	60.4	60.4		
		SHC	32.9	47.3	61.7	31.2	45.5	60.0	29.4	43.8	58.2	27.6	41.9	56.3	25.6	40.0	54.3		
	76	THC	-	84.0	84.0	-	79.8	79.8	-	75.3	75.3	-	70.5	70.5	-	65.3	65.3		
		SHC	-	36.0	50.4	-	34.2	48.8	-	32.5	46.9	-	30.6	45.0	-	28.7	43.0		

LEGEND:

- Do not operate
- Cfm - Cubic feet per minute (supply air)
- EAT (db) - Entering air temperature (dry bulb)
- EAT (wb) - Entering air temperature (wet bulb)
- SHC - Sensible heat capacity
- TC - Total capacity

COOLING CAPACITIES (cont.)

Table 22 – COOLING CAPACITIES - THIRD STAGE, FULL LOAD

8.5 TONS

09 SIZE			AMBIENT TEMPERATURE																
			85			95			105			115			125				
			EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)				
			75	80	85	75	80	85	75	80	85	75	80	85	75	80	85		
2550 Cfm	EAT 09 S (wb)	58	THC	89.1	89.1	101.2	84.4	84.4	96.1	79.5	79.5	90.7	74.2	74.2	84.9	68.6	68.6	78.9	
			SHC	77.0	89.1	101.2	72.8	84.4	96.1	68.3	79.5	90.7	63.6	74.2	84.9	58.5	68.6	78.9	
		62	THC	93.6	93.6	96.3	87.9	87.9	92.9	81.9	81.9	89.3	75.7	75.7	85.5	69.1	69.1	81.4	
			SHC	69.4	82.9	96.3	66.0	79.5	92.9	62.4	75.9	89.3	58.7	72.1	85.5	54.8	68.1	81.4	
		67	THC	103.5	103.5	103.5	97.5	97.5	97.5	91.1	91.1	91.1	84.3	84.3	84.3	77.1	77.1	77.1	
			SHC	56.8	70.4	83.9	53.4	67.0	80.5	49.9	63.5	76.9	46.3	59.8	73.3	42.5	56.0	69.5	
	72	THC	114.6	114.6	114.6	108.1	108.1	108.1	101.2	101.2	101.2	94.0	94.0	94.0	86.3	86.3	86.3		
		SHC	44.1	57.7	71.3	40.8	54.3	67.9	37.2	50.8	64.4	33.6	47.2	60.7	29.8	43.4	56.9		
	76	THC	–	124.0	124.0	–	117.2	117.2	–	110.0	110.0	–	102.3	102.3	–	94.1	94.1		
		SHC	–	47.3	60.9	–	43.9	57.6	–	40.5	54.1	–	36.9	50.5	–	33.2	46.8		
	3000 Cfm	EAT (wb)	58	THC	95.2	95.2	107.9	90.1	90.1	102.4	84.8	84.8	96.6	79.2	79.2	90.5	73.2	73.2	83.9
				SHC	82.4	95.2	107.9	77.8	90.1	102.4	72.9	84.8	96.6	67.9	79.2	90.5	62.5	73.2	83.9
62			THC	97.1	97.1	107.3	91.3	91.3	103.7	85.2	85.2	99.7	79.4	79.4	94.4	73.3	73.3	87.6	
			SHC	76.0	91.7	107.3	72.4	88.0	103.7	68.6	84.1	99.7	64.3	79.3	94.4	59.0	73.3	87.6	
67			THC	106.9	106.9	106.9	100.5	100.5	100.5	93.8	93.8	93.8	86.8	86.8	86.8	79.4	79.4	79.4	
			SHC	61.1	76.9	92.7	57.7	73.5	89.3	54.1	69.8	85.6	50.3	66.1	81.9	46.5	62.2	78.0	
72		THC	118.0	118.0	118.0	111.2	111.2	111.2	104.0	104.0	104.0	96.5	96.5	96.5	88.5	88.5	88.5		
		SHC	46.1	61.9	77.8	42.6	58.5	74.4	39.1	54.9	70.8	35.4	51.2	67.1	31.6	47.4	63.2		
76		THC	–	127.5	127.5	–	120.3	120.3	–	112.8	112.8	–	104.7	104.7	–	96.2	96.2		
		SHC	–	49.7	65.8	–	46.3	62.4	–	42.8	58.8	–	39.1	55.0	–	35.2	51.1		
3400 Cfm		EAT (wb)	58	THC	99.5	99.5	112.8	94.3	94.3	107.1	88.7	88.7	100.9	82.8	82.8	94.5	76.5	76.5	87.7
				SHC	86.2	99.5	112.8	81.4	94.3	107.1	76.4	88.7	100.9	71.1	82.8	94.5	65.4	76.5	87.7
	62		THC	99.9	99.9	116.3	94.4	94.4	111.5	88.8	88.8	105.2	82.9	82.9	98.6	76.6	76.6	91.5	
			SHC	81.3	98.9	116.3	77.3	94.4	111.5	72.4	88.8	105.2	67.3	82.9	98.6	61.8	76.6	91.5	
	67		THC	109.1	109.1	109.1	102.6	102.6	102.6	95.7	95.7	95.7	88.4	88.4	89.2	80.8	80.8	85.2	
			SHC	64.7	82.5	100.3	61.2	79.0	96.7	57.5	75.3	93.0	53.8	71.5	89.2	49.9	67.6	85.2	
	72	THC	120.3	120.3	120.3	113.3	113.3	113.3	106.0	106.0	106.0	98.2	98.2	98.2	90.0	90.0	90.0		
		SHC	47.7	65.5	83.4	44.2	62.0	79.8	40.6	58.4	76.1	36.9	54.6	72.3	33.1	50.7	68.4		
	76	THC	–	129.9	129.9	–	122.5	122.5	–	114.7	114.7	–	106.4	106.4	–	97.6	97.6		
		SHC	–	51.7	69.7	–	48.3	66.2	–	44.6	62.5	–	40.9	58.6	–	37.0	54.6		
	3850 Cfm	EAT (wb)	58	THC	103.7	103.7	117.5	98.2	98.2	111.4	92.3	92.3	105.1	86.2	86.2	98.3	79.7	79.7	91.1
				SHC	89.9	103.7	117.5	84.9	98.2	111.4	79.7	92.3	105.1	74.1	86.2	98.3	68.3	79.7	91.1
62			THC	103.8	103.8	122.3	98.3	98.3	116.0	92.4	92.4	109.4	86.3	86.3	102.4	79.8	79.8	95.0	
			SHC	85.4	103.8	122.3	80.5	98.3	116.0	75.5	92.4	109.4	70.1	86.3	102.4	64.4	79.8	95.0	
67			THC	111.2	111.2	111.2	104.5	104.5	104.8	97.4	97.4	101.0	90.1	90.1	97.1	82.3	82.3	93.0	
			SHC	68.5	88.5	108.4	65.0	84.9	104.8	61.2	81.1	101.0	57.4	77.3	97.1	53.5	73.2	93.0	
72		THC	122.3	122.3	122.3	115.1	115.1	115.1	107.6	107.6	107.6	99.6	99.6	99.6	91.4	91.4	91.4		
		SHC	49.3	69.2	89.2	45.8	65.7	85.7	42.1	62.1	82.0	38.4	58.2	78.1	34.5	54.3	74.1		
76		THC	–	131.9	131.9	–	124.3	124.3	–	116.2	116.2	–	107.7	107.7	–	98.7	98.7		
		SHC	–	53.7	73.8	–	50.2	70.2	–	46.5	66.4	–	42.6	62.4	–	38.6	58.2		
4250 Cfm		EAT (wb)	58	THC	106.9	106.9	121.0	101.1	101.1	114.8	95.1	95.1	108.1	88.7	88.7	101.1	82.0	82.0	93.7
				SHC	92.7	106.9	121.0	87.6	101.1	114.8	82.1	95.1	108.1	76.3	88.7	101.1	70.3	82.0	93.7
	62		THC	107.0	107.0	125.9	101.2	101.2	119.4	95.2	95.2	112.6	88.8	88.8	105.4	82.1	82.1	97.7	
			SHC	88.1	107.0	125.9	83.1	101.2	119.4	77.8	95.2	112.6	72.2	88.8	105.4	66.4	82.1	97.7	
	67		THC	112.6	112.6	115.4	105.9	105.9	111.7	98.7	98.7	107.8	91.3	91.3	103.8	83.5	83.5	99.5	
			SHC	71.8	93.6	115.4	68.2	90.0	111.7	64.4	86.1	107.8	60.5	82.2	103.8	56.6	78.0	99.5	
	72	THC	123.7	123.7	123.7	116.5	116.5	116.5	108.8	108.8	108.8	100.7	100.7	100.7	92.2	92.2	92.2		
		SHC	50.7	72.4	94.3	47.1	68.9	90.7	43.5	65.2	87.0	39.7	61.3	83.0	35.7	57.3	79.0		
	76	THC	–	133.4	133.4	–	125.6	125.6	–	117.3	117.3	–	108.6	108.6	–	99.5	99.5		
		SHC	–	55.4	77.3	–	51.8	73.5	–	48.1	69.6	–	44.1	65.5	–	40.0	61.1		

LEGEND:

- Do not operate
- Cfm – Cubic feet per minute (supply air)
- EAT (db) – Entering air temperature (dry bulb)
- EAT (wb) – Entering air temperature (wet bulb)
- SHC – Sensible heat capacity
- TC – Total capacity

COOLING CAPACITIES (cont.)

Table 23 – REHEAT PERFORMANCE TABLE

8.5 TONS

50LC*A09 REHEAT MODE #1 CAPACITIES (MBTUH), STANDARD UNITS

Reheat-1 (Subcooler Mode)		AIR ENTERING EVAPORATOR - SCFM/BF (80db)								
		1800			2400			3000		
Outdoor Air Temp ° F		Air Entering Evaporator -- Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	121	108	96	128	115	104	133	120	111
	SHC	55	67	78	64	79	95	71	91	107
	kW	5.3	5.2	5.1	5.3	5.2	5.2	5.3	5.2	5.2
85	TC	113	101	90	120	108	97	124	112	103
	SHC	48	60	72	56	72	88	64	84	101
	kW	6.0	5.9	5.8	6.0	5.9	5.9	6.0	6.0	5.9
95	TC	105	94	83	112	100	89	115	104	95
	SHC	41	54	66	49	65	82	56	76	95
	kW	6.7	6.7	6.6	6.8	6.7	6.6	6.8	6.7	6.7
105	TC	97	86	76	103	92	82	107	95	88
	SHC	34	47	60	41	58	75	48	69	85
	kW	7.6	7.5	7.5	7.7	7.6	7.5	7.7	7.6	7.6
115	TC	89	78	69	94	83	74	97	87	81
	SHC	27	40	53	34	51	68	40	61	73
	kW	8.7	8.6	8.5	8.7	8.6	8.5	8.7	8.6	8.6
125	TC	80	70	61	85	75	66	88	78	72
	SHC	19	33	46	26	43	60	32	53	69
	kW	9.8	9.7	9.7	9.8	9.8	9.7	9.9	9.8	9.7

LEGEND AND NOTES

- kW --- Compressor Power Input
- SHC --- Sensible Capacity (1000 Btuh) Gross
- TC --- Total Capacity(1000 Btuh) Gross

50LC*A09 REHEAT MODE #2 CAPACITIES (MBTUH), STANDARD UNITS

Reheat-2 (Hot Gas Reheat Mode)		AIR ENTERING EVAPORATOR - SCFM/BF (80db)								
		3750			5000			6250		
Outdoor Air Temp ° F		Air Entering Evaporator -- Ewb (F)								
		62.5	64	65.3	62.5	64	65.3	62.5	64	65.3
80	TC	39	41	42	40	42	43	41	43	44
	SHC	8	3	-1	15	9	3	22	15	8
	kW	7.8	7.8	7.9	7.8	7.8	7.9	7.8	7.8	7.9
75	TC	43	44	45	43	45	46	44	46	47
	SHC	12	6	2	18	12	6	25	18	11
	kW	7.4	7.4	7.5	7.4	7.4	7.5	7.4	7.4	7.5
70	TC	46	48	48	46	48	50	48	49	51
	SHC	15	10	5	21	14	9	29	21	14
	kW	7.0	7.0	7.1	7.0	7.0	7.1	7.0	7.1	7.1
60	TC	51	56	57	56	55	57	55	56	57
	SHC	20	18	13	30	21	16	35	27	21
	kW	6.3	6.4	6.4	6.4	6.4	6.4	6.3	6.4	6.5
50	TC	60	61	64	61	64	66	63	65	67
	SHC	28	23	20	35	30	25	44	36	30
	kW	5.7	5.8	5.8	5.8	5.8	5.9	5.8	5.8	5.9
40	TC	66	68	69	68	71	71	70	72	72
	SHC	34	30	25	42	37	30	50	43	36
	kW	5.2	5.3	5.3	5.3	5.3	5.4	5.3	5.4	5.4

LEGEND AND NOTES

- kW --- Compressor Power Input
- SHC --- Sensible Capacity (1000 Btuh) Gross
- TC --- Total Capacity(1000 Btuh) Gross

COOLING CAPACITIES (cont.)

Table 24 – COOLING CAPACITIES - FIRST STAGE, PART LOAD

10 TONS

12 SIZE.04				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
2000 Cfm	EAT (wB)	58	THC	53.4	53.4	60.3	51.2	51.2	57.7	48.8	48.8	55.0	46.2	46.2	52.1	43.4	43.4	48.9	
			SHC	46.7	53.4	60.3	44.8	51.2	57.7	42.6	48.8	55.0	40.3	46.2	52.1	37.8	43.4	48.9	
		62	THC	53.5	53.5	62.6	51.3	51.3	60.0	48.8	48.8	57.1	46.2	46.2	54.1	43.5	43.5	50.8	
			SHC	44.5	53.5	62.6	42.6	51.3	60.0	40.6	48.8	57.1	38.4	46.2	54.1	36.1	43.5	50.8	
		67	THC	56.6	56.6	58.1	53.6	53.6	56.9	50.6	50.6	55.6	47.4	47.4	54.2	44.0	44.0	52.7	
			SHC	36.9	47.5	58.1	35.7	46.3	56.9	34.5	45.0	55.6	33.2	43.7	54.2	31.8	42.2	52.7	
	72	THC	62.3	62.3	62.3	59.2	59.2	59.2	55.9	55.9	55.9	52.4	52.4	48.6	48.6	48.6			
		SHC	26.5	37.2	47.9	25.4	36.1	46.7	24.2	34.8	45.5	22.9	33.5	44.3	21.5	32.3	42.9		
	76	THC	-	67.3	67.3	-	64.1	64.1	-	60.5	60.5	-	56.7	56.7	-	52.7	52.7		
		SHC	-	28.8	39.5	-	27.7	38.4	-	26.5	37.2	-	25.3	36.0	-	24.0	34.7		
	2300 Cfm	EAT (wB)	58	THC	55.7	55.7	62.8	53.3	53.3	60.1	50.7	50.7	57.1	48.0	48.0	54.1	45.0	45.0	50.7
				SHC	48.7	55.7	62.8	46.5	53.3	60.1	44.3	50.7	57.1	41.8	48.0	54.1	39.3	45.0	50.7
62			THC	55.8	55.8	65.1	53.3	53.3	62.4	50.8	50.8	59.4	48.1	48.1	56.2	45.0	45.0	52.7	
			SHC	46.3	55.8	65.1	44.4	53.3	62.4	42.2	50.8	59.4	39.9	48.1	56.2	37.3	45.0	52.7	
67			THC	57.5	57.5	63.7	54.6	54.6	62.4	51.5	51.5	60.9	48.3	48.3	59.4	45.1	45.1	56.6	
			SHC	39.5	51.6	63.7	38.2	50.3	62.4	37.0	48.9	60.9	35.6	47.5	59.4	33.6	45.0	56.6	
72		THC	63.3	63.3	63.3	60.1	60.1	60.1	56.6	56.6	56.6	53.0	53.0	49.1	49.1	49.1			
		SHC	27.6	39.8	52.0	26.4	38.6	50.8	25.3	37.4	49.6	23.9	36.1	48.3	22.6	34.8	46.9		
76		THC	-	68.3	68.3	-	64.9	64.9	-	61.3	61.3	-	57.5	57.5	-	53.4	53.4		
		SHC	-	30.1	42.5	-	29.1	41.3	-	27.9	40.2	-	26.6	38.9	-	25.3	37.5		
2650 Cfm		EAT (wB)	58	THC	57.8	57.8	65.1	55.3	55.3	62.3	52.6	52.6	59.3	49.6	49.6	56.0	46.5	46.5	52.5
				SHC	50.5	57.8	65.1	48.3	55.3	62.3	45.9	52.6	59.3	43.3	49.6	56.0	40.6	46.5	52.5
	62		THC	57.9	57.9	67.7	55.4	55.4	64.7	52.7	52.7	61.5	49.7	49.7	58.1	46.6	46.6	54.5	
			SHC	48.1	57.9	67.7	46.0	55.4	64.7	43.7	52.7	61.5	41.2	49.7	58.1	38.6	46.6	54.5	
	67		THC	58.6	58.6	69.7	55.7	55.7	68.3	52.8	52.8	65.5	49.7	49.7	62.4	46.6	46.6	58.5	
			SHC	42.2	56.0	69.7	41.0	54.6	68.3	39.2	52.4	65.5	37.1	49.7	62.4	34.8	46.6	58.5	
	72	THC	64.1	64.1	64.1	60.8	60.8	60.8	57.3	57.3	57.3	53.6	53.6	53.6	49.7	49.7	51.6		
		SHC	28.8	42.7	56.6	27.6	41.5	55.5	26.3	40.3	54.3	25.1	39.0	52.9	23.7	37.6	51.6		
	76	THC	-	69.1	69.1	-	65.7	65.7	-	62.1	62.1	-	58.2	58.2	-	54.0	54.0		
		SHC	-	31.7	45.7	-	30.6	44.7	-	29.3	43.5	-	28.1	42.1	-	26.8	40.9		
	2950 Cfm	EAT (wB)	58	THC	59.4	59.4	66.9	56.7	56.7	63.9	53.9	53.9	60.7	50.9	50.9	57.3	47.7	47.7	53.7
				SHC	51.8	59.4	66.9	49.5	56.7	63.9	47.0	53.9	60.7	44.4	50.9	57.3	41.5	47.7	53.7
62			THC	59.4	59.4	69.4	56.7	56.7	66.3	53.9	53.9	63.1	50.9	50.9	59.6	47.7	47.7	55.8	
			SHC	49.3	59.4	69.4	47.2	56.7	66.3	44.8	53.9	63.1	42.2	50.9	59.6	39.6	47.7	55.8	
67			THC	59.6	59.6	73.7	56.9	56.9	70.6	54.0	54.0	67.7	51.0	51.0	63.9	47.7	47.7	59.9	
			SHC	44.2	59.0	73.7	42.2	56.5	70.6	40.4	54.0	67.7	38.0	51.0	63.9	35.6	47.7	59.9	
72		THC	64.6	64.6	64.6	61.3	61.3	61.3	57.8	57.8	58.1	54.0	54.0	56.8	50.1	50.1	55.4		
		SHC	29.7	45.1	60.5	28.6	44.0	59.4	27.3	42.7	58.1	26.0	41.4	56.8	24.7	40.0	55.4		
76		THC	-	69.7	69.7	-	66.3	66.3	-	62.6	62.6	-	58.6	58.6	-	54.3	54.3		
		SHC	-	33.0	48.6	-	31.9	47.4	-	30.6	46.2	-	29.3	44.9	-	28.1	43.5		
3300 Cfm		EAT (wB)	58	THC	60.8	60.8	68.5	58.1	58.1	65.4	55.2	55.2	62.2	52.1	52.1	58.7	48.7	48.7	54.9
				SHC	53.1	60.8	68.5	50.7	58.1	65.4	48.2	55.2	62.2	45.4	52.1	58.7	42.5	48.7	54.9
	62		THC	60.8	60.8	71.2	58.1	58.1	68.0	55.2	55.2	64.5	52.1	52.1	60.9	48.8	48.8	57.0	
			SHC	50.6	60.8	71.2	48.4	58.1	68.0	45.8	55.2	64.5	43.3	52.1	60.9	40.5	48.8	57.0	
	67		THC	60.9	60.9	76.2	58.2	58.2	72.9	55.3	55.3	69.2	52.2	52.2	65.3	48.8	48.8	61.1	
			SHC	45.5	60.9	76.2	43.5	58.2	72.9	41.2	55.3	69.2	38.9	52.2	65.3	36.4	48.8	61.1	
	72	THC	65.1	65.1	65.1	61.8	61.8	63.9	58.2	58.2	62.6	54.4	54.4	61.1	50.4	50.4	59.7		
		SHC	30.8	47.9	65.0	29.6	46.7	63.9	28.4	45.4	62.6	27.1	44.2	61.1	25.7	42.7	59.7		
	76	THC	-	70.2	70.2	-	66.8	66.8	-	63.0	63.0	-	59.0	59.0	-	54.7	54.7		
		SHC	-	34.4	51.7	-	33.3	50.5	-	32.1	49.3	-	30.8	48.0	-	29.4	46.6		

LEGEND:

- Do not operate
- Cfm - Cubic feet per minute (supply air)
- EAT(db) - Entering air temperature (dry bulb)
- EAT(wb) - Entering air temperature (wet bulb)
- SHC - Sensible heat capacity
- TC - Total capacity

COOLING CAPACITIES (cont.)

