50HC
High Efficiency
Cooling Only/Electric Heat with EnergyX® System
Packaged Rooftop
3 to 12.5 Nominal Tons

Carrier
turn to the experts

Product Data

WeatherMaster®

ENERGY X

C10222

Puron
the environmentally sound refrigerant

ENERGY STAR

Certified System
ISO 9001
QMI-SAI Global

AHRI CERTIFIED
Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program For verification of certification for individual products, go to www.ahridirectory.org.

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ASHRAE 90.1 COMPLIANT

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Carrier
turn to the experts

Your new 3 to 12.5 Ton WeatherMaster Carrier rooftop unit (RTU) with EnergyX was designed to provide optimum comfort and control from a packaged rooftop

The system uses the same base WeatherMaster rooftop but integrates the EnergyX System.

The EnergyX System is a factory installed Energy Recovery Ventilator (ERV) module. It is fully integrated with the WeatherMaster rooftop structurally, and electronically for optimum performance and installation.

Easy to install:

These new WeatherMaster units are designed for dedicated factory-supplied vertical air flow duct configurations. This new cabinet design also integrates a large control box that gives you room to work and room to mount Carrier accessory controls.

Further ease of installation is achieved with the factory installed and tested EnergyX System. This allows for more reliable start-ups and operation leading to less time on the job site.

Easy to maintain:

Easy access handles by Carrier provide quick and easy 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. Take accurate pressure readings by reading condenser pressure with panels in place as compressors are strategically located to eliminate any air bypass.

Easy to use:

The newly designed, central terminal board by Carrier puts all your connections and troubleshooting points in one convenient place, standard. Most low voltage connections are made to the same board and make it easy to find what you’re looking for and easy to access it.

Reliable:

Each unit comes with precision sized and tested scroll compressor that is internally protected from over temperature and pressures. In addition, each refrigerant circuit is further protected with a high pressure and low pressure switch as well as containing a liquid line filter drier. Each unit is factory tested prior to shipment to help ensure unit operation once properly installed.

ENERGY X

FEATURES AND BENEFITS

- Integrated EnergyX System with Energy Recovery Ventilator (ERV).
- Carrier ComfortLink Controls allows added unit diagnostics and operation setup capabilities.
- Single-stage cooling capacity control on 04 to 07 models
- Two-stage cooling capacity control on 08-14 models
- SEER up to 15.6
- EER up to 13.0
- IEER's up to 13.2 with singles speed indoor fan motor and up to 14.1 with 2-speed/VFD indoor fan motor
- Exclusive non-corrosive composite condensate pan in accordance with ASHRAE 62 Standard, sloping design; side or center drain
- Single point electrical connection
- Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection
- TXV refrigerant metering system on each circuit
- Fully insulated cabinet
- Cooling operating range up to 125°F (52°C), and down to 35°F (2°C) standard
- 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
- Belt drive evaporator-fan motor and pulley combinations available on all three phase models
- Electric Drive X13 (5 speed/torque) motor on 04 to 06 models
- New terminal board facilitating simple safety circuit troubleshooting and simplified control box arrangement
- Field Convertible airflow (3-12.5 ton). Being able to convert a unit from vertical airflow to horizontal makes it easy to overcome job site complications. 12.5 ton models require a simple supply air duct cover to field convert from factory vertical to horizontal.
- Provisions for thru-the-bottom power entry capability as standard
- Full perimeter base rail with built-in rigging adapters and fork truck slots
- Scroll compressors with internal line-break overload protection
- 24-volt control circuit protected with resettable circuit breaker
- Permanently lubricated evaporator-fan motor
- Totally enclosed condenser motors with permanently lubricated bearings
- Low Pressure switch and high-pressure switch protection
- Liquid line filter drier on each circuit
- Standard Warranty: 5 years electric heater exchanger, 5 years compressor, 1 year parts
- Optional Staged Air Volume (SAV) system utilizes a Variable Frequency Drive (VFD) to automatically adjust the indoor fan motor speed between cooling stages. Available on 2-stage cooling models.
- Optional Staged Air Volume (SAV) system utilizes a Variable Frequency Drive (VFD) to automatically adjust the indoor fan motor speed between cooling stages. Available on 2-stage cooling models only.

MODEL NUMBER NOMENCLATURE

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

Product Type
50 – Elect Heat Pkg. Rooftop

Model Series – WeatherMaster
HC – High Efficiency

Heat Size
– – None (Field installed accessory)

Refrigerant System Options
A – Single stage cooling models
D – 2 stage Cooling

Nominal Cooling Capacity (Tons)
04 – 3 ton
05 – 4 ton
06 – 5 ton
07 – 6 ton
08 – 7.5 ton
09 – 8.5 ton
12 – 10 ton
14 – 12.5 ton

Sensor Options
A – None
B – RA Smoke Detector
C – SA Smoke Detector
D – RA + SA Smoke Detector
E – CO_2 Sensor
F – RA Smoke Detector + CO_2
G – SA Smoke Detector + CO_2
H – RA + SA Smoke Detector + CO_2

Indoor Fan Options 3, 4, 5 Ton Models Only
0 – Electric (Direct) Drive X13 motor
2 – Medium Static Option – Belt Drive
3 – High Static Option – Belt Drive

Indoor Fan Options 6–12.5 Ton Models Only
1 – Standard Static Option – Belt Drive
2 – Medium Static Option – Belt Drive
3 – High Static Option – Belt Drive
C = High Static Option w/Hi–Effy Motor – Belt Drive (14 size only)

Coil Options (RTPF) (Outdoor–Indoor–Hail Guard)
A – Al/Cu – Al/Cu
B – Pre–coat 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 – Pre–Coat 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

Voltage
1 – 575–3–60
5 – 208/230–3–60
6 – 460–3–60

Factory Design Revision –
– Factory Design Revision

Base Unit Controls
D – ComfortLink (Standard with EnergyX)

Intake / Exhaust Options
Q – EnergyX only
R – EnergyX + Economizer only
S – EnergyX + Frost Protection only
T – EnergyX + Economizer + Frost Protection

Service Options
0 – None
1 – Un–powered Convenience Outlet
2 – Powered Convenience Outlet
3 – Hinged Panels
4 – Hinged Panels, un–powered C.O.
5 – Hinged Panels, powered C.O.
C – Foil faced insulation
D – Foil faced insulation, un–powered C.O
E – Foil faced insulation, powered C.O.
F – Foil faced insulation, hinged access panels
G – Foil faced insulation, hinged access panels & unpowered C.O.
H – Foil faced insulation, hinged access panels & powered C.O.

Electrical Options
A – None
B – HACR breaker
C – Non–fused disconnect
D – Thru the base connections
E – HACR & thru the base connections
F – Non–fused disconnect & thru the base
G – 2–speed indoor fan (VFD) controller
H – 2–spd contr (VFD) & HACR breaker
J – 2–spd contr (VFD) & non–fused disc.
K – 2–spd contr (VFD) & thru the base
L – 2–spd contr (VFD) HACR breaker & thru the base connections
M – 2–spd cont (VFD) non–fused disc. & thru the base connections

Packaging
0 – Standard

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

CATEGORY	ITEM	FACTORY INSTALLED OPTION	FIELD INSTALLED ACCESSORY
EnergyX System	EnergyX	X	
	EnergyX with Economizer	X	
	EnergyX with Frost Protection	X	
	EnergyX with Frost Protection and Economizer	X	
	Filter Maintenance Sensor		X
	Motor Status Sensor		X
Cabinet	Dedicated Vertical Air Flow Duct Configuration	X	
	Thru–the–base electrical or gas–line connections	X	
	Hinged Access Panels	X	
Coil Options	Cu/Cu indoor and/or outdoor coils	X	
	Pre–coated outdoor coils	X	
	Premium, E–coated outdoor coils	X	
Condenser Protection	Condenser coil hail guard (louvered design)	X	X
Controls	Thermostats, temperature sensors, and subbases		X
	Smoke detector (supply and/or return air)[1]	X	
	Phase Monitor		X
Economizer Sensors & IAQ Devices	Single enthalpy sensors[2]	X	X
	Differential enthalpy sensors[2]		X
	Wall or duct mounted CO_2 sensor[2]	X	X
	Unit mounted CO_2 sensor[2,3]	X	X
Electric Heat	Electric Resistance Heaters		X
	Single Point Kit		X
Indoor Motor & Drive	Multiple motor and drive packages	X	
	Staged Air Volume (SAV) system w/VFD controller (2–stage cooling models only)	X	
	Display Kit for SAV system with VFD		X
Low Ambient Control	Winter start kit[4]		X
	Motormaster head pressure controller[4]		X
Power Options	Convenience outlet (powered)	X	
	Convenience outlet (unpowered)	X	
	Non–fused disconnect	X	
	HACR Circuit Breaker[5]	X	
Roof Curbs	Roof curb 14–in (356mm)		X
	Roof curb 24–in (610mm)		X
	Horizontal Curb Adapter (Vertical to horizontal airflow)		X

NOTES:

1. RA smoke detector not available on sizes 04–07. Device must be field furnished and installed in the appropriate duct work.
2. Sensors used to optimize economizer performance, standard on all EnergyX economizers.
3. Requires factory installed economizer.
4. See application data for assistance.
5. Non–fused disconnect switch cannot be used when MOCP electrical rating exceeds 70 amps at 460/575 volt and 150 amps at 208/230 volt. Carrier Packaged RTUBuilder selects this automatically.
6. HACR circuit breaker cannot be used when unit MOCP electrical rating exceeds 100 amps at 208/230V, 90 amps at 460V and 70 amps at 575V. 575V can only be used on Wye power supply systems. Delta power supply systems is prohibited.

FACTORY OPTIONS AND/OR ACCESSORIES

EnergyX Energy Recovery

The EnergyX System is a factory installed Energy Recovery Ventilator (ERV) module on a Carrier packaged rooftop unit. It is integrated with the base rooftop unit structurally, electrically and with regard to controls operation.

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 CO_2 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. There are also models for electromechanical as well as direct digital controllers. 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 cast effective solution to prevent building pressurization.

CO_2 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 CO_2 sensor detects their presence through increasing CO_2 levels, and opens the economizer appropriately.

When the occupants leave, the CO_2 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.

