

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



Advanced Product Data



C13052

PERFORMANCE, INNOVATION, RELIABILITY

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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 previously released 3 to 5 ton models with SEER's up to 17.5 and 12.5 to 23 ton models to provide a full range offering.

Ultra high efficiency:

With IEER's up to 21.0, these new WeatherExpert models well exceed the latest efficiency standards for ASHRAE 90.1, Energy Star, and Consortium for Energy Efficiency (CEE) Tier 2 levels. These models help to contribute in LEED credits and help qualify for rebates. The high IEER efficiencies are achieved by utilizing a proven tandem 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 with a simple conversion panel, 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.

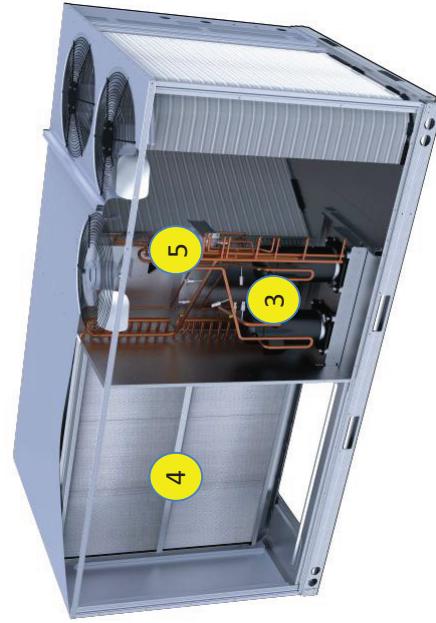
Reliable:

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.



CUT AWAY UNIT

- 1 DDC electric controls provide:
 - Staging of compressors, indoor fan and condenser fans
 - LED diagnostics capability
 - Convenient wiring for accessories and option
- 3 Three stage cooling capacity with tandem compressor and single refrigerant circuit design.
- 4 Fully activated evaporator coil for lower cfm operation and higher latent capacity



- 2 Flexible Belt Drive motor with Staged Air Volume (SAV™) technology. Variable Frequency Drive (VFD) matches cooling, heating and ventilation speeds.
- 5 TXV metering device allows optimum performance over the full unit operating range.

Fig. 1 - 50LC 07-12 Call-outs

UNIT FEATURES

- Three stage cooling capacity control with tandem 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 device 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.
- DDC Electric controls that provide:
 - 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 87dB.
- Exclusive non-corrosive composite condensate pan in accordance with ASHRAE 62 Standard, sloping design; side or center 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.
- 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 = 3 stage cooling with TXV

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, unpwrd conv outlet
5 = Hinged panels, pwrd conv outlet

Air Intake / Exhaust Options

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

Base Unit Controls

0 = DDC Electric controls (all models)

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
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	X	X
	Barometric relief ¹	X	X
	Power exhaust		X
Economizer Sensors & IAQ Devices	Single dry bulb temperature sensors ²	X	X
	Differential dry bulb temperature sensors ²		X
	Single enthalpy sensors ²	X	X
	Differential enthalpy sensors ²		X
	CO ₂ sensor (wall, duct, or unit mounted) ²	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) ³	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:

1. Included with economizer.
2. Sensors used to optimize economizer performance.
3. Not available on 575 volt models.
4. On 575V applications, HACR breaker can only be used with WYE power distribution systems. Using on Delta power distribution systems is prohibited.
5. On 208/230–460 units with FIOP Non-Fused Disconnect, and accessory CRSINGLE037A00 Single Point Box may be required. Refer to Electric Heat-Electrical Data Table for more information.
6. 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 which 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 with Barometric Relief.

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.

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 and CEE 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	
R-410a charge (lbs – oz)	15 – 8	22 – 5	25–11	24–15	
Metering device	TXV	TXV	TXV	TXV	
High–press. Trip / Reset (psig)	630 / 505	630 / 505	630 / 505	630 / 505	
Low–press. Trip / Reset (psig)	27 / 44	27 / 44	54/117	54/117	
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	
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"	
Evaporator Fan and Motor					
Standard Static	Motor Qty / Drive type Max BHP RPM range Motor Frame Size Fan Qty / Type Fan Diameter (in)	1 / Belt	1 / Belt	1 / Belt	1 / Belt
		1.7	1.7	1.7	2.4
		356–534	338–507	338–507	375–563
		56	56	56	56Z
		1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
		15.5 x 15	18.5 x 18	18.5 x 18	18.5 X 18
		1 / Belt	1 / Belt	1 / Belt	1 / Belt
Medium Static	Motor Qty / Drive type Max BHP RPM range Motor Frame Size Fan Qty / Type Fan Diameter (in)	1.7	1.7	1.7	2.9
		539–809	488–675	488–675	547–757
		56	56	56	56
		1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
		15.5 x 15	18.5 x 18	18.5 x 18	18.5 X 18
		1 / Belt	1 / Belt	1 / Belt	1 / Belt
		2.9	2.9	3.7	4.9
High Static	Motor Qty / Drive type Max BHP RPM range Motor Frame Size Fan Qty / Type Fan Diameter (in)	799–1054	623–863	675–863	760–960
		56	56	56HZ	145TZ
		1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
		15.5 x 15	18.5 x 18	18.5 x 18	18.5 X 18
		N/A	1 / Belt	1 / Belt	N/A
		N/A	3.7	4.9	N/A
		N/A	847–1150	832–1021	N/A
Ultra High Static	Motor Qty / Drive type Max BHP (208/230/460/575v) RPM range Motor Frame Size Fan Qty / Type Fan Diameter (in)	N/A	56HZ	145TZ	N/A
		N/A	1 / Centrifugal	1 / Centrifugal	N/A
		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
	Coil type	5/16" RTPF	5/16" RTPF	5/16" RTPF
	Rows / FPI	2 / 18	2 / 18	2/18
	Total Face Area (ft2)	25.1	36.1	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
	Motor HP / RPM	1/3 / 1000	1/3 / 1000	1/3 / 1000
	Fan diameter (in)	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
		V 2 / 24 x 27 x 1	V 2 / 24 x 27 x 1	V 2 / 24 x 27 x 1
	OA inlet screen # / size (in)	H 1 / 30 x 39 x1	H 1 / 30 x 39 x1	H 1 / 30 x 39 x2

Table 8 – ELECTRIC HEAT - ELECTRICAL DATA

50LC*07

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXA00			
					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	264A00	6.5	4.9/6.0	047	047	047	047
		110A00	16.0	12.0/14.7	047	047	049	049
		111A00	24.8	18.6/22.8	049	049	049	049
	MED	264A00	6.5	4.9/6.0	047	047	047	047
		110A00	16.0	12.0/14.7	047	047	049	049
		111A00	24.8	18.6/22.8	049	049	049	049
	HIGH	264A00	6.5	4.9/6.0	047	047	047	047
		110A00	16.0	12.0/14.7	047	049	049	049
		111A00	24.8	18.6/22.8	049	049	049	049
460-3-60	STD	265A00	6.0	5.5	047	047	047	047
		267A00	14.0	12.9	047	047	047	047
		269A00	25.5	23.4	047	047	047	047
	MED	265A00	6.0	5.5	047	047	047	047
		267A00	14.0	12.9	047	047	047	047
		269A00	25.5	23.4	047	047	047	047
	HIGH	265A00	6.0	5.5	047	047	047	047
		267A00	14.0	12.9	047	047	047	047
		269A00	25.5	23.4	047	047	047	047
575-3-60	STD	308A00	17.0	17.0	047	047	047	047
		299A00	25.7	25.7	047	047	047	047
	MED	308A00	17.0	17.0	047	047	047	047
		299A00	25.7	25.7	047	047	047	047
	HIGH	308A00	17.0	17.0	047	047	047	047
		299A00	25.7	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

Table 9 – ELECTRIC HEAT - ELECTRICAL DATA

50LC*08

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXA00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/ P.E. (pwrdr fr/unit)	NO P.E.	w/ P.E. (pwrdr 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

Table 10 – ELECTRIC HEAT - ELECTRICAL DATA

50LC*09

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXA00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/ P.E. (pwrdr fr/unit)	NO P.E.	w/ P.E. (pwrdr 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

50LC*12

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXA00			
					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

CURBS & WEIGHTS DIMENSIONS

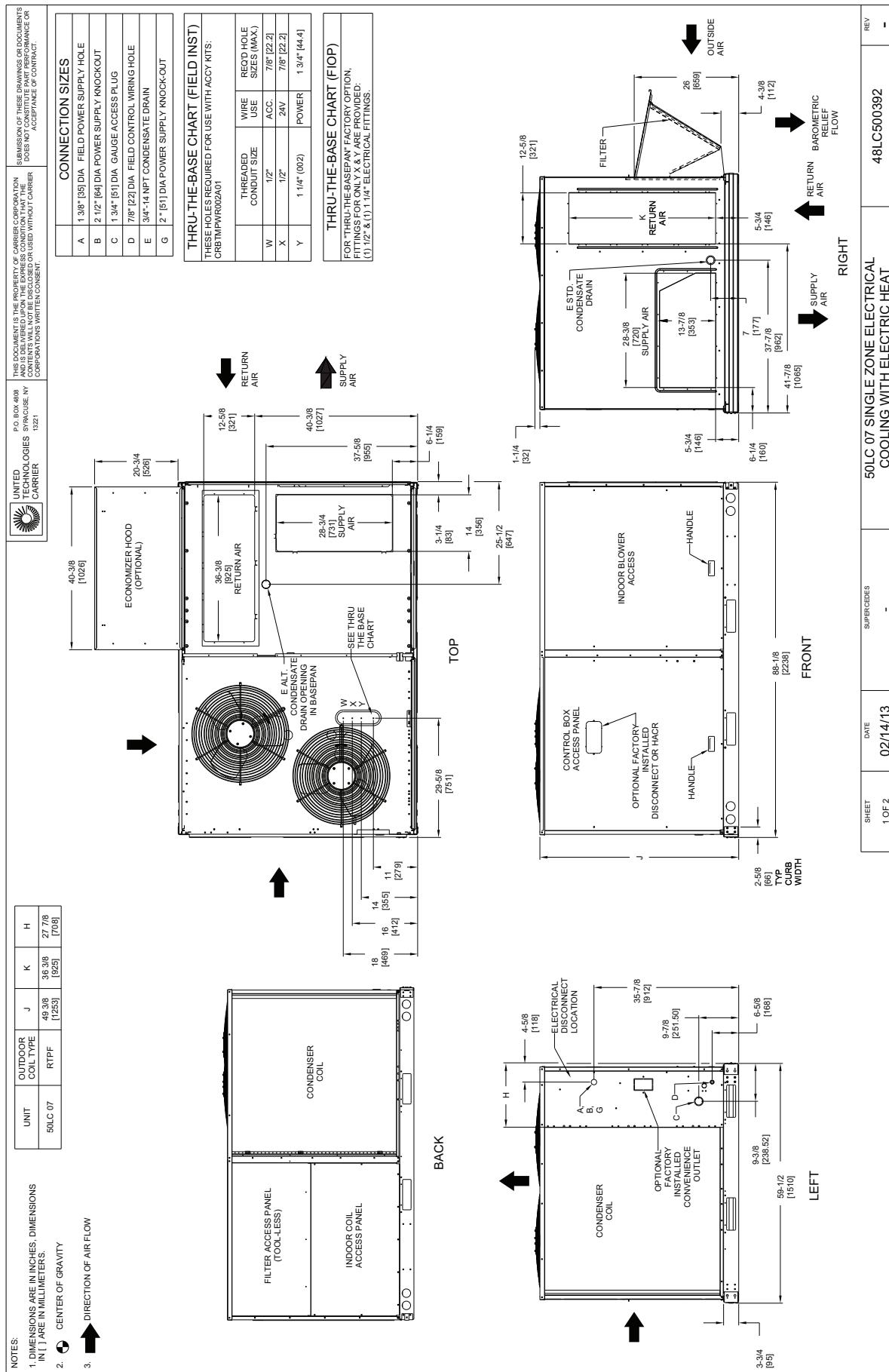


Fig. 2 - Dimensions 50LC 07

C13014

CURBS & WEIGHTS DIMENSIONS (cont.)

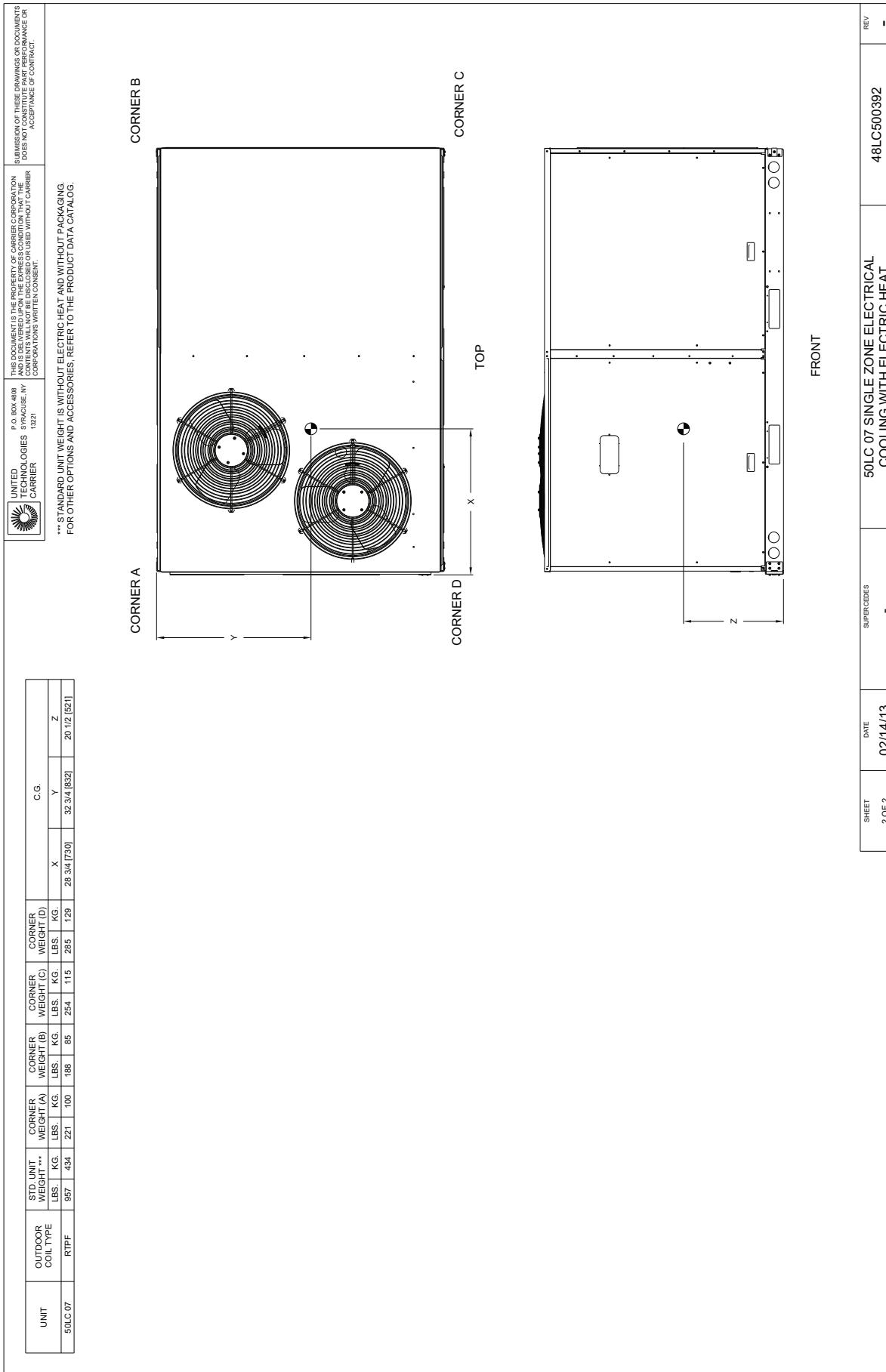
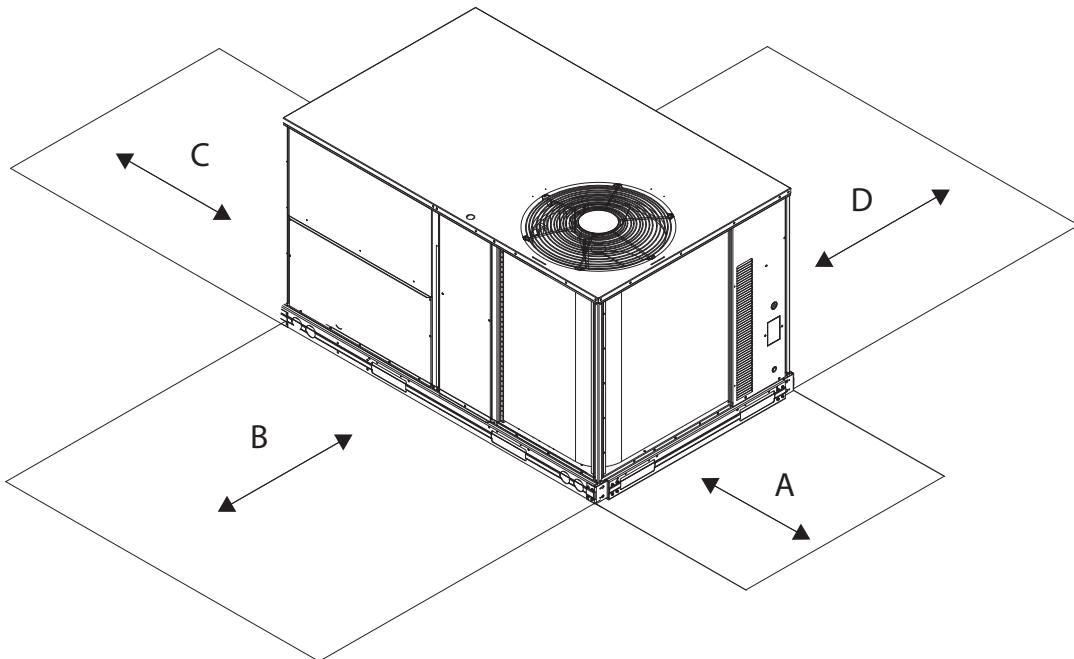


Fig. 3 - Dimensions 50LC 07

C13015

CURBS & WEIGHTS DIMENSIONS (cont.)