Table 25 – COOLING CAPACITIES - SECOND STAGE, PART LOAD

10 TONS

12 SIZE				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
2000 Cfm	EAT (wB)	58	THC	65.2	65.2	74.2	61.4	61.4	70.1	57.3	57.3	65.7	52.9	52.9	60.9	48.2	48.2	55.8	
			SHC	56.2	65.2	74.2	52.7	61.4	70.1	48.9	57.3	65.7	44.9	52.9	60.9	40.7	48.2	55.8	
		62	THC	67.8	67.8	72.4	63.3	63.3	69.6	58.4	58.4	66.6	53.2	53.2	63.3	48.3	48.3	58.4	
			SHC	51.2	61.8	72.4	48.4	59.0	69.6	45.3	56.0	66.6	42.1	52.7	63.3	38.2	48.3	58.4	
		67	THC	75.9	75.9	75.9	71.1	71.1	71.1	65.9	65.9	65.9	60.3	60.3	60.3	54.2	54.2	54.2	
			SHC	41.6	52.4	63.0	38.8	49.5	60.2	35.9	46.6	57.2	32.8	43.5	54.1	29.5	40.2	50.9	
	72	THC	84.8	84.8	84.8	79.9	79.9	79.9	74.4	74.4	74.4	68.4	68.4	68.4	62.0	62.0	62.0		
		SHC	31.9	42.6	53.3	29.2	39.9	50.6	26.2	37.0	47.7	23.2	33.9	44.7	20.0	30.7	41.4		
	76	THC	-	92.5	92.5	-	87.4	87.4	-	81.7	81.7	-	75.5	75.5	-	68.7	68.7		
		SHC	-	34.6	45.3	-	31.9	42.6	-	29.1	39.8	-	26.0	36.8	-	22.9	33.6		
	2300 Cfm	EAT (wB)	58	THC	69.2	69.2	78.8	65.2	65.2	74.5	60.9	60.9	69.8	56.4	56.4	64.7	51.4	51.4	59.3
				SHC	59.8	69.2	78.8	56.1	65.2	74.5	52.2	60.9	69.8	48.0	56.4	64.7	43.5	51.4	59.3
62			THC	70.2	70.2	80.0	65.6	65.6	77.0	61.1	61.1	72.8	56.5	56.5	67.7	51.5	51.5	62.0	
			SHC	55.8	68.0	80.0	52.8	64.9	77.0	49.3	61.1	72.8	45.2	56.5	67.7	40.9	51.5	62.0	
67			THC	78.2	78.2	78.2	73.2	73.2	73.2	67.9	67.9	67.9	62.0	62.0	62.0	55.8	55.8	56.8	
			SHC	44.7	56.9	69.1	41.8	54.0	66.3	38.8	51.1	63.3	35.7	47.9	60.2	32.4	44.7	56.8	
72		THC	87.3	87.3	87.3	82.1	82.1	82.1	76.4	76.4	76.4	70.3	70.3	70.3	63.7	63.7	63.7		
		SHC	33.3	45.6	57.9	30.5	42.9	55.2	27.6	39.9	52.2	24.5	36.9	49.1	21.3	33.5	45.8		
76		THC	-	95.0	95.0	-	89.6	89.6	-	83.8	83.8	-	77.4	77.4	-	70.4	70.4		
		SHC	-	36.4	48.8	-	33.6	46.0	-	30.8	43.1	-	27.7	40.1	-	24.5	36.9		
2650 Cfm		EAT (wB)	58	THC	73.2	73.2	83.3	69.0	69.0	78.7	64.5	64.5	73.8	59.7	59.7	68.4	54.5	54.5	62.7
				SHC	63.3	73.2	83.3	59.5	69.0	78.7	55.4	64.5	73.8	50.9	59.7	68.4	46.2	54.5	62.7
	62		THC	73.3	73.3	86.7	69.2	69.2	82.0	64.6	64.6	77.0	59.8	59.8	71.5	54.5	54.5	65.6	
			SHC	60.1	73.3	86.7	56.4	69.2	82.0	52.4	64.6	77.0	48.1	59.8	71.5	43.5	54.5	65.6	
	67		THC	80.2	80.2	80.2	75.2	75.2	75.2	69.6	69.6	70.1	63.7	63.7	66.9	57.2	57.2	63.6	
			SHC	48.0	62.0	76.1	45.1	59.2	73.2	42.1	56.2	70.1	38.9	52.9	66.9	35.6	49.5	63.6	
	72	THC	89.3	89.3	89.3	84.0	84.0	84.0	78.2	78.2	78.2	71.9	71.9	71.9	65.0	65.0	65.0		
		SHC	34.9	48.9	63.1	32.1	46.1	60.3	29.1	43.2	57.3	25.9	40.1	54.1	22.6	36.8	50.9		
	76	THC	-	97.2	97.2	-	91.7	91.7	-	85.6	85.6	-	79.0	79.0	-	71.9	71.9		
		SHC	-	38.3	52.6	-	35.6	49.7	-	32.7	46.8	-	29.5	43.8	-	26.3	40.5		
	2950 Cfm	EAT (wB)	58	THC	76.1	76.1	86.5	71.9	71.9	81.8	67.2	67.2	76.7	62.1	62.1	71.2	56.6	56.6	65.2
				SHC	65.8	76.1	86.5	61.9	71.9	81.8	57.6	67.2	76.7	53.0	62.1	71.2	48.2	56.6	65.2
62			THC	76.2	76.2	90.1	72.0	72.0	85.2	67.3	67.3	80.0	62.2	62.2	74.3	56.7	56.7	68.2	
			SHC	62.5	76.2	90.1	58.7	72.0	85.2	54.6	67.3	80.0	50.1	62.2	74.3	45.4	56.7	68.2	
67			THC	81.6	81.6	81.8	76.4	76.4	78.9	70.9	70.9	75.9	64.7	64.7	72.5	58.3	58.3	69.0	
			SHC	50.7	66.3	81.8	47.9	63.4	78.9	44.8	60.3	75.9	41.5	57.0	72.5	38.1	53.6	69.0	
72		THC	90.8	90.8	90.8	85.3	85.3	85.3	79.4	79.4	79.4	72.9	72.9	72.9	65.9	65.9	65.9		
		SHC	36.1	51.7	67.4	33.2	48.8	64.5	30.2	45.9	61.5	27.1	42.7	58.3	23.8	39.4	55.0		
76		THC	-	98.6	98.6	-	93.0	93.0	-	86.8	86.8	-	80.1	80.1	-	72.8	72.8		
		SHC	-	39.9	55.7	-	37.1	52.8	-	34.1	49.8	-	31.0	46.8	-	27.7	43.5		
3300 Cfm		EAT (wB)	58	THC	79.1	79.1	89.7	74.6	74.6	84.8	69.8	69.8	79.6	64.5	64.5	73.9	58.9	58.9	67.7
				SHC	68.4	79.1	89.7	64.4	74.6	84.8	60.0	69.8	79.6	55.2	64.5	73.9	50.1	58.9	67.7
	62		THC	79.2	79.2	93.4	74.7	74.7	88.4	69.9	69.9	83.0	64.6	64.6	77.1	59.0	59.0	70.7	
			SHC	64.9	79.2	93.4	61.0	74.7	88.4	56.7	69.9	83.0	52.2	64.6	77.1	47.3	59.0	70.7	
	67		THC	83.0	83.0	88.3	77.8	77.8	85.4	72.1	72.1	82.2	65.9	65.9	78.8	59.5	59.5	75.1	
			SHC	53.8	71.1	88.3	50.9	68.2	85.4	47.8	65.0	82.2	44.5	61.6	78.8	41.0	58.0	75.1	
	72	THC	92.0	92.0	92.0	86.5	86.5	86.5	80.4	80.4	80.4	73.9	73.9	73.9	66.8	66.8	66.8		
		SHC	37.4	54.8	72.2	34.5	52.0	69.3	31.5	48.9	66.3	28.4	45.7	63.1	25.1	42.4	59.8		
	76	THC	-	99.9	99.9	-	94.2	94.2	-	87.9	87.9	-	81.1	81.1	-	73.7	73.7		
		SHC	-	41.5	59.1	-	38.7	56.3	-	35.8	53.2	-	32.7	50.1	-	29.3	46.8		

LEGEND:

- Do not operate
- Cfm - Cubic feet per minute (supply air)
- EAT(db) - Entering air temperature (dry bulb)
- EAT(wb) - Entering air temperature (wet bulb)
- SHC - Sensible heat capacity
- TC - Total capacity

COOLING CAPACITIES (cont.)

Table 26 – COOLING CAPACITIES - THIRD STAGE, FULL LOAD

10 TONS

12 SIZE				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
3000 Cfm	EAT (wB)	58	THC	103.3	103.3	117.3	97.4	97.4	111.0	91.1	91.1	104.1	84.4	84.4	96.8	77.2	77.2	89.0	
			SHC	89.1	103.3	117.3	83.8	97.4	111.0	78.1	91.1	104.1	72.0	84.4	96.8	65.5	77.2	89.0	
		62	THC	108.2	108.2	112.1	101.2	101.2	107.7	93.6	93.6	103.1	85.7	85.7	98.3	77.5	77.5	92.8	
			SHC	80.4	96.2	112.1	76.1	91.8	107.7	71.5	87.3	103.1	66.8	82.5	98.3	61.6	77.2	92.8	
		67	THC	120.1	120.1	120.1	112.6	112.6	112.6	104.6	104.6	104.6	96.0	96.0	96.0	86.9	86.9	86.9	
			SHC	65.9	81.8	97.7	61.5	77.5	93.4	57.0	72.9	88.8	52.5	68.3	84.2	47.6	63.5	79.4	
	72	THC	133.3	133.3	133.3	125.5	125.5	125.5	116.9	116.9	116.9	107.8	107.8	107.8	98.2	98.2	98.2		
		SHC	51.1	67.1	83.1	46.8	62.8	78.8	42.4	58.4	74.4	37.8	53.7	69.7	33.1	48.9	64.9		
	76	THC	-	144.6	144.6	-	136.4	136.4	-	127.6	127.6	-	118.0	118.0	-	107.8	107.8		
		SHC	-	55.0	71.1	-	50.8	66.9	-	46.5	62.6	-	41.9	58.0	-	37.1	53.2		
	3500 Cfm	EAT (wB)	58	THC	110.0	110.0	124.9	103.7	103.7	118.1	97.1	97.1	110.9	90.0	90.0	103.1	82.5	82.5	94.8
				SHC	95.2	110.0	124.9	89.4	103.7	118.1	83.4	97.1	110.9	77.0	90.0	103.1	70.1	82.5	94.8
62			THC	112.2	112.2	124.4	105.1	105.1	119.7	97.5	97.5	114.8	90.2	90.2	107.5	82.6	82.6	99.0	
			SHC	87.8	106.1	124.4	83.4	101.6	119.7	78.6	96.6	114.8	72.7	90.2	107.5	66.1	82.6	99.0	
67			THC	123.8	123.8	123.8	116.1	116.1	116.1	107.7	107.7	107.7	98.9	98.9	98.9	89.4	89.4	89.4	
			SHC	70.7	89.1	107.5	66.3	84.7	103.2	61.8	80.2	98.7	57.0	75.5	93.9	52.1	70.5	88.9	
72		THC	137.2	137.2	137.2	129.0	129.0	129.0	120.1	120.1	120.1	110.8	110.8	110.8	100.7	100.7	100.7		
		SHC	53.3	71.9	90.4	49.0	67.6	86.1	44.6	63.1	81.5	39.9	58.4	76.9	35.0	53.5	72.1		
76		THC	-	148.6	148.6	-	140.0	140.0	-	130.8	130.8	-	121.0	121.0	-	110.5	110.5		
		SHC	-	57.8	76.5	-	53.5	72.2	-	49.1	67.9	-	44.6	63.2	-	39.7	58.4		
4000 Cfm		EAT (wB)	58	THC	115.6	115.6	131.1	109.1	109.1	124.0	102.1	102.1	116.4	94.7	94.7	108.2	86.7	86.7	99.5
				SHC	100.1	115.6	131.1	94.2	109.1	124.0	87.8	102.1	116.4	81.1	94.7	108.2	73.9	86.7	99.5
	62		THC	116.0	116.0	135.5	109.3	109.3	129.2	102.3	102.3	121.3	94.8	94.8	112.9	86.8	86.8	103.9	
			SHC	94.6	115.1	135.5	89.3	109.3	129.2	83.2	102.3	121.3	76.6	94.8	112.9	69.7	86.8	103.9	
	67		THC	126.8	126.8	126.8	118.8	118.8	118.8	110.3	110.3	110.3	101.1	101.1	103.2	91.5	91.5	98.1	
			SHC	75.3	96.1	117.1	70.9	91.7	112.6	66.2	87.2	108.0	61.4	82.3	103.2	56.5	77.2	98.1	
	72	THC	140.1	140.1	140.1	131.7	131.7	131.7	122.8	122.8	122.8	112.9	112.9	112.9	102.6	102.6	102.6		
		SHC	55.4	76.3	97.4	51.1	72.1	93.0	46.6	67.6	88.5	41.8	62.8	83.8	36.9	57.8	78.8		
	76	THC	-	151.5	151.5	-	142.7	142.7	-	133.4	133.4	-	123.3	123.3	-	112.5	112.5		
		SHC	-	60.4	81.5	-	56.1	77.2	-	51.6	72.7	-	46.9	68.1	-	42.1	63.2		
	4500 Cfm	EAT (wB)	58	THC	120.3	120.3	136.4	113.6	113.6	129.0	106.3	106.3	121.1	98.6	98.6	112.5	90.3	90.3	103.4
				SHC	104.3	120.3	136.4	98.1	113.6	129.0	91.6	106.3	121.1	84.5	98.6	112.5	77.0	90.3	103.4
62			THC	120.5	120.5	142.0	113.7	113.7	134.4	106.5	106.5	126.2	98.7	98.7	117.4	90.4	90.4	108.0	
			SHC	99.1	120.5	142.0	93.0	113.7	134.4	86.7	106.5	126.2	80.0	98.7	117.4	72.7	90.4	108.0	
67			THC	129.1	129.1	129.1	120.9	120.9	121.8	112.2	112.2	117.0	103.0	103.0	112.0	93.1	93.1	106.9	
			SHC	79.6	102.9	126.3	75.1	98.5	121.8	70.5	93.8	117.0	65.6	88.8	112.0	60.5	83.7	106.9	
72		THC	142.4	142.4	142.4	133.9	133.9	133.9	124.6	124.6	124.6	114.6	114.6	114.6	104.0	104.0	104.0		
		SHC	57.2	80.7	104.1	52.9	76.3	99.7	48.4	71.8	95.2	43.6	67.0	90.4	38.6	62.0	85.4		
76		THC	-	154.0	154.0	-	145.0	145.0	-	135.4	135.4	-	125.1	125.1	-	114.0	114.0		
		SHC	-	62.7	86.3	-	58.4	82.0	-	53.9	77.5	-	49.2	72.7	-	44.4	67.9		
5000 Cfm		EAT (wB)	58	THC	124.3	124.3	140.9	117.3	117.3	133.2	109.8	109.8	125.0	101.8	101.8	116.2	93.2	93.2	106.8
				SHC	107.8	124.3	140.9	101.5	117.3	133.2	94.7	109.8	125.0	87.5	101.8	116.2	79.8	93.2	106.8
	62		THC	124.5	124.5	146.5	117.5	117.5	138.6	110.0	110.0	130.2	101.9	101.9	121.1	93.3	93.3	111.4	
			SHC	102.4	124.5	146.5	96.2	117.5	138.6	89.7	110.0	130.2	82.7	101.9	121.1	75.3	93.3	111.4	
	67		THC	131.0	131.0	135.1	122.8	122.8	130.6	113.9	113.9	125.7	104.5	104.5	120.6	94.7	94.7	115.0	
			SHC	83.8	109.4	135.1	79.3	104.9	130.6	74.5	100.1	125.7	69.6	95.1	120.6	64.4	89.7	115.0	
	72	THC	144.2	144.2	144.2	135.5	135.5	135.5	126.2	126.2	126.2	115.9	115.9	115.9	105.3	105.3	105.3		
		SHC	59.1	84.9	110.8	54.7	80.5	106.3	50.1	75.9	101.7	45.2	71.1	96.8	40.3	66.0	91.8		
	76	THC	-	155.9	155.9	-	146.8	146.8	-	137.0	137.0	-	126.6	126.6	-	115.3	115.3		
		SHC	-	64.9	91.0	-	60.6	86.7	-	56.2	82.1	-	51.4	77.3	-	46.5	72.3		

LEGEND:

- Do not operate
- Cfm - Cubic feet per minute (supply air)
- EAT(db) - Entering air temperature (dry bulb)
- EAT(wb) - Entering air temperature (wet bulb)
- SHC - Sensible heat capacity
- TC - Total capacity

COOLING CAPACITIES (cont.)

