

50LC WeatherExpert™ Series
Ultra High Efficient
Single Package Rooftop and Single Zone VAV
Cooling Only with Optional Electric Heat
Sizes 14 – 26 with Puron® (R-410A) Refrigerant
12.5 – 23 Ton



Advanced Product Data



WeatherExpert™



C10997

Performance, Innovation, Reliability

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50LC

Carrier’s new Electric Heat / Electric Cooling and Cooling only WeatherExpert™ 12.5 to 23 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 6 to 10 ton models to provide a full range offering.

Ultra high efficiency:

With IEER’s up to 19.3, 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) system that matches the cooling capacity stages for optimum comfort and efficient control. Models also have multi heat capacities.

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.

Reliability:

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



UNIT FEATURES

- Three stage cooling capacity control with tandem scroll compressors design. Each 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 19.3 and EER's up to 12.6.
- 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 84dB.
- 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 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.
- Dedicated vertical and horizontal airflow models available ordered as factory option. No special kits 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 heat, 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	2	4	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

0 = Standard No Electric Heat
D = Low Electric Heat
E = Medium Electric Heat
F = High Electric Heat

Refrig. System Options

0 = Standard 3 stage cooling with TXV

Nominal Cooling Tons

14 = 12.5 Ton
17 = 15 Ton
20 = 17.5 Ton
24 = 20 Ton
26 = 23 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 Vertical Supply Return Air Flow
2 = Medium Static Vertical Supply Return Air Flow
3 = High Static Vertical Supply Return Air Flow
4 = Ultra High Static Vertical Supply Return Air Flow
5 = Standard Static Horizontal supply Return Air Flow
6 = Medium Static Horizontal supply Return Air Flow
7 = High Static Horizontal supply Return Air Flow
8 = Ultra High Static Horizontal supply Return Air Flow

Brand / Packaging

0 = Standard

Electrical Options

A = None
B = HACR breaker
C = Non-fused disconnect

Service Options

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

Air Intake / Exhaust Options

A = None
N = Temp ultra low leak econo w/ baro relief
P = Temp ultra low leak econo w/PE vert only
R = Enthly ultra low leak econo w/ baro relief
S = Enthly ultra low leak econo w/PE vert

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	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	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	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 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.

FACTORY OPTIONS AND/OR ACCESSORIES (cont.)

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 HACR breaker, 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 UNIT	COOLING STAGES	NOM. CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (KW)	EER	IEER
14	3	12.5	146.0	11.7	12.5	19.3
17	3	15	172.0	13.7	12.6	18.5
20	3	17.5	194.0	15.9	12.2	17.9
24	3	20	232.0	19.0	12.2	18.2
26	3	23	274.0	23.6	11.6	18.3

Table 3 – AHRI COOLING RATING TABLE

230/460/575V

50LC UNIT	COOLING STAGES	NOM. CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (KW)	IEER	EER
14	3	12.5	146.0	11.6	19.3	12.6
17	3	15	174.0	13.8	18.5	12.6
20	3	17.5	194.0	15.9	17.7	12.2
24	3	20	234.0	19.2	18.2	12.2
26	3	23	274.0	23.6	18.3	11.6

LEGEND

- Not Applicable
- 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 Ratio

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 48LC units comply with ASHRAE 90.1 Energy Star and CEE Energy Standard for minimum IEER and EER requirements.
4. 48LC units comply with US Energy Policy Act. To evaluate code compliance requirements, refer to state and local codes.

Table 4 – COOLING MINIMUM - MAXIMUM AIRFLOW RATINGS

LC SIZE	COOLING STAGE	MAX CFM	MIN CFM	MAX OD AMBIENT TEMPERATURE °F	MIN OD AMBIENT TEMPERATURE °F
14	Stage-3	6250	3150	125°	40°
	Stage-2	3750	1900		
	Stage-1	2500	1250		
17	Stage-3	7500	3750	125°	40°
	Stage-2	4500	2250		
	Stage-1	3000	1500		
20	Stage-3	8750	4400	125°	40°
	Stage-2	5400	2700		
	Stage-1	4600	2300		
24	Stage-3	10000	5000	125°	40°
	Stage-2	5700	2850		
	Stage-1	4300	2150		
26	Stage-3	11250	5650	125°	40°
	Stage-2	8100	4050		
	Stage-1	6750	3400		

Table 5 – HEATING MINIMUM / MAXIMUM CFM TABLE

UNIT	MIN AIR FLOW (CFM)	MAX AIR FLOW (CFM)
50LC*14	3,750	6,250
50LC*17	4,500	7,500
50LC*20	5,250	8,750
50LC*24	6,000	10,000
50LC*26	6,750	11,250

Table 6 – SOUND PERFORMANCE TABLE

50LC	Cooling Stages	OUTDOOR SOUND (dB) AT 60 HZ									
		A-Weighted	31.5	63	125	250	500	1000	2000	4000	8000
14	3	84	92.6	92.2	83.9	80.4	81.8	78.7	76.5	72.2	65.4
17	3	86	101.3	97.1	88.3	84.4	83.3	80.7	77.4	73.4	67.3
20	3	86	101.3	97.1	88.3	84.4	83.3	80.7	77.4	73.4	67.3
24	3	86	101.3	97.1	88.3	84.4	83.3	80.7	77.4	73.4	67.3
26	3	86	101.3	97.1	88.3	84.4	83.3	80.7	77.4	73.4	67.3

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)

12.5 - 23 TONS

		50LC*14	50LC*17	50LC*20	50LC*24	50LC*26
Refrigeration System						
	# Circuits / # Comp. / Type	1 / 2 / Scroll	1 / 2 / Scroll	1/2/Scroll	1 / 2 / Scroll	1 / 2 / Scroll
	R-410a charge (lbs – oz)	32-0	33-6	38-6	40-10	43-4
	Metering device	118	56/60	60/60	85/110	110 / 110
	High – press. Trip / Reset (psig)	TXV	TXV	TXV	TXV	TXV
	Low – press. Trip / Reset (psig)	630 / 505	630 / 505	630 / 505	630 / 505	630 / 505
	Loss of charge Trip / Reset (psig)	54 / 117	54 / 117	54/117	54 / 117	54 / 117
Evap. Coil						
	Material	Cu / Al	Cu / Al	Cu / Al	Cu / Al	Cu / Al
	Coil type	5/16" RTPF	5/16" RTPF	5/16" RTPF	5/16" RTPF	5/16" RTPF
	Rows / FPI	4 /15	4 /15	4 /15	4 /15	4 /15
	Total Face Area (ft2)	22.0	26.0	26.0	26.0	26.0
	Condensate drain conn. size	3/4"	3/4"	3/4"	3/4"	3/4"
Evap. fan and motor						
VERTICAL						
Standard Static	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	2.9	2.9	2.9	7.4	7.4
	RPM range	498-676	498-676	555-753	583-717	651-818
	Motor Frame Size	56	56	56HZ	184T	184T
	Fan Qty / Type	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal
	Fan Diameter (in)	15 x 15 / 15 x 15	15 x 15 / 15 x 15	15 x 15 / 15 x 15	15 x 15 / 15 x 15	15 x 15 / 15 x 15
Medium Static	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	4.9	7.4	7.4	7.4	9.9
	RPM range	682-861	651-818	707-888	707-888	804-970
	Motor Frame Size	145TZ	184T	184T	184T	213T
	Fan Qty / Type	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal
	Fan Diameter (in)	15 x 15 / 15 x 15	15 x 15 / 15 x 15	15 x 15 / 15 x 15	15 x 15 / 15x 15	15 x 15 / 15 x 15
High Static	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	7.4	9.9	9.9	9.9	13.6
	RPM range	782-963	804-970	872-1053	872-1053	948-1190
	Motor Frame Size	184T	213T	213T	213T	215T
	Fan Qty / Type	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal
	Fan Diameter (in)	15 x 15 / 15 x 15	15 x 15 / 15 x 15	15 x 15 / 15 x 15	15 x 15 / 15 x 15	15 x 15 / 15 x 15
Ultra High Static	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	N/A
	Max BHP (208/230/460/575v)	9.9	13.6	13.6	13.6	N/A
	RPM range	933-1113	948-1190	948-1190	1049-1291	N/A
	Motor Frame Size	213T	215T	215T	215T	N/A
	Fan Qty / Type	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	N/A
	Fan Diameter (in)	15 x 15 / 15 x 15	15 x 15 / 15 x 15	15 x 15 / 15 x 15	15 x 15 / 15 x 15	N/A

		50LC*14	50LC*17	50LC*20	50LC*24	50LC*26
Evap. fan and motor (cont.)						
Horizontal						
Standard Static	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	2.9	2.9	2.9	7.4	7.4
	RPM range	498–676	498–676	555–753	583–717	707–888
	Motor Frame Size	56	56	56HZ	184T	184T
	Fan Qty / Type	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal
Medium Static	Fan Diameter (in)	18 x 15 / 15 X 11	18 x 15 / 15 X 11	18 x 15 / 15 X 11	18 x 15 / 15 X 11	18 x 15 / 15 X 11
	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	4.9	7.4	7.4	7.4	9.9
	RPM range	644–808	651–818	651–818	707–888	859–1026
	Motor Frame Size	184T	213T	213T	213T	213T
High Static	Fan Qty / Type	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal
	Fan Diameter (in)	18 x 15 / 15 X 11	18 x 15 / 15 X 11	18 x 15 / 15 X 11	18 x 15 / 15 X 11	18 x 15 / 15 X 11
	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	7.4	9.9	9.9	9.9	13.6
	RPM range	707–888	804–970	804–970	872–1053	948–1190
Ultra High Static	Motor Frame Size	184T	213T	213T	213T	215T
	Fan Qty / Type	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal
	Fan Diameter (in)	18 x 15 / 15 X 11	18 x 15 / 15 X 11	18 x 15 / 15 X 11	18 x 15 / 15 X 11	18 x 15 / 15 X 11
	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	N/A
	Max BHP (208/230/460/575v)	9.9	13.6	13.6	13.6	N/A
Cond. Coil 1	RPM range	872–1053	948–1190	948–1190	948–1190	N/A
	Motor frame size	213T	215T	215T	215T	N/A
	Fan Qty / Type	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	N/A
	Fan Diameter (in)	18 x 15 / 15 X 11	18 x 15 / 15 X 11	18 x 15 / 15 X 11	18 x 15 / 15 X 11	N/A
	Cond. Coil 2					
Cond. Coil 1	Material	Cu / Al	Cu / Al	Cu / Al	Cu / Al	Cu / Al
	Coil type	5/16" RTPF	5/16" RTPF	5/16" RTPF	5/16" RTPF	5/16" RTPF
	Rows / FPI	2/18	2 / 18	2/18	2 / 18	2 / 18
	Total Face Area (ft2)	20.8	29.6	29.6	35.4	35.4
Cond. Coil 2	Material	Cu / Al	Cu / Al	Cu / Al	Cu / Al	Cu / Al
	Coil type	5/16" RTPF	5/16" RTPF	5/16" RTPF	5/16" RTPF	5/16" RTPF
	Rows / FPI	2/18	2 / 18	2/18	2 / 18	2 / 18
	Total Face Area (ft2)	20.8	29.6	29.6	35.4	35.4
Cond. fan / motor						
Cond. fan / motor	Qty / Motor drive type	3 / direct	4 / direct	4 / direct	6 / direct	6 / Direct
	Motor HP / RPM	1/3 / 1000	1/3 / 1000	1/3 /1000	1/3 / 1000	1/3 /1000
	Fan diameter (in)	22	22	22	22	22
Filters						
Filters	RA Filter # / size (in)	6 / 20 x 25 x 2	9/16x25x2	9/16x25x2	9/16x25x2	9 / 16x25x2
	OA inlet screen # / size (in)	4 / 16 x 25 x 1	4/16x25x1	4/16x25x1	4/16x25x1	4 / 16x25x1

UNIT 50LC	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)
14	208/ 230–3–60	STD	302A00	15.0	11.3/13.8	–	–	–	–
			279A00	25.0	18.8/23.0	–	–	–	–
			309A00	50.0	37.6/45.9	056	056	056	056
		MED	302A00	15.0	11.3/13.8	–	–	–	–
			279A00	25.0	18.8/23.0	–	–	–	–
			309A00	50.0	37.6/45.9	056	056	056	056
		HIGH	302A00	15.0	11.3/13.8	–	–	–	–
			279A00	25.0	18.8/23.0	–	–	–	–
			309A00	50.0	37.6/45.9	056	056	056	056
		ULTRA HIGH	302A00	15.0	11.3/13.8	–	–	–	–
			279A00	25.0	18.8/23.0	–	–	–	056
			309A00	50.0	37.6/45.9	056	056	056	056
	460–3–60	STD	303A00	15.0	13.8	–	–	–	–
			282A00	25.0	23.0	–	–	–	–
			310A00	50.0	45.9	–	057	057	057
		MED	303A00	15.0	13.8	–	–	–	–
			282A00	25.0	23.0	–	–	–	–
			310A00	50.0	45.9	057	057	057	057
		HIGH	303A00	15.0	13.8	–	–	–	–
			282A00	25.0	23.0	–	–	–	–
			310A00	50.0	45.9	057	057	057	057
		ULTRA HIGH	303A00	15.0	13.8	–	–	–	–
			282A00	25.0	23.0	–	–	–	–
			310A00	50.0	45.9	057	057	057	057
	575–3–60	STD	304A00	15.0	13.8	–	–	–	–
			285A00	24.8	22.8	–	–	–	–
			311A00	49.6	45.6	–	057	–	057
		MED	304A00	15.0	13.8	–	–	–	–
			285A00	24.8	22.8	–	–	–	–
			311A00	49.6	45.6	–	057	–	057
		HIGH	304A00	15.0	13.8	–	–	–	–
			285A00	24.8	22.8	–	–	–	–
			311A00	49.6	45.6	–	057	057	057
		ULTRA HIGH	304A00	15.0	13.8	–	–	–	–
			285A00	24.8	22.8	–	–	–	–
			311A00	49.6	45.6	057	057	057	057

LEGEND

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

UNIT 50LC	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. (pwr fr/unit)	NO P.E.	w/ P.E. (pwr fr/unit)
17	208/ 230-3-60	STD	279A00	25.0	18.8/23.0	-	-	-	-
			280A00	50.0	37.6/45.9	056	056	056	056
			281A00	75.0	56.3/68.9	056	056	056	056
		MED	279A00	25.0	18.8/23.0	-	-	-	-
			280A00	50.0	37.6/45.9	056	056	056	056
			281A00	75.0	56.3/68.9	056	056	056	056
		HIGH	279A00	25.0	18.8/23.0	-	-	-	056
			280A00	50.0	37.6/45.9	056	056	056	056
			281A00	75.0	56.3/68.9	056	056	056	056
		ULTRA HIGH	279A00	25.0	18.8/23.0	-	056	056	056
			280A00	50.0	37.6/45.9	056	056	056	056
			281A00	75.0	56.3/68.9	056	056	056	056
	460-3-60	STD	282A00	25.0	23.0	-	-	-	-
			283A00	50.0	45.9	-	057	057	057
			284A00	75.0	68.9	057	057	057	057
		MED	282A00	25.0	23.0	-	-	-	-
			283A00	50.0	45.9	057	057	057	057
			284A00	75.0	68.9	057	057	057	057
		HIGH	282A00	25.0	23.0	-	-	-	-
			283A00	50.0	45.9	057	057	057	057
			284A00	75.0	68.9	057	057	057	057
		ULTRA HIGH	282A00	25.0	23.0	-	-	-	-
			283A00	50.0	45.9	057	057	057	057
			284A00	75.0	68.9	057	057	057	057
	575-3-60	STD	285A00	24.8	22.8	-	-	-	-
			286A00	49.6	45.6	-	057	-	057
			287A00	74.4	68.3	057	057	057	057
		MED	285A00	24.8	22.8	-	-	-	-
			286A00	49.6	45.6	-	057	057	057
			287A00	74.4	68.3	057	057	057	057
		HIGH	285A00	24.8	22.8	-	-	-	-
			286A00	49.6	45.6	057	057	057	057
			287A00	74.4	68.3	057	057	057	057
		ULTRA HIGH	285A00	24.8	22.8	-	-	-	-
			286A00	49.6	45.6	057	057	057	057
			287A00	74.4	68.3	057	057	057	057

LEGEND

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

UNIT 50LC	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. (pwr fr/unit)	NO P.E.	w/ P.E. (pwr fr/unit)
20	208/ 230-3-60	STD	279A00	25.0	18.8/23.0	-	-	-	-
			280A00	50.0	37.6/45.9	056	056	056	056
			281A00	75.0	56.3/68.9	056	056	056	056
		MED	279A00	25.0	18.8/23.0	-	-	-	-
			280A00	50.0	37.6/45.9	056	056	056	056
			281A00	75.0	56.3/68.9	056	056	056	056
		HIGH	279A00	25.0	18.8/23.0	-	-	-	056
			280A00	50.0	37.6/45.9	056	056	056	056
			281A00	75.0	56.3/68.9	056	056	056	056
		ULTRA HIGH	279A00	25.0	18.8/23.0	-	056	056	056
			280A00	50.0	37.6/45.9	056	056	056	056
			281A00	75.0	56.3/68.9	056	056	056	056
	460-3-60	STD	282A00	25.0	23.0	-	-	-	-
			283A00	50.0	45.9	057	057	057	057
			284A00	75.0	68.9	057	057	057	057
		MED	282A00	25.0	23.0	-	-	-	-
			283A00	50.0	45.9	057	057	057	057
			284A00	75.0	68.9	057	057	057	057
		HIGH	282A00	25.0	23.0	-	-	-	-
			283A00	50.0	45.9	057	057	057	057
			284A00	75.0	68.9	057	057	057	057
		ULTRA HIGH	282A00	25.0	23.0	-	-	-	-
			283A00	50.0	45.9	057	057	057	057
			284A00	75.0	68.9	057	057	057	057
	575-3-60	STD	285A00	24.8	22.8	-	-	-	-
			286A00	49.6	45.6	-	057	-	057
			287A00	74.4	68.3	057	057	057	057
		MED	285A00	24.8	22.8	-	-	-	-
			286A00	49.6	45.6	-	057	057	057
			287A00	74.4	68.3	057	057	057	057
		HIGH	285A00	24.8	22.8	-	-	-	-
			286A00	49.6	45.6	057	057	057	057
			287A00	74.4	68.3	057	057	057	057
		ULTRA HIGH	285A00	24.8	22.8	-	-	-	-
			286A00	49.6	45.6	057	057	057	057
			287A00	74.4	68.3	057	057	057	057

LEGEND

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

UNIT 50LC	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. (pwr fr/unit)	NO P.E.	w/ P.E. (pwr fr/unit)
24	208/ 230-3-60	STD	279A00	25.0	18.8/23.0	-	-	-	056
			280A00	50.0	37.6/45.9	056	056	056	056
			281A00	75.0	56.3/68.9	056	056	056	056
		MED	279A00	25.0	18.8/23.0	-	-	-	056
			280A00	50.0	37.6/45.9	056	056	056	056
			281A00	75.0	56.3/68.9	056	056	056	056
		HIGH	279A00	25.0	18.8/23.0	-	056	-	056
			280A00	50.0	37.6/45.9	056	056	056	056
			281A00	75.0	56.3/68.9	056	056	056	056
		ULTRA HIGH	279A00	25.0	18.8/23.0	056	056	056	056
			280A00	50.0	37.6/45.9	056	056	056	056
			281A00	75.0	56.3/68.9	056	056	056	056
	460-3-60	STD	282A00	25.0	23.0	-	057	-	057
			283A00	50.0	45.9	057	057	057	057
			284A00	75.0	68.9	057	057	057	057
		MED	282A00	25.0	23.0	-	057	-	057
			283A00	50.0	45.9	057	057	057	057
			284A00	75.0	68.9	057	057	057	057
		HIGH	282A00	25.0	23.0	-	057	057	057
			283A00	50.0	45.9	057	057	057	057
			284A00	75.0	68.9	057	057	057	057
		ULTRA HIGH	282A00	25.0	23.0	057	057	057	057
			283A00	50.0	45.9	057	057	057	057
			284A00	75.0	68.9	057	057	057	057
	575-3-60	STD	285A00	24.8	22.8	-	-	-	-
			286A00	49.6	45.6	-	057	057	057
			287A00	74.4	68.3	057	057	057	057
		MED	285A00	24.8	22.8	-	-	-	-
			286A00	49.6	45.6	-	057	057	057
			287A00	74.4	68.3	057	057	057	057
		HIGH	285A00	24.8	22.8	-	-	-	-
			286A00	49.6	45.6	057	057	057	057
			287A00	74.4	68.3	057	057	057	057
		ULTRA HIGH	285A00	24.8	22.8	-	-	-	-
			286A00	49.6	45.6	057	057	057	057
			287A00	74.4	68.3	057	057	057	057

LEGEND

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

UNIT 50LC	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. (pwr fr/unit)	NO P.E.	w/ P.E. (pwr fr/unit)
26	208/ 230-3-60	STD	279A00	25.0	18.8/23.0	056	056	056	056
			280A00	50.0	37.6/45.9	056	056	056	056
			281A00	75.0	56.3/68.9	056	056	056	056
		MED	279A00	25.0	18.8/23.0	056	056	056	056
			280A00	50.0	37.6/45.9	056	056	056	056
			281A00	75.0	56.3/68.9	056	056	056	056
		HIGH	279A00	25.0	18.8/23.0	056	056	056	056
			280A00	50.0	37.6/45.9	056	056	056	056
			281A00	75.0	56.3/68.9	056	056	056	056
	460-3-60	STD	282A00	25.0	23.0	057	057	057	057
			283A00	50.0	45.9	057	057	057	057
			284A00	75.0	68.9	057	057	057	057
		MED	282A00	25.0	23.0	057	057	057	057
			283A00	50.0	45.9	057	057	057	057
			284A00	75.0	68.9	057	057	057	057
		HIGH	282A00	25.0	23.0	057	057	057	057
			283A00	50.0	45.9	057	057	057	057
			284A00	75.0	68.9	057	057	057	057
	575-3-60	STD	285A00	24.8	22.8	-	-	-	057
			286A00	49.6	45.6	-	057	057	057
			287A00	74.4	68.3	057	057	057	057
		MED	285A00	24.8	22.8	-	057	-	057
			286A00	49.6	45.6	057	057	057	057
			287A00	74.4	68.3	057	057	057	057
		HIGH	285A00	24.8	22.8	057	057	057	057
			286A00	49.6	45.6	057	057	057	057
			287A00	74.4	68.3	057	057	057	057

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

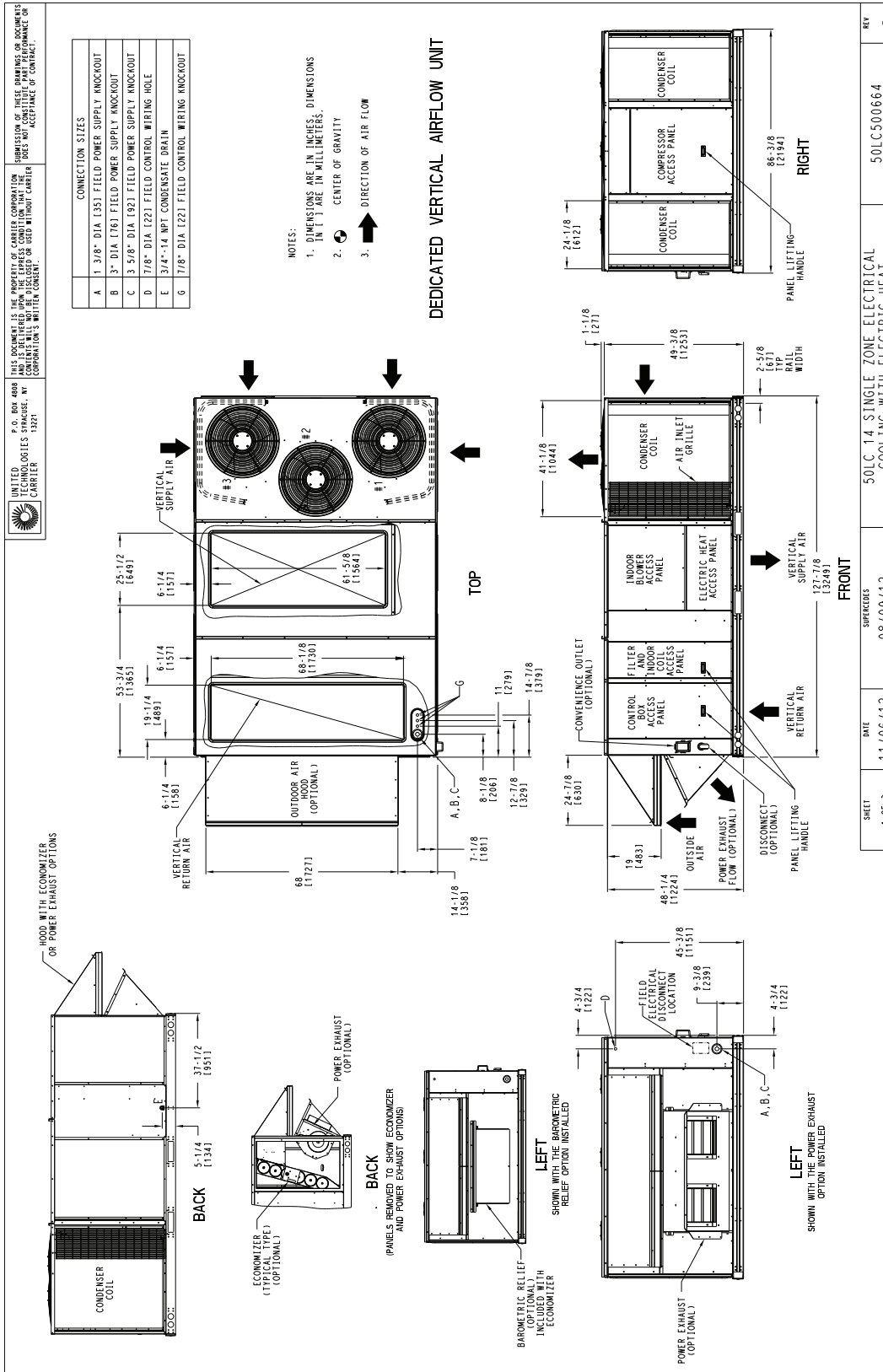


Fig. 1 - Dimensions 50LC*14

C13060

CURBS & WEIGHTS DIMENSIONS (cont.)

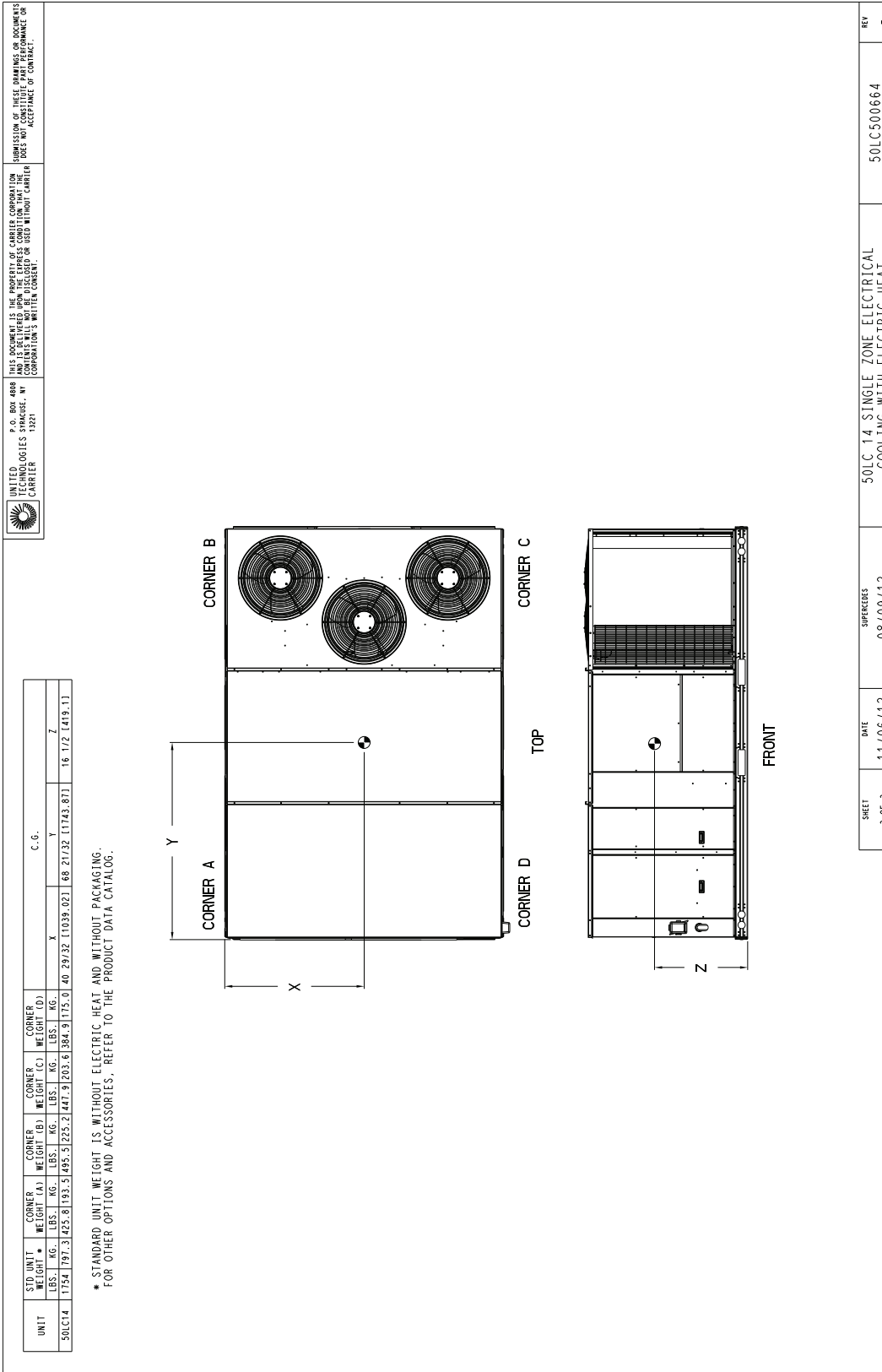
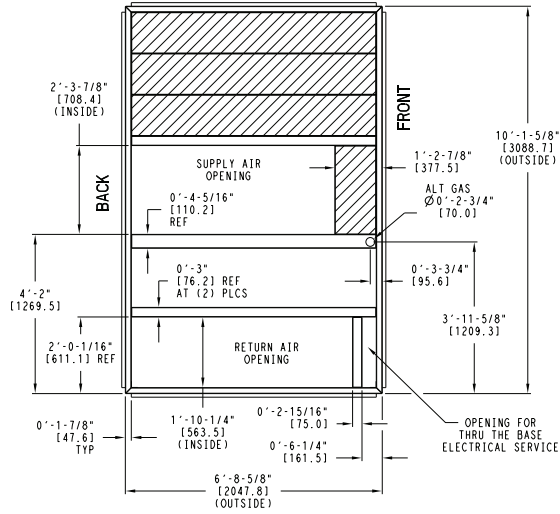


Fig. 3 - Dimensions 50LC*14

C13062

CURBS & WEIGHTS DIMENSIONS (cont.)

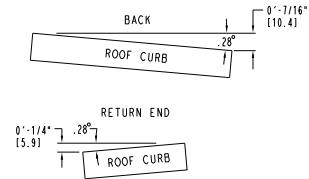
UNIT SIZE	"A"	ROOF CURB ACCESSORY
14	1'-2" [356.0] 2'-0" [610.0]	CRRFCURB045A00 CRRFCURB046A00



NOTES:

- 1 ROOF CURB ACCESSORY IS SHIPPED UNASSEMBLED.
- 2 DIMENSIONS IN () ARE IN MILLIMETERS.
- 3 ROOF CURB GALVANIZED STEEL.
- 4 ATTACH DUCTWORK TO CURB (FLANGES ON DUCT REST ON CURB)
- 5 SERVICE CLEARANCE 4 FT ON EACH SIDE

➔ DIRECTION OF AIR FLOW



MAX CURB LEVELING TOLERANCES

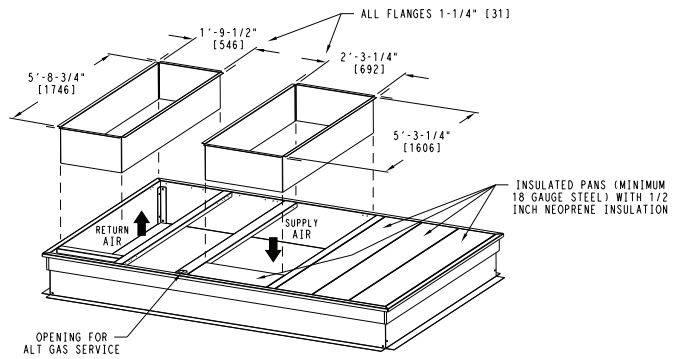
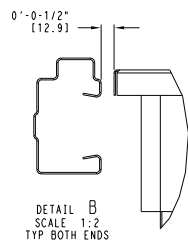
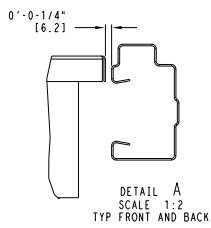
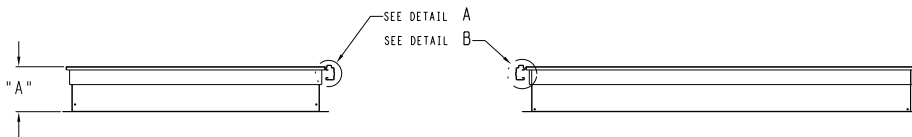
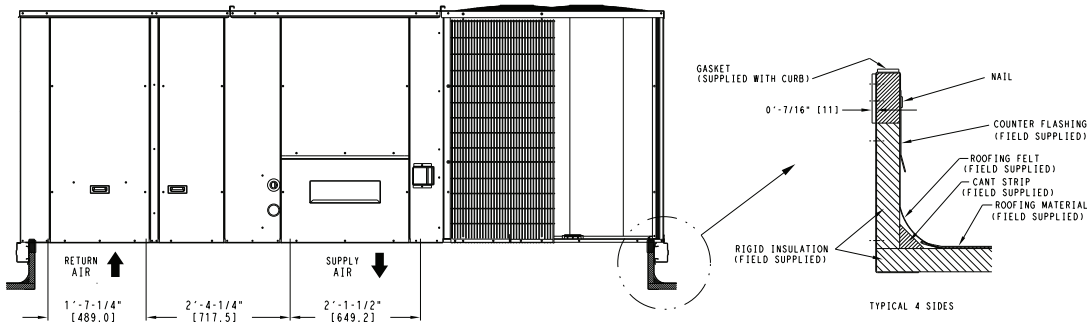


Fig. 4 - Roof Curb Details 50LC*14

C13054

CURBS & WEIGHTS DIMENSIONS (cont.)

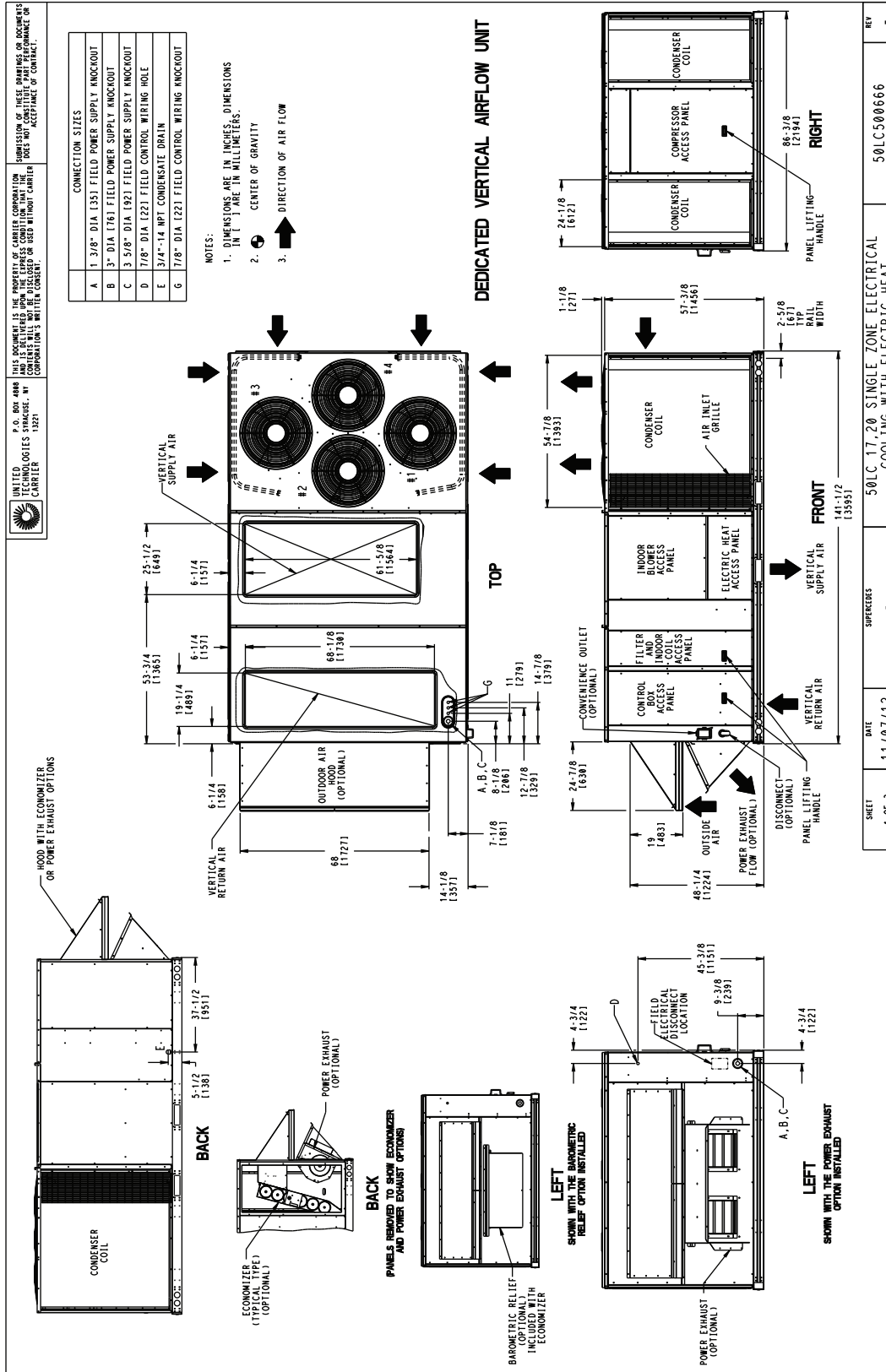


Fig. 5 - Dimensions 50LC*17 - 20

CURBS & WEIGHTS DIMENSIONS (cont.)