C08337

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	48-in (1219 mm) 42-in (1067 mm) 36-in (914 mm) Special	No flue discharge accessory installed, surface is combustible material Surface behind servicer is grounded (e.g., metal, masonry wall, another unit) Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass) Check for adjacent units or building fresh air intakes within 10-ft (3 m) of this unit's flue outlet

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

Fig. 4 - Service Clearance Dimensional Drawing

CURBS & WEIGHTS DIMENSIONS (cont.)

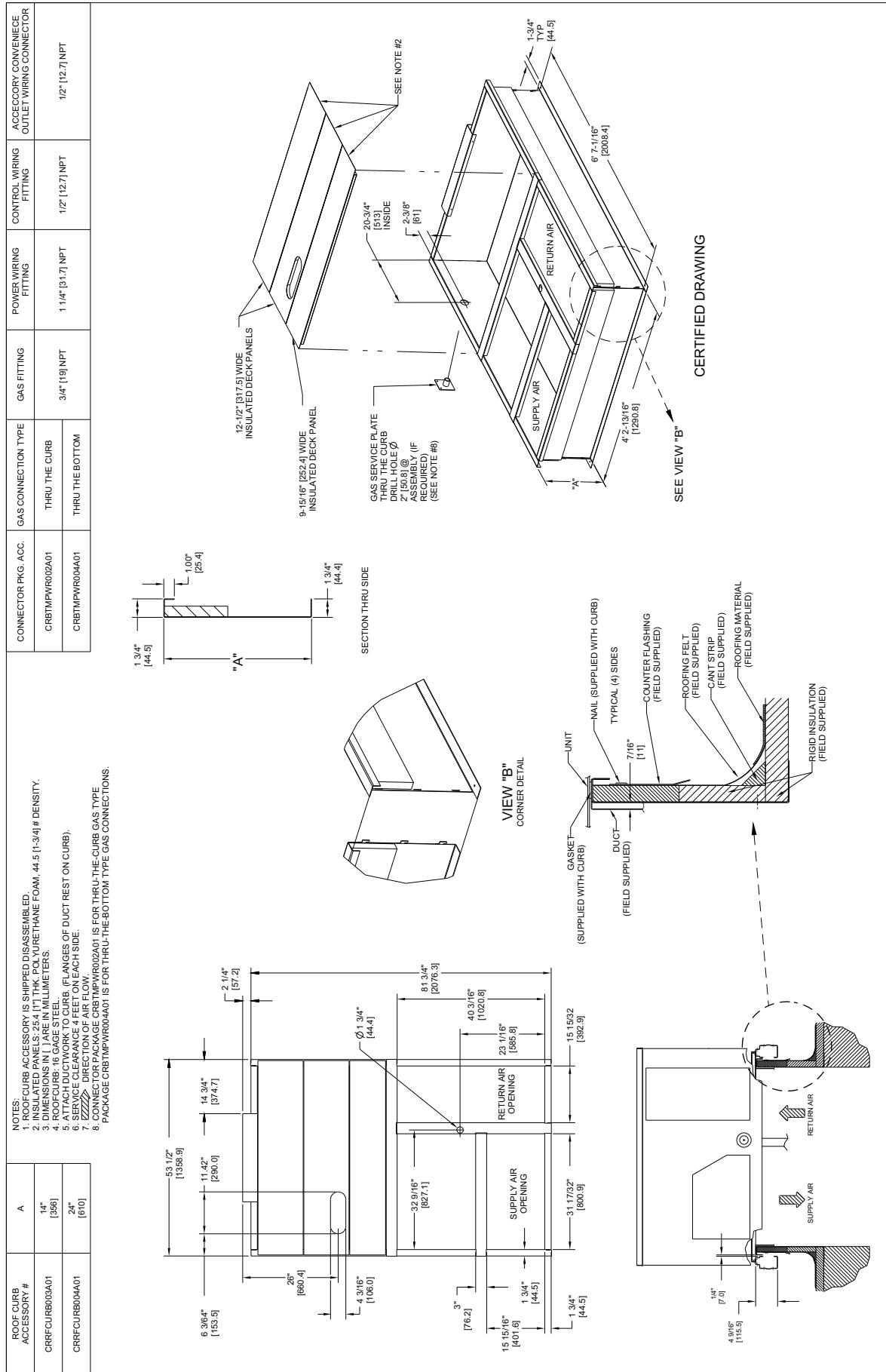


Fig. 5 - Roof Curb Details Size 07

CURBS & WEIGHTS DIMENSIONS (cont.)

UNITED TECHNOLOGIES/RCA, INC.
P.O. BOX 489
1321 CARRIER
SYRACUSE, NY

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS
IS CONSIDERED AN ACCEPTANCE OF THE CONTRACT
AND THE CONDITIONS OF SALE AND DELIVERY AS STATED
IN THE CONTRACT. THE CONTRACT IS INTEGRAL AND
CANNOT BE SEPARATED FROM THE DRAWINGS OR DOCUMENTS.

NOTES:

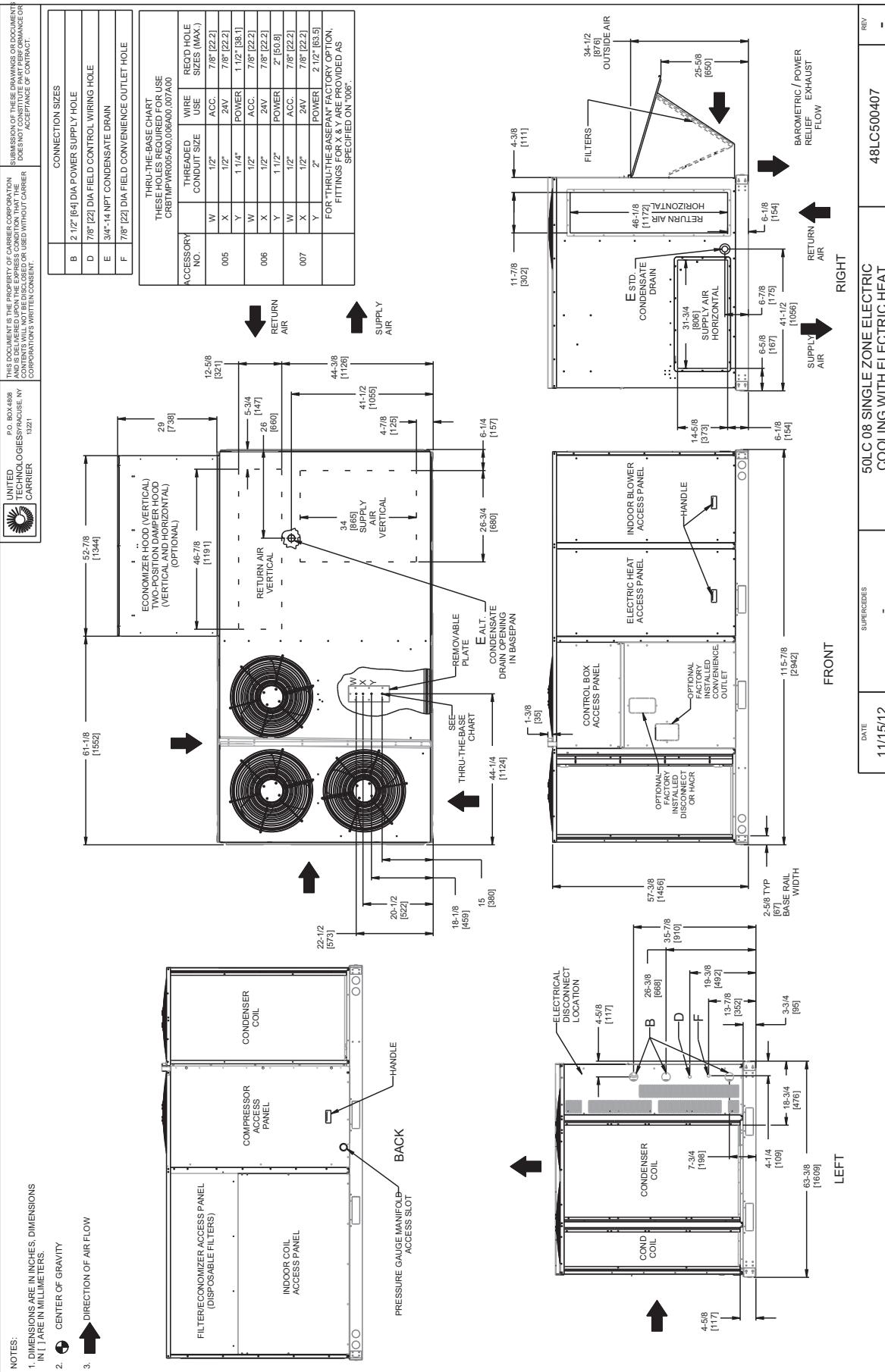


Fig. 6 - 50LC 08

CURBS & WEIGHTS DIMENSIONS (cont.)

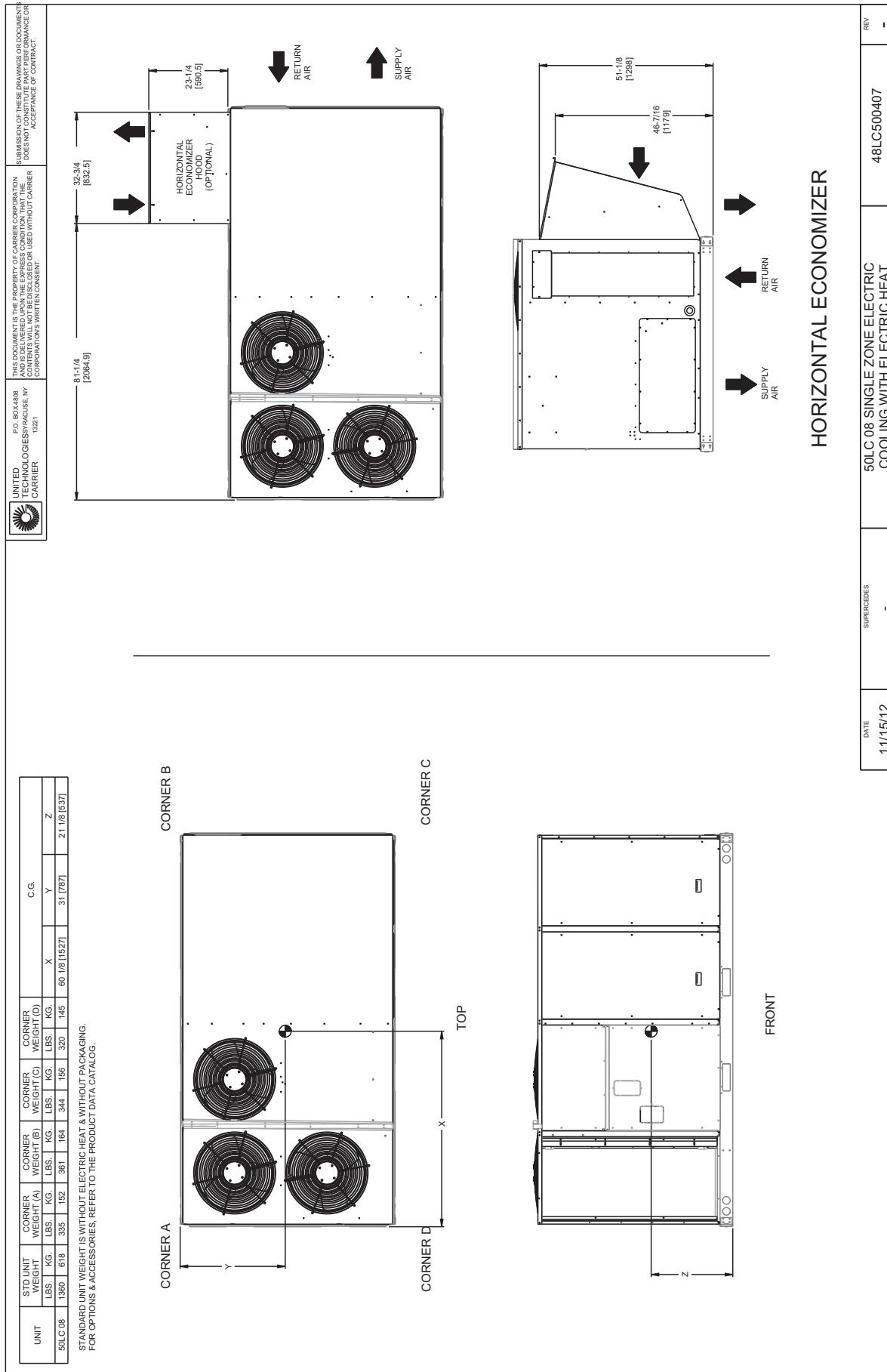


Fig. 7 - 50LC 08

C13017

CURBS & WEIGHTS DIMENSIONS (cont.)