Table 27 – REHEAT PERFORMANCE TABLE

10 TONS

50LC*A12 REHEAT MODE #1 CAPACITIES (MBTUH), STANDARD UNITS

Reheat-1 (Subcooler Mode)		AIR ENTERING EVAPORATOR - SCFM/BF (80db)								
		1800			2400			3000		
Outdoor Air Temp ° F		Air Entering Evaporator -- Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	149	128	120	149	134	120	149	134	120
	SHC	73	86	110	73	92	110	73	92	110
	kW	6.3	6.2	6.2	6.3	6.3	6.2	6.3	6.3	6.2
85	TC	139	124	111	139	124	111	139	124	111
	SHC	64	83	102	63	83	102	63	83	102
	kW	7.1	7.0	6.9	7.0	7.0	6.9	7.0	7.0	6.9
95	TC	128	114	102	128	114	102	128	114	102
	SHC	54	73	93	54	74	93	54	74	93
	kW	7.9	7.8	7.7	7.9	7.8	7.7	7.9	7.8	7.7
105	TC	117	103	92	117	103	92	117	103	92
	SHC	44	64	84	44	64	84	44	64	84
	kW	8.8	8.7	8.7	8.8	8.7	8.7	8.8	8.7	8.7
115	TC	106	92	81	106	92	81	106	92	81
	SHC	34	54	74	34	54	74	34	54	74
	kW	9.8	9.8	9.7	9.8	9.8	9.7	9.87	9.8	9.7
125	TC	94	81	70	94	81	70	94	81	70
	SHC	24	45	65	24	45	65	24	45	65
	kW	11.0	10.9	10.9	11.0	10.9	10.9	11.0	10.9	10.9

LEGEND AND NOTES

- kW --- Compressor Power Input
- SHC --- Sensible Capacity (1000 Btuh) Gross
- TC --- Total Capacity(1000 Btuh) Gross

50LC*A12 REHEAT MODE #2 CAPACITIES (MBTUH), STANDARD UNITS

Reheat-2 (Hot Gas Reheat Mode)		AIR ENTERING EVAPORATOR - SCFM/BF (80db)								
		3750			5000			6250		
Outdoor Air Temp ° F		Air Entering Evaporator -- Ewb (F)								
		62.5	64	65.3	62.5	64	65.3	62.5	64	65.3
80	TC	43	45	47	44	46	48	45	47	49
	SHC	7	1	-4	15	8	2	24	15	8
	kW	8.6	8.6	8.7	8.6	8.6	8.7	8.6	8.6	8.7
75	TC	46	49	51	48	50	52	49	52	54
	SHC	11	5	0	19	12	5	28	19	12
	kW	8.2	8.2	8.3	8.2	8.2	8.3	8.2	8.2	8.3
70	TC	50	52	55	52	54	57	53	56	58
	SHC	14	9	4	23	16	9	32	23	16
	kW	7.8	7.9	7.9	7.8	7.9	7.9	7.8	7.9	7.9
60	TC	58	60	62	60	63	65	62	64	66
	SHC	22	16	12	30	23	17	40	32	24
	kW	7.1	7.2	7.3	7.1	7.2	7.3	7.2	7.2	7.3
50	TC	67	68	70	69	71	73	70	72	75
	SHC	31	24	20	39	32	26	48	40	33
	kW	6.6	6.6	6.7	6.6	6.7	6.7	6.6	6.7	6.7
40	TC	74	76	81	79	81	82	79	81	84
	SHC	38	33	31	50	43	37	58	50	44
	kW	6.1	6.2	6.2	6.1	6.2	6.3	6.2	6.2	6.3

LEGEND AND NOTES

- kW --- Compressor Power Input
- SHC --- Sensible Capacity (1000 Btuh) Gross
- TC --- Total Capacity(1000 Btuh) Gross

Table 28 – STATIC PRESSURE ADDERS (IN. WG) (FACTORY OPTIONS AND/OR ACCESSORIES)

Electric Heaters

6 Tons												
CFM (in. Wg)	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000
1 Elec. Heater Module	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.06
2 Elec. Heater Modules	0.02	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.07

7.5 – 10 Tons												
CFM (in. Wg)	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500
Vertical – 1 Elec. Heater Module	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Vertical – 2 Elec. Heater Modules	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.04
Horizontal – 1 Elec. Heater Module	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.05
Horizontal – 2 Elec. Heater Modules	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.05

Ultra Low Leak Economizers

6 Tons												
CFM (in. Wg)	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000
Ultra Low Leak Economizer	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.09	0.10	0.12	0.13	0.15

7.5 – 10 Tons												
CFM (in. Wg)	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500
Ultra Low Leak Economizer	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.03

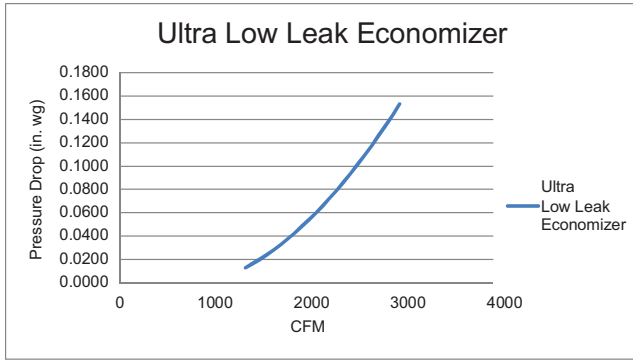
Humidi-MiZer®

6 Tons												
CFM (in. Wg)	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000
Ultra Low Leak Economizer	0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.15

7.5 – 10 Tons												
CFM (in. Wg)	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500
Ultra Low Leak Economizer	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07

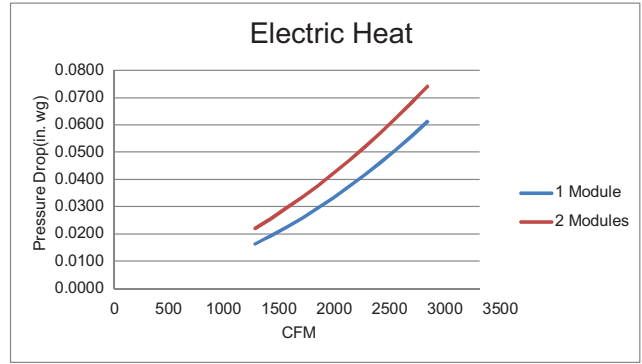
ECONOMIZER, BAROMETRIC RELIEF AND PE PERFORMANCE

50LC*07



C13084

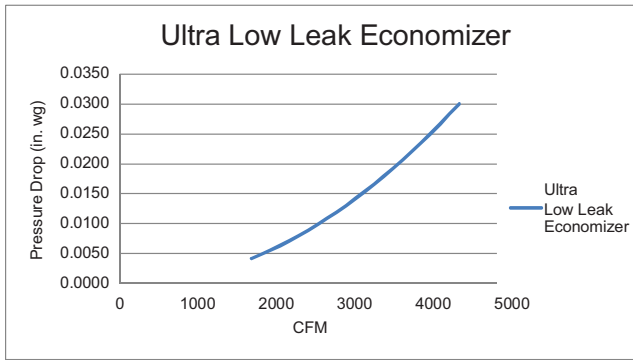
Fig. 10 - Pressure Drop - Ultra Low Leak Economizer



C13085

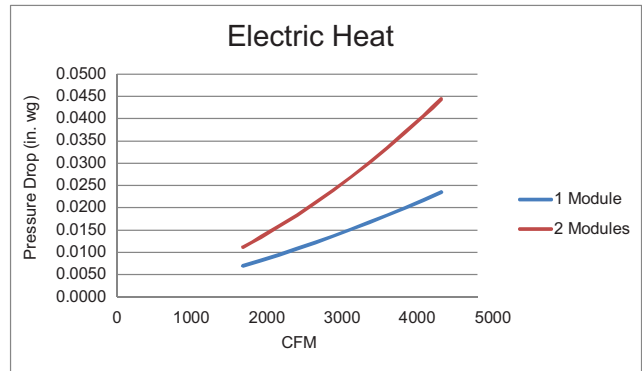
Fig. 11 - Pressure Drop - Electric Heat

50LC*08, 09, 12



C13086

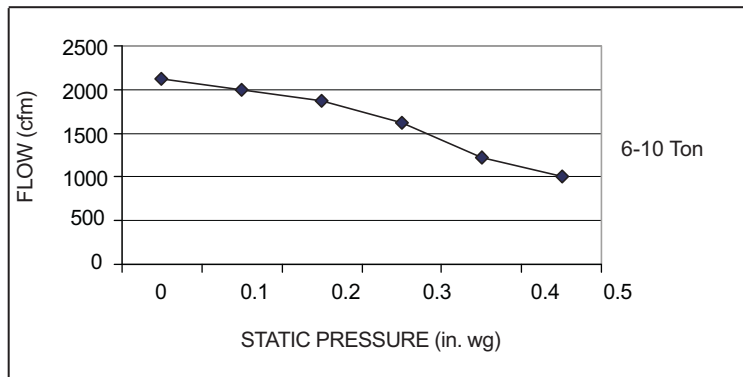
Fig. 12 - Pressure Drop - Ultra Low Leak Economizer



C13087

Fig. 13 - Pressure Drop - Electric Heat

Power Exhaust Performance



C13108

Fig. 14 - Power Exhaust

GENERAL FAN PERFORMANCE NOTES:

1. Interpolation is permissible. Do not extrapolate.
2. External static pressure is the static pressure difference between the return duct and the supply duct plus the static pressure caused by any FIOPs or accessories.
3. Tabular data accounts for pressure loss due to clean filters, unit casing, and wet coils. Factory options and accessories may add static pressure losses. Selection software is available, through your salesperson, to help you select the best motor/drive combination for your application.
4. The Fan Performance tables offer motor/drive recommendations. In cases when two motor/drive combinations would work, Carrier recommended the lower horsepower option.
5. For information on the electrical properties of Carrier motors, please see the Electrical information section of this book.
6. For more information on the performance limits of Carrier motors, see the application data section of this book.
7. The EPACT (Energy Policy Act) regulates energy requirements for specific types of indoor fan motors. Motors regulated by EPACT include any general purpose, T-frame (three-digit, 143 and larger), single-speed, foot mounted, polyphase, squirrel cage induction motors of NEMA (National Electrical Manufacturers Association) design A and B, manufactured for use in the United States. Ranging from 1 to 200 Hp, these continuous-duty motors operate on 230 and 460 volt, 60 Hz power. If a motor does not fit into these specifications, the motor does not have to be replaced by an EPACT compliant energy-efficient motor. Variable-speed motors are exempt from EPACT compliance requirements.

FAN PERFORMANCE

Table 29 – 50LC07**

6 TON VERTICAL SUPPLY

CFM	Available External Static Pressure (in. wg)																																																										
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0																																								
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP																																							
1800	392	0.22	492	0.33	580	0.46	658	0.59	729	0.74	793	0.89	854	1.05	910	1.22	963	1.39	1013	1.57																																							
1950	408	0.25	502	0.37	587	0.51	664	0.65	733	0.80	798	0.96	857	1.13	913	1.30	966	1.48	1016	1.66																																							
2100	425	0.30	514	0.42	596	0.56	670	0.71	739	0.87	802	1.04	861	1.21	917	1.39	969	1.57	1019	1.76																																							
2250	442	0.35	526	0.48	605	0.62	678	0.78	745	0.94	807	1.12	866	1.30	921	1.48	973	1.67	1022	1.87																																							
2400	460	0.41	540	0.54	616	0.69	686	0.85	752	1.02	813	1.20	871	1.39	926	1.58	977	1.78	1026	1.98																																							
2550	479	0.47	555	0.61	627	0.77	696	0.93	760	1.11	820	1.29	877	1.49	931	1.68	982	1.89	1031	2.10																																							
2700	499	0.55	570	0.69	640	0.85	706	1.02	768	1.20	827	1.39	883	1.59	936	1.79	987	2.00	1035	2.22																																							
2850	519	0.63	587	0.77	653	0.94	717	1.12	778	1.30	835	1.50	890	1.70	943	1.91	993	2.13	1040	2.35																																							
3000	539	0.71	604	0.87	667	1.04	729	1.22	788	1.41	844	1.61	898	1.82	949	2.04	999	2.26	1046	2.49																																							
STD Static (356 – 534rpm) 1.7 Max BHP																				MID Static (539 – 809rpm) 1.7 Max BHP																				HIGH Static (799 – 1054rpm) 2.9 Max BHP																			
Field Face = Field Supplied Drive (High Static motor, motor pulley = KR11HY213, blower pulley = KR51BH615, belt = KR29BF047) 880 – 1080 rpm																																																											

Table 30 – 50LC07**

6 TON HORIZONTAL SUPPLY

CFM	Available External Static Pressure (in. wg)																																																										
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0																																								
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP																																							
1800	366	0.19	466	0.30	555	0.42	635	0.55	707	0.69	772	0.84	833	1.00	890	1.16	943	1.33	994	1.50																																							
1950	379	0.22	474	0.33	560	0.46	638	0.60	709	0.75	774	0.90	834	1.06	891	1.23	944	1.40	995	1.58																																							
2100	394	0.26	483	0.38	566	0.51	642	0.65	711	0.80	776	0.96	836	1.13	892	1.31	945	1.49	995	1.67																																							
2250	409	0.31	493	0.43	573	0.56	647	0.71	715	0.87	778	1.03	838	1.21	894	1.39	946	1.57	996	1.76																																							
2400	426	0.36	505	0.48	581	0.62	652	0.77	719	0.94	782	1.11	840	1.29	895	1.47	948	1.66	998	1.86																																							
2550	443	0.41	517	0.54	590	0.68	659	0.84	724	1.01	785	1.19	843	1.37	898	1.56	950	1.76	999	1.96																																							
2700	460	0.48	531	0.61	600	0.75	667	0.92	730	1.09	790	1.27	847	1.46	901	1.66	952	1.86	1001	2.07																																							
2850	478	0.55	545	0.68	611	0.83	675	1.00	737	1.17	795	1.36	851	1.56	904	1.76	955	1.97	1004	2.18																																							
3000	497	0.62	560	0.76	623	0.92	685	1.09	744	1.27	802	1.46	856	1.66	909	1.87	959	2.08	1007	2.30																																							
STD Static (356 – 534rpm) 1.7 Max BHP																				MID Static (539 – 809rpm) 1.7 Max BHP																				HIGH Static (799 – 1054rpm) 2.9 Max BHP																			
Field Face = Field Supplied Drive (Standard Motor, Motor pulley = VP34 5/8, blower pulley = AK109 X 1, belt = KR29AF046) 322 – 484 rpm																																																											

FAN PERFORMANCE (cont.)

Table 31 – 50LC08**

7.5 TON VERTICAL SUPPLY

CFM	Available External Static Pressure (in. wg)																							
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0					
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP				
2250	328	0.23	438	0.44	521	0.68	588	0.93	647	1.19	699	1.47	746	1.76	790	2.06	830	2.36	869	2.68				
2438	335	0.25	443	0.48	527	0.73	596	0.99	655	1.27	707	1.56	755	1.86	799	2.17	840	2.49	879	2.81				
2625	342	0.28	448	0.51	533	0.77	602	1.05	662	1.34	715	1.64	764	1.96	808	2.28	850	2.61	889	2.95				
2813	349	0.32	454	0.56	538	0.83	608	1.12	669	1.42	723	1.73	772	2.06	817	2.40	859	2.74	898	3.09				
3000	358	0.36	459	0.60	543	0.88	614	1.18	675	1.50	730	1.83	779	2.16	825	2.51	867	2.87	907	3.24				
3188	367	0.40	465	0.65	548	0.94	620	1.25	681	1.58	737	1.92	786	2.27	832	2.63	875	3.00	915	3.38				
3375	378	0.45	471	0.70	554	1.00	625	1.32	687	1.66	743	2.01	793	2.38	840	2.75	883	3.14	923	3.53				
3563	388	0.50	477	0.75	559	1.06	630	1.39	693	1.75	749	2.11	800	2.49	846	2.88	890	3.27	931	3.68				
3750	400	0.56	484	0.82	564	1.13	635	1.47	698	1.83	754	2.21	806	2.60	853	3.00	897	3.41	938	3.83				
	STD Static (338–507rpm) 1.7 Max BHP		MID Static (488–675rpm) 1.7 Max BHP		HIGH Static (623–863rpm) 2.9 Max BHP		ULTRA HIGH Static (847–1150rpm) 3.7 Max BHP																	
	Bold Face = Field Supplied Drive (Standard motor, motor pulley = KR11HY151, blower pulley = AK114 1 3/16, belt = A47) 308–462rpm																							
	<i>Italics = Field Supplied Motor and Drive (Motor = HD60FK658, motor pulley = KR11HY213, blower pulley = KR11AK215, belt = KR29AF048) 836–1006rpm</i>																							

Table 32 – 50LC08**

7.5 TON HORIZONTAL SUPPLY

CFM	Available External Static Pressure (in. wg)																							
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0					
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP				
2250	317	0.21	426	0.41	511	0.65	583	0.91	644	1.18	700	1.48	750	1.78	797	2.11	840	2.44	881	2.79				
2438	323	0.24	429	0.44	515	0.96	587	0.95	649	1.24	705	1.54	756	1.86	803	2.19	847	2.54	888	2.90				
2625	331	0.27	433	0.48	519	0.73	591	1.00	654	1.30	710	1.61	762	1.94	809	2.28	853	2.64	895	3.01				
2813	339	0.30	438	0.51	522	0.77	595	1.05	658	1.36	715	1.68	767	2.02	814	2.38	859	2.74	901	3.12				
3000	388	0.34	443	0.55	526	0.82	598	1.11	662	1.42	719	1.76	771	2.11	819	2.47	864	2.84	906	3.23				
3188	358	0.38	448	0.60	530	0.87	602	1.17	666	1.49	723	1.83	776	2.19	824	2.56	869	2.95	912	3.35				
3375	369	0.43	455	0.65	534	0.92	606	1.23	669	1.56	727	1.91	780	2.28	828	2.66	874	3.05	916	3.46				
3563	380	0.48	462	0.71	539	0.98	610	1.29	673	1.63	731	1.99	783	2.36	832	2.76	878	3.16	921	3.58				
3750	392	0.54	469	0.77	544	1.04	614	1.36	677	1.70	734	2.07	787	2.46	836	2.86	882	3.27	926	3.70				
	STD Static (338–507rpm) 1.7 Max BHP		MID Static (488–675rpm) 1.7 Max BHP		HIGH Static (623–863rpm) 2.9 Max BHP		ULTRA HIGH Static (847–1150rpm) 3.7 Max BHP																	
	Bold Face = Field Supplied Drive (Standard motor, motor pulley = KR11HY151, blower pulley = AK114 1 3/16, belt = A47) 308–462 rpm																							

FAN PERFORMANCE (cont.)

8.5 TON VERTICAL SUPPLY

Table 33 – 50LC**09

CFM	Available External Static Pressure (in. wg)																				
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0		
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
2550	339	0.27	446	0.50	530	0.76	600	1.03	659	1.31	712	1.61	760	1.92	805	2.23	846	2.56	885	2.90	
2763	347	0.31	452	0.54	537	0.81	607	1.10	667	1.40	721	1.71	770	2.03	815	2.36	856	2.71	895	3.06	
2975	357	0.35	458	0.59	543	0.87	613	1.17	675	1.49	729	1.81	778	2.15	824	2.50	866	2.85	906	3.22	
3188	367	0.40	465	0.65	548	0.94	620	1.25	681	1.58	737	1.92	786	2.27	832	2.63	875	3.00	915	3.38	
3400	379	0.46	471	0.71	554	1.01	626	1.33	688	1.67	744	2.03	794	2.39	841	2.77	884	3.15	924	3.55	
3613	391	0.52	479	0.77	560	1.08	631	1.41	694	1.77	750	2.14	801	2.52	848	2.91	892	3.31	933	3.72	
3825	405	0.59	488	0.84	566	1.16	637	1.50	700	1.87	757	2.25	808	2.65	855	3.05	899	3.47	941	3.89	
4038	418	0.66	497	0.92	573	1.24	643	1.60	706	1.98	763	2.37	814	2.78	862	3.20	907	3.63	948	4.06	
4250	432	0.75	507	1.01	580	1.33	649	1.70	712	2.09	769	2.49	821	2.92	869	3.35	913	3.79	955	4.24	
	STD Static (338 – 507rpm) 1.7 Max BHP			MID Static (488 – 675rpm) 1.7 Max BHP			HIGH Static (675 – 863rpm) 3.7 Max BHP			ULTRA HIGH Static (832 – 1021rpm) 4.9 Max BHP											
	Bold Face = Field Supplied Drive(Standard motor, motor pulley = KR11HY151, blower pulley = AK114 1 3/16, belt = A47) 308 – 462rpm																				

8.5 TON HORIZONTAL SUPPLY

Table 34 – 50LC**09

CFM	Available External Static Pressure (in. wg)																				
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0		
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
2550	328	0.25	432	0.46	517	0.71	589	0.98	652	1.28	708	1.59	759	1.91	807	2.25	851	2.60	892	2.96	
2763	337	0.29	437	0.50	521	0.76	594	1.04	657	1.34	714	1.67	765	2.00	813	2.35	857	2.71	899	3.09	
2975	347	0.33	442	0.55	526	0.81	598	1.10	661	1.42	719	1.75	771	2.09	819	2.46	863	2.83	906	3.22	
3188	358	0.38	448	0.60	530	0.87	602	1.17	666	1.49	723	1.83	776	2.19	824	2.56	869	2.95	912	3.35	
3400	371	0.44	456	0.66	535	0.93	606	1.24	670	1.57	727	1.92	780	2.29	829	2.67	874	3.07	917	3.48	
3613	384	0.50	464	0.72	541	1.00	611	1.31	674	1.65	732	2.01	785	2.39	834	2.78	879	3.19	922	3.61	
3825	397	0.57	473	0.79	547	1.07	615	1.39	678	1.74	736	2.11	789	2.49	838	2.90	884	3.32	927	3.75	
4038	411	0.64	483	0.87	554	1.15	621	1.48	683	1.83	740	2.21	793	2.60	842	3.02	888	3.45	932	3.89	
4250	426	0.73	493	0.96	561	1.24	626	1.57	687	1.93	744	2.31	797	2.72	846	3.14	893	3.58	936	4.03	
	STD Static (338 – 507rpm) 1.7 Max BHP			MID Static (488 – 675rpm) 1.7 Max BHP			HIGH Static (675 – 863rpm) 3.7 Max BHP			ULTRA HIGH Static (832 – 1021rpm) 4.9 Max BHP											
	Bold Face = Field Supplied Drive(Standard motor, motor pulley = KR11HY151, blower pulley = AK114 1 3/16, belt = A47) 308 – 462rpm																				

FAN PERFORMANCE (cont.)