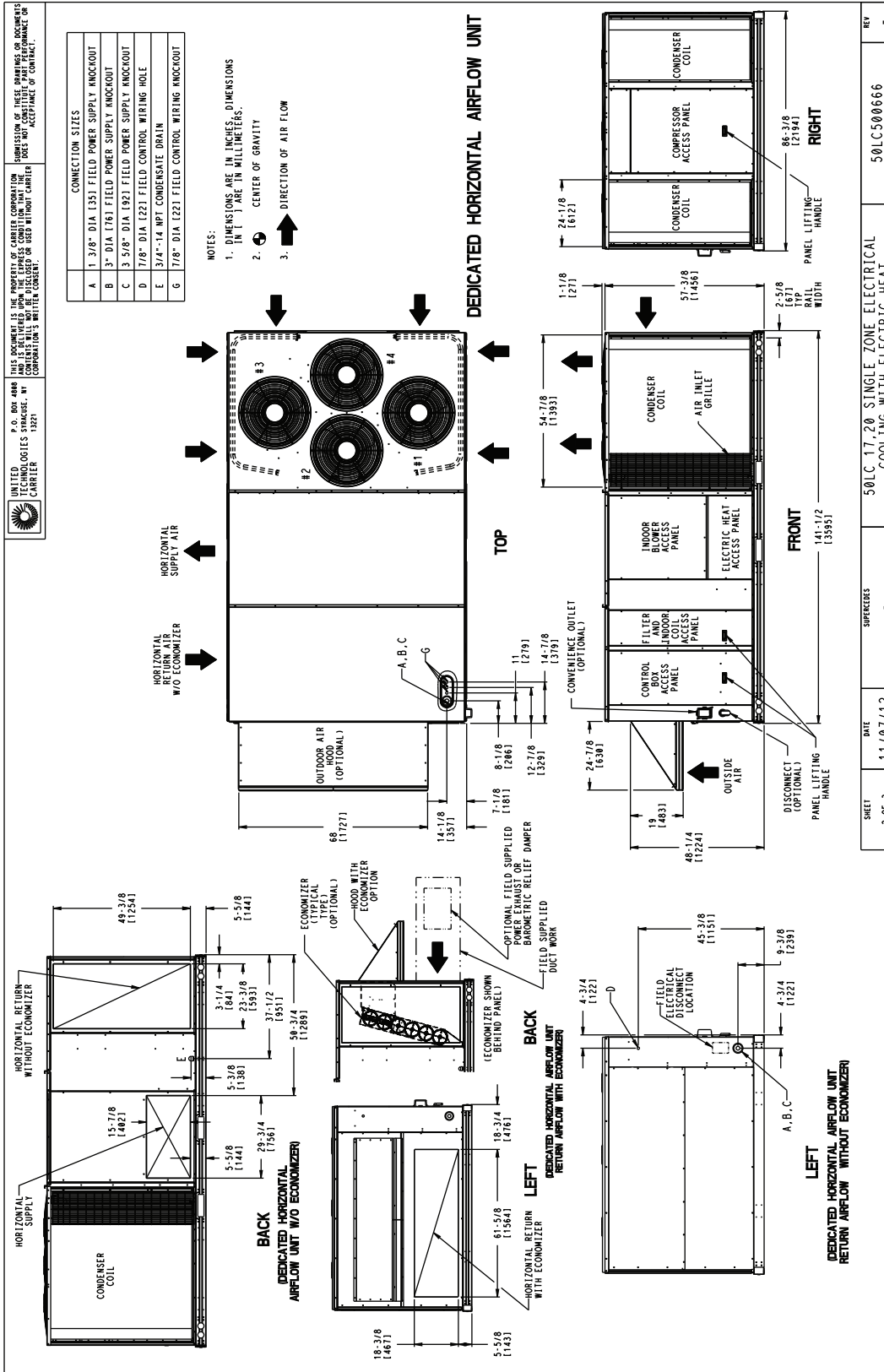


Fig. 6 - Dimensions 50LC*17 - 20

CURBS & WEIGHTS DIMENSIONS (cont.)

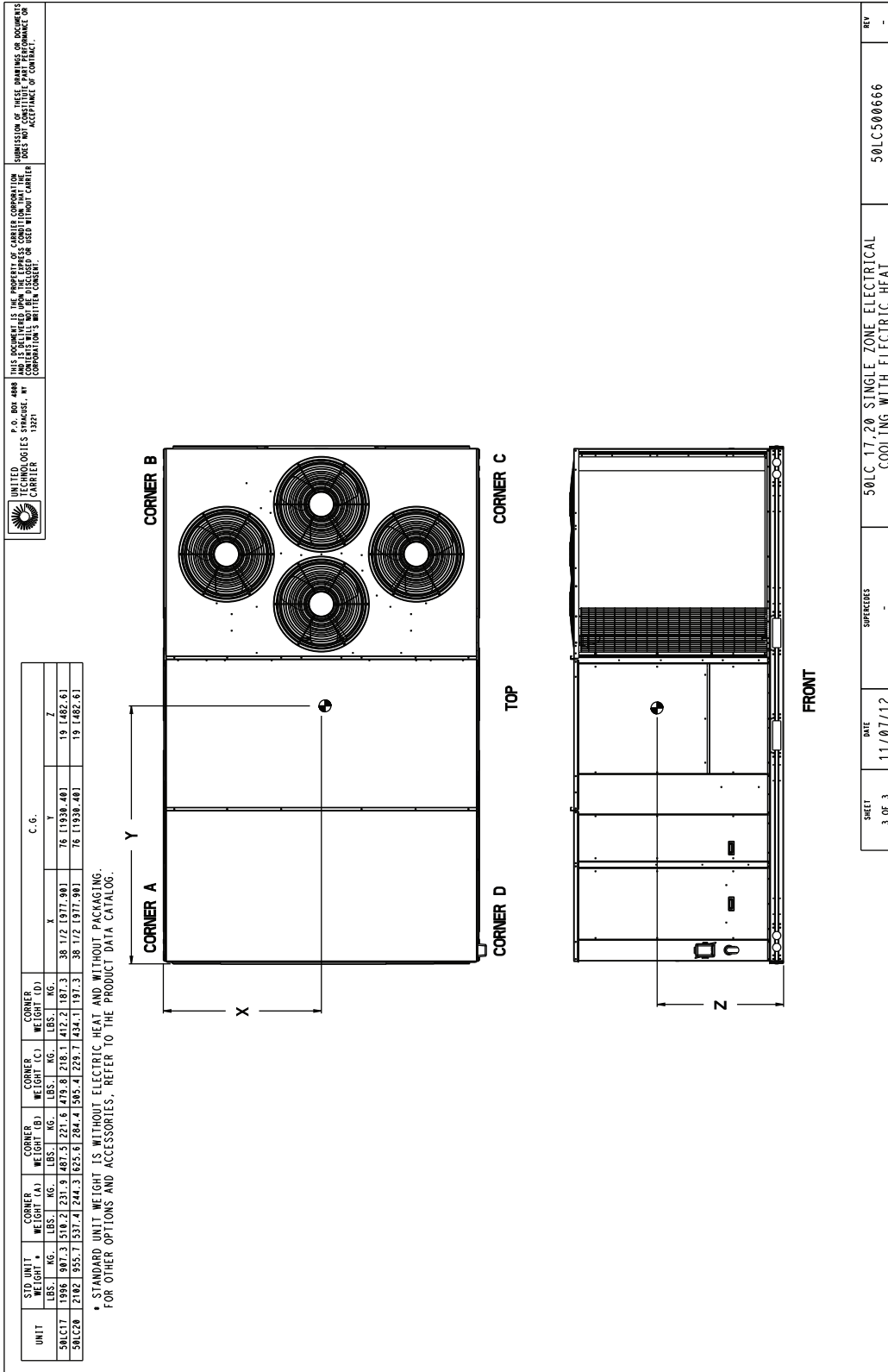
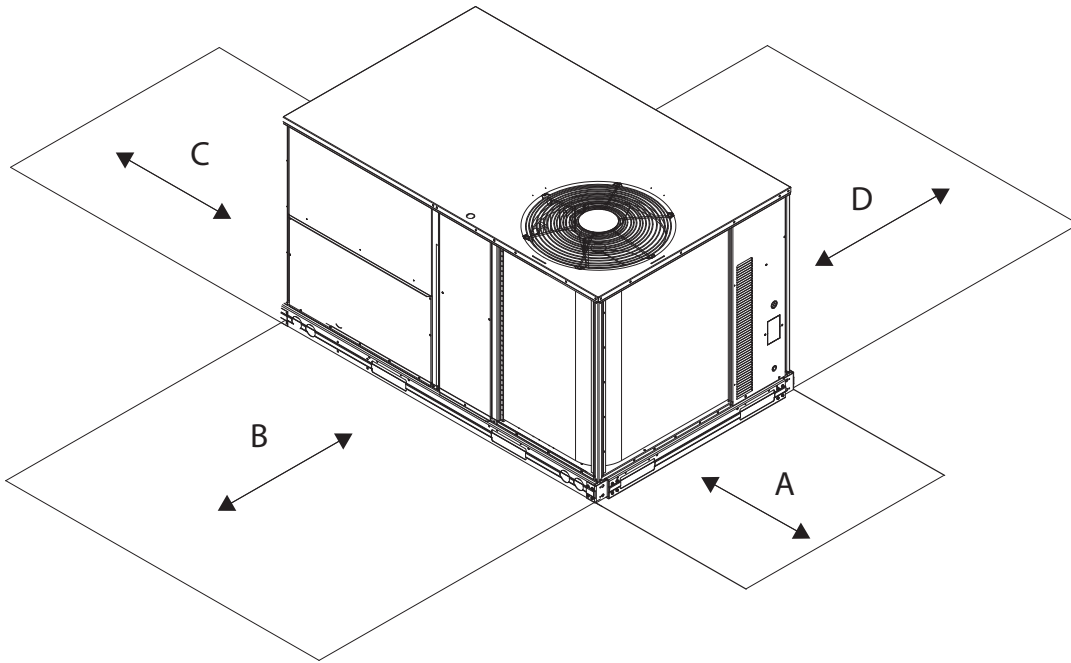


Fig. 7 - Dimensions 50LC*17 - 20

C13037

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:

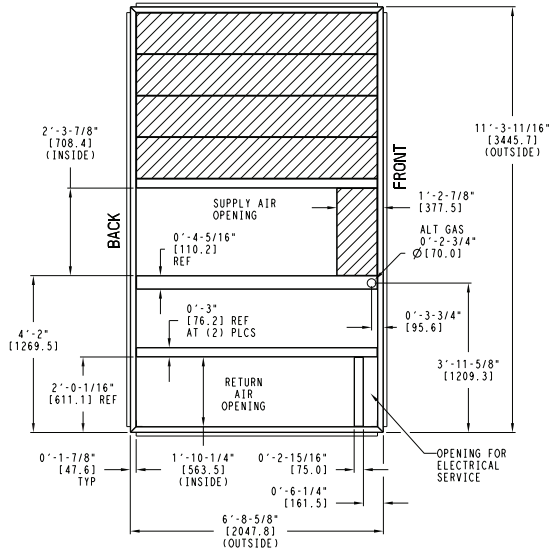
Unit not designed to have overhead obstruction. Contact Application Engineering for guidance on any application

planning overhead obstruction or for vertical clearances.

Fig. 8 - Service Clearance Dimensional Drawing

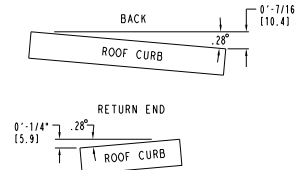
CURBS & WEIGHTS DIMENSIONS (cont.)

UNIT SIZE	"A"	ROOF CURB ACCESSORY
17, 20	1'-2" [356.0] 2'-0" [610.0]	CRRFCURB047A00 CRRFCURB048A00



- NOTES:
- 1 ROOF CURB ACCESSORY IS SHIPPED UNASSEMBLED.
 - 2 DIMENSIONS IN () ARE IN MILLIMETERS.
 - 3 ROOF CURB GALVANIZED STEEL.
 - 4 ATTACH DUCTWORK TO CURB (FLANGES ON DUCT REST ON CURB)
 - 5 SERVICE CLEARANCE 4 FT ON EACH SIDE

➔ DIRECTION OF AIR FLOW



MAX CURB LEVELING TOLERANCES

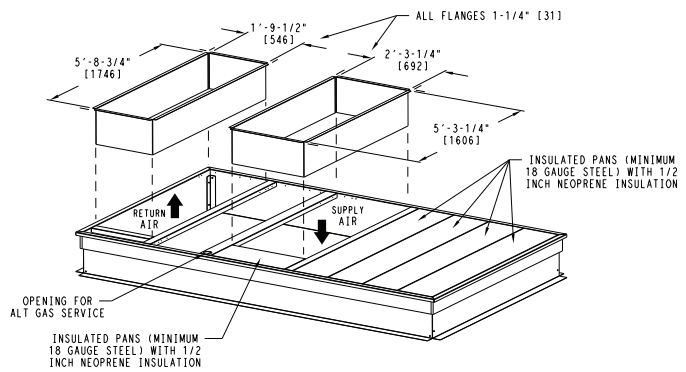
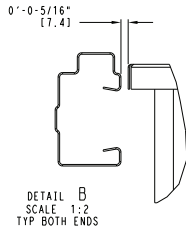
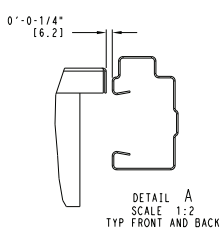
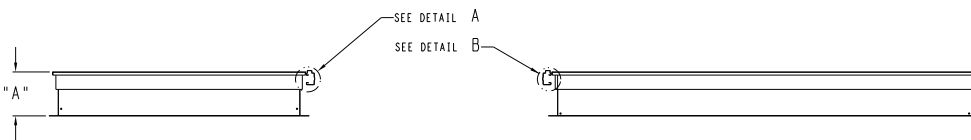
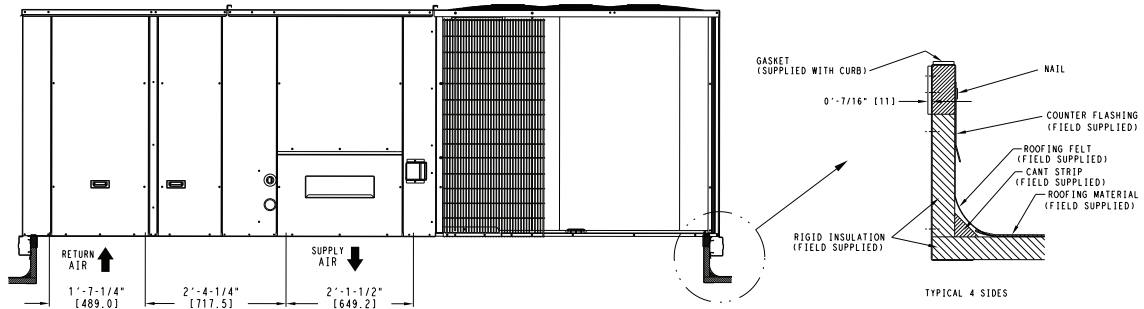


Fig. 9 - Roof Curb Details 50LC*17-20

C13055

CURBS & WEIGHTS DIMENSIONS (cont.)

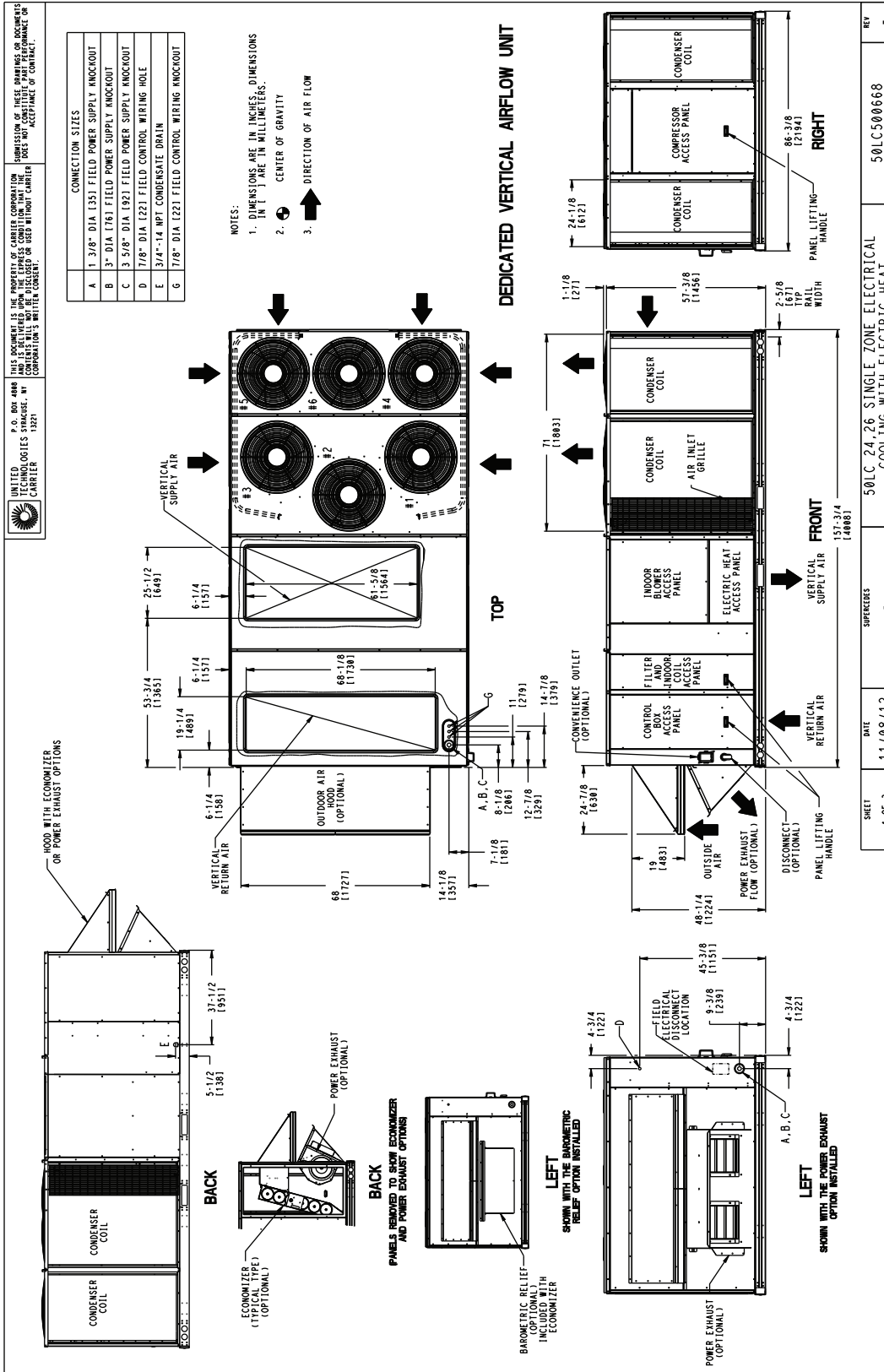


Fig. 10 - Dimensions 50LC*24, 26

CURBS & WEIGHTS DIMENSIONS (cont.)

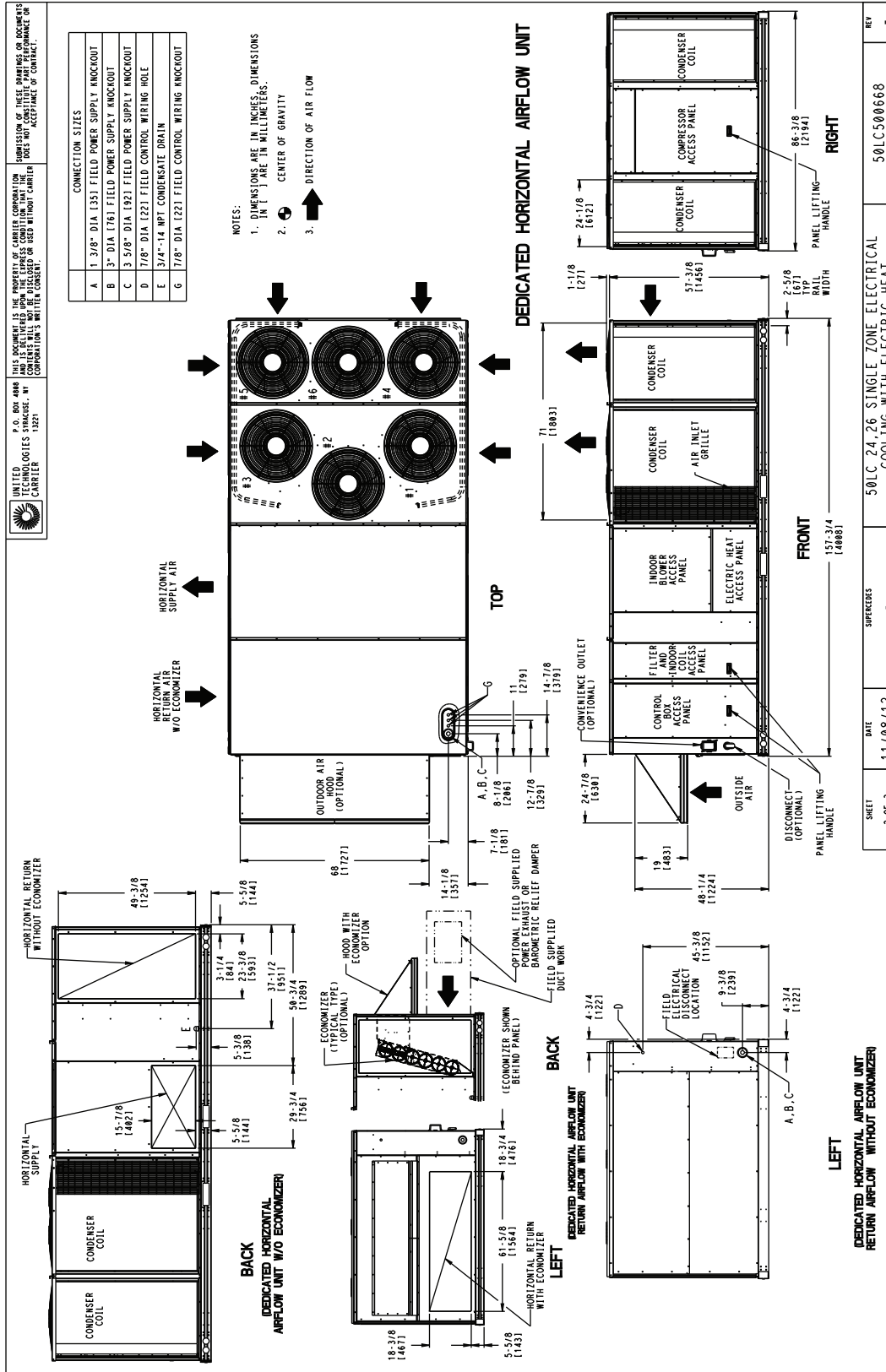


Fig. 11 - Dimensions 50LC*24, 26

CURBS & WEIGHTS DIMENSIONS (cont.)

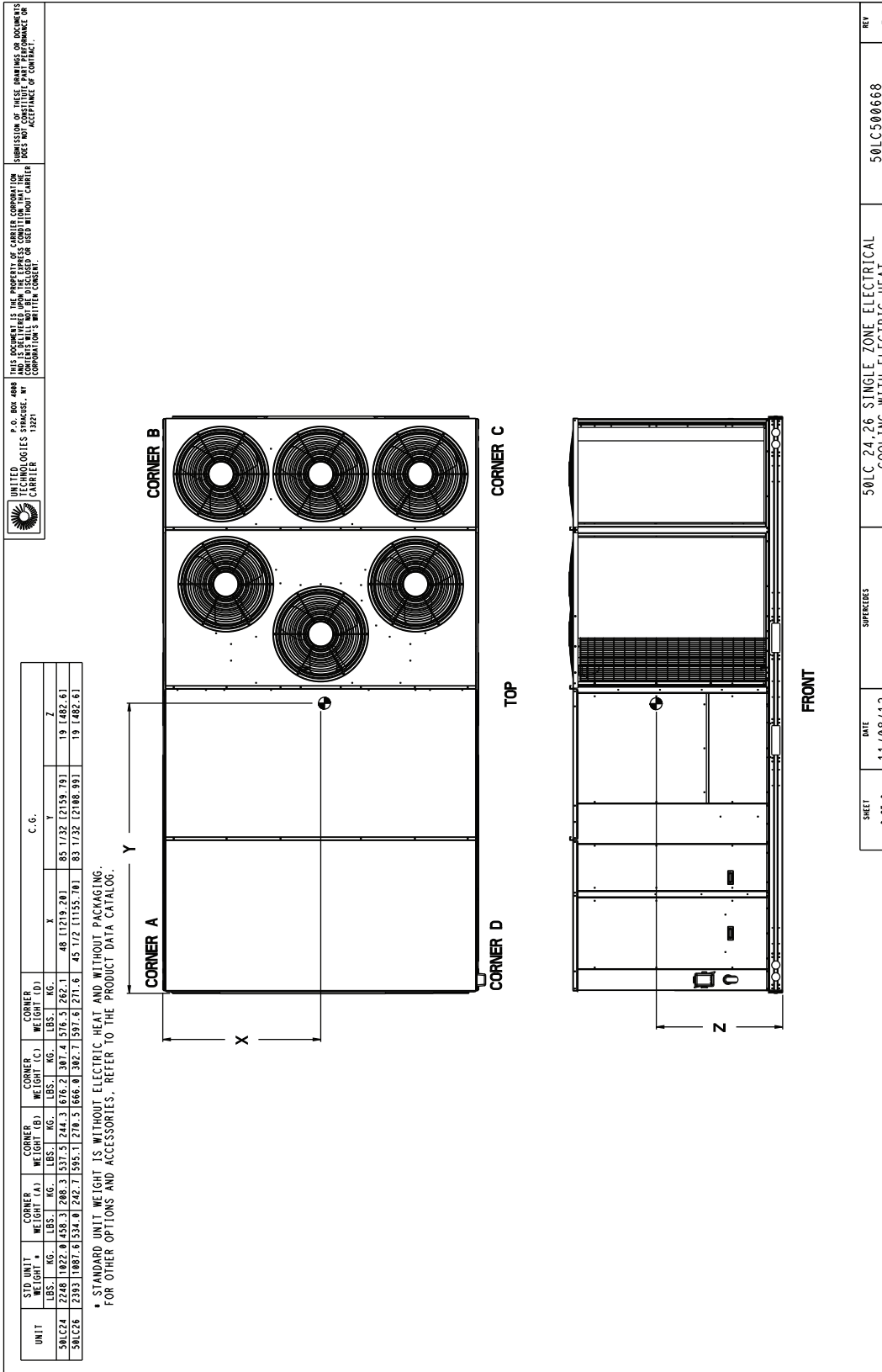
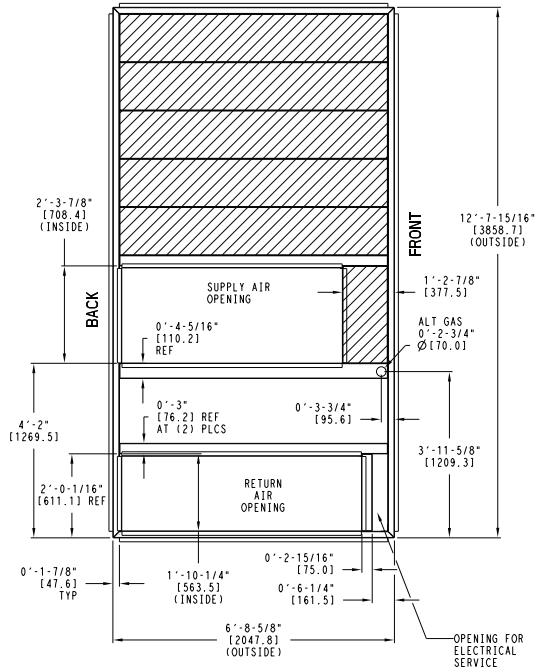


Fig. 12 - Dimensions 50LC*24, 26

C13043

CURBS & WEIGHTS DIMENSIONS (cont.)

UNIT SIZE	"A"	ROOF CURB ACCESSORY
24, 26	1'-2" [356.0] 2'-0" [610.0]	CRRFCURB049A00 CRRFCURB050A00



- NOTES:
- 1 ROOF CURB ACCESSORY IS SHIPPED UNASSEMBLED.
 - 2 BOLT HEADS TO BE ON INSIDE OF FLANGE. CLEARANCE IS (11) 0-0-7/16" TYP ALL CORNERS.
 - 3 DIMENSIONS IN () ARE IN MILLIMETERS.
 - 4 ROOF CURB GALVANIZED STEEL.
 - 5 ATTACH DUCTWORK TO CURB (FLANGES ON DUCT REST ON CURB)
 - 6 SERVICE CLEARANCE 4 ft ON EACH SIDE
 - 7 GAS SERVICE PLATE IS PART OF A SEPARATELY SHIPPED ACCESSORY PACKAGE.
 - 8 GAS SERVICE PLATE CAN BE USED WITH EITHER ACCESSORY ROOFCURB.
- ➔ DIRECTION OF AIR FLOW

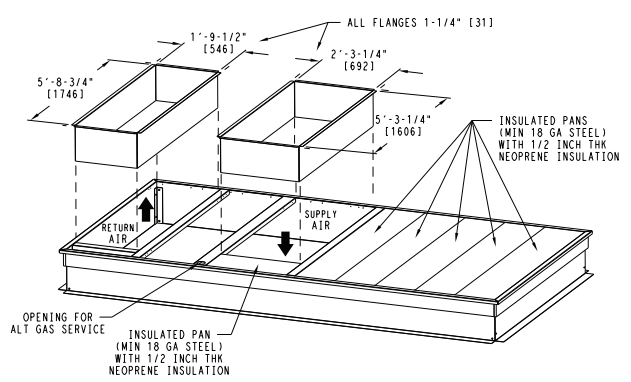
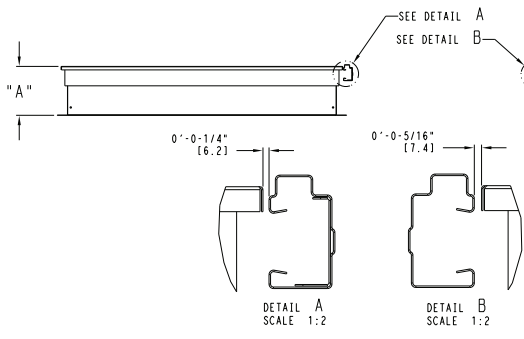
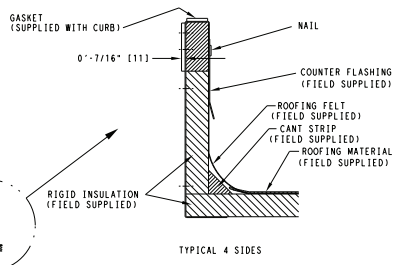
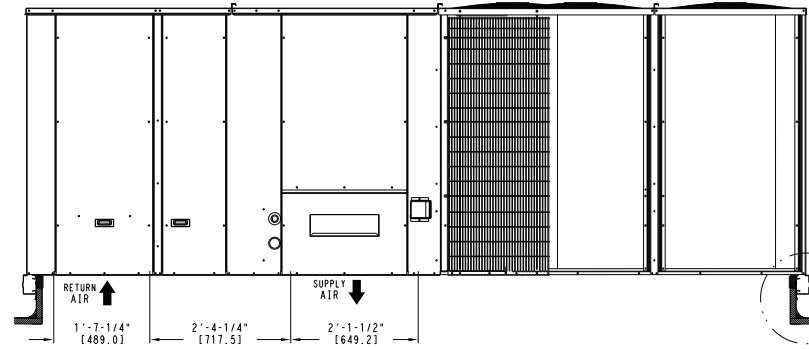
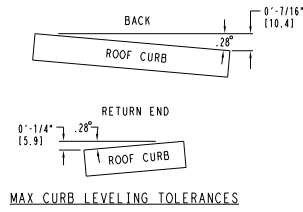


Fig. 13 - Roof Curb Details 50LC*24, 26

C13056

OPTIONS & ACCESSORY WEIGHTS

OPTION / ACCESSORY	WEIGHTS in LBS				
	50LC*14	50LC*17	50LC*20	50LC*24	50LC*26
Low Electric Heat	85	85	85	85	85
Medium Electric Heat	100	100	100	100	100
High Electric Heat	100	100	100	100	100
Return Smoke Detector	5	5	5	5	5
Supply Smoke Detector	5	5	5	5	5
RA & SA Smoke Detector	10	10	10	10	10
CO2 sensor	5	5	5	5	5
RA Smoke Detector & CO2	10	10	10	10	10
SA Smoke Detector & CO2	10	10	10	10	10
RA & SA Smoke Detector & CO2	15	15	15	15	15
Medium Static Option	5	6	6	10	10
High Static Option	11	16	16	20	20
Cu/Cu Cond & Al/Cu Evap	28	34	34	34	34
Cu/Cu Cond & Cu/Cu Evap	53	64	64	64	64
Al/Cu Cond & Al/Cu Evap + Hail Guard	60	150	150	150	150
Precoat Al/Cu Cond & Al/Cu Evap + Hail Guard	60	150	150	150	150
Ecoat Al/Cu Cond & Al/Cu Evap + Hail Guard	60	150	150	150	150
Ecoat Al/Cu Cond & Ecoat Al/Cu Evap + Hail Guard	60	150	150	150	150
Cu/Cu Cond & Al/Cu Evap + Hail Guard	88	184	184	184	184
Cu/Cu Cond & Cu/Cu Evap + Hail Guard	113	214	214	214	214
Temp Ultra Low Leak Econo w/Baro Relief	246	246	246	246	246
Temp Ultra Low Leak Econo w/PE (cent) Power Exhaust	371	371	371	371	371
Enthalpy Ultra Low Leak Econo w/Baro Relief	246	246	246	246	246
Enthalpy Ultra Low Leak Econo w/PE (cent) Power Exhaust	371	371	371	371	371
Unpowered Convenience Outlet	5	5	5	5	5
Powered Convenience outlet	35	35	35	35	35
Hinged Panels	5	5	5	5	5
Hinged Panels with Unpowered CO	10	10	10	10	10
Hinged Panels with Powered CO	40	40	40	40	40
HACR Breaker	10	10	10	10	10
Non-Fused Disconnect	15	15	15	15	15

APPLICATION DATA

Min operating ambient temp (cooling):

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

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

Max operating ambient temp (cooling):

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

Min and max airflow (cooling mode):

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

Airflow:

All units are draw-through in cooling mode.

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.