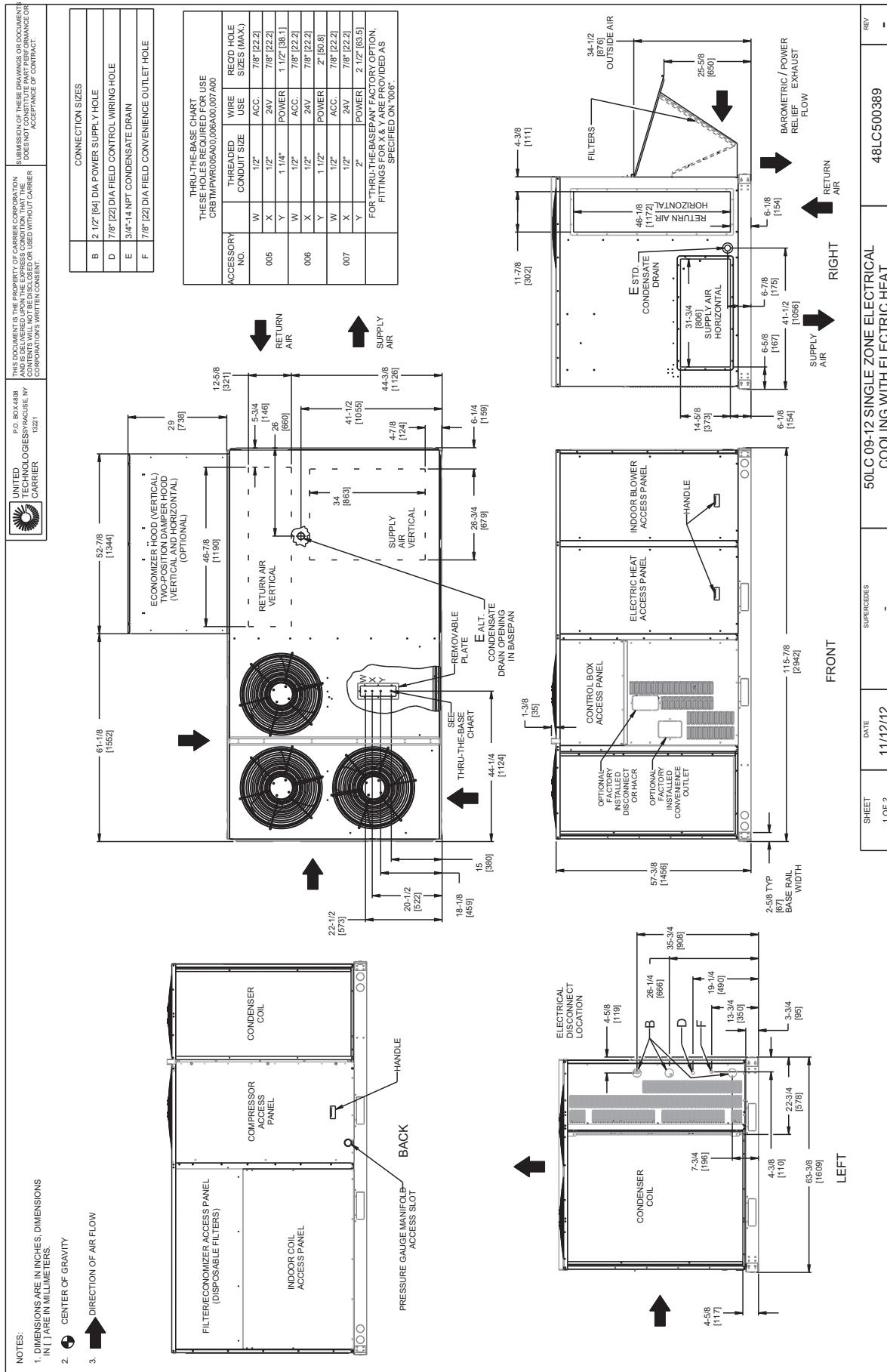


Fig. 8 - 50LC 09 - 12

CURBS & WEIGHTS DIMENSIONS (cont.)

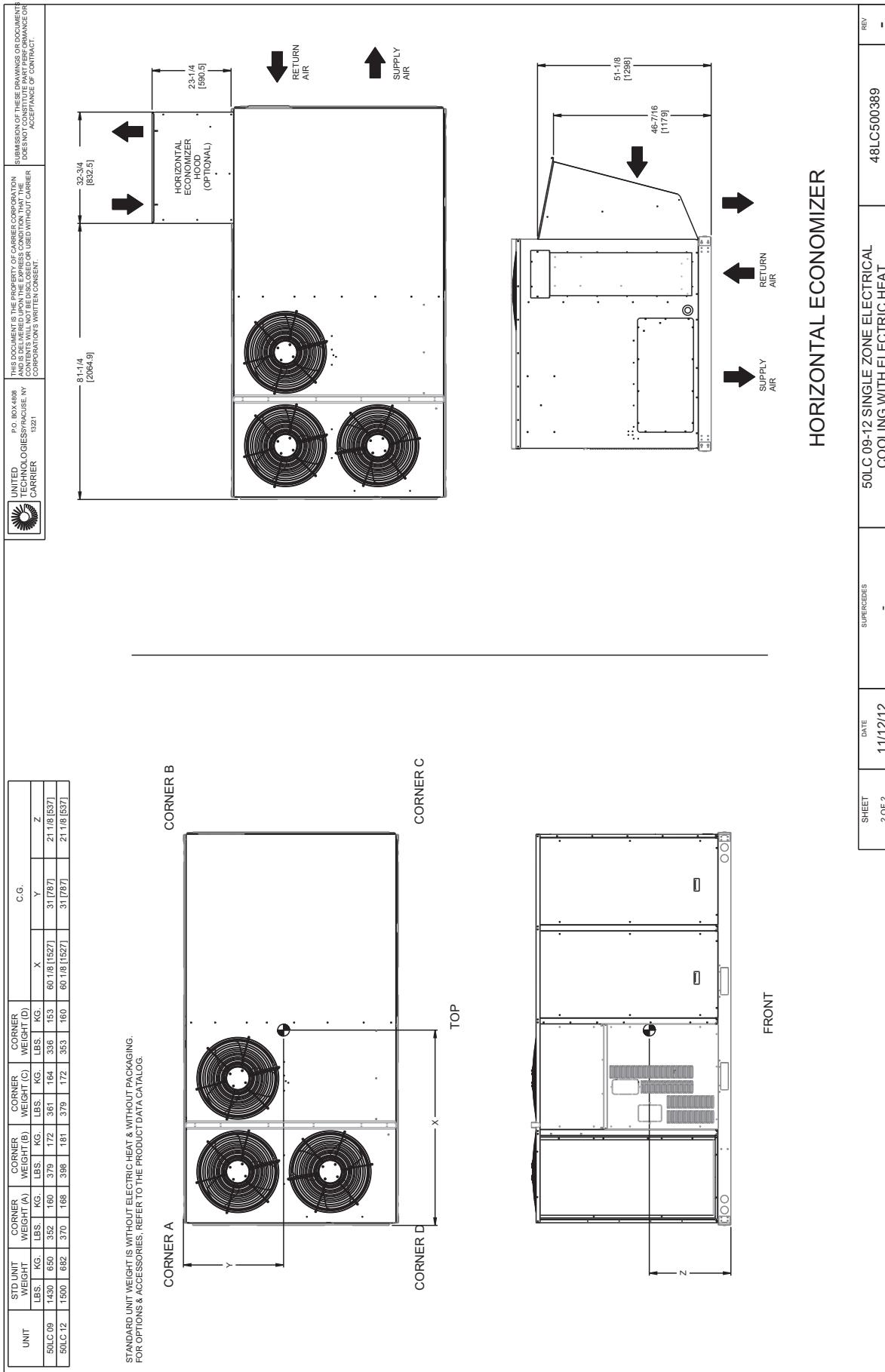


Fig. 9 - 50LC 09 - 12

CURBS & WEIGHTS DIMENSIONS (cont.)

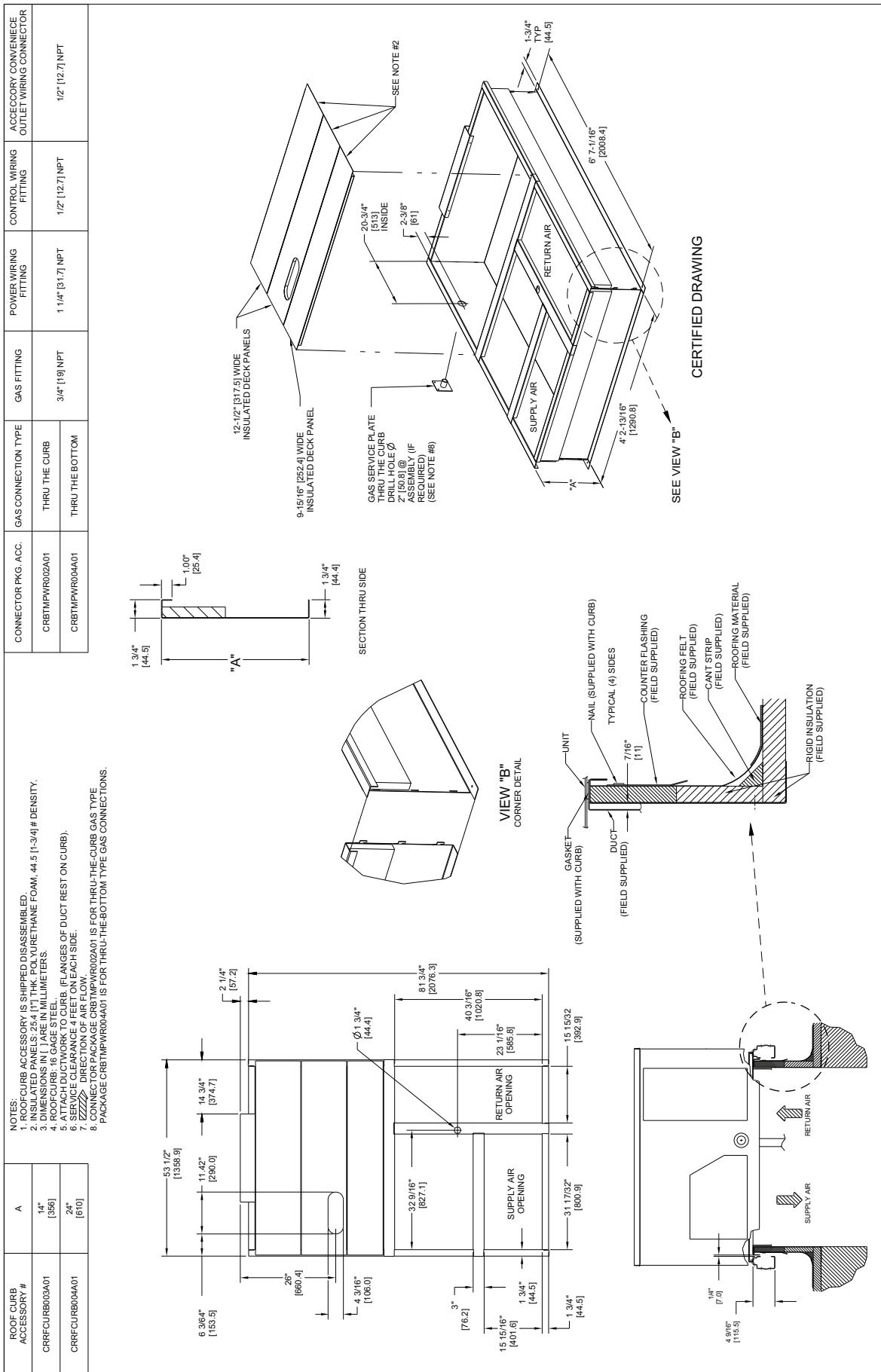


Fig. 10 - Roof Curb Details Size 07

OPTIONS & ACCESSORY WEIGHTS

OPTION / ACCESSORY	WEIGHTS in LBS			
	50LC**07	50LC**08	50LC**09	50LC**12
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 CO	10	10	10	10
Hinged Panels with Powered CO	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-though in cooling 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	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	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	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	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	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)		EA (dB)		EA (dB)		EA (dB)	
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)		EA (dB)		EA (dB)		EA (dB)	
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	
		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

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 – 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)		EA (dB)		EA (dB)		EA (dB)	
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 16 – 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)		EA (dB)		EA (dB)		EA (dB)	
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 17 – 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	64.0	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	75.9	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.)

8.5 TONS

Table 18 – COOLING CAPACITIES - FIRST STAGE, PART LOAD

09 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	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 19 – COOLING CAPACITIES - SECOND STAGE, PART LOAD

8.5 TONS

09 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 20 – COOLING CAPACITIES - THIRD STAGE, FULL LOAD

8.5 TONS

09 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 21 – COOLING CAPACITIES - FIRST STAGE, PART LOAD

10 TONS

12 SIZE			AMBIENT TEMPERATURE															
			85			95			105			115			125			
			EA (dB)		EA (dB)		EA (dB)		EA (dB)		EA (dB)		EA (dB)		EA (dB)		EA (dB)	
2000	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	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	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	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	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	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	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 22 – 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)		EA (dB)		EA (dB)		EA (dB)	
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 23 – COOLING CAPACITIES - THIRD STAGE, FULL LOAD

10 TONS

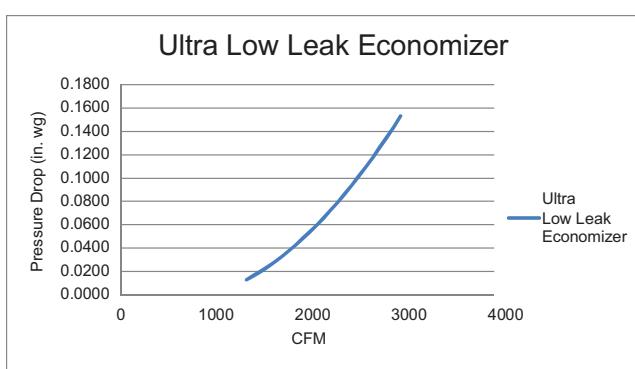
12 SIZE			AMBIENT TEMPERATURE															
			85			95			105			115			125			
			EA (dB)		EA (dB)		EA (dB)		EA (dB)		EA (dB)		EA (dB)		EA (dB)		EA (dB)	
3000 Cfm	EAT (wB)	58	THC	103.3	103.3	117.3	97.4	97.4	111.0	91.1	91.1	104.1	84.4	84.4	96.8	77.2	77.2	89.0
		58	SHC	89.1	103.3	117.3	83.8	97.4	111.0	78.1	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
		62	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	96.0	96.0	96.0	96.0	86.9	86.9	86.9
		67	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
		72	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
		76	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
		58	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
		62	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
		67	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
4000 Cfm	EAT (wB)	72	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
		76	SHC	—	57.8	76.5	—	53.5	72.2	—	49.1	67.9	—	44.6	63.2	—	39.7	58.4
		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
		58	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
		62	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
4500 Cfm	EAT (wB)	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
		67	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
		72	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
		76	SHC	—	60.4	81.5	—	56.1	77.2	—	51.6	72.7	—	46.9	68.1	—	42.1	63.2
		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
5000 Cfm	EAT (wB)	58	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
		62	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
		67	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
		72	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
		76	SHC	—	62.7	86.3	—	58.4	82.0	—	53.9	77.5	—	49.2	72.7	—	44.4	67.9

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

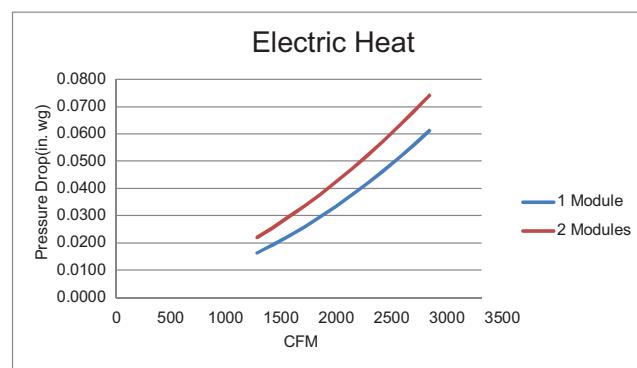
ECONOMIZER, BAROMETRIC RELIEF AND PE PERFORMANCE

50LC*07



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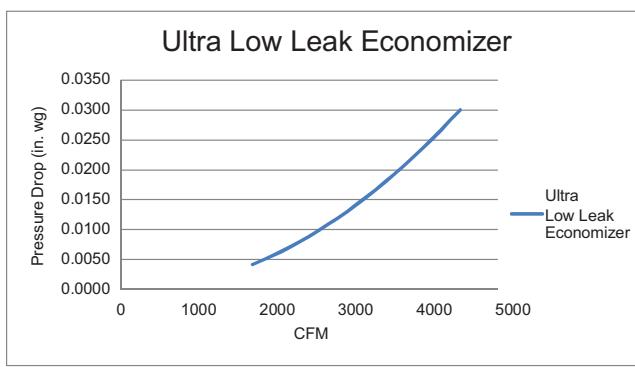
Fig. 11 - Pressure Drop - Ultra Low Leak Economizer