10 TON VERTICAL SUPPLY

Table 35 – 50LC12**

CFM	Available External Static Pressure (in. wg)																							
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0					
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP				
3000	358	0.36	459	0.60	543	0.88	614	1.18	675	1.50	730	1.83	779	2.16	825	2.51	867	2.87	907	3.24				
3250	371	0.42	467	0.66	550	0.96	621	1.27	683	1.61	739	1.95	789	2.31	835	2.67	878	3.05	918	3.43				
3500	385	0.48	475	0.74	557	1.04	628	1.37	691	1.72	747	2.08	798	2.45	844	2.83	887	3.23	928	3.63				
3750	400	0.56	484	0.82	564	1.13	635	1.47	698	1.83	754	2.21	806	2.60	853	3.00	897	3.41	938	3.83				
4000	416	0.65	495	0.91	572	1.23	642	1.58	705	1.96	762	2.35	813	2.76	861	3.17	905	3.60	947	4.03				
4250	432	0.75	507	1.01	580	1.33	649	1.70	712	2.09	769	2.49	821	2.92	869	3.35	913	3.79	955	4.24				
4500	450	0.86	519	1.13	590	1.45	657	1.82	719	2.22	775	2.65	828	3.08	876	3.53	921	3.99	963	4.46				
4750	468	0.99	533	1.26	600	1.58	665	1.96	726	2.37	782	2.80	834	3.25	883	3.72	928	4.19	971	4.68				
5000	486	1.13	547	1.40	611	1.73	674	2.11	733	2.53	789	2.97	841	3.44	890	3.91	936	4.40	978	4.90				
	MID Static (547 – 757rpm) 2.9 Max BHP																							
	STD Static (375 – 563rpm) 2.4 Max BHP																							
	HIGH Static (760 – 960rpm) 4.9 Max BHP* *At 575V, HP is 4.7																							
	Bold Face = Field Supplied Drive (Standard motor, motor pulley = KR11HY161, blower pulley = AK134 1 3/16, belt = KR30AE051) 340–470rpm																							
	<i>Italics = Field Supplied Drive (High Static motor, motor pulley = KR11HY213, blower pulley = KR51BH615, belt = KR29BF047) 880 – 1080 rpm</i>																							

10 TON HORIZONTAL SUPPLY

Table 36 – 50LC12**

CFM	Available External Static Pressure (in. wg)																							
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0					
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP				
3000	348	0.34	443	0.55	526	0.82	598	1.11	662	1.42	719	1.76	771	2.11	819	2.47	864	2.84	906	3.23				
3250	362	0.40	450	0.62	532	0.88	603	1.19	667	1.51	724	1.86	777	2.22	825	2.59	871	2.98	913	3.39				
3500	377	0.46	459	0.69	538	0.96	608	1.27	672	1.61	729	1.96	782	2.34	831	2.72	877	3.13	920	3.54				
3750	392	0.54	469	0.77	544	1.04	614	1.36	677	1.70	734	2.07	787	2.46	836	2.86	882	3.27	926	3.70				
4000	409	0.63	481	0.86	552	1.14	620	1.46	682	1.81	739	2.19	792	2.58	841	3.00	888	3.42	931	3.86				
4250	426	0.73	493	0.96	561	1.24	626	1.57	687	1.93	744	2.31	797	2.72	846	3.14	893	3.58	936	4.03				
4500	443	0.84	506	1.07	571	1.36	634	1.69	693	2.05	749	2.45	802	2.86	851	3.29	897	3.74	941	4.21				
4750	461	0.96	521	1.20	582	1.49	642	1.82	700	2.19	755	2.59	807	3.01	856	3.45	902	3.91	946	4.39				
5000	480	1.10	536	1.34	594	1.64	651	1.97	708	2.34	761	2.75	813	3.18	861	3.63	907	4.09	951	4.58				
	MID Static (547 – 757rpm) 2.9 Max BHP																							
	STD Static (375 – 563rpm) 2.4 Max BHP																							
	HIGH Static (760 – 960rpm) 4.9 Max BHP* *At 575V, HP is 4.7																							
	Bold Face = Field Supplied Drive (Standard motor, motor pulley = KR11HY161, blower pulley = AK134 1 3/16, belt = KR30AE051) 340–470 rpm																							

FAN PERFORMANCE (cont.)

Table 37 – PULLEY ADJUSTMENT

UNIT	MOTOR/DRIVE COMBO	MOTOR PULLEY TURNS OPEN (RPM)												
		0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
07	Standard Static	534	516	498	481	463	445	427	409	392	374	356	N/A	N/A
	Medium Static	809	782	755	728	701	674	647	620	593	566	539	N/A	N/A
	High Static	N/A	N/A	1054	1022	990	958	927	895	863	831	799	N/A	N/A
08	Standard Static	507	490	473	456	439	423	406	389	372	355	338	N/A	N/A
	Medium Static	675	656	638	619	600	582	563	544	525	507	488	N/A	N/A
	High Static	863	839	815	791	767	743	719	695	671	647	623	N/A	N/A
	Ultra High Static	N/A	N/A	1150	1120	1089	1059	1029	999	968	938	908	877	847
09	Standard Static	507	490	473	456	439	423	406	389	372	355	338	N/A	N/A
	Medium Static	675	656	638	619	600	582	563	544	525	507	488	N/A	N/A
	High Static	863	844	825	807	788	769	750	731	713	694	675	N/A	N/A
	Ultra High Static	1021	1002	983	964	945	927	908	889	870	851	832	N/A	N/A
12	Standard Static	563	544	525	507	488	469	450	431	413	394	375	N/A	N/A
	Medium Static	757	736	715	694	673	652	631	610	589	568	547	N/A	N/A
	High Static	N/A	N/A	960	940	920	900	880	860	840	820	800	780	760

- – Factory settings
- Standard static uses direct drive motor

ELECTRICAL INFORMATION

UNIT	V-Ph-Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		IFM		
		MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
07	208-3-60	187	253	8.3	58	13.2	88	195	1.8	STD	81.5%	5.8
								195	1.8	MED	81.5%	5.8
								195	1.8	HIGH	84.5%	8.6
	230-3-60	187	253	8.3	58	13.2	88	195	1.8	STD	81.5%	5.6
								195	1.8	MED	81.5%	5.6
								195	1.8	HIGH	84.5%	7.8
	460-3-60	414	506	5.1	28	6.0	44	195	1.8	STD	81.5%	2.9
								195	1.8	MED	81.5%	2.9
								195	1.8	HIGH	84.5%	3.8
	575-3-60	518	633	3.3	24	4.2	30	195	1.8	STD	81.5%	2.8
								195	1.8	MED	81.5%	2.8
								195	1.8	HIGH	84.5%	4.5
08	208-3-60	187	253	13.2	88	13.7	83	195	1.8	STD	81.5%	5.8
								195	1.8	MED	81.5%	5.8
								195	1.8	HIGH	84.5%	8.6
								195	1.8	ULTRA HIGH	84.5%	10.8
	230-3-60	187	253	13.2	88	13.7	83	195	1.8	STD	81.5%	5.6
								195	1.8	MED	81.5%	5.6
								195	1.8	HIGH	84.5%	7.8
								195	1.8	ULTRA HIGH	84.5%	9.8
	460-3-60	414	506	6.0	44	6.2	41	195	1.8	STD	81.5%	2.9
								195	1.8	MED	81.5%	2.9
								195	1.8	HIGH	84.5%	3.8
								195	1.8	ULTRA HIGH	84.5%	4.9
575-3-60	518	633	4.2	30	4.8	33	195	1.8	STD	81.5%	2.8	
							195	1.8	MED	81.5%	2.8	
							195	1.8	HIGH	84.5%	4.5	
							195	1.8	ULTRA HIGH	84.5%	4.5	
09	208-3-60	187	253	13.2	88	15.9	110	195	1.8	STD	81.5%	5.8
								195	1.8	MED	81.5%	5.8
								195	1.8	HIGH	84.5%	10.8
								195	1.8	ULTRA HIGH	82.0%	13.6
	230-3-60	187	253	13.2	88	15.9	110	195	1.8	STD	81.5%	5.6
								195	1.8	MED	81.5%	5.6
								195	1.8	HIGH	84.5%	9.8
								195	1.8	ULTRA HIGH	82.0%	12.7
	460-3-60	414	506	6.0	44	7.7	52	195	1.8	STD	81.5%	2.9
								195	1.8	MED	81.5%	2.9
								195	1.8	HIGH	84.5%	4.9
								195	1.8	ULTRA HIGH	82.0%	6.4
575-3-60	518	633	4.2	30	5.7	39	195	1.8	STD	81.5%	2.8	
							195	1.8	MED	81.5%	2.8	
							195	1.8	HIGH	84.5%	4.5	
							195	1.8	ULTRA HIGH	82.0%	6.2	
12	208-3-60	187	253	13.1	83	19.6	136	195	1.8	STD	80.0%	7.1
								195	1.8	MED	84.5%	8.6
								195	1.8	HIGH	82.0%	13.6
	230-3-60	187	253	13.1	83	19.6	136	195	1.8	STD	80.0%	6.8
								195	1.8	MED	84.5%	7.8
								195	1.8	HIGH	82.0%	12.7
	460-3-60	414	506	6.1	41	8.2	66	195	1.8	STD	80.0%	3.8
								195	1.8	MED	84.5%	3.8
								195	1.8	HIGH	82.0%	6.4
	575-3-60	518	633	4.4	33	6.6	55	195	1.8	STD	80.0%	3.5
								195	1.8	MED	84.5%	4.5
								195	1.8	HIGH	82.0%	6.2

ELECTRICAL DATA (cont.)

Table 38 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA

UNIT	ELEC. HTR				NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
	IFM TYPE	ORHEATER**A00	Nom (kW)	FLA	NO PE.				w/ P.E. (pwrd fr/unit)				NO PE.				w/ P.E. (pwrd fr/unit)			
					MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE
NO M. V-PH-Hz	STD	NONE	-	-	35/34	45/45	36/35	173	38/38	50/50	40/40	177	39/39	50/50	41/41	178	43/43	50/50	45/45	182
		316A	4.9/6.5	13.6/15.6	35/34	45/45	36/35	173/173	38/38	50/50	40/40	177/177	39/39	50/50	41/41	178/178	43/43	50/50	45/45	182/182
		317A	12.0/16.0	33.4/38.5	49/56	50/60	45/51	173/173	54/60	60/60	49/55	177/177	55/62	60/70	51/56	178/178	60/66	60/70	55/61	182/182
		318A	18.6/24.8	51.7/59.7	72/82	80/90	66/75	173/173	77/87	80/90	70/79	177/177	78/88	80/90	72/81	178/178	83/93	90/100	76/85	182/182
208/230-3-60	MED	NONE	-	-	35/34	45/45	36/35	173	38/38	50/50	40/40	177	39/39	50/50	41/41	178	43/43	50/50	45/45	182
		316A	4.9/6.5	13.6/15.6	35/34	45/45	36/35	173/173	38/38	50/50	40/40	177/177	39/39	50/50	41/41	178/178	43/43	50/50	45/45	182/182
		317A	12.0/16.0	33.4/38.5	49/56	50/60	45/51	173/173	54/60	60/60	49/55	177/177	55/62	60/70	51/56	178/178	60/66	60/70	55/61	182/182
		318A	18.6/24.8	51.7/59.7	72/82	80/90	66/75	173/173	77/87	80/90	70/79	177/177	78/88	80/90	72/81	178/178	83/93	90/100	76/85	182/182
460-3-60	HIGH	NONE	-	-	37/37	50/45	39/38	203	41/40	50/50	43/42	207	42/41	50/50	44/43	208	46/45	50/50	49/48	212
		316A	4.9/6.5	13.6/15.6	37/37	50/45	39/38	203/203	41/40	50/50	43/42	207/207	42/41	50/50	44/43	208/208	46/45	50/50	49/48	212/212
		317A	12.0/16.0	33.4/38.5	53/58	60/60	48/53	203/203	58/63	60/70	53/58	207/207	59/64	60/70	54/59	208/208	64/69	70/70	58/63	212/212
		318A	18.6/24.8	51.7/59.7	76/85	80/90	69/78	203/203	81/90	90/90	74/82	207/207	82/91	90/100	75/83	208/208	87/96	90/100	79/88	212/212
50LC-007	STD	NONE	-	-	20	25	20	87	21	25	22	89	22	25	23	89	24	25	25	91
		319A	6.0	7.2	20	25	20	87	21	25	22	89	22	25	23	89	24	25	25	91
		320A	14.0	16.8	25	25	23	87	27	30	25	89	28	30	25	89	30	30	27	91
		321A	25.5	30.7	42	45	39	87	45	45	41	89	45	45	41	89	47	50	43	91
460-3-60	MED	NONE	-	-	20	25	20	87	21	25	22	89	22	25	23	89	24	25	25	91
		319A	6.0	7.2	20	25	20	87	21	25	22	89	22	25	23	89	24	25	25	91
		320A	14.0	16.8	25	25	23	87	27	30	25	89	28	30	25	89	30	30	27	91
		321A	25.5	30.7	42	45	39	87	45	45	41	89	45	45	41	89	47	50	43	91
575-3-60	HIGH	NONE	-	-	20	25	21	103	22	25	23	105	23	25	24	105	24	25	26	107
		319A	6.0	7.2	20	25	21	103	22	25	23	105	23	25	24	105	24	25	26	107
		320A	14.0	16.8	26	30	24	103	28	30	26	105	29	30	26	105	31	35	28	107
		321A	25.5	30.7	44	45	40	103	46	50	42	105	46	50	42	105	49	50	44	107
575-3-60	STD	NONE	-	-	15	20	16	67	19	20	20	71	17	20	18	69	21	25	22	73
		308A	18.0	17.3	26	30	23	67	30	30	27	71	28	30	25	69	32	35	29	73
		322A	28.0	26.9	38	40	34	67	42	45	39	71	40	40	36	69	44	45	40	73
		NONE	-	-	15	20	16	67	19	20	20	71	17	20	18	69	21	25	22	73
575-3-60	MED	NONE	-	-	15	20	16	67	19	20	20	71	17	20	18	69	21	25	22	73
		308A	18.0	17.3	26	30	23	67	30	30	27	71	28	30	25	69	32	35	29	73
		322A	28.0	26.9	38	40	34	67	42	45	39	71	40	40	36	69	44	45	40	73
		NONE	-	-	15	20	16	67	19	20	20	71	17	20	18	69	21	25	22	73
575-3-60	HIGH	NONE	-	-	17	20	18	80	21	25	22	84	19	20	20	82	23	25	24	86
		308A	18.0	17.3	28	30	25	80	32	35	29	84	30	30	27	82	35	35	31	86
		322A	28.0	26.9	40	40	36	80	44	45	40	84	42	45	38	82	47	50	42	86
		NONE	-	-	17	20	18	80	21	25	22	84	19	20	20	82	23	25	24	86

See Legend and Notes on page 59

ELECTRICAL DATA (cont.)

Table 40 – 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 PE.		w/ P.E. (pwrd fr/unit)		NO PE.		w/ P.E. (pwrd fr/unit)		NO PE.		w/ P.E. (pwrd fr/unit)							
					MAX FUSE or HACR BRKR	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	DISC. SIZE	LRA	LRA		
					FLA	FLA	LRA	FLA	LRA	MCA	FLA	LRA	MCA	FLA	LRA	MCA	FLA	LRA	FLA	LRA		
50LC-009	STD	NONE	7.5/10.0	20.9/24.1	-	45/45	46/46	227	231	49/48	51/50	231	50/49	52/52	232	53/53	56/56	236	56/56	236		
						288A	288A	49/48	51/50	231	49/48	52/52	232	53/53	56/56	236	56/56	236				
	MED	NONE	12.4/16.5	34.4/39.7	34.4/39.7	51/57	46/52	227/227	231	55/62	51/56	231	57/63	52/58	232/232	61/68	56/62	236/236	70/70	56/62	236/236	
						291A	291A	100/110	87/99	227/227	231	100/113	91/104	101/114	93/105	232/232	106/119	110/125	97/109	236/236		
	HIGH	NONE	7.5/10.0	20.9/24.1	-	45/45	46/46	227	231	49/48	51/50	231	50/49	52/52	232	53/53	56/56	236	56/56	236		
						288A	288A	49/48	51/50	231	49/48	52/52	232	53/53	56/56	236	56/56	236				
	ULTRA HIGH	NONE	12.4/16.5	34.4/39.7	34.4/39.7	51/57	46/52	227/227	231	55/62	51/56	231	57/63	52/58	232/232	61/68	56/62	236/236	70/70	56/62	236/236	
						291A	291A	100/110	87/99	227/227	231	100/113	91/104	101/114	93/105	232/232	106/119	110/125	97/109	236/236		
	460-3-60	STD	NONE	7.5/10.0	20.9/24.1	-	53/52	55/54	292	296	106/118	110/125	296	57/56	61/60	297	61/60	65/64	301	70/70	65/64	301
							288A	288A	60/60	60/60	292/292	296	56/55	60/59	60/60	60/60	296/296	57/56	70/60	61/60	65/64	301
MED		NONE	12.4/16.5	34.4/39.7	34.4/39.7	60/66	55/60	292/292	296	65/71	70/80	296	66/72	70/80	297/297	71/77	80/80	301/301	80/80	65/70	301/301	
						291A	291A	110/125	96/107	292/292	296	110/122	100/112	111/123	125/125	102/113	116/128	125/150	106/117	301/301		
HIGH		NONE	7.5/10.0	20.9/24.1	-	24	25	113	115	26	27	115	27	30	28	28	30	30	30	30	117	
						289A	289A	30	27	113	115	26	27	115	27	30	28	28	30	30	30	30
ULTRA HIGH		NONE	12.0	19.9	19.9	24	25	113	115	26	27	115	27	30	28	28	30	30	30	30	117	
						292A	292A	30	26	113	115	31	35	29	115	32	29	34	35	31	117	117
575-3-60		STD	NONE	7.5/10.0	20.9/24.1	-	53/52	55/54	292	296	106/118	110/125	296	57/56	61/60	297	61/60	65/64	301	70/70	65/64	301
							288A	288A	60/60	60/60	292/292	296	56/55	60/59	60/60	60/60	296/296	57/56	70/60	61/60	65/64	301
	MED	NONE	12.4/16.5	34.4/39.7	34.4/39.7	60/66	55/60	292/292	296	65/71	70/80	296	66/72	70/80	297/297	71/77	80/80	301/301	80/80	65/70	301/301	
						291A	291A	110/125	96/107	292/292	296	110/122	100/112	111/123	125/125	102/113	116/128	125/150	106/117	301/301		
	HIGH	NONE	10.0	15.9	15.9	24	25	113	115	26	27	115	27	30	28	28	30	30	30	30	117	
						289A	289A	30	27	113	115	26	27	115	27	30	28	28	30	30	30	30
	ULTRA HIGH	NONE	12.0	19.9	19.9	24	25	113	115	26	27	115	27	30	28	28	30	30	30	30	117	
						292A	292A	30	26	113	115	31	35	29	115	32	29	34	35	31	117	117
	208/230-3-60	STD	NONE	7.5/10.0	20.9/24.1	-	45/45	46/46	227	231	49/48	51/50	231	50/49	52/52	232	53/53	56/56	236	56/56	236	
							288A	288A	49/48	51/50	231	49/48	52/52	232	53/53	56/56	236	56/56	236			
MED		NONE	12.4/16.5	34.4/39.7	34.4/39.7	51/57	46/52	227/227	231	55/62	51/56	231	57/63	52/58	232/232	61/68	56/62	236/236	70/70	56/62	236/236	
						291A	291A	100/110	87/99	227/227	231	100/113	91/104	101/114	93/105	232/232	106/119	110/125	97/109	236/236		
HIGH		NONE	7.5/10.0	20.9/24.1	-	45/45	46/46	227	231	49/48	51/50	231	50/49	52/52	232	53/53	56/56	236	56/56	236		
						288A	288A	49/48	51/50	231	49/48	52/52	232	53/53	56/56	236	56/56	236				
ULTRA HIGH		NONE	12.4/16.5	34.4/39.7	34.4/39.7	51/57	46/52	227/227	231	55/62	51/56	231	57/63	52/58	232/232	61/68	56/62	236/236	70/70	56/62	236/236	
						291A	291A	100/110	87/99	227/227	231	100/113	91/104	101/114	93/105	232/232	106/119	110/125	97/109	236/236		

See Legend and Notes on page 59

ELECTRICAL DATA (cont.)