Table 10 – COOLING CAPACITIES - FIRST STAGE, PART LOAD

12.5 TONS

14 SIZE				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
2000	EA (wB)	58	THC	58.0	58.0	66.0	54.1	54.1	61.9	50.2	50.2	57.6	46.0	46.0	53.1	41.7	41.7	48.6	
			SHC	49.9	58.0	66.0	46.3	54.1	61.9	42.7	50.2	57.6	38.9	46.0	53.1	35.0	41.7	48.6	
		62	THC	58.8	58.8	67.6	54.4	54.4	64.4	50.3	50.3	60.3	46.1	46.1	55.7	41.8	41.8	50.9	
			SHC	46.7	57.1	67.6	43.7	54.0	64.4	40.3	50.3	60.3	36.7	46.1	55.7	32.8	41.8	50.9	
		67	THC	65.8	65.8	65.8	60.9	60.9	60.9	56.1	56.1	56.1	50.9	50.9	50.9	45.6	45.6	46.8	
			SHC	37.5	48.1	58.7	34.7	45.2	55.8	31.8	42.3	52.8	28.8	39.3	49.8	25.7	36.3	46.8	
	72	THC	73.9	73.9	73.9	68.8	68.8	68.8	63.6	63.6	63.6	58.1	58.1	58.1	52.5	52.5	52.5		
		SHC	28.1	38.7	49.3	25.2	35.8	46.4	22.3	32.9	43.5	19.3	29.9	40.6	16.4	26.9	37.5		
	76	THC	-	80.9	80.9	-	75.5	75.5	-	69.9	69.9	-	64.2	64.2	-	58.2	58.2		
		SHC	-	31.0	41.7	-	28.1	38.8	-	25.3	35.9	-	22.2	33.0	-	19.3	29.9		
	2350	EA (wB)	58	THC	61.8	61.8	70.4	57.8	57.8	66.0	53.6	53.6	61.4	49.2	49.2	56.7	44.7	44.7	51.8
				SHC	53.3	61.8	70.4	49.6	57.8	66.0	45.7	53.6	61.4	41.7	49.2	56.7	37.6	44.7	51.8
62			THC	61.9	61.9	73.3	57.9	57.9	68.8	53.7	53.7	64.2	49.3	49.3	59.3	44.8	44.8	54.2	
			SHC	50.6	61.9	73.3	46.9	57.9	68.8	43.2	53.7	64.2	39.3	49.3	59.3	35.3	44.8	54.2	
67			THC	67.8	67.8	67.8	62.8	62.8	62.8	57.7	57.7	59.4	52.5	52.5	56.4	47.0	47.0	53.1	
			SHC	40.8	53.0	65.3	37.8	50.1	62.4	34.9	47.1	59.4	31.9	44.1	56.4	28.8	41.0	53.1	
72		THC	76.1	76.1	76.1	70.7	70.7	70.7	65.2	65.2	65.2	59.6	59.6	59.6	53.7	53.7	53.7		
		SHC	29.5	41.9	54.3	26.6	39.0	51.4	23.7	36.1	48.4	20.8	33.1	45.4	17.6	30.0	42.3		
76		THC	-	83.1	83.1	-	77.4	77.4	-	71.7	71.7	-	65.7	65.7	-	59.6	59.6		
		SHC	-	32.9	45.3	-	29.9	42.4	-	27.0	39.4	-	24.0	36.4	-	21.0	33.3		
2700		EA (wB)	58	THC	65.0	65.0	73.9	60.8	60.8	69.3	56.5	56.5	64.5	51.9	51.9	59.6	47.1	47.1	54.4
				SHC	56.2	65.0	73.9	52.3	60.8	69.3	48.3	56.5	64.5	44.1	51.9	59.6	39.8	47.1	54.4
	62		THC	65.1	65.1	77.0	60.8	60.8	72.2	56.5	56.5	67.4	51.9	51.9	62.3	47.2	47.2	56.9	
			SHC	53.3	65.1	77.0	49.5	60.8	72.2	45.6	56.5	67.4	41.5	51.9	62.3	37.3	47.2	56.9	
	67		THC	69.3	69.3	71.8	64.3	64.3	68.7	59.0	59.0	65.6	53.6	53.6	62.4	48.2	48.2	59.1	
			SHC	43.8	57.8	71.8	40.9	54.8	68.7	37.8	51.7	65.6	34.7	48.6	62.4	31.5	45.2	59.1	
	72	THC	77.6	77.6	77.6	72.1	72.1	72.1	66.5	66.5	66.5	60.7	60.7	60.7	54.7	54.7	54.7		
		SHC	30.9	45.0	59.1	28.0	42.0	56.1	25.0	39.0	53.0	21.9	36.0	50.0	18.9	32.9	46.9		
	76	THC	-	84.6	84.6	-	78.8	78.8	-	72.9	72.9	-	66.9	66.9	-	60.5	60.5		
		SHC	-	34.5	48.7	-	31.6	45.7	-	28.6	42.7	-	25.5	39.7	-	22.4	36.5		
	3050	EA (wB)	58	THC	67.8	67.8	76.9	63.3	63.3	72.2	58.8	58.8	67.2	54.0	54.0	62.0	49.0	49.0	56.6
				SHC	58.6	67.8	76.9	54.5	63.3	72.2	50.3	58.8	67.2	46.0	54.0	62.0	41.5	49.0	56.6
62			THC	67.9	67.9	80.0	63.4	63.4	75.2	58.8	58.8	70.1	54.1	54.1	64.7	49.1	49.1	59.3	
			SHC	55.6	67.9	80.0	51.7	63.4	75.2	47.6	58.8	70.1	43.4	54.1	64.7	39.0	49.1	59.3	
67			THC	70.6	70.6	77.8	65.4	65.4	74.7	60.2	60.2	71.4	54.8	54.8	68.0	49.4	49.4	63.7	
			SHC	46.7	62.2	77.8	43.7	59.2	74.7	40.6	56.0	71.4	37.3	52.7	68.0	33.8	48.8	63.7	
72		THC	78.8	78.8	78.8	73.2	73.2	73.2	67.5	67.5	67.5	61.5	61.5	61.5	55.5	55.5	55.5		
		SHC	32.2	47.9	63.7	29.3	44.9	60.6	26.2	41.8	57.5	23.1	38.8	54.5	20.0	35.7	51.3		
76		THC	-	85.9	85.9	-	80.0	80.0	-	73.9	73.9	-	67.7	67.7	-	61.3	61.3		
		SHC	-	36.1	51.9	-	33.2	48.8	-	30.1	45.8	-	27.0	42.7	-	23.9	39.6		
3350		EA (wB)	58	THC	69.7	69.7	79.1	65.1	65.1	74.2	60.5	60.5	69.0	55.6	55.6	63.8	50.5	50.5	58.3
				SHC	60.4	69.7	79.1	56.2	65.1	74.2	51.9	60.5	69.0	47.4	55.6	63.8	42.8	50.5	58.3
	62		THC	69.8	69.8	82.4	65.2	65.2	77.3	60.5	60.5	72.1	55.7	55.7	66.6	50.6	50.6	60.9	
			SHC	57.2	69.8	82.4	53.2	65.2	77.3	49.0	60.5	72.1	44.8	55.7	66.6	40.3	50.6	60.9	
	67		THC	71.6	71.6	82.7	66.4	66.4	79.5	61.1	61.1	75.9	55.9	55.9	71.8	50.7	50.7	66.2	
			SHC	48.9	65.8	82.7	45.9	62.7	79.5	42.7	59.3	75.9	39.3	55.6	71.8	35.2	50.7	66.2	
	72	THC	79.6	79.6	79.6	73.9	73.9	73.9	68.2	68.2	68.2	62.1	62.1	62.1	56.0	56.0	56.0		
		SHC	33.2	50.3	67.4	30.2	47.3	64.4	27.1	44.2	61.2	24.1	41.1	58.1	21.0	37.9	54.9		
	76	THC	-	86.8	86.8	-	80.7	80.7	-	74.6	74.6	-	68.3	68.3	-	61.8	61.8		
		SHC	-	37.3	54.5	-	34.3	51.5	-	31.3	48.4	-	28.2	45.2	-	25.1	42.0		

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

Table 11 – COOLING CAPACITIES - SECOND STAGE, PART LOAD

12.5 TONS

14 SIZE				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
3000 Cfm	EA (wB)	58	THC	76.5	76.5	88.1	69.1	69.1	80.2	61.5	61.5	72.2	53.7	53.7	63.9	45.6	45.6	55.3	
			SHC	64.9	76.5	88.1	57.9	69.1	80.2	50.8	61.5	72.2	43.5	53.7	63.9	36.0	45.6	55.3	
		62	THC	76.6	76.6	92.1	69.2	69.2	84.1	61.6	61.6	75.9	53.8	53.8	67.5	45.7	45.7	58.7	
			SHC	61.2	76.6	92.1	54.3	69.2	84.1	47.3	61.6	75.9	40.2	53.8	67.5	32.9	45.7	58.7	
		67	THC	86.9	86.9	86.9	78.0	78.0	78.0	68.9	68.9	68.9	59.7	59.7	61.6	50.2	50.2	55.3	
			SHC	48.4	64.3	80.0	42.2	58.1	74.0	36.1	52.0	67.9	29.9	45.7	61.6	23.6	39.5	55.3	
	72	THC	99.1	99.1	99.1	89.8	89.8	89.8	80.2	80.2	80.2	70.5	70.5	70.5	60.5	60.5	60.5		
		SHC	35.0	51.0	67.0	29.0	44.9	60.8	22.8	38.8	54.7	16.7	32.6	48.5	10.4	26.3	42.2		
	76	THC	-	109.5	109.5	-	99.8	99.8	-	90.0	90.0	-	79.8	79.8	-	69.2	69.2		
		SHC	-	40.2	56.3	-	34.1	50.2	-	28.0	44.1	-	21.8	37.8	-	15.5	31.6		
	3500 Cfm	EA (wB)	58	THC	82.1	82.1	94.3	74.3	74.3	86.0	66.3	66.3	77.5	58.1	58.1	68.7	49.7	49.7	59.8
				SHC	69.9	82.1	94.3	62.6	74.3	86.0	55.1	66.3	77.5	47.5	58.1	68.7	39.6	49.7	59.8
62			THC	82.2	82.2	98.5	74.4	74.4	90.0	66.4	66.4	81.3	58.2	58.2	72.4	49.8	49.8	63.3	
			SHC	66.0	82.2	98.5	58.8	74.4	90.0	51.5	66.4	81.3	44.0	58.2	72.4	36.3	49.8	63.3	
67			THC	89.6	89.6	89.8	80.4	80.4	83.6	71.2	71.2	77.3	61.7	61.7	70.9	52.0	52.0	64.4	
			SHC	53.1	71.5	89.8	46.9	65.2	83.6	40.7	59.0	77.3	34.3	52.7	70.9	27.9	46.1	64.4	
72		THC	101.8	101.8	101.8	92.2	92.2	92.2	82.5	82.5	82.5	72.3	72.3	72.3	62.0	62.0	62.0		
		SHC	37.3	55.8	74.2	31.1	49.6	68.1	24.9	43.4	61.8	18.6	37.1	55.5	12.3	30.6	49.0		
76		THC	-	112.4	112.4	-	102.4	102.4	-	92.2	92.2	-	81.7	81.7	-	70.9	70.9		
		SHC	-	43.0	61.6	-	36.8	55.4	-	30.6	49.1	-	24.3	42.8	-	17.9	36.4		
4000 Cfm		EA (wB)	58	THC	86.7	86.7	99.3	78.6	78.6	90.7	70.3	70.3	81.9	61.8	61.8	72.7	53.0	53.0	63.4
				SHC	74.1	86.7	99.3	66.5	78.6	90.7	58.7	70.3	81.9	50.8	61.8	72.7	42.6	53.0	63.4
	62		THC	86.8	86.8	103.6	78.7	78.7	94.9	70.4	70.4	85.9	61.9	61.9	76.6	53.1	53.1	67.0	
			SHC	69.9	86.8	103.6	62.5	78.7	94.9	54.9	70.4	85.9	47.2	61.9	76.6	39.2	53.1	67.0	
	67		THC	91.7	91.7	99.2	82.5	82.5	92.7	73.0	73.0	86.3	63.4	63.4	79.6	53.6	53.6	72.5	
			SHC	57.6	78.4	99.2	51.3	72.1	92.7	44.9	65.6	86.3	38.5	59.0	79.6	31.9	52.2	72.5	
	72	THC	103.9	103.9	103.9	94.1	94.1	94.1	84.1	84.1	84.1	73.8	73.8	73.8	63.3	63.3	63.3		
		SHC	39.4	60.3	81.2	33.2	54.0	75.0	26.8	47.7	68.6	20.5	41.3	62.2	13.9	34.8	55.7		
	76	THC	-	114.6	114.6	-	104.3	104.3	-	93.9	93.9	-	83.2	83.2	-	72.2	72.2		
		SHC	-	45.5	66.6	-	39.3	60.4	-	33.0	53.9	-	26.5	47.5	-	20.1	41.0		
	4500 Cfm	EA (wB)	58	THC	90.6	90.6	103.5	82.2	82.2	94.7	73.6	73.6	85.5	64.8	64.8	76.1	55.8	55.8	66.5
				SHC	77.5	90.6	103.5	69.7	82.2	94.7	61.7	73.6	85.5	53.5	64.8	76.1	45.0	55.8	66.5
62			THC	90.7	90.7	108.0	82.3	82.3	99.0	73.7	73.7	89.6	64.9	64.9	80.0	55.9	55.9	70.1	
			SHC	73.3	90.7	108.0	65.6	82.3	99.0	57.8	73.7	89.6	49.8	64.9	80.0	41.5	55.9	70.1	
67			THC	93.6	93.6	107.9	84.2	84.2	101.3	74.8	74.8	94.5	65.3	65.3	87.0	56.2	56.2	76.8	
			SHC	61.8	84.9	107.9	55.4	78.4	101.3	48.9	71.8	94.5	42.1	64.5	87.0	34.4	55.6	76.8	
72		THC	105.5	105.5	105.5	95.6	95.6	95.6	85.4	85.4	85.4	74.9	74.9	74.9	64.3	64.3	64.3		
		SHC	41.2	64.5	87.9	34.9	58.2	81.5	28.6	51.9	75.2	22.1	45.3	68.6	15.6	38.8	62.0		
76		THC	-	116.2	116.2	-	105.9	105.9	-	95.2	95.2	-	84.2	84.2	-	73.0	73.0		
		SHC	-	47.9	71.3	-	41.5	64.9	-	35.2	58.5	-	28.8	52.0	-	22.1	45.3		
4950 Cfm		EA (wB)	58	THC	93.5	93.5	106.9	84.9	84.9	97.7	76.2	76.2	88.3	67.2	67.2	78.8	57.9	57.9	68.8
				SHC	80.2	93.5	106.9	72.2	84.9	97.7	64.1	76.2	88.3	55.7	67.2	78.8	47.0	57.9	68.8
	62		THC	93.6	93.6	111.4	85.1	85.1	102.1	76.3	76.3	92.5	67.3	67.3	82.7	58.0	58.0	72.5	
			SHC	75.9	93.6	111.4	68.1	85.1	102.1	60.1	76.3	92.5	51.9	67.3	82.7	43.4	58.0	72.5	
	67		THC	95.2	95.2	115.3	85.8	85.8	108.4	76.4	76.4	100.8	67.6	67.6	89.9	58.1	58.1	80.0	
			SHC	65.4	90.4	115.3	58.9	83.7	108.4	52.1	76.4	100.8	44.1	67.0	89.9	36.3	58.1	80.0	
	72	THC	106.7	106.7	106.7	96.6	96.6	96.6	86.3	86.3	86.3	75.8	75.8	75.8	64.9	64.9	67.6		
		SHC	42.9	68.3	93.7	36.5	61.9	87.3	30.1	55.5	80.8	23.6	48.9	74.3	17.1	42.3	67.6		
	76	THC	-	117.4	117.4	-	107.0	107.0	-	96.1	96.1	-	85.1	85.1	-	73.7	73.7		
		SHC	-	49.9	75.4	-	43.5	69.0	-	37.1	62.5	-	30.5	55.9	-	24.0	49.1		

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

Table 12 – COOLING CAPACITIES - THIRD STAGE, FULL LOAD

12.5 TONS

14 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	
3750 Cfm	EA (wB)	58	THC	127.7	127.7	145.1	120.8	120.8	137.6	113.6	113.6	129.6	106.0	106.0	121.3	98.0	98.0	112.6	
			SHC	110.4	127.7	145.1	104.0	120.8	137.6	97.5	113.6	129.6	90.6	106.0	121.3	83.5	98.0	112.6	
		62	THC	133.7	133.7	138.8	125.3	125.3	133.7	116.6	116.6	128.3	107.6	107.6	122.8	98.9	98.9	116.2	
			SHC	99.6	119.2	138.8	94.6	114.1	133.7	89.3	108.8	128.3	83.9	103.4	122.8	78.1	97.1	116.2	
		67	THC	148.2	148.2	148.2	139.2	139.2	139.2	129.8	129.8	129.8	120.1	120.1	120.1	110.0	110.0	110.0	
			SHC	81.6	101.3	121.0	76.5	96.2	115.9	71.4	91.1	110.8	66.1	85.8	105.4	60.6	80.3	99.9	
	72	THC	164.3	164.3	164.3	154.8	154.8	154.8	144.9	144.9	144.9	134.6	134.6	134.6	123.6	123.6	123.6		
		SHC	63.2	83.0	102.9	58.2	78.0	97.8	53.1	72.9	92.6	47.9	67.7	87.5	42.5	62.3	82.0		
	76	THC	-	177.9	177.9	-	168.0	168.0	-	157.7	157.7	-	146.6	146.6	-	-	-		
		SHC	-	68.0	88.0	-	63.1	83.2	-	58.0	78.1	-	52.8	72.9	-	-	-		
	4400 Cfm	EA (wB)	58	THC	136.2	136.2	154.5	128.8	128.8	146.4	121.1	121.1	138.0	113.0	113.0	129.1	104.5	104.5	119.8
				SHC	117.9	136.2	154.5	111.2	128.8	146.4	104.1	121.1	138.0	96.8	113.0	129.1	89.1	104.5	119.8
62			THC	138.8	138.8	154.1	130.3	130.3	148.6	121.9	121.9	142.2	113.1	113.1	134.7	104.6	104.6	125.2	
			SHC	108.9	131.5	154.1	103.5	126.1	148.6	97.9	120.0	142.2	91.6	113.1	134.7	84.1	104.6	125.2	
67			THC	152.9	152.9	152.9	143.5	143.5	143.5	133.8	133.8	133.8	123.6	123.6	123.6	113.1	113.1	113.1	
			SHC	87.7	110.5	133.4	82.5	105.4	128.2	77.2	100.0	122.9	71.9	94.7	117.5	66.4	89.1	111.9	
72		THC	169.1	169.1	169.1	159.2	159.2	159.2	148.9	148.9	148.9	138.2	138.2	138.2	126.8	126.8	126.8		
		SHC	66.0	89.0	111.9	60.9	83.9	106.9	55.8	78.7	101.7	50.5	73.4	96.3	45.0	68.0	90.9		
76		THC	-	182.8	182.8	-	172.5	172.5	-	161.8	161.8	-	150.5	150.5	-	-	-		
		SHC	-	71.5	94.9	-	66.4	89.8	-	61.3	84.6	-	56.1	79.4	-	-	-		
5000 Cfm		EA (wB)	58	THC	142.6	142.6	161.8	134.8	134.8	153.2	126.8	126.8	144.3	118.3	118.3	135.0	109.4	109.4	125.3
				SHC	123.6	142.6	161.8	116.5	134.8	153.2	109.2	126.8	144.3	101.5	118.3	135.0	93.5	109.4	125.3
	62		THC	143.2	143.2	166.7	135.0	135.0	159.5	126.9	126.9	150.4	118.5	118.5	140.8	109.6	109.6	130.8	
			SHC	116.6	141.7	166.7	110.5	135.0	159.5	103.4	126.9	150.4	96.0	118.5	140.8	88.3	109.6	130.8	
	67		THC	156.1	156.1	156.1	146.5	146.5	146.5	136.5	136.5	136.5	126.3	126.3	128.1	115.4	115.4	122.4	
			SHC	92.8	118.6	144.3	87.7	113.4	139.0	82.3	107.9	133.7	76.8	102.5	128.1	71.3	96.8	122.4	
	72	THC	172.4	172.4	172.4	162.2	162.2	162.2	151.6	151.6	151.6	140.6	140.6	140.6	129.1	129.1	129.1		
		SHC	68.3	94.2	120.0	63.2	89.0	114.9	58.0	83.8	109.6	52.7	78.4	104.1	47.1	72.8	98.6		
	76	THC	-	186.2	186.2	-	175.7	175.7	-	164.7	164.7	-	153.2	153.2	-	-	-		
		SHC	-	74.3	100.5	-	69.3	95.5	-	64.2	90.2	-	58.8	84.9	-	-	-		
	5650 Cfm	EA (wB)	58	THC	148.5	148.5	168.3	140.3	140.3	159.3	131.9	131.9	150.1	123.0	123.0	140.4	113.9	113.9	130.3
				SHC	128.8	148.5	168.3	121.4	140.3	159.3	113.7	131.9	150.1	105.8	123.0	140.4	97.4	113.9	130.3
62			THC	148.7	148.7	175.1	140.5	140.5	165.8	132.0	132.0	156.3	123.2	123.2	146.3	114.0	114.0	135.9	
			SHC	122.3	148.7	175.1	115.1	140.5	165.8	107.7	132.0	156.3	100.0	123.2	146.3	92.0	114.0	135.9	
67			THC	159.0	159.0	159.0	149.3	149.3	150.2	139.0	139.0	144.8	128.5	128.5	139.1	117.6	117.6	133.2	
			SHC	98.2	126.9	155.6	92.9	121.6	150.2	87.6	116.1	144.8	82.0	110.6	139.1	76.3	104.8	133.2	
72		THC	175.2	175.2	175.2	164.8	164.8	164.8	154.1	154.1	154.1	142.7	142.7	142.7	130.9	130.9	130.9		
		SHC	70.6	99.5	128.3	65.5	94.3	123.1	60.3	89.0	117.8	54.8	83.6	112.3	49.2	78.0	106.7		
76		THC	-	189.2	189.2	-	178.3	178.3	-	167.1	167.1	-	155.4	155.4	-	-	-		
		SHC	-	77.2	106.5	-	72.2	101.3	-	67.0	96.0	-	61.6	90.7	-	-	-		
6250 Cfm		EA (wB)	58	THC	153.1	153.1	173.4	144.7	144.7	164.2	135.9	135.9	154.5	126.8	126.8	144.6	117.3	117.3	134.1
				SHC	132.8	153.1	173.4	125.2	144.7	164.2	117.3	135.9	154.5	109.0	126.8	144.6	100.4	117.3	134.1
	62		THC	153.2	153.2	180.3	144.9	144.9	170.9	136.0	136.0	161.0	126.9	126.9	150.6	117.4	117.4	139.8	
			SHC	126.2	153.2	180.3	118.9	144.9	170.9	111.2	136.0	161.0	103.3	126.9	150.6	95.0	117.4	139.8	
	67		THC	161.3	161.3	165.8	151.3	151.3	160.3	141.0	141.0	154.6	130.4	130.4	148.8	119.4	119.4	142.5	
			SHC	103.0	134.4	165.8	97.6	129.0	160.3	92.1	123.4	154.6	86.6	117.7	148.8	80.7	111.6	142.5	
	72	THC	177.4	177.4	177.4	166.8	166.8	166.8	155.8	155.8	155.8	144.3	144.3	144.3	132.3	132.3	132.3		
		SHC	72.6	104.2	135.8	67.5	99.0	130.6	62.2	93.7	125.2	56.7	88.1	119.6	51.1	82.6	114.0		
	76	THC	-	191.4	191.4	-	180.4	180.4	-	169.0	169.0	-	157.1	157.1	-	-	-		
		SHC	-	79.9	111.7	-	74.7	106.6	-	69.4	101.3	-	64.1	95.8	-	-	-		

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

Table 13 – COOLING CAPACITIES - FIRST STAGE, PART LOAD

15 TONS

17 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	
2550	EA (wB)	58	THC	119.0	119.0	132.0	71.3	71.3	80.9	67.2	67.2	76.3	62.7	62.7	71.5	57.8	57.8	66.1	
			SHC	105.9	119.0	132.0	61.6	71.3	80.9	57.9	67.2	76.3	53.8	62.7	71.5	49.4	57.8	66.1	
		62	THC	75.3	75.3	88.4	71.4	71.4	84.2	67.3	67.3	79.6	62.8	62.8	74.5	57.9	57.9	69.0	
			SHC	61.7	75.1	88.4	58.5	71.4	84.2	54.9	67.3	79.6	51.0	62.8	74.5	46.8	57.9	69.0	
		67	THC	83.4	83.4	83.4	78.5	78.5	78.5	107.8	107.8	119.8	67.7	67.7	68.4	61.5	61.5	65.3	
			SHC	49.5	63.2	76.7	47.0	60.5	74.1	95.8	107.8	119.8	41.3	54.9	68.4	38.2	51.8	65.3	
	72	THC	93.0	93.0	93.0	87.8	87.8	87.8	82.3	82.3	82.3	76.2	76.2	76.2	69.7	69.7	69.7		
		SHC	37.0	50.6	64.3	34.3	48.0	61.7	31.7	45.3	59.0	28.8	42.4	56.1	25.7	39.4	53.0		
	76	THC	-	101.4	101.4	-	96.0	96.0	-	90.2	90.2	-	83.9	83.9	-	76.9	76.9		
		SHC	-	40.3	54.0	-	37.7	51.5	-	35.1	48.8	-	32.3	45.9	-	29.3	42.9		
	2950	EA (wB)	58	THC	79.2	79.2	89.7	75.2	75.2	85.3	208.3	208.3	208.3	66.1	66.1	75.3	121.4	121.4	121.4
				SHC	68.7	79.2	89.7	65.0	75.2	85.3	65.0	80.8	96.6	56.8	66.1	75.3	34.7	50.4	66.1
62			THC	79.3	79.3	93.3	75.3	75.3	88.8	70.9	70.9	83.9	66.2	66.2	78.5	61.0	61.0	72.6	
			SHC	65.3	79.3	93.3	61.8	75.3	88.8	58.0	70.9	83.9	53.8	66.2	78.5	49.4	61.0	72.6	
67			THC	85.4	85.4	85.4	80.4	80.4	81.8	75.1	75.1	79.1	69.2	69.2	76.1	63.0	63.0	72.8	
			SHC	53.2	68.9	84.5	50.6	66.2	81.8	47.9	63.5	79.1	44.9	60.5	76.1	41.7	57.3	72.8	
72		THC	95.2	95.2	95.2	89.9	89.9	89.9	84.0	84.0	84.0	77.9	77.9	77.9	71.1	71.1	71.1		
		SHC	38.6	54.3	70.1	36.0	51.7	67.5	33.2	48.9	64.6	30.3	46.0	61.8	27.3	43.0	58.7		
76		THC	-	103.7	103.7	-	98.2	98.2	-	92.0	92.0	-	85.5	85.5	-	78.4	78.4		
		SHC	-	42.4	58.2	-	39.9	55.7	-	37.1	52.9	-	34.3	50.1	-	31.3	47.1		
3400		EA (wB)	58	THC	83.1	83.1	94.0	78.9	78.9	89.4	74.3	74.3	84.3	69.3	69.3	78.9	63.9	63.9	72.9
				SHC	72.2	83.1	94.0	68.3	78.9	89.4	64.2	74.3	84.3	59.7	69.3	78.9	54.9	63.9	72.9
	62		THC	83.2	83.2	97.8	79.0	79.0	93.0	74.4	74.4	87.8	69.3	69.3	82.2	64.0	64.0	76.1	
			SHC	68.5	83.2	97.8	64.8	79.0	93.0	60.8	74.4	87.8	56.6	69.3	82.2	51.9	64.0	76.1	
	67		THC	87.3	87.3	92.9	82.2	82.2	90.2	76.7	76.7	87.3	70.8	70.8	84.1	64.5	64.5	80.6	
			SHC	57.2	75.1	92.9	54.5	72.3	90.2	51.7	69.5	87.3	48.7	66.4	84.1	45.4	63.0	80.6	
	72	THC	97.0	97.0	97.0	91.6	91.6	91.6	85.6	85.6	85.6	79.3	79.3	79.3	72.3	72.3	72.3		
		SHC	40.4	58.3	76.3	37.7	55.7	73.7	34.9	52.9	70.9	32.0	50.0	68.0	28.9	46.9	64.8		
	76	THC	-	105.6	105.6	-	99.9	99.9	-	93.7	93.7	-	87.0	87.0	-	79.7	79.7		
		SHC	-	44.7	62.9	-	42.0	60.3	-	39.3	57.4	-	36.4	54.5	-	33.3	51.5		
	3800	EA (wB)	58	THC	86.0	86.0	97.2	81.6	81.6	92.4	76.8	76.8	87.3	71.7	71.7	81.5	66.1	66.1	75.4
				SHC	74.7	86.0	97.2	70.7	81.6	92.4	66.4	76.8	87.3	61.8	71.7	81.5	56.7	66.1	75.4
62			THC	86.1	86.1	101.1	81.7	81.7	96.2	76.9	76.9	90.8	71.8	71.8	84.9	66.2	66.2	78.6	
			SHC	71.0	86.1	101.1	67.2	81.7	96.2	63.0	76.9	90.8	58.6	71.8	84.9	53.7	66.2	78.6	
67			THC	88.6	88.6	100.1	83.5	83.5	97.3	78.0	78.0	94.2	72.2	72.2	90.7	66.3	66.3	84.6	
			SHC	60.5	80.3	100.1	57.8	77.6	97.3	54.9	74.6	94.2	51.8	71.2	90.7	47.6	66.1	84.6	
72		THC	98.3	98.3	98.3	92.7	92.7	92.7	86.7	86.7	86.7	80.1	80.1	80.1	73.1	73.1	73.1		
		SHC	41.7	61.8	81.8	39.1	59.1	79.2	36.3	56.4	76.3	33.3	53.3	73.3	30.2	50.2	70.2		
76		THC	-	107.0	107.0	-	101.2	101.2	-	94.9	94.9	-	87.9	87.9	-	80.5	80.5		
		SHC	-	46.5	66.7	-	43.9	64.1	-	41.1	61.3	-	38.2	58.3	-	35.1	55.3		
4250		EA (wB)	58	THC	88.7	88.7	100.3	84.2	84.2	95.4	79.3	79.3	90.0	73.9	73.9	84.0	68.2	68.2	77.7
				SHC	77.1	88.7	100.3	73.0	84.2	95.4	68.6	79.3	90.0	63.9	73.9	84.0	58.6	68.2	77.7
	62		THC	88.8	88.8	104.3	84.3	84.3	99.3	79.4	79.4	93.6	74.0	74.0	87.6	68.3	68.3	81.0	
			SHC	73.3	88.8	104.3	69.4	84.3	99.3	65.1	79.4	93.6	60.5	74.0	87.6	55.5	68.3	81.0	
	67		THC	90.1	90.1	107.7	84.9	84.9	104.6	79.6	79.6	100.7	74.1	74.1	94.4	68.3	68.3	87.5	
			SHC	64.2	86.0	107.7	61.3	83.0	104.6	58.1	79.5	100.7	53.8	74.1	94.4	49.2	68.3	87.5	
	72	THC	99.4	99.4	99.4	93.7	93.7	93.7	87.7	87.7	87.7	81.0	81.0	81.0	73.9	73.9	76.1		
		SHC	43.3	65.5	87.8	40.7	62.9	85.1	37.8	60.1	82.3	34.8	57.0	79.3	31.7	53.8	76.1		
	76	THC	-	108.1	108.1	-	102.3	102.3	-	95.8	95.8	-	88.8	88.8	-	81.3	81.3		
		SHC	-	48.6	70.9	-	45.9	68.3	-	43.1	65.5	-	40.2	62.5	-	37.1	59.4		

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

Table 14 – COOLING CAPACITIES - SECOND STAGE, PART LOAD

15 TONS

17 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	
3700 Cfm	EA (wB)	58	THC	110.2	110.2	124.5	104.9	104.9	118.7	99.6	99.6	112.8	94.2	94.2	106.7	88.3	88.3	100.2	
			SHC	95.8	110.2	124.5	91.2	104.9	118.7	86.5	99.6	112.8	81.6	94.2	106.7	76.4	88.3	100.2	
		62	THC	110.4	110.4	129.5	105.1	105.1	123.4	99.7	99.7	117.4	94.3	94.3	111.1	88.4	88.4	104.3	
			SHC	91.3	110.4	129.5	86.7	105.1	123.4	82.2	99.7	117.4	77.5	94.3	111.1	72.5	88.4	104.3	
		67	THC	120.7	120.7	120.7	113.8	113.8	113.8	107.0	107.0	107.0	100.0	100.0	102.4	92.6	92.6	99.0	
			SHC	73.0	92.6	112.1	69.8	89.3	108.9	66.6	86.2	105.7	63.4	82.9	102.4	60.1	79.6	99.0	
	72	THC	133.5	133.5	133.5	125.9	125.9	125.9	118.5	118.5	118.5	110.9	110.9	110.9	102.9	102.9	102.9		
		SHC	54.2	73.9	93.6	51.0	70.7	90.3	47.8	67.5	87.1	44.7	64.3	83.9	41.3	60.9	80.6		
	76	THC	-	144.5	144.5	-	136.4	136.4	-	128.3	128.3	-	120.2	120.2	-	111.8	111.8		
		SHC	-	58.6	78.5	-	55.4	75.3	-	52.3	72.1	-	49.0	68.8	-	45.8	65.5		
	4300 Cfm	EA (wB)	58	THC	115.8	115.8	130.8	110.2	110.2	124.5	104.4	104.4	118.2	98.6	98.6	111.7	92.4	92.4	104.8
				SHC	100.8	115.8	130.8	95.7	110.2	124.5	90.8	104.4	118.2	85.5	98.6	111.7	80.0	92.4	104.8
62			THC	115.9	115.9	136.0	110.3	110.3	129.5	104.6	104.6	122.9	98.8	98.8	116.2	92.5	92.5	109.1	
			SHC	95.9	115.9	136.0	91.1	110.3	129.5	86.2	104.6	122.9	81.2	98.8	116.2	76.0	92.5	109.1	
67			THC	123.5	123.5	123.5	116.3	116.3	120.0	109.3	109.3	116.7	102.1	102.1	113.3	94.6	94.6	109.7	
			SHC	78.3	100.8	123.3	75.0	97.5	120.0	71.7	94.2	116.7	68.4	90.9	113.3	64.9	87.4	109.7	
72		THC	136.3	136.3	136.3	128.4	128.4	128.4	120.6	120.6	120.6	112.8	112.8	112.8	104.6	104.6	104.6		
		SHC	56.5	79.2	101.9	53.1	75.9	98.5	49.9	72.6	95.3	46.7	69.3	92.0	43.4	66.0	88.6		
76		THC	-	147.4	147.4	-	139.0	139.0	-	130.7	130.7	-	122.4	122.4	-	113.7	113.7		
		SHC	-	61.5	84.4	-	58.2	81.0	-	55.0	77.8	-	51.8	74.6	-	48.5	71.2		
4900 Cfm		EA (wB)	58	THC	120.4	120.4	136.0	114.5	114.5	129.4	108.4	108.4	122.7	102.3	102.3	115.8	95.7	95.7	108.5
				SHC	104.9	120.4	136.0	99.5	114.5	129.4	94.2	108.4	122.7	88.7	102.3	115.8	83.0	95.7	108.5
	62		THC	120.6	120.6	141.4	114.6	114.6	134.5	108.5	108.5	127.5	102.4	102.4	120.5	95.8	95.8	112.9	
			SHC	99.8	120.6	141.4	94.7	114.6	134.5	89.5	108.5	127.5	84.3	102.4	120.5	78.8	95.8	112.9	
	67		THC	125.7	125.7	134.1	118.4	118.4	130.7	111.2	111.2	127.1	103.9	103.9	123.4	96.4	96.4	119.3	
			SHC	83.3	108.7	134.1	79.9	105.2	130.7	76.5	101.8	127.1	73.1	98.3	123.4	69.5	94.5	119.3	
	72	THC	138.5	138.5	138.5	130.3	130.3	130.3	122.3	122.3	122.3	114.3	114.3	114.3	105.9	105.9	105.9		
		SHC	58.5	84.1	109.8	55.2	80.8	106.5	52.0	77.5	103.2	48.7	74.3	99.8	45.3	70.9	96.4		
	76	THC	-	149.7	149.7	-	141.0	141.0	-	132.4	132.4	-	123.8	123.8	-	115.0	115.0		
		SHC	-	64.2	90.0	-	60.8	86.7	-	57.6	83.4	-	54.3	80.0	-	51.0	76.7		
	5550 Cfm	EA (wB)	58	THC	124.7	124.7	140.8	118.4	118.4	133.7	112.0	112.0	126.7	105.6	105.6	119.5	98.8	98.8	111.9
				SHC	108.6	124.7	140.8	103.0	118.4	133.7	97.4	112.0	126.7	91.7	105.6	119.5	85.6	98.8	111.9
62			THC	124.8	124.8	146.3	118.5	118.5	138.9	112.1	112.1	131.7	105.7	105.7	124.3	98.9	98.9	116.4	
			SHC	103.4	124.8	146.3	97.9	118.5	138.9	92.5	112.1	131.7	87.1	105.7	124.3	81.2	98.9	116.4	
67			THC	127.7	127.7	145.2	120.3	120.3	141.4	113.0	113.0	137.5	106.0	106.0	132.8	99.2	99.2	124.5	
			SHC	88.3	116.8	145.2	84.8	113.1	141.4	81.4	109.4	137.5	77.5	105.2	132.8	72.3	98.4	124.5	
72		THC	140.2	140.2	140.2	131.8	131.8	131.8	123.6	123.6	123.6	115.4	115.4	115.4	107.0	107.0	107.0		
		SHC	60.6	89.4	118.2	57.2	86.0	114.8	54.0	82.7	111.3	50.7	79.4	108.0	47.3	76.0	104.6		
76		THC	-	151.5	151.5	-	142.6	142.6	-	133.9	133.9	-	125.1	125.1	-	116.1	116.1		
		SHC	-	67.0	95.8	-	63.6	92.4	-	60.3	89.1	-	56.9	85.8	-	53.6	82.4		
6150 Cfm		EA (wB)	58	THC	128.0	128.0	144.4	121.4	121.4	137.1	114.9	114.9	129.8	108.1	108.1	122.4	101.1	101.1	114.6
				SHC	111.5	128.0	144.4	105.6	121.4	137.1	99.8	114.9	129.8	93.9	108.1	122.4	87.7	101.1	114.6
	62		THC	128.1	128.1	150.1	121.5	121.5	142.4	115.0	115.0	134.9	108.2	108.2	127.2	101.2	101.2	119.1	
			SHC	106.1	128.1	150.1	100.4	121.5	142.4	94.9	115.0	134.9	89.2	108.2	127.2	83.2	101.2	119.1	
	67		THC	129.5	129.5	154.6	122.1	122.1	150.3	115.2	115.2	144.2	108.5	108.5	136.0	101.3	101.3	128.2	
			SHC	92.7	123.7	154.6	89.1	119.7	150.3	84.7	114.5	144.2	79.6	107.7	136.0	74.4	101.3	128.2	
	72	THC	141.5	141.5	141.5	133.0	133.0	133.0	124.7	124.7	124.7	116.4	116.4	116.4	107.7	107.7	111.9		
		SHC	62.5	94.1	125.6	59.1	90.7	122.2	55.8	87.3	118.8	52.5	83.9	115.4	49.1	80.5	111.9		
	76	THC	-	152.9	152.9	-	143.8	143.8	-	134.9	134.9	-	126.1	126.1	-	116.9	116.9		
		SHC	-	69.3	101.1	-	66.0	97.6	-	62.7	94.3	-	59.3	90.9	-	56.0	87.5		

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

Table 15 – COOLING CAPACITIES - THIRD STAGE, FULL LOAD

15 TONS

17 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	
4500 Cfm	EA (wB)	58	THC	156.8	156.8	177.9	148.6	148.6	169.1	139.9	139.9	159.6	130.7	130.7	149.5	120.9	120.9	138.7	
			SHC	135.6	156.8	177.9	128.1	148.6	169.1	120.3	139.9	159.6	111.9	130.7	149.5	103.1	120.9	138.7	
		62	THC	164.6	164.6	169.4	154.6	154.6	163.2	144.2	144.2	157.0	133.3	133.3	150.3	121.8	121.8	143.0	
			SHC	122.2	145.8	169.4	116.1	139.7	163.2	109.9	133.4	157.0	103.4	126.8	150.3	96.5	119.7	143.0	
		67	THC	182.6	182.6	182.6	171.8	171.8	171.8	160.6	160.6	160.6	148.7	148.7	148.7	136.1	136.1	136.1	
			SHC	100.4	124.1	147.8	94.4	118.1	141.8	88.2	111.9	135.6	81.9	105.5	129.2	75.3	98.9	122.6	
	72	THC	202.4	202.4	202.4	191.0	191.0	191.0	179.0	179.0	179.0	166.4	166.4	166.4	153.0	153.0	153.0		
		SHC	78.1	102.0	125.9	72.2	96.0	119.8	66.1	89.9	113.8	59.9	83.7	107.4	53.3	77.1	100.9		
	76	THC	-	219.3	219.3	-	207.1	207.1	-	194.5	194.5	-	181.2	181.2	-	167.1	167.1		
		SHC	-	83.8	107.9	-	77.9	102.0	-	71.9	96.0	-	65.6	89.8	-	59.3	83.5		
	5250 Cfm	EA (wB)	58	THC	166.9	166.9	189.3	158.1	158.1	179.8	149.0	149.0	169.7	139.2	139.2	159.0	128.8	128.8	147.5
				SHC	144.6	166.9	189.3	136.6	158.1	179.8	128.3	149.0	169.7	119.5	139.2	159.0	110.1	128.8	147.5
62			THC	170.8	170.8	187.4	160.6	160.6	181.0	150.1	150.1	174.1	139.4	139.4	165.8	129.0	129.0	154.0	
			SHC	133.0	160.2	187.4	126.8	153.9	181.0	120.3	147.2	174.1	113.1	139.4	165.8	103.9	129.0	154.0	
67			THC	188.4	188.4	188.4	177.2	177.2	177.2	165.4	165.4	165.4	153.1	153.1	153.1	140.0	140.0	140.0	
			SHC	107.5	134.9	162.3	101.4	128.8	156.2	95.2	122.6	149.9	88.6	116.0	143.4	81.9	109.2	136.6	
72		THC	208.4	208.4	208.4	196.4	196.4	196.4	184.0	184.0	184.0	170.8	170.8	170.8	157.0	157.0	157.0		
		SHC	81.5	109.1	136.6	75.5	103.0	130.6	69.3	96.8	124.3	62.9	90.4	117.9	56.4	83.8	111.2		
76		THC	-	225.1	225.1	-	212.6	212.6	-	199.5	199.5	-	185.5	185.5	-	170.9	170.9		
		SHC	-	87.9	116.1	-	81.9	110.0	-	75.9	103.7	-	69.4	97.3	-	62.9	90.7		
6000 Cfm		EA (wB)	58	THC	175.4	175.4	198.8	166.2	166.2	188.7	156.5	156.5	178.0	146.2	146.2	166.7	135.2	135.2	154.7
				SHC	152.1	175.4	198.8	143.7	166.2	188.7	134.9	156.5	178.0	125.7	146.2	166.7	115.7	135.2	154.7
	62		THC	176.5	176.5	204.0	166.3	166.3	196.4	156.7	156.7	185.4	146.3	146.3	173.8	135.4	135.4	161.4	
			SHC	143.0	173.6	204.0	136.3	166.3	196.4	127.8	156.7	185.4	119.0	146.3	173.8	109.4	135.4	161.4	
	67		THC	192.8	192.8	192.8	181.3	181.3	181.3	169.2	169.2	169.2	156.6	156.6	156.9	143.2	143.2	150.0	
			SHC	114.2	145.2	176.2	108.0	138.9	169.9	101.6	132.6	163.5	95.1	126.0	156.9	88.2	119.1	150.0	
	72	THC	212.8	212.8	212.8	200.5	200.5	200.5	187.7	187.7	187.7	174.2	174.2	174.2	159.9	159.9	159.9		
		SHC	84.5	115.7	146.8	78.4	109.5	140.7	72.2	103.3	134.4	65.7	96.7	127.8	59.1	90.0	121.0		
	76	THC	-	229.7	229.7	-	216.6	216.6	-	203.3	203.3	-	189.2	189.2	-	173.8	173.8		
		SHC	-	91.7	123.3	-	85.6	117.1	-	79.4	110.9	-	72.9	104.3	-	66.2	97.5		
	6750 Cfm	EA (wB)	58	THC	182.5	182.5	206.7	172.8	172.8	196.1	162.6	162.6	185.0	152.0	152.0	173.3	140.6	140.6	160.7
				SHC	158.3	182.5	206.7	149.6	172.8	196.1	140.4	162.6	185.0	130.7	152.0	173.3	120.5	140.6	160.7
62			THC	182.7	182.7	215.1	173.0	173.0	204.1	162.8	162.8	192.7	152.2	152.2	180.5	140.8	140.8	167.6	
			SHC	150.4	182.7	215.1	142.0	173.0	204.1	133.1	162.8	192.7	123.8	152.2	180.5	114.0	140.8	167.6	
67			THC	196.4	196.4	196.4	184.5	184.5	184.5	172.3	172.3	176.7	159.4	159.4	169.8	145.8	145.8	162.7	
			SHC	120.5	155.0	189.5	114.2	148.7	183.1	107.8	142.3	176.7	101.2	135.5	169.8	94.3	128.5	162.7	
72		THC	216.4	216.4	216.4	203.7	203.7	203.7	190.6	190.6	190.6	176.8	176.8	176.8	162.2	162.2	162.2		
		SHC	87.3	122.0	156.6	81.1	115.7	150.3	74.8	109.4	143.9	68.3	102.8	137.3	61.5	96.0	130.5		
76		THC	-	233.3	233.3	-	220.0	220.0	-	206.1	206.1	-	191.7	191.7	-	176.1	176.1		
		SHC	-	95.1	130.3	-	88.9	123.9	-	82.7	117.6	-	76.1	111.0	-	69.3	103.9		
7500 Cfm		EA (wB)	58	THC	188.5	188.5	213.3	178.4	178.4	202.4	167.9	167.9	190.8	156.9	156.9	178.6	145.1	145.1	165.7
				SHC	163.6	188.5	213.3	154.5	178.4	202.4	145.1	167.9	190.8	135.1	156.9	178.6	124.5	145.1	165.7
	62		THC	188.7	188.7	221.9	178.6	178.6	210.6	168.1	168.1	198.7	157.1	157.1	186.1	145.3	145.3	172.8	
			SHC	155.5	188.7	221.9	146.7	178.6	210.6	137.6	168.1	198.7	127.9	157.1	186.1	117.8	145.3	172.8	
	67		THC	199.3	199.3	202.5	187.3	187.3	196.0	174.8	174.8	189.2	161.9	161.9	182.2	148.2	148.2	174.7	
			SHC	126.6	164.5	202.5	120.2	158.1	196.0	113.7	151.5	189.2	107.0	144.6	182.2	99.8	137.3	174.7	
	72	THC	219.2	219.2	219.2	206.3	206.3	206.3	193.0	193.0	193.0	178.9	178.9	178.9	164.1	164.1	164.1		
		SHC	89.9	128.0	166.0	83.7	121.7	159.7	77.3	115.2	153.3	70.8	108.6	146.5	64.0	101.8	139.6		
	76	THC	-	236.1	236.1	-	222.6	222.6	-	208.6	208.6	-	193.8	193.8	-	177.8	177.8		
		SHC	-	98.4	136.9	-	92.1	130.5	-	85.8	124.0	-	79.3	117.3	-	72.3	110.2		