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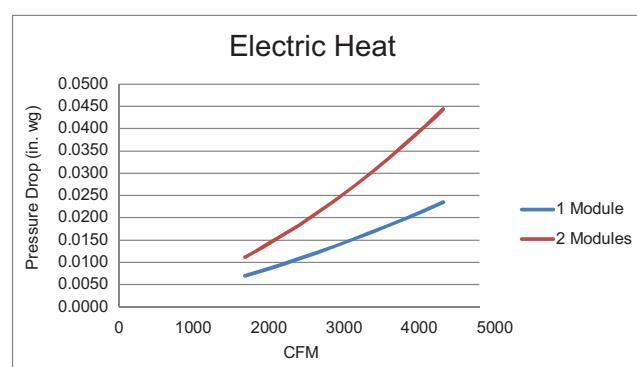
Fig. 12 - Pressure Drop - Electric Heat

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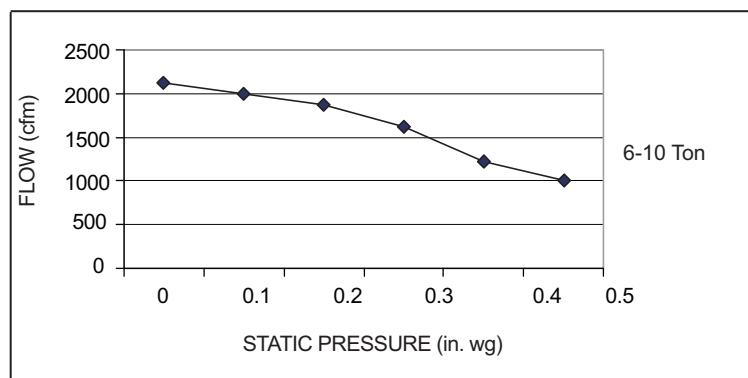
Fig. 13 - Pressure Drop - Ultra Low Leak Economizer



C13087

Fig. 14 - Pressure Drop - Electric Heat

Power Exhaust Performance



C13108

Fig. 15 - 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 24 – 50LC**#07

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		
1800	367	0.19	475	0.31	570	0.44	653	0.59	728	0.74	795	0.90
1950	383	0.23	486	0.35	578	0.49	659	0.64	733	0.80	800	0.97
2100	401	0.27	498	0.40	586	0.54	666	0.70	738	0.87	805	1.04
2250	420	0.32	511	0.45	596	0.61	674	0.77	745	0.94	810	1.12
2400	439	0.38	526	0.52	607	0.67	682	0.84	752	1.02	817	1.21
2550	460	0.44	541	0.58	619	0.75	692	0.92	760	1.11	824	1.31
2700	481	0.51	558	0.66	632	0.83	703	1.01	769	1.21	832	1.41
2850	502	0.59	575	0.75	647	0.92	715	1.11	779	1.31	840	1.52
3000	524	0.68	593	0.84	662	1.02	727	1.21	790	1.42	850	1.63
											906	1.86
											980	2.09
											1012	2.32
											1061	2.56

Bold Face = Field Supplied Drive (High Static motor, motor pulley = KR11HY213, blower pulley = KR51BH615, belt = KR29BF047) 880 – 1080 rpm

Table 25 – 50LC**#07

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		
1800	328	0.16	441	0.27	540	0.40	627	0.54	704	0.69	774	0.84
1950	343	0.19	449	0.30	545	0.44	630	0.58	706	0.74	775	0.90
2100	359	0.23	458	0.34	550	0.48	634	0.64	709	0.80	778	0.97
2250	377	0.27	469	0.39	557	0.53	638	0.69	712	0.86	780	1.04
2400	395	0.32	481	0.44	566	0.59	644	0.75	717	0.93	784	1.11
2550	413	0.37	495	0.50	575	0.65	651	0.82	722	1.00	788	1.19
2700	433	0.43	510	0.57	586	0.72	659	0.90	728	1.08	793	1.28
2850	453	0.50	525	0.64	598	0.80	669	0.98	736	1.17	799	1.37
3000	473	0.58	542	0.72	611	0.89	679	1.07	744	1.27	806	1.47
											865	1.69
											921	1.92
											974	2.15
											1025	2.38

Bold Face = Field Supplied Drive (Standard Motor, Motor pulley = VP34 5/8, blower pulley = AK109 X 1, belt = KR29AF046) 322 – 484 rpm

6 TON VERTICAL SUPPLY

6 TON HORIZONTAL SUPPLY

FAN PERFORMANCE (cont.)

Table 26 - 50LC**08

Table 27 = 501 C**08

FAN PERFORMANCE (cont.)

Table 28 – 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
2550	339	0.27	446	0.50	530	0.76	600	1.03	659	1.31
2763	347	0.31	452	0.54	537	0.81	607	1.10	667	1.40
2975	357	0.35	458	0.59	543	0.87	613	1.17	675	1.49
3188	367	0.40	465	0.65	548	0.94	620	1.25	681	1.58
3400	379	0.46	471	0.71	554	1.01	626	1.33	688	1.67
3613	391	0.52	479	0.77	560	1.08	631	1.41	694	1.77
3825	405	0.59	488	0.84	566	1.16	637	1.50	700	1.87
4038	418	0.66	497	0.92	573	1.24	643	1.60	706	1.98
4250	432	0.75	507	1.01	580	1.33	649	1.70	712	2.09
										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

Table 29 – 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
2550	328	0.25	432	0.46	517	0.71	589	0.98	652	1.28
2763	337	0.29	437	0.50	521	0.76	594	1.04	657	1.34
2975	347	0.33	442	0.55	526	0.81	598	1.10	661	1.42
3188	358	0.38	448	0.60	530	0.87	602	1.17	666	1.49
3400	371	0.44	456	0.66	535	0.93	606	1.24	670	1.57
3613	384	0.50	464	0.72	541	1.00	611	1.31	674	1.65
3825	397	0.57	473	0.79	547	1.07	615	1.39	678	1.74
4038	411	0.64	483	0.87	554	1.15	621	1.48	683	1.83
4250	426	0.73	493	0.96	561	1.24	626	1.57	687	1.93
										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 = AK1141316, belt = A47308 – 462rpm

8.5 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
2550	339	0.27	446	0.50	530	0.76	600	1.03	659	1.31
2763	347	0.31	452	0.54	537	0.81	607	1.10	667	1.40
2975	357	0.35	458	0.59	543	0.87	613	1.17	675	1.49
3188	367	0.40	465	0.65	548	0.94	620	1.25	681	1.58
3400	379	0.46	471	0.71	554	1.01	626	1.33	688	1.67
3613	391	0.52	479	0.77	560	1.08	631	1.41	694	1.77
3825	405	0.59	488	0.84	566	1.16	637	1.50	700	1.87
4038	418	0.66	497	0.92	573	1.24	643	1.60	706	1.98
4250	432	0.75	507	1.01	580	1.33	649	1.70	712	2.09
										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

8.5 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
2550	328	0.25	432	0.46	517	0.71	589	0.98	652	1.28
2763	337	0.29	437	0.50	521	0.76	594	1.04	657	1.34
2975	347	0.33	442	0.55	526	0.81	598	1.10	661	1.42
3188	358	0.38	448	0.60	530	0.87	602	1.17	666	1.49
3400	371	0.44	456	0.66	535	0.93	606	1.24	670	1.57
3613	384	0.50	464	0.72	541	1.00	611	1.31	674	1.65
3825	397	0.57	473	0.79	547	1.07	615	1.39	678	1.74
4038	411	0.64	483	0.87	554	1.15	621	1.48	683	1.83
4250	426	0.73	493	0.96	561	1.24	626	1.57	687	1.93
										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

FAN PERFORMANCE (cont.)

Table 30 – 50LC**12

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	
3000 358	0.36	459	0.60	543	0.88	614	1.18	675	1.50	730	1.83
3250 371	0.42	467	0.66	550	0.96	621	1.27	683	1.61	739	1.95
3500 385	0.48	475	0.74	557	1.04	628	1.37	691	1.72	747	2.08
3750 400	0.56	484	0.82	564	1.13	635	1.47	698	1.83	754	2.21
4000 416	0.65	495	0.91	572	1.23	642	1.58	705	1.96	762	2.35
4250 432	0.75	507	1.01	580	1.33	649	1.70	712	2.09	769	2.49
4500 450	0.86	519	1.13	590	1.45	657	1.82	719	2.22	775	2.65
4750 468	0.99	533	1.26	600	1.58	665	1.96	726	2.37	782	2.80
5000 486	1.13	547	1.40	611	1.73	674	2.11	733	2.53	789	2.97
											MID Static (547–757 rpm) 2.9 Max BHP
											HIGH Static (760–960 rpm) 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
Italics = Field Supplied Drive (High Static motor, motor pulley = KR11HY213, blower pulley = KR51BH615, belt = KR29BF047) 880–1080 rpm

Table 31 – 50LC**12

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	
3000 348	0.34	443	0.55	526	0.82	598	1.11	662	1.42	719	1.76
3250 362	0.40	450	0.62	532	0.88	603	1.19	667	1.51	724	1.86
3500 377	0.46	459	0.69	538	0.96	608	1.27	672	1.61	729	1.96
3750 392	0.54	469	0.77	544	1.04	614	1.36	677	1.70	734	2.07
4000 409	0.63	481	0.86	552	1.14	620	1.46	682	1.81	739	2.19
4250 426	0.73	493	0.96	561	1.24	626	1.57	687	1.93	744	2.31
4500 443	0.84	506	1.07	571	1.36	634	1.69	693	2.05	749	2.45
4750 461	0.96	521	1.20	582	1.49	642	1.82	700	2.19	755	2.59
5000 480	1.10	536	1.34	594	1.64	651	1.97	708	2.34	761	2.75
											MID Static (547–757 rpm) 2.9 Max BHP
											HIGH Static (760–960 rpm) 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
Italics = Field Supplied Drive (High Static motor, motor pulley = KR11HY213, blower pulley = KR51BH615, belt = KR29BF047) 880–1080 rpm

10 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	
3000 358	0.36	459	0.60	543	0.88	614	1.18	675	1.50	730	1.83
3250 371	0.42	467	0.66	550	0.96	621	1.27	683	1.61	739	1.95
3500 385	0.48	475	0.74	557	1.04	628	1.37	691	1.72	747	2.08
3750 400	0.56	484	0.82	564	1.13	635	1.47	698	1.83	754	2.21
4000 416	0.65	495	0.91	572	1.23	642	1.58	705	1.96	762	2.35
4250 432	0.75	507	1.01	580	1.33	649	1.70	712	2.09	769	2.49
4500 450	0.86	519	1.13	590	1.45	657	1.82	719	2.22	775	2.65
4750 468	0.99	533	1.26	600	1.58	665	1.96	726	2.37	782	2.80
5000 486	1.13	547	1.40	611	1.73	674	2.11	733	2.53	789	2.97
											MID Static (547–757 rpm) 2.9 Max BHP
											HIGH Static (760–960 rpm) 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
Italics = Field Supplied Drive (High Static motor, motor pulley = KR11HY213, blower pulley = KR51BH615, belt = KR29BF047) 880–1080 rpm

10 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	
3000 348	0.34	443	0.55	526	0.82	598	1.11	662	1.42	719	1.76
3250 362	0.40	450	0.62	532	0.88	603	1.19	667	1.51	724	1.86
3500 377	0.46	459	0.69	538	0.96	608	1.27	672	1.61	729	1.96
3750 392	0.54	469	0.77	544	1.04	614	1.36	677	1.70	734	2.07
4000 409	0.63	481	0.86	552	1.14	620	1.46	682	1.81	739	2.19
4250 426	0.73	493	0.96	561	1.24	626	1.57	687	1.93	744	2.31
4500 443	0.84	506	1.07	571	1.36	634	1.69	693	2.05	749	2.45
4750 461	0.96	521	1.20	582	1.49	642	1.82	700	2.19	755	2.59
5000 480	1.10	536	1.34	594	1.64	651	1.97	708	2.34	761	2.75
											MID Static (547–757 rpm) 2.9 Max BHP
											HIGH Static (760–960 rpm) 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
Italics = Field Supplied Drive (High Static motor, motor pulley = KR11HY213, blower pulley = KR51BH615, belt = KR29BF047) 880–1080 rpm

10 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	
3000 358	0.36	459	0.60	543	0.88	614	1.18	675	1.50	730	1.83
3250 371	0.42	467	0.66	550	0.96	621	1.27	683	1.61	739	1.95
3500 385	0.48	475	0.74	557	1.04	628	1.37	691	1.72	747	2.08
3750 400	0.56	484	0.82	564	1.13	635	1.47	698	1.83	754	2.21
4000 416	0.65	495	0.91	572	1.23	642	1.58	705	1.96	762	2.35
4250 432	0.75	507	1.01	580	1.33	649	1.70	712	2.09	769	2.49
4500 450	0.86	519	1.13	590	1.45	657	1.82	719	2.22	775	2.65
4750 468	0.99	533	1.26	600	1.58	665	1.96	726	2.37	782	2.80
5000 486	1.13	547	1.40	611	1.73	674	2.11	733	2.53	789	2.97
											MID Static (547–757 rpm) 2.9 Max BHP
											HIGH Static (760–960 rpm) 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
Italics = Field Supplied Drive (High Static motor, motor pulley = KR11HY213, blower pulley = KR51BH615, belt = KR29BF047) 880–1080 rpm

10 TON VERTICAL SUPPLY

CFM	Available External Static Pressure (in. wg)		
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FAN PERFORMANCE (cont.)

Table 32 – 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	210 210 210	1.8 1.8 1.8	STD MED HIGH	81.5% 81.5% 84.5%	5.8 5.8 8.6
	230-3-60	187	253	8.3	58	13.2	88	210 210 210	1.8 1.8 1.8	STD MED HIGH	81.5% 81.5% 84.5%	5.6 5.6 7.8
	460-3-60	414	506	5.1	28	6.0	44	210 210 210	1.8 1.8 1.8	STD MED HIGH	81.5% 81.5% 84.5%	2.9 2.9 3.8
	575-3-60	518	633	3.3	24	4.2	30	210 210 210	1.8 1.8 1.8	STD MED HIGH	81.5% 81.5% 84.5%	2.8 2.8 4.5
08	208-3-60	187	253	13.2	88	13.7	83	210 210 210 210	1.8 1.8 1.8 1.8	STD MED HIGH ULTRA HIGH	81.5% 81.5% 84.5% 84.5%	5.8 5.8 8.6 10.8
	230-3-60	187	253	13.2	88	13.7	83	210 210 210 210	1.8 1.8 1.8 1.8	STD MED HIGH ULTRA HIGH	81.5% 81.5% 84.5% 84.5%	5.6 5.6 7.8 9.8
	460-3-60	414	506	6.0	44	6.2	41	210 210 210 210	1.8 1.8 1.8 1.8	STD MED HIGH ULTRA HIGH	81.5% 81.5% 84.5% 84.5%	2.9 2.9 3.8 4.9
	575-3-60	518	633	4.2	30	4.8	33	210 210 210 210	1.8 1.8 1.8 1.8	STD MED HIGH ULTRA HIGH	81.5% 81.5% 84.5% 84.5%	2.8 2.8 4.5 4.5
09	208-3-60	187	253	13.2	88	15.9	110	210 210 210 210	1.8 1.8 1.8 1.8	STD MED HIGH ULTRA HIGH	81.5% 81.5% 84.5% 82.0%	5.8 5.8 10.8 13.6
	230-3-60	187	253	13.2	88	15.9	110	210 210 210 210	1.8 1.8 1.8 1.8	STD MED HIGH ULTRA HIGH	81.5% 81.5% 84.5% 82.0%	5.6 5.6 9.8 12.7
	460-3-60	414	506	6.0	44	7.7	52	210 210 210 210	1.8 1.8 1.8 1.8	STD MED HIGH ULTRA HIGH	81.5% 81.5% 84.5% 82.0%	2.9 2.9 4.9 6.4
	575-3-60	518	633	4.2	30	5.7	39	210 210 210 210	1.8 1.8 1.8 1.8	STD MED HIGH ULTRA HIGH	81.5% 81.5% 84.5% 82.0%	2.8 2.8 4.5 6.2
12	208-3-60	187	253	13.1	83	19.6	136	210 210 210	1.8 1.8 1.8	STD MED HIGH	80.0% 84.5% 82.0%	7.1 8.6 13.6
	230-3-60	187	253	13.1	83	19.6	136	210 210 210	1.8 1.8 1.8	STD MED HIGH	80.0% 84.5% 82.0%	6.8 7.8 12.7
	460-3-60	414	506	6.1	41	8.2	66	210 210 210	1.8 1.8 1.8	STD MED HIGH	80.0% 84.5% 82.0%	3.8 3.8 6.4
	575-3-60	518	633	4.4	33	6.6	55	210 210 210	1.8 1.8 1.8	STD MED HIGH	80.0% 84.5% 82.0%	3.5 4.5 6.2

ELECTRICAL DATA (cont.)