Power Exhaust with Barometric Relief

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

Staged Air Volume (SAV) Indoor Fan Speed System

Carrier’s Staged Air Volume (SAV) system saves energy and installation time by utilizing a Variable Frequency Drive (VFD) to automatically adjust the indoor fan motor speed in sequence with the units cooling operation. Per ASHRAE 90.1 2010 standard section 6.4.3.10.b, during the first stage of cooling operation the VFD will adjust the fan motor to provide 2/3rd of the total cfm established for the unit. When a call for the second stage of cooling is required, the VFD will allow the total cfm for the unit established (100%). During the heating mode the VFD will allow total design cfm (100%) operation and during the ventilation mode the VFD will allow operation to 2/3rd of total cfm.

Compared to single speed indoor fan motor systems, Carrier’s SAV system can save substantial energy, 25%+*, versus single speed indoor fan motor systems.

The VFD used in Carrier’s SAV system has soft start capabilities to slowly ramp up the speeds, thus eliminating any high inrush air volume during initial start-up. It also has internal over current protection for the fan motor and a field installed display kit that allows adjustment and in depth diagnostics of the VFD.

This SAV system is available on models with 2-stage cooling operation.

The SAV system is very flexible for initial fan performance set up and adjustment. The standard factory shipped VFD is pre-programmed to automatically stage the fan speed between the first and second stage of cooling. The unit fan performance static pressure and cfm can be easily adjusted using the traditional means of pulley adjustments. The other means to adjust the unit static and cfm performance is to utilize the field installed Display Kit and adjust the frequency and voltage in the VFD to required performance requirements. In either case, once set up, the VFD will automatically adjust the speed between the cooling stage operations.

*Data based on .10 ($/kWh) in an office application utilizing Carrier’s HAP 4.6 simulation software program

FACTORY OPTIONS AND/OR ACCESSORIES (cont.)

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.

Motorized 2-Position Damper

The new Carrier 2-position, motorized outdoor air damper admits up to 100% outside air. Using reliable, gear-driven technology, the 2-position damper opens to allow ventilation air and closes when the rooftop stops, stopping unwanted infiltration.

Manual OA Damper

Manual outdoor air dampers are an economical way to bring in ventilation air. The dampers are available in 25% and 50% versions.

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.

Motormaster Head Pressure Controller

The Motormaster motor controller is a low ambient, head pressure controller kit that is designed to maintain the unit's condenser head pressure during periods of low ambient cooling operation. This device should be used as an alternative to economizer free cooling not when economizer usage is either not appropriate or desired. The Motormaster will either cycle the outdoor-fan motors or operate them at reduced speed to maintain the unit operation, depending on the model.

Motor Status Indicator Switch

Monitors the EnergyX wheel/motor and supply and exhaust fan motors to provide indication of operation.

Winter Start Kit

The winter start kit by Carrier extends the low ambient limit of your rooftop to 25°F (-4°C). The kit bypasses the low pressure switch, preventing nuisance tripping of the low pressure switch. Other low ambient precautions may still be prudent.

Alternate Motors and Drives

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

Thru-the-Base Connections

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

Electric Heaters

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

HACR Breaker

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

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

Filter or Fan Status Switches

Use these differential pressure switches to detect a filter clog or indoor fan motor failure. When used in conjunction with a compatible unit controller/thermostat, the switches will activate an alarm to warn the appropriate personnel.

Filter Status Indicator Switch

Monitors the EnergyX wheel/motor and supply and exhaust fan motors to provide indication of operation.

Table 2 – ERV WHEEL PERFORMANCE - SELECTED GEOGRAPHIC AREAS

UNIT	AHRI EER	ERV WHEEL	RTU AIR-FLOW (CFM)	ERV AIR-FLOW (CFM)	Atlanta		Miami		Phoenix		Montreal		Detroit	
					ERV RER	CEF	ERV RER	CEF	ERV RER	CEF	ERV RER	CEF	ERV RER	CEF
04	12.5	ERC–1904	1050	500	64.98	15.68	74.71	16.26	64.37	15.64	40.33	14.18	52.76	14.94
05	13.0	ERC–2513C	1400	1300	72.62	19.85	86.08	21.4	66.04	19.10	45.98	16.79	59.06	18.29
06	12.45	ERC–2513C	1750	1300	72.62	18.16	86.08	19.44	66.04	17.54	45.98	15.63	59.06	16.88
07	12.2	ERC–2513C	2100	1300	72.62	16.73	86.08	17.73	66.04	16.23	45.98	14.73	59.06	15.71
08	12.2	ERC–3019C	2625	3400	81.18	17.6	96.30	18.79	73.79	17.02	51.44	15.27	66.04	16.42
09	12.2	ERC–3019C	2975	3400	72.41	17.39	85.64	18.53	65.96	16.83	45.75	15.09	58.85	16.22
12	11.7	ERC–3019C	3500	3400	68.09	16.06	80.40	17.01	62.10	15.59	42.96	14.12	55.31	15.07
14	12.4	ERC–3628C	4375	3800	88.10	17.82	104.27	18.98	79.59	17.21	55.64	15.50	71.53	16.63

Energy recovery systems transfer heat from exhaust to intake air thus transferring up to 70% of the exhaust heat in the building. Evaluate heating needs and total EnergyX system heating capability using Carrier System Software.

Performance of areas shown above simulated with Carrier System Software. For CEF calculations for your application, use Carrier Software System Programs.

AHRI CEF = Combined Efficiency factor. As described in AHRI Guideline V, the CEF is the efficiency of a system incorporating an ERV component with a unitary packaged air conditioner, heat pump, etc. Units vary according to the application. CEF is a dimensionless value as it may be expressed in Btu/(W@h) or in W/W. CEF is calculated per ARI Guideline V calculations using nominal flow rates and temperatures. CEF is analogous to a "system EER" where the system consists of the RTU + ERV. Actual CEF value will vary based on actual location, airflows and temperatures. Contact your Carrier Sales Engineer for additional information.
RER = Net Conditioning recovered by ERV divided by total electrical power consumed by ERV.

Table 3 – AHRI COOLING RATING TABLE 1-STAGE COOLING

UNIT	COOLING STAGES	NOM. CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	SEER	EER	IEER
A04	1	3	36.0	2.9	15.00	12.50	–
A05	1	4	48.5	3.7	15.60	13.00	–
A06	1	5	57.5	4.6	15.20	12.45	–
A07	1	6	73.0	6.0	–	12.20	13.20

Table 4 – AHRI COOLING RATING TABLE 2-STAGE COOLING

UNIT	COOLING STAGES	NOM. CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	SEER	EER	IEER WITH SINGLE SPEED INDOOR FAN MOTOR	IEER WITH 2–SPEED INDOOR MOTOR
D08	2	7.5	89.0	7.3	–	12.20	13.20	14.0
D09	2	8.5	97.0	8.0	–	12.20	13.20	14.0
D12	2	10.0	115.0	9.8	–	11.70	12.20	12.6
D14	2	12.5	146.0	11.8	–	12.40	13.20	14.1

LEGEND

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

NOTES:

1. Rated in accordance with AHRI Standards 210/240 (04–06 size) and 340/360 (07–14 size).
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.
   IEER Standard: A measure that expresses cooling part–load EER efficiency for commercial unitary air–conditioning and heat pump equipment on the basis of weighted operation at various load capacities.
3. All 50HC units comply with ASHRAE 90.1 Energy Standard for minimum SEER and EER requirements.
4. 50HC units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.

Table 5 – MINIMUM - MAXIMUM AIRFLOWS ELECTRIC HEAT

UNIT	COOLING		ELECTRIC HEATERS	
	Minimum	Maximum	Minimum	Maximum
50HC**04	900	1500	900	1500
50HC**05	1200	2000	1200	2000
50HC**06	1500	2500	1500	2500
50HC**07	1800	3000	1800	3000
50HC**08	2250 (1508)	3750	2250	3750
50HC**09	2550 (1625)	4250	2250	4250
50HC**12	3000 (2171)	5000	3000	5000
50HC**14	3750 (2754)	6250	3750	6250

( ) With Staged Air Volume (SAV) 2–speed indoor fan motor system. Values are minimum setting for VFD controller at 40Hz.

Table 6 – SOUND PERFORMANCE TABLE

UNIT	COOLING STAGES	OUTDOOR SOUND (dB) AT 60								
		A–WEIGHTED	63	125	250	500	1000	2000	4000	8000
A04	1	76	78.2	78.0	74.2	73.3	70.6	66.0	62.4	56.9
A05	1	78	84.7	83.6	77.1	74.6	72.3	68.3	64.7	60.9
A06	1	77	87.5	82.5	76.1	73.6	71.3	67.1	64.1	60.0
A07	1	82	90.1	82.6	81.0	79.4	77.0	73.0	70.4	66.7
D08	2	82	90.6	84.3	80.2	79.3	77.1	72.2	67.4	63.7
D09	2	82	88.6	85.0	81.6	79.5	77.4	74.1	71.0	66.3
D12	2	87	85.9	87.9	85.6	84.4	82.8	78.5	74.9	72.5
D14	2	83	89.3	86.0	82.9	80.7	78.5	73.6	69.6	64.5

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.

PHYSICAL DATA

Table 7 – 50HC **3 - 6 TON**

MODEL	HC 3 Ton		HC 4 – 5 Ton		HC 6 TON	
EnergyX size (CFM)	Non Econo	Econo	Non Econo	Econo	Non Econo	Econo
EnergyX unit type	Modulating Air Flow Capability					
ERV Wheel OA (CFM)	200–550		600–1400		600–1400	
ERV Wheel EAT (CFM)	200–550		600–1400		600–1400	
Max Economizer OA (CFM)	N/A	1200	N/A	1600/2000	N/A	2400
Max Economizer EAT (CFM)		1200		1600/2000		2400
ENERGY RECOVERY WHEEL						
Type	Enthalpy Lightweight Polymer with Silica Gel Desiccant Coating					
Model (AirXchange)	ERC–1904		ERC–2513C		ERC–2513C	
Size (Dia. X Depth) (in.)	19 x 1		25 x 3		25 x 3	
Nominal Drive Motor HP	0.1		0.1		0.1	
SUPPLY FAN						
Qty – Type	1 – Backward Curved					
Drive Type	Direct		Direct		Direct	
Blower Size (Diameter)	9.8–in.		15.75 in		15.75 in	
Nominal Motor HP	0.23		1.179		1.179	
EXHAUST FAN						
Qty – Type	1 – Backward Curved					
Drive Type	Direct		Direct		Direct	
Blower Size	15.75–in.		400mm	400mm	400mm	
Nominal Motor HP	1.179		1.179	1.179	1.179	
FILTERS						
Type	2–in. Pleated, 30% Efficiency					
Supply Air (Qty) – Size	(1) 10–in. X 20–in. X 2–in.		(1) 16–in. X 25–in. X 2–in.		(1) 16–in. X 25–in. X 2–in.	
Exhaust Air (Qty) – Size	(1) 10–in. X 20–in. X 2–in.		(1) 16–in. X 25–in. X 2–in.		(1) 16–in. X 25–in. X 2–in.	
Type	Aluminum Water Filter					
Water Entrapment (Qty) – Size	(1) 28.75–in x 12.25–in x 1–in		(1) 28.75–in. X 14.75–in. X 1–in.		(1) 35.75–in. X 14.75–in. X 1–in.	