Table 41 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA

UNIT	NO M. V. - Ph-Hz	ELEC. HTR				NO C.O. or UNPWR C.O.						w/ PWRD C.O.									
		ORHEATER***A00	Nom (kW)	FLA	NO PE.			w/ P.E. (pwrdr fr/unit)			NO PE.			w/ P.E. (pwrdr fr/unit)							
					MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA					
50LC-012	208/230-3-60	NONE	-	-	51/50	60/60	52/52	252	54/54	60/60	56/56	256	55/55	60/60	58/57	257	59/59	70/70	62/62	261	
		288A	7.5/10.0	20.9/24.1	51/50	60/60	52/52	252/252	54/54	60/60	56/56	256/256	55/55	60/60	58/57	257/257	59/59	70/70	62/62	261/261	
		291A	12.4/16.5	34.4/39.7	52/59	60/60	52/53	252/252	57/63	60/70	56/58	256/256	58/65	60/70	58/59	257/257	63/69	70/70	62/63	261/261	
		294A	25.2/33.5	69.9/80.6	97/110	100/110	89/101	252/252	101/114	110/125	93/105	256/256	103/116	110/125	110/125	94/106	107/120	107/120	110/125	98/110	261/261
		291A+294A	37.6/50.0	104.3/120.3	140/129	150/150	128/146	252/252	144/134	150/150	132/151	256/256	148/135	150/150	150/150	134/152	257/257	150/140	175/150	138/156	261/261
		NONE	-	-	52/51	60/60	54/53	278	56/55	70/60	58/57	282	57/56	70/70	59/58	283	61/60	80/70	64/63	287	
		288A	7.5/10.0	20.9/24.1	52/51	60/60	54/53	278/278	56/55	70/60	58/57	282/282	57/56	70/70	59/58	283/283	61/60	80/70	64/63	287/287	
		291A	12.4/16.5	34.4/39.7	54/60	60/60	54/55	278/278	59/65	70/70	58/59	282/282	60/66	70/70	59/60	283/283	65/71	80/80	64/65	287/287	
		294A	25.2/33.5	69.9/80.6	99/111	100/125	90/102	282/282	103/116	110/125	95/106	282/282	105/117	110/125	109/122	96/107	109/122	109/122	110/125	100/112	287/287
		291A+294A	37.6/50.0	104.3/120.3	142/131	150/150	130/147	278/278	146/135	150/150	134/152	282/282	148/137	150/150	150/150	135/153	283/283	152/141	175/150	140/157	287/287
50LC-012	460-3-60	NONE	-	-	26	30	27	126	28	30	29	128	28	30	30	128	30	35	32	130	
		289A	10.0	12.0	26	30	27	126	28	30	29	128	28	30	30	128	30	35	32	130	
		292A	16.5	19.9	30	30	27	126	32	35	29	128	33	35	30	128	35	35	32	130	
		295A	33.5	40.3	56	60	51	126	58	60	53	128	58	60	53	128	61	70	55	130	
		292A+295A	50.0	60.2	65	70	74	126	68	80	76	128	68	80	76	128	70	80	78	130	
		NONE	-	-	26	30	27	140	28	30	29	142	28	30	30	142	30	35	32	144	
		289A	10.0	12.0	26	30	27	140	28	30	29	142	28	30	30	142	30	35	32	144	
		292A	16.5	19.9	30	30	27	140	32	35	29	142	33	35	30	142	35	35	32	144	
		295A	33.5	40.3	56	60	51	140	58	60	53	142	58	60	53	142	61	70	55	144	
		292A+295A	50.0	60.2	65	70	74	140	68	80	76	142	68	80	76	142	70	80	78	144	
575-3-60	208/230-3-60	NONE	-	-	29	35	30	157	30	35	32	159	31	35	33	159	33	40	35	161	
		289A	10.0	12.0	29	35	30	157	30	35	32	159	31	35	33	159	33	40	35	161	
		292A	16.5	19.9	33	35	30	157	36	40	32	159	36	40	33	159	38	40	35	161	
		295A	33.5	40.3	59	60	54	157	61	70	56	159	62	70	56	159	64	70	58	161	
		292A+295A	50.0	60.2	69	80	77	157	71	80	79	159	71	80	79	159	74	80	81	161	
		NONE	-	-	22	25	23	107	26	30	27	111	24	25	25	109	28	30	29	113	
		289A	16.5	15.9	25	25	23	107	29	30	27	111	27	30	25	109	32	35	29	113	
		296A	33.5	32.2	45	45	41	107	50	50	45	111	47	50	43	109	52	60	47	113	
		293A+296A	50.0	48.1	53	60	59	107	58	60	64	111	55	60	61	109	60	60	66	113	
		NONE	-	-	23	25	24	116	27	30	28	120	25	30	26	118	29	30	30	122	
293A	16.5	15.9	26	30	24	116	31	35	28	120	28	30	26	118	33	35	30	122			
296A	33.5	32.2	46	50	42	116	51	60	47	120	48	50	44	118	53	60	49	122			
293A+296A	50.0	48.1	54	60	60	116	59	60	65	120	56	60	62	118	61	70	67	122			
575-3-60	208/230-3-60	NONE	-	-	25	30	26	130	29	30	30	134	26	30	28	132	30	35	32	136	
		293A	16.5	15.9	28	30	26	130	33	35	30	134	30	30	28	132	35	35	32	136	
		296A	33.5	32.2	48	50	44	130	53	60	49	134	51	60	46	132	55	60	50	136	
		293A+296A	50.0	48.1	56	60	62	130	61	70	67	134	58	60	64	132	63	70	69	136	

See Legend and Notes on page 59

ELECTRICAL DATA (cont.)

Table 42 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH HACR

UNIT	NO M. V-PH-Hz	ELEC. HTR				NO C.O. or UNPWR C.O.												w/ PWRD C.O.											
		IFM TYPE	CRHEATER**A00	Nom (kW)	FLA	NO P.E.			w/ P.E. (pwrdr fr/unit)			NO P.E.			w/ P.E. (pwrdr fr/unit)			NO P.E.			w/ P.E. (pwrdr fr/unit)								
						MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA									
50LC-007	208/230-3-60	STD	NONE	-	-	35/35	45/45	36/35	173	38/38	50/50	40/40	177	39/39	50/50	41/41	178	43/43	50/50	45/45	182	43/43	50/50	45/45	182				
			316A	4.9/6.5	13.6/15.6	35/35	45/45	36/35	173/173	38/38	50/50	40/40	177/177	39/39	50/50	41/41	178/178	43/43	50/50	45/45	182/182	43/43	50/50	45/45	182/182				
			317A	12.0/16.0	33.4/38.5	56/56	60/60	45/51	173/173	60/60	60/60	60/60	49/55	177/177	62/62	70/70	51/56	178/178	66/66	70/70	55/61	182/182	66/66	70/70	55/61	182/182			
			318A	18.6/24.8	51.7/59.7	82/82	90/90	66/75	173/173	87/87	90/90	90/90	70/79	177/177	88/88	90/90	72/81	178/178	93/93	100/100	76/85	182/182	93/93	100/100	76/85	182/182			
		MED	NONE	-	-	35/35	45/45	36/35	173	38/38	50/50	40/40	177	39/39	50/50	41/41	178	43/43	50/50	45/45	182	43/43	50/50	45/45	182				
			316A	4.9/6.5	13.6/15.6	35/35	45/45	36/35	173/173	38/38	50/50	40/40	177/177	39/39	50/50	41/41	178/178	43/43	50/50	45/45	182/182	43/43	50/50	45/45	182/182				
			317A	12.0/16.0	33.4/38.5	56/56	60/60	45/51	173/173	60/60	60/60	49/55	177/177	62/62	70/70	51/56	178/178	66/66	70/70	55/61	182/182	66/66	70/70	55/61	182/182				
			318A	18.6/24.8	51.7/59.7	82/82	90/90	66/75	173/173	87/87	90/90	90/90	70/79	177/177	88/88	90/90	72/81	178/178	93/93	100/100	76/85	182/182	93/93	100/100	76/85	182/182			
		HIGH	NONE	-	-	37/37	50/50	39/38	203	41/41	50/50	43/42	207	42/42	50/50	44/43	208	46/46	50/50	49/48	212	46/46	50/50	49/48	212				
			316A	4.9/6.5	13.6/15.6	37/37	50/50	39/38	203/203	41/41	50/50	43/42	207/207	42/42	50/50	44/43	208/208	46/46	50/50	49/48	212/212	46/46	50/50	49/48	212/212				
			317A	12.0/16.0	33.4/38.5	58/58	60/60	48/53	203/203	63/63	70/70	53/58	207/207	64/64	70/70	54/59	208/208	69/69	70/70	58/63	212/212	69/69	70/70	58/63	212/212				
			318A	18.6/24.8	51.7/59.7	85/85	90/90	69/78	203/203	90/90	90/90	74/82	207/207	91/91	100/100	75/83	208/208	96/96	100/100	79/88	212/212	96/96	100/100	79/88	212/212				
STD	NONE	-	-	20	25	20	87	21	25	22	89	22	25	23	89	24	25	25	25	25	25	25	25	25					
	319A	6.0	7.2	20	25	20	87	21	25	22	89	22	25	23	89	24	25	25	25	25	25	25	25	25					
	320A	14.0	16.8	25	25	23	87	27	30	25	89	28	30	25	89	28	30	30	30	27	30	30	27	30					
	321A	25.5	30.7	42	45	39	87	45	45	41	89	45	45	41	89	47	50	47	50	43	50	47	50	43					
MED	NONE	-	-	20	25	20	87	21	25	22	89	22	25	23	89	24	25	25	25	25	25	25	25	25					
	319A	6.0	7.2	20	25	20	87	21	25	22	89	22	25	23	89	24	25	25	25	25	25	25	25	25					
	320A	14.0	16.8	25	25	23	87	27	30	25	89	28	30	25	89	28	30	30	30	27	30	30	27	30					
	321A	25.5	30.7	42	45	39	87	45	45	41	89	45	45	41	89	47	50	47	50	43	50	47	50	43					
HIGH	NONE	-	-	20	25	21	103	22	25	23	105	23	25	24	105	24	25	25	25	25	25	25	25	25					
	319A	6.0	7.2	20	25	21	103	22	25	23	105	23	25	24	105	24	25	25	25	25	25	25	25	25					
	320A	14.0	16.8	26	30	24	103	28	30	26	105	29	30	26	105	31	35	35	35	28	35	35	28	35					
	321A	25.5	30.7	44	45	40	103	46	50	42	105	46	50	42	105	49	50	49	50	44	50	49	50	44					
STD	NONE	-	-	15	20	16	67	19	20	20	71	17	20	18	69	21	25	22	22	22	22	22	22	22					
	308A	18.0	17.3	26	30	23	67	30	30	27	71	28	30	25	69	32	35	32	35	29	35	35	29	35					
	322A	28.0	26.9	38	40	34	67	42	45	39	71	40	40	36	69	44	45	44	40	40	45	45	40	40					
MED	NONE	-	-	15	20	16	67	19	20	20	71	17	20	18	69	21	25	21	25	22	22	22	22	22					
	308A	18.0	17.3	26	30	23	67	30	30	27	71	28	30	25	69	32	35	32	35	29	35	35	29	35					
	322A	28.0	26.9	38	40	34	67	42	45	39	71	40	40	36	69	44	45	44	40	40	45	45	40	40					
HIGH	NONE	-	-	17	20	18	80	21	25	22	84	19	20	20	82	23	25	23	24	24	24	24	24	24					
	308A	18.0	17.3	28	30	25	80	32	35	29	84	30	30	27	82	35	35	35	31	31	35	35	31	35					
	322A	28.0	26.9	40	40	36	80	44	45	40	84	42	45	38	82	47	50	47	42	42	50	50	42	42					

See Legend and Notes on page 59

ELECTRICAL DATA (cont.)

Table 43 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH HACR

UNIT	ELEC. HTR				NO C.O. or UNPWR C.O.										w/ PWRD C.O.					
	IFM TYPE	CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
					MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
							FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
	STD	NONE	7.5/10.0	20.9/24.1	42/42	50/50	44/44	200	46/46	50/50	48/48	204	47/47	60/60	49/49	205	51/51	60/60	54/53	209
		288A	12.4/16.5	34.4/39.7	57/57	60/60	46/52	200/200	46/46	70/70	51/56	204/204	63/63	70/70	52/58	205/205	68/68	70/70	56/62	209/209
		291A	25.2/33.5	69.9/80.6	108/108	110/110	87/99	200/200	113/113	125/125	91/104	204/204	114/114	125/125	93/105	205/205	119/119	125/125	97/109	209/209
	MED	NONE	7.5/10.0	20.9/24.1	42/42	50/50	44/44	200	46/46	50/50	48/48	204	47/47	60/60	49/49	205	51/51	60/60	54/53	209
		288A	12.4/16.5	34.4/39.7	57/57	60/60	46/52	200/200	46/46	70/70	51/56	204/204	63/63	70/70	52/58	205/205	68/68	70/70	56/62	209/209
		291A	25.2/33.5	69.9/80.6	108/108	110/110	87/99	200/200	113/113	125/125	91/104	204/204	114/114	125/125	93/105	205/205	119/119	125/125	97/109	209/209
	HIGH	NONE	7.5/10.0	20.9/24.1	45/45	50/50	47/46	230	49/49	60/60	51/50	234	50/50	60/60	53/52	235	53/53	60/60	57/56	239
		288A	12.4/16.5	34.4/39.7	60/60	60/60	49/55	230/230	65/65	70/70	54/59	234/234	66/66	70/70	55/60	235/235	71/71	80/80	59/65	239/239
		291A	25.2/33.5	69.9/80.6	111/111	125/125	90/102	230/230	116/116	125/125	95/106	234/234	117/117	125/125	96/107	235/235	122/122	125/125	100/112	239/239
	ULTRA HIGH	NONE	7.5/10.0	20.9/24.1	47/47	60/60	50/48	254	51/51	60/60	54/53	258	52/52	60/60	55/54	259	56/56	60/60	59/58	263
		288A	12.4/16.5	34.4/39.7	62/62	70/70	52/57	254/254	67/67	70/70	56/61	258/258	68/68	70/70	58/62	259/259	73/73	80/80	62/67	263/263
		291A	25.2/33.5	69.9/80.6	113/113	125/125	93/104	254/254	118/118	125/125	97/108	258/258	119/119	125/125	98/109	259/259	124/124	125/125	103/114	263/263
	STD	NONE	10.0	12.0	23	25	24	102	24	24	26	104	25	30	26	104	27	30	28	106
		289A	16.5	19.9	29	30	26	102	31	35	28	104	32	35	29	104	34	35	31	106
		292A	33.5	40.3	54	60	50	102	57	60	52	104	57	60	52	104	59	60	54	106
	MED	NONE	10.0	12.0	23	25	24	102	24	24	26	104	25	30	26	104	27	30	28	106
		289A	16.5	19.9	29	30	26	102	31	35	28	104	32	35	29	104	34	35	31	106
		292A	33.5	40.3	54	60	50	102	57	60	52	104	57	60	52	104	59	60	54	106
	HIGH	NONE	10.0	12.0	23	25	25	118	25	25	27	120	26	30	27	120	27	30	29	122
		289A	16.5	19.9	30	30	27	118	32	35	29	120	33	35	30	120	35	35	32	122
		292A	33.5	40.3	56	60	51	118	58	60	53	120	58	60	53	120	61	70	55	122
	ULTRA HIGH	NONE	10.0	12.0	25	30	26	130	26	26	28	132	27	30	28	132	29	30	30	134
		289A	16.5	19.9	31	35	29	130	34	35	31	132	34	35	31	132	36	40	33	134
		292A	33.5	40.3	57	60	52	130	59	60	54	132	60	60	55	132	62	70	57	134
	STD	NONE	16.5	19.9	44	45	40	78	23	25	24	82	21	25	22	80	24	30	26	84
		289A	33.5	32.2	44	45	40	78	49	50	45	82	46	50	42	80	51	60	47	84
	MED	NONE	16.5	15.9	24	25	22	78	23	25	24	82	21	25	22	80	24	30	26	84
		289A	33.5	32.2	44	45	40	78	49	50	45	82	46	50	42	80	51	60	47	84
		296A	33.5	32.2	44	45	40	78	49	50	45	82	46	50	42	80	51	60	47	84
	HIGH	NONE	16.5	15.9	26	30	23	91	24	30	26	95	22	25	24	93	26	30	28	97
		289A	33.5	32.2	46	50	42	91	51	60	47	95	48	50	44	93	53	60	49	97
		296A	33.5	32.2	46	50	42	91	51	60	47	95	48	50	44	93	53	60	49	97
	ULTRA HIGH	NONE	16.5	15.9	26	30	23	91	24	30	26	95	22	25	24	93	26	30	28	97
		289A	33.5	32.2	46	50	42	91	51	60	47	95	48	50	44	93	53	60	49	97
		296A	33.5	32.2	46	50	42	91	51	60	47	95	48	50	44	93	53	60	49	97

See Legend and Notes on page 59

ELECTRICAL DATA (cont.)