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

Table 16 – COOLING CAPACITIES - FIRST STAGE, PART LOAD

17.5 TONS

20 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
2750	EA (wB)	58	THC	92.1	92.1	104.1	88.5	88.5	100.0	84.6	84.6	95.7	80.4	80.4	91.1	76.0	76.0	86.1
			SHC	80.1	92.1	104.1	76.9	88.5	100.0	73.5	84.6	95.7	69.8	80.4	91.1	65.8	76.0	76.0
		62	THC	95.0	95.0	102.0	90.5	90.5	99.5	85.8	85.8	96.9	80.9	80.9	93.9	76.1	76.1	89.6
			SHC	73.5	87.8	102.0	71.2	85.4	99.5	68.6	82.8	96.9	65.9	80.0	93.9	62.5	76.1	89.6
		67	THC	104.3	104.3	104.3	99.5	99.5	99.5	94.4	94.4	94.4	88.8	88.8	88.8	83.1	83.1	83.1
			SHC	59.9	74.2	88.6	57.6	72.0	86.3	55.3	69.6	83.9	52.7	67.1	81.4	50.1	64.4	78.8
		72	THC	115.1	115.1	115.1	109.9	109.9	109.9	104.4	104.4	104.4	98.5	98.5	98.5	92.2	92.2	92.2
			SHC	45.9	60.4	74.8	43.7	58.1	72.5	41.3	55.8	70.2	38.9	53.3	67.7	36.4	50.7	65.1
		76	THC	-	124.1	124.1	-	118.8	118.8	-	112.9	112.9	-	106.7	106.7	-	99.9	99.9
			SHC	-	49.0	63.8	-	46.8	61.5	-	44.5	59.2	-	42.1	56.6	-	39.5	54.1
3250	EA (wB)	58	THC	97.5	97.5	110.2	93.7	93.7	105.9	89.5	89.5	101.2	85.0	85.0	96.2	80.2	80.2	90.9
			SHC	84.9	97.5	110.2	81.4	93.7	105.9	77.8	89.5	101.2	73.8	85.0	96.2	69.6	80.2	90.9
		62	THC	98.3	98.3	112.6	94.0	94.0	109.6	89.6	89.6	105.2	85.1	85.1	100.0	80.3	80.3	94.6
			SHC	80.0	96.3	112.6	77.2	93.4	109.6	73.9	89.6	105.2	70.1	85.1	100.0	66.1	80.3	94.6
		67	THC	107.3	107.3	107.3	102.3	102.3	102.3	96.9	96.9	96.9	91.2	91.2	91.2	85.1	85.1	87.6
			SHC	64.2	80.9	97.7	61.9	78.6	95.4	59.5	76.1	92.9	56.9	73.6	90.3	54.2	70.9	87.6
		72	THC	118.1	118.1	118.1	112.8	112.8	112.8	107.1	107.1	107.1	100.9	100.9	100.9	94.3	94.3	94.3
			SHC	47.8	64.6	81.4	45.6	62.4	79.2	43.2	60.0	76.7	40.8	57.5	74.2	38.1	54.9	71.6
		76	THC	-	127.3	127.3	-	121.7	121.7	-	115.5	115.5	-	109.1	109.1	-	102.1	102.1
			SHC	-	51.4	68.4	-	49.1	66.2	-	46.8	63.8	-	44.4	61.2	-	41.7	58.6
3700	EA (wB)	58	THC	101.6	101.6	114.7	97.5	97.5	110.2	93.1	93.1	105.3	88.4	88.4	100.0	83.4	83.4	94.4
			SHC	88.4	101.6	114.7	84.8	97.5	110.2	80.9	93.1	105.3	76.7	88.4	100.0	72.3	83.4	94.4
		62	THC	101.7	101.7	119.1	97.6	97.6	114.5	93.2	93.2	109.5	88.4	88.4	104.0	83.5	83.5	98.2
			SHC	84.1	101.7	119.1	80.6	97.6	114.5	76.9	93.2	109.5	72.9	88.4	104.0	68.7	83.5	98.2
		67	THC	109.3	109.3	109.3	104.1	104.1	104.1	98.7	98.7	100.5	92.8	92.8	97.8	86.6	86.6	95.0
			SHC	67.9	86.7	105.5	65.5	84.3	103.1	63.1	81.8	100.5	60.5	79.1	97.8	57.7	76.3	95.0
		72	THC	120.2	120.2	120.2	114.7	114.7	114.7	108.8	108.8	108.8	102.5	102.5	102.5	95.7	95.7	95.7
			SHC	49.3	68.3	87.2	47.1	66.0	84.8	44.8	63.6	82.4	42.2	61.0	79.9	39.6	58.4	77.1
		76	THC	-	129.5	129.5	-	123.6	123.6	-	117.4	117.4	-	110.7	110.7	-	103.5	103.5
			SHC	-	53.3	72.4	-	51.1	70.2	-	48.8	67.7	-	46.2	65.1	-	43.6	62.4
4150	EA (wB)	58	THC	105.0	105.0	118.6	100.7	100.7	113.8	96.1	96.1	108.7	91.3	91.3	103.3	86.0	86.0	97.4
			SHC	91.5	105.0	118.6	87.7	100.7	113.8	83.7	96.1	108.7	79.3	91.3	103.3	74.7	86.0	97.4
		62	THC	105.1	105.1	123.1	100.8	100.8	118.3	96.2	96.2	113.0	91.4	91.4	107.3	86.1	86.1	101.3
			SHC	87.0	105.1	123.1	83.4	100.8	118.3	79.6	96.2	113.0	75.4	91.4	107.3	71.0	86.1	101.3
		67	THC	111.0	111.0	112.9	105.7	105.7	110.5	100.1	100.1	107.8	94.2	94.2	105.0	87.9	87.9	102.0
			SHC	71.3	92.1	112.9	68.9	89.7	110.5	66.4	87.2	107.8	63.8	84.3	105.0	60.9	81.4	102.0
		72	THC	121.8	121.8	121.8	116.2	116.2	116.2	110.2	110.2	110.2	103.7	103.7	103.7	96.8	96.8	96.8
			SHC	50.8	71.8	92.6	48.6	69.4	90.3	46.1	67.0	87.8	43.6	64.4	85.2	41.0	61.7	82.5
		76	THC	-	131.1	131.1	-	125.2	125.2	-	118.8	118.8	-	111.9	111.9	-	104.6	104.6
			SHC	-	55.2	76.2	-	52.9	73.9	-	50.5	71.5	-	48.0	68.8	-	45.2	66.1
4600	EA (wB)	58	THC	107.9	107.9	121.9	103.5	103.5	117.0	98.8	98.8	111.6	93.7	93.7	106.0	88.3	88.3	99.9
			SHC	94.0	107.9	121.9	90.2	103.5	117.0	85.9	98.8	111.6	81.4	93.7	106.0	76.6	88.3	99.9
		62	THC	108.0	108.0	126.7	103.6	103.6	121.6	98.9	98.9	116.0	93.8	93.8	110.2	88.3	88.3	103.9
			SHC	89.5	108.0	126.7	85.7	103.6	121.6	81.7	98.9	116.0	77.4	93.8	110.2	72.8	88.3	103.9
		67	THC	112.3	112.3	120.0	107.1	107.1	117.5	101.4	101.4	114.7	95.5	95.5	111.7	89.2	89.2	108.2
			SHC	74.6	97.3	120.0	72.2	94.9	117.5	69.6	92.1	114.7	66.9	89.3	111.7	63.9	86.1	108.2
		72	THC	123.1	123.1	123.1	117.4	117.4	117.4	111.2	111.2	111.2	104.7	104.7	104.7	97.7	97.7	97.7
			SHC	52.2	75.1	97.9	49.9	72.7	95.6	47.5	70.2	93.0	44.9	67.7	90.4	42.2	64.9	87.6
		76	THC	-	132.5	132.5	-	126.5	126.5	-	119.9	119.9	-	112.9	112.9	-	105.5	105.5
			SHC	-	56.9	80.0	-	54.6	77.5	-	52.2	75.0	-	49.6	72.3	-	46.9	69.5

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

Table 17 – COOLING CAPACITIES - SECOND STAGE, PART LOAD

17.5 TONS

20 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	
3250 Cfm	EA (wB)	58	THC	101.8	101.8	115.2	96.7	96.7	109.7	91.7	91.7	104.0	86.3	86.3	98.2	80.5	80.5	91.8	
			SHC	88.3	101.8	115.2	83.8	96.7	109.7	79.2	91.7	104.0	74.4	86.3	98.2	69.2	80.5	91.8	
		62	THC	103.9	103.9	115.2	97.9	97.9	111.5	92.0	92.0	107.5	86.4	86.4	102.3	80.6	80.6	95.7	
			SHC	81.9	98.6	115.2	78.4	95.0	111.5	74.7	91.2	107.5	70.5	86.4	102.3	65.5	80.6	95.7	
		67	THC	114.8	114.8	114.8	108.0	108.0	108.0	101.3	101.3	101.3	94.4	94.4	94.4	87.2	87.2	87.2	
			SHC	66.3	83.2	100.0	62.8	79.7	96.6	59.5	76.3	93.2	56.0	72.8	89.7	52.5	69.2	86.1	
	72	THC	127.2	127.2	127.2	119.8	119.8	119.8	112.5	112.5	112.5	105.1	105.1	105.1	97.3	97.3	97.3		
		SHC	50.2	67.2	84.2	46.8	63.8	80.7	43.4	60.4	77.3	40.0	56.9	73.8	36.5	53.3	70.3		
	76	THC	-	137.8	137.8	-	129.8	129.8	-	122.0	122.0	-	114.1	114.1	-	105.7	105.7		
		SHC	-	54.2	71.6	-	50.7	68.0	-	47.3	64.5	-	43.9	61.0	-	40.4	57.4		
	3800 Cfm	EA (wB)	58	THC	107.6	107.6	121.8	102.1	102.1	115.7	96.6	96.6	109.7	91.0	91.0	103.4	84.9	84.9	96.7
				SHC	93.4	107.6	121.8	88.5	102.1	115.7	83.6	96.6	109.7	78.5	91.0	103.4	73.0	84.9	96.7
62			THC	107.9	107.9	126.2	102.3	102.3	120.4	96.7	96.7	114.2	91.1	91.1	107.7	85.0	85.0	100.8	
			SHC	88.5	107.3	126.2	84.0	102.3	120.4	79.3	96.7	114.2	74.4	91.1	107.7	69.2	85.0	100.8	
67			THC	117.8	117.8	117.8	110.8	110.8	110.8	103.7	103.7	103.7	96.6	96.6	99.3	89.2	89.2	95.5	
			SHC	71.0	90.5	109.9	67.5	86.9	106.4	64.0	83.4	102.9	60.5	79.9	99.3	56.8	76.1	95.5	
72		THC	130.5	130.5	130.5	122.7	122.7	122.7	115.1	115.1	115.1	107.3	107.3	107.3	99.3	99.3	99.3		
		SHC	52.4	71.9	91.5	48.8	68.3	87.8	45.3	64.8	84.3	41.9	61.3	80.8	38.3	57.7	77.2		
76		THC	-	141.0	141.0	-	132.7	132.7	-	124.5	124.5	-	116.2	116.2	-	107.6	107.6		
		SHC	-	56.7	76.6	-	53.2	73.0	-	49.7	69.4	-	46.2	65.9	-	42.7	62.2		
4300 Cfm		EA (wB)	58	THC	112.0	112.0	126.7	106.2	106.2	120.3	100.4	100.4	114.0	94.5	94.5	107.3	88.1	88.1	100.3
				SHC	97.3	112.0	126.7	92.1	106.2	120.3	87.0	100.4	114.0	81.6	94.5	107.3	76.0	88.1	100.3
	62		THC	112.1	112.1	131.7	106.3	106.3	125.2	100.5	100.5	118.6	94.6	94.6	111.7	88.2	88.2	104.5	
			SHC	92.4	112.1	131.7	87.5	106.3	125.2	82.5	100.5	118.6	77.3	94.6	111.7	72.0	88.2	104.5	
	67		THC	120.0	120.0	120.0	112.7	112.7	114.8	105.6	105.6	111.2	98.4	98.4	107.4	90.8	90.8	103.5	
			SHC	75.0	96.7	118.5	71.4	93.1	114.8	67.9	89.5	111.2	64.3	85.8	107.4	60.5	82.0	103.5	
	72	THC	132.6	132.6	132.6	124.6	124.6	124.6	116.8	116.8	116.8	108.9	108.9	108.9	100.6	100.6	100.6		
		SHC	54.0	75.9	97.7	50.5	72.2	94.1	47.0	68.7	90.5	43.5	65.2	86.9	39.9	61.5	83.2		
	76	THC	-	143.2	143.2	-	134.6	134.6	-	126.2	126.2	-	117.7	117.7	-	109.0	109.0		
		SHC	-	58.9	81.0	-	55.3	77.3	-	51.8	73.6	-	48.2	70.0	-	44.6	66.2		
	4850 Cfm	EA (wB)	58	THC	116.1	116.1	131.3	110.0	110.0	124.6	103.9	103.9	117.9	97.7	97.7	111.0	91.1	91.1	103.6
				SHC	100.9	116.1	131.3	95.5	110.0	124.6	90.0	103.9	117.9	84.4	97.7	111.0	78.6	91.1	103.6
62			THC	116.2	116.2	136.5	110.1	110.1	129.6	104.0	104.0	122.7	97.8	97.8	115.5	91.2	91.2	107.9	
			SHC	95.9	116.2	136.5	90.7	110.1	129.6	85.4	104.0	122.7	80.0	97.8	115.5	74.4	91.2	107.9	
67			THC	122.0	122.0	127.4	114.6	114.6	123.6	107.3	107.3	119.8	99.9	99.9	115.9	92.3	92.3	111.6	
			SHC	79.1	103.3	127.4	75.5	99.5	123.6	71.9	95.8	119.8	68.2	92.0	115.9	64.4	87.9	111.6	
72		THC	134.6	134.6	134.6	126.4	126.4	126.4	118.3	118.3	118.3	110.3	110.3	110.3	101.8	101.8	101.8		
		SHC	55.8	80.0	104.2	52.2	76.3	100.5	48.7	72.7	96.9	45.0	69.2	93.3	41.4	65.4	89.5		
76		THC	-	145.2	145.2	-	136.3	136.3	-	127.7	127.7	-	119.0	119.0	-	110.1	110.1		
		SHC	-	61.1	85.5	-	57.4	81.7	-	53.8	78.0	-	50.2	74.3	-	46.5	70.4		
5400 Cfm		EA (wB)	58	THC	119.6	119.6	135.2	113.2	113.2	128.2	107.0	107.0	121.2	100.4	100.4	114.1	93.6	93.6	106.5
				SHC	103.9	119.6	135.2	98.3	113.2	128.2	92.6	107.0	121.2	86.9	100.4	114.1	80.7	93.6	106.5
	62		THC	119.7	119.7	140.6	113.3	113.3	133.3	107.1	107.1	126.1	100.5	100.5	118.7	93.7	93.7	110.9	
			SHC	98.9	119.7	140.6	93.4	113.3	133.3	87.9	107.1	126.1	82.4	100.5	118.7	76.5	93.7	110.9	
	67		THC	123.7	123.7	135.8	116.2	116.2	131.8	108.8	108.8	127.9	101.5	101.5	123.5	94.1	94.1	118.1	
			SHC	83.1	109.5	135.8	79.3	105.6	131.8	75.6	101.8	127.9	71.8	97.7	123.5	67.5	92.7	118.1	
	72	THC	136.0	136.0	136.0	127.7	127.7	127.7	119.5	119.5	119.5	111.3	111.3	111.3	102.8	102.8	102.8		
		SHC	57.4	83.9	110.6	53.7	80.2	106.8	50.2	76.6	103.1	46.6	73.0	99.4	42.9	69.2	95.6		
	76	THC	-	146.6	146.6	-	137.7	137.7	-	128.9	128.9	-	120.0	120.0	-	111.0	111.0		
		SHC	-	63.1	89.8	-	59.4	86.0	-	55.8	82.2	-	52.1	78.3	-	48.4	74.4		

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

Table 18 – COOLING CAPACITIES - THIRD STAGE, FULL LOAD

17.5 TONS

20 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	
5250 Cfm	EA (wB)	58	THC	177.4	177.4	201.2	168.6	168.6	191.6	159.3	159.3	181.4	149.7	149.7	170.8	139.3	139.3	159.4	
			SHC	153.6	177.4	201.2	145.6	168.6	191.6	137.2	159.3	181.4	128.5	149.7	170.8	119.1	139.3	159.4	
		62	THC	184.4	184.4	192.2	173.9	173.9	185.7	163.0	163.0	179.1	151.7	151.7	172.2	140.0	140.0	164.5	
			SHC	138.4	165.3	192.2	132.0	158.9	185.7	125.6	152.4	179.1	118.9	145.5	172.2	111.7	138.1	164.5	
		67	THC	202.7	202.7	202.7	191.4	191.4	191.4	179.6	179.6	179.6	167.2	167.2	167.2	154.2	154.2	154.2	
			SHC	112.7	139.7	166.8	106.5	133.6	160.6	100.2	127.2	154.2	93.6	120.6	147.6	87.0	113.9	140.9	
	72	THC	223.1	223.1	223.1	211.2	211.2	211.2	198.6	198.6	198.6	185.4	185.4	185.4	171.8	171.8	171.8		
		SHC	86.6	113.9	141.1	80.5	107.7	135.0	74.3	101.5	128.7	67.9	95.1	122.2	61.3	88.4	115.5		
	76	THC	-	240.5	240.5	-	228.1	228.1	-	215.0	215.0	-	200.9	200.9	-	186.7	186.7		
		SHC	-	92.8	121.0	-	86.9	115.0	-	80.7	108.7	-	74.3	102.1	-	67.8	95.6		
	6150 Cfm	EA (wB)	58	THC	187.8	187.8	212.8	178.4	178.4	202.6	168.6	168.6	191.8	158.2	158.2	180.5	147.4	147.4	168.5
				SHC	162.7	187.8	212.8	154.2	178.4	202.6	145.4	168.6	191.8	136.1	158.2	180.5	126.4	147.4	168.5
62			THC	190.8	190.8	211.8	180.2	180.2	205.0	169.3	169.3	197.5	158.5	158.5	188.2	147.6	147.6	175.7	
			SHC	150.1	181.0	211.8	143.6	174.3	205.0	136.7	167.1	197.5	128.9	158.5	188.2	119.4	147.6	175.7	
67			THC	208.3	208.3	208.3	196.5	196.5	196.5	184.3	184.3	184.3	171.5	171.5	171.5	158.2	158.2	158.2	
			SHC	120.3	151.5	182.7	114.1	145.3	176.5	107.6	138.8	170.0	101.0	132.1	163.3	94.2	125.3	156.4	
72		THC	228.8	228.8	228.8	216.5	216.5	216.5	203.3	203.3	203.3	189.8	189.8	189.8	175.8	175.8	175.8		
		SHC	90.1	121.5	152.9	83.9	115.2	146.6	77.5	108.8	140.2	71.1	102.4	133.6	64.4	95.6	126.8		
76		THC	-	246.4	246.4	-	233.5	233.5	-	220.0	220.0	-	205.3	205.3	-	190.6	190.6		
		SHC	-	97.1	129.4	-	91.1	123.1	-	84.8	116.8	-	78.3	110.1	-	71.7	103.4		
7000 Cfm		EA (wB)	58	THC	195.8	195.8	221.7	186.0	186.0	211.0	175.7	175.7	199.7	164.9	164.9	187.8	153.6	153.6	175.3
				SHC	169.7	195.8	221.7	161.0	186.0	211.0	151.7	175.7	199.7	142.0	164.9	187.8	131.7	153.6	175.3
	62		THC	196.4	196.4	228.2	186.1	186.1	219.6	175.9	175.9	208.0	165.1	165.1	195.7	153.8	153.8	182.8	
			SHC	160.0	194.1	228.2	152.7	186.1	219.6	143.8	175.9	208.0	134.5	165.1	195.7	124.6	153.8	182.8	
	67		THC	212.4	212.4	212.4	200.4	200.4	200.4	187.9	187.9	187.9	174.8	174.8	177.5	161.2	161.2	170.3	
			SHC	127.1	162.1	197.2	120.8	155.8	190.8	114.3	149.3	184.3	107.5	142.4	177.5	100.7	135.5	170.3	
	72	THC	233.0	233.0	233.0	220.4	220.4	220.4	206.8	206.8	206.8	193.0	193.0	193.0	178.6	178.6	178.6		
		SHC	93.0	128.2	163.4	86.9	122.0	157.1	80.3	115.4	150.5	73.8	108.8	143.8	67.2	102.1	137.1		
	76	THC	-	250.8	250.8	-	237.4	237.4	-	223.2	223.2	-	208.7	208.7	-	193.5	193.5		
		SHC	-	100.8	136.8	-	94.7	130.6	-	88.2	124.0	-	81.8	117.4	-	75.2	110.6		
	7900 Cfm	EA (wB)	58	THC	202.8	202.8	229.6	192.7	192.7	218.4	181.9	181.9	206.7	170.7	170.7	194.3	158.9	158.9	181.4
				SHC	176.0	202.8	229.6	166.8	192.7	218.4	157.2	181.9	206.7	147.1	170.7	194.3	136.5	158.9	181.4
62			THC	203.1	203.1	238.9	192.9	192.9	227.3	182.1	182.1	215.2	170.8	170.8	202.4	159.0	159.0	189.0	
			SHC	167.2	203.1	238.9	158.3	192.9	227.3	149.1	182.1	215.2	139.3	170.8	202.4	129.1	159.0	189.0	
67			THC	215.9	215.9	215.9	203.7	203.7	205.4	190.9	190.9	198.7	177.6	177.6	191.6	163.9	163.9	184.2	
			SHC	134.0	173.0	212.0	127.6	166.5	205.4	121.0	159.8	198.7	114.2	152.9	191.6	107.2	145.7	184.2	
72		THC	236.6	236.6	236.6	223.7	223.7	223.7	209.7	209.7	209.7	195.6	195.6	195.6	181.0	181.0	181.0		
		SHC	95.9	135.0	174.1	89.7	128.7	167.8	83.1	122.1	161.1	76.5	115.4	154.3	69.8	108.6	147.4		
76		THC	-	254.1	254.1	-	240.5	240.5	-	226.3	226.3	-	211.5	211.5	-	196.0	196.0		
		SHC	-	104.4	144.3	-	98.2	138.0	-	91.8	131.4	-	85.3	124.7	-	78.5	117.7		
8750 Cfm		EA (wB)	58	THC	208.5	208.5	236.0	197.9	197.9	224.3	187.0	187.0	212.3	175.3	175.3	199.4	163.2	163.2	186.1
				SHC	181.1	208.5	236.0	171.5	197.9	224.3	161.7	187.0	212.3	151.1	175.3	199.4	140.3	163.2	186.1
	62		THC	208.7	208.7	245.4	198.1	198.1	233.4	187.1	187.1	220.9	175.4	175.4	207.7	163.3	163.3	193.9	
			SHC	172.0	208.7	245.4	162.8	198.1	233.4	153.3	187.1	220.9	143.2	175.4	207.7	132.7	163.3	193.9	
	67		THC	218.7	218.7	225.2	206.3	206.3	218.5	193.4	193.4	211.6	180.0	180.0	204.2	166.1	166.1	196.4	
			SHC	140.1	182.7	225.2	133.7	176.1	218.5	126.9	169.3	211.6	120.0	162.0	204.2	112.8	154.5	196.4	
	72	THC	239.3	239.3	239.3	226.1	226.1	226.1	212.4	212.4	212.4	197.5	197.5	197.5	182.8	182.8	182.8		
		SHC	98.5	141.2	183.9	92.1	134.8	177.5	85.7	128.3	170.8	79.0	121.4	163.9	72.2	114.6	156.9		
	76	THC	-	256.9	256.9	-	243.1	243.1	-	228.5	228.5	-	213.5	213.5	-	197.8	197.8		
		SHC	-	107.7	151.1	-	101.5	144.7	-	95.0	138.1	-	88.3	131.2	-	81.6	124.1		

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

Table 19 – COOLING CAPACITIES - FIRST STAGE, PART LOAD

20 TONS

24 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	
3150	EA (WB)	58	THC	87.9	87.9	101.5	79.4	79.4	92.4	70.7	70.7	83.3	61.7	61.7	73.7	52.6	52.6	64.0	
			SHC	74.4	87.9	101.5	66.3	79.4	92.4	58.1	70.7	83.3	49.7	61.7	73.7	41.1	52.6	64.0	
		62	THC	91.3	91.3	101.0	81.4	81.4	93.7	71.6	71.6	86.2	61.9	61.9	77.9	52.7	52.7	67.9	
			SHC	68.1	84.5	101.0	60.8	77.2	93.7	53.5	69.8	86.2	45.8	61.9	77.9	37.4	52.7	67.9	
		67	THC	104.6	104.6	104.6	94.1	94.1	94.1	83.5	83.5	83.5	72.6	72.6	72.6	61.4	61.4	61.4	
			SHC	54.7	71.4	87.9	47.5	64.2	80.7	40.3	56.9	73.5	33.0	49.6	66.2	25.5	42.2	58.8	
	72	THC	119.6	119.6	119.6	108.6	108.6	108.6	97.4	97.4	97.4	86.0	86.0	86.0	74.1	74.1	74.1		
		SHC	41.1	57.8	74.6	33.9	50.6	67.4	26.7	43.4	60.2	19.4	36.2	52.8	12.1	28.8	45.4		
	76	THC	-	132.6	132.6	-	121.1	121.1	-	109.4	109.4	-	97.4	97.4	-	85.0	85.0		
		SHC	-	46.8	63.7	-	39.6	56.6	-	32.4	49.3	-	25.2	42.0	-	17.7	34.6		
	3650	EA (WB)	58	THC	94.8	94.8	109.0	85.7	85.7	99.5	76.5	76.5	89.7	67.2	67.2	79.8	57.5	57.5	69.4
				SHC	80.4	94.8	109.0	72.0	85.7	99.5	63.4	76.5	89.7	54.7	67.2	79.8	45.6	57.5	69.4
62			THC	95.6	95.6	112.7	85.9	85.9	104.2	76.7	76.7	94.3	67.4	67.4	84.1	57.6	57.6	73.5	
			SHC	75.4	94.1	112.7	67.6	85.9	104.2	59.2	76.7	94.3	50.6	67.4	84.1	41.7	57.6	73.5	
67			THC	108.2	108.2	108.2	97.4	97.4	97.4	86.5	86.5	86.5	75.3	75.3	75.8	63.8	63.8	68.2	
			SHC	59.8	78.9	98.0	52.5	71.6	90.7	45.0	64.2	83.3	37.6	56.6	75.8	30.0	49.1	68.2	
72		THC	123.4	123.4	123.4	112.0	112.0	112.0	100.5	100.5	100.5	88.6	88.6	88.6	76.4	76.4	76.4		
		SHC	43.7	63.0	82.2	36.4	55.6	74.9	29.1	48.3	67.5	21.5	40.8	60.0	14.0	33.2	52.5		
76		THC	-	136.5	136.5	-	124.7	124.7	-	112.6	112.6	-	100.2	100.2	-	87.5	87.5		
		SHC	-	49.9	69.4	-	42.6	62.1	-	35.3	54.7	-	27.9	47.2	-	20.3	39.7		
4200		EA (WB)	58	THC	101.0	101.0	115.9	91.6	91.6	105.9	82.0	82.0	95.7	72.2	72.2	85.3	62.1	62.1	74.5
				SHC	86.1	101.0	115.9	77.2	91.6	105.9	68.3	82.0	95.7	59.2	72.2	85.3	49.7	62.1	74.5
	62		THC	101.2	101.2	121.1	91.7	91.7	110.9	82.2	82.2	100.5	72.3	72.3	89.8	62.2	62.2	78.8	
			SHC	81.2	101.2	121.1	72.5	91.7	110.9	63.9	82.2	100.5	54.9	72.3	89.8	45.6	62.2	78.8	
	67		THC	111.4	111.4	111.4	100.2	100.2	101.0	89.0	89.0	93.4	77.6	77.6	85.8	65.8	65.8	77.9	
			SHC	64.9	86.8	108.5	57.5	79.3	101.0	50.0	71.8	93.4	42.4	64.2	85.8	34.7	56.4	77.9	
	72	THC	126.8	126.8	126.8	115.0	115.0	115.0	103.1	103.1	103.1	90.9	90.9	90.9	78.3	78.3	78.3		
		SHC	46.2	68.2	90.1	38.8	60.7	82.6	31.3	53.2	75.2	23.8	45.6	67.6	16.1	38.0	59.9		
	76	THC	-	139.9	139.9	-	127.7	127.7	-	115.2	115.2	-	102.6	102.6	-	89.4	89.4		
		SHC	-	53.0	75.2	-	45.6	67.8	-	38.1	60.3	-	30.6	52.7	-	22.9	44.9		
	4700	EA (WB)	58	THC	105.9	105.9	121.3	96.1	96.1	110.9	86.2	86.2	100.3	76.1	76.1	89.5	65.6	65.6	78.3
				SHC	90.5	105.9	121.3	81.3	96.1	110.9	72.1	86.2	100.3	62.6	76.1	89.5	52.8	65.6	78.3
62			THC	106.0	106.0	126.7	96.2	96.2	116.0	86.4	86.4	105.2	76.1	76.1	94.2	65.7	65.7	82.8	
			SHC	85.4	106.0	126.7	76.4	96.2	116.0	67.5	86.4	105.2	58.2	76.1	94.2	48.7	65.7	82.8	
67			THC	113.8	113.8	117.7	102.5	102.5	110.0	91.1	91.1	102.3	79.4	79.4	94.4	67.5	67.5	86.3	
			SHC	69.4	93.6	117.7	61.8	85.9	110.0	54.2	78.3	102.3	46.5	70.5	94.4	38.7	62.5	86.3	
72		THC	129.0	129.0	129.0	117.0	117.0	117.0	104.9	104.9	104.9	92.4	92.4	92.4	79.7	79.7	79.7		
		SHC	48.4	72.6	97.0	40.9	65.1	89.4	33.2	57.5	81.8	25.6	49.8	74.1	17.8	42.1	66.4		
76		THC	-	142.4	142.4	-	129.9	129.9	-	117.2	117.2	-	104.2	104.2	-	90.9	90.9		
		SHC	-	55.6	80.1	-	48.1	72.6	-	40.6	65.0	-	32.9	57.3	-	25.2	49.5		
5250		EA (WB)	58	THC	110.5	110.5	126.3	100.3	100.3	115.5	90.2	90.2	104.7	79.7	79.7	93.5	68.9	68.9	82.0
				SHC	94.6	110.5	126.3	85.1	100.3	115.5	75.7	90.2	104.7	65.9	79.7	93.5	55.9	68.9	82.0
	62		THC	110.6	110.6	131.8	100.5	100.5	120.8	90.3	90.3	109.7	79.9	79.9	98.3	69.0	69.0	86.5	
			SHC	89.4	110.6	131.8	80.1	100.5	120.8	70.9	90.3	109.7	61.3	79.9	98.3	51.6	69.0	86.5	
	67		THC	115.9	115.9	127.3	104.5	104.5	119.4	92.9	92.9	111.4	81.2	81.2	103.2	69.7	69.7	93.6	
			SHC	74.1	100.7	127.3	66.4	92.9	119.4	58.7	85.0	111.4	50.7	76.9	103.2	42.4	68.0	93.6	
	72	THC	131.0	131.0	131.0	118.9	118.9	118.9	106.5	106.5	106.5	93.9	93.9	93.9	80.8	80.8	80.8		
		SHC	50.5	77.3	104.2	42.9	69.7	96.5	35.2	62.1	88.9	27.5	54.3	81.1	19.7	46.5	73.2		
	76	THC	-	144.4	144.4	-	131.7	131.7	-	118.9	118.9	-	105.7	105.7	-	92.1	92.1		
		SHC	-	58.2	85.3	-	50.7	77.7	-	43.0	70.1	-	35.3	62.3	-	27.5	54.5		

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

Table 20 – COOLING CAPACITIES - SECOND STAGE, PART LOAD

20 TONS

24 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	
3900 Cfm	EA (wb)	58	THC	128.8	128.8	146.4	121.7	121.7	138.6	114.1	114.1	130.4	105.8	105.8	121.3	96.9	96.9	111.5	
			SHC	111.2	128.8	146.4	104.7	121.7	138.6	97.8	114.1	130.4	90.3	105.8	121.3	82.2	96.9	111.5	
		62	THC	134.0	134.0	141.8	125.6	125.6	136.5	116.5	116.5	130.7	106.8	106.8	124.5	97.0	97.0	116.6	
			SHC	101.1	121.4	141.8	95.8	116.1	136.5	90.3	110.5	130.7	84.3	104.4	124.5	77.4	97.0	116.6	
		67	THC	148.8	148.8	148.8	139.8	139.8	139.8	130.1	130.1	130.1	119.5	119.5	119.5	108.2	108.2	108.2	
			SHC	82.5	103.0	123.4	77.3	97.8	118.3	71.9	92.3	112.8	66.1	86.6	107.1	60.1	80.5	101.0	
	72	THC	165.6	165.6	165.6	156.1	156.1	156.1	145.9	145.9	145.9	134.6	134.6	134.6	122.7	122.7	122.7		
		SHC	63.5	84.1	104.7	58.4	79.0	99.6	53.0	73.6	94.2	47.4	68.0	88.5	41.4	62.0	82.6		
	76	THC	-	179.7	179.7	-	169.8	169.8	-	159.1	159.1	-	147.5	147.5	-	134.8	134.8		
		SHC	-	68.5	89.5	-	63.6	84.4	-	58.3	79.2	-	52.7	73.6	-	46.9	67.7		
	4500 Cfm	EA (wb)	58	THC	136.4	136.4	154.8	129.0	129.0	146.7	120.9	120.9	138.0	112.1	112.1	128.4	102.8	102.8	118.1
				SHC	118.0	136.4	154.8	111.2	129.0	146.7	103.8	120.9	138.0	95.9	112.1	128.4	87.5	102.8	118.1
62			THC	138.6	138.6	155.8	130.2	130.2	150.1	121.0	121.0	143.8	112.3	112.3	134.1	103.0	103.0	123.4	
			SHC	109.5	132.7	155.8	104.0	127.0	150.1	98.2	121.0	143.8	90.7	112.3	134.1	82.5	103.0	123.4	
67			THC	153.0	153.0	153.0	143.7	143.7	143.7	133.7	133.7	133.7	122.9	122.9	122.9	111.2	111.2	112.1	
			SHC	88.0	111.4	134.9	82.8	106.3	129.7	77.3	100.7	124.1	71.5	94.9	118.3	65.4	88.7	112.1	
72		THC	169.9	169.9	169.9	160.2	160.2	160.2	149.5	149.5	149.5	138.0	138.0	138.0	125.5	125.5	125.5		
		SHC	66.1	89.7	113.3	60.9	84.5	108.1	55.5	79.1	102.6	49.8	73.3	96.8	43.8	67.4	90.9		
76		THC	-	184.1	184.1	-	173.9	173.9	-	162.8	162.8	-	150.8	150.8	-	137.9	137.9		
		SHC	-	71.9	95.7	-	66.7	90.6	-	61.3	85.2	-	55.8	79.6	-	49.8	73.6		
5150 Cfm		EA (wb)	58	THC	143.3	143.3	162.5	135.5	135.5	154.1	127.0	127.0	144.8	118.0	118.0	134.8	108.1	108.1	124.0
				SHC	124.0	143.3	162.5	117.0	135.5	154.1	109.3	127.0	144.8	101.0	118.0	134.8	92.1	108.1	124.0
	62		THC	143.4	143.4	169.2	135.7	135.7	160.5	127.2	127.2	151.0	118.1	118.1	140.7	108.2	108.2	129.5	
			SHC	117.7	143.4	169.2	110.9	135.7	160.5	103.4	127.2	151.0	95.6	118.1	140.7	87.0	108.2	129.5	
	67		THC	156.6	156.6	156.6	147.0	147.0	147.0	136.8	136.8	136.8	125.7	125.7	129.9	113.7	113.7	123.5	
			SHC	93.8	120.3	146.8	88.4	115.0	141.5	82.9	109.4	135.9	77.0	103.4	129.9	70.8	97.2	123.5	
	72	THC	173.6	173.6	173.6	163.4	163.4	163.4	152.5	152.5	152.5	140.6	140.6	140.6	127.8	127.8	127.8		
		SHC	68.6	95.4	122.1	63.5	90.1	116.8	58.0	84.6	111.3	52.2	78.8	105.5	46.1	72.7	99.4		
	76	THC	-	187.8	187.8	-	177.3	177.3	-	165.9	165.9	-	153.7	153.7	-	140.3	140.3		
		SHC	-	75.0	102.1	-	69.8	96.8	-	64.4	91.4	-	58.8	85.7	-	52.7	79.7		
	5800 Cfm	EA (wb)	58	THC	149.2	149.2	169.1	141.1	141.1	160.2	132.3	132.3	150.6	122.8	122.8	140.2	112.5	112.5	129.0
				SHC	129.2	149.2	169.1	121.9	141.1	160.2	113.9	132.3	150.6	105.3	122.8	140.2	96.1	112.5	129.0
62			THC	149.3	149.3	175.9	141.2	141.2	166.8	132.4	132.4	157.0	122.9	122.9	146.3	112.7	112.7	134.6	
			SHC	122.7	149.3	175.9	115.5	141.2	166.8	107.9	132.4	157.0	99.6	122.9	146.3	90.7	112.7	134.6	
67			THC	159.4	159.4	159.4	149.8	149.8	152.9	139.2	139.2	147.1	127.9	127.9	141.0	115.8	115.8	134.5	
			SHC	99.2	128.7	158.2	93.8	123.3	152.9	88.1	117.6	147.1	82.2	111.6	141.0	75.9	105.2	134.5	
72		THC	176.3	176.3	176.3	165.9	165.9	165.9	154.8	154.8	154.8	142.7	142.7	142.7	129.8	129.8	129.8		
		SHC	71.0	100.7	130.5	65.7	95.5	125.2	60.3	89.9	119.6	54.4	84.0	113.7	48.3	77.9	107.5		
76		THC	-	190.6	190.6	-	179.9	179.9	-	168.3	168.3	-	155.8	155.8	-	142.3	142.3		
		SHC	-	77.9	108.0	-	72.7	102.8	-	67.3	97.3	-	61.6	91.6	-	55.6	85.4		
6450 Cfm		EA (wb)	58	THC	154.1	154.1	174.6	145.8	145.8	165.6	136.7	136.7	155.6	126.9	126.9	144.9	116.3	116.3	133.2
				SHC	133.7	154.1	174.6	126.1	145.8	165.6	117.9	136.7	155.6	109.0	126.9	144.9	99.5	116.3	133.2
	62		THC	154.3	154.3	181.6	146.0	146.0	172.3	136.9	136.9	162.1	127.0	127.0	151.0	116.5	116.5	139.0	
			SHC	126.9	154.3	181.6	119.5	146.0	172.3	111.6	136.9	162.1	103.2	127.0	151.0	93.9	116.5	139.0	
	67		THC	161.9	161.9	169.3	152.0	152.0	163.7	141.5	141.5	157.9	130.1	130.1	151.4	117.9	117.9	144.4	
			SHC	104.3	136.8	169.3	98.9	131.3	163.7	93.2	125.5	157.9	87.2	119.3	151.4	80.6	112.5	144.4	
	72	THC	178.5	178.5	178.5	168.0	168.0	168.0	156.7	156.7	156.7	144.4	144.4	144.4	131.1	131.1	131.1		
		SHC	73.2	105.9	138.5	67.9	100.5	133.2	62.3	95.0	127.6	56.5	89.1	121.7	50.3	82.9	115.4		
	76	THC	-	192.9	192.9	-	182.0	182.0	-	170.2	170.2	-	157.5	157.5	-	143.8	143.8		
		SHC	-	80.7	113.7	-	75.5	108.5	-	70.0	103.0	-	64.3	97.1	-	58.2	91.1		