Table 8 – 50HC **7.5 - 12.5 TON**

MODEL	HC 7.5 / 8.5 / 10 Ton		HC 12.5 Ton	
EnergyX size (CFM)	Non Econo	Econo	Non Econo	Econo
EnergyX unit type	Modulating Air Flow Capability		Modulating Air Flow Capability	
ERV Wheel OA (CFM)	900–2000		682–3675	
ERV Wheel EAT (CFM)	900–2000		682–3675	
Max Economizer OA (CFM)	N/A	3000/3400/4000	N/A	5000
Max Economizer EAT (CFM)		3000/3400/4000		5000
ENERGY RECOVERY WHEEL				
Type				
Model (AirXchange)	ERC–3019C		ERC–3628	
Size (Dia. X Depth) (in.)	30 x 3		36 x 3	
Nominal Drive Motor HP	0.1		1/20	
SUPPLY FAN				
Qty – Type	1 – Backward Curved		1 – Backward Curved	
Drive Type	Direct		Direct	
Blower Size (Diameter)	15.75 in		19.7 in	
Nominal Motor HP	1.179		3.619	
EXHAUST FAN				
Qty – Type	1 – Backward Curved		1 – Backward Curved	
Drive Type	Direct		Direct	
Blower Size	500mm		500mm	
Nominal Motor HP	3.619		3.619	
FILTERS				
Type				
Supply Air (Qty) – Size	(2) 16–in. X 16–in. X 2–in.		(2) 24 x 20 x 2	
Exhaust Air (Qty) – Size	(2) 16–in. X 16–in. X 2–in.		(2) 24 x 20 x 2	
Type				
Water Entrapment (Qty) – Size	(1) 35.75–in. X 17.5–in. X 1–in.		(1) 48.219–in. X 17.15–in. X 1–in.	

Table 9 – 50HC-A04

ELECTRIC HEAT - ELECTRICAL DATA
SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–1–60	DD–STD	101A00	4.4	3.3/4.0	–	–	–	–
		102A00	6.5	4.9/6.0	–	–	–	037A00
		103B00	8.7	6.5/8.0	037A00	037A00	040A00	040A00
		104B00	10.5	7.9/9.6	040A00	040A00	040A00	040A00
		102A00,102A00	13	9.8/11.9	040A00	040A00	040A00	040A00
	BD–STD*	101A00	4.4	3.3/4.0	–	–	–	–
		102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	037A00	037A00
		104B00	10.5	7.9/9.6	040A00	040A00	040A00	040A00
		102A00,102A00	13	9.8/11.9	040A00	040A00	040A00	040A00
	MED*	101A00	4.4	3.3/4.0	–	–	–	–
		102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	037A00	037A00
		104B00	10.5	7.9/9.6	040A00	040A00	040A00	040A00
		102A00,102A00	13	9.8/11.9	040A00	040A00	040A00	040A00
208/ 230–3–60	DD–STD	101A00	4.4	3.3/4.0	–	–	–	–
		102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	–	–	–	–
		104B00	10.5	7.9/9.6	–	–	–	–
		105A00	16	12.0/14.7	037A00	037A00	038A00	038A00
	BD–STD*	101A00	4.4	3.3/4.0	–	–	–	–
		102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	–	–	–	–
		104B00	10.5	7.9/9.6	–	–	–	–
		105A00	16	12.0/14.7	037A00	037A00	038A00	038A00
	MED	101A00	4.4	3.3/4.0	–	–	–	–
		102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	–	–	–	–
		104B00	10.5	7.9/9.6	–	–	–	–
		105A00	16	12.0/14.7	037A00	037A00	038A00	038A00
	HIGH	101A00	4.4	3.3/4.0	–	–	–	–
		102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	–	–	–	–
		104B00	10.5	7.9/9.6	–	–	–	–
		105A00	16	12.0/14.7	037A00	037A00	038A00	038A00
460–3–60	DD–STD	106A00	6	5.5	–	–	–	–
		107A00	8.8	8.1	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14	12.9	–	–	–	–
	BD–STD*	106A00	6	5.5	–	–	–	–
		107A00	8.8	8.1	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14	12.9	–	–	–	–
	MED	106A00	6	5.5	–	–	–	–
		107A00	8.8	8.1	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14	12.9	–	–	–	–
	HIGH	106A00	6	5.5	–	–	–	–
		107A00	8.8	8.1	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14	12.9	–	–	–	–

LEGEND

APP PWR – 208 / 230V / 460V / 575V
DD – Direct drive
BD – Belt drive
C.O. – Convenient outlet
FLA – Full load amps
IFM – Indoor fan motor
NOM PWR – 240V / 480V / 600V
P.E. – Power exhaust
PWRD – Powered convenient outlet
UNPWRD – Unpowered convenient outlet

Table 10 – 50HC-A05

ELECTRIC HEAT - ELECTRICAL DATA
SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–1–60	DD–STD	101A00	4.4	3.3/4.0	–	–	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	040A00	040A00
		102A00,102A00	13	9.8/11.9	040A00	040A00	040A00	040A00
		103B00,103B00	17.4	13.1/16.0	040A00	040A00	040A00	040A00
		104B00,104B00	21	15.8/19.3	040A00	040A00	040A00	040A00
	BD–STD*	101A00	4.4	3.3/4.0	–	–	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	037A00	037A00
		102A00,102A00	13	9.8/11.9	040A00	040A00	040A00	040A00
		103B00,103B00	17.4	13.1/16.0	040A00	040A00	040A00	040A00
		104B00,104B00	21	15.8/19.3	040A00	040A00	040A00	040A00
	MED*	101A00	4.4	3.3/4.0	–	–	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	037A00	037A00
		102A00,102A00	13	9.8/11.9	040A00	040A00	040A00	040A00
		103B00,103B00	17.4	13.1/16.0	040A00	040A00	040A00	040A00
		104B00,104B00	21	15.8/19.3	040A00	040A00	040A00	040A00
208/ 230–3–60	DD–STD	102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	–	–	–	–
		105A00	16	12.0/14.7	037A00	037A00	038A00	038A00
		104B00,104B00	21	15.8/19.3	038A00	038A00	038A00	038A00
	BD–STD*	102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	–	–	–	–
		105A00	16	12.0/14.7	037A00	037A00	038A00	038A00
		104B00,104B00	21	15.8/19.3	038A00	038A00	038A00	038A00
	MED	102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	–	–	–	–
		105A00	16	12.0/14.7	037A00	037A00	038A00	038A00
		104B00,104B00	21	15.8/19.3	038A00	038A00	038A00	038A00
	HIGH	102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	–	–	–	–
		105A00	16	12.0/14.7	037A00	037A00	038A00	038A00
		104B00,104B00	21	15.8/19.3	038A00	038A00	038A00	038A00
460–3–60	DD–STD	106A00	6	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14	12.9	–	–	–	–
		108A00,108A00	23	21.1	037A00	037A00	037A00	037A00
	BD–STD*	106A00	6	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14	12.9	–	–	–	–
		108A00,108A00	23	21.1	037A00	037A00	037A00	037A00
	MED	106A00	6	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14	12.9	–	–	–	–
		108A00,108A00	23	21.1	037A00	037A00	037A00	037A00
	HIGH	106A00	6	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14	12.9	–	–	–	–
		108A00,108A00	23	21.1	037A00	037A00	037A00	037A00

LEGEND

APP PWR – 208 / 230V / 460V / 575V
DD – Direct drive
BD – Belt drive
C.O. – Convenient outlet
FLA – Full load amps
IFM – Indoor fan motor
NOM PWR – 240V / 480V / 600V
P.E. – Power exhaust
PWRD – Powered convenient outlet
UNPWRD – Unpowered convenient outlet