Table 45 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH HACR

UNIT	NO M. V-PH-Hz	ELEC. HTR		NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
				NO P.E.				w/ P.E. (pwr'd fr/unit)				NO P.E.				w/ P.E. (pwr'd fr/unit)							
				MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	DISC. SIZE				
			FLA LRA				FLA LRA				FLA LRA				FLA LRA								
50LC-012	460-3-60	STD	NONE	-	51/51	60/60	52/52	252	54/54	60/60	56/56	256	55/55	60/60	58/57	257	59/59	70/70	62/62	261			
			288A	7.5/10.0	20.9/24.1	51/51	252/252	54/54	60/60	56/56	256/256	60/60	58/57	257/257	55/55	70/70	59/59	257/257	59/59	70/70	62/62	261/261	
			291A	12.4/16.5	34.4/39.7	52/53	252/252	63/63	60/60	56/58	256/256	60/60	58/59	257/257	65/65	70/70	69/69	257/257	69/69	70/70	62/63	261/261	
		MED	294A	25.2/33.5	69.9/80.6	89/101	252/252	114/114	110/110	93/105	256/256	125/125	94/106	257/257	116/116	125/125	94/106	257/257	120/120	125/125	98/110	261/261	
			291A+294A	37.6/50.0	104.3/120.3	140/140	252/252	144/144	150/150	132/151	256/256	150/150	134/152	257/257	146/146	150/150	134/152	257/257	150/150	175/175	138/156	261/261	
			NONE	-	52/52	278	56/56	70/70	58/57	282	57/57	70/70	59/58	283	57/57	70/70	59/58	283	61/61	70/70	64/63	287	
		HIGH	288A	7.5/10.0	20.9/24.1	52/52	278/278	56/56	70/70	58/57	282/282	60/60	54/53	278/278	56/56	70/70	59/58	283/283	61/61	70/70	64/63	287/287	
			291A	12.4/16.5	34.4/39.7	60/60	278/278	65/65	70/70	58/59	282/282	60/60	54/55	278/278	65/65	70/70	59/60	283/283	71/71	80/80	64/65	287/287	
			294A	25.2/33.5	69.9/80.6	111/111	278/278	116/116	125/125	95/106	282/282	117/117	125/125	96/107	283/283	122/122	125/125	96/107	283/283	122/122	125/125	100/112	
		STD	291A+294A	37.6/50.0	104.3/120.3	142/142	278/278	146/146	150/150	130/147	282/282	148/148	134/152	282/282	148/148	150/150	135/153	283/283	152/152	175/175	140/157	287/287	
			NONE	-	57/57	313	317	61/61	70/70	59/58	317	62/62	80/80	318	66/66	80/80	65/64	318	66/66	80/80	69/68	322	
			288A	7.5/10.0	20.9/24.1	57/57	313/313	61/61	70/70	59/58	317/317	62/62	80/80	318/318	66/66	80/80	65/64	318/318	66/66	80/80	69/68	322/322	
		MED	291A	12.4/16.5	34.4/39.7	66/66	313/313	71/71	80/80	64/65	317/317	72/72	80/80	318/318	65/66	80/80	66/66	318/318	77/77	80/80	69/70	322/322	
			294A	25.2/33.5	69.9/80.6	117/117	313/313	122/122	125/125	100/112	317/317	123/123	125/125	102/113	318/318	128/128	125/125	102/113	318/318	128/128	150/150	106/117	
			291A+294A	37.6/50.0	104.3/120.3	148/148	313/313	153/153	150/150	136/153	317/317	154/154	175/175	141/158	318/318	159/159	150/159	145/163	322/322	150/159	175/175	145/163	
576-3-60	460-3-60	STD	NONE	-	26	30	27	126	28	30	29	128	28	30	30	128	30	35	32	130			
			289A	10.0	12.0	26	126	28	30	29	128	28	30	128	28	30	30	128	30	35	32		
			292A	16.5	19.9	30	126	32	35	29	128	33	35	29	128	33	35	30	128	35	32		
		MED	295A	33.5	40.3	56	126	58	60	53	128	58	60	53	128	58	60	53	128	61	70		
			292A+295A	50.0	60.2	65	126	68	70	74	126	68	80	76	128	68	80	76	128	70	78		
			NONE	-	26	140	28	30	29	142	28	30	29	142	28	30	30	142	30	35	32		
		HIGH	289A	10.0	12.0	26	140	28	30	29	142	28	30	29	142	28	30	30	142	30	35		
			292A	16.5	19.9	30	140	32	35	29	142	33	35	29	142	33	35	30	142	35	32		
			295A	33.5	40.3	56	140	58	60	53	142	58	60	53	142	58	60	53	142	61	70		
		STD	292A+295A	50.0	60.2	65	140	68	70	74	140	68	80	76	142	68	80	76	142	70	78		
			NONE	-	29	30	157	30	35	32	159	31	35	32	159	31	35	33	159	33	40		
			289A	10.0	12.0	29	157	30	35	32	159	31	35	32	159	31	35	33	159	33	40		
		MED	292A	16.5	19.9	33	157	36	40	32	159	36	40	32	159	36	40	33	159	38	40		
			295A	33.5	40.3	59	157	61	70	56	159	62	70	56	159	64	70	56	159	64	70		
			292A+295A	50.0	60.2	69	157	71	80	79	159	71	80	79	159	74	80	79	159	74	80		
STD	NONE	-	22	107	26	25	107	24	111	24	25	109	24	25	109	28	30	29	30				
	293A	16.5	15.9	25	107	29	25	111	111	27	30	27	111	27	30	25	109	32	29				
	296A	33.5	32.2	45	107	50	45	111	111	47	50	43	109	52	60	47	113	60	47				
MED	293A+296A	50.0	48.1	53	107	58	60	64	111	55	60	61	109	60	60	60	109	66	66				
	NONE	-	23	116	27	30	28	120	25	30	26	118	29	30	30	30	122	30	30				
	293A	16.5	15.9	26	116	31	35	120	28	30	26	118	33	35	35	30	122	33	30				
HIGH	296A	33.5	32.2	46	116	51	60	47	120	48	50	44	118	53	60	44	118	53	60				
	293A+296A	50.0	48.1	54	116	59	60	65	120	56	60	62	118	61	70	67	122	67	67				
	NONE	-	25	130	29	30	30	134	26	30	28	132	30	30	30	30	136	30	35				
STD	293A	16.5	15.9	28	130	33	35	30	134	30	30	28	132	30	30	28	132	30	35				
	296A	33.5	32.2	48	130	53	60	49	134	51	60	46	132	55	60	46	132	55	60				
	293A+296A	50.0	48.1	56	130	61	70	67	134	58	60	64	132	63	70	69	136	69	69				

See Legend and Notes on page 59

LEGEND:

- BRKR Circuit breaker
- CO Convenience outlet
- 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

$$\text{Average Voltage} = \frac{(224 + 231 + 226)}{3} = \frac{681}{3}$$

Determine maximum deviation from average voltage.

- (AB) 227 - 224 = 3 V
- (BC) 231 - 227 = 4 V
- (AC) 227 - 226 = 1 V

Maximum deviation is 4 V.

Determine percent of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{4}{227} = 1.76\%$$

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.

TYPICAL WIRING DIAGRAMS

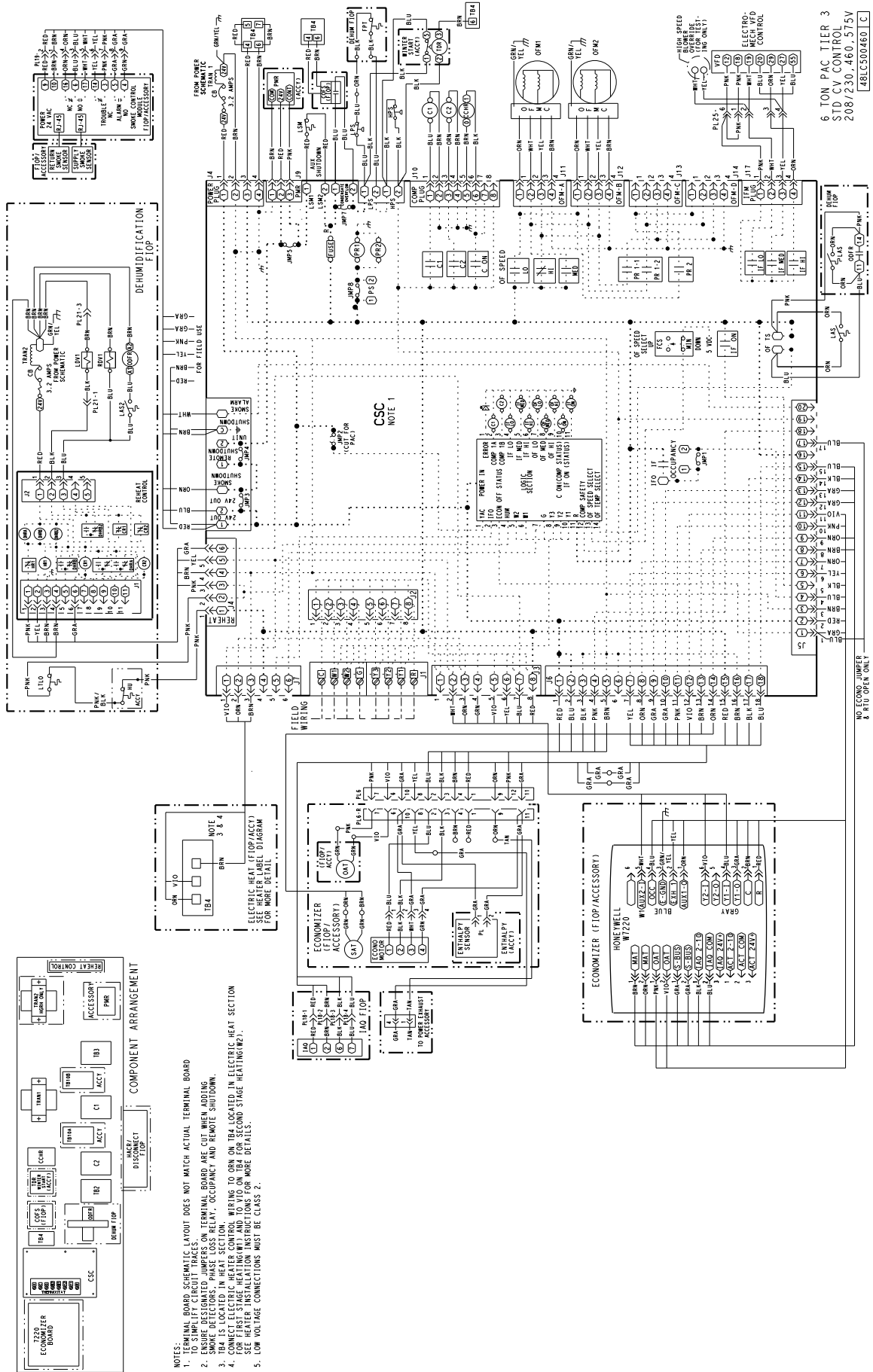


Fig. 15 - Electromechanical Control Wiring Diagram 50LC Size 07

TYPICAL WIRING DIAGRAMS (cont.)

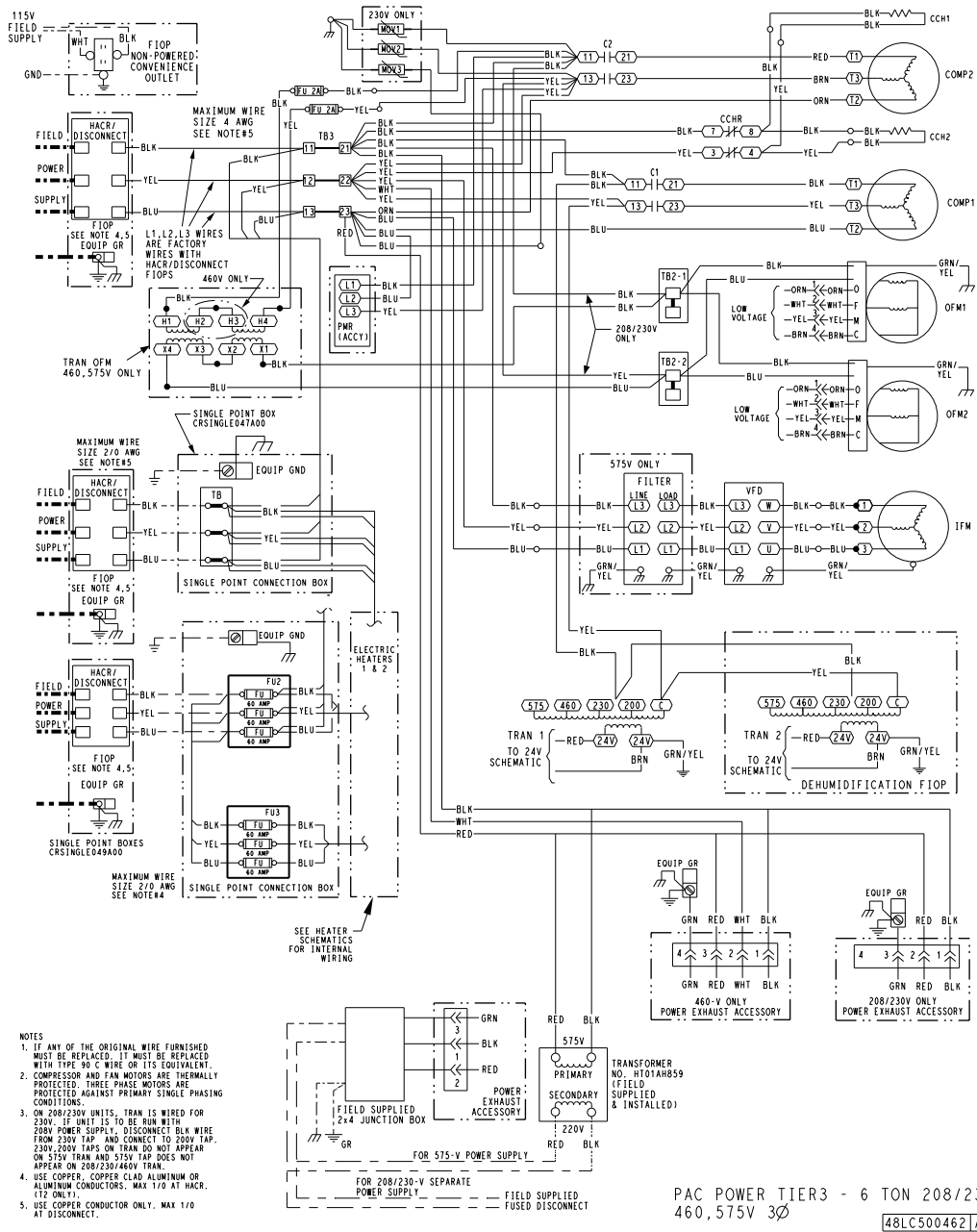


Fig. 16 - Power Wiring Diagram 50LC Size 07

C14095

TYPICAL WIRING DIAGRAMS (cont.)

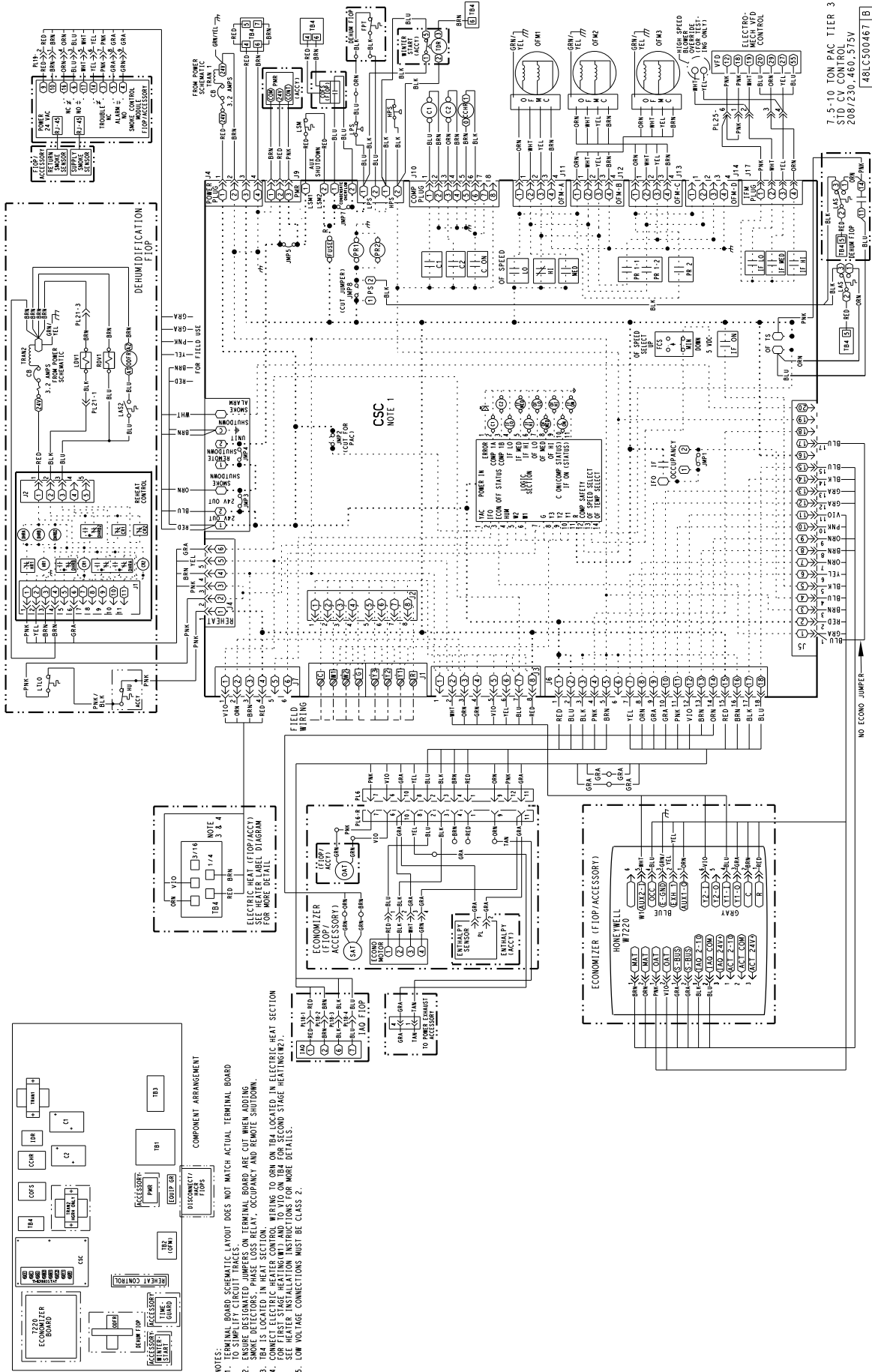
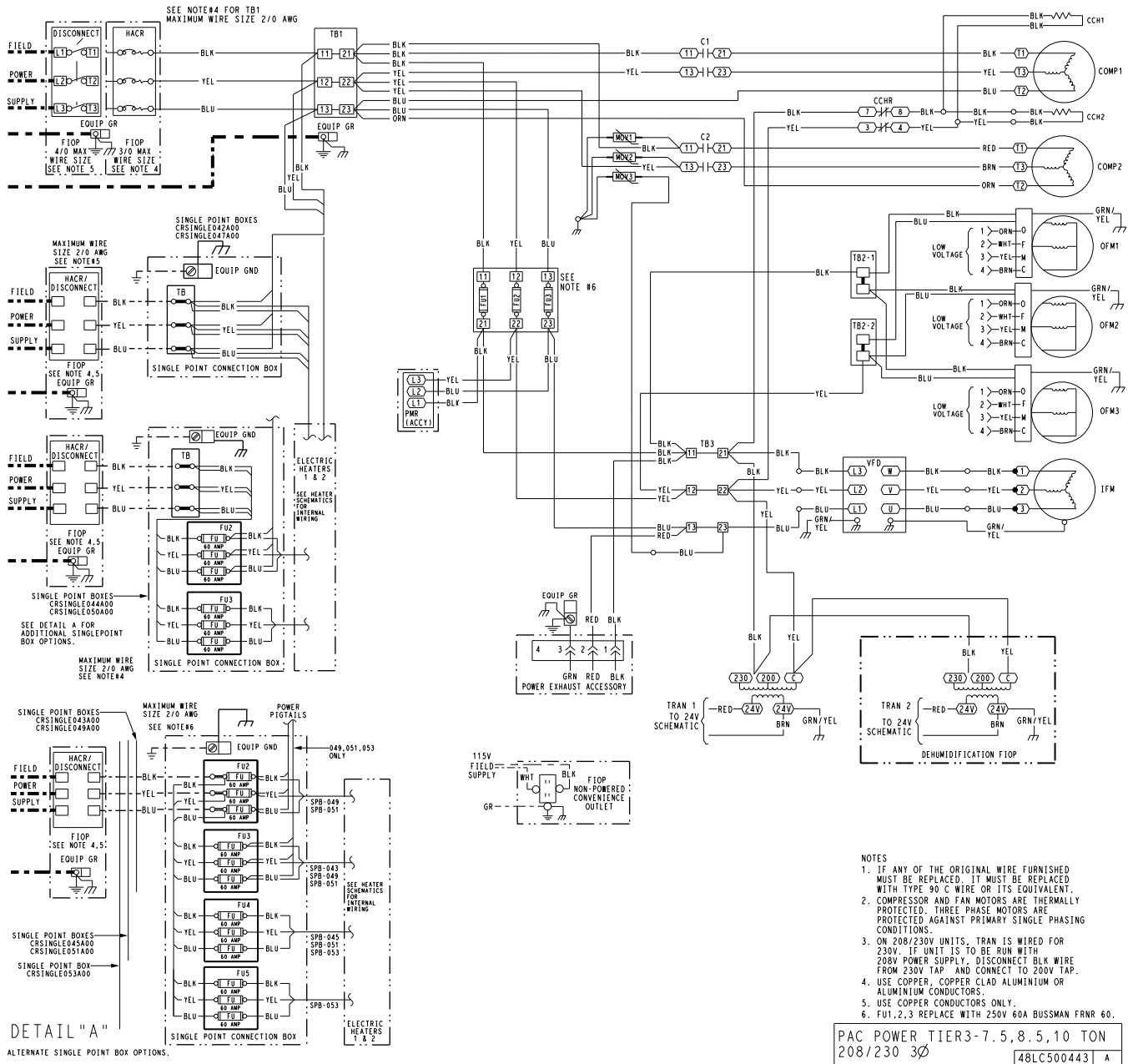


Fig. 17 - Electromechanical Control Wiring Diagram 50LC Sizes 08-12

TYPICAL WIRING DIAGRAMS (cont.)