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

Table 21 – COOLING CAPACITIES - THIRD STAGE, FULL LOAD

20 TONS

24 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	
6000 Cfm	EA (wB)	58	THC	217.4	217.4	245.6	208.3	208.3	235.6	198.5	198.5	224.7	188.0	188.0	213.0	176.6	176.6	200.3	
			SHC	189.2	217.4	245.6	181.1	208.3	235.6	172.4	198.5	224.7	163.0	188.0	213.0	152.9	176.6	200.3	
		62	THC	227.3	227.3	230.2	216.2	216.2	224.2	204.4	204.4	217.6	191.7	191.7	210.8	178.2	178.2	203.0	
			SHC	169.0	199.6	230.2	162.9	193.5	224.2	156.6	187.1	217.6	149.9	180.4	210.8	142.6	172.9	203.0	
		67	THC	248.8	248.8	248.8	236.8	236.8	236.8	224.1	224.1	224.1	210.2	210.2	210.2	195.4	195.4	195.4	
			SHC	139.0	169.8	200.7	133.2	164.0	194.7	127.0	157.8	188.6	120.5	151.2	182.0	113.7	144.4	175.1	
	72	THC	273.6	273.6	273.6	260.9	260.9	260.9	247.1	247.1	247.1	232.2	232.2	232.2	216.4	216.4	216.4		
		SHC	108.9	140.0	171.0	103.3	134.3	165.3	97.1	128.1	159.1	90.8	121.7	152.7	84.0	115.0	145.9		
	76	THC	-	294.8	294.8	-	281.4	281.4	-	266.8	266.8	-	251.1	251.1	-	234.3	234.3		
		SHC	-	115.5	147.7	-	110.0	142.2	-	103.9	135.9	-	97.7	129.4	-	91.1	122.7		
	7000 Cfm	EA (wB)	58	THC	229.4	229.4	259.1	219.7	219.7	248.3	209.2	209.2	236.7	198.0	198.0	224.2	185.9	185.9	210.7
				SHC	199.7	229.4	259.1	191.1	219.7	248.3	181.7	209.2	236.7	171.8	198.0	224.2	161.1	185.9	210.7
62			THC	234.9	234.9	252.1	223.4	223.4	245.7	211.3	211.3	238.8	199.3	199.3	229.8	186.2	186.2	219.4	
			SHC	182.0	217.1	252.1	175.8	210.8	245.7	169.3	204.0	238.8	161.7	195.7	229.8	153.1	186.2	219.4	
67			THC	256.2	256.2	256.2	243.2	243.2	243.2	229.8	229.8	229.8	215.6	215.6	215.6	200.3	200.3	200.3	
			SHC	147.7	183.1	218.5	141.6	177.0	212.3	135.3	170.6	206.0	128.7	164.1	199.4	121.8	157.1	192.4	
72		THC	281.0	281.0	281.0	267.6	267.6	267.6	253.2	253.2	253.2	237.7	237.7	237.7	221.3	221.3	221.3		
		SHC	112.8	148.5	184.2	107.1	142.6	178.2	100.8	136.4	172.0	94.4	129.9	165.4	87.6	123.0	158.5		
76		THC	-	302.4	302.4	-	288.3	288.3	-	273.1	273.1	-	256.7	256.7	-	239.4	239.4		
		SHC	-	120.4	157.2	-	114.7	151.3	-	108.6	145.1	-	102.2	138.5	-	95.5	131.6		
8000 Cfm		EA (wB)	58	THC	239.2	239.2	270.1	228.9	228.9	258.8	217.9	217.9	246.5	206.2	206.2	233.4	193.5	193.5	219.3
				SHC	208.3	239.2	270.1	199.2	228.9	258.8	189.4	217.9	246.5	179.0	206.2	233.4	167.8	193.5	219.3
	62		THC	241.3	241.3	272.3	229.9	229.9	265.0	218.1	218.1	256.1	206.6	206.6	242.9	193.7	193.7	228.1	
			SHC	194.0	233.1	272.3	187.4	226.2	265.0	180.0	218.1	256.1	170.1	206.5	242.9	159.3	193.7	228.1	
	67		THC	261.6	261.6	261.6	248.2	248.2	248.2	234.5	234.5	234.5	219.8	219.8	219.8	204.0	204.0	208.7	
			SHC	155.7	195.6	235.5	149.5	189.3	229.2	143.1	183.0	222.8	136.5	176.4	216.2	129.4	169.1	208.7	
	72	THC	286.7	286.7	286.7	272.9	272.9	272.9	258.0	258.0	258.0	242.1	242.1	242.1	225.0	225.0	225.0		
		SHC	116.4	156.5	196.7	110.5	150.5	190.7	104.2	144.3	184.4	97.7	137.7	177.6	90.8	130.7	170.6		
	76	THC	-	308.3	308.3	-	293.8	293.8	-	278.1	278.1	-	261.1	261.1	-	243.3	243.3		
		SHC	-	124.9	166.0	-	119.0	160.1	-	112.9	153.8	-	106.4	147.1	-	99.6	140.2		
	9000 Cfm	EA (wB)	58	THC	247.4	247.4	279.2	236.7	236.7	267.4	225.3	225.3	254.8	213.0	213.0	241.1	199.9	199.9	226.4
				SHC	215.4	247.4	279.2	206.0	236.7	267.4	195.9	225.3	254.8	185.1	213.0	241.1	173.4	199.9	226.4
62			THC	247.7	247.7	290.4	236.9	236.9	278.0	225.5	225.5	264.8	213.2	213.2	250.7	200.1	200.1	235.5	
			SHC	205.0	247.7	290.4	195.9	236.9	278.0	186.2	225.5	264.8	175.8	213.2	250.7	164.7	200.1	235.5	
67			THC	266.1	266.1	266.1	252.2	252.2	252.2	238.3	238.3	239.0	223.3	223.3	232.0	207.2	207.2	224.3	
			SHC	163.4	207.6	251.8	157.1	201.2	245.4	150.6	194.8	239.0	143.9	187.9	232.0	136.7	180.5	224.3	
72		THC	291.1	291.1	291.1	277.0	277.0	277.0	261.8	261.8	261.8	245.4	245.4	245.4	228.1	228.1	228.1		
		SHC	119.6	164.1	208.7	113.7	158.1	202.6	107.3	151.8	196.2	100.7	145.1	189.3	93.8	138.1	182.3		
76		THC	-	313.0	313.0	-	298.1	298.1	-	281.9	281.9	-	264.6	264.6	-	246.3	246.3		
		SHC	-	129.0	174.4	-	123.1	168.5	-	116.9	162.1	-	110.4	155.4	-	103.5	148.4		
10000 Cfm		EA (wB)	58	THC	254.8	254.8	287.6	243.4	243.4	275.0	231.6	231.6	261.8	218.8	218.8	247.6	205.1	205.1	232.2
				SHC	222.0	254.8	287.6	211.9	243.4	275.0	201.4	231.6	261.8	190.1	218.8	247.6	177.9	205.1	232.2
	62		THC	255.1	255.1	298.9	243.6	243.6	285.8	231.8	231.8	272.1	219.0	219.0	257.4	205.2	205.2	241.5	
			SHC	211.2	255.1	298.9	201.4	243.6	285.8	191.5	231.8	272.1	180.7	219.0	257.4	169.1	205.2	241.5	
	67		THC	269.3	269.3	269.3	255.9	255.9	261.1	241.5	241.5	254.3	226.2	226.2	247.0	210.1	210.1	239.0	
			SHC	170.4	218.9	267.3	164.3	212.7	261.1	157.8	206.0	254.3	150.8	198.9	247.0	143.4	191.2	239.0	
	72	THC	294.7	294.7	294.7	280.4	280.4	280.4	264.8	264.8	264.8	248.0	248.0	248.0	230.4	230.4	230.4		
		SHC	122.7	171.4	220.2	116.7	165.4	214.0	110.4	158.9	207.6	103.6	152.2	200.8	96.7	145.1	193.5		
	76	THC	-	316.8	316.8	-	301.5	301.5	-	285.1	285.1	-	267.4	267.4	-	248.7	248.7		
		SHC	-	133.0	182.6	-	127.0	176.6	-	120.8	170.1	-	114.2	163.4	-	107.3	156.3		

LEGEND:

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

Table 22 – COOLING CAPACITIES - FIRST STAGE, PART LOAD

23 TONS

26 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	
4050	EA (WB)	58	THC	125.3	125.3	141.0	122.3	122.3	137.4	118.9	118.9	133.4	115.1	115.1	129.0	110.8	110.8	123.9	
			SHC	109.6	125.3	141.0	107.2	122.3	137.4	104.3	118.9	133.4	101.1	115.1	129.0	97.5	110.8	123.9	
		62	THC	126.7	126.7	142.1	122.9	122.9	140.4	119.0	119.0	138.5	115.1	115.1	133.8	110.9	110.9	128.5	
			SHC	102.4	122.3	142.1	101.1	120.7	140.4	99.5	119.0	138.5	96.5	115.1	133.8	93.2	110.9	128.5	
		67	THC	137.1	137.1	137.1	132.6	132.6	132.6	127.7	127.7	127.7	122.4	122.4	122.4	116.5	116.5	117.5	
			SHC	82.5	102.7	122.9	81.4	101.6	121.8	80.1	100.4	120.6	78.8	99.0	119.1	77.2	97.3	117.5	
	72	THC	149.9	149.9	149.9	144.8	144.8	144.8	139.3	139.3	139.3	133.4	133.4	133.4	126.8	126.8	126.8		
		SHC	61.8	82.2	102.5	60.8	81.1	101.4	59.7	80.0	100.2	58.3	78.6	98.8	56.7	77.0	97.2		
	76	THC	-	160.7	160.7	-	155.1	155.1	-	149.2	149.2	-	142.7	142.7	-	135.6	135.6		
		SHC	-	65.5	86.4	-	64.4	85.2	-	63.3	84.0	-	62.0	82.6	-	60.5	81.0		
	4750	EA (WB)	58	THC	130.8	130.8	147.2	127.4	127.4	143.2	123.7	123.7	138.9	119.5	119.5	134.1	114.9	114.9	128.6
				SHC	114.4	130.8	147.2	111.5	127.4	143.2	108.5	123.7	138.9	105.0	119.5	134.1	101.0	114.9	128.6
62			THC	130.9	130.9	152.9	127.5	127.5	148.7	123.8	123.8	144.1	119.6	119.6	139.0	114.9	114.9	133.3	
			SHC	108.9	130.9	152.9	106.4	127.5	148.7	103.4	123.8	144.1	100.2	119.6	139.0	96.5	114.9	133.3	
67			THC	139.8	139.8	139.8	135.1	135.1	135.1	130.1	130.1	131.2	124.5	124.5	129.7	118.5	118.5	127.8	
			SHC	87.4	110.6	133.8	86.2	109.4	132.6	84.9	108.1	131.2	83.5	106.6	129.7	81.8	104.8	127.8	
72		THC	152.8	152.8	152.8	147.4	147.4	147.4	141.8	141.8	141.8	135.5	135.5	135.5	128.7	128.7	128.7		
		SHC	63.8	87.1	110.4	62.7	85.9	109.2	61.4	84.7	107.9	60.1	83.3	106.5	58.5	81.6	104.8		
76		THC	-	163.7	163.7	-	158.0	158.0	-	151.7	151.7	-	144.9	144.9	-	137.5	137.5		
		SHC	-	68.1	91.8	-	67.0	90.7	-	65.7	89.4	-	64.4	87.9	-	62.8	86.2		
5400		EA (WB)	58	THC	135.0	135.0	152.1	131.4	131.4	147.8	127.4	127.4	143.1	122.9	122.9	138.0	118.0	118.0	132.1
				SHC	118.1	135.0	152.1	115.1	131.4	147.8	111.7	127.4	143.1	107.9	122.9	138.0	103.7	118.0	132.1
	62		THC	135.1	135.1	157.9	131.5	131.5	153.4	127.5	127.5	148.5	123.0	123.0	143.0	118.0	118.0	137.0	
			SHC	112.4	135.1	157.9	109.6	131.5	153.4	106.5	127.5	148.5	103.0	123.0	143.0	99.1	118.0	137.0	
	67		THC	141.9	141.9	143.3	137.0	137.0	142.0	131.8	131.8	140.6	126.2	126.2	138.8	120.0	120.0	136.7	
			SHC	91.7	117.5	143.3	90.4	116.2	142.0	89.1	114.9	140.6	87.7	113.2	138.8	85.8	111.2	136.7	
	72	THC	154.8	154.8	154.8	149.3	149.3	149.3	143.4	143.4	143.4	137.0	137.0	137.0	130.0	130.0	130.0		
		SHC	65.4	91.4	117.3	64.3	90.2	116.0	63.0	88.9	114.8	61.6	87.5	113.2	60.1	85.8	111.5		
	76	THC	-	165.9	165.9	-	159.9	159.9	-	153.4	153.4	-	146.4	146.4	-	138.8	138.8		
		SHC	-	70.2	96.6	-	69.1	95.4	-	67.9	94.1	-	66.4	92.5	-	64.8	90.8		
	6100	EA (WB)	58	THC	138.9	138.9	156.5	135.0	135.0	151.9	130.7	130.7	146.9	126.1	126.1	141.5	120.7	120.7	135.3
				SHC	121.4	138.9	156.5	118.2	135.0	151.9	114.6	130.7	146.9	110.7	126.1	141.5	106.2	120.7	135.3
62			THC	139.0	139.0	162.4	135.1	135.1	157.7	130.8	130.8	152.5	126.1	126.1	146.7	120.8	120.8	140.3	
			SHC	115.5	139.0	162.4	112.6	135.1	157.7	109.2	130.8	152.5	105.5	126.1	146.7	101.3	120.8	140.3	
67			THC	143.7	143.7	153.1	138.7	138.7	151.6	133.5	133.5	150.1	127.7	127.7	148.0	121.6	121.6	145.4	
			SHC	95.9	124.5	153.1	94.8	123.2	151.6	93.4	121.7	150.1	91.7	119.8	148.0	89.7	117.6	145.4	
72		THC	156.6	156.6	156.6	150.8	150.8	150.8	144.8	144.8	144.8	138.3	138.3	138.3	131.0	131.0	131.0		
		SHC	67.1	95.6	124.3	65.9	94.5	123.1	64.6	93.2	121.7	63.2	91.7	120.1	61.6	90.0	118.4		
76		THC	-	167.8	167.8	-	161.6	161.6	-	154.9	154.9	-	147.8	147.8	-	139.9	139.9		
		SHC	-	72.4	101.5	-	71.3	100.2	-	70.0	98.9	-	68.5	97.3	-	66.9	95.4		
6750		EA (WB)	58	THC	142.0	142.0	159.9	137.9	137.9	155.1	133.4	133.4	150.0	128.4	128.4	144.2	122.9	122.9	137.8
				SHC	124.0	142.0	159.9	120.6	137.9	155.1	116.9	133.4	150.0	112.7	128.4	144.2	108.0	122.9	137.8
	62		THC	142.1	142.1	166.0	138.0	138.0	161.0	133.5	133.5	155.6	128.5	128.5	149.6	122.9	122.9	142.8	
			SHC	118.1	142.1	166.0	114.9	138.0	161.0	111.3	133.5	155.6	107.4	128.5	149.6	103.1	122.9	142.8	
	67		THC	145.2	145.2	161.6	140.2	140.2	160.0	134.8	134.8	158.0	129.2	129.2	155.5	123.1	123.1	151.9	
			SHC	99.8	130.7	161.6	98.5	129.3	160.0	97.0	127.5	158.0	95.2	125.4	155.5	92.7	122.4	151.9	
	72	THC	157.9	157.9	157.9	152.1	152.1	152.1	145.9	145.9	145.9	139.1	139.1	139.1	131.8	131.8	131.8		
		SHC	68.5	99.6	130.7	67.4	98.4	129.4	66.1	97.0	127.9	64.6	95.5	126.4	63.0	93.8	124.5		
	76	THC	-	169.2	169.2	-	162.7	162.7	-	156.0	156.0	-	148.7	148.7	-	140.7	140.7		
		SHC	-	74.4	105.9	-	73.2	104.6	-	71.9	103.2	-	70.4	101.5	-	68.7	99.5		

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

Table 23 – COOLING CAPACITIES - SECOND STAGE, PART LOAD

23 TONS

26 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	
4850 Cfm	EA (wB)	58	THC	157.5	157.5	178.5	149.6	149.6	169.9	141.2	141.2	160.8	132.3	132.3	151.0	122.7	122.7	140.4	
			SHC	136.4	157.5	178.5	129.3	149.6	169.9	121.7	141.2	160.8	113.7	132.3	151.0	105.0	122.7	140.4	
		62	THC	164.0	164.0	170.5	154.5	154.5	164.7	144.7	144.7	158.5	134.4	134.4	151.9	123.3	123.3	144.5	
			SHC	123.0	146.7	170.5	117.3	141.0	164.7	111.3	134.9	158.5	105.0	128.4	151.9	98.3	121.4	144.5	
		67	THC	181.1	181.1	181.1	170.7	170.7	170.7	159.8	159.8	159.8	148.2	148.2	148.2	135.8	135.8	135.8	
			SHC	100.8	124.6	148.5	95.1	119.0	142.8	89.2	113.1	136.9	83.1	107.0	130.7	76.7	100.5	124.3	
	72	THC	200.2	200.2	200.2	189.0	189.0	189.0	177.2	177.2	177.2	164.8	164.8	164.8	151.4	151.4	151.4		
		SHC	78.1	102.2	126.3	72.4	96.5	120.5	66.5	90.6	114.7	60.5	84.5	108.5	54.2	78.1	102.1		
	76	THC	-	216.2	216.2	-	204.3	204.3	-	191.9	191.9	-	178.6	178.6	-	164.6	164.6		
		SHC	-	83.8	109.0	-	78.1	103.2	-	72.3	97.2	-	66.2	91.0	-	60.0	84.5		
	5700 Cfm	EA (wB)	58	THC	167.0	167.0	189.2	158.5	158.5	179.9	149.7	149.7	170.1	140.1	140.1	159.6	129.8	129.8	148.3
				SHC	144.8	167.0	189.2	137.2	158.5	179.9	129.1	149.7	170.1	120.5	140.1	159.6	111.2	129.8	148.3
62			THC	170.0	170.0	187.4	160.4	160.4	181.1	150.4	150.4	174.2	140.2	140.2	166.3	130.0	130.0	154.6	
			SHC	133.3	160.3	187.4	127.2	154.1	181.1	121.0	147.6	174.2	114.1	140.2	166.3	105.2	130.0	154.6	
67			THC	186.5	186.5	186.5	175.4	175.4	175.4	164.1	164.1	164.1	152.1	152.1	152.1	139.2	139.2	139.2	
			SHC	107.5	134.9	162.3	101.7	129.0	156.4	95.6	123.0	150.4	89.5	116.8	144.2	83.0	110.3	137.6	
72		THC	205.5	205.5	205.5	193.9	193.9	193.9	181.6	181.6	181.6	168.7	168.7	168.7	154.9	154.9	154.9		
		SHC	81.2	108.8	136.5	75.5	103.1	130.7	69.5	97.0	124.6	63.4	90.9	118.4	56.9	84.4	111.8		
76		THC	-	221.7	221.7	-	209.3	209.3	-	196.5	196.5	-	182.6	182.6	-	168.1	168.1		
		SHC	-	87.7	116.2	-	81.9	110.3	-	76.0	104.2	-	69.8	98.0	-	63.5	91.5		
6500 Cfm		EA (wB)	58	THC	174.4	174.4	197.4	165.5	165.5	187.7	156.0	156.0	177.3	146.0	146.0	166.2	135.1	135.1	154.3
				SHC	151.3	174.4	197.4	143.3	165.5	187.7	134.7	156.0	177.3	125.7	146.0	166.2	116.0	135.1	154.3
	62		THC	175.2	175.2	201.4	165.5	165.5	195.1	156.2	156.2	184.6	146.1	146.1	173.2	135.3	135.3	160.9	
			SHC	142.0	171.7	201.4	135.9	165.5	195.1	127.8	156.2	184.6	119.0	146.1	173.2	109.7	135.3	160.9	
	67		THC	190.1	190.1	190.1	178.8	178.8	178.8	167.2	167.2	167.2	154.9	154.9	156.0	141.9	141.9	149.4	
			SHC	113.3	143.9	174.4	107.3	137.9	168.5	101.3	131.8	162.4	95.1	125.6	156.0	88.5	119.0	149.4	
	72	THC	209.4	209.4	209.4	197.4	197.4	197.4	184.9	184.9	184.9	171.5	171.5	171.5	157.4	157.4	157.4		
		SHC	83.9	114.7	145.4	78.0	108.7	139.4	72.0	102.7	133.4	65.8	96.4	127.0	59.3	89.9	120.4		
	76	THC	-	225.7	225.7	-	213.0	213.0	-	199.8	199.8	-	185.4	185.4	-	170.6	170.6		
		SHC	-	90.9	122.6	-	85.1	116.6	-	79.1	110.6	-	72.8	104.1	-	66.4	97.6		
	7300 Cfm	EA (wB)	58	THC	180.5	180.5	204.3	171.0	171.0	193.8	161.2	161.2	183.0	150.7	150.7	171.6	139.5	139.5	159.2
				SHC	156.8	180.5	204.3	148.2	171.0	193.8	139.3	161.2	183.0	130.0	150.7	171.6	119.9	139.5	159.2
62			THC	180.7	180.7	212.4	171.2	171.2	201.6	161.4	161.4	190.5	150.9	150.9	178.7	139.6	139.6	165.8	
			SHC	148.9	180.7	212.4	140.7	171.2	201.6	132.2	161.4	190.5	123.1	150.9	178.7	113.4	139.6	165.8	
67			THC	193.2	193.2	193.2	181.7	181.7	181.7	170.0	170.0	173.7	157.4	157.4	167.4	144.1	144.1	160.4	
			SHC	119.0	152.6	186.2	112.9	146.5	180.2	106.8	140.2	173.7	100.4	134.0	167.4	93.7	127.0	160.4	
72		THC	212.6	212.6	212.6	200.3	200.3	200.3	187.4	187.4	187.4	173.8	173.8	173.8	159.4	159.4	159.4		
		SHC	86.3	120.2	154.1	80.4	114.3	148.0	74.3	108.1	141.9	68.1	101.8	135.4	61.5	95.2	128.8		
76		THC	-	228.9	228.9	-	216.1	216.1	-	202.5	202.5	-	187.8	187.8	-	172.7	172.7		
		SHC	-	94.0	128.7	-	88.1	122.8	-	82.1	116.6	-	75.8	110.1	-	69.3	103.5		
8100 Cfm		EA (wB)	58	THC	185.6	185.6	209.9	175.8	175.8	199.2	165.7	165.7	188.0	154.8	154.8	176.1	143.2	143.2	163.3
				SHC	161.3	185.6	209.9	152.4	175.8	199.2	143.3	165.7	188.0	133.6	154.8	176.1	123.1	143.2	163.3
	62		THC	185.8	185.8	218.3	176.0	176.0	207.2	165.8	165.8	195.7	154.9	154.9	183.4	143.3	143.3	170.1	
			SHC	153.3	185.8	218.3	144.7	176.0	207.2	135.9	165.8	195.7	126.6	154.9	183.4	116.5	143.3	170.1	
	67		THC	195.9	195.9	197.6	184.3	184.3	191.3	172.2	172.2	185.0	159.5	159.5	178.1	146.2	146.2	170.6	
			SHC	124.2	160.9	197.6	118.1	154.7	191.3	111.9	148.5	185.0	105.4	141.8	178.1	98.6	134.6	170.6	
	72	THC	215.2	215.2	215.2	202.6	202.6	202.6	189.5	189.5	189.5	175.7	175.7	175.7	161.0	161.0	161.0		
		SHC	88.6	125.5	162.3	82.7	119.4	156.2	76.5	113.3	150.1	70.2	106.9	143.5	63.6	100.2	136.8		
	76	THC	-	231.7	231.7	-	218.5	218.5	-	204.7	204.7	-	189.7	189.7	-	174.4	174.4		
		SHC	-	96.9	134.6	-	91.0	128.6	-	84.9	122.4	-	78.5	115.8	-	72.0	109.2		

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

Table 24 – COOLING CAPACITIES - THIRD STAGE, FULL LOAD

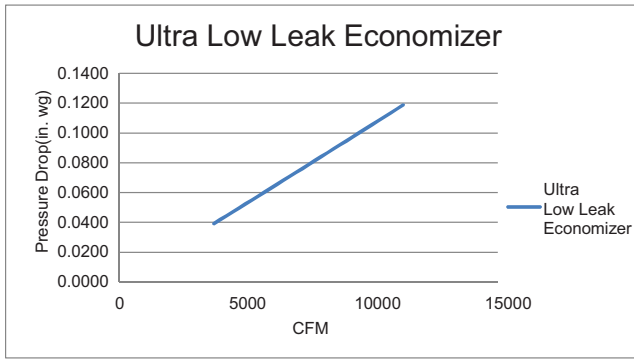
23 TONS

26 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	
6750 Cfm	EA (wB)	58	THC	236.0	236.0	267.5	224.8	224.8	255.5	212.8	212.8	242.3	200.0	200.0	228.2	186.1	186.1	212.9	
			SHC	204.3	236.0	267.5	194.3	224.8	255.5	183.4	212.8	242.3	171.8	200.0	228.2	159.3	186.1	212.9	
		62	THC	249.9	249.9	249.9	236.2	236.2	236.6	222.1	222.1	228.0	206.8	206.8	218.7	190.5	190.5	208.8	
			SHC	180.1	212.6	245.0	171.7	204.2	236.6	163.1	195.6	228.0	154.1	186.4	218.7	144.5	176.7	208.8	
		67	THC	275.4	275.4	275.4	260.8	260.8	260.8	245.4	245.4	245.4	228.7	228.7	228.7	210.9	210.9	210.9	
			SHC	149.4	181.9	214.6	141.1	173.6	206.3	132.5	165.1	197.6	123.5	156.1	188.6	114.1	146.6	179.1	
	72	THC	304.3	304.3	304.3	288.6	288.6	288.6	271.7	271.7	271.7	254.1	254.1	254.1	234.9	234.9	234.9		
		SHC	118.3	151.4	184.6	110.1	143.2	176.3	101.5	134.6	167.6	92.7	125.7	158.5	83.5	116.3	149.2		
	76	THC	-	328.7	328.7	-	312.0	312.0	-	294.3	294.3	-	275.2	275.2	-	255.1	255.1		
		SHC	-	126.5	162.7	-	118.4	154.2	-	109.8	145.3	-	100.9	135.9	-	91.7	126.4		
	7900 Cfm	EA (wB)	58	THC	249.9	249.9	283.1	237.8	237.8	269.9	225.1	225.1	256.0	211.5	211.5	241.0	196.9	196.9	224.9
				SHC	216.6	249.9	283.1	205.7	237.8	269.9	194.3	225.1	256.0	181.9	211.5	241.0	168.8	196.9	224.9
62			THC	258.9	258.9	268.2	244.8	244.8	259.5	230.2	230.2	250.4	214.6	214.6	240.4	198.1	198.1	229.5	
			SHC	194.1	231.2	268.2	185.6	222.6	259.5	176.8	213.5	250.4	167.3	203.9	240.4	157.2	193.3	229.5	
67			THC	284.4	284.4	284.4	269.0	269.0	269.0	252.8	252.8	252.8	235.5	235.5	235.5	216.8	216.8	216.8	
			SHC	158.7	196.1	233.3	150.2	187.5	224.7	141.6	178.7	216.0	132.4	169.6	206.7	122.8	159.9	197.0	
72		THC	313.6	313.6	313.6	297.1	297.1	297.1	279.6	279.6	279.6	261.0	261.0	261.0	241.1	241.1	241.1		
		SHC	122.9	160.8	198.5	114.7	152.3	190.0	105.9	143.5	181.2	96.9	134.5	172.0	87.5	124.9	162.3		
76		THC	-	338.2	338.2	-	320.7	320.7	-	302.2	302.2	-	282.4	282.4	-	261.4	261.4		
		SHC	-	132.1	172.5	-	123.7	163.8	-	115.1	154.8	-	106.0	145.5	-	96.6	135.8		
9000 Cfm		EA (wB)	58	THC	260.7	260.7	295.1	248.1	248.1	281.5	234.9	234.9	266.9	220.4	220.4	251.1	205.1	205.1	234.1
				SHC	226.2	260.7	295.1	214.9	248.1	281.5	202.9	234.9	266.9	189.9	220.4	251.1	176.1	205.1	234.1
	62		THC	266.1	266.1	288.6	251.9	251.9	279.4	237.0	237.0	269.4	221.2	221.2	258.1	205.2	205.2	244.0	
			SHC	206.5	247.6	288.6	197.6	238.6	279.4	188.4	228.8	269.4	178.2	218.1	258.1	166.5	205.2	244.0	
	67		THC	291.0	291.0	291.0	275.2	275.2	275.2	258.3	258.3	258.3	240.4	240.4	240.4	221.2	221.2	221.2	
			SHC	167.0	208.6	250.1	158.4	199.9	241.4	149.5	190.9	232.3	140.2	181.5	223.0	130.5	171.8	213.1	
	72	THC	320.5	320.5	320.5	303.5	303.5	303.5	285.4	285.4	285.4	266.1	266.1	266.1	245.6	245.6	245.6		
		SHC	126.9	169.0	211.0	118.5	160.4	202.3	109.6	151.5	193.3	100.4	142.3	184.0	90.9	132.5	174.1		
	76	THC	-	345.2	345.2	-	327.2	327.2	-	308.0	308.0	-	287.6	287.6	-	266.1	266.1		
		SHC	-	136.9	181.3	-	128.4	172.5	-	119.6	163.4	-	110.5	154.0	-	100.9	144.2		
	10150 Cfm	EA (wB)	58	THC	270.4	270.4	306.0	257.3	257.3	291.6	243.4	243.4	276.4	228.5	228.5	260.0	212.6	212.6	242.4
				SHC	234.8	270.4	306.0	223.0	257.3	291.6	210.4	243.4	276.4	197.0	228.5	260.0	182.6	212.6	242.4
62			THC	272.9	272.9	307.7	258.6	258.6	297.6	243.4	243.4	287.3	228.8	228.8	270.9	212.7	212.7	252.6	
			SHC	218.1	263.0	307.7	208.8	253.2	297.6	199.4	243.4	287.3	186.7	228.8	270.9	172.9	212.7	252.6	
67			THC	296.7	296.7	296.7	280.3	280.3	280.3	263.0	263.0	263.0	244.5	244.5	244.5	225.1	225.1	229.2	
			SHC	175.0	220.8	266.7	166.3	212.1	257.9	157.3	203.0	248.7	147.8	193.5	239.3	138.1	183.6	229.2	
72		THC	326.3	326.3	326.3	308.8	308.8	308.8	290.2	290.2	290.2	270.4	270.4	270.4	249.5	249.5	249.5		
		SHC	130.7	177.0	223.3	122.1	168.3	214.5	113.1	159.2	205.3	103.8	149.9	195.9	94.2	140.1	185.9		
76		THC	-	351.3	351.3	-	332.7	332.7	-	313.0	313.0	-	292.1	292.1	-	270.0	270.0		
		SHC	-	141.5	189.9	-	132.9	181.2	-	123.9	172.0	-	114.8	162.5	-	105.1	152.6		
11250 Cfm		EA (wB)	58	THC	278.5	278.5	314.9	264.8	264.8	300.1	250.5	250.5	284.3	235.1	235.1	267.3	218.6	218.6	249.1
				SHC	241.9	278.5	314.9	229.6	264.8	300.1	216.6	250.5	284.3	202.8	235.1	267.3	188.0	218.6	249.1
	62		THC	278.4	278.4	327.1	264.9	264.9	311.9	250.8	250.8	295.9	235.4	235.4	278.4	218.8	218.8	259.5	
			SHC	229.6	278.4	327.1	217.9	264.9	311.9	205.5	250.8	295.9	192.3	235.4	278.4	177.9	218.8	259.5	
	67		THC	301.0	301.0	301.0	284.3	284.3	284.3	266.6	266.6	266.6	248.0	248.0	254.0	228.2	228.2	243.8	
			SHC	182.2	232.1	281.8	173.5	223.2	272.9	164.3	214.0	263.7	154.8	204.5	254.0	144.9	194.3	243.8	
	72	THC	330.8	330.8	330.8	313.0	313.0	313.0	293.9	293.9	293.9	273.8	273.8	273.8	252.4	252.4	252.4		
		SHC	133.9	184.2	234.4	125.3	175.4	225.5	116.2	166.2	216.3	106.9	156.8	206.7	97.1	146.9	196.7		
	76	THC	-	356.0	356.0	-	337.0	337.0	-	316.8	316.8	-	295.5	295.5	-	273.0	273.0		
		SHC	-	145.6	197.9	-	136.9	189.1	-	127.9	179.8	-	118.6	170.2	-	108.8	160.3		

LEGEND:

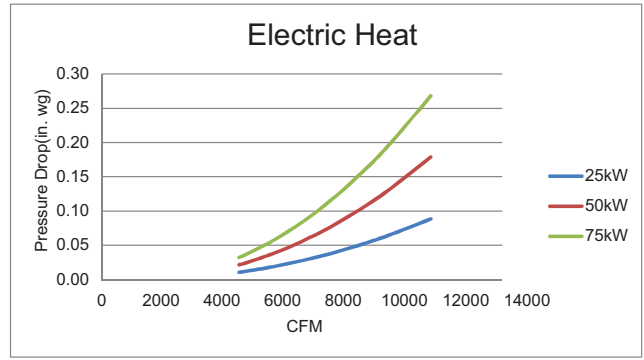
- Do not operate
- Cfm - Cubic feet per minute (supply air)
- EAT(db) - Entering air temperature (dry bulb)
- EAT(wb) - Entering air temperature (wet bulb)
- SHC - Sensible heat capacity
- TC - Total capacity

ECONOMIZER, BAROMETRIC RELIEF AND PE PERFORMANCE



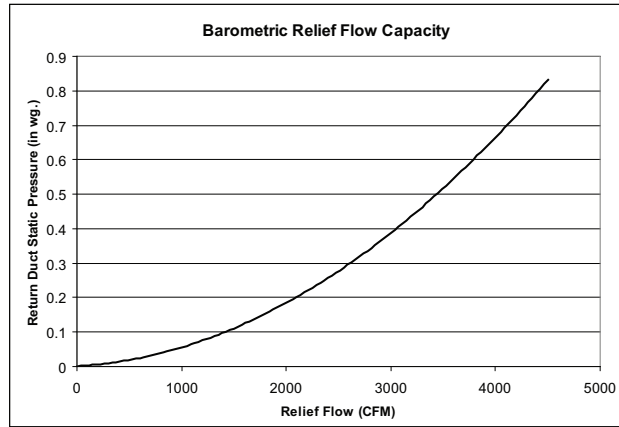
C13090

Fig. 14 - Pressure Drop - Ultra Low Leak Economizer



C13091

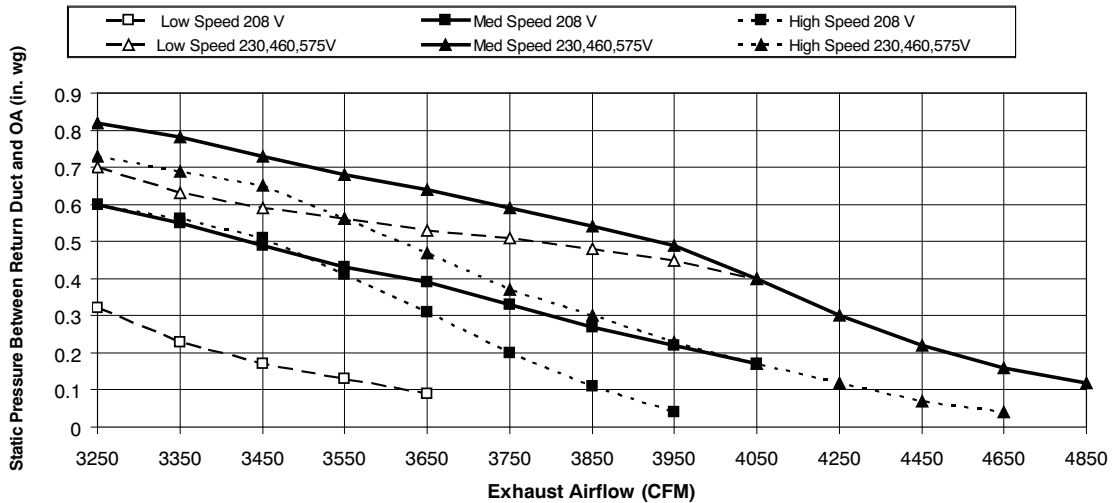
Fig. 15 - Pressure Drop - Electric Heat



C13107

Fig. 16 - Barometric Pressure Drop

Power Exhaust Fan Performance



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

12.5 TON VERTICAL SUPPLY

Table 25 – 50LC14**

CFM	Available External Static Pressure (in. wg)																							
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0					
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP				
3750	413	0.41	514	0.61	600	0.82	673	1.03	738	1.25	797	1.46	851	1.68	901	1.90	948	2.12	992	2.34				
4063	429	0.49	526	0.70	610	0.93	684	1.15	749	1.39	807	1.62	861	1.85	912	2.09	958	2.32	1003	2.56				
4375	447	0.57	539	0.80	621	1.04	694	1.28	759	1.53	818	1.78	872	2.03	922	2.28	969	2.53	1013	2.79				
4688	466	0.67	553	0.91	633	1.16	705	1.42	769	1.69	828	1.95	882	2.22	932	2.49	979	2.76	1024	3.03				
5000	485	0.78	568	1.03	645	1.30	716	1.57	779	1.85	838	2.14	892	2.42	942	2.70	990	2.99	1034	3.28				
5313	505	0.90	584	1.16	659	1.44	727	1.74	790	2.03	848	2.33	902	2.63	952	2.93	1000	3.23	1045	3.54				
5625	525	1.04	600	1.31	672	1.61	739	1.91	801	2.22	859	2.54	912	2.85	963	3.17	1010	3.49	1055	3.81				
5938	546	1.20	618	1.48	687	1.78	752	2.10	813	2.42	870	2.75	923	3.09	973	3.42	1020	3.76	1065	4.10				
6250	568	1.37	636	1.66	702	1.97	765	2.30	825	2.64	881	2.99	934	3.34	983	3.69	1030	4.04	1075	4.39				
	STD Static (498–676rpm) 2.9 Max BHP												MID Static (682–861 rpm) 4.9 Max BHP											
	HIGH Static (782–963 rpm) 7.4 Max BHP												ULTRA HIGH Static (933–1113 rpm) 9.9 Max BHP											
Bold Face = Field Supplied Drive (Standard motor, motor pulley = KR11HY163, blower pulley = KR51BM415, belt = KR29AF049) 368–509rpm																								

12.5 TON HORIZONTAL SUPPLY

Table 26 – 50LC14**

CFM	Available External Static Pressure (in. wg)																							
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0					
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP				
3750	429	0.63	516	1.02	586	1.45	647	1.90	701	2.36	749	2.85	794	3.36	836	3.88	875	4.42	912	4.97				
4063	447	0.73	532	1.14	602	1.59	662	2.06	716	2.56	764	3.07	809	3.60	851	4.14	890	4.70	927	5.28				
4375	466	0.83	549	1.27	618	1.75	678	2.24	731	2.76	780	3.30	825	3.85	866	4.42	906	5.00	943	5.60				
4688	486	0.96	566	1.42	634	1.91	694	2.43	747	2.98	795	3.54	840	4.11	882	4.70	921	5.31	958	5.93				
5000	506	1.09	584	1.58	651	2.10	710	2.64	763	3.21	811	3.79	855	4.39	897	5.01	936	5.64	973	6.29				
5313	527	1.25	603	1.75	668	2.30	726	2.86	779	3.45	827	4.06	871	4.69	913	5.33	952	5.98	989	6.65				
5625	548	1.42	622	1.95	686	2.51	743	3.10	795	3.72	843	4.35	887	5.00	928	5.66	967	6.34	1004	7.04				
5938	570	1.60	641	2.16	704	2.74	760	3.36	812	4.00	859	4.66	903	5.33	944	6.02	983	6.72	1020	7.44				
6250	592	1.81	661	2.38	722	3.00	778	3.64	828	4.30	875	4.98	919	5.68	960	6.39	999	7.12	1036	7.86				
	STD Static (498–676rpm) 2.9 Max BHP												MID Static (644–808rpm) 4.9 Max BHP											
	HIGH Static (707–888rpm) 7.4 Max BHP												ULTRA HIGH Static (872–1053rpm) 9.9 Max BHP											
Bold Face = Field Supplied Drive (Standard motor, motor pulley = KR11HY163, blower pulley = KR51BM415, belt = KR29AF049) 368–509rpm																								
<i>Italics = Field Supplied motor and drive (Motor=HD64FK654, motor pulley= KR12HY167, blower pulley= KR52BH615, belts = BX41) 948–1190rpm</i>																								
* At 575V, HP is 4.7																								

FAN PERFORMANCE (cont.)