Table 11 – 50HC-A06

ELECTRIC HEAT - ELECTRICAL DATA
SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–1–60	DD–STD	102A00	6.5	4.9/6.0	–	–	–	037A00
		103B00	8.7	6.5/8.0	037A00	037A00	040A00	040A00
		102A00,102A00	13	9.8/11.9	040A00	040A00	040A00	040A00
		103B00,103B00	17.4	13.1/16.0	040A00	040A00	040A00	040A00
		104B00,104B00	21	15.8/19.3	040A00	040A00	040A00	040A00
	BD–STD*	102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	037A00	037A00
		102A00,102A00	13	9.8/11.9	040A00	040A00	040A00	040A00
		103B00,103B00	17.4	13.1/16.0	040A00	040A00	040A00	040A00
		104B00,104B00	21	15.8/19.3	040A00	040A00	040A00	040A00
	MED*	102A00	6.5	4.9/6.0	–	–	–	037A00
		103B00	8.7	6.5/8.0	037A00	037A00	040A00	040A00
		102A00,102A00	13	9.8/11.9	040A00	040A00	040A00	040A00
		103B00,103B00	17.4	13.1/16.0	040A00	040A00	040A00	040A00
		104B00,104B00	21	15.8/19.3	040A00	040A00	040A00	040A00
208/ 230–3–60	DD–STD	102A00	6.5	4.9/6.0	–	–	–	–
		104B00	10.5	7.9/9.6	–	–	–	–
		105A00	16	12.0/14.7	037A00	037A00	038A00	038A00
		104B00,104B00	21	15.8/19.3	038A00	038A00	038A00	038A00
		104B00,105A00	26.5	19.9/24.3	038A00	038A00	038A00	038A00
	BD–STD*	102A00	6.5	4.9/6.0	–	–	–	–
		104B00	10.5	7.9/9.6	–	–	–	–
		105A00	16	12.0/14.7	037A00	037A00	038A00	038A00
		104B00,104B00	21	15.8/19.3	038A00	038A00	038A00	038A00
		104B00,105A00	26.5	19.9/24.3	038A00	038A00	038A00	038A00
	MED	102A00	6.5	4.9/6.0	–	–	–	–
		104B00	10.5	7.9/9.6	–	–	–	–
		105A00	16	12.0/14.7	037A00	037A00	038A00	038A00
		104B00,104B00	21	15.8/19.3	038A00	038A00	038A00	038A00
		104B00,105A00	26.5	19.9/24.3	038A00	038A00	038A00	038A00
	HIGH	102A00	6.5	4.9/6.0	–	–	–	–
		104B00	10.5	7.9/9.6	–	–	–	–
		105A00	16	12.0/14.7	037A00	037A00	038A00	038A00
		104B00,104B00	21	15.8/19.3	038A00	038A00	038A00	038A00
		104B00,105A00	26.5	19.9/24.3	038A00	038A00	038A00	038A00
460–3–60	DD–STD	106A00	6	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14	12.9	–	–	–	–
		108A00,108A00	23	21.1	037A00	037A00	037A00	037A00
		108A00,109A00	25.5	23.4	037A00	037A00	037A00	037A00
	BD–STD*	106A00	6	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14	12.9	–	–	–	–
		108A00,108A00	23	21.1	037A00	037A00	037A00	037A00
		108A00,109A00	25.5	23.4	037A00	037A00	037A00	037A00
	MED	106A00	6	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14	12.9	–	–	–	–
		108A00,108A00	23	21.1	037A00	037A00	037A00	037A00
		108A00,109A00	25.5	23.4	037A00	037A00	037A00	037A00
	HIGH	106A00	6	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14	12.9	–	–	–	–
		108A00,108A00	23	21.1	037A00	037A00	037A00	037A00
		108A00,109A00	25.5	23.4	037A00	037A00	037A00	037A00

LEGEND

APP PWR – 208 / 230V / 460V / 575V
DD – Direct drive
BD – Belt drive
C.O. – Convenient outlet
FLA – Full load amps
IFM – Indoor fan motor
NOM PWR – 240V / 480V / 600V
P.E. – Power exhaust
PWRD – Powered convenient outlet
UNPWRD – Unpowered convenient outlet

Table 12 – 50HC-A07 **ELECTRIC HEAT - ELECTRICAL DATA**
SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	264A00	6.5	4.9/6.0	042A00	042A00	042A00	042A00
		117A00	10.5	7.9/9.6	042A00	042A00	042A00	042A00
		110A00	16.0	12.0/14.7	042A00	042A00	043A00	043A00
		117A00,117A00	21.0	15.8/19.3	043A00	043A00	043A00	043A00
		110A00,117A00	26.5	19.9/24.3	043A00	043A00	043A00	043A00
	MED	264A00	6.5	4.9/6.0	042A00	042A00	042A00	042A00
		117A00	10.5	7.9/9.6	042A00	042A00	042A00	042A00
		110A00	16.0	12.0/14.7	042A00	043A00	043A00	043A00
		117A00,117A00	21.0	15.8/19.3	043A00	043A00	043A00	043A00
		110A00,117A00	26.5	19.9/24.3	043A00	043A00	043A00	043A00
	HIGH	264A00	6.5	4.9/6.0	042A00	042A00	042A00	042A00
		117A00	10.5	7.9/9.6	042A00	042A00	042A00	043A00
		110A00	16.0	12.0/14.7	043A00	043A00	043A00	043A00
		117A00,117A00	21.0	15.8/19.3	043A00	043A00	043A00	043A00
		110A00,117A00	26.5	19.9/24.3	043A00	043A00	043A00	043A00
460–3–60	STD	265A00	6.0	5.5	042A00	042A00	042A00	042A00
		266A00	11.5	10.6	042A00	042A00	042A00	042A00
		267A00	14.0	12.9	042A00	042A00	042A00	042A00
		268A00	23.0	21.1	042A00	042A00	042A00	042A00
		269A00	25.5	23.4	042A00	042A00	042A00	042A00
	MED	265A00	6.0	5.5	042A00	042A00	042A00	042A00
		266A00	11.5	10.6	042A00	042A00	042A00	042A00
		267A00	14.0	12.9	042A00	042A00	042A00	042A00
		268A00	23.0	21.1	042A00	042A00	042A00	042A00
		269A00	25.5	23.4	042A00	042A00	042A00	042A00
	HIGH	265A00	6.0	5.5	042A00	042A00	042A00	042A00
		266A00	11.5	10.6	042A00	042A00	042A00	042A00
		267A00	14.0	12.9	042A00	042A00	042A00	042A00
		268A00	23.0	21.1	042A00	042A00	042A00	042A00
		269A00	25.5	23.4	042A00	042A00	042A00	042A00

LEGEND

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

Table 13 – 50HC-D08

ELECTRIC HEAT - ELECTRICAL DATA
2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	047A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
	MED	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	047A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
	HIGH	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
460–3–60	STD	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		114A00	27.8	25.5	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	047A00	047A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
	MED	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		114A00	27.8	25.5	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	047A00	047A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
	HIGH	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		114A00	27.8	25.5	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	047A00	050A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
575–3–60	STD	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00
	MED	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00
	HIGH	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00

LEGEND

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

Table 14 – 50HC-D08

ELECTRIC HEAT - ELECTRICAL DATA
2-STAGE COOLING 2-SPEED INDOOR FAN MOTOR

NOM. V–Ph–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/ P.E. (pwrd fr/unit)	NO P.E.	w/ P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	047A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
	MED	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	049A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
	HIGH	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
460–3–60	STD	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		114A00	27.8	25.5	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	047A00	047A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
	MED	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		114A00	27.8	25.5	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	047A00	047A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
	HIGH	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		114A00	27.8	25.5	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	047A00	050A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
575–3–60	STD	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00
	MED	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	050A00	047A00	050A00
	HIGH	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	050A00	047A00	050A00

LEGEND

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

Table 15 – 50HC-D09

ELECTRIC HEAT - ELECTRICAL DATA
2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/ unit)	NO P.E.	w/P.E. (pwrd fr/ unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	047A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
	MED	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	047A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
	HIGH	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
460–3–60	STD	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		114A00	27.8	25.5	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	047A00	047A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
	MED	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		114A00	27.8	25.5	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	047A00	047A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
	HIGH	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		114A00	27.8	25.5	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	047A00	050A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
575–3–60	STD	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00
	MED	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00
	HIGH	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00

LEGEND

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

Table 16 – 50HC-D09

ELECTRIC HEAT - ELECTRICAL DATA
2-STAGE COOLING 2-SPEED INDOOR FAN MOTOR

NOM. V–Ph–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/ P.E. (pwrd fr/unit)	NO P.E.	w/ P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	047A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
	MED	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	049A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
	HIGH	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
460–3–60	STD	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		114A00	27.8	25.5	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	047A00	047A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
	MED	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		114A00	27.8	25.5	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	047A00	047A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
	HIGH	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		114A00	27.8	25.5	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	047A00	050A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
575–3–60	STD	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00
	MED	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	050A00	047A00	050A00
	HIGH	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	050A00	047A00	050A00

LEGEND

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

Table 17 – 50HC-D12

ELECTRIC HEAT - ELECTRICAL DATA
2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	047A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		112A00,110A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	MED	117A00	10.4	7.8/9.6	047A00	047A00	049A00	049A00
		110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		112A00,110A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	HIGH	117A00	10.4	7.8/9.6	049A00	049A00	049A00	049A00
		110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		112A00,110A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
460–3–60	STD	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	047A00	047A00
		115A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
		115A00,113A00	50.0	45.9	050A00	050A00	050A00	050A00
	MED	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	047A00	050A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
		115A00,113A00	50.0	45.9	050A00	050A00	050A00	050A00
	HIGH	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	050A00	050A00	050A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
		115A00,113A00	50.0	45.9	050A00	050A00	050A00	050A00
575–3–60	STD	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00
		118A00,119A00	51.0	51.0	050A00	050A00	050A00	050A00
	MED	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00
		118A00,119A00	51.0	51.0	050A00	050A00	050A00	050A00
	HIGH	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	050A00	050A00	050A00
		118A00,119A00	51.0	51.0	050A00	050A00	050A00	050A00

LEGEND

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

Table 18 – 50HC-D12

ELECTRIC HEAT - ELECTRICAL DATA
2-STAGE COOLING 2-SPEED INDOOR FAN MOTOR

NOM. V–Ph–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/ P.E. (pwrd fr/unit)	NO P.E.	w/ P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047A00	047A00	047A00	049A00
		110A00	16.0	12.0/14.7	047A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		112A00,110A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	MED	117A00	10.4	7.8/9.6	047A00	049A00	049A00	049A00
		110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		112A00,110A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	HIGH	117A00	10.4	7.8/9.6	047A00	049A00	049A00	049A00
		110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		112A00,110A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
460–3–60	STD	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	047A00	047A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
		115A00,113A00	50.0	45.9	050A00	050A00	050A00	050A00
	MED	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	047A00	050A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
		115A00,113A00	50.0	45.9	050A00	050A00	050A00	050A00
	HIGH	116A00	13.9	12.8	047A00	047A00	047A00	047A00
		113A00	16.5	15.2	047A00	047A00	047A00	047A00
		115A00	33.0	30.3	047A00	047A00	050A00	050A00
		114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
		115A00,113A00	50.0	45.9	050A00	050A00	050A00	050A00
575–3–60	STD	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	050A00	047A00	050A00
		118A00,119A00	51.0	51.0	050A00	050A00	050A00	050A00
	MED	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	050A00	047A00	050A00
		118A00,119A00	51.0	51.0	050A00	050A00	050A00	050A00
	HIGH	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	050A00	050A00	050A00
		118A00,119A00	51.0	51.0	050A00	050A00	050A00	050A00