Table 33 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA

UNIT		IFM TYPE		ELEC. HTR		NO C.O. or UNPWR C.O.	w/ PWRD C.O.								
						NO P.E.	w/ P.E. (pwrd fr/unit)	NO P.E.	w/ P.E. (pwrd fr/unit)						
						MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA
208/230-3-60	264A	STD	CRHEATER***A00	Nom (kW)	FLA	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA
460-3-60	265A	STD	CRHEATER***A00	Nom (kW)	FLA	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA
50LC-007	267A	STD	CRHEATER***A00	Nom (kW)	FLA	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA
575-3-60	269A	STD	CRHEATER***A00	Nom (kW)	FLA	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA
208/230-3-60		264A		–	35/34	45/45	36/35	173	38/38	50/50	40/40	177	39/39	50/50	41/41
460-3-60		265A		–	35/34	45/45	36/35	173/173	38/38	50/50	40/40	177/177	39/39	50/50	41/41
50LC-007		267A		–	35/34	45/45	36/35	173/173	38/38	50/50	40/40	177/177	39/39	50/50	41/41
575-3-60		269A		–	35/34	45/45	36/35	173/173	38/38	50/50	40/40	177/177	39/39	50/50	41/41
208/230-3-60		264A		13.6/15.6	4.9/6.5	13.6/15.6	35/34	173	38/38	50/50	40/40	177	39/39	50/50	41/41
460-3-60		265A		12.0/16.0	110A	33.4/38.5	49/56	50/60	45/51	173/173	54/60	49/55	51/56	60/70	41/41
50LC-007		267A		18.6/24.8	111A	51.7/59.7	72/82	80/90	66/75	173/173	77/87	80/90	70/79	78/88	41/41
575-3-60		269A		–	35/34	45/45	36/35	173/173	38/38	50/50	40/40	177	39/39	50/50	41/41
208/230-3-60		264A		13.6/15.6	4.9/6.5	13.6/15.6	35/34	173	38/38	50/50	40/40	177	39/39	50/50	41/41
460-3-60		265A		12.0/16.0	110A	33.4/38.5	49/56	50/60	45/51	173/173	54/60	49/55	51/56	60/70	41/41
50LC-007		267A		18.6/24.8	111A	51.7/59.7	72/82	80/90	66/75	173/173	77/87	80/90	70/79	78/88	41/41
575-3-60		269A		–	37/37	50/45	39/38	203	41/40	50/50	43/42	207	42/41	50/50	44/43
208/230-3-60		264A		13.6/15.6	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
460-3-60		265A		12.0/16.0	110A	33.4/38.5	53/58	60/60	48/53	203/203	58/63	60/70	53/58	207/207	59/64
50LC-007		267A		18.6/24.8	111A	51.7/59.7	76/85	80/90	69/78	203/203	81/90	90/90	74/82	207/207	82/91
575-3-60		269A		–	20	25	20	87	21	25	22	89	22	25	23
208/230-3-60		264A		7.2	6.0	7.2	20	25	20	87	21	25	22	25	23
460-3-60		265A		16.8	14.0	16.8	25	25	23	87	27	30	25	28	30
50LC-007		267A		30.7	25.5	30.7	42	45	39	87	45	41	89	45	41
575-3-60		269A		–	20	25	20	87	21	25	22	89	22	25	23
208/230-3-60		264A		7.2	6.0	7.2	20	25	20	87	21	25	22	25	23
460-3-60		265A		16.8	14.0	16.8	25	25	23	87	27	30	25	28	30
50LC-007		267A		30.7	25.5	30.7	42	45	39	87	45	41	89	45	41
575-3-60		269A		–	20	25	20	87	21	25	22	89	22	25	23
208/230-3-60		264A		7.2	6.0	7.2	20	25	20	87	21	25	22	25	23
460-3-60		265A		16.8	14.0	16.8	25	25	23	87	27	30	25	28	30
50LC-007		267A		30.7	25.5	30.7	42	45	39	87	45	41	89	45	41
575-3-60		269A		–	20	25	20	87	21	25	22	89	22	25	23
208/230-3-60		264A		7.2	6.0	7.2	20	25	20	87	21	25	22	25	23
460-3-60		265A		16.8	14.0	16.8	25	25	23	87	27	30	25	28	30
50LC-007		267A		30.7	25.5	30.7	42	45	39	87	45	41	89	45	41
575-3-60		269A		–	20	25	20	87	21	25	22	89	22	25	23
208/230-3-60		264A		7.2	6.0	7.2	20	25	20	87	21	25	22	25	23
460-3-60		265A		16.8	14.0	16.8	25	25	23	87	27	30	25	28	30
50LC-007		267A		30.7	25.5	30.7	42	45	39	87	45	41	89	45	41
575-3-60		269A		–	20	25	20	87	21	25	22	89	22	25	23
208/230-3-60		264A		7.2	6.0	7.2	20	25	20	87	21	25	22	25	23
460-3-60		265A		16.8	14.0	16.8	25	25	23	87	27	30	25	28	30
50LC-007		267A		30.7	25.5	30.7	42	45	39	87	45	41	89	45	41
575-3-60		269A		–	20	25	20	87	21	25	22	89	22	25	23
208/230-3-60		264A		7.2	6.0	7.2	20	25	20	87	21	25	22	25	23
460-3-60		265A		16.8	14.0	16.8	25	25	23	87	27	30	25	28	30
50LC-007		267A		30.7	25.5	30.7	42	45	39	87	45	41	89	45	41
575-3-60		269A		–	20	25	20	87	21	25	22	89	22	25	23
208/230-3-60		264A		7.2	6.0	7.2	20	25	20	87	21	25	22	25	23
460-3-60		265A		16.8	14.0	16.8	25	25	23	87	27	30	25	28	30
50LC-007		267A		30.7	25.5	30.7	42	45	39	87	45	41	89	45	41
575-3-60		269A		–	20	25	20	87	21	25	22	89	22	25	23
208/230-3-60		264A		7.2	6.0	7.2	20	25	20	87	21	25	22	25	23
460-3-60		265A		16.8	14.0	16.8	25	25	23	87	27	30	25	28	30
50LC-007		267A		30.7	25.5	30.7	42	45	39	87	45	41	89	45	41
575-3-60		269A		–	20	25	20	87	21	25	22	89	22	25	23
208/230-3-60		264A		7.2	6.0	7.2	20	25	20	87	21	25	22	25	23
460-3-60		265A		16.8	14.0	16.8	25	25	23	87	27	30	25	28	30
50LC-007		267A		30.7	25.5	30.7	42	45	39	87	45	41	89	45	41
575-3-60		269A		–	20	25	20	87	21	25	22	89	22	25	23
208/230-3-60		264A		7.2	6.0	7.2	20	25	20	87	21	25	22	25	23
460-3-60		265A		16.8	14.0	16.8	25	25	23	87	27	30	25	28	30
50LC-007		267A		30.7	25.5	30.7	42	45	39	87	45	41	89	45	41
575-3-60		269A		–	20	25	20	87	21	25	22	89	22	25	23
208/230-3-60		264A		7.2	6.0	7.2	20	25	20	87	21	25	22	25	23
460-3-60		265A		16.8	14.0	1									

ELECTRICAL DATA (cont.)

Table 34 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA

ELEC. HTR		NO C.O. or UNPWR C.O.		NO P.E.		W/ P.E. (pwrdf/rf/unit)		NO P.E.		W/ P.E. (pwrdf/rf/unit)		w/ PWRED C.O.												
UNIT	IFM TYPE	CRHEATER***A00	Nom (kW)	FLA	MCA	FUSE or HACR BRKR		DISC. SIZE		FUSE or HACR BRKR		DISC. SIZE		FUSE or HACR BRKR		DISC. SIZE		FUSE or HACR BRKR		DISC. SIZE				
						FLA	LRA	MCA	LRA	FLA	LRA	MCA	LRA	FLA	LRA	MCA	LRA	FLA	LRA	MCA	LRA			
208/230-3-60	MED	NONE	-	42/42	50/50	44/44	200	46/46	50/50	48/48	204	47/47	60/50	49/49	205	51/50	60/60	54/53	209	54/53	209/209			
		288A	7.5/10.0	20/9/24.1	42/42	50/50	44/44	200/200	46/46	50/50	48/48	204/204	47/47	60/50	49/49	205/205	51/50	60/60	54/53	209/209	56/62	209/209		
		291A	12.4/16.5	34.4/39.7	51/57	60/60	100/110	87/99	200/200	100/113	100/125	91/104	204/204	101/114	110/125	93/105	205/205	106/119	110/125	97/109	209/209	110/125	209/209	
		294A	25.2/33.5	69.9/80.6	95/108	100/110	87/99	200/200	46/46	50/50	48/48	204	47/47	60/50	49/49	205	51/50	60/60	54/53	209	54/53	209/209		
		NONE	-	42/42	50/50	44/44	200	46/46	50/50	48/48	204/204	47/47	60/50	49/49	205/205	51/50	60/60	54/53	209	54/53	209/209			
	HIGH	288A	7.5/10.0	20/9/24.1	42/42	50/50	44/44	200/200	46/46	50/50	48/48	204/204	47/47	60/50	49/49	205/205	51/50	60/60	54/53	209/209	56/62	209/209		
		291A	12.4/16.5	34.4/39.7	51/57	60/60	49/55	230/230	59/65	60/70	54/59	234/234	60/66	60/70	55/60	235/235	65/71	70/80	59/65	239/239	110/125	209/209		
		294A	25.2/33.5	69.9/80.6	99/111	100/112	90/102	230/230	103/116	110/125	95/106	234/234	105/117	110/125	96/107	235/235	109/122	110/125	100/112	239/239	110/125	239/239		
		NONE	-	45/44	50/50	47/46	230	49/48	60/60	51/50	234/234	50/49	60/60	53/52	235/235	53/53	60/60	57/56	239/239	56/55	60/60	57/56	239/239	
		288A	7.5/10.0	20/9/24.1	45/44	50/50	47/46	230/230	49/48	60/60	51/50	234/234	50/49	60/60	53/52	235/235	53/53	60/60	57/56	239/239	56/55	60/60	57/56	239/239
460-3-60	MED	291A	12.4/16.5	34.4/39.7	54/60	60/60	49/55	230/230	59/65	60/70	54/59	234/234	60/66	60/70	55/60	235/235	65/71	70/80	59/65	239/239	110/125	209/209		
		294A	25.2/33.5	69.9/80.6	99/111	100/112	90/102	230/230	103/116	110/125	95/106	234/234	105/117	110/125	96/107	235/235	109/122	110/125	100/112	239/239	110/125	239/239		
		NONE	-	47/46	60/50	50/48	254	51/50	60/60	54/53	258	52/51	60/60	55/54	259/259	56/55	60/60	59/58	263	59/58	60/60	59/58	263/263	
		288A	7.5/10.0	20/9/24.1	47/46	60/50	50/48	254/254	51/50	60/60	54/53	258/258	52/51	60/60	55/54	259/259	56/55	60/60	59/58	263/263	56/62	60/60	59/58	263/263
		291A	12.4/16.5	34.4/39.7	57/62	60/70	52/57	254/254	62/67	70/70	56/61	258/258	63/68	70/70	58/62	259/259	68/73	70/80	62/67	263/263	68/73	70/80	62/67	263/263
	HIGH	294A	25.2/33.5	69.9/80.6	101/113	110/125	93/104	254/254	106/118	110/125	97/108	258/258	107/119	110/125	98/109	259/259	112/124	125/125	103/114	263/263	110/125	209/209		
		NONE	-	23	25	24	102	24	30	26	104	25	30	26	104	27	30	28	106	28	106	28	106	
		288A	10.0	12.0	23	25	24	102	24	30	104	25	30	26	104	27	30	28	106	28	106	28	106	
		291A	16.5	19.9	29	30	26	102	31	35	104	32	35	29	104	34	35	31	106	31	106	31	106	
		294A	33.5	40.3	54	60	50	102	57	60	52	104	57	60	52	104	59	60	54	106	54	106	54	106
50LC-008	MED	NONE	-	23	25	24	102	24	30	26	104	25	30	26	104	27	30	28	106	28	106	28	106	
		288A	10.0	12.0	23	25	24	102	24	30	104	25	30	26	104	27	30	28	106	28	106	28	106	
		291A	16.5	19.9	29	30	26	102	31	35	104	32	35	29	104	34	35	31	106	31	106	31	106	
		294A	33.5	40.3	54	60	50	102	57	60	52	104	57	60	52	104	59	60	54	106	54	106	54	106
		NONE	-	23	25	25	118	25	30	27	120	26	30	27	120	27	30	28	122	29	122	29	122	
	HIGH	288A	10.0	12.0	23	25	25	118	25	30	27	120	33	35	30	120	35	35	32	122	35	122	35	122
		291A	16.5	19.9	30	30	27	118	32	35	29	120	33	35	30	120	35	35	32	122	35	122	35	122
		294A	33.5	40.3	56	60	51	118	58	60	53	120	58	60	53	120	61	70	55	122	61	122	61	122
		NONE	-	25	30	26	130	26	30	28	132	27	30	28	132	29	30	30	134	29	134	29	134	
		288A	10.0	12.0	25	30	26	130	26	30	28	132	27	30	28	132	29	30	30	134	29	134	29	134
ULTRA HIGH	50LC-008	291A	16.5	19.9	31	35	29	130	34	35	31	132	34	35	31	132	35	31	33	134	35	134	35	134
		294A	33.5	40.3	57	60	52	130	59	60	54	132	60	55	55	132	62	55	55	134	62	134	62	134

ELECTRICAL DATA (cont.)

Table 34 (cont.) – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA

LINE UNI NO.	ITEM TYPE	ELEC. HTR		NO C.O. or UNPWR C.O.				w/ PWRD C.O.						
		NO P.E.		w/ P.E. (pwrd fr/unit)				NO P.E.						
		FLA	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	FUSE or HACR BRKR	DISC. SIZE
		NONE	–	–	19	20	20	78	23	25	24	82	21	25
	STD	293A	16.5	15.9	24	25	22	78	29	30	26	82	26	30
		296A	33.5	32.2	44	45	40	78	49	50	45	82	46	50
		NONE	–	–	19	20	20	78	23	25	24	82	21	25
	MED	293A	16.5	15.9	24	25	22	78	29	30	26	82	26	30
		296A	33.5	32.2	44	45	40	78	49	50	45	82	46	50
		NONE	–	–	21	25	22	91	24	30	26	95	22	25
	HIGH	293A	16.5	15.9	26	30	23	91	31	35	28	95	28	30
		296A	33.5	32.2	46	50	42	91	51	60	47	95	48	50
		NONE	–	–	21	25	22	91	24	30	26	95	22	25
	ULTRA HIGH	293A	16.5	15.9	26	30	23	91	31	35	28	95	28	30
		296A	33.5	32.2	46	50	42	91	51	60	47	95	48	50

ELECTRICAL DATA (cont.)