15 TON VERTICAL SUPPLY

Table 27 – 50LC17**

CFM	Available External Static Pressure (in. wg)																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4500	424	0.60	538	1.00	622	1.40	690	1.81	752	2.24	809	2.70	863	3.20	915	3.73	966	4.31	1015	4.93
4875	441	0.70	549	1.12	635	1.55	704	1.98	765	2.43	821	2.90	873	3.40	924	3.94	973	4.51	1020	5.12
5250	461	0.83	559	1.23	648	1.71	718	2.18	779	2.64	834	3.13	885	3.64	934	4.18	982	4.75	1027	5.35
5625	484	0.98	569	1.36	660	1.88	732	2.38	793	2.88	848	3.38	898	3.91	946	4.45	992	5.03	1037	5.63
6000	508	1.16	580	1.51	671	2.05	745	2.59	807	3.12	862	3.65	912	4.20	960	4.76	1005	5.34	1048	5.95
6375	534	1.36	595	1.68	681	2.23	757	2.81	821	3.38	876	3.94	927	4.51	974	5.09	1018	5.68	1061	6.30
6750	560	1.59	612	1.89	691	2.42	769	3.04	834	3.65	890	4.25	941	4.84	988	5.44	1032	6.06	1074	6.69
7125	587	1.84	633	2.12	702	2.62	780	3.27	846	3.93	904	4.56	955	5.19	1002	5.82	1046	6.45	1088	7.10
7500	614	2.12	655	2.40	715	2.86	790	3.52	858	4.21	917	4.89	969	5.55	1017	6.21	1061	6.88	1103	7.55
	STD Static (498 – 676 rpm)																			
	2.9 Max BHP																			
	MID Static (651 – 818 rpm) 7.4 Max BHP																			
	HIGH Static (804 – 970rpm) 9.9 Max BHP																			
	ULTRA HIGH Static (948 – 1190 rpm) 13.6 Max BHP																			
Bold Face = Field Supplied Drive (Standard motor (HD58FE654), motor pulley = KR11HY216, blower pulley = KR51BN615, belt = KR29BF052) 403 – 529rpm																				

15 TON HORIZONTAL SUPPLY

Table 28 – 50LC17**

CFM	Available External Static Pressure (in. wg)																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4500	469	1.11	548	1.65	617	2.26	678	2.91	733	3.61	783	4.33	829	5.08	872	5.86	913	6.65	951	7.48
4875	493	1.31	568	1.88	635	2.51	695	3.20	750	3.92	799	4.68	846	5.46	889	6.27	929	7.10	968	7.96
5250	518	1.54	590	2.13	655	2.79	714	3.51	767	4.26	816	5.05	862	5.87	905	6.71	946	7.58	984	8.46
5625	544	1.80	612	2.42	675	3.11	732	3.85	785	4.63	834	5.45	879	6.30	922	7.17	962	8.07	1001	9.00
6000	571	2.10	636	2.74	696	3.46	752	4.22	804	5.04	852	5.88	897	6.76	939	7.67	979	8.60	1017	9.56
6375	598	2.43	660	3.10	718	3.84	772	4.63	823	5.47	870	6.35	915	7.26	957	8.20	996	9.17	1034	10.16
6750	626	2.80	685	3.50	741	4.26	793	5.08	843	5.95	889	6.86	933	7.80	974	8.77	1014	9.76	1052	10.78
7125	654	3.22	710	3.94	764	4.73	815	5.57	863	6.47	908	7.40	952	8.37	993	9.37	1032	10.40	1069	11.45
7500	682	3.67	736	4.42	788	5.24	837	6.11	884	7.03	929	7.99	971	8.99	1011	10.02	1050	11.07	1087	12.16
	STD Static (498 – 676 rpm)																			
	2.9 Max BHP																			
	MID Static (651 – 818 rpm) 7.4 Max BHP																			
	HIGH Static (804 – 970 rpm) 9.9 Max BHP																			
	ULTRA HIGH Static (948 – 1190rpm) 13.6 Max BHP																			
Bold Face = Field Supplied Drive (Standard motor (HD58FE654), motor pulley = KR11HY216, blower pulley = KR51BN615, belt = KR29BF052) 403 – 529 rpm																				

FAN PERFORMANCE (cont.)

17.5 TON VERTICAL SUPPLY

Table 29 – 50LC20**

CFM	Available External Static Pressure (in. wg)																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5250	461	0.83	559	1.23	648	1.71	718	2.18	779	2.64	834	3.13	885	3.64	934	4.18	982	4.75	1027	5.35
5688	488	1.01	571	1.38	662	1.91	734	2.41	795	2.92	850	3.43	901	3.95	949	4.50	994	5.08	1039	5.68
6125	517	1.22	585	1.56	674	2.11	749	2.67	812	3.21	867	3.75	917	4.30	964	4.86	1009	5.45	1052	6.06
6563	547	1.47	603	1.78	686	2.32	763	2.93	827	3.51	883	4.09	934	4.67	981	5.26	1025	5.87	1067	6.49
7000	578	1.75	626	2.04	698	2.55	776	3.19	842	3.83	899	4.45	951	5.07	998	5.69	1042	6.32	1083	6.96
7438	610	2.07	651	2.35	713	2.82	788	3.47	856	4.16	915	4.83	967	5.49	1014	6.15	1058	6.80	1100	7.47
7875	642	2.43	678	2.70	731	3.14	800	3.78	869	4.50	929	5.23	983	5.93	1031	6.62	1075	7.32	1117	8.01
8313	674	2.84	707	3.10	752	3.51	814	4.11	881	4.86	943	5.63	998	6.38	1047	7.12	1092	7.86	1134	8.59
8750	707	3.29	736	3.55	776	3.93	830	4.49	893	5.23	956	6.04	1012	6.85	1062	7.64	1108	8.42	1151	9.19
	STD Static (555 – 753 rpm) 2.9 Max BHP																			
	MID Static (707 – 888 rpm) 7.4 Max BHP																			
	HIGH Static (872 – 1053 rpm) 9.9 Max BHP																			
	ULTRA HIGH Static (948 – 1190 rpm) 13.6 Max BHP																			
	Bold Face = Field Supplied Drive(Standard Motor(HD60FE656), motor pulley = KR11HY216, blower pulley = KR51BM415, belt = KR29BF050)435 – 570rpm																			

17.5 TON HORIZONTAL SUPPLY

Table 30 – 50LC20**

CFM	Available External Static Pressure (in. wg)																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5250	518	1.54	590	2.13	655	2.79	714	3.51	767	4.26	816	5.05	862	5.87	905	6.71	946	7.58	984	8
5688	549	1.85	616	2.47	679	3.16	736	3.91	788	4.70	837	5.52	882	6.37	925	7.25	965	8.16	1003	9
6125	580	2.20	644	2.86	703	3.58	758	4.35	810	5.18	858	6.04	903	6.93	945	7.84	985	8.79	1023	9.75
6563	612	2.61	672	3.29	729	4.05	783	4.85	833	5.71	879	6.60	924	7.52	965	8.48	1005	9.46	1043	10.46
7000	645	3.07	702	3.78	756	4.57	807	5.41	856	6.29	902	7.22	945	8.18	987	9.16	1026	10.18	1063	11.22
7438	678	3.59	732	4.34	784	5.15	833	6.01	880	6.93	925	7.89	968	8.88	1008	9.91	1047	10.96	1084	12.04
7875	711	4.18	763	4.95	812	5.79	860	6.69	906	7.63	949	8.62	991	9.65	1031	10.71	1069	11.79	–	–
8313	745	4.83	794	5.63	842	6.50	887	7.43	932	8.40	974	9.42	1015	10.48	1054	11.57	1091	12.69	–	–
8750	780	5.55	826	6.38	872	7.28	916	8.24	958	9.24	999	10.29	1039	11.38	1077	12.50	–	–	–	–
	STD Static (555 – 753 rpm) 2.9 Max BHP																			
	MID Static (651 – 818 rpm) 7.4 Max BHP																			
	HIGH Static (804 – 970 rpm) 9.9 Max BHP																			
	ULTRA HIGH Static (948 – 1190 rpm) 13.6 Max BHP																			
	Bold Face = Field Supplied Drive(Standard Motor(HD60FE656), motor pulley = KR11HY216, blower pulley = KR51BM415, belt = KR29BF050)435 – 570rpm																			
	<i>Italics = Field Supplied Drive(Medium Static Motor(HD60FK657), motor pulley = KR11BQ415, belt = KR29BF059)583 – 717rpm</i>																			

FAN PERFORMANCE (cont.)

20 TON VERTICAL SUPPLY

Table 31 – 50LC24**

CFM	Available External Static Pressure (in. wg)																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	508	1.16	580	1.51	671	2.05	745	2.59	807	3.12	862	3.65	912	4.20	960	4.76	1005	5.34	1048	5.95
6500	543	1.43	600	1.75	684	2.29	761	2.89	825	3.47	881	4.04	931	4.62	978	5.20	1023	5.81	1065	6.43
7000	578	1.75	626	2.04	698	2.55	776	3.19	842	3.83	899	4.45	951	5.07	997	5.69	1042	6.32	1083	6.96
7500	614	2.12	655	2.40	715	2.86	790	3.52	858	4.21	917	4.89	969	5.55	1017	6.21	1061	6.88	1103	7.55
8000	651	2.55	686	2.81	737	3.24	804	3.87	872	4.60	933	5.34	987	6.06	1036	6.76	1080	7.47	1122	8.17
8500	688	3.02	719	3.29	762	3.68	820	4.27	886	5.01	949	5.80	1004	6.58	1054	7.34	1099	8.09	1141	8.84
9000	726	3.56	754	3.83	791	4.20	841	4.74	901	5.46	963	6.28	1019	7.12	1071	7.94	1117	8.74	1160	9.54
9500	764	4.17	789	4.43	822	4.79	864	5.29	918	5.97	977	6.79	1034	7.67	1087	8.55	1134	9.42	1178	10.26
10000	802	4.83	825	5.10	854	5.45	891	5.92	938	6.55	992	7.35	1048	8.25	1101	9.18	1150	10.11	1196	11.01
	STD Static (583 – 717 rpm) 7.4 Max BHP																			
	MID Static (707 – 888 rpm) 7.4 Max BHP																			
	HIGH Static (872 – 1053 rpm) 9.9 Max BHP																			
	ULTRA HIGH Static (1049 – 1291 rpm) 13.6 Max BHP																			
	Bold Face = Field Supplied Drive (Standard Motor (HD60FK657), motor pulley = KR11HY229, blower pulley = KR51BQ415, belt = KR29BF056) 493 – 605rpm																			

20 TON HORIZONTAL SUPPLY

Table 32 – 50LC24**

CFM	Available External Static Pressure (in. wg)																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	571	2.10	636	2.74	696	3.46	752	4.22	804	5.04	852	5.88	897	6.76	939	7.67	979	8.60	1017	9.56
6500	607	2.55	668	3.23	725	3.98	779	4.78	829	5.63	876	6.52	921	7.44	963	8.39	1002	9.36	1040	10.36
7000	645	3.07	702	3.78	756	4.57	807	5.41	856	6.29	902	7.22	945	8.18	987	9.16	1026	10.18	1063	11.22
7500	682	3.67	736	4.42	788	5.24	837	6.11	884	7.03	929	7.99	971	8.99	1011	10.02	1050	11.07	1087	12.16
8000	721	4.36	772	5.14	821	5.99	868	6.89	913	7.85	956	8.85	998	9.88	1037	10.95	1075	12.04	-	-
8500	760	5.13	808	5.94	854	6.83	899	7.77	943	8.76	985	9.79	1025	10.86	1064	11.96	-	-	-	-
9000	799	5.99	845	6.84	889	7.76	932	8.73	974	9.76	1014	10.82	1053	11.93	1091	13.07	-	-	-	-
9500	839	6.95	882	7.84	924	8.79	966	9.80	1006	10.86	1045	11.96	1083	13.10	-	-	-	-	-	-
10000	879	8.01	920	8.94	960	9.93	1000	10.97	1039	12.06	1076	13.20	-	-	-	-	-	-	-	-
	STD Static (583 – 717 rpm) 7.4 Max BHP																			
	MID Static (707 – 888 rpm) 7.4 Max BHP																			
	HIGH Static (872 – 1053 rpm) 9.9 Max BHP																			
	ULTRA HIGH Static (948 – 1190 rpm) 13.6 Max BHP																			
	Bold Face = Field Supplied Drive (Standard Motor (HD60FK657), motor pulley = KR11HY229, blower pulley = KR51BQ415, belt = KR29BF056) 493 – 605rpm																			

FAN PERFORMANCE (cont.)

23 TON VERTICAL SUPPLY

Table 33 – 50LC**26

CFM	Available External Static Pressure (in. wg)																					
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0			
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP		
6750	560	1.59	612	1.89	691	2.42	769	3.04	834	3.65	890	4.25	941	4.84	988	5.44	1032	6.06	1074	6.69		
7313	601	1.98	643	2.26	709	2.74	785	3.39	852	4.07	911	4.72	962	5.37	1010	6.01	1054	6.66	1095	7.32		
7875	642	2.43	678	2.70	731	3.14	800	3.78	869	4.50	929	5.23	983	5.93	1031	6.62	1075	7.32	1117	8.01		
8438	684	2.96	715	3.22	759	3.62	818	4.21	885	4.96	947	5.74	1002	6.51	1051	7.27	1097	8.01	1139	8.76		
9000	726	3.56	754	3.83	791	4.20	841	4.74	901	5.46	963	6.28	1019	7.12	1071	7.94	1117	8.74	1160	9.54		
9563	769	4.24	794	4.51	826	4.87	868	5.36	920	6.04	979	6.86	1036	7.75	1088	8.63	1136	9.50	1180	10.36		
10125	811	5.01	834	5.28	863	5.63	898	6.09	943	6.71	996	7.50	1052	8.40	1105	9.34	1154	10.28	1200	11.20		
10688	854	5.87	875	6.14	901	6.48	932	6.92	970	7.50	1017	8.24	1069	9.12	1121	10.09	1171	11.08	1218	12.07		
11250	898	6.82	917	7.10	940	7.44	968	7.86	1001	8.40	1041	9.09	1088	9.93	1138	10.89	1187	11.92	1234	12.97		
	STD Static (651 – 818 rpm) 7.4 Max BHP				MID Static (804 – 970 rpm) 9.9 Max BHP						HIGH Static (948 – 1190 rpm) 13.6 Max BHP											
	Bold Face = Field Supplied Drive (Standard Motor (HD60FK657), motor pulley = KR11HY194, blower pulley = KR51BQ415, belt = KR29BF057) 527 – 661 rpm <i>Italics = Field Supplied drive (High Static Motor, motor pulley = KR12HY118, blower pulley = KR52BH615, belts = KR29BF034) 1049 – 1291 rpm</i>																					

23 TON HORIZONTAL SUPPLY

Table 34 – 50LC**26

CFM	Available External Static Pressure (in. wg)																					
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0			
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP		
6750	626	2.80	685	3.50	741	4.26	793	5.08	843	5.95	889	6.86	933	7.80	974	8.77	1014	9.76	1052	10.78		
7313	668	3.44	723	4.17	776	4.98	826	5.83	873	6.74	918	7.69	961	8.67	1002	9.69	1041	10.73	1078	11.80		
7875	711	4.18	763	4.95	812	5.79	860	6.69	906	7.63	949	8.62	991	9.65	1031	10.71	1069	11.79	-	-		
8438	755	5.02	803	5.84	850	6.72	895	7.65	939	8.64	981	9.67	1022	10.73	1060	11.83	1098	12.96	-	-		
9000	799	5.99	845	6.84	889	7.76	932	8.73	974	9.76	1014	10.82	1053	11.93	1091	13.07	-	-	-	-		
9563	844	7.08	887	7.97	929	8.93	970	9.94	1010	11.00	1049	12.11	1086	13.25	-	-	-	-	-	-		
10125	889	8.30	930	9.23	969	10.23	1009	11.28	1047	12.38	-	-	-	-	-	-	-	-	-	-		
10688	935	9.66	973	10.64	1011	11.68	1048	12.76	-	-	-	-	-	-	-	-	-	-	-	-		
11250	980	11.17	1017	12.19	1053	13.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	STD Static (707 – 888 rpm) 7.4 Max BHP				MID Static (859 – 1026 rpm) 9.9 Max BHP						HIGH Static (948 – 1190 rpm) 13.6 Max BHP											
	Bold Face = Field Supplied Drive (Standard Motor (HD60FK657), motor pulley = KR11HY232, blower pulley = KR51BQ415, belt = KR29BF059) 583 – 717 rpm																					

FAN PERFORMANCE (cont.)

Table 35 – PULLEY ADJUSTMENT

VERTICAL

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
14	Standard Static	N/A	N/A	676	658	640	623	605	587	569	551	534	516	498
	Medium Static	N/A	N/A	861	843	825	807	789	772	754	736	718	700	682
	High Static	963	948	933	918	903	888	873	857	842	827	812	797	782
	Ultra High Static	1113	1098	1083	1068	1053	1038	1023	1008	993	978	963	948	933
17	Standard Static	N/A	N/A	676	658	640	623	605	587	569	551	534	516	498
	Medium Static	818	804	790	776	762	748	735	721	707	693	679	665	651
	High Static	970	956	942	929	915	901	887	873	859	846	832	818	804
	Ultra High Static	1190	1170	1150	1130	1109	1089	1069	1049	1029	1009	988	968	948
20	Standard Static	N/A	N/A	753	733	713	694	674	654	634	614	595	575	555
	Medium Static	888	873	858	843	828	813	798	782	767	752	737	722	707
	High Static	1053	1038	1023	1008	993	978	963	947	932	917	902	887	872
	Ultra High Static	1190	1170	1150	1130	1109	1089	1069	1049	1029	1009	988	968	948
24	Standard Static	717	706	695	684	672	661	650	639	628	617	605	594	583
	Medium Static	888	873	858	843	828	813	798	782	767	752	737	722	707
	High Static	1053	1038	1023	1008	993	978	963	947	932	917	902	887	872
	Ultra High Static	1291	1271	1251	1231	1210	1190	1170	1150	1130	1110	1089	1069	1049
26	Standard Static	818	804	790	776	762	748	735	721	707	693	679	665	651
	Medium Static	970	956	942	929	915	901	887	873	859	846	832	818	804
	High Static	1190	1170	1150	1130	1109	1089	1069	1049	1029	1009	988	968	948

Table 36 – PULLEY ADJUSTMENT

HORIZONTAL

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
14	Standard Static	N/A	N/A	676	658	640	623	605	587	569	551	534	516	498
	Medium Static	808	794	781	767	753	740	726	712	699	685	671	658	644
	High Static	888	873	858	843	828	813	798	782	767	752	737	722	707
	Ultra High Static	1053	1038	1023	1008	993	978	963	947	932	917	902	887	872
17	Standard Static	N/A	N/A	676	658	640	623	605	587	569	551	534	516	498
	Medium Static	818	804	790	776	762	748	735	721	707	693	679	665	651
	High Static	970	956	942	929	915	901	887	873	859	846	832	818	804
	Ultra High Static	1190	1170	1150	1130	1109	1089	1069	1049	1029	1009	988	968	948
20	Standard Static	N/A	N/A	753	733	713	694	674	654	634	614	595	575	555
	Medium Static	818	804	790	776	762	748	735	721	707	693	679	665	651
	High Static	970	956	942	929	915	901	887	873	859	846	832	818	804
	Ultra High Static	1190	1170	1150	1130	1109	1089	1069	1049	1029	1009	988	968	948
24	Standard Static	717	706	695	684	672	661	650	639	628	617	605	594	583
	Medium Static	888	873	858	843	828	813	798	782	767	752	737	722	707
	High Static	1053	1038	1023	1008	993	978	963	947	932	917	902	887	872
	Ultra High Static	1190	1170	1150	1130	1109	1089	1069	1049	1029	1009	988	968	948
26	Standard Static	888	873	858	843	828	813	798	782	767	752	737	722	707
	Medium Static	1026	1012	998	984	970	956	943	929	915	901	887	873	859
	High Static	1190	1170	1150	1130	1109	1089	1069	1049	1029	1009	988	968	948

ELECTRICAL INFORMATION

Table 37 – 50LC*014 - 026

15 - 23 TONS

50LC 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
14	208-3-60	187	253	17.6	123	23.2	164	210	1.8	STD	85.0%	8.6
										MED	83.6%	13.6
										HIGH	89.5%	21.2
										ULTRA HIGH	91.7%	28.0
	230-3-60	187	253	17.6	123	23.2	164	210	1.8	STD	85.0%	7.8
										MED	83.6%	12.7
										HIGH	89.5%	21.2
										ULTRA HIGH	91.7%	28.0
	460-3-60	414	506	9.6	62	11.2	75	210	1.8	STD	85.0%	3.8
										MED	83.6%	6.4
										HIGH	89.5%	9.7
										ULTRA HIGH	91.7%	13.7
575-3-60	518	633	6.1	40	7.9	54	210	1.8	STD	81.1%	4.5	
									MED	83.6%	6.2	
									HIGH	89.5%	7.2	
									ULTRA HIGH	91.7%	8.9	
17	208-3-60	187	253	19.0	123	27.5	191	210	1.8	STD	85.0%	8.6
										MED	89.5%	21.2
										HIGH	91.7%	28.0
										ULTRA HIGH	91.7%	37.3
	230-3-60	187	253	19.0	123	27.5	191	210	1.8	STD	85.0%	7.8
										MED	89.5%	21.2
										HIGH	91.7%	28.0
										ULTRA HIGH	91.7%	37.3
	460-3-60	414	506	9.7	62	12.8	100	210	1.8	STD	85.0%	3.8
										MED	89.5%	9.7
										HIGH	91.7%	13.7
										ULTRA HIGH	91.7%	16.9
575-3-60	518	633	7.4	50	9.6	78	210	1.8	STD	81.1%	4.5	
									MED	89.5%	7.2	
									HIGH	91.7%	8.9	
									ULTRA HIGH	91.7%	12.6	
20	208-3-60	187	253	25.0	164	27.5	191	210	1.8	STD	81.5%	10.8
										MED	89.5%	21.2
										HIGH	91.7%	28.0
										ULTRA HIGH	91.7%	37.3
	230-3-60	187	253	25.0	164	27.5	191	210	1.8	STD	81.5%	9.8
										MED	89.5%	21.2
										HIGH	91.7%	28.0
										ULTRA HIGH	91.7%	37.3
	460-3-60	414	506	12.2	100	12.8	100	210	1.8	STD	81.5%	4.9
										MED	89.5%	9.7
										HIGH	91.7%	13.7
										ULTRA HIGH	91.7%	16.9
575-3-60	518	633	9.0	78	9.6	78	210	1.8	STD	81.1%	4.5	
									MED	89.5%	7.2	
									HIGH	91.7%	8.9	
									ULTRA HIGH	91.7%	12.6	

ELECTRICAL INFORMATION (cont.)

Table 37 (cont.) - 50LC*014 - 026

15 - 23 TONS

50LC 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
24	208-3-60	187	253	29.4	195	33.3	239	210	1.8	STD	89.5%	21.2
										MED	89.5%	21.2
										HIGH	91.7%	28.0
										ULTRA HIGH	91.7%	37.3
	230-3-60	187	253	29.4	195	33.3	239	210	1.8	STD	89.5%	21.2
										MED	89.5%	21.2
										HIGH	91.7%	28.0
										ULTRA HIGH	91.7%	37.3
	460-3-60	414	506	14.7	95	17.9	125	210	1.8	STD	89.5%	9.7
										MED	89.5%	9.7
										HIGH	91.7%	13.7
										ULTRA HIGH	91.7%	16.9
575-3-60	518	633	12.2	80	12.8	80	210	1.8	STD	89.5%	7.2	
									MED	89.5%	7.2	
									HIGH	91.7%	8.9	
									ULTRA HIGH	91.7%	12.6	
26	208-3-60	187	253	30.1	225	51.2	300	210	1.8	STD	89.5%	21.2
										MED	91.7%	28.0
										HIGH	91.7%	37.3
	230-3-60	187	253	30.1	225	51.2	300	210	1.8	STD	89.5%	21.2
										MED	91.7%	28.0
										HIGH	91.7%	37.3
	460-3-60	414	506	16.6	114	23.0	150	210	1.8	STD	89.5%	9.7
										MED	91.7%	13.7
										HIGH	91.7%	16.9
	575-3-60	518	633	12.2	80	19.8	109	210	1.8	STD	89.5%	7.2
										MED	91.7%	8.9
										HIGH	91.7%	12.6

ELECTRICAL DATA (cont.)

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

UNIT	ELEC. HTR				NO C.O. or UNPWR C.O.						NO PE.						w/ PE. (pwrd fr/unit)						w/ PWRD C.O.					
	IFIM TYPE	CRHEATER***A00	Nom (kW)	FLA	NO PE.			w/ PE. (pwrd fr/unit)			NO PE.			w/ PE. (pwrd fr/unit)			NO PE.			w/ PE. (pwrd fr/unit)			w/ PWRD C.O.					
					FUSE or HACR BRKR	MCA	DISC. SIZE	FLA	LRA	MCA	FUSE or HACR BRKR	MCA	DISC. SIZE	FLA	LRA	MCA	FUSE or HACR BRKR	MCA	DISC. SIZE	FLA	LRA	MCA	FUSE or HACR BRKR	MCA	DISC. SIZE	FLA	LRA	
NO M. V - Ph-HZ	STD	NONE	-	-	63/62	346	72.4/71.6	90/90	77/76	366	65.4/64.6	80/80	69/68	351	77.2/76.4	100/90	82/81	371										
		302/305	15.0	36.1	63/62	346	72.4/71.6	90/90	77/76	366	65.4/64.6	80/80	69/68	351	77.2/76.4	100/90	82/81	371										
		279/270	18.8/25.0	52.1/60.1	70/78	346/346	90.6/96.6	100/100	83/92	366/366	81.9/90.9	90/100	75/84	351/351	96.6/105.6	100/110	89/97	371/371										
		309/312	50.0	120.3	148/147	346	145.8/144.8	175/150	162/161	366	137.1/136.1	150/150	154/153	351	151.8/150.8	175/175	167/166	371										
		NONE	-	-	69/68	381	77.4/76.5	100/90	82/81	401	70.4/69.5	90/90	74/73	386	82.2/81.3	100/100	88/87	406										
		302/305	15.0	36.1	69/68	381	77.4/76.5	100/90	82/81	401	70.4/69.5	90/90	74/73	386	82.2/81.3	100/100	88/87	406										
	208/230-3-60	MED	279/270	18.8/25.0	52.1/60.1	76/84	381/381	96.9/105.8	100/110	89/97	401/401	88.1/97.0	90/100	81/89	386/386	102.9/111.8	110/125	95/103	406/406									
			309/312	50.0	120.3	154/153	381	152.1/150.9	175/175	168/167	401	143.3/142.2	175/175	160/158	386	158.1/156.9	175/175	173/172	406									
			NONE	-	-	78	377	85.0	100	91	397	78.0	100	83	382	89.8	100	97	402									
			302/305	15.0	36.1	78	377	86.4	100	91	397	78.0	100	83	382	92.4	100	97	402									
			279/270	18.8/25.0	52.1/60.1	84/93	377/377	106.4/116.4	110/125	98/107	397/397	97.6/107.6	100/110	90/99	382/382	112.4/122.4	125/125	103/113	402/402									
			309/312	50.0	120.3	163	377	161.6	175	176	397	152.8	175	168	382	167.6	175	182	402									
50LC-014	ULTRA HIGH	NONE	-	-	85	456	93.0	110	99	476	86.0	100	91	461	97.8	125	104	481										
		302/305	15.0	36.1	85	456	94.9	110	99	476	86.1	100	91	461	100.9	125	104	481										
		279/270	18.8/25.0	52.1/60.1	92/101	456/456	114.9/124.9	125/125	106/115	476/476	106.1/116.1	110/125	98/107	461/461	120.9/130.9	125/150	111/120	481/481										
		309/312	50.0	120.3	171	456	170.1	175	184	476	161.3	175	176	461	176.1	200	190	481										
		NONE	-	-	35	170	39.0	50	42	182	35.0	45	37	172	41.2	50	44	184										
		303/306	15.0	18.0	35	170	39.0	50	42	182	35.0	45	37	172	41.2	50	44	184										
460-3-60	STD	282/273	25.0	30.1	39	170	50.1	60	46	182	45.1	50	42	172	52.9	60	49	184										
		310/313	50.0	60.1	73	170	72.6	80	81	182	67.6	80	76	172	75.4	80	83	184										
		NONE	-	-	37	187	41.6	50	45	199	37.6	45	40	189	43.8	50	47	201										
		303/306	15.0	18.0	37	187	41.6	50	45	199	37.6	45	40	189	43.8	50	47	201										
		282/273	25.0	30.1	42	187	53.4	60	49	199	48.4	50	45	189	56.1	60	52	201										
		310/313	50.0	60.1	76	187	75.9	80	84	199	70.9	80	79	189	78.6	80	86	201										
460-3-60	MED	NONE	-	-	41	185	44.9	50	48	197	40.9	50	44	187	47.1	50	51	199										
		303/306	15.0	18.0	41	185	44.9	50	48	197	40.9	50	44	187	47.1	50	51	199										
		282/273	25.0	30.1	46	185	57.5	60	53	197	52.5	60	48	187	60.3	70	55	199										
		310/313	50.0	60.1	80	185	80.0	90	87	197	75.0	80	83	187	82.7	90	90	199										
		NONE	-	-	46	225	49.5	60	53	237	45.5	50	48	227	51.7	60	56	239										
		303/306	15.0	18.0	46	225	49.5	60	53	237	45.5	50	48	227	51.7	60	56	239										
460-3-60	HIGH	282/273	25.0	30.1	50	225	62.5	70	58	237	57.5	60	53	227	65.3	70	60	239										
		310/313	50.0	60.1	85	225	85.0	90	92	237	80.0	90	87	227	87.7	90	95	239										
		NONE	-	-	41	185	44.9	50	48	197	40.9	50	44	187	47.1	50	51	199										
		303/306	15.0	18.0	41	185	44.9	50	48	197	40.9	50	44	187	47.1	50	51	199										
		282/273	25.0	30.1	46	185	57.5	60	53	197	52.5	60	48	187	60.3	70	55	199										
		310/313	50.0	60.1	80	185	80.0	90	87	197	75.0	80	83	187	82.7	90	90	199										
460-3-60	ULTRA HIGH	NONE	-	-	46	225	49.5	60	53	237	45.5	50	48	227	51.7	60	56	239										
		303/306	15.0	18.0	46	225	49.5	60	53	237	45.5	50	48	227	51.7	60	56	239										
		282/273	25.0	30.1	50	225	62.5	70	58	237	57.5	60	53	227	65.3	70	60	239										
		310/313	50.0	60.1	85	225	85.0	90	92	237	80.0	90	87	227	87.7	90	95	239										
		NONE	-	-	41	185	44.9	50	48	197	40.9	50	44	187	47.1	50	51	199										
		303/306	15.0	18.0	41	185	44.9	50	48	197	40.9	50	44	187	47.1	50	51	199										

ELECTRICAL DATA (cont.)

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

UNIT	NO. M. V. - Ph - Hz	ELEC. HTR			NO. C.O. or UNPWR C.O.						W/ PWRD C.O.									
		CRHEATER***A00	Nom (kW)	FLA	NO PE.			w/ PE. (pwrdr fr/unit)			NO PE.			w/ PE. (pwrdr fr/unit)						
					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				
STD		NONE	-	-	25.9	30	27	122	30.7	35	33	130	27.6	30	29	124	32.4	40	35	132
		304/307	15.0	14.4	25.9	30	27	122	30.7	35	33	130	27.6	30	29	124	32.4	40	35	132
		285/276	24.8	23.9	35.5	40	33	122	41.5	45	38	130	37.6	40	35	124	43.6	45	40	132
		311/314	49.6	47.7	65.3	70	60	122	71.3	80	66	130	67.4	70	62	124	73.4	80	68	132
MED		NONE	-	-	27.6	30	29	136	32.4	40	35	144	29.3	35	31	138	34.1	40	37	146
		304/307	15.0	14.4	27.6	30	29	136	32.4	40	35	144	29.3	35	31	138	34.1	40	37	146
		285/276	24.8	23.9	37.6	40	35	136	43.6	45	40	144	39.8	40	37	138	45.8	50	42	146
		311/314	49.6	47.7	67.4	70	62	136	73.4	80	68	144	69.5	70	64	138	75.5	80	69	146
HIGH		NONE	-	-	28.6	35	31	134	33.4	40	36	142	30.3	35	33	136	35.1	40	38	144
		304/307	15.0	14.4	28.6	35	31	134	33.4	40	36	142	30.3	35	33	136	35.1	40	38	144
		285/276	24.8	23.9	38.9	40	36	134	44.9	45	41	142	41.0	45	38	136	47.0	50	43	144
		311/314	49.6	47.7	68.6	70	63	134	74.6	80	69	142	70.8	80	65	136	76.8	80	71	144
ULTRA HIGH		NONE	-	-	30.5	35	33	161	35.3	40	38	169	32.2	40	35	163	37.0	45	40	171
		304/307	15.0	14.4	30.5	35	33	161	35.3	40	38	169	32.2	40	35	163	37.3	45	40	171
		285/276	24.8	23.9	41.0	45	38	161	47.0	50	43	169	43.1	45	40	163	49.1	50	45	171
		311/314	49.6	47.7	70.8	80	65	161	76.8	80	71	169	72.9	80	67	163	78.9	80	73	171

ELECTRICAL DATA (cont.)