LEGEND

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

Table 19 – 50HC-D14

ELECTRIC HEAT - ELECTRICAL DATA
2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	291A00	16.5	12.4/15.2	–	049A00	049A00	049A00
		288A00,291A00	26.5	19.9/24.3	049A00	049A00	049A00	049A00
		294A00	33.5	25.2/30.8	049A00	049A00	049A00	049A00
		288A00,294A00	43.5	32.7/40.0	051A00	051A00	051A00	051A00
		291A00,294A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	MED	291A00	16.5	12.4/15.2	049A00	049A00	049A00	049A00
		288A00,291A00	26.5	19.9/24.3	049A00	049A00	049A00	049A00
		294A00	33.5	25.2/30.8	049A00	049A00	049A00	049A00
		288A00,294A00	43.5	32.7/40.0	051A00	051A00	051A00	051A00
		291A00,294A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	HIGH	291A00	16.5	12.4/15.2	049A00	049A00	049A00	049A00
		288A00,291A00	26.5	19.9/24.3	049A00	049A00	049A00	049A00
		294A00	33.5	25.2/30.8	049A00	049A00	049A00	049A00
		288A00,294A00	43.5	32.7/40.0	051A00	051A00	051A00	051A00
		291A00,294A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
460–3–60	STD	292A00	16.5	15.2	–	–	–	–
		289A00,292A00	26.5	24.3	047A00	047A00	047A00	047A00
		295A00	33.5	30.8	047A00	047A00	047A00	047A00
		289A00,295A00	43.5	40.0	050A00	050A00	050A00	050A00
		292A00,295A00	50.0	45.9	050A00	050A00	050A00	050A00
	MED	292A00	16.5	15.2	–	–	–	–
		289A00,292A00	26.5	24.3	047A00	047A00	047A00	047A00
		295A00	33.5	30.8	047A00	047A00	047A00	050A00
		289A00,295A00	43.5	40.0	050A00	050A00	050A00	050A00
		292A00,295A00	50.0	45.9	050A00	050A00	050A00	050A00
	HIGH	292A00	16.5	15.2	–	–	–	–
		289A00,292A00	26.5	24.3	047A00	047A00	047A00	047A00
		295A00	33.5	30.8	050A00	050A00	050A00	050A00
		289A00,295A00	43.5	40.0	050A00	050A00	050A00	050A00
		292A00,295A00	50.0	45.9	050A00	050A00	050A00	050A00
575–3–60	STD	293A00	16.5	15.2	–	–	–	–
		290A00,293A00	26.5	24.3	047A00	047A00	047A00	047A00
		296A00	33.5	30.8	050A00	050A00	050A00	050A00
		290A00,296A00	43.5	40.0	050A00	050A00	050A00	050A00
		293A00,296A00	50.0	45.9	050A00	050A00	050A00	050A00
	MED	293A00	16.5	15.2	–	–	–	–
		290A00,293A00	26.5	24.3	047A00	047A00	047A00	047A00
		296A00	33.5	30.8	050A00	050A00	050A00	050A00
		290A00,296A00	43.5	40.0	050A00	050A00	050A00	050A00
		293A00,296A00	50.0	45.9	050A00	050A00	050A00	050A00
	HIGH	293A00	16.5	15.2	–	–	–	–
		290A00,293A00	26.5	24.3	047A00	047A00	047A00	047A00
		296A00	33.5	30.8	050A00	050A00	050A00	050A00
		290A00,296A00	43.5	40.0	050A00	050A00	050A00	050A00
		293A00,296A00	50.0	45.9	050A00	050A00	050A00	050A00

LEGEND

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

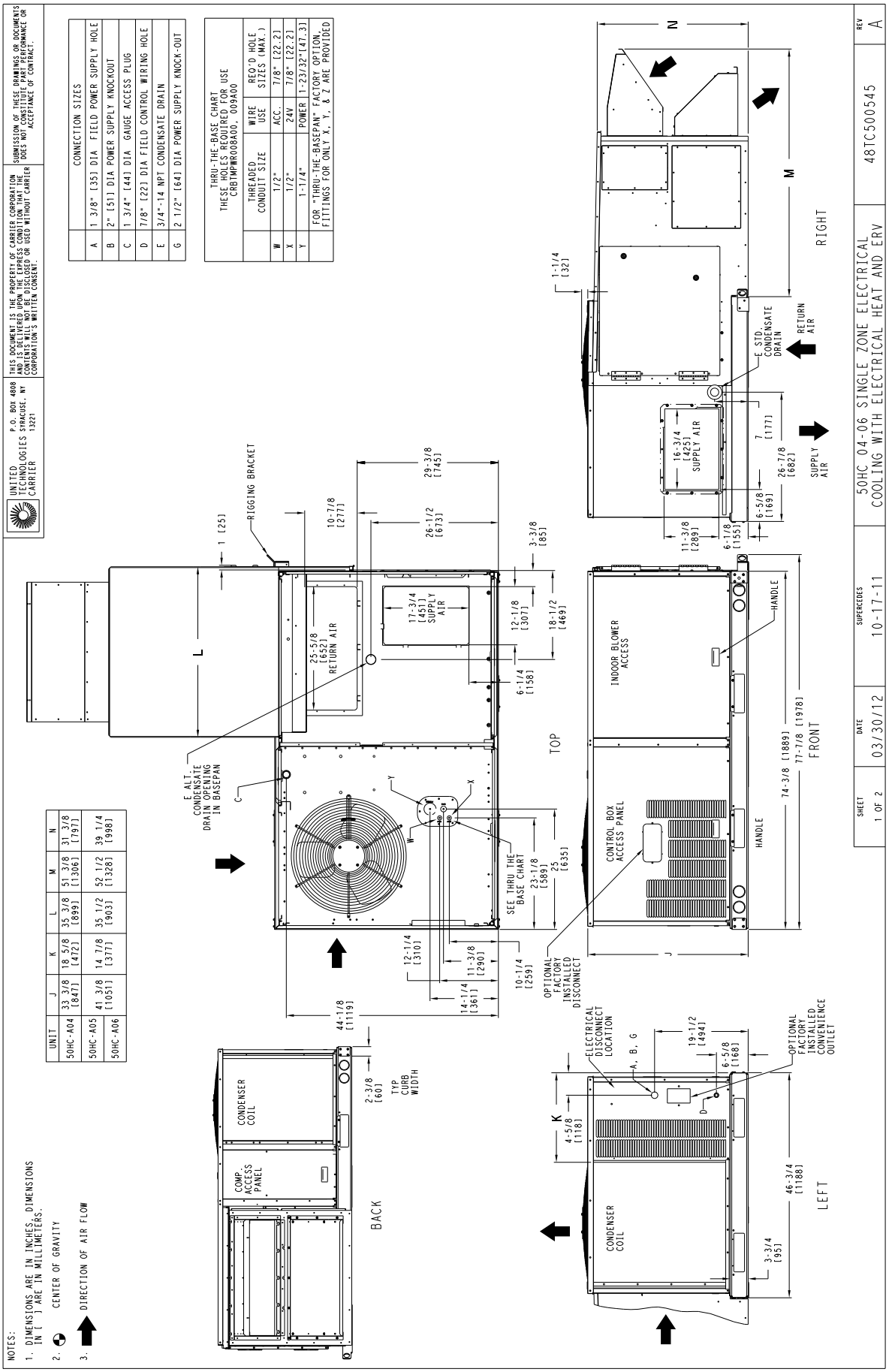
Table 20 – 50HC-D14

ELECTRIC HEAT - ELECTRICAL DATA
2-STAGE COOLING 2-SPEED INDOOR FAN MOTOR

NOM. V–Ph–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/ P.E. (pwrd fr/unit)	NO P.E.	w/ P.E. (pwrd fr/unit)
208/ 230–3–60	STD	291A00	16.5	12.4/15.2	049A00	049A00	049A00	049A00
		288A00,291A00	26.5	19.9/24.3	049A00	049A00	049A00	049A00
		294A00	33.5	25.2/30.8	049A00	049A00	049A00	049A00
		288A00,294A00	43.5	32.7/40.0	051A00	051A00	051A00	051A00
		291A00,294A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	MED	291A00	16.5	12.4/15.2	049A00	049A00	049A00	049A00
		288A00,291A00	26.5	19.9/24.3	049A00	049A00	049A00	049A00
		294A00	33.5	25.2/30.8	049A00	049A00	049A00	049A00
		288A00,294A00	43.5	32.7/40.0	051A00	051A00	051A00	051A00
		291A00,294A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	HIGH	291A00	16.5	12.4/15.2	049A00	049A00	049A00	049A00
		288A00,291A00	26.5	19.9/24.3	049A00	049A00	049A00	049A00
		294A00	33.5	25.2/30.8	049A00	049A00	049A00	049A00
		288A00,294A00	43.5	32.7/40.0	051A00	051A00	051A00	051A00
		291A00,294A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
460–3–60	STD	292A00	16.5	15.2	–	–	–	–
		289A00,292A00	26.5	24.3	047A00	047A00	047A00	047A00
		295A00	33.5	30.8	047A00	047A00	047A00	050A00
		289A00,295A00	43.5	40.0	050A00	050A00	050A00	050A00
		292A00,295A00	50.0	45.9	050A00	050A00	050A00	050A00
	MED	292A00	16.5	15.2	–	–	–	–
		289A00,292A00	26.5	24.3	047A00	047A00	047A00	047A00
		295A00	33.5	30.8	047A00	047A00	047A00	050A00
		289A00,295A00	43.5	40.0	050A00	050A00	050A00	050A00
		292A00,295A00	50.0	45.9	050A00	050A00	050A00	050A00
	HIGH	292A00	16.5	15.2	–	–	–	–
		289A00,292A00	26.5	24.3	047A00	047A00	047A00	047A00
		295A00	33.5	30.8	050A00	050A00	050A00	050A00
		289A00,295A00	43.5	40.0	050A00	050A00	050A00	050A00
		292A00,295A00	50.0	45.9	050A00	050A00	050A00	050A00
575–3–60	STD	293A00	16.5	15.2	–	–	–	–
		290A00,293A00	26.5	24.3	047A00	047A00	047A00	047A00
		296A00	33.5	30.8	047A00	047A00	047A00	047A00
		290A00,296A00	43.5	40.0	047A00	050A00	047A00	050A00
		293A00,296A00	50.0	45.9	047A00	047A00	047A00	050A00
	MED	293A00	16.5	15.2	–	–	–	–
		290A00,293A00	26.5	24.3	047A00	047A00	047A00	047A00
		296A00	33.5	30.8	047A00	047A00	047A00	047A00
		290A00,296A00	43.5	40.0	047A00	050A00	047A00	050A00
		293A00,296A00	50.0	45.9	047A00	047A00	047A00	050A00
	HIGH	293A00	16.5	15.2	–	–	–	–
		290A00,293A00	26.5	24.3	047A00	047A00	047A00	047A00
		296A00	33.5	30.8	047A00	047A00	047A00	047A00
		290A00,296A00	43.5	40.0	050A00	050A00	050A00	050A00
		293A00,296A00	50.0	45.9	050A00	050A00	050A00	050A00