Table 35 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA

UNIT		IFM TYPE		ELEC. HTR		NO C.O. or UNPWR C.O.	W/ PWRD C.O.															
						NO PE.	W/ PE. (pwrdr fr/unit)	NO PE.	W/ PE. (pwrdr fr/unit)													
						MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	FUSE or HACR BRKR	DISC. SIZE								
FLA	MCA	FLA	MCA	FLA	LRA	FLA	MCA	FLA	LRA	FLA	MCA	FLA	MCA	FLA	LRA							
208/230-3-60	50LC-009	CRHEATER***A00		NONE	–	–	45/45	60/50	46/46	227	49/48	60/60	51/50	231	50/49	60/60	52/52	232	53/53	60/60	56/56	236
HIGH	289A	7.5/10.0	20.9/24.1	45/45	60/50	46/46	227/227	49/48	60/60	51/50	231/231	50/49	60/60	52/52	232/232	53/53	60/60	56/56	236/236			
		12.4/16.5	34.4/39.7	51/57	60/60	46/52	227/227	55/62	60/70	51/56	231/231	57/63	60/70	52/58	232/232	61/68	70/70	56/62	236/236			
		291A	25.2/33.5	69.9/80.6	95/108	100/111	87/99	227/227	100/113	100/125	91/104	231/231	101/114	110/125	93/105	232/232	106/119	110/125	97/109	236/236		
MED	289A	7.5/10.0	20.9/24.1	45/45	60/50	46/46	227	49/48	60/60	51/50	231	50/49	60/60	52/52	232	53/53	60/60	56/56	236			
		12.4/16.5	34.4/39.7	51/57	60/60	46/52	227/227	55/62	60/70	51/56	231/231	57/63	60/70	52/58	232/232	61/68	70/70	56/62	236/236			
		291A	25.2/33.5	69.9/80.6	95/108	100/111	87/99	227/227	100/113	100/125	91/104	231/231	101/114	110/125	93/105	232/232	106/119	110/125	97/109	236/236		
ULTRA HIGH	289A	7.5/10.0	20.9/24.1	50/49	60/60	52/51	281	54/53	60/60	56/55	285	55/54	60/60	58/56	286	58/57	70/70	62/61	290			
		12.4/16.5	34.4/39.7	57/52	60/70	52/57	281/281	54/53	60/60	56/55	285/285	55/54	60/60	58/56	286/286	58/57	70/70	62/61	290/290			
		291A	25.2/33.5	69.9/80.6	101/113	110/112	5	93/104	281/281	106/118	110/125	97/108	285/285	107/119	110/125	98/109	286/286	112/124	125/125	103/114	290/290	
ULTRA HIGH	289A	7.5/10.0	20.9/24.1	53/52	60/60	55/54	292	56/55	60/60	60/59	296	57/56	70/60	61/60	297	61/60	70/70	65/64	301			
		12.4/16.5	34.4/39.7	60/66	60/70	55/60	292/292	56/55	60/60	60/59	296/296	57/56	70/60	61/60	297/297	61/60	70/70	65/64	301/301			
		291A	25.2/33.5	69.9/80.6	105/117	110/112	5	96/107	292/292	110/122	110/125	100/112	296/296	111/123	125/125	102/113	297/297	116/128	125/150	106/117	301/301	
STD	289A	10.0	12.0	24	30	25	113	26	30	27	115	27	30	28	115	28	30	30	117			
		16.5	19.9	29	30	26	113	31	35	28	115	32	35	29	115	34	35	31	117			
		291A	33.5	40.3	54	60	50	113	57	60	52	115	57	60	52	115	59	60	54	117		
MED	289A	10.0	12.0	24	30	25	113	26	30	27	115	27	30	28	115	28	30	30	117			
		16.5	19.9	31	35	29	113	31	35	28	115	32	35	29	115	34	35	31	117			
		291A	33.5	40.3	54	60	50	113	57	60	52	115	57	60	52	115	59	60	54	117		
HIGH	289A	10.0	12.0	26	30	28	141	28	30	30	143	29	35	30	143	30	35	32	145			
		16.5	19.9	31	35	29	141	28	30	30	143	29	35	31	143	30	35	32	145			
		291A	33.5	40.3	57	60	52	141	59	60	54	143	60	55	143	62	70	57	145			
ULTRA HIGH	289A	10.0	12.0	28	30	29	146	30	35	31	148	30	35	32	148	32	35	34	150			
		16.5	19.9	33	35	30	146	30	35	31	148	30	35	33	148	32	35	34	150			
		291A	33.5	40.3	59	60	54	146	61	70	56	148	62	70	56	148	64	70	58	150		

ELECTRICAL DATA (cont.)

Table 35 (cont.) – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA

ITEM #	ITEM TYPE NO. M.V-PF-HZ	ELEC. HTR		NO P.E.				NO C.O. or UNPWR C.O.				w/ PWRD C.O.								
		CRHEATER***A00	Nom (kW)	FLA	MCA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR				
						FLA	LRA	FLA	LRA		FLA	LRA	FLA	LRA		FLA	LRA			
		NONE	–	–	20	25	21	84	24	25	25	88	22	25	23	86	25	30	27	90
	STD	293A	16.5	15.9	24	25	22	84	29	30	26	88	26	30	23	86	31	35	28	90
		296A	33.5	32.2	44	45	40	84	49	50	45	88	46	50	42	86	51	60	47	90
		NONE	–	–	20	25	21	84	24	25	25	88	22	25	23	86	25	30	27	90
	MED	293A	16.5	15.9	24	25	22	84	29	30	26	88	26	30	23	86	31	35	28	90
		296A	33.5	32.2	44	45	40	84	49	50	45	88	46	50	42	86	51	60	47	90
		NONE	–	–	22	25	23	97	25	30	27	101	23	25	25	99	27	30	29	103
	HIGH	293A	16.5	15.9	26	30	23	97	31	35	28	101	28	30	25	99	33	35	30	103
		296A	33.5	32.2	46	50	42	97	51	60	47	101	48	50	44	99	53	60	49	103
		NONE	–	–	24	25	25	111	27	30	29	115	25	30	27	113	29	35	31	117
	ULTRA HIGH	293A	16.5	15.9	28	30	25	111	33	35	30	115	30	30	27	113	35	35	32	117
		296A	33.5	32.2	48	50	44	111	53	60	49	115	51	60	46	113	55	60	50	117

ELECTRICAL DATA (cont.)

Table 36 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA

NO C.O. or UNIPWR C.O.										w/ PWRD C.O.										
UNIT	IFM TYPE	ELEC. HTR			NO P.E.			w/ P.E. (pwrdf/r/unit)			NO P.E.			w/ P.E. (pwrdf/r/unit)						
		CRHEATER***A00	Nom (kW)	FLA	MCA	FUSE or HACR BRKR	DISC. SIZE	FLA	LRA	MCA	FUSE or HACR BRKR	DISC. SIZE	FLA	LRA	MCA	FUSE or HACR BRKR	DISC. SIZE	FLA	LRA	
		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
STD	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	94/106	257/257	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	146/135	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	70/70	64/63	287	
MED	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	70/70	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	70/80	64/65	287/287	
	294A	25.2/33.5	69.9/80.6	99/111	100/125	90/102	278/278	103/116	110/125	95/106	282/282	105/117	110/125	96/107	283/283	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	156/150	135/153	283/283	152/141	175/150	140/157	287/287	
		NONE	–	–	57/56	70/70	59/58	313	61/60	80/70	64/63	317	62/61	80/80	65/64	318	66/65	80/80	69/68	322
HIGH	288A	7.5/10.0	20.9/24.1	57/56	70/70	59/58	313/313	61/60	80/70	64/63	317/317	62/61	80/80	65/64	318/318	66/65	80/80	69/68	322/322	
	291A	12.4/16.5	34.4/39.7	60/66	70/70	59/60	313/313	65/71	80/80	64/65	317/317	66/72	80/80	65/66	318/318	71/77	80/80	69/70	322/322	
	294A	25.2/33.5	69.9/80.6	105/117	110/125	96/107	313/313	110/122	110/125	100/112	317/317	111/123	125/125	102/113	318/318	116/128	125/150	106/117	322/322	
	291A+294A	37.6/50.0	104.3/120.3	148/137	150/150	136/153	313/313	153/141	175/175	140/157	317/317	154/143	175/175	141/158	318/318	159/147	175/175	145/163	322/322	
		NONE	–	–	26	30	27	126	28	30	29	128	28	30	128	30	30	35	32	
STD	289A	10.0	12.0	26	30	27	126	28	30	29	128	28	30	128	30	30	35	32		
	292A	16.5	19.9	30	30	27	126	32	35	29	128	33	35	30	128	35	35	32		
	295A	33.5	40.3	56	60	51	126	58	60	53	128	58	60	53	128	61	70	55		
	292A+295A	50.0	60.2	65	70	74	126	68	80	76	128	68	80	76	128	70	80	78		
		NONE	–	–	26	30	27	140	28	30	29	142	28	30	142	30	30	35	32	
MED	289A	10.0	12.0	26	30	27	140	28	30	29	142	28	30	142	30	30	35	32		
	292A	16.5	19.9	30	30	27	140	32	35	29	142	33	35	30	142	35	35	32		
	295A	33.5	40.3	56	60	51	140	58	60	53	142	58	60	53	142	61	70	55		
	292A+295A	50.0	60.2	65	70	74	140	68	80	76	142	68	80	76	142	70	80	78		
		NONE	–	–	29	35	30	157	30	35	32	159	31	35	33	159	33	35	32	
HIGH	289A	10.0	12.0	29	35	30	157	30	35	32	159	31	35	33	159	33	35	32		
	292A	16.5	19.9	33	35	30	157	36	40	32	159	36	40	33	159	38	40	35		
	295A	33.5	40.3	59	60	54	157	61	70	56	159	62	70	56	159	64	70	58		
	292A+295A	50.0	60.2	69	80	77	157	71	80	79	159	71	80	79	159	74	80	81		

ELECTRICAL DATA (cont.)

Table 36 (cont.) – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA

UNIT		IFM TYPE		ELEC. HTR		NO C.O. or UNIPWR C.O.	w/ PWRD C.O.													
						NO P.E.	w/ P.E. (pwrd fr/unit)	NO P.E.	w/ P.E. (pwrd fr/unit)	NO P.E.	w/ P.E. (pwrd fr/unit)	NO P.E.	w/ P.E. (pwrd fr/unit)	NO P.E.	w/ P.E. (pwrd fr/unit)					
						DISC. SIZE	FUSE or HACR BRKR	DISC. SIZE	FUSE or HACR BRKR	DISC. SIZE	FUSE or HACR BRKR	DISC. SIZE	FUSE or HACR BRKR	DISC. SIZE	FUSE or HACR BRKR	DISC. SIZE	FUSE or HACR BRKR			
NO. M. V-P-H-Z	NO. M. V-P-H-Z	CRHEATER***A00	CRHEATER***A00	Nom (kW)	FLA	MCA	FUSE or HACR BRKR	FLA	LRA	MCA	FUSE or HACR BRKR	FLA	LRA	MCA	FUSE or HACR BRKR	FLA	LRA	MCA	FUSE or HACR BRKR	
STD	575-3-60	NONE	–	–	22	25	23	107	26	30	27	111	24	25	109	28	30	29	113	
		293A	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
MED	50LC-012	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
HIGH	50LC-012	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
		NONE	–	–	25	30	26	130	29	30	30	134	26	30	28	132	30	35	32	136
	50LC-012	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

ELECTRICAL DATA (cont.)

Table 37 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH HACR

LINE ENR		ELEC. HTR		NO C.O. or UNPWR C.O.						w/ PWRD C.O.													
				NO RE.			w/ RE. (pwrdr fr/unit)			NO RE.			w/ RE. (pwrdr fr/unit)										
				FLA	MCA	FUSE or HACR BRKR	FLA	MCA	FUSE or HACR BRKR	FLA	MCA	FUSE or HACR BRKR	FLA	MCA	FUSE or HACR BRKR								
208/230-3-60	460-3-60	575-3-60	50LC-007	NONE	–	35/35	45/45	36/35	38/38	50/50	40/40	177	39/39	50/50	41/41	178	43/43	50/50	45/45	182			
208/230-3-60	460-3-60	575-3-60	50LC-007	264A	4.9/6.5	13.6/15.6	35/35	45/45	36/35	38/38	50/50	40/40	177/177	39/39	50/50	41/41	178/178	43/43	50/50	45/45	182/182		
208/230-3-60	460-3-60	575-3-60	50LC-007	STD	110A	12.0/16.0	33.4/38.5	56/56	60/60	45/51	173/173	60/60	49/55	177/177	62/62	70/70	51/56	178/178	66/66	70/70	55/61	182/182	
208/230-3-60	460-3-60	575-3-60	50LC-007	111A	18.6/24.8	51.7/59.7	82/82	90/90	66/75	173/173	87/87	90/90	70/79	177/177	88/88	90/90	72/81	178/178	93/93	100/100	76/85	182/182	
208/230-3-60	460-3-60	575-3-60	50LC-007	NONE	–	35/35	45/45	36/35	38/38	50/50	40/40	177	39/39	50/50	41/41	178	43/43	50/50	45/45	182			
208/230-3-60	460-3-60	575-3-60	50LC-007	264A	4.9/6.5	13.6/15.6	35/35	45/45	36/35	38/38	50/50	40/40	177/177	39/39	50/50	41/41	178/178	43/43	50/50	45/45	182/182		
208/230-3-60	460-3-60	575-3-60	50LC-007	STD	110A	12.0/16.0	33.4/38.5	56/56	60/60	45/51	173/173	60/60	49/55	177/177	62/62	70/70	51/56	178/178	66/66	70/70	55/61	182/182	
208/230-3-60	460-3-60	575-3-60	50LC-007	111A	18.6/24.8	51.7/59.7	82/82	90/90	66/75	173/173	87/87	90/90	70/79	177/177	88/88	90/90	72/81	178/178	93/93	100/100	76/85	182/182	
208/230-3-60	460-3-60	575-3-60	50LC-007	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		
208/230-3-60	460-3-60	575-3-60	50LC-007	264A	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	
208/230-3-60	460-3-60	575-3-60	50LC-007	110A	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	
208/230-3-60	460-3-60	575-3-60	50LC-007	111A	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	
208/230-3-60	460-3-60	575-3-60	50LC-007	STD	267A	14.0	16.8	25	25	20	25	21	25	22	22	22	25	23	23	25	25	91	
208/230-3-60	460-3-60	575-3-60	50LC-007	269A	25.5	30.7	42	45	39	39	87	45	45	41	89	45	45	41	89	47	25	91	
208/230-3-60	460-3-60	575-3-60	50LC-007	NONE	–	–	20	25	20	25	20	21	25	22	22	22	25	23	23	25	25	91	
208/230-3-60	460-3-60	575-3-60	50LC-007	265A	6.0	7.2	20	25	20	25	20	21	25	22	22	22	25	23	23	25	25	91	
208/230-3-60	460-3-60	575-3-60	50LC-007	267A	14.0	16.8	25	25	23	23	87	27	30	25	89	28	30	25	89	30	27	91	
208/230-3-60	460-3-60	575-3-60	50LC-007	269A	25.5	30.7	42	45	39	39	87	45	45	41	89	45	45	41	89	47	50	91	
208/230-3-60	460-3-60	575-3-60	50LC-007	NONE	–	–	20	25	20	25	20	21	25	22	22	22	25	23	23	25	25	91	
208/230-3-60	460-3-60	575-3-60	50LC-007	265A	6.0	7.2	20	25	20	25	20	21	25	22	22	22	25	23	23	25	25	91	
208/230-3-60	460-3-60	575-3-60	50LC-007	267A	14.0	16.8	25	25	23	23	87	27	30	25	89	28	30	25	89	30	27	91	
208/230-3-60	460-3-60	575-3-60	50LC-007	269A	25.5	30.7	42	45	39	39	87	45	45	41	89	45	45	41	89	47	50	91	
208/230-3-60	460-3-60	575-3-60	50LC-007	NONE	–	–	20	25	20	25	21	103	22	25	23	105	23	25	24	105	24	30	26
208/230-3-60	460-3-60	575-3-60	50LC-007	265A	6.0	7.2	20	25	21	103	22	25	23	105	23	25	24	105	24	30	26	107	
208/230-3-60	460-3-60	575-3-60	50LC-007	267A	14.0	16.8	26	30	24	103	28	30	26	105	29	30	26	105	31	35	28	107	
208/230-3-60	460-3-60	575-3-60	50LC-007	269A	25.5	30.7	44	45	40	103	46	50	42	105	46	50	42	105	49	50	44	107	
208/230-3-60	460-3-60	575-3-60	50LC-007	NONE	–	–	15	20	16	67	19	20	20	71	17	20	18	69	21	25	22	73	
208/230-3-60	460-3-60	575-3-60	50LC-007	265A	17.0	20.4	29	30	27	67	34	35	31	71	32	35	30	69	21	25	22	73	
208/230-3-60	460-3-60	575-3-60	50LC-007	267A	25.7	25.8	36	40	33	67	41	45	37	71	38	40	35	69	43	45	39	73	
208/230-3-60	460-3-60	575-3-60	50LC-007	NONE	–	–	17	20	18	80	21	25	22	84	19	20	18	69	21	25	22	73	
208/230-3-60	460-3-60	575-3-60	50LC-007	265A	17.0	20.4	32	35	29	80	36	40	33	84	34	35	31	82	23	25	24	86	
208/230-3-60	460-3-60	575-3-60	50LC-007	267A	25.7	25.8	38	40	35	80	43	45	39	84	40	45	37	82	45	45	41	86	

ELECTRICAL DATA (cont.)