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

UNIT	NO M, V - Ph - HZ	ELEC. HTR				NO C.O. or UNPWR C.O.						w/ PWRD C.O.								
		CRHEATER***A00	Nom (kW)	FLA	NO PE.			w/ PE. (pwrd fr/unit)			NO PE.			w/ PE. (pwrd fr/unit)						
					MCA	FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	
STD		NONE	-	-	69.2/68.4	90/90	72/71	375	81.0/80.2	100/100	85/84	395	74.0/73.2	100/100	77/76	380	85.8/85.0	100/100	91/90	400
		279/270	18.8/25.0	52.1/60.1	75.9/84.9	90/90	72/78	375/375	90.6/98.6	100/100	85/92	395/395	81.9/90.9	100/100	77/84	380/380	96.6/105.6	100/110	91/97	400/400
		280/271	37.8/50.0	104.2/120.3	141.0/130.1	150/150	130/147	375/375	155.8/144.8	175/150	143/161	395/395	147.0/136.1	150/150	135/153	380/380	161.8/150.8	175/175	149/166	400/400
		281/272	56.3/75.0	156.4/180.4	167.2/190.2	200/200	190/216	375/375	181.9/204.9	200/225	203/230	395/395	173.2/196.2	200/225	195/222	380/380	187.9/210.9	200/225	209/236	400/400
MED		NONE	-	-	81.8	100	86	406	93.6	110	100	426	86.6	100	92	411	98.4	125	105	431
		279/270	18.8/25.0	52.1/60.1	91.6/101.6	100/110	86/93	406/406	106.4/116.4	110/125	100/107	426/426	97.6/107.6	100/110	92/99	411/411	112.4/122.4	125/125	105/113	431/431
		280/271	37.8/50.0	104.2/120.3	156.8/146.8	175/175	144/163	406/406	171.5/161.6	175/175	158/176	426/426	162.8/152.8	175/175	150/168	411/411	177.5/167.6	200/175	163/182	431/431
		281/272	56.3/75.0	156.4/180.4	182.9/206.9	200/250	204/232	406/406	197.7/221.7	225/250	218/245	426/426	188.9/212.9	200/250	210/237	411/411	203.7/227.7	225/250	223/251	431/431
HIGH		NONE	-	-	88.7	100	94	485	100.5	125	108	505	93.5	110	99	490	105.3	125	113	510
		279/270	18.8/25.0	52.1/60.1	100.1/110.1	110/125	94/101	485/485	114.9/124.9	125/125	108/115	505/505	106.1/116.1	110/125	99/107	490/490	120.9/130.9	125/150	113/120	510/510
		280/271	37.8/50.0	104.2/120.3	165.3/155.3	175/175	152/171	485/485	180.0/170.1	200/175	166/184	505/505	171.3/161.3	175/175	158/176	480/490	186.0/176.1	200/200	171/190	510/510
		281/272	56.3/75.0	156.4/180.4	191.4/215.4	200/250	212/240	485/485	206.2/230.2	225/250	226/253	505/505	197.4/221.4	225/250	218/245	490/490	212.2/236.2	225/250	231/259	510/510
ULTRA HIGH		NONE	-	-	100.3	125	105	516	112.1	125	118	536	105.1	125	110	521	116.9	150	124	541
		279/270	18.8/25.0	52.1/60.1	111.8/121.8	125/125	105/112	516/516	126.5/136.5	150/150	118/126	536/536	117.8/127.8	125/150	110/118	521/521	132.5/142.5	150/150	124/131	541/541
		280/271	37.8/50.0	104.2/120.3	176.9/166.9	200/200	163/181	516/516	191.6/181.7	200/200	176/195	536/536	182.9/172.9	200/200	168/187	521/521	197.6/187.7	200/200	182/200	541/541
		281/272	56.3/75.0	156.4/180.4	203.0/227.0	225/250	223/250	516/516	217.8/241.8	250/250	236/264	536/536	209.0/233.0	225/250	228/256	521/521	223.8/247.8	250/300	242/269	541/541
STD		NONE	-	-	36.7	45	39	197	42.9	50	46	209	38.9	50	41	199	45.1	50	48	211
		282/273	25.0	30.1	42.4	45	39	197	50.1	60	46	209	45.1	50	42	199	52.9	60	49	211
		283/274	50.0	60.1	64.9	70	73	197	72.6	80	81	209	67.6	80	76	199	75.4	80	83	211
		284/275	75.0	90.2	95.0	100	108	197	102.7	110	115	209	97.7	100	111	199	105.5	110	118	211
MED		NONE	-	-	42.6	50	45	212	48.8	60	52	224	44.8	50	48	214	51.0	60	55	226
		282/273	25.0	30.1	49.8	50	46	212	57.5	60	53	224	52.5	60	48	214	60.3	70	55	226
		283/274	50.0	60.1	72.2	80	80	212	80.0	90	87	224	75.0	80	83	214	82.7	90	90	226
		284/275	75.0	90.2	102.3	125	115	212	110.1	125	122	224	105.1	125	117	214	112.8	125	125	226
HIGH		NONE	-	-	46.8	60	50	252	53.0	60	57	264	49.0	60	52	254	55.2	60	60	266
		282/273	25.0	30.1	54.8	60	50	252	62.5	70	58	264	57.5	60	53	254	65.3	70	60	266
		283/274	50.0	60.1	77.2	90	85	252	85.0	90	92	264	80.0	90	87	254	87.7	90	95	266
		284/275	75.0	90.2	107.3	125	119	252	115.1	125	127	264	110.1	125	122	254	117.8	125	129	266
ULTRA HIGH		NONE	-	-	50.8	60	54	267	57.0	70	61	279	53.0	60	56	269	59.2	70	63	281
		282/273	25.0	30.1	58.8	60	54	267	66.5	70	61	279	61.5	70	57	269	69.3	70	64	281
		283/274	50.0	60.1	81.2	90	89	267	86.0	100	96	279	84.0	100	91	269	91.7	100	98	281
		284/275	75.0	90.2	111.3	125	123	267	119.1	125	130	279	114.1	125	126	269	121.8	125	133	281

ELECTRICAL DATA (cont.)

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

UNIT	NO M, V - Ph - Hz	ELEC. HTR				NO C.O. or UNPWR C.O.						w/ PWRD C.O.						
		CRHEATER***A00	Nom (kW)	FLA	NO PE.			w/ PE. (pwrd fr/unit)			NO PE.			w/ PE. (pwrd fr/unit)				
					FUSE or HACR BRKR	MCA	FLA	DISC. SIZE	LRA	FUSE or HACR BRKR	MCA	FLA	DISC. SIZE	LRA	FUSE or HACR BRKR	MCA	FLA	DISC. SIZE
STD		NONE	-	-	81/80	440	89.2/88.2	100/100	95/93	460	82.2/81.2	100/100	87/85	445	94.0/93.0	110/100	100/99	465
		279/270	18.8/25.0	52.1/60.1	81/80	440/440	93.4/102.1	100/110	95/94	460/460	84.6/93.4	100/100	87/86	445/445	99.4/108.1	110/110	100/99	465/465
		280/271	37.8/50.0	104.2/120.3	132/150	440/440	158.5/147.3	175/175	146/163	460/460	149.8/138.6	150/150	138/155	445/445	164.5/153.3	175/175	151/169	465/465
		281/272	56.3/75.0	156.4/180.4	192/219	440/440	184.7/207.4	200/225	206/232	460/460	175.9/198.7	200/225	198/224	445/445	190.7/213.4	200/225	211/238	465/465
		NONE	-	-	93	447	99.6	125	107	467	92.6	100	99	452	104.4	125	112	472
MED		279/270	18.8/25.0	52.1/60.1	93/93	447/447	106.4/116.4	125/125	107/107	467/467	97.6/107.6	100/110	99/99	452/452	112.4/122.4	125/125	112/113	472/472
		280/271	37.8/50.0	104.2/120.3	144/163	447/447	171.5/161.6	175/175	158/176	467/467	162.8/152.8	175/175	150/168	452/452	177.5/167.6	200/175	163/182	472/472
		281/272	56.3/75.0	156.4/180.4	204/232	447/447	197.7/221.7	225/250	218/245	467/467	188.9/212.9	200/250	210/237	452/452	203.7/227.7	225/250	223/251	472/472
		NONE	-	-	101	526	106.5	125	114	546	99.5	125	106	531	111.3	125	120	551
		279/270	18.8/25.0	52.1/60.1	101/101	526/526	114.9/124.9	125/125	114/115	546/546	106.1/116.1	125/125	106/107	531/531	120.9/130.9	125/150	120/120	551/551
HIGH		280/271	37.8/50.0	104.2/120.3	152/171	526/526	180.0/170.1	200/175	166/184	546/546	171.3/161.3	175/175	158/176	531/531	186.0/176.1	200/200	171/190	551/551
		281/272	56.3/75.0	156.4/180.4	212/240	526/526	206.2/230.2	225/250	226/253	546/546	197.4/221.4	225/250	218/245	531/531	212.2/236.2	225/250	231/259	551/551
		NONE	-	-	112	557	118.1	150	125	577	111.1	125	117	562	122.9	150	131	582
		279/270	18.8/25.0	52.1/60.1	112/112	557/557	126.5/136.5	150/150	125/126	577/577	117.8/127.8	125/150	117/118	562/562	132.5/142.5	150/150	131/131	582/582
		280/271	37.8/50.0	104.2/120.3	163/181	557/557	191.6/181.7	200/200	176/195	577/577	182.9/172.9	200/200	168/187	562/562	197.6/187.7	200/200	182/200	582/582
STD		281/272	56.3/75.0	156.4/180.4	223/250	557/557	217.8/241.8	250/250	236/264	577/577	209.0/233.0	225/250	228/256	562/562	223.8/247.8	250/300	242/269	582/582
		NONE	-	-	43	247	46.5	50	50	259	42.5	50	45	249	48.7	60	52	261
		282/273	25.0	30.1	43	247	51.5	60	50	259	46.5	60	45	249	54.3	60	52	261
		283/274	50.0	60.1	75	247	74.0	80	82	259	69.0	80	77	249	76.7	80	84	261
		284/275	75.0	90.2	109	247	104.1	110	116	259	99.1	100	112	249	106.8	110	119	261
MED		NONE	-	-	48	250	51.3	60	55	262	47.3	60	51	252	53.5	60	58	264
		282/273	25.0	30.1	48	250	57.5	60	55	262	52.5	60	51	252	60.3	70	58	264
		283/274	50.0	60.1	80	250	80.0	90	87	262	75.0	80	83	252	82.7	90	90	264
		284/275	75.0	90.2	115	250	110.1	125	122	262	105.1	125	117	252	112.8	125	125	264
		NONE	-	-	53	290	55.5	60	60	302	51.5	60	55	292	57.7	70	62	304
HIGH		282/273	25.0	30.1	53	290	62.5	70	60	302	57.5	60	55	292	65.3	70	62	304
		283/274	50.0	60.1	85	290	85.0	90	92	302	80.0	90	87	292	87.7	90	95	304
		284/275	75.0	90.2	119	290	115.1	125	127	302	110.1	125	122	292	117.8	125	129	304
		NONE	-	-	56	305	59.5	70	64	317	55.5	60	59	307	61.7	70	66	319
		282/273	25.0	30.1	56	305	66.5	70	64	317	61.5	70	59	307	69.3	70	66	319
ULTRA HIGH		283/274	50.0	60.1	89	305	86.0	100	96	317	84.0	100	91	307	91.7	100	98	319
		284/275	75.0	90.2	123	305	119.1	125	130	317	114.1	125	126	307	121.8	125	133	319

ELECTRICAL DATA (cont.)

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

UNIT	NO. M. V. - Ph - Hz	ELEC. HTR			NO. C.O. or UNPWR C.O.						w/ PWRD C.O.									
		CRHEATER***A00	Nom (kW)	FLA	NO PE.			w/ PE. (pwrdr fr/unit)			NO PE.			w/ PE. (pwrdr fr/unit)						
					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				
STD		NONE	-	-	32.7	40	35	186	37.5	45	40	194	34.4	40	37	188	39.2	45	42	196
		285/276	24.8	23.9	35.5	40	35	186	41.5	45	40	194	37.6	40	37	188	43.6	45	42	196
		286/277	49.6	47.7	65.3	70	60	186	71.3	80	66	194	67.4	70	62	188	73.4	80	68	196
		287/278	74.4	71.6	77.2	90	88	186	83.2	90	93	194	79.4	90	89	188	85.4	90	95	196
MED		NONE	-	-	35.4	45	38	198	40.2	45	43	206	37.1	45	40	200	41.9	50	45	208
		285/276	24.8	23.9	38.9	45	38	198	44.9	45	43	206	41.0	45	40	200	47.0	50	45	208
		286/277	49.6	47.7	68.6	70	63	198	74.6	80	69	206	70.8	80	65	200	76.8	80	71	208
		287/278	74.4	71.6	80.6	90	91	198	86.6	90	96	206	82.7	90	93	200	88.7	90	98	208
HIGH		NONE	-	-	37.1	45	40	225	41.9	50	45	233	38.8	45	42	227	43.6	50	47	235
		285/276	24.8	23.9	41.0	45	40	225	47.0	50	45	233	43.1	45	42	227	49.1	50	47	235
		286/277	49.6	47.7	70.8	80	65	225	76.8	80	71	233	72.9	80	67	227	78.9	80	73	235
		287/278	74.4	71.6	82.7	90	93	225	86.7	90	98	233	84.9	90	95	227	90.9	100	100	235
ULTRA HIGH		NONE	-	-	41.6	50	44	236	46.4	50	50	244	43.3	50	46	238	48.1	60	52	246
		285/276	24.8	23.9	45.6	50	44	236	51.6	60	50	244	47.8	50	46	238	53.8	60	52	246
		286/277	49.6	47.7	75.4	80	69	236	81.4	90	75	244	77.5	80	71	238	83.5	90	77	246
		287/278	74.4	71.6	87.4	100	97	236	93.4	100	102	244	89.5	100	99	238	95.5	100	104	246

ELECTRICAL DATA (cont.)

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

UNIT	IFIM TYPE	ELEC. HTR				NO C.O. or UNPWR C.O.						w/ PWRD C.O.								
		CRHEATER***A00	Nom (kW)	FLA	NO PE.			w/ PE. (pwrd fr/unit)			NO PE.			w/ PE. (pwrd fr/unit)						
					MCA	FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	
NO M. V - Ph-HZ	STD	NONE	-	-	103.0	125	109	530	114.8	125	122	550	107.8	125	114	535	119.6	150	128	555
		279/270	18.8/25.0	52.1/60.1	103.0/103.0	125/125	109/109	530/530	114.8/116.4	125/125	122/122	550/550	107.8/107.8	125/125	114/114	535/535	119.6/122.4	150/150	128/128	555/555
		280/271	37.6/50.0	104.2/120.3	156.8/146.8	175/175	144/163	530/530	171.5/161.6	175/175	158/176	550/550	162.8/152.8	175/175	150/168	535/535	177.5/167.6	200/175	163/182	555/555
		281/272	56.3/75.0	156.4/180.4	182.9/206.9	200/250	204/232	530/530	197.7/221.7	225/250	218/245	550/550	188.9/212.9	200/250	210/237	535/535	203.7/227.7	225/250	223/251	555/555
		NONE	-	-	103.0	125	109	530	114.8	125	122	550	107.8	125	114	535	119.6	150	128	555
		279/270	18.8/25.0	52.1/60.1	103.0/103.0	125/125	109/109	530/530	114.8/116.4	125/125	122/122	550/550	107.8/107.8	125/125	114/114	535/535	119.6/122.4	150/150	128/128	555/555
		280/271	37.6/50.0	104.2/120.3	156.8/146.8	175/175	144/163	530/530	171.5/161.6	175/175	158/176	550/550	162.8/152.8	175/175	150/168	535/535	177.5/167.6	200/175	163/182	555/555
208/230-3-60	MED	281/272	56.3/75.0	156.4/180.4	182.9/206.9	200/250	204/232	530/530	197.7/221.7	225/250	218/245	550/550	188.9/212.9	200/250	210/237	535/535	203.7/227.7	225/250	223/251	555/555
		NONE	-	-	109.8	125	117	609	121.6	150	130	629	114.6	125	122	614	126.4	150	136	634
		279/270	18.8/25.0	52.1/60.1	109.8/110.1	125/125	117/117	609/609	121.6/124.9	150/150	130/130	629/629	114.6/116.1	125/125	122/122	614/614	126.4/130.9	150/150	136/136	634/634
		280/271	37.6/50.0	104.2/120.3	165.3/155.3	175/175	152/171	609/609	180.0/170.1	200/175	166/184	629/629	171.3/161.3	175/175	158/176	614/614	186.0/176.1	200/200	171/190	634/634
		281/272	56.3/75.0	156.4/180.4	191.4/215.4	200/250	212/240	609/609	206.2/230.2	225/250	226/253	629/629	197.4/221.4	225/250	218/245	614/614	212.2/236.2	225/250	231/259	634/634
		NONE	-	-	120.1	150	127	640	131.9	150	141	660	124.9	150	133	645	136.7	150	147	665
		279/270	18.8/25.0	52.1/60.1	120.1/121.8	150/150	127/127	640/640	131.9/136.5	150/150	141/141	660/660	124.9/127.8	150/150	133/133	645/645	136.7/142.5	150/150	147/147	665/665
50LC-024	ULTRA HIGH	280/271	37.6/50.0	104.2/120.3	176.9/166.9	200/200	163/181	640/640	191.6/181.7	200/200	176/195	660/660	182.9/172.9	200/200	168/187	645/645	197.6/187.7	200/200	182/200	665/665
		281/272	56.3/75.0	156.4/180.4	203.0/227.0	225/250	223/250	640/640	217.8/241.8	250/250	236/264	660/660	209.0/233.0	225/250	228/256	645/645	223.8/247.8	250/300	242/269	665/665
		NONE	-	-	57.6	70	61	274	63.8	80	68	286	59.8	70	64	276	66.0	80	71	288
		282/273	25.0	30.1	57.6	70	61	274	63.8	80	68	286	59.8	70	64	276	66.0	80	71	288
		283/274	50.0	60.1	72.2	80	80	274	80.0	90	87	286	75.0	80	83	276	82.7	90	90	288
		284/275	75.0	90.2	102.3	125	115	274	110.1	125	122	286	105.1	125	117	276	112.8	125	125	288
		NONE	-	-	57.6	70	61	274	63.8	80	68	286	59.8	70	64	276	66.0	80	71	288
460-3-60	MED	282/273	25.0	30.1	57.6	70	61	274	63.8	80	68	286	59.8	70	64	276	66.0	80	71	288
		283/274	50.0	60.1	72.2	80	80	274	80.0	90	87	286	75.0	80	83	276	82.7	90	90	288
		284/275	75.0	90.2	102.3	125	115	274	110.1	125	122	286	105.1	125	117	276	112.8	125	125	288
		NONE	-	-	61.6	70	66	314	67.8	80	73	326	63.8	80	68	316	70.0	80	75	328
		282/273	25.0	30.1	61.6	70	66	314	67.8	80	73	326	63.8	80	68	316	70.0	80	75	328
		283/274	50.0	60.1	77.2	90	85	314	86.0	90	92	326	80.0	90	87	316	87.7	90	95	328
		284/275	75.0	90.2	107.3	125	119	314	115.1	125	127	326	110.1	125	122	316	117.8	125	129	328
460-3-60	HIGH	NONE	-	-	64.8	80	69	329	71.0	80	76	341	67.0	80	72	331	73.2	90	79	343
		282/273	25.0	30.1	64.8	80	69	329	71.0	80	76	341	67.0	80	72	331	73.2	90	79	343
		283/274	50.0	60.1	81.2	90	89	329	86.0	100	96	341	84.0	100	91	331	91.7	100	98	343
		284/275	75.0	90.2	111.3	125	123	329	119.1	125	130	341	114.1	125	126	331	121.8	125	133	343
		NONE	-	-	64.8	80	69	329	71.0	80	76	341	67.0	80	72	331	73.2	90	79	343
		282/273	25.0	30.1	64.8	80	69	329	71.0	80	76	341	67.0	80	72	331	73.2	90	79	343
		283/274	50.0	60.1	81.2	90	89	329	86.0	100	96	341	84.0	100	91	331	91.7	100	98	343

ELECTRICAL DATA (cont.)

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

UNIT	NO. M. V. - Ph - Hz	ELEC. HTR			NO. C.O. or UNPWR C.O.						W/ PWRD C.O.									
		CRHEATER***A00	Nom (kW)	FLA	NO PE.			w/ PE. (pwrdr fr/unit)			NO PE.			w/ PE. (pwrdr fr/unit)						
					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				
STD		NONE	-	-	46.2	50	49	206	51.0	60	55	214	47.9	60	51	208	52.7	60	57	216
		285/276	24.8	23.9	46.2	50	49	206	51.0	60	55	214	47.9	60	51	208	52.7	60	57	216
		286/277	49.6	47.7	68.6	70	63	206	74.6	80	69	214	70.8	80	65	208	76.8	80	71	216
		287/278	74.4	71.6	80.6	90	91	206	86.6	90	96	214	82.7	90	93	208	88.7	90	98	216
MED		NONE	-	-	46.2	50	49	206	51.0	60	55	214	47.9	60	51	208	52.7	60	57	216
		285/276	24.8	23.9	46.2	50	49	206	51.0	60	55	214	47.9	60	51	208	52.7	60	57	216
		286/277	49.6	47.7	68.6	70	63	206	74.6	80	69	214	70.8	80	65	208	76.8	80	71	216
		287/278	74.4	71.6	80.6	90	91	206	86.6	90	96	214	82.7	90	93	208	88.7	90	98	216
HIGH		NONE	-	-	47.9	60	51	233	52.7	60	57	241	49.6	60	53	235	54.4	60	59	243
		285/276	24.8	23.9	47.9	60	51	233	52.7	60	57	241	49.6	60	53	235	54.4	60	59	243
		286/277	49.6	47.7	70.8	80	65	233	76.8	80	71	241	72.9	80	67	235	78.9	80	73	243
		287/278	74.4	71.6	82.7	90	93	233	86.7	90	98	241	84.9	90	95	235	90.9	100	100	243
ULTRA HIGH		NONE	-	-	51.6	60	56	244	56.4	60	61	252	53.3	60	58	246	58.1	70	63	254
		285/276	24.8	23.9	51.6	60	56	244	56.4	60	61	252	53.3	60	58	246	58.1	70	63	254
		286/277	49.6	47.7	75.4	80	69	244	81.4	90	75	252	77.5	80	71	246	83.5	90	77	254
		287/278	74.4	71.6	87.4	100	97	244	93.4	100	102	252	89.5	100	99	246	95.5	100	104	254

ELECTRICAL DATA (cont.)

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

UNIT	NO M, V - Ph - Hz	ELEC. HTR				NO C.O. or UNPWR C.O.				w/ PWRD C.O.								
		CRHEATER**A00	Nom (kW)	FLA	MCA	NO PE.		w/ PE. (pwrd fr/unit)		NO PE.		w/ PE. (pwrd fr/unit)						
						FUSE or HACR BRKR	DISC. SIZE	FLA	LRA	FUSE or HACR BRKR	MCA	FLA	LRA	FUSE or HACR BRKR	MCA	FLA	LRA	
STD		NONE	-	-	126.1	130	621	137.9	175	144	641	130.9	136	626	142.7	175	149	646
		279/270	18.8/25.0	52.1/60.1	126.1/126.1	130/130	621/621	137.9/137.9	175/175	144/144	641/641	130.9/130.9	136/136	626/626	142.7/142.7	175/175	149/149	646/646
		280/271	37.6/50.0	104.2/120.3	156.8/146.8	144/163	621/621	171.5/161.6	175/175	158/176	641/641	162.8/152.8	150/168	626/626	177.5/167.6	200/175	163/182	646/646
		281/272	56.3/75.0	156.4/180.4	182.9/206.9	204/232	621/621	197.7/221.7	225/250	218/245	641/641	188.9/212.9	210/237	626/626	203.7/227.7	225/250	223/251	646/646
MED	208/230-3-60	NONE	-	-	132.9	138	700	144.7	175	152	720	137.7	144	705	149.5	200	157	725
		279/270	18.8/25.0	52.1/60.1	132.9/132.9	138/138	700/700	144.7/144.7	175/175	152/152	720/720	137.7/137.7	144/144	705/705	149.5/149.5	200/200	157/157	725/725
		280/271	37.6/50.0	104.2/120.3	165.3/155.3	152/171	700/700	180.0/170.1	200/175	166/184	720/720	171.3/161.3	158/176	705/705	186.0/176.1	200/200	171/190	725/725
		281/272	56.3/75.0	156.4/180.4	191.4/215.4	212/240	700/700	206.2/230.2	225/250	226/253	720/720	197.4/221.4	218/245	705/705	212.2/236.2	225/250	231/259	725/725
HIGH		NONE	-	-	142.2	149	731	154.0	200	162	751	147.0	154	736	158.8	200	168	756
		279/270	18.8/25.0	52.1/60.1	142.2/142.2	149/149	731/731	154.0/154.0	200/200	162/162	751/751	147.0/147.0	154/154	736/736	158.8/158.8	200/200	168/168	756/756
		280/271	37.6/50.0	104.2/120.3	176.9/166.9	163/181	731/731	191.6/181.7	200/200	176/195	751/751	182.9/172.9	168/187	736/736	197.6/187.7	200/200	182/200	756/756
		281/272	56.3/75.0	156.4/180.4	203.0/227.0	228/250	731/731	217.8/241.8	250/250	236/264	751/751	209.0/233.0	228/256	736/736	223.8/247.8	250/300	242/289	756/756
STD		NONE	-	-	65.9	69	318	72.1	90	76	330	68.1	72	320	74.3	90	79	332
		282/273	25.0	30.1	65.9	69	318	72.1	90	76	330	68.1	72	320	74.3	90	79	332
		283/274	50.0	60.1	72.2	80	318	80.0	90	87	330	75.0	83	320	82.7	90	90	332
		284/275	75.0	90.2	102.3	125	318	110.1	125	122	330	105.1	117	320	112.8	125	125	332
MED	460-3-60	NONE	-	-	69.9	74	358	76.1	90	81	370	72.1	76	360	78.3	100	83	372
		282/273	25.0	30.1	69.9	74	358	76.1	90	81	370	72.1	76	360	78.3	100	83	372
		283/274	50.0	60.1	77.2	90	358	85.0	90	92	370	80.0	87	360	87.7	100	95	372
		284/275	75.0	90.2	107.3	125	358	115.1	125	127	370	110.1	122	360	117.8	125	129	372
HIGH		NONE	-	-	73.1	77	373	79.3	100	85	385	75.3	80	375	81.5	100	87	387
		282/273	25.0	30.1	73.1	77	373	79.3	100	85	385	75.3	80	375	81.5	100	87	387
		283/274	50.0	60.1	81.2	90	373	89.0	100	96	385	84.0	91	375	91.7	100	98	387
		284/275	75.0	90.2	111.3	125	373	119.1	125	130	385	114.1	126	375	121.8	125	133	387

ELECTRICAL DATA (cont.)

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

UNIT	NO. M. V. - Ph - Hz	ELEC. HTR			NO C.O. or UNPWR C.O.						w/ PWRD C.O.													
		CRHEATER**A00	Nom (kW)	FLA	NO PE.			w/ PE. (pwrdr fr/unit)			NO PE.			w/ PE. (pwrdr fr/unit)										
					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								
STD		NONE	-	-	55.0	60	58	235	235	243	59.8	70	63	243	56.7	70	59	237	237	243	61.5	80	65	245
		285/276	24.8	23.9	55.0	60	58	235	235	243	59.8	70	63	243	56.7	70	59	237	237	243	61.5	80	65	245
		286/277	49.6	47.7	68.6	70	63	235	235	243	74.6	80	69	243	70.8	80	65	237	237	243	76.8	80	71	245
		287/278	74.4	71.6	80.6	90	91	235	235	243	86.6	90	96	243	82.7	90	93	237	237	243	88.7	90	98	245
		NONE	-	-	56.7	70	59	262	262	270	61.5	80	65	270	58.4	70	61	264	264	270	63.2	80	67	272
MED		285/276	24.8	23.9	56.7	70	59	262	262	270	61.5	80	65	270	58.4	70	61	264	264	270	63.2	80	67	272
		286/277	49.6	47.7	70.8	80	65	262	262	270	76.8	80	71	270	72.9	80	67	264	264	270	78.9	80	73	272
		287/278	74.4	71.6	82.7	90	93	262	262	270	88.7	90	98	270	84.9	90	95	264	264	270	90.9	100	100	272
HIGH		NONE	-	-	60.4	80	64	273	273	281	65.2	80	69	281	62.1	80	66	275	275	281	66.9	80	71	283
		285/276	24.8	23.9	60.4	80	64	273	273	281	65.2	80	69	281	62.1	80	66	275	275	281	66.9	80	71	283
		286/277	49.6	47.7	75.4	80	69	273	273	281	81.4	90	75	281	77.5	80	71	275	275	281	83.5	90	77	283
		287/278	74.4	71.6	87.4	100	97	273	273	281	93.4	100	102	281	89.5	100	99	275	275	281	95.5	100	104	283

ELECTRICAL DATA (cont.)

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

UNIT	ELEC. HTR			NO C.O. or UNPWR C.O.				NO PE.				w/ PWRD C.O.										
	CRHEATER***A	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	FLA	LRA	MCA		
NO M, V - Ph-HZ	STD	-	-	60.6/60.6	80/80	63/62	346	72.4/72.4	90/90	77/76	366	65.4/65.4	80/80	69/68	351	77.2/77.2	100/100	82/81	371			
				60.6/60.6	80/80	63/62	346	72.4/72.4	90/90	65.4/65.4	80/80	69/68	351	77.2/77.2	100/100	69/68	351	77.2/77.2	100/100	82/81	371	
				84.9/84.9	90/90	70/78	346/346	98.6/99.6	100/100	83/92	366/366	100/100	83/92	90.9/90.9	100/100	75/84	351/351	105.6/105.6	110/110	89/97	371/371	
				131.1/131.1	150/150	148/147	346	145.8/145.8	175/150	162/161	366	137.1/137.1	150/150	154/153	137.1/137.1	150/150	154/153	351	151.8/151.8	175/175	167/166	371
208/230-3-60	MED	-	-	65.6/65.6	80/80	69/68	381	77.4/77.4	100/100	82/81	401	70.4/70.4	90/90	74/73	386	82.2/82.2	100/100	88/87	406			
				65.6/65.6	80/80	69/68	381	77.4/77.4	100/100	82/81	401	70.4/70.4	90/90	74/73	386	82.9/82.9	100/100	88/87	406			
				91.0/91.0	100/100	76/84	381/381	105.8/105.8	110/110	89/97	401/401	100/100	81/89	386/386	111.8/111.8	125/125	95/103	406/406				
				137.3/137.3	175/150	154/153	381	152.1/152.1	175/175	168/167	401	143.3/143.3	175/175	160/158	158.1/158.1	175/175	160/158	386	158.1/158.1	175/175	173/172	406
50LC-014	HIGH	-	-	73.2	90	78	377	85.0	100	91	397	78.0	100	83	382	89.8	100	97	402			
				73.2	90	78	377	86.4	100	91	397	78.0	100	83	382	92.4	100	97	402			
				101.6/101.6	110/110	84/93	377/377	116.4/116.4	125/125	98/107	397/397	110/110	90/99	382/382	122.4/122.4	125/125	103/113	402/402				
				146.8	175	163	377	161.6	175	176	397	152.8	175	168	167.6	175	168	167.6	175	182	402	
460-3-60	ULTRA HIGH	-	-	81.2	100	85	456	93.0	110	99	476	86.0	100	91	461	97.8	125	104	481			
				81.2	100	85	456	94.9	110	99	476	86.1	100	91	461	100.9	125	104	481			
				110.1/110.1	125/125	92/101	456/456	124.9/124.9	125/125	106/115	476/476	116.1/116.1	125/125	98/107	130.9/130.9	150/150	111/120	481/481				
				155.3	175	171	456	170.1	175	184	476	161.3	175	176	161.3	175	176	161.3	200	190	481	
50LC-014	STD	-	-	32.8	40	35	170	39.0	50	42	182	35.0	45	37	172	41.2	50	44	184			
				32.8	40	35	170	39.0	50	42	182	35.0	45	37	172	41.2	50	44	184			
				42.4	45	39	170	50.1	60	46	182	45.1	50	42	172	52.9	60	49	184			
				64.9	70	73	170	72.6	80	81	182	67.6	80	76	172	75.4	80	83	184			
460-3-60	MED	-	-	35.4	45	37	187	41.6	50	45	199	37.6	45	40	189	43.8	50	47	201			
				35.4	45	37	187	41.6	50	45	199	37.6	45	40	189	43.8	50	47	201			
				45.6	50	42	187	53.4	60	49	199	48.4	50	45	189	56.1	60	52	201			
				68.1	80	76	187	75.9	80	84	199	70.9	80	79	189	78.6	80	86	201			
460-3-60	HIGH	-	-	38.7	45	41	185	44.9	50	48	197	40.9	50	44	187	47.1	50	51	199			
				38.7	45	41	185	44.9	50	48	197	40.9	50	44	187	47.1	50	51	199			
				49.8	50	46	185	57.5	60	53	197	52.5	60	48	187	60.3	70	55	199			
				72.2	80	80	185	80.0	90	87	197	75.0	80	83	187	82.7	90	90	199			
460-3-60	ULTRA HIGH	-	-	43.3	50	46	225	49.5	60	53	237	45.5	50	48	227	51.7	60	56	239			
				43.3	50	46	225	49.5	60	53	237	45.5	50	48	227	51.7	60	56	239			
				54.8	60	50	225	62.5	70	58	237	57.5	60	53	227	65.3	70	60	239			
				77.2	90	85	225	85.0	90	92	237	80.0	90	87	227	87.7	90	95	239			

ELECTRICAL DATA (cont.)

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

UNIT	NO. M. V. - Ph - Hz	ELEC. HTR			NO. C.O. or UNPWR C.O.						w/ PWRD C.O.									
		CRHEATER***A	Nom (kW)	FLA	NO PE			w/ PE. (pwrdr I/r/unit)			NO PE.			w/ PE. (pwrdr I/r/unit)						
					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				
STD		NONE	-	-	25.9	30	27	122	30.7	35	33	130	27.6	30	29	124	32.4	40	35	132
		304/307	15.0	14.4	25.9	30	27	122	30.7	35	33	130	27.6	30	29	124	32.4	40	35	132
		285/276	24.8	23.9	35.5	40	33	122	41.5	45	38	130	37.6	40	35	124	43.6	45	40	132
		311/314	49.6	47.7	65.3	70	60	122	71.3	80	66	130	67.4	70	62	124	73.4	80	68	132
MED		NONE	-	-	27.6	30	29	136	32.4	40	35	144	29.3	35	31	138	34.1	40	37	146
		304/307	15.0	14.4	27.6	30	29	136	32.4	40	35	144	29.3	35	31	138	34.1	40	37	146
		285/276	24.8	23.9	37.6	40	35	136	43.6	45	40	144	39.8	40	37	138	45.8	50	42	146
		311/314	49.6	47.7	67.4	70	62	136	73.4	80	68	144	69.5	70	64	138	75.5	80	69	146
HIGH		NONE	-	-	28.6	35	31	134	33.4	40	36	142	30.3	35	33	136	35.1	40	38	144
		304/307	15.0	14.4	28.6	35	31	134	33.4	40	36	142	30.3	35	33	136	35.1	40	38	144
		285/276	24.8	23.9	38.9	40	36	134	44.9	45	41	142	41.0	45	38	136	47.0	50	43	144
		311/314	49.6	47.7	68.6	70	63	134	74.6	80	69	142	70.8	80	65	136	76.8	80	71	144
ULTRA HIGH		NONE	-	-	30.5	35	33	161	35.3	40	38	169	32.2	40	35	163	37.0	45	40	171
		304/307	15.0	14.4	30.5	35	33	161	35.3	40	38	169	32.2	40	35	163	37.3	45	40	171
		285/276	24.8	23.9	41.0	45	38	161	47.0	50	43	169	43.1	45	40	163	49.1	50	45	171
		311/314	49.6	47.7	70.8	80	65	161	76.8	80	71	169	72.9	80	67	163	76.9	80	73	171

ELECTRICAL DATA (cont.)

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

UNIT	IFIM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.						w/ PWRD C.O.									
		CRHEATER***A	Nom (kW)	FLA	NO PE.		w/ P.E. (pwrd fr/unit)		NO PE.		w/ P.E. (pwrd fr/unit)		NO PE.		w/ P.E. (pwrd fr/unit)					
					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	FLA	LRA
NO M, V - Ph-HZ	STD	NONE	-	-	69.2/69.2	90/90	72/71	375	81.0/81.0	100/100	85/84	395	74.0/74.0	100/100	77/76	380	85.8/85.8	100/100	91/90	400
		279/270	18.8/25.0	52.1/60.1	84.9/84.9	90/90	72/78	375/375	98.6/99.6	100/100	85/92	395/395	90.9/90.9	100/100	77/84	380/380	105.6/105.6	110/110	91/97	400/400
		280/271	37.6/50.0	104.2/120.3	141.0/141.0	150/150	130/147	375/375	155.8/155.8	175/175	143/161	395/395	147.0/147.0	150/150	135/153	380/380	161.8/161.8	175/175	149/166	400/400
		281/272	56.3/75.0	156.4/180.4	190.2/190.2	200/200	190/216	375/375	204.9/204.9	225/225	203/230	395/395	196.2/196.2	200/225	195/222	380/380	210.9/210.9	225/225	209/236	400/400
208/230-3-60	MED	NONE	-	-	81.8	100	86	406	93.6	110	100	426	86.6	100	92	411	98.4	125	105	431
		279/270	18.8/25.0	52.1/60.1	101.6/101.6	110/110	86/93	406/406	116.4/116.4	125/125	100/107	426/426	107.6/107.6	110/110	92/99	411/411	122.4/122.4	125/125	105/113	431/431
		280/271	37.6/50.0	104.2/120.3	156.8/156.8	175/175	144/163	406/406	171.5/171.5	175/175	158/176	426/426	162.8/162.8	175/175	150/168	411/411	177.5/177.5	200/200	163/182	431/431
		281/272	56.3/75.0	156.4/180.4	206.9/206.9	225/250	204/232	406/406	221.7/221.7	225/250	218/245	426/426	212.9/212.9	225/250	210/237	411/411	227.7/227.7	250/250	223/251	431/431
50LC-017	HIGH	NONE	-	-	88.7	100	94	485	100.5	125	108	505	93.5	110	99	490	105.3	125	113	510
		279/270	18.8/25.0	52.1/60.1	110.1/110.1	125/125	94/101	485/485	124.9/124.9	125/125	108/115	505/505	116.1/116.1	125/125	99/107	490/490	130.9/130.9	150/150	113/120	510/510
		280/271	37.6/50.0	104.2/120.3	165.3/165.3	175/175	152/171	485/485	180.0/180.0	200/200	166/184	505/505	171.3/171.3	175/175	158/176	490/490	186.0/186.0	200/200	171/190	510/510
		281/272	56.3/75.0	156.4/180.4	215.4/215.4	225/250	212/240	485/485	230.2/230.2	250/250	226/253	505/505	221.4/221.4	225/250	218/245	490/490	236.2/236.2	250/250	231/259	510/510
460-3-60	ULTRA HIGH	NONE	-	-	100.3	125	105	516	112.1	125	118	536	105.1	125	110	521	116.9	150	124	541
		279/270	18.8/25.0	52.1/60.1	121.8/121.8	125/125	105/112	516/516	136.5/136.5	150/150	118/126	536/536	127.8/127.8	150/150	110/118	521/521	142.5/142.5	150/150	124/131	541/541
		280/271	37.6/50.0	104.2/120.3	176.9/176.9	200/200	163/181	516/516	191.6/191.6	200/200	176/195	536/536	182.9/182.9	200/200	168/187	521/521	197.6/197.6	200/200	182/200	541/541
		281/272	56.3/75.0	156.4/180.4	227.0/227.0	250/250	223/250	516/516	241.8/241.8	250/250	236/264	536/536	233.0/233.0	250/250	228/256	521/521	247.8/247.8	250/300	242/269	541/541
	STD	NONE	-	-	36.7	45	39	197	42.9	50	46	209	38.9	50	41	199	45.1	50	48	211
		282/273	25.0	30.1	42.4	45	39	197	50.1	60	46	209	45.1	50	42	199	52.9	60	49	211
		283/274	50.0	60.1	64.9	70	73	197	72.6	80	81	209	67.6	80	76	199	75.4	80	83	211
		284/275	75.0	90.2	95.0	100	108	197	102.7	110	115	209	97.7	100	111	199	105.5	110	118	211
	MED	NONE	-	-	42.6	50	45	212	48.8	60	52	224	44.8	50	48	214	51.0	60	55	226
		282/273	25.0	30.1	49.8	50	46	212	57.5	60	53	224	52.5	60	48	214	60.3	70	55	226
		283/274	50.0	60.1	72.2	80	80	212	80.0	90	87	224	75.0	80	83	214	82.7	90	90	226
		284/275	75.0	90.2	102.3	125	115	212	110.1	125	122	224	105.1	125	117	214	112.8	125	125	226
	HIGH	NONE	-	-	46.8	60	50	252	53.0	60	57	264	49.0	60	52	254	55.2	60	60	266
		282/273	25.0	30.1	54.8	60	50	252	62.5	70	58	264	57.5	60	53	254	65.3	70	60	266
		283/274	50.0	60.1	77.2	90	85	252	85.0	90	92	264	80.0	90	87	254	87.7	90	95	266
		284/275	75.0	90.2	107.3	125	119	252	115.1	125	127	264	110.1	125	122	254	117.8	125	129	266
	ULTRA HIGH	NONE	-	-	50.8	60	54	267	57.0	70	61	279	53.0	60	56	269	59.2	70	63	281
		282/273	25.0	30.1	58.8	60	54	267	66.5	70	61	279	61.5	70	57	269	69.3	70	64	281
		283/274	50.0	60.1	81.2	90	89	267	89.0	100	96	279	84.0	100	91	269	91.7	100	98	281
		284/275	75.0	90.2	111.3	125	123	267	119.1	125	130	279	114.1	125	126	269	121.9	125	133	281

ELECTRICAL DATA (cont.)