LEGEND

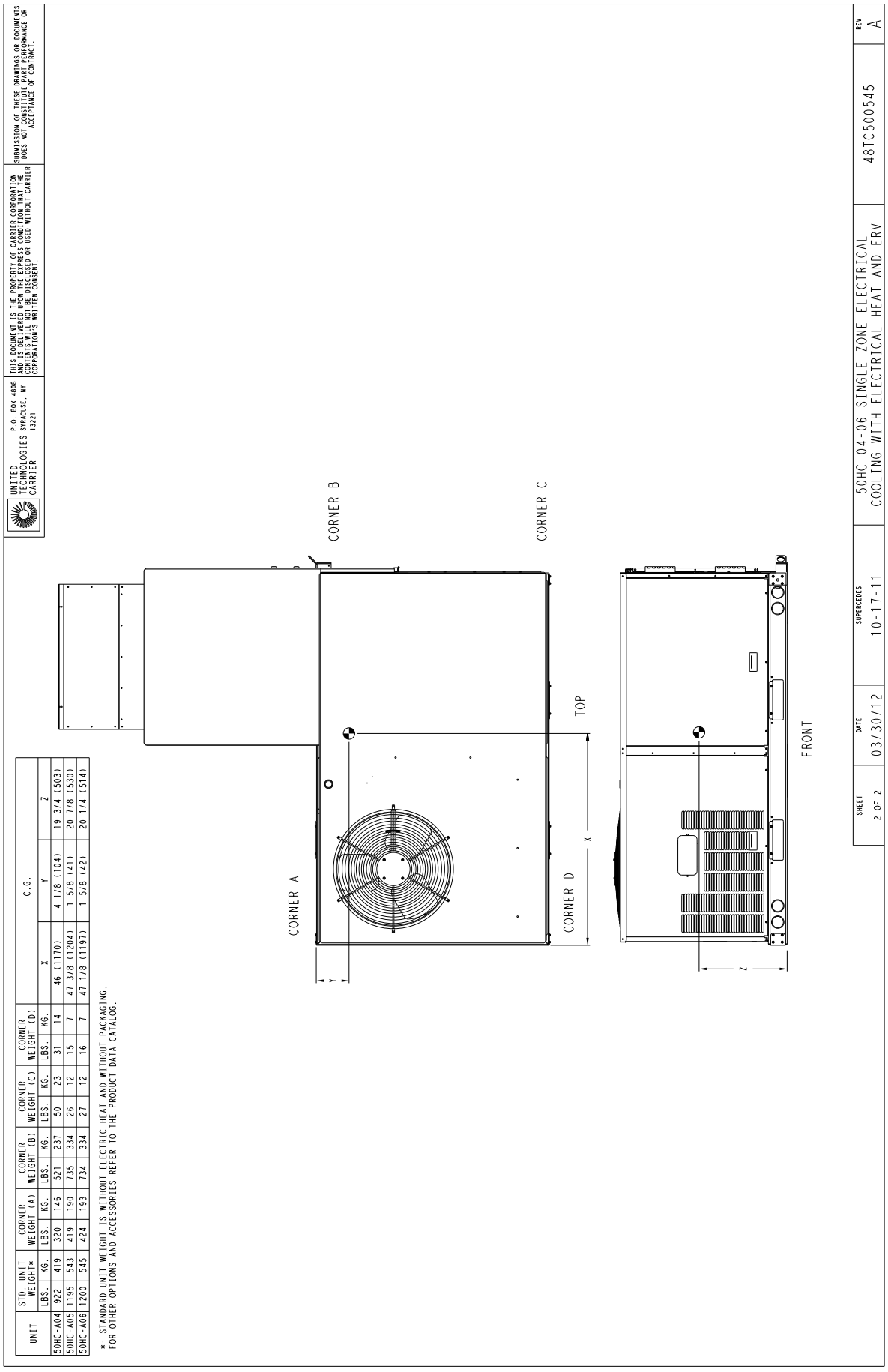
APP PWR – 208 / 230V / 460V / 575V
C.O. – Convenient outlet
FLA – Full load amps
IFM – Indoor fan motor
NOM PWR – 240V / 480V / 600V
P.E. – Power exhaust
PWRD – Powered convenient outlet
UNPWRD – Unpowered convenient outlet



C12198

Fig. 1 - Dimensions 50HC 04-06 Single Zone Electric Cooling with Electric Heat and ERV

CURBS & WEIGHTS DIMENSIONS - 50HC 04-06 (cont.)



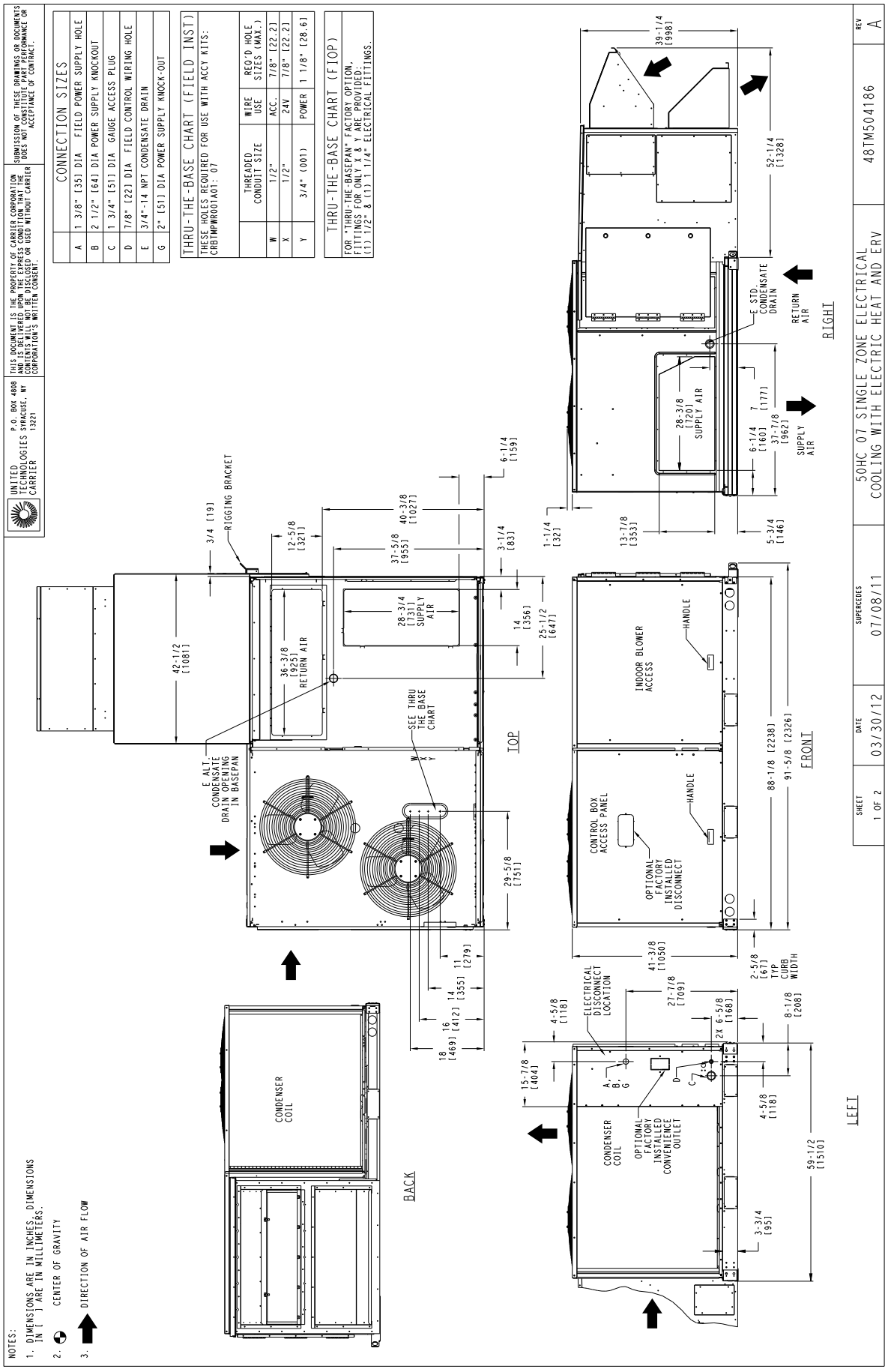
UNIT	STD. UNIT WEIGHT*		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50HC-A04	922	419	320	146	521	237	50	23	31	14	46 (1170)	4 1/8 (104)	19 3/4 (503)
50HC-A05	1195	543	419	190	735	334	26	12	15	7	47 3/8 (1204)	1 5/8 (41)	20 7/8 (530)
50HC-A06	1200	545	424	193	734	334	27	12	16	7	47 1/8 (1197)	1 5/8 (42)	20 1/4 (514)

*- STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES REFER TO THE PRODUCT DATA CATALOG.