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

UNIT		ELEC. HTR				NO C.O. or UNPWR C.O.								w/ PWRRD C.O.					
		NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)					
		IFM TYPE	CRHEATER***A00	Nom (kW)	FLA	FUSE or HACR BRKR		DISC. SIZE		FUSE or HACR BRKR		DISC. SIZE		FUSE or HACR BRKR		DISC. SIZE			
						MCA	FLA	MCA	FLA	MCA	FLA	MCA	FLA	MCA	FLA	MCA	FLA		
STD	NONE	–	–	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	7.5/10.0	20.9/24.1	42/42	50/50	44/44	200/200	46/46	50/50	48/48	204/204	47/47	60/60	49/49	205/205	51/51	60/60	54/53	209/209
	291A	12.4/16.5	34.4/39.7	57/57	60/60	46/52	200/200	62/62	70/70	51/56	204/204	63/63	70/70	52/58	205/205	68/68	70/70	56/62	209/209
	294A	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
	NONE	–	–	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	7.5/10.0	20.9/24.1	42/42	50/50	44/44	200/200	46/46	50/50	48/48	204/204	47/47	60/60	49/49	205/205	51/51	60/60	54/53	209/209
MED	291A	12.4/16.5	34.4/39.7	57/57	60/60	46/52	200/200	62/62	70/70	51/56	204/204	63/63	70/70	52/58	205/205	68/68	70/70	56/62	209/209
	294A	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
	NONE	–	–	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	7.5/10.0	20.9/24.1	45/45	50/50	47/46	230/230	49/49	60/60	51/50	234/234	50/50	60/60	53/52	235/235	53/53	60/60	57/56	239/239
	291A	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
	294A	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
HIGH	NONE	–	–	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	7.5/10.0	20.9/24.1	47/47	60/60	50/48	254/254	51/51	60/60	54/53	258/258	52/52	60/60	55/54	259/259	56/56	60/60	59/58	263/263
	291A	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
	294A	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
	NONE	–	–	23	25	24	102	24	30	26	104	25	30	26	104	27	30	28	106
	289A	10.0	12.0	23	25	24	102	24	30	26	104	25	30	26	104	27	30	28	106
ULTRA HIGH	292A	16.5	19.9	29	30	26	102	31	35	28	104	32	35	29	104	34	35	31	106
	295A	33.5	40.3	54	60	50	102	57	60	52	104	57	60	52	104	59	60	54	106
	NONE	–	–	23	25	24	102	24	30	26	104	25	30	26	104	27	30	28	106
	289A	10.0	12.0	23	25	24	102	24	30	26	104	25	30	26	104	27	30	28	106
	292A	16.5	19.9	29	30	27	118	32	35	29	120	33	35	30	120	35	35	32	106
	295A	33.5	40.3	54	60	51	118	58	60	53	120	58	60	53	120	61	70	55	106
460-3-60	NONE	–	–	23	25	25	118	25	30	27	120	26	30	27	120	27	30	29	122
	289A	10.0	12.0	23	25	25	118	25	30	27	120	26	30	27	120	27	30	29	122
	292A	16.5	19.9	31	35	34	130	34	35	31	132	27	30	28	132	29	30	30	122
	295A	33.5	40.3	57	60	52	130	59	60	54	132	60	60	55	132	62	70	57	122
	NONE	–	–	25	30	26	130	26	30	28	132	27	30	28	132	29	30	30	124
	289A	10.0	12.0	25	30	26	130	26	30	28	132	27	30	28	132	29	30	30	124
50LC-008	NONE	–	–	25	30	27	130	27	31	30	132	27	31	30	132	31	35	31	106
	289A	10.0	12.0	25	30	27	130	27	31	30	132	27	31	30	132	31	35	31	106
	292A	16.5	19.9	31	35	34	130	34	35	31	132	34	35	31	132	34	36	34	106
ULTRA HIGH	295A	33.5	40.3	57	60	52	130	59	60	54	132	60	60	55	132	62	70	57	134
	289A	10.0	12.0	25	30	27	130	27	31	30	132	27	31	30	132	31	35	31	134
	292A	16.5	19.9	31	35	34	130	34	35	31	132	34	35	31	132	34	36	34	134

ELECTRICAL DATA (cont.)

Table 38 (cont.) – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH HACR

		ELEC. HTR				NO P.E.				w/ P.E. (pwrdf/r/unit)				NO P.E.				w/ P.E. (pwrdf/r/unit)				NO P.E.				w/ P.E. (pwrdf/r/unit)				w/ PWRD C.O.																	
		NO M.V-Pf-Hz		Nom (kW)		FLA		FUSE or HACR BRKR		DISC. SIZE		MCA		FUSE or HACR BRKR		DISC. SIZE		MCA		FUSE or HACR BRKR		DISC. SIZE		MCA		FUSE or HACR BRKR		DISC. SIZE		MCA		FUSE or HACR BRKR		DISC. SIZE		FLA		LRA		FLA		LRA					
ITEM	ITEM TYPE	CRHEATER***A00																																													
		575-3-60		50LC-008		None		–		19		20		20		78		23		25		24		82		21		25		22		80		24		30		26		84							
		STD		293A		16.5		15.9		24		25		22		78		29		30		26		82		26		30		23		80		31		35		28		84							
		296A		33.5		32.2		44		45		40		78		49		50		45		46		50		42		80		51		60		47		84											
		None		–		19		20		20		78		23		25		24		82		21		25		22		80		24		30		26		84											
		MED		293A		16.5		15.9		24		25		22		78		29		30		26		82		26		30		23		80		31		35		28		84							
		296A		33.5		32.2		44		45		40		78		49		50		45		46		50		42		80		51		60		47		84											
		HIGH		293A		16.5		15.9		26		30		23		91		24		30		26		95		22		25		24		93		26		30		28		97							
		296A		33.5		32.2		46		50		42		91		51		60		47		95		48		50		44		93		33		35		30		97									
		ULTRA HIGH		293A		16.5		15.9		26		30		23		91		31		35		28		95		22		25		24		93		26		30		28		97							
		296A		33.5		32.2		46		50		42		91		51		60		47		95		48		50		44		93		33		35		30		97									

ELECTRICAL DATA (cont.)

Table 39 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH HACR

UNIT		ELEC. HTR				NO P.E.				NO C.O. or UNPWR C.O.				w/ PWRRD C.O.						
		CRHEATER***A00		Nom (kW)	FLA	FUSE or HACR BRKR		DISC. SIZE		FUSE or HACR BRKR		DISC. SIZE		FUSE or HACR BRKR		DISC. SIZE				
						MCA	FLA	LRA	MCA	FLA	LRA	MCA	FLA	LRA	MCA	FLA	LRA			
		NONE	–	–	45/45	60/60	46/46	227	49/49	60/60	51/50	231	50/50	60/60	52/52	232	53/53	60/60	56/56	236
STD	288A	7.5/10.0	20.9/24.1	45/45	60/60	46/46	227/227	49/49	60/60	51/50	231/231	50/50	60/60	52/52	232/232	53/53	60/60	56/56	236/236	
	291A	12.4/16.5	34.4/39.7	57/57	60/60	46/52	227/227	62/62	70/70	51/56	231/231	63/63	70/70	52/58	232/232	68/68	70/70	56/62	236/236	
MED	294A	25.2/33.5	69.9/80.6	108/108	110/110	87/99	227/227	113/113	125/125	91/104	231/231	114/114	125/125	93/105	232/232	119/119	125/125	97/109	236/236	
	NONE	–	–	45/45	60/60	46/46	227	49/49	60/60	51/50	231	50/50	60/60	52/52	232	53/53	60/60	56/56	236	
HIGH	288A	7.5/10.0	20.9/24.1	45/45	60/60	46/46	227/227	49/49	60/60	51/50	231/231	50/50	60/60	52/52	232/232	53/53	60/60	56/56	236/236	
	291A	12.4/16.5	34.4/39.7	57/57	60/60	46/52	227/227	62/62	70/70	51/56	231/231	63/63	70/70	52/58	232/232	68/68	70/70	56/62	236/236	
ULTRA HIGH	294A	25.2/33.5	69.9/80.6	113/113	125/125	93/104	281/281	118/118	125/125	97/108	285/285	55/55	60/60	58/56	286	58/58	70/70	62/61	290	
	NONE	–	–	50/50	60/60	52/51	281	54/54	60/60	56/55	285/285	55/55	60/60	58/56	286/286	58/58	70/70	62/61	290/290	
460-3-60	288A	7.5/10.0	20.9/24.1	50/50	60/60	52/51	281/281	54/54	60/60	56/55	285/285	56/55	60/60	58/62	286/286	73/73	80/80	62/67	290/290	
	291A	12.4/16.5	34.4/39.7	62/62	70/70	52/57	281/281	67/67	70/70	56/61	285/285	68/68	70/70	58/62	286/286	124/124	125/125	103/114	290/290	
50LC-600	294A	25.2/33.5	69.9/80.6	117/117	125/125	96/107	292/292	122/122	125/125	100/112	296/296	119/119	125/125	98/109	286/286	297	61/61	70/70	65/64	301
	NONE	–	–	53/53	60/60	55/54	292	56/56	60/60	60/59	296/296	57/57	60/60	61/60	297/297	61/61	70/70	65/64	301/301	
208/230-3-60	288A	7.5/10.0	20.9/24.1	53/53	60/60	55/54	292/292	56/56	60/60	60/59	296/296	57/57	60/60	61/66	297/297	77/77	80/80	65/70	301/301	
	291A	12.4/16.5	34.4/39.7	66/66	70/70	55/60	292/292	71/71	80/80	60/65	296/296	72/72	80/80	61/66	297/297	128/128	150/150	106/117	301/301	
STD	289A	10.0	12.0	24	30	25	113	26	30	27	115	27	30	28	115	28	30	30	117	
	292A	16.5	19.9	29	30	26	113	31	35	28	115	32	35	29	115	34	35	31	117	
MED	295A	33.5	40.3	54	60	50	113	57	60	52	115	57	60	52	115	59	60	54	117	
	NONE	–	–	24	30	25	113	26	30	27	115	27	30	28	115	28	30	30	117	
HIGH	289A	10.0	12.0	24	30	25	113	26	30	27	115	27	30	28	115	28	30	30	117	
	292A	16.5	19.9	29	30	26	113	31	35	28	115	32	35	29	115	34	35	31	117	
ULTRA HIGH	295A	33.5	40.3	54	60	50	113	57	60	52	115	57	60	52	115	59	60	54	117	
	NONE	–	–	26	30	28	141	28	30	30	143	29	35	30	143	30	35	32	145	
460-3-60	289A	10.0	12.0	26	30	28	141	28	30	30	143	29	35	30	143	30	35	32	145	
	292A	16.5	19.9	31	35	29	141	34	35	31	143	34	35	31	143	34	36	40	145	
50LC-600	295A	33.5	40.3	57	60	52	141	59	60	54	143	60	60	55	143	62	70	57	145	
	NONE	–	–	28	30	29	146	30	35	31	148	30	35	32	148	32	35	34	150	
208/230-3-60	289A	10.0	12.0	28	30	29	146	30	35	31	148	30	35	32	148	32	35	34	150	
	292A	16.5	19.9	33	35	30	146	36	40	32	148	36	40	33	148	38	40	35	150	
STD	295A	33.5	40.3	59	60	54	146	61	70	56	148	62	70	56	148	64	70	58	150	

ELECTRICAL DATA (cont.)

Table 39 (cont.) – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH HACR

		NO C.O. or UNIPWR C.O.						w/ PWRD C.O.														
		ELEC. HTR			NO P.E.			w/ P.E. (pwrd fr/unit)			NO P.E.			w/ P.E. (pwrd fr/unit)								
ITEM	ITEM TYPE	CRHEATER***A00	Nom (kW)	FLA	MCA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR		DISC. SIZE				
						FLA	LRA	FLA	LRA		FLA	LRA	FLA	LRA		FLA	LRA	DISC. SIZE				
575-3-60		50LC-009		50LC-009		–	–	20	25	21	84	24	25	25	22	25	23	86	25	30	27	90
STD	293A	16.5	15.9	24	25	22	84	29	30	26	88	26	26	30	23	86	31	35	28	90	90	90
	296A	33.5	32.2	44	45	40	84	49	50	45	88	46	50	42	86	51	60	47	90	90	90	90
MED	293A	16.5	15.9	24	25	22	84	29	30	26	88	26	26	30	23	86	31	35	28	90	90	90
	296A	33.5	32.2	44	45	40	84	49	50	45	88	46	50	42	86	51	60	47	90	90	90	90
HIGH	293A	16.5	15.9	26	30	23	97	25	30	27	101	23	25	25	99	27	30	29	103	103	103	103
	296A	33.5	32.2	46	50	42	97	51	60	47	101	48	50	44	99	53	60	49	103	103	103	103
ULTRA HIGH	293A	16.5	15.9	28	30	25	111	27	30	29	115	25	30	27	113	29	35	31	117	117	117	117
	296A	33.5	32.2	48	50	44	111	53	60	49	115	51	60	46	113	55	60	50	117	117	117	117

ELECTRICAL DATA (cont.)