- NOTES
1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
 2. COMPRESSOR AND FAN MOTORS ARE THERMALLY PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
 3. ON 208/230V UNITS, TRAN IS WIRED FOR 230V. IF UNIT IS TO BE RUN WITH 208V POWER SUPPLY, DISCONNECT BLK WIRE FROM 230V TAP AND CONNECT TO 200V TAP.
 4. USE COPPER, COPPER CLAD ALUMINIUM OR ALUMINIUM CONDUCTORS.
 5. USE COPPER CONDUCTORS ONLY.
 6. FU1,2,3 REPLACE WITH 250V 60A BUSSMAN FRNR 60.

PAC POWER TIER3-7.5,8.5,10 TON	
208/230 3Ø	48LC500443 A

C14105

Fig. 18 - Typical 50LC Sizes 08-12 Power Wiring Diagram, 208/230V Units Shown

SEQUENCE OF OPERATION

General

The Carrier Integrated Staging Control Board (ISC) is intended for use with a standard thermostat capable of three cooling stages. After initial power to the board, a Green LED will blink with a 1 second duty cycle indicating the unit is running properly. When the unit is not running properly, the Green LED will blink along with Red LED lights. The Red LED light configuration will indicate the type of error the board has identified.

The ISC board can be remotely shutdown by removing Jumper 4 and wiring to the Remote Shutdown terminal. The Smoke Control Module can shut down the unit by removing Jumper 3 and wiring to the Smoke Shutdown terminal. A smoke alarm can be obtained by wiring to the Smoke Alarm terminal.

The crankcase heater will run at all times except when the compressors are running. An auxiliary power supply (24Vac) available at TB-4 Terminal is provided to power auxiliary equipment. An optional Phase Monitor Relay can be wired to the PMR terminal by removing Jumper 5.

Ventilation

In the Ventilation/Fan Mode (G on the thermostat), the indoor fan will run at low speed and the damper will operate at minimum position.

Cooling

In the Cooling Mode, the small and large compressors will be sequenced to maintain the thermostat/DDC temperature setpoint. The chart below shows the cooling operation based on the following conditions.

INPUT	OUTPUT			
	Compressor C1	Compressor C2	Indoor Fan Speed	Outdoor Fan Speed
Thermostat				
First Stage Cooling (Y1)	On	Off	Low	Low (700 rpm)
Second Stage Cooling (Y2)	Off	On	Medium	Medium (800 rpm)
Third Stage Cooling (Y3)	On	On	High	High (1,000 rpm)

The outdoor fan and VFD controlled indoor-fan will operate at low, medium and high speed. The indoor-fan speed (rpm) is factory set by the CFM and static pressure requirements for the unit installed.

Humidi-MiZer® (Optional)

In the Dehumidification Mode, both compressors will run and Indoor airflow will rise to High Speed.

In subcooling mode (reheat-1), during part load conditions when the room temperature and humidity are above the set point, the unit initiates the sub-cooling mode of operation; a call for cooling and dehumidification. RDV (Reheat Discharge Valve) and TWV (Three Way Valve) close; Indoor and Outdoor airflow will rise until reaching 100% of Speed.

In hot gas reheat mode (reheat-2), when there is a call for dehumidification without a call for cooling, a portion of the hot gas from the compressor bypasses the condenser coil when RDV opens and hot gas is fed into the liquid line, TWV closes in this mode and the system provides mainly latent cooling. Indoor airflow will rise until reaching 100% of Speed, Outdoor airflow will run at High speed as long as outdoor temperature is above 80°F (26.7°C); when operating in this mode below 80°F (26.7°C) OAT, the system outdoor fan will operate as shown in the table below based on Size:

LC Size	RPM	Number of Fan On	Number of Fan Off
07	250	2	0
08	160	2	1
09	160	2	1
12	160	2	1

Economizer (Optional)

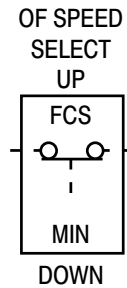
When the Economizer is in Free Cooling Mode and a demand for cooling exists (Y1 on the thermostat), the Economizer will modulate the outdoor-air damper to provide a 50°F (10°C) to 55°F (13°C) mixed-air temperature into the zone and run the indoor-fan at high speed. As mixed-air temperature fluctuates above 55°F (13°C) or below 50°F (10°C) dampers will be modulated (open or close) to bring the mixed-air temperature back within control. Upon more call for cooling (Y2 on the thermostat), the outdoor-air damper will maintain its current position, compressor C1 will run and the outdoor-fan will run at low speed. If there is further demand for cooling, the outdoor-air damper will maintain its current position, only compressor C2 will run and the outdoor fan will run at medium speed. The VFD controlled indoor fan will operate at high speed regardless of the cooling demand.

If the increase in cooling capacity causes the mixed-air temperature to drop below 45°F, the outdoor-air damper will return to the minimum position. If the mixed-air temperature continues to fall, the outdoor-air damper will close. Once the mixed air temperature rises above 48°F (9°C), the control returns to normal. The power exhaust fans will be energized and de-energized, if installed, as the outdoor-air damper opens and closes.

In field-installed accessory CO2 sensors are connected to the Economizer, a demand controlled ventilation strategy will begin to operate. As the CO2 level in the zone increases above the CO2 setpoint, the minimum position of the damper will be increased proportionally. As the CO2 level decreases because of the increase of fresh air, the outdoor-air damper will be proportionally closed. For economizer operation, there must be a thermostat call for the fan (G). If the unit is occupied and the fan is on, the damper will operate at minimum position. Otherwise, the damper will be closed.

Low Ambient Cooling Operation down to 40°F (4°C)

In Low Ambient RTU conditions when the temperature is between 55°F (13°C) and 40°F (4°C), the Low Ambient Switch (LAS) will be active and the outdoor-fans will run to the pre-set factory outdoor-fan speed. When the temperature is greater than 65°F (18°C), the Low Ambient Switch will deactivate and the outdoor-fans will run in the standard cooling mode. If the Outdoor Fan Select Switch (see Fig. 19) is in the up position, the outdoor fans will run in the Fan Cycle Speed Mode (FCS) set to 250 rpm. If the Outdoor Fan Select Switch is in the down position, the outdoor fans will run in the Minimum Fan Speed Mode (MIN) set to 160 rpm regardless of the cooling demand.

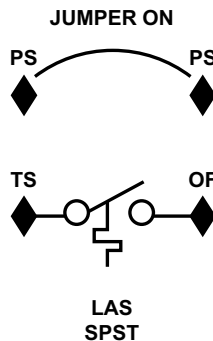


C13327

Fig. 19 - Outdoor Fan Speed Select Switch

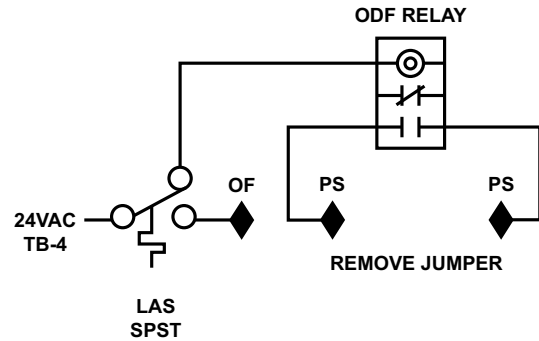
LC size 007 units have a SPST normally open Low Ambient Switch wired across the TS and OF terminal and a jumper placed across the PS terminal (See Fig. 20). When the LAS is active, the switch will close making contact to the OF terminal. This is done for units that require all outdoor fans to run at the same pre-set factory Low Ambient Speed.

LC Size 008 through 012 Units have a SPDT Low Ambient Switch wired to the OF terminal and the Outdoor Fan Relay (See Fig. 21). The jumper across the PS terminal will be removed. When the LAS is active, the switch will close making contact to the OF terminal and will drop connection to the ODF Relay. When electrical connection is removed from the ODF Relay, the PS connection will be opened. This will place the third outdoor-fan electrically isolated from receiving any speed command, which will then turn the motor off. This is done for units that only require two outdoor fans to run at the same pre-set factory Low Ambient Speed.



C13328

Fig. 20 - Schematic of SPST Low Ambient Switch



C13329

Fig. 21 - Schematic SPDT Low Ambient Switch

The Low Ambient Outdoor Fan Control chart (listed below) shows the operation of the outdoor fans for each unit

Low Ambient Temperature Outdoor Fan Control

LC Size	No. of Fans On	No. of Fans Off	Switch	LAS FIG. No.	OF Select Switch	RPM
007	2	0	(1) SPST	20	Up	250
008	2	1	(1) SPDT	21	Down	160
009	2	1	(1) SPDT	21	Down	160
012	2	1	(1) SPDT	21	Down	160

Heating

In the Heating Mode (W1 on the thermostat), power is applied to the G and W1 terminal at the ISC board and energizes the first state of electric heat. Upon more call for heat (W2 at the thermostat), power is applied to the G and W2 terminal at the ISC board and energizes the second state of electric heat. The VFD controlled indoor fan will operate at high speed regardless of the heating demand.

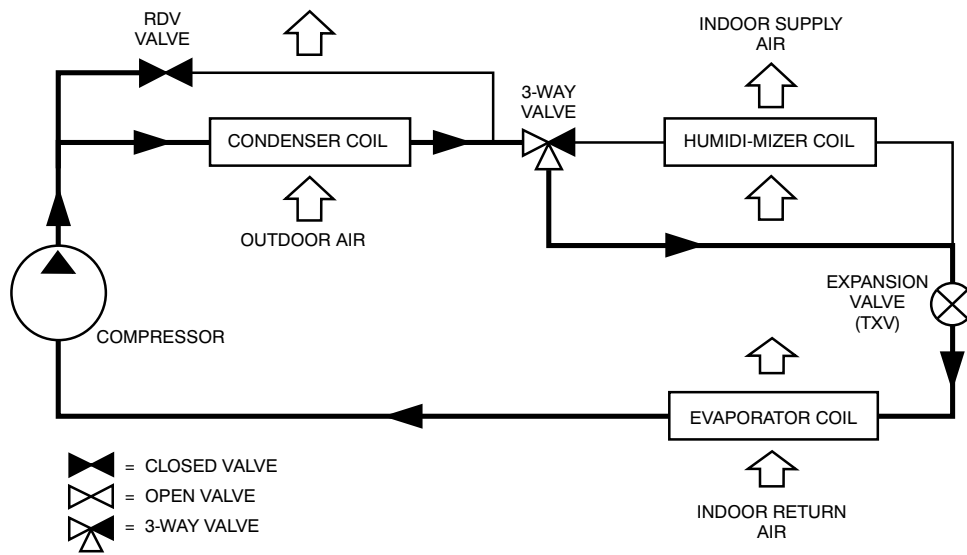


Fig. 22 - Humidi-MiZer Piping Schematic Normal Cooling

C14114

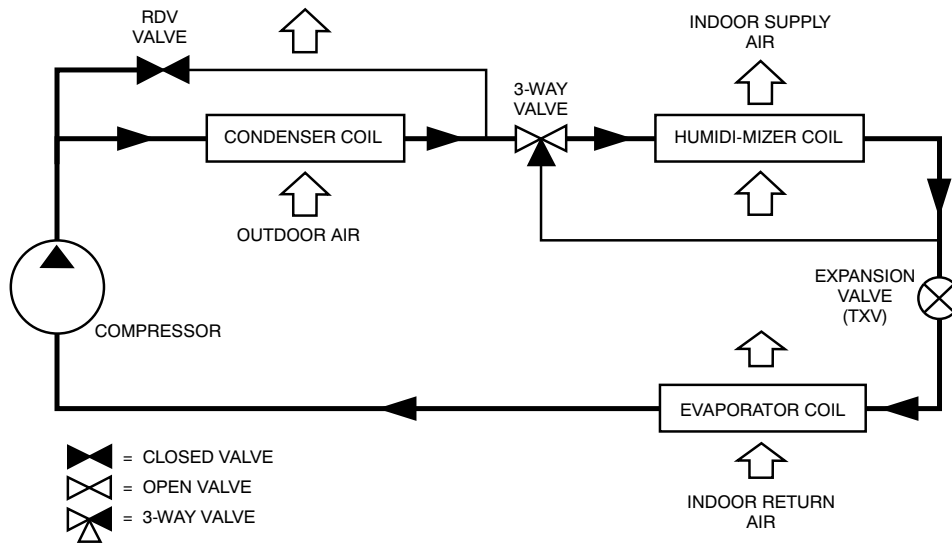


Fig. 23 - Humidi-MiZer Piping Schematic Subcooling Mode (Reheat1)

C14115

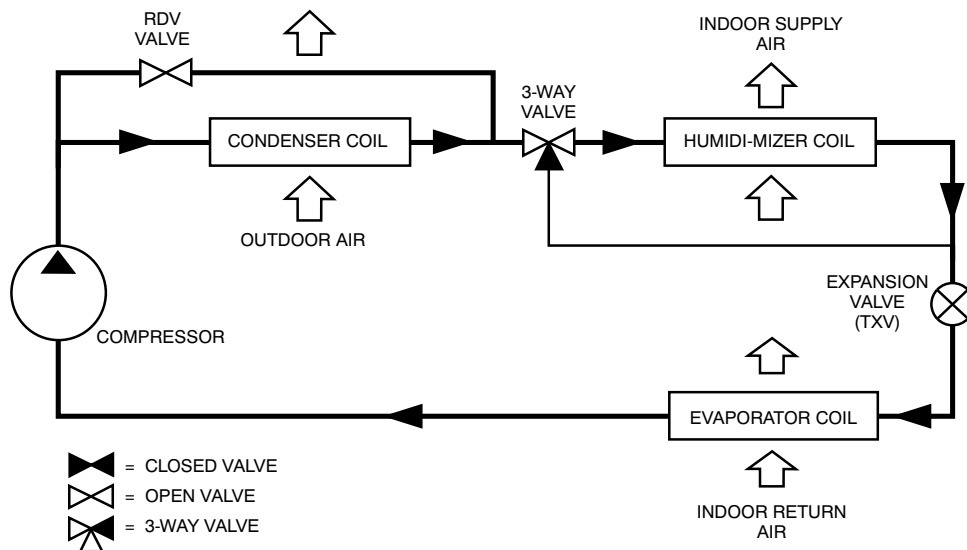


Fig. 24 - Humidi-MiZer Piping Schematic Hot Gas Reheat Mode (Reheat 2)

C14116

GUIDE SPECIFICATIONS – 50LC**07-12

Note about this specification:

This specification is in the “Masterformat” as published by the Construction Specification Institute. Please feel free to copy this specification directly into your building spec.

Weather Expert™ Ultra High Efficient Cooling Only/Electric Heat Packaged Rooftop

Size Range: 6 to 10 Nominal Tons



Section Description

23 06 80 Schedules for Decentralized HVAC Equipment

- 23 06 80.13 Decentralized Unitary HVAC Equipment Schedule
- 23 06 80.13.A. Rooftop unit schedule
 - 1. Schedule is per the project specification requirements.

23 07 16 HVAC Equipment Insulation

- 23 07 16.13 Decentralized, Rooftop Units:
 - 23 07 16.13.A. Evaporator fan compartment:
 - 1. Interior cabinet surfaces shall be insulated with a minimum 1/2-in. thick, minimum 1 1/2 lb density aluminum foil-faced insulation on the air side.
 - 2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
 - 23 07 16.13.B. Electric heat compartment:
 - 1. Aluminum foil-faced fiberglass insulation shall be used.
 - 2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

23 09 13 Instrumentation and Control Devices for HVAC

- 23 09 13.23 Sensors and Transmitters
 - 23 09 13.23.A. Thermostats
 - 1. Thermostat must
 - a. energize both “W” and “G” when calling for heat.
 - b. have capability to energize 3 different stages of cooling, and 1 and 2 different stages of heating.
 - c. include capability for occupancy scheduling.

23 09 33 Integrated Staging Control (ISC) Board System for HVAC

- 23 09 33.13 Decentralized, Rooftop Units:
 - 23 09 33.13.A. General:
 - 1. Shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-v transformer side. Transformer shall have 75VA capability.
 - 2. Shall utilize color-coded wiring.
 - 3. Shall include an ISC electro-mechanical control board, to conveniently and safely provide connection points for vital control functions such as: smoke detectors, phase monitor, gas controller, economizer, thermostat, and safety switches. Shall control all three stages of compressor logic, two or three stages of the indoor fan motor logic as well as staging of the outdoor fan motor. Shall also have a green LED indicator to indicate GO operation as well as a fault LED indicator for thermostat mis-wiring, no fan operation and safety switches..
 - 4. Unit shall include a minimum of one 8-pin screw terminal connection board for connection of control wiring.
 - 23 09 33.23.B. Safeties:
 - 1. Compressor over-temperature, over current.
 - 2. Low-pressure switch.
 - a. Low pressure switch shall use different color wire than the high pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.