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

UNIT	NO. M. V. - Ph - Hz	ELEC. HTR				NO. C.O. or UNPWR C.O.						w/ PWRD C.O.								
		CRHEATER***A	Nom (kW)	FLA	NO PE			w/ PE. (pwrdr fr/unit)			NO PE.			w/ PE. (pwrdr fr/unit)						
					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				
STD		NONE	-	-	31.1	40	33	158	35.9	45	39	166	32.8	40	35	160	37.6	45	40	168
		285/276	24.8	23.9	35.5	40	33	158	41.5	45	39	166	37.6	40	35	160	43.6	45	40	168
		286/277	49.6	47.7	65.3	70	60	158	71.3	80	66	166	67.4	70	62	160	73.4	80	68	168
		287/278	74.4	71.6	77.2	90	88	158	83.2	90	93	166	79.4	90	89	160	85.4	90	95	168
MED		NONE	-	-	33.8	40	36	170	38.6	45	42	178	35.5	45	38	172	40.3	45	44	180
		285/276	24.8	23.9	38.9	40	36	170	44.9	45	42	178	41.0	45	38	172	47.0	50	44	180
		286/277	49.6	47.7	68.6	70	63	170	74.6	80	69	178	70.8	80	65	172	76.8	80	71	180
		287/278	74.4	71.6	80.6	90	91	170	86.6	90	96	178	82.7	90	93	172	88.7	90	98	180
HIGH		NONE	-	-	35.5	45	38	197	40.3	45	44	205	37.2	45	40	199	42.0	50	46	207
		285/276	24.8	23.9	41.0	45	38	197	47.0	50	44	205	43.1	45	40	199	49.1	50	46	207
		286/277	49.6	47.7	70.8	80	65	197	76.8	80	71	205	72.9	80	67	199	78.9	80	73	207
		287/278	74.4	71.6	82.7	90	93	197	88.7	90	98	205	84.9	90	95	199	90.9	100	100	207
ULTRA HIGH		NONE	-	-	40.0	50	42	208	44.8	50	48	216	41.7	50	44	210	46.5	50	50	218
		285/276	24.8	23.9	45.6	50	42	208	51.6	60	48	216	47.8	50	44	210	53.8	60	50	218
		286/277	49.6	47.7	75.4	80	69	208	81.4	90	75	216	77.5	80	71	210	83.5	90	77	218
		287/278	74.4	71.6	87.4	100	97	208	93.4	100	102	216	89.5	100	99	210	95.5	100	104	218

ELECTRICAL DATA (cont.)

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

UNIT	NO M, V - Ph-HZ	ELEC. HTR				NO C.O. or UNPWR C.O.						w/ PWRD C.O.											
		CRHEATER***A	Nom (kW)	FLA	NO PE.			w/ P.E. (pwrd fr/unit)			NO PE.			w/ P.E. (pwrd fr/unit)									
					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							
STD		NONE	-	-	77.4/77.4	100/100	81/80	440	440	89.2/89.2	100/100	95/93	460	460	82.2/82.2	100/100	87/85	445	445	94.0/94.0	110/110	100/99	465
		279/270	18.8/25.0	52.1/60.1	87.4/87.4	100/100	81/80	440/440	440/440	102.1/102.1	110/110	95/94	460/460	460/460	93.4/93.4	100/100	87/86	445/445	445/445	108.1/108.1	110/110	100/99	465/465
		280/271	37.6/50.0	104.2/120.3	143.8/143.8	150/150	132/150	440/440	440/440	158.5/158.5	175/175	146/163	460/460	460/460	149.8/149.8	150/150	138/155	445/445	445/445	164.5/164.5	175/175	151/169	465/465
		281/272	56.3/75.0	156.4/180.4	192.7/192.7	200/225	192/219	440/440	440/440	207.4/207.4	225/225	206/232	460/460	460/460	198.7/198.7	200/225	198/224	445/445	445/445	213.4/213.4	225/225	211/238	465/465
MED		NONE	-	-	87.8	100	93	447	447	99.6	125	107	467	467	92.6	100	99	452	452	104.4	125	112	472
		279/270	18.8/25.0	52.1/60.1	101.6/101.6	110/110	93/93	447/447	447/447	116.4/116.4	125/125	107/107	467/467	467/467	107.6/107.6	110/110	99/99	452/452	452/452	122.4/122.4	125/125	112/113	472/472
		280/271	37.6/50.0	104.2/120.3	156.8/156.8	175/175	144/163	447/447	447/447	171.5/171.5	175/175	158/176	467/467	467/467	162.8/162.8	175/175	150/168	452/452	452/452	177.5/177.5	200/200	163/182	472/472
		281/272	56.3/75.0	156.4/180.4	206.9/206.9	225/250	204/232	447/447	447/447	221.7/221.7	225/250	218/245	467/467	467/467	212.9/212.9	225/250	210/237	452/452	452/452	227.7/227.7	250/250	223/251	472/472
HIGH		NONE	-	-	94.7	110	101	526	526	106.5	125	114	546	546	99.5	125	106	531	531	111.3	125	120	551
		279/270	18.8/25.0	52.1/60.1	110.1/110.1	125/125	101/101	526/526	526/526	124.9/124.9	125/125	114/115	546/546	546/546	116.1/116.1	125/125	106/107	531/531	531/531	130.9/130.9	150/150	120/120	551/551
		280/271	37.6/50.0	104.2/120.3	165.3/165.3	175/175	152/171	526/526	526/526	180.0/180.0	200/200	166/184	546/546	546/546	171.3/171.3	175/175	158/176	531/531	531/531	186.0/186.0	200/200	171/190	551/551
		281/272	56.3/75.0	156.4/180.4	215.4/215.4	225/250	212/240	526/526	526/526	230.2/230.2	250/250	226/253	546/546	546/546	221.4/221.4	225/250	218/245	531/531	531/531	236.2/236.2	250/250	231/259	551/551
ULTRA HIGH		NONE	-	-	106.3	125	112	557	557	118.1	150	125	577	577	111.1	125	117	562	562	122.9	150	131	582
		279/270	18.8/25.0	52.1/60.1	121.8/121.8	125/125	112/112	557/557	557/557	136.5/136.5	150/150	125/126	577/577	577/577	127.8/127.8	150/150	117/118	562/562	562/562	142.5/142.5	150/150	131/131	582/582
		280/271	37.6/50.0	104.2/120.3	176.9/176.9	200/200	163/181	557/557	557/557	191.6/191.6	200/200	176/195	577/577	577/577	182.9/182.9	200/200	168/187	562/562	562/562	197.6/197.6	200/200	182/200	582/582
		281/272	56.3/75.0	156.4/180.4	227.0/227.0	250/250	223/250	557/557	557/557	241.8/241.8	250/250	236/264	577/577	577/577	233.0/233.0	250/250	228/256	562/562	562/562	247.8/247.8	250/300	242/269	582/582
STD		NONE	-	-	40.3	50	43	247	247	46.5	50	50	259	259	42.5	50	45	249	249	48.7	60	52	261
		282/273	25.0	30.1	43.8	50	43	247	247	51.5	60	50	259	259	46.5	50	45	249	249	54.3	60	52	261
		283/274	50.0	60.1	66.2	80	75	247	247	74.0	80	82	259	259	69.0	80	77	249	249	76.7	80	84	261
		284/275	75.0	90.2	96.3	100	109	247	247	104.1	110	116	259	259	99.1	100	112	249	249	106.8	110	119	261
MED		NONE	-	-	45.1	50	48	250	250	51.3	60	55	262	262	47.3	60	51	252	252	53.5	60	58	264
		282/273	25.0	30.1	49.8	50	48	250	250	57.5	60	55	262	262	52.5	60	51	252	252	60.3	70	58	264
		283/274	50.0	60.1	72.2	80	80	250	250	80.0	90	87	262	262	75.0	80	83	252	252	82.7	90	90	264
		284/275	75.0	90.2	102.3	125	115	250	250	110.1	125	122	262	262	105.1	125	117	252	252	112.8	125	125	264
HIGH		NONE	-	-	49.3	60	53	290	290	55.5	60	60	302	302	51.5	60	55	292	292	57.7	70	62	304
		282/273	25.0	30.1	54.8	60	53	290	290	62.5	70	60	302	302	57.5	60	55	292	292	65.3	70	62	304
		283/274	50.0	60.1	77.2	90	85	290	290	85.0	90	92	302	302	80.0	90	87	292	292	87.7	90	95	304
		284/275	75.0	90.2	107.3	125	119	290	290	115.1	125	127	302	302	110.1	125	122	292	292	117.8	125	129	304
ULTRA HIGH		NONE	-	-	53.3	60	56	305	305	59.5	70	64	317	317	55.5	60	59	307	307	61.7	70	66	319
		282/273	25.0	30.1	58.8	60	56	305	305	66.5	70	64	317	317	61.5	70	59	307	307	69.3	70	66	319
		283/274	50.0	60.1	81.2	90	89	305	305	89.0	100	96	317	317	84.0	100	91	307	307	91.7	100	98	319
		284/275	75.0	90.2	111.3	125	123	305	305	119.1	125	130	317	317	114.1	125	126	307	307	121.8	125	133	319

ELECTRICAL DATA (cont.)

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

UNIT	NO. M. V. - Ph - Hz	ELEC. HTR			NO. C.O. or UNPWR C.O.						w/ PWRD C.O.									
		CRHEATER***A	Nom (kW)	FLA	NO PE			w/ PE. (pwrdr fr/unit)			NO PE.			w/ PE. (pwrdr fr/unit)						
					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				
STD		NONE	-	-	32.7	40	35	186	37.5	45	40	194	34.4	40	37	188	39.2	45	42	196
		285/276	24.8	23.9	35.5	40	35	186	41.5	45	40	194	37.6	40	37	188	43.6	45	42	196
		286/277	49.6	47.7	65.3	70	60	186	71.3	80	66	194	67.4	70	62	188	73.4	80	68	196
		287/278	74.4	71.6	77.2	90	88	186	83.2	90	93	194	79.4	90	89	188	85.4	90	95	196
MED		NONE	-	-	35.4	45	38	198	40.2	45	43	206	37.1	45	40	200	41.9	50	45	208
		285/276	24.8	23.9	38.9	45	38	198	44.9	45	43	206	41.0	45	40	200	47.0	50	45	208
		286/277	49.6	47.7	68.6	70	63	198	74.6	80	69	206	70.8	80	65	200	76.8	80	71	208
		287/278	74.4	71.6	80.6	90	91	198	86.6	90	96	206	82.7	90	93	200	88.7	90	98	208
HIGH		NONE	-	-	37.1	45	40	225	41.9	50	45	233	38.8	45	42	227	43.6	50	47	235
		285/276	24.8	23.9	41.0	45	40	225	47.0	50	45	233	43.1	45	42	227	49.1	50	47	235
		286/277	49.6	47.7	70.8	80	65	225	76.8	80	71	233	72.9	80	67	227	78.9	80	73	235
		287/278	74.4	71.6	82.7	90	93	225	88.7	90	98	233	84.9	90	95	227	90.9	100	100	235
ULTRA HIGH		NONE	-	-	41.6	50	44	236	46.4	50	50	244	43.3	50	46	238	48.1	60	52	246
		285/276	24.8	23.9	45.6	50	44	236	51.6	60	50	244	47.8	50	46	238	53.8	60	52	246
		286/277	49.6	47.7	75.4	80	69	236	81.4	90	75	244	77.5	80	71	238	83.5	90	77	246
		287/278	74.4	71.6	87.4	100	97	236	93.4	100	102	244	89.5	100	99	238	95.5	100	104	246

ELECTRICAL DATA (cont.)

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

UNIT	NO M, V - Ph - HZ	ELEC. HTR				NO C.O. or UNPWR C.O.						w/ PWRD C.O.						
		CRHEATER***A	Nom (kW)	FLA	NO PE.			w/ P.E. (pwrd fr/unit)			NO PE.			w/ P.E. (pwrd fr/unit)				
					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		
STD		NONE	-	-	109	530	114.8	125	122	550	107.8	125	114	535	119.6	150	128	555
		279/270	18.8/25.0	52.1/60.1	109/109	530/530	116.4/116.4	125/125	122/122	550/550	107.8/107.8	125/125	114/114	535/535	122.4/122.4	150/150	128/128	555/555
		280/271	37.6/50.0	104.2/120.3	144/163	530/530	171.5/171.5	175/175	158/176	550/550	162.8/162.8	175/175	150/168	535/535	177.5/177.5	200/200	163/182	555/555
		281/272	56.3/75.0	156.4/180.4	204/232	530/530	221.7/221.7	225/250	218/245	550/550	212.9/212.9	225/250	210/237	535/535	227.7/227.7	250/250	223/251	555/555
MED		NONE	-	-	109	530	114.8	125	122	550	107.8	125	114	535	119.6	150	128	555
		279/270	18.8/25.0	52.1/60.1	109/109	530/530	116.4/116.4	125/125	122/122	550/550	107.8/107.8	125/125	114/114	535/535	122.4/122.4	150/150	128/128	555/555
		280/271	37.6/50.0	104.2/120.3	144/163	530/530	171.5/171.5	175/175	158/176	550/550	162.8/162.8	175/175	150/168	535/535	177.5/177.5	200/200	163/182	555/555
		281/272	56.3/75.0	156.4/180.4	204/232	530/530	221.7/221.7	225/250	218/245	550/550	212.9/212.9	225/250	210/237	535/535	227.7/227.7	250/250	223/251	555/555
HIGH		NONE	-	-	117	609	121.6	150	130	629	114.6	125	122	614	126.4	150	136	634
		279/270	18.8/25.0	52.1/60.1	117/117	609/609	124.9/124.9	150/150	130/130	629/629	116.1/116.1	125/125	122/122	614/614	130.9/130.9	150/150	136/136	634/634
		280/271	37.6/50.0	104.2/120.3	152/171	609/609	180.0/180.0	200/200	166/184	629/629	171.3/171.3	175/175	158/176	614/614	186.0/186.0	200/200	171/190	634/634
		281/272	56.3/75.0	156.4/180.4	212/240	609/609	230.2/230.2	250/250	226/253	629/629	221.4/221.4	225/250	218/245	614/614	236.2/236.2	250/250	231/259	634/634
ULTRA HIGH		NONE	-	-	127	640	131.9	150	141	660	124.9	150	133	645	136.7	150	147	665
		279/270	18.8/25.0	52.1/60.1	127/127	640/640	136.5/136.5	150/150	141/141	660/660	127.8/127.8	150/150	133/133	645/645	142.5/142.5	150/150	147/147	665/665
		280/271	37.6/50.0	104.2/120.3	163/181	640/640	191.6/191.6	200/200	176/195	660/660	182.9/182.9	200/200	168/187	645/645	197.6/197.6	200/200	182/200	665/665
		281/272	56.3/75.0	156.4/180.4	223/250	640/640	241.8/241.8	250/250	236/264	660/660	233.0/233.0	250/300	228/256	645/645	247.8/247.8	250/300	242/269	665/665
STD		NONE	-	-	61	274	63.8	80	68	286	59.8	70	64	276	66.0	80	71	288
		282/273	25.0	30.1	61	274	63.8	80	68	286	59.8	70	64	276	66.0	80	71	288
		283/274	50.0	60.1	80	274	80.0	90	87	286	75.0	80	83	276	82.7	90	90	288
		284/275	75.0	90.2	115	274	110.1	125	122	286	105.1	125	117	276	112.8	125	125	288
MED		NONE	-	-	61	274	63.8	80	68	286	59.8	70	64	276	66.0	80	71	288
		282/273	25.0	30.1	61	274	63.8	80	68	286	59.8	70	64	276	66.0	80	71	288
		283/274	50.0	60.1	80	274	80.0	90	87	286	75.0	80	83	276	82.7	90	90	288
		284/275	75.0	90.2	115	274	110.1	125	122	286	105.1	125	117	276	112.8	125	125	288
HIGH		NONE	-	-	66	314	67.8	80	73	326	63.8	80	68	316	70.0	80	75	328
		282/273	25.0	30.1	66	314	67.8	80	73	326	63.8	80	68	316	70.0	80	75	328
		283/274	50.0	60.1	85	314	85.0	90	92	326	80.0	90	87	316	87.7	90	95	328
		284/275	75.0	90.2	119	314	115.1	125	127	326	110.1	125	122	316	117.8	125	129	328
ULTRA HIGH		NONE	-	-	69	329	71.0	80	76	341	67.0	80	72	331	73.2	90	79	343
		282/273	25.0	30.1	69	329	71.0	80	76	341	67.0	80	72	331	73.2	90	79	343
		283/274	50.0	60.1	89	329	89.0	100	96	341	84.0	100	91	331	91.7	100	98	343
		284/275	75.0	90.2	123	329	119.1	125	130	341	114.1	125	126	331	121.8	125	133	343

ELECTRICAL DATA (cont.)

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

UNIT	NO. M. V. - Ph - Hz	ELEC. HTR			NO. C.O. or UNPWR C.O.						w/ PWRD C.O.									
		CRHEATER***A	Nom (kW)	FLA	NO PE			w/ PE. (pwrdr fr/unit)			NO PE.			w/ PE. (pwrdr fr/unit)						
					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				
STD		NONE	-	-	46.2	50	49	206	51.0	60	55	214	47.9	60	51	208	52.7	60	57	216
		285/276	24.8	23.9	46.2	50	49	206	51.0	60	55	214	47.9	60	51	208	52.7	60	57	216
		286/277	49.6	47.7	68.6	70	63	206	74.6	80	69	214	70.8	80	65	208	76.8	80	71	216
		287/278	74.4	71.6	80.6	90	91	206	86.6	90	96	214	82.7	90	93	208	88.7	90	98	216
MED		NONE	-	-	46.2	50	49	206	51.0	60	55	214	47.9	60	51	208	52.7	60	57	216
		285/276	24.8	23.9	46.2	50	49	206	51.0	60	55	214	47.9	60	51	208	52.7	60	57	216
		286/277	49.6	47.7	68.6	70	63	206	74.6	80	69	214	70.8	80	65	208	76.8	80	71	216
		287/278	74.4	71.6	80.6	90	91	206	86.6	90	96	214	82.7	90	93	208	88.7	90	98	216
HIGH		NONE	-	-	47.9	60	51	233	52.7	60	57	241	49.6	60	53	235	54.4	60	59	243
		285/276	24.8	23.9	47.9	60	51	233	52.7	60	57	241	49.6	60	53	235	54.4	60	59	243
		286/277	49.6	47.7	70.8	80	65	233	76.8	80	71	241	72.9	80	67	235	78.9	80	73	243
		287/278	74.4	71.6	82.7	90	93	233	88.7	90	98	241	84.9	90	95	235	90.9	100	100	243
ULTRA HIGH		NONE	-	-	51.6	60	56	244	56.4	60	61	252	53.3	60	58	246	58.1	70	63	254
		285/276	24.8	23.9	51.6	60	56	244	56.4	60	61	252	53.3	60	58	246	58.1	70	63	254
		286/277	49.6	47.7	75.4	80	69	244	81.4	90	75	252	77.5	80	71	246	83.5	90	77	254
		287/278	74.4	71.6	87.4	100	97	244	93.4	100	102	252	89.5	100	99	246	95.5	100	104	254

ELECTRICAL DATA (cont.)

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

UNIT	NO M, V - Ph - Hz	ELEC. HTR				NO C.O. or UNPWR C.O.						w/ PWRD C.O.								
		CRHEATER***A	Nom (kW)	FLA	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 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				
STD	208/230-3-60	NONE	-	-	126.1	175	130	621	137.9	175	144	641	130.9	175	136	626	142.7	175	149	646
		279/270	18.8/25.0	52.1/60.1	126.1/126.1	175/175	130/130	621/621	137.9/137.9	175/175	144/144	641/641	130.9/130.9	175/175	136/136	626/626	142.7/142.7	175/175	149/149	646/646
		280/271	37.6/50.0	104.2/120.3	156.8/156.8	175/175	144/163	621/621	171.5/171.5	175/175	158/176	641/641	162.8/162.8	175/175	150/168	626/626	177.5/177.5	200/200	163/182	646/646
MED	208/230-3-60	281/272	56.3/75.0	156.4/180.4	206.9/206.9	225/250	204/232	621/621	221.7/221.7	225/250	218/245	641/641	212.9/212.9	225/250	210/237	626/626	227.7/227.7	250/250	223/251	646/646
		NONE	-	-	132.9	175	138	700	144.7	175	152	720	137.7	175	144	705	149.5	200	157	725
		279/270	18.8/25.0	52.1/60.1	132.9/132.9	175/175	138/138	700/700	144.7/144.7	175/175	152/152	720/720	137.7/137.7	175/175	144/144	705/705	149.5/149.5	200/200	157/157	725/725
HIGH	208/230-3-60	280/271	37.6/50.0	104.2/120.3	165.3/165.3	175/175	152/171	700/700	180.0/180.0	200/200	166/184	720/720	171.3/171.3	175/175	158/176	705/705	186.0/186.0	200/200	171/190	725/725
		281/272	56.3/75.0	156.4/180.4	215.4/215.4	225/250	212/240	700/700	230.2/230.2	250/250	226/253	720/720	221.4/221.4	225/250	218/245	705/705	236.2/236.2	250/250	231/259	725/725
		NONE	-	-	142.2	175	149	731	154.0	200	162	751	147.0	175	154	736	158.8	200	168	756
STD	460-3-60	279/270	18.8/25.0	52.1/60.1	142.2/142.2	175/175	149/149	731/731	154.0/154.0	200/200	162/162	751/751	147.0/147.0	175/175	154/154	736/736	158.8/158.8	200/200	168/168	756/756
		280/271	37.6/50.0	104.2/120.3	176.9/176.9	200/200	163/181	731/731	191.6/191.6	200/200	176/195	751/751	182.9/182.9	200/200	168/187	736/736	197.6/197.6	200/200	182/200	756/756
		281/272	56.3/75.0	156.4/180.4	227.0/227.0	250/250	223/250	731/731	241.8/241.8	250/250	236/264	751/751	233.0/233.0	250/250	228/256	736/736	247.8/247.8	250/300	242/269	756/756
MED	460-3-60	NONE	-	-	65.9	80	69	318	72.1	90	76	330	68.1	90	72	320	74.3	90	79	332
		282/273	25.0	30.1	65.9	80	69	318	72.1	90	76	330	68.1	90	72	320	74.3	90	79	332
		283/274	50.0	60.1	72.2	80	80	318	80.0	90	87	330	75.0	90	83	320	82.7	90	90	332
HIGH	460-3-60	284/275	75.0	90.2	102.3	125	115	318	110.1	125	122	330	105.1	125	117	320	112.8	125	125	332
		NONE	-	-	69.9	90	74	358	76.1	90	81	370	72.1	90	76	360	78.3	100	83	372
		282/273	25.0	30.1	69.9	90	74	358	76.1	90	81	370	72.1	90	76	360	78.3	100	83	372
STD	460-3-60	283/274	50.0	60.1	77.2	90	85	358	85.0	90	92	370	80.0	90	87	360	87.7	100	95	372
		284/275	75.0	90.2	107.3	125	119	358	115.1	125	127	370	110.1	125	122	360	117.8	125	129	372
		NONE	-	-	73.1	90	77	373	79.3	100	85	385	75.3	90	80	375	81.5	100	87	387
HIGH	460-3-60	282/273	25.0	30.1	73.1	90	77	373	79.3	100	85	385	75.3	90	80	375	81.5	100	87	387
		283/274	50.0	60.1	81.2	90	89	373	89.0	100	96	385	84.0	100	91	375	91.7	100	98	387
		284/275	75.0	90.2	111.3	125	123	373	119.1	125	130	385	114.1	125	126	375	121.8	125	133	387

ELECTRICAL DATA (cont.)

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

UNIT	NO. M. V. - Ph - Hz	ELEC. HTR			NO. C.O. or UNPWR C.O.						w/ PWRD C.O.													
		CRHEATER***A	Nom (kW)	FLA	NO. P.E.			w/ PE. (pwrdr fr/unit)			NO. P.E.			w/ PE. (pwrdr fr/unit)										
					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								
STD		NONE	-	-	55.0	60	58	235	235	59.8	70	63	243	243	56.7	70	59	237	237	61.5	80	65	245	245
		285/276	24.8	23.9	55.0	60	58	235	235	59.8	70	63	243	243	56.7	70	59	237	237	61.5	80	65	245	245
		286/277	49.6	47.7	68.6	70	63	235	235	74.6	80	69	243	243	70.8	80	65	237	237	76.8	80	71	245	245
		287/278	74.4	71.6	80.6	90	91	235	235	86.6	90	96	243	243	82.7	90	93	237	237	86.7	90	98	245	245
MED		NONE	-	-	56.7	70	59	262	262	61.5	80	65	270	270	58.4	70	61	264	264	63.2	80	67	272	272
		285/276	24.8	23.9	56.7	70	59	262	262	61.5	80	65	270	270	58.4	70	61	264	264	63.2	80	67	272	272
		286/277	49.6	47.7	70.8	80	65	262	262	76.8	80	71	270	270	72.9	80	67	264	264	78.9	80	73	272	272
		287/278	74.4	71.6	82.7	90	93	262	262	88.7	90	98	270	270	84.9	90	95	264	264	90.9	100	100	272	272
HIGH		NONE	-	-	60.4	80	64	273	273	65.2	80	69	281	281	62.1	80	66	275	275	66.9	80	71	283	283
		285/276	24.8	23.9	60.4	80	64	273	273	65.2	80	69	281	281	62.1	80	66	275	275	66.9	80	71	283	283
		286/277	49.6	47.7	75.4	80	69	273	273	81.4	90	75	281	281	77.5	80	71	275	275	83.5	90	77	283	283
		287/278	74.4	71.6	87.4	100	97	273	273	93.4	100	102	281	281	89.5	100	99	275	275	95.5	100	104	283	283

TYPICAL WIRING DIAGRAMS

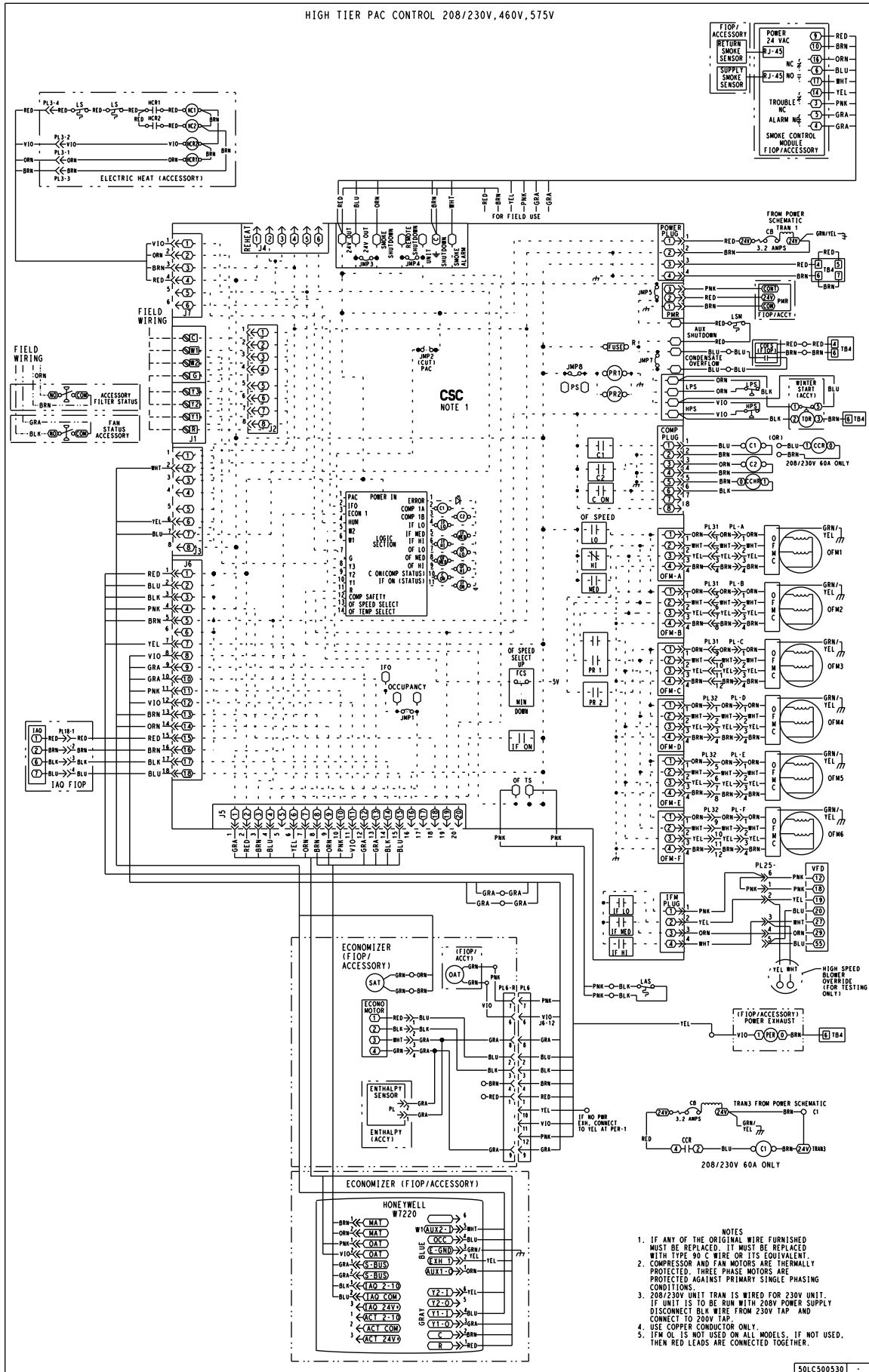


Fig. 17 - Typical Control Wiring Diagram 50LC

TYPICAL WIRING DIAGRAMS (cont.)

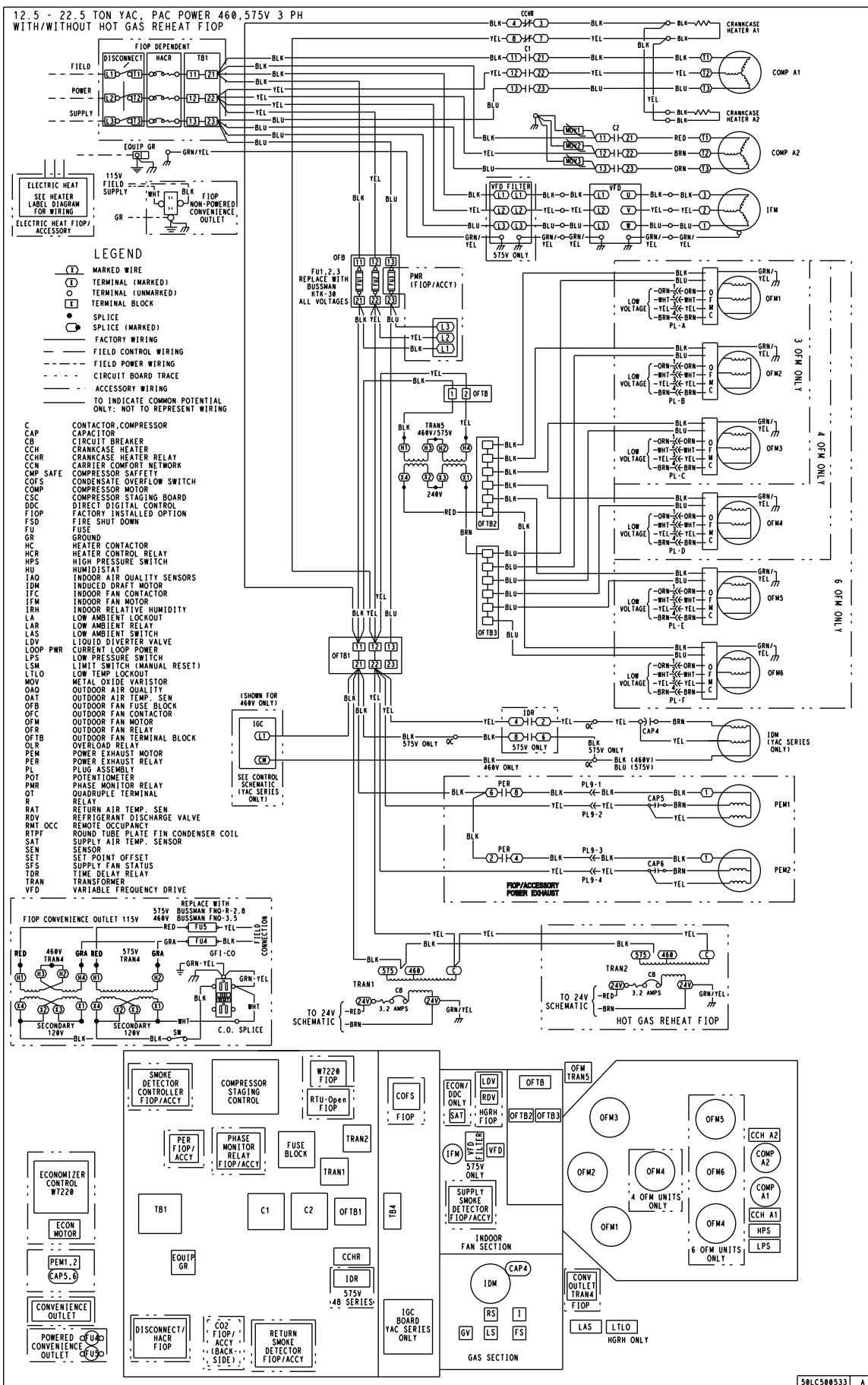


Fig. 18 - Typical Power Wiring Diagram 48LC

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			
	Compressor C1	Compressor C2	Indoor Fan Speed	Outdoor Fan Speed
Thermostat				
First Stage Cooling (Y1)	On	Off	Low	Low
Second Stage Cooling (Y2)	Off	On	Medium	Medium
Third Stage Cooling (Y3)	On	On	High	High

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 3, 4, 5 & 6 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**14-26

Note about this specification:

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

WeatherExpert™ Ultra High Efficient Cooling Only/Electric Heat Packaged Rooftop HVAC Guide Specifications



Size Range: 12.5 to 23 Nominal Tons

<u>Section</u>	<u>Description</u>
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23 06 80	Schedules for Decentralized HVAC Equipment
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- | | |
|----------------|---|
| 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 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 or troubleshoot the rooftop unit. |

3. High-pressure switch.

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

4. Automatic reset, motor thermal overload protector.

23 09 93 Sequence of Operations for HVAC Controls

23 09 93.13 Decentralized, Rooftop Units:

23 09 93.13 INSERT SEQUENCE OF OPERATION

23 40 13 Panel Air Filters

23 40 13.13 Decentralized, Rooftop Units:

23 40 13.13.A. Standard filter section

1. Shall consist of factory-installed, low velocity, throwaway 2-in. thick fiberglass filters of commercially available sizes.
2. Unit shall use only one filter size. Multiple sizes are not acceptable.
3. Filters shall be accessible through a dedicated, weather tight panel.
4. 4-in filter capabilities shall be capable with pre engineered and approved Carrier filter track field installed accessory. This kit requires field furnished filters.

23 81 19 Self-Contained Air Conditioners

23 81 19.13 Medium-Capacity Self-Contained Air Conditioners (50LC**14-26)

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 Standard 340/360.
4. Unit shall be designed to conform to ASHRAE 15.
5. Unit shall be ETL-tested and certified in accordance with ANSI Z21.47 Standards and ETL-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 and manufactured in accordance with 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 from 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 and ordered for vertical supply & return configurations.
5. Unit shall be factory furnished for either vertical or horizontal configuration without the use of special conversion kits. No field kits conversion is possible.
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 factory thru-the-base electrical connections. Connections shall be internal to the cabinet to protect from environmental issues.
5. Base Rail
 - a. Unit shall have base rails on a minimum of 2 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 a sloped condensate drain pan made of a non-corrosive material.
 - b. Shall comply with ASHRAE Standard 62.
 - c. Shall use a 3/4-in -14 NPT drain connection at the end of the drain pan. Connection shall be made per manufacturer's recommendations.
7. Top panel:
 - a. Shall be a multi-piece top panel linked with water tight flanges and interlocking systems.
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.)Thru-the-base provisions/connections are available as standard with every unit. When bottom connections are required, field furnished couplings are required.
 - (2.)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 and filters shall have molded composite handles while the blower access door shall have an integrated flange for easy removal.
 - 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. Pressure gauge access through a specially designed screen on the side of the unit.
- e. Single circuit design with tandem compressor and fully activated evaporator coil

2. Compressors

- a. Models shall use one 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 stage 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-ampereage 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 heaters 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 preformed slide out 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.
6. 4-in filter capability is possible with a field installed pre engineered slide out filter track accessory. 4-in filters are field furnished.

23 81 19.13.M. Evaporator Fan and Motor

1. Evaporator fan motor:
 - a. Shall have permanently lubricated bearings.
 - a. Shall have inherent automatic-reset thermal overload protection or circuit breaker.
 - b. 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.
2. Belt-driven Evaporator Fan:
 - a. Belt drive shall include an adjustable-pitch motor pulley and belt break protection system..
 - b. Shall use rigid pillow block bearing system with lubricate fittings at are accessible or lubrication line.
 - 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.

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 EconoMiSer 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

- a. Shall protect against damage from hail.
- b. Shall be louvered style design.

3. Unit-Mounted, Non-Fused Disconnect Switch:

- a. Switch shall be factory-installed, internally mounted.
- b. National Electric Code (NEC) and ETL 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 of disconnect by installing contractor, as required by code. If outlet is powered from load side of disconnect, unit electrical ratings shall be ETL 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. Fan/Filter Status Switch:
- a. Switch shall provide status of indoor evaporator fan (ON/OFF) or filter (CLEAN/DIRTY).
 - b. Status shall be displayed either over communication bus (when used with direct digital controls) or with an indicator light at the thermostat.
7. Centrifugal 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. 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.
11. 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.
12. 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.
13. Smoke detectors:
- 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.

14. 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.
15. 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.
16. Barometric Hood (Horizontal Economizer Applications)
 - a. Shall be required when a horizontal economizer and barometric relief are required. Barometric relief damper must be installed in the return air (horizontal) duct work. This hood provides weather protection.
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.