Table 40 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH HACR

NO C.O. or UNPWR C.O.												w/ PWRD C.O.													
UNIT	IFM TYPE	ELEC. HTR				NO P.E.				w/ P.E. (pwrdf/r/unit)															
		CRHEATER***A00	Nom (kW)	FLA	MCA	FUSE or HACR BRKR	DISC. SIZE	FLA	LRA	MCA	FUSE or HACR BRKR	DISC. SIZE	FLA	LRA	MCA	FUSE or HACR BRKR	DISC. SIZE	FLA	LRA	MCA	FUSE or HACR BRKR	DISC. SIZE	FLA	LRA	
		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	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					
	STD	291A	12.4/16.5	34.4/39.7	59/59	60/60	52/53	252/252	63/63	70/70	56/58	256/256	65/65	70/70	58/59	257/257	69/69	70/70	62/63	261/261					
		294A	25.2/33.5	69.9/80.6	110/110	110/110	89/101	252/252	114/114	125/125	93/105	256/256	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	150/150	128/146	252/252	144/144	150/150	132/151	256/256	146/146	150/150	134/152	257/257	150/150	175/175	138/156	261/261					
		NONE	–	–	52/52	60/60	54/53	278	56/56	70/70	58/57	282	57/57	70/70	59/58	283	61/61	70/70	64/63	287					
		288A	7.5/10.0	20/9/24.1	52/52	60/60	54/53	278/278	56/56	70/70	58/57	282/282	57/57	70/70	59/58	283/283	61/61	70/70	64/63	287/287					
	MED	291A	12.4/16.5	34.4/39.7	60/60	60/60	54/55	278/278	65/65	70/70	58/59	282/282	66/66	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	125/125	90/102	278/278	116/116	125/125	95/106	282/282	117/117	125/125	96/107	283/283	122/122	125/125	100/112	287/287					
		291A+294A	37.6/50.0	104/3/120.3	142/142	150/150	130/147	278/278	146/146	150/150	134/152	282/282	148/148	156/150	135/153	283/283	152/152	175/175	140/157	287/287					
		NONE	–	–	57/57	70/70	59/58	313	61/61	80/80	64/63	317	62/62	80/80	65/64	318	66/66	80/80	69/68	322					
		288A	7.5/10.0	20/9/24.1	57/57	70/70	59/58	313/313	61/61	80/80	64/63	317/317	62/62	80/80	65/64	318/318	66/66	80/80	69/68	322/322					
	HIGH	291A	12.4/16.5	34.4/39.7	66/66	70/70	59/60	313/313	71/71	80/80	64/65	317/317	72/72	80/80	65/66	318/318	77/77	80/80	69/70	322/322					
		294A	25.2/33.5	69.9/80.6	117/117	125/125	96/107	313/313	122/122	125/125	100/112	317/317	123/123	125/125	102/113	318/318	128/128	150/150	106/117	322/322					
		291A+294A	37.6/50.0	104/3/120.3	148/148	150/150	136/153	313/313	153/153	175/175	140/157	317/317	154/154	175/175	141/158	318/318	159/159	175/175	145/163	322/322					
		NONE	–	–	26	30	27	126	28	30	29	128	28	30	29	128	30	30	35	32	130				
		289A	10.0	12.0	26	30	27	126	28	30	29	128	28	30	29	128	30	30	35	32	130				
	STD	292A	16.5	19.9	30	30	27	126	32	35	29	128	33	35	30	128	35	35	32	32	130				
		295A	33.5	40.3	56	60	51	126	58	60	53	128	58	60	53	128	61	70	55	55	130				
		292A+295A	50.0	60.2	65	70	74	126	68	80	76	128	68	80	76	128	70	70	80	78	130				
		NONE	–	–	26	30	27	140	28	30	29	142	28	30	29	142	28	30	35	32	144				
		289A	10.0	12.0	26	30	27	140	28	30	29	142	28	30	29	142	28	30	35	32	144				
	MED	292A	16.5	19.9	30	30	27	140	32	35	29	142	33	35	30	142	33	35	32	32	144				
		295A	33.5	40.3	56	60	51	140	58	60	53	142	58	60	53	142	61	70	55	55	144				
		292A+295A	50.0	60.2	65	70	74	140	68	80	76	142	68	80	76	142	70	80	78	78	144				
		NONE	–	–	29	35	30	157	30	35	32	159	31	35	33	159	33	35	32	32	144				
		289A	10.0	12.0	29	35	30	157	30	35	32	159	31	35	33	159	33	35	32	32	144				
	HIGH	292A	16.5	19.9	33	35	30	157	36	40	32	159	36	40	33	159	38	40	35	35	161				
		295A	33.5	40.3	59	60	54	157	61	70	56	159	62	70	56	159	64	70	58	58	161				
		292A+295A	50.0	60.2	69	80	77	157	71	80	79	159	71	80	79	159	74	80	81	81	161				

ELECTRICAL DATA (cont.)

Table 40 (cont.) – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH HACR

		NO C.O. or UNIPWR C.O.						w/ PWRD C.O.																					
UNIT	IFM TYPE	ELEC. HTR		NO P.E.		w/ P.E. (pwrd fr/unit)		NO P.E.		w/ P.E. (pwrd fr/unit)		MCA	FUSE or HACR BRKR	FLA	LRA	MCA	FUSE or HACR BRKR	FLA	LRA	MCA	FUSE or HACR BRKR	FLA	LRA	DISC. SIZE					
		NO M. V-P-HZ	CRHEATER***A00	Nom (kW)	FLA	MCA	FUSE or HACR BRKR	DISC. SIZE	FLA	LRA	NO P.E.	w/ P.E. (pwrd fr/unit)																	
		NONE	–	–	22	25	23	107	26	30	27	111	24	25	25	109	28	30	29	113									
	STD	293A	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	25	120	26	118	29	30	30	122							
	MED	293A	16.5	15.9	26	30	24	116	31	35	28	120	28	30	26	118	33	35	30	30	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									
		NONE	–	–	25	30	26	130	29	30	30	134	26	30	28	132	30	35	32	136									
	HIGH	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									

TYPICAL WIRING DIAGRAMS

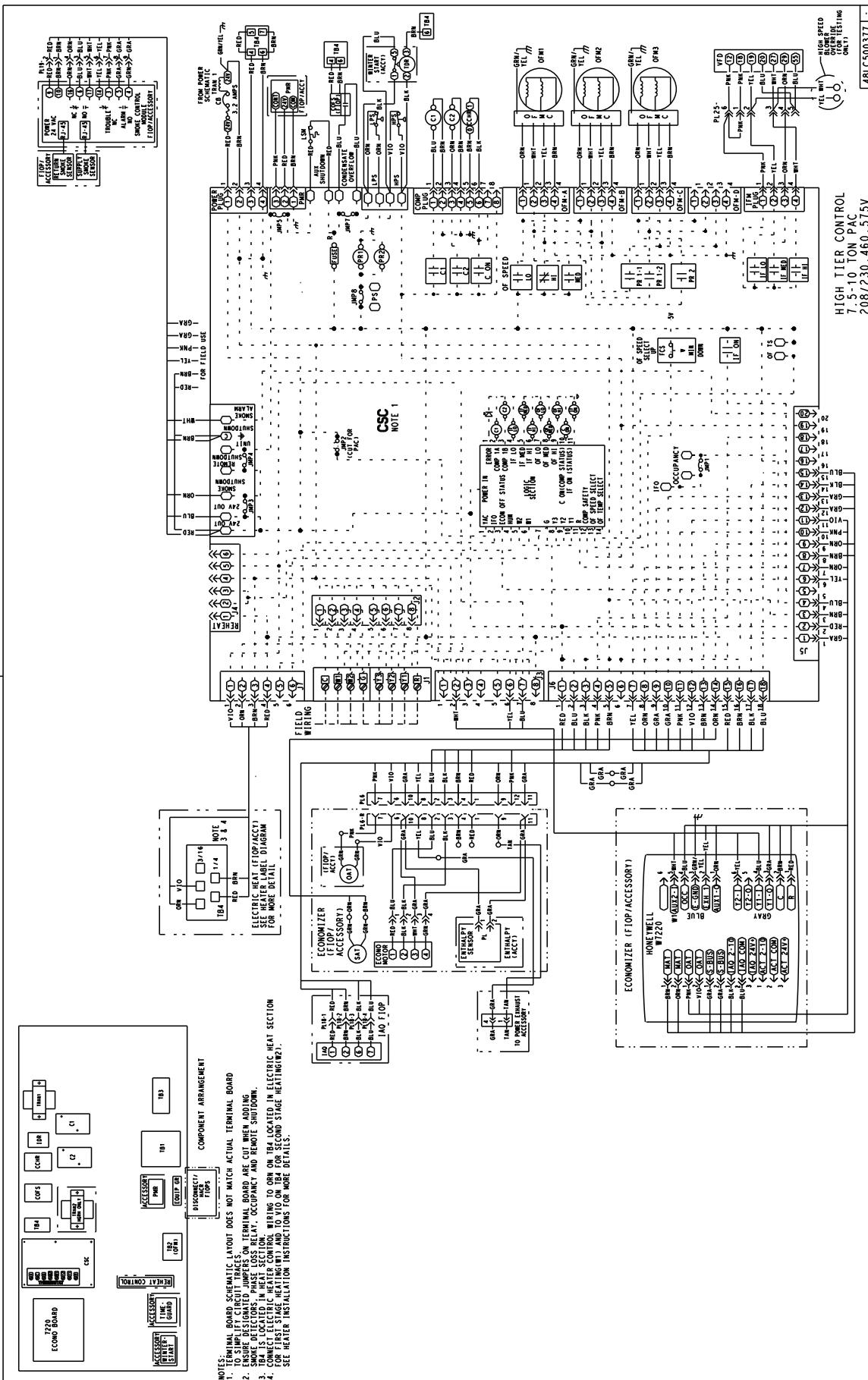


Fig. 16 - Typical Control Wiring Diagram 50LC Sizes 08-12

TYPICAL WIRING DIAGRAMS (cont.)

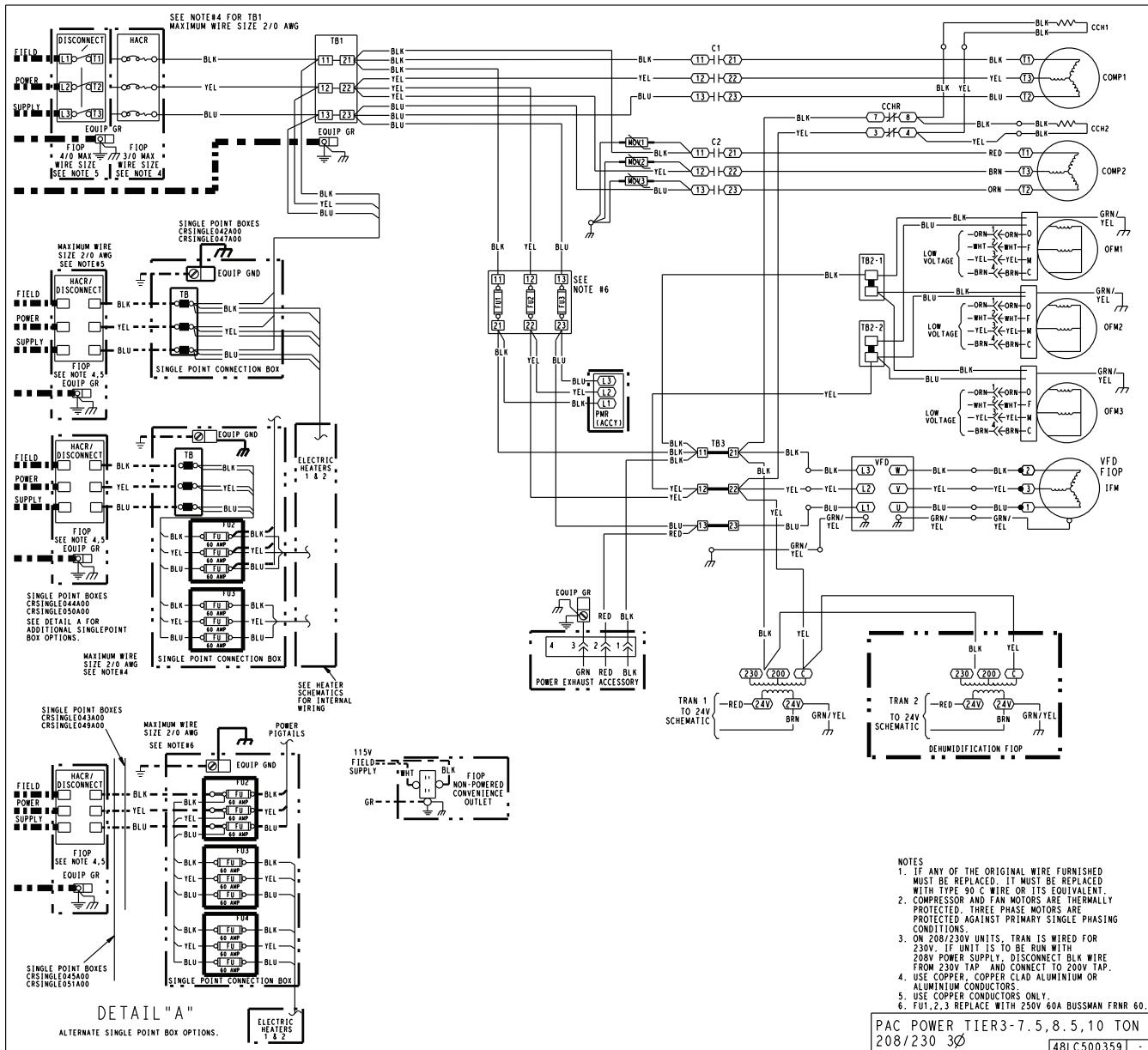


Fig. 17 - Typical Power Wiring Diagram 50LC Sizes 08-12

C13009

SEQUENCE OF OPERATION

General

The DDC electric controller (control board) is intended for use with a standard thermostat or direct digital control (DDC) 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 board can be remotely shutdown by removing Jumper 4 and wiring to the Remote Shutdown terminal. The Smoke Control Module can shutdown 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. A future optional Condensate Flow Switch can be wired to the COFS Terminal by removing Jumper 7.

Ventilation

In the Ventilation/Fan Mode (R 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			
Thermostat	Compressor C1	Compressor C2	Indoor Fan Speed	Outdoor Fan Speed
First Stage Cooling (Y1)	On	Off	Low	Low
Second Stage Cooling (Y2)	Off	On	Medium	Medium
Third Stage Cooling (Y3)	On	On	High	High

NOTE: On models 07-09, only medium and high speeds are used.

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

Economizer (Optional)

When the Economizer is in Free Cooling Mode and a demand for cooling exist (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, 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. Control returns to normal once the mixed air temperature rises above 48 °F (9 °C). 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 DDC, a demand controlled ventilation strategy will begin to operate. As the CO2 level in the zone increases above the CO2 set point, 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

In Low Ambient RTU conditions, the Outdoor Fan Temperature Switch will close and run the outdoor fans to the pre-selected outdoor fan speed. If the Outdoor Fan Speed Selector Switch is in the up position, the outdoor fans will run in the Fan Cycle Speed Mode set to 250 rpm. If the Outdoor Fan Speed Selector Switch is in the down position, the outdoor fans will run in the Minimum Fan Speed Mode set to 160 rpm regardless of the cooling demand.

SEQUENCE OF OPERATION (cont.)

INPUT		OUTPUT
Outdoor Fan Temperature Switch	Outdoor Fan Speed Selector Switch	Outdoor Fan Speed
Open	Up or Down	See Cooling/Free Cooling Operation
Closed	Down	MIN Mode
Closed	Up	FCS Mode

A fan cyclic pressure switch is wired across terminal PS1 and PS2. If the electrical connection between PS1 and PS2 is open (this is accomplished by cutting the jumper) then outdoor fan motors are electrically isolated from receiving any speed command, which will turn these motors off.

Heating

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

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 Electric DDC Control 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 a DDC electric 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 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, DDC electrically controlled, heating and cooling unit utilizing a(n) hermetic scroll compressor(s) 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 casing shall be capable of withstanding Federal Test Method Standard No. 141 (Method 6061) 5000-hour salt spray.
9. Unit shall be designed in accordance with ISO 9001, and shall be manufactured in a facility registered by ISO 9001.
10. Roof curb shall be designed to conform to NRCA Standards.
11. 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.
12. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
13. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.
14. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.
15. 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. N/A

23 81 19.13.J. 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.

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.

5. Optional E-coated aluminum-fin, aluminum tube condenser coils:

- a. Shall have a flexible epoxy polymer coating uniformly applied to all coil external surface areas without material bridging between fins or louvers.
- b. Coating process shall ensure complete coil encapsulation, including all exposed fin edges.
- c. E-coat thickness of 0.8 to 1.2 mil with top coat having a uniform dry film thickness from 1.0 to 2.0 mil on all external coil surface areas, including fin edges, shall be provided.
- d. Shall have superior hardness characteristics of 2H per ASTM D3363-00 and cross-hatch adhesion of 4B-5B per ASTM D3359-02.
- e. Shall have superior impact resistance with no cracking, chipping or peeling per NSF/ANSI 51-2002 Method 10.2.

23 81 19.13.K. 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.L. 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.M. 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.N. 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 galvalum blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.

23 81 19.13.O. 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.