3. High-pressure switch.

- a. High pressure switch shall use different color wire than the low pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.

4. Automatic reset, motor thermal overload protector.

23 09 93 Sequence of Operations for HVAC Controls

23 09 93.13 Decentralized, Rooftop Units:

23 09 93.13 INSERT SEQUENCE OF OPERATION

23 40 13 Panel Air Filters

23 40 13.13 Decentralized, Rooftop Units:

23 40 13.13.A. Standard filter section

1. Shall consist of factory-installed, low velocity, throwaway 2-in. thick fiberglass filters of commercially available sizes.
2. Unit shall use only one filter size. Multiple sizes are not acceptable.
3. Filters shall be accessible through an access panel with “no-tool” removal as described in the unit cabinet section of this specification (23 81 19.13.H).

23 81 19 Self-Contained Air Conditioners

23 81 19.13 Small-Capacity Self-Contained Air Conditioners (50LC**07-12)

23 81 19.13.A. General

1. Outdoor, rooftop mounted, ISC electrically controlled, heating and cooling unit utilizing hermetic scroll compressors for cooling duty and gas combustion for heating duty.
2. Factory assembled, single-piece heating and cooling rooftop unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, and special features required prior to field start-up.
3. Unit shall use environmentally safe, Puron refrigerant.
4. Unit shall be installed in accordance with the manufacturer’s instructions.
5. Unit must be selected and installed in compliance with local, state, and federal codes.

23 81 19.13.B. Quality Assurance

1. Unit meets and exceeds ASHRAE 90.1 minimum efficiency requirements.
2. Unit meets and exceeds Energy Star and Consortium for Energy Efficiency (CEE) requirements.
3. Unit shall be rated in accordance with AHRI Standards 340/360.
4. Unit shall be designed to conform to ASHRAE 15, 2001.
5. Unit shall be ETL/UL-tested and certified in accordance with ANSI Z21.47 Standards and UL-listed and certified under Canadian standards as a total package for safety requirements.
6. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
7. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).
8. Unit shall be designed in accordance with ISO 9001, and shall be manufactured in a facility registered by ISO 9001.
9. Roof curb shall be designed to conform to NRCA Standards.
10. Unit shall be subjected to a completely automated run test on the assembly line. The data for each unit will be stored at the factory, and must be available upon request.
11. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
14. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.
13. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.
14. High Efficient Motors listed shall meet section 313 of the Energy Independence and Security Act of 2007 (EISA 2007).

23 81 19.13.C. Delivery, Storage, and Handling

1. Unit shall be stored and handled per manufacturer’s recommendations.
2. Lifted by crane requires either shipping top panel or spreader bars.
3. Unit shall only be stored or positioned in the upright position.

23 81 19.13.D. Project Conditions

1. As specified in the contract.

23 81 19.13.E. Project Conditions

1. As specified in the contract.

23 81 19.13.F. Operating Characteristics

1. Unit shall be capable of starting and running at 125°F (52°C) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 340/360 at ± 10% voltage.
 2. Compressor with standard controls shall be capable of operation down to 40°F (4°C) ambient outdoor temperatures. For lower operation an integrated economizer shall be utilized to allow lower temperatures and accommodate indoor air quality initiatives.
 3. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
 4. Unit shall be factory configured for vertical supply & return configurations.
 5. Unit shall be field convertible from vertical to horizontal airflow on all models. No special kit required on 07 models. Field installed supply duct kit required for 08-12 model only.
 6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.

23 81 19.13.G. Electrical Requirements

1. Main power supply voltage, phase, and frequency must match those required by the manufacturer.

23 81 19.13.H. Unit Cabinet

1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a pre-painted baked enamel finish on all externally exposed surfaces.
2. Unit cabinet exterior paint shall be: film thickness, (dry) 0.003 inches minimum, gloss (per ASTM D523, 60°F): 60, Hardness: H-2H Pencil hardness.
3. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 340/360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 1/2-in. thick, 1 lb density, aluminum foil faced fiberglass insulation, Aluminum foil-faced fiberglass insulation shall also be used in the heat compartment.
4. Base of unit shall have a minimum of four locations for thru-the-base gas and electrical connections (factory installed or field installed), standard.
5. Base Rail
 - a. Unit shall have base rails on a minimum of 4 sides.
 - b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
 - c. Holes shall be provided in the base rail for moving the rooftop by fork truck.
 - d. Base rail shall be a minimum of 16 gauge thickness.
6. Condensate pan and connections:
 - a. Shall be an internally sloped condensate drain pan made of a non-corrosive material.
 - b. Shall comply with ASHRAE Standard 62.
 - c. Shall use a 3/4" -14 NPT drain connection, possible either through the bottom or end of the drain pan. Connection shall be made per manufacturer's recommendations.
7. Top panel:
 - a. Shall be a single piece top panel on 07 sizes, two piece on 08-12 sizes.
8. Electrical Connections
 - a. All unit power wiring shall enter unit cabinet at a single, factory-prepared, knockout location.
 - b. Thru-the-base capability
 - (1.) Standard unit shall have a thru-the-base electrical location(s) using a raised, embossed portion of the unit basepan.
 - (2.) Optional, factory-approved, water-tight connection method must be used for thru-the-base electrical connections.
 - (3.) No basepan penetration, other than those authorized by the manufacturer, is permitted.
9. Component access panels (standard)
 - a. Cabinet panels shall be easily removable for servicing.
 - b. Unit shall have one factory installed, tool-less, removable, filter access panel.
 - c. Panels covering control box, indoor fan, indoor fan motor, gas components (where applicable), and compressors shall have molded composite handles.
 - d. Handles shall be UV modified, composite, permanently attached, and recessed into the panel.
 - e. Screws on the vertical portion of all removable access panel shall engage into heat resistant, molded composite collars.
 - f. Collars shall be removable and easily replaceable using manufacturer recommended parts.

23 81 19.13.I. Coils

1. Standard Aluminum Fin/Copper Tube Coils:

- a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved 5/16" diameter copper tubes with all joints brazed.
- b. Evaporator coils shall be leak tested to 150 psig, pressure tested to 450 psig, and qualified to UL 1995 burst test at 1775 psig.
- c. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 1995 burst test at 1980 psig.

2. Optional Pre-coated aluminum-fin condenser coils:

- a. Shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments.
- b. Coating shall be applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube.
- c. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.
- d. Corrosion durability of fin stock shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90.
- e. Corrosion durability of fin stock shall be confirmed through testing to have no visible corrosion after 48 hour immersion in a room temperature solution of 5% salt, 1% acetic acid.
- f. Fin stock coating shall pass 2000 hours of the following: one week exposure in the prohesion chamber followed by one week in a QUV. Prohesion chamber: the solution shall contain 3.5% sodium chloride and 0.35% ammonium sulfate. The exposure cycle is one hour of salt fog application at ambient followed by one hour drying at 95°F (35°C).

3. Optional Copper-fin evaporator and condenser coils:

- a. Shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets.
- b. Galvanized steel tube sheets shall not be acceptable.
- c. A polymer strip shall prevent coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan.

4. Optional E-coated aluminum-fin evaporator and condenser coils:

- a. Shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins.
- b. Coating process shall ensure complete coil encapsulation of tubes, fins and headers.
- c. Color shall be high gloss black with gloss per ASTM D523-89.
- d. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges.
- e. Superior hardness characteristics of 2H per ASTM D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93.
- f. Impact resistance shall be up to 160 in.-lb (ASTM D2794-93).
- g. Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92).
- h. Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90.

23 81 19.13.J. Refrigerant Components

1. Refrigerant circuit shall include the following control, safety, and maintenance features:

- a. Thermostatic Expansion Valve (TXV) shall help provide optimum performance across the entire operating range. Shall contain removable power element to allow change out of power element and bulb without removing the valve body.
- b. Refrigerant filter drier.
- c. Service gauge connections on suction and discharge lines.
- d. Single circuit design with tandem compressor and fully activated evaporator coil

2. Compressors

- a. Models shall use fully hermetic tandem scroll compressors optimized for comfort staging and IEER energy savings.
- b. Models shall be available with a single refrigerant circuit and three stages of cooling operation on all models.
- c. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
- d. Compressors shall be internally protected from high discharge temperature conditions.

- e. Compressors shall be protected from an over-temperature and over-amperage conditions by an internal, motor overload device.
- f. Compressor shall be factory mounted on rubber grommets.
- g. Compressor motors shall have internal line break thermal, current overload and high pressure differential protection.
- h. Crankcase heater shall be standard on each compressor and deactivated whenever a compressor is in operation.

23 81 19.13.K. Filter Section

- 1. Filters access is specified in the unit cabinet section of this specification.
- 2. Filters shall be held in place by a pivoting filter tray, facilitating easy removal and installation.
- 3. Shall consist of factory-installed, low velocity, throw-away 2-in. thick fiberglass filters.
- 4. Filters shall be standard, commercially available sizes.
- 5. Only one size filter per unit is allowed.

23 81 19.13.L. Evaporator Fan and Motor

- 1. Evaporator fan motor:
 - a. Shall have permanently lubricated bearings.
 - b. Shall have inherent automatic-reset thermal overload protection or circuit breaker.
 - c. Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating shall be required. .
 - d. Shall be Variable Frequency duty to match the three stage compression logic.
 - e. Shall contain motor shaft grounding ring to prevent electrical bearing fluting damage by safely diverting harmful shaft voltages and bearing currents to ground.
- 2. Variable Frequency Drive (VFD). For indoor fan motor Staged Air Volume (SAV) operation:
 - a. Shall be installed inside the unit cabinet, mounted, wired and tested.
 - b. Shall contain Electromagnetic Interference (EMI) frequency protection.
 - c. Insulated Gate Bi-Polar Transistors (IGBT) used to produce the output pulse width modulated (PWM) waveform, allowing for quiet motor operation.
 - d. Self diagnostics with fault and power code LED indicator. Field accessory Display Kit available for further diagnostics and special setup applications.
 - e. RS485 capability standard.
 - f. Electronic thermal overload protection.
 - g. 5% swinging chokes for harmonic reduction and improved power factor.
 - h. All printed circuit boards shall be conformal coated.
 - i. Shall not contain visual display to adjust internal setting. Only available as field installed kit.
- 3. Belt-driven Evaporator Fan:
 - a. Belt drive shall include an adjustable-pitch motor pulley.
 - b. Shall use sealed, permanently lubricated ball-bearing type.
 - c. Blower fan shall be double-inlet type with forward-curved blades.
 - d. Shall be constructed from steel with a corrosion resistant finish and dynamically balanced.

23 81 19.13.M. Condenser Fans and Motors

- 1. Condenser fan motors:
 - a. Shall be a totally enclosed - multi speed ECM motor..
 - b. Shall use permanently lubricated bearings.
 - c. Shall have inherent thermal overload protection with an automatic reset feature.
 - d. Shall use a shaft-down design on 07 models and shaft-up on 08-12 models with rain shield.
- 2. Condenser Fans:
 - a. Shall be a direct-driven propeller type fan.
 - b. Shall have galvanized aluminum (galvalum) blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.

23 81 19.13.N. Special Features, Options and Accessories

- 1. Ultra low leak EconoMi\$er X system shall be factory or field installed.
 - (1.)Maximum damper leakage rate to be equal to or less than 4.0 cfm/sq. ft. at 1.0 in. w.g., meeting or exceeding ASHRAE 90.1 requirements. Economizer controller shall be Honeywell W7220 that provides:

- (2.) 2-line LCD interface screen for setup, configuration and troubleshooting
 - (3.) On-board fault detection and diagnostics
 - (4.) Sensor failure loss of communication identification
 - (5.) Automatic sensor detection
 - (6.) Capabilities for use with multiple-speed indoor fan systems
 - (7.) Utilize digital sensors: Dry bulb and Enthalpy
- a. Shall be capable of introducing up to 100% outdoor air.
 - b. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air.
 - c. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
 - d. Dry bulb outdoor air temperature sensor shall be provided as standard. Outdoor air sensor setpoint shall be adjustable and shall range from 40 to 100°F / 4 to 38°C. Additional sensor options shall be available as accessories.
 - e. The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 100%, with a range of 0% to 100%.
 - f. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy. A remote potentiometer may be used to override the damper setpoint.
 - g. Dampers shall be completely closed when the unit is in the unoccupied mode.
 - h. Economizer controller shall accept a 2-10 Vdc CO₂ sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.
 - i. Compressor lockout sensor shall open at 35°F (2°C) and close closes at 50°F (10°C).
 - j. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
 - k. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
2. Condenser Coil Hail Guard Assembly (Factory or field installed)
 - a. Shall protect against damage from hail.
 - b. Shall be louvered design.
 3. Unit-Mounted, Non-Fused Disconnect Switch:
 - a. Switch shall be factory-installed, internally mounted.
 - b. National Electric Code (NEC) and ETL/UL approved non-fused switch shall provide unit power shutoff.
 - c. Shall be accessible from outside the unit
 - d. Shall provide local shutdown and lockout capability
 - e. Sized only for the unit as ordered from the factory. Does not accommodate field installed devices.
 4. HACR Breaker
 - a. These manual reset devices provide overload and short circuit protection for the unit. Factory wired and mounted with the units, with access cover to help provide environmental protection. On 575V applications, HACR breaker can only be used with WYE power distribution systems. Use on Delta power distribution systems is prohibited.
 - b. Sized only for the unit as ordered from the factory. Does not accommodate field installed devices.
 5. Convenience Outlet:
 - a. Powered convenience outlet:
 - (1.) Outlet shall be powered from main line power to the rooftop unit.
 - (2.) Outlet shall be powered from line side or load side of disconnect by installing contractor, as required by code. If outlet is powered from load side of disconnect, unit electrical ratings shall be ETL/UL certified and rated for additional outlet amperage.
 - (3.) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
 - (4.) Outlet shall include 15 amp GFI receptacles with independent fuse protection.
 - (5.) Voltage required to operate convenience outlet shall be provided by a factory-installed step-down transformer.
 - (6.) Outlet shall be accessible from outside the unit.
 - (7.) Outlet shall include a field-installed "Wet in Use" cover.
 - b. Non-Powered convenience outlet.
 - (1.) Outlet shall be powered from a separate 115/120v power source.
 - (2.) A transformer shall not be included.

- (3.)Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
 - (4.)Outlet shall include 15 amp GFI receptacles with independent fuse protection.
 - (5.)Outlet shall be accessible from outside the unit.
 - (6.)Outlet shall include a field-installed “Wet in Use” cover.
6. Thru-the-Base Connectors:
 - a. Kits shall provide connectors to permit electrical connections to be brought to the unit through the unit basepan.
 - b. Minimum of four connection locations per unit.
 7. Propeller Power Exhaust:
 - a. Power exhaust shall be used in conjunction with an integrated economizer.
 - b. Independent modules for vertical or horizontal return configurations shall be available.
 - c. Horizontal power exhaust is shall be mounted in return ductwork.
 - d. Power exhaust shall be controlled by economizer controller operation. Exhaust fans shall be energized when dampers open past the 0-100% adjustable setpoint on the economizer control.
 8. Roof Curbs (Vertical):
 - a. Full perimeter roof curb with exhaust capability providing separate air streams for energy recovery from the exhaust air without supply air contamination.
 - b. Formed galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
 - c. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.
 9. High-Static Indoor Fan Motor(s) and Drive(s):
 - a. High-static motor(s) and drive(s) shall be factory-installed to provide additional performance range.
 10. Thru-the-Bottom Utility Connectors:
 - a. Kit shall provide connectors to permit gas and electrical connections to be brought to the unit through the basepan.
 11. Outdoor Air Enthalpy Sensor:
 - a. The outdoor air enthalpy sensor shall be used to provide single enthalpy control. When used in conjunction with a return air enthalpy sensor, the unit will provide differential enthalpy control. The sensor allows the unit to determine if outside air is suitable for free cooling.
 12. Return Air Enthalpy Sensor:
 - a. The return air enthalpy sensor shall be used in conjunction with an outdoor air enthalpy sensor to provide differential enthalpy control.
 13. Indoor Air Quality (CO₂) Sensor:
 - a. Shall be able to provide demand ventilation indoor air quality (IAQ) control.
 - b. The IAQ sensor shall be available in duct mount, wall mount, or wall mount with LED display. The setpoint shall have adjustment capability.
 14. Smoke detectors (factory-installed only):
 - a. Shall be a Four-Wire Controller and Detector.
 - b. Shall be environmental compensated with differential sensing for reliable, stable, and drift-free sensitivity.
 - c. Shall use magnet-activated test/reset sensor switches.
 - d. Shall have tool-less connection terminal access.
 - e. Shall have a recessed momentary switch for testing and resetting the detector.
 - f. Controller shall include:
 - (1.)One set of normally open alarm initiation contacts for connection to an initiating device circuit on a fire alarm control panel.
 - (2.)Two Form-C auxiliary alarm relays for interface with rooftop unit or other equipment.
 - (3.)One Form-C supervision (trouble) relay to control the operation of the Trouble LED on a remote test/reset station.
 - (4.)Capable of direct connection to two individual detector modules.
 - (5.)Can be wired to up to 14 other duct smoke detectors for multiple fan shutdown applications.
 15. Time Guard
 - a. Shall prevent compressor short cycling by providing a 5-minute delay (2 minutes) before restarting a compressor after shutdown for any reason.
 - b. One device shall be required per compressor.

16. Electric Heat:
 - a. Heating Section
 - (1.) Heater element open coil resistance wire, nickel-chrome alloy, 0.29 inches inside diameter, strung through ceramic insulators mounted on metal frame. Coil ends are staked and welded to terminal screw slots.
 - (2.) Heater assemblies are provided with integral fusing for protection of internal heater circuits not exceeding 48 amps each. Auto reset thermo limit controls, magnetic heater contactors (24 v coil) and terminal block all mounted in electric heater control box (minimum 18 ga galvanized steel) attached to end of heater assembly.
17. Hinged access panels:
 - a. Shall provide easy access through integrated quarter turn latches.
 - b. Shall be on major panels of; filter, control box, fan motor and compressor.
18. Display Kit for Variable Frequency Drive
 - a. Kit allows the ability to access the VFD controller programs to provide special setup capabilities and diagnostics.
 - b. Kit contains display module, mounting bracket and communication cable.
 - c. Display Kit can be permanently installed in the unit or used on any SAV system VFD controller as needed.
19. Supply Duct Kit.
 - a. On 08-12 models a supply air duct cover kit is required when field converting the factory standard vertical duct supply to horizontal duct supply configuration. One required per unit.
20. Thermostat:
 - a. Due to the three stage cooling capacity design of these units, a three stage cooling thermostat is required for the unit to perform at listed operating efficiencies.
 - b. Carrier offers a Honeywell branded T7350D (3 Cool/3 Heat) Commercial Programmable Thermostat. This provides:
 - 7-day programmable 365-day clock with holiday programming
 - Automatic Daylight Saving Time adjustment
 - Backlit display
 - Changeover selections: automatic or manual
 - Fan configurable: continuous or intermittent during occupied
21. Humidi-MiZer Adaptive Dehumidification System:
 - a. The Humidi-MiZer Adaptive Dehumidification System shall be factory installed, certified and tested to provide greater dehumidification of the occupied space by providing two distinct modes of dehumidification operation in addition to its normal design cooling mode:
 - (1.) Subcooling mode further sub cools the hot liquid refrigerant leaving the condenser coil as well as reheat leaving air stream. It can provide both better cooling capacity as well as dehumidification process when both temperature and humidity in the space are not satisfied.
 - (2.) Hot gas reheat mode shall mix a portion of hot gas from the discharge of compressor with the hot liquid refrigerant leaving the condenser coil to create a two-phase warm refrigerant in the reheat coil which results in a neutral leaving air temperature when only humidity in the space is not satisfied.