C12199

Fig. 2 - Dimensions 50HC 04-06 Single Zone Electric Cooling with Electric Heat and ERV

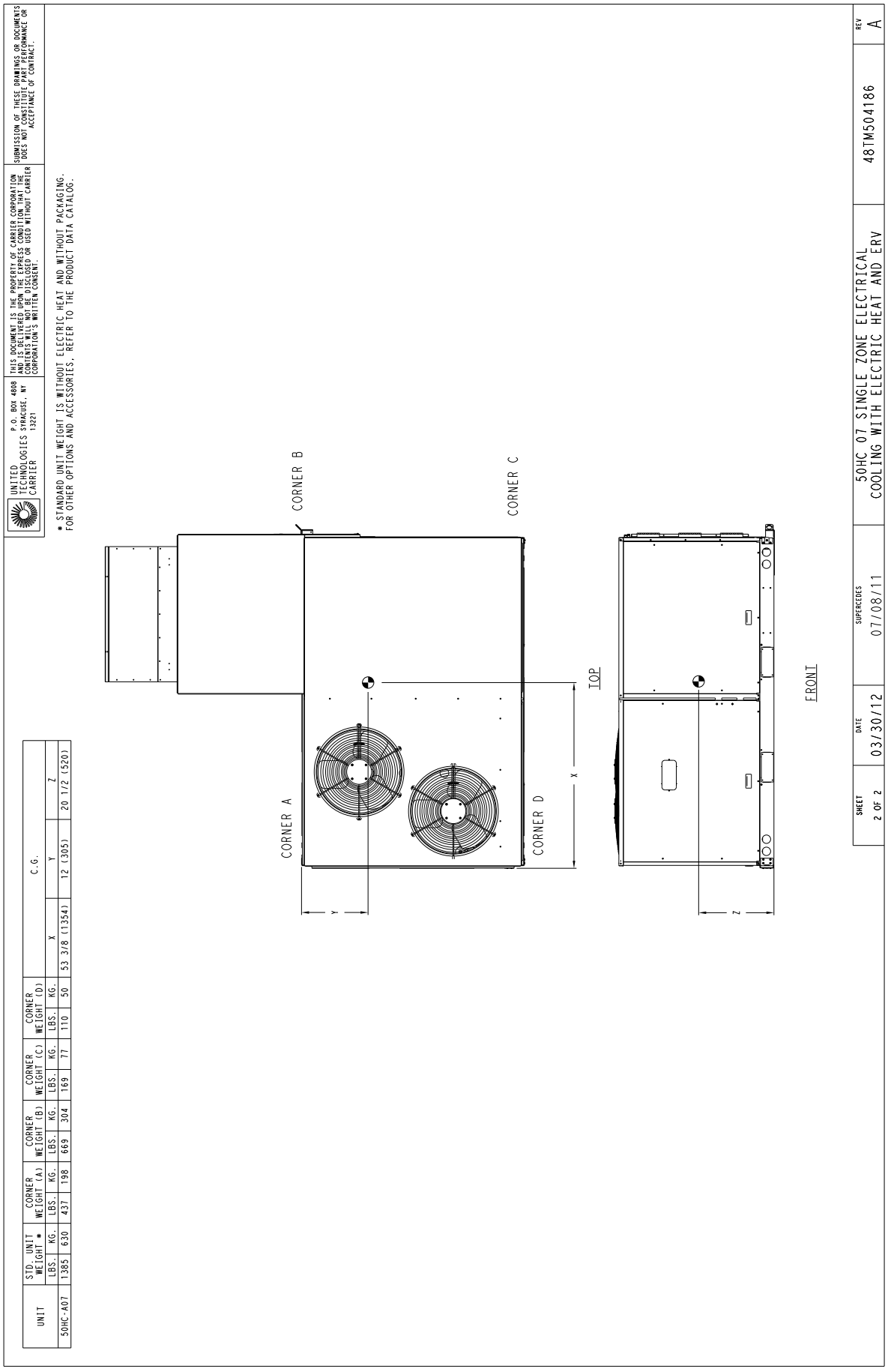
CURBS & WEIGHTS DIMENSIONS - 50HC 07



C12200

Fig. 3 - Dimensions 50HC 07 Single Zone Electric Cooling with Gas Heat and ERV

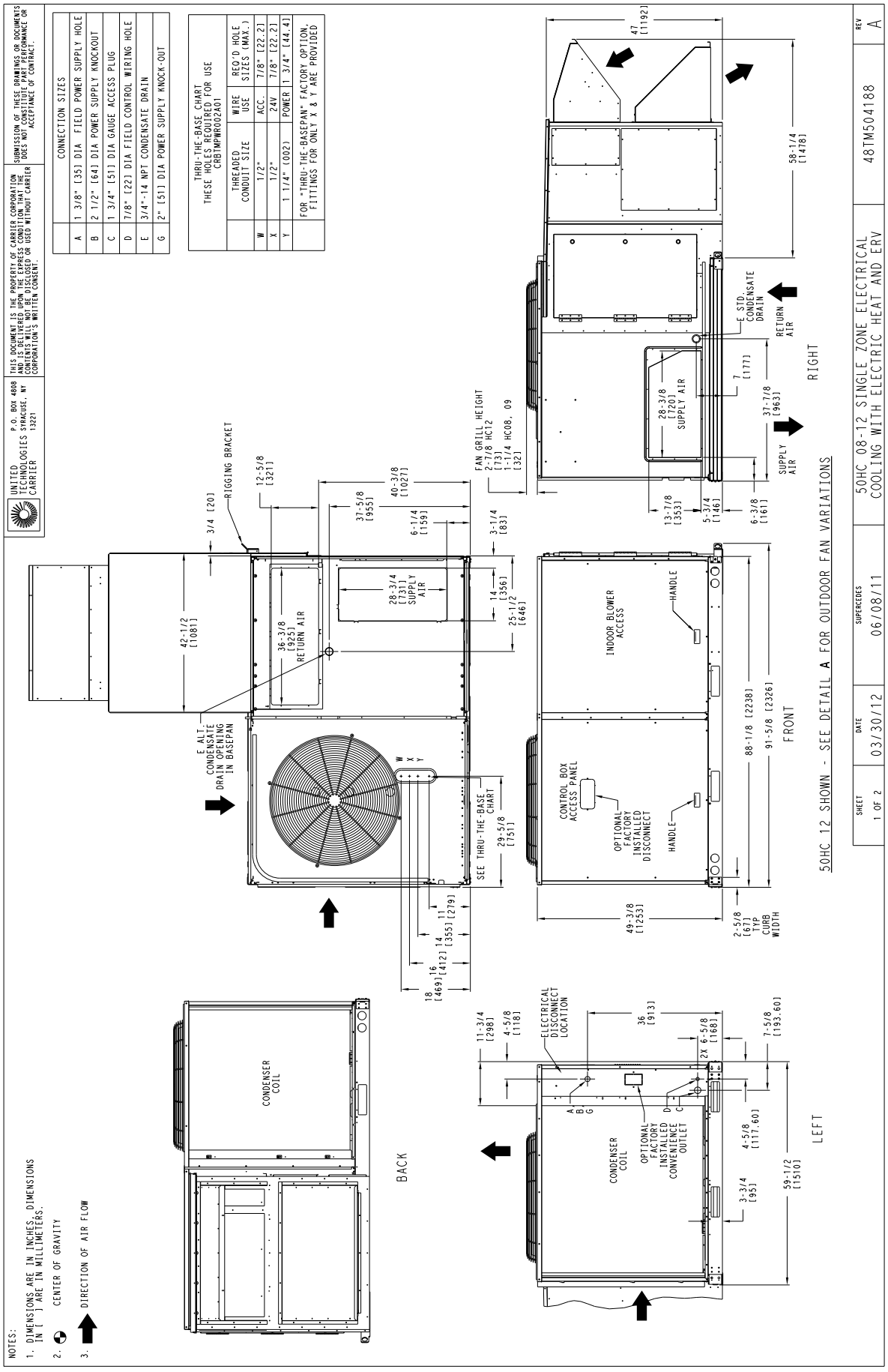
CURBS & WEIGHTS DIMENSIONS - 50HC 07 (cont.)



UNIT	STD. UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.			
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X		Y	Z
50HC-A07	1385	630	437	198	669	304	169	77	110	50	53 3/8	(1354)	12 (305)	20 1/2 (520)

C12201

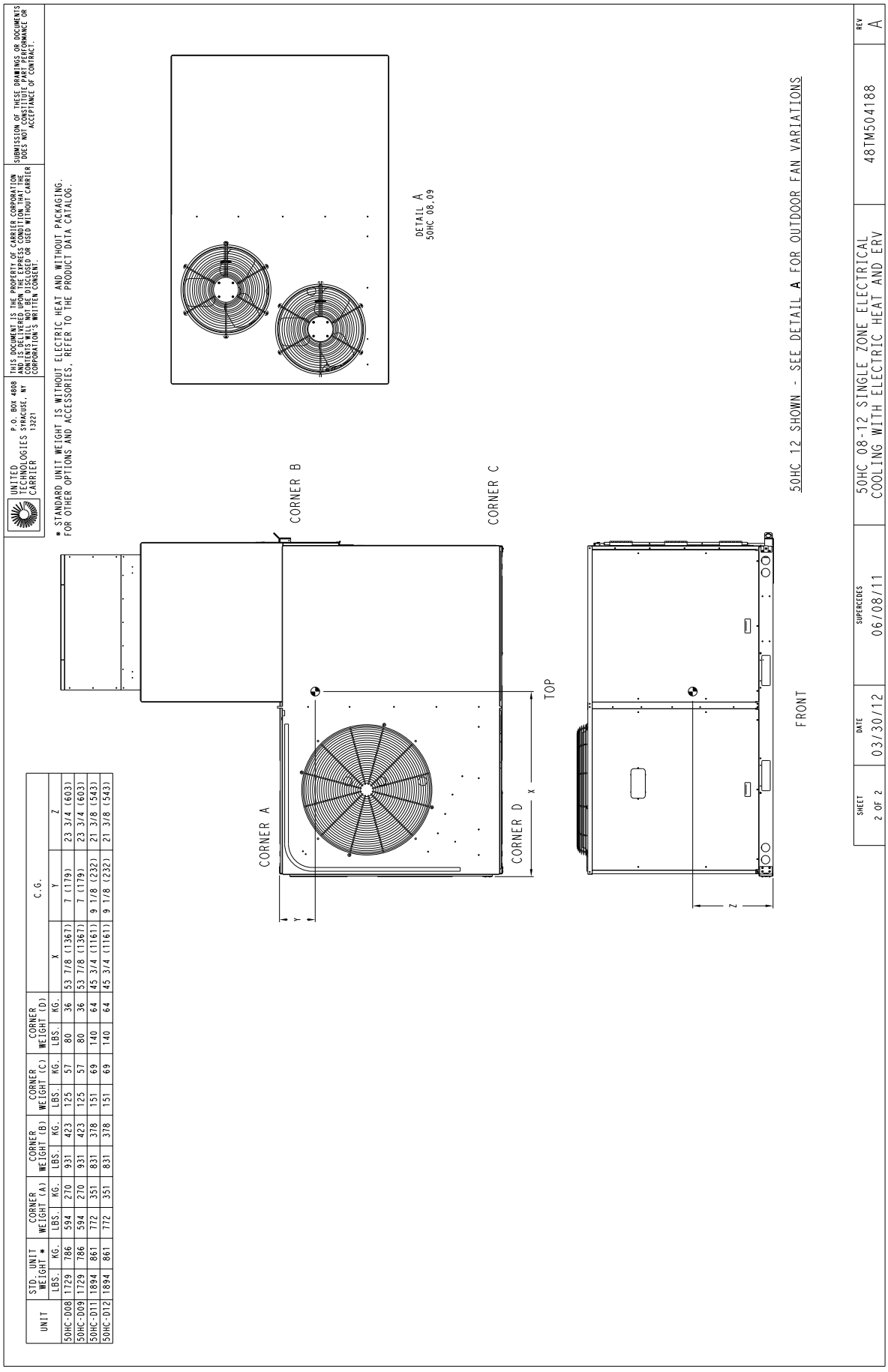
Fig. 4 - Dimensions 50HC 07 Single Zone Electric Cooling with Gas Heat and ERV



C12202

Fig. 5 - Dimensions 50HC 08-12 Single Zone Electric Cooling with Gas Heat and ERV

CURBS & WEIGHTS DIMENSIONS - 50HC 08-12 (cont.)

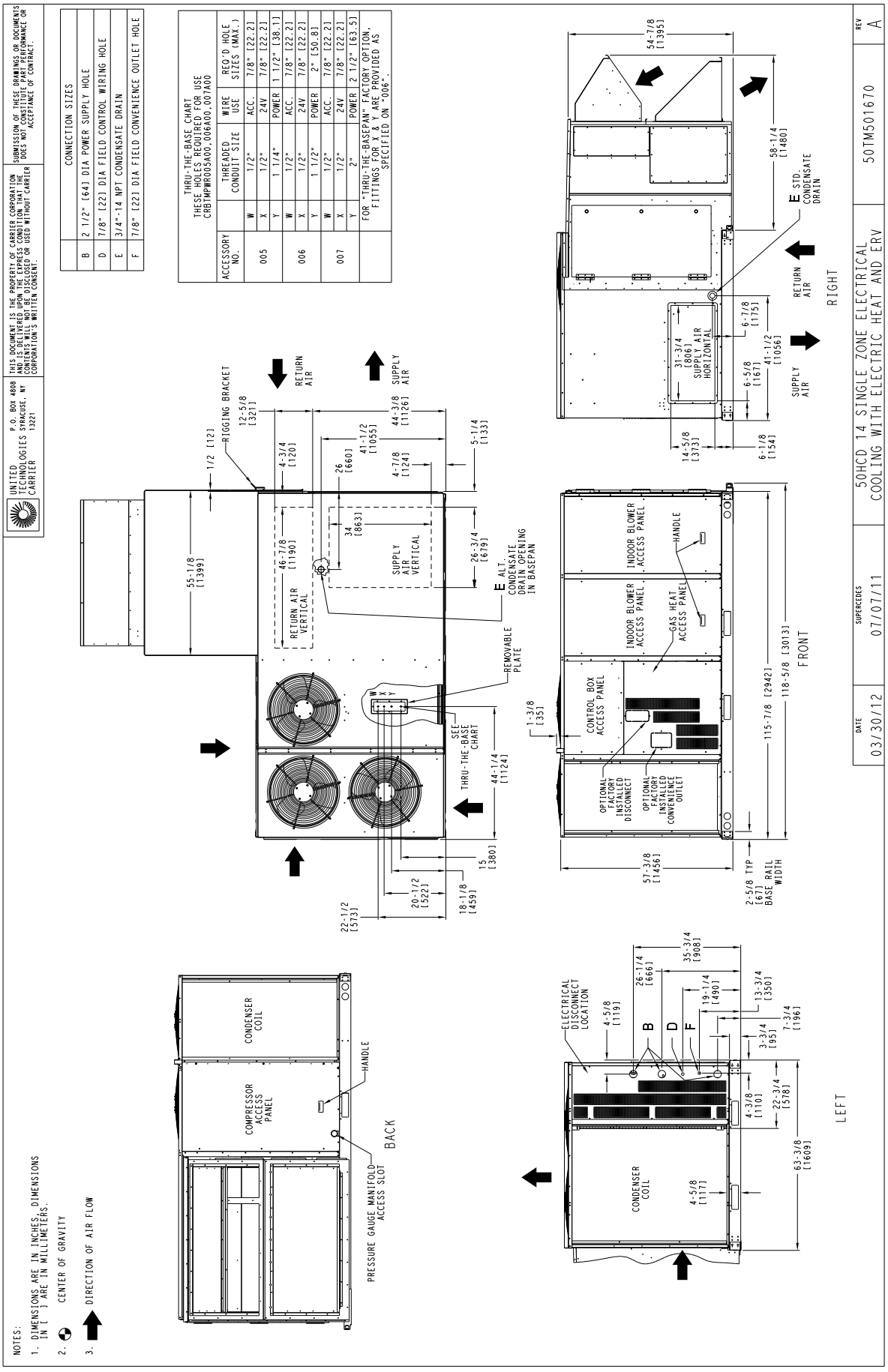


UNIT	STD. UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.			
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X		Y	Z
50HC-D08	1729	786	594	270	931	423	125	57	80	36	53 7/8	(1367)	7 (179)	23 3/4 (603)
50HC-D09	1729	786	594	270	931	423	125	57	80	36	53 7/8	(1367)	7 (179)	23 3/4 (603)
50HC-D11	1894	861	772	351	831	378	151	69	140	64	45 3/4	(1161)	9 1/8 (232)	21 3/8 (543)
50HC-D12	1894	861	772	351	831	378	151	69	140	64	45 3/4	(1161)	9 1/8 (232)	21 3/8 (543)

C12203

Fig. 6 - Dimensions 50HC 08-12 Single Zone Electric Cooling with Gas Heat and ERV

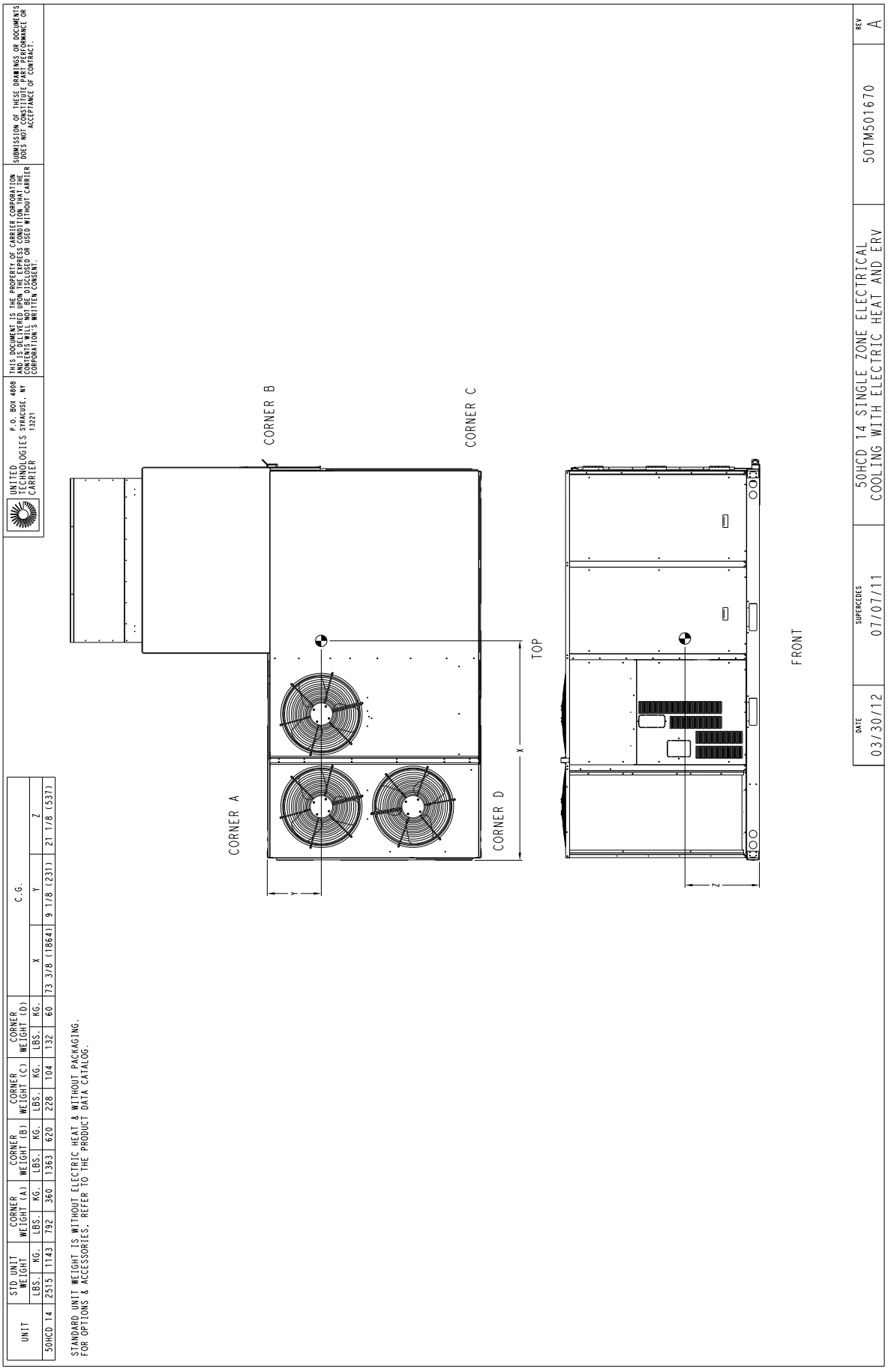
CURBS & WEIGHTS DIMENSIONS - 50HC 14



C12204

Fig. 7 - Dimensions 50HC 14 Single Zone Electric Cooling with Gas Heat and ERV

CURBS & WEIGHTS DIMENSIONS - 50HC 14 (cont.)



UNIT	STD UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50HCD 14	2515	1143	792	360	1363	620	228	104	132	60	73 3/8 (1864)	9 1/8 (231)	21 1/8 (537)

STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT & WITHOUT PACKAGING.
FOR OPTIONS & ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.

C12205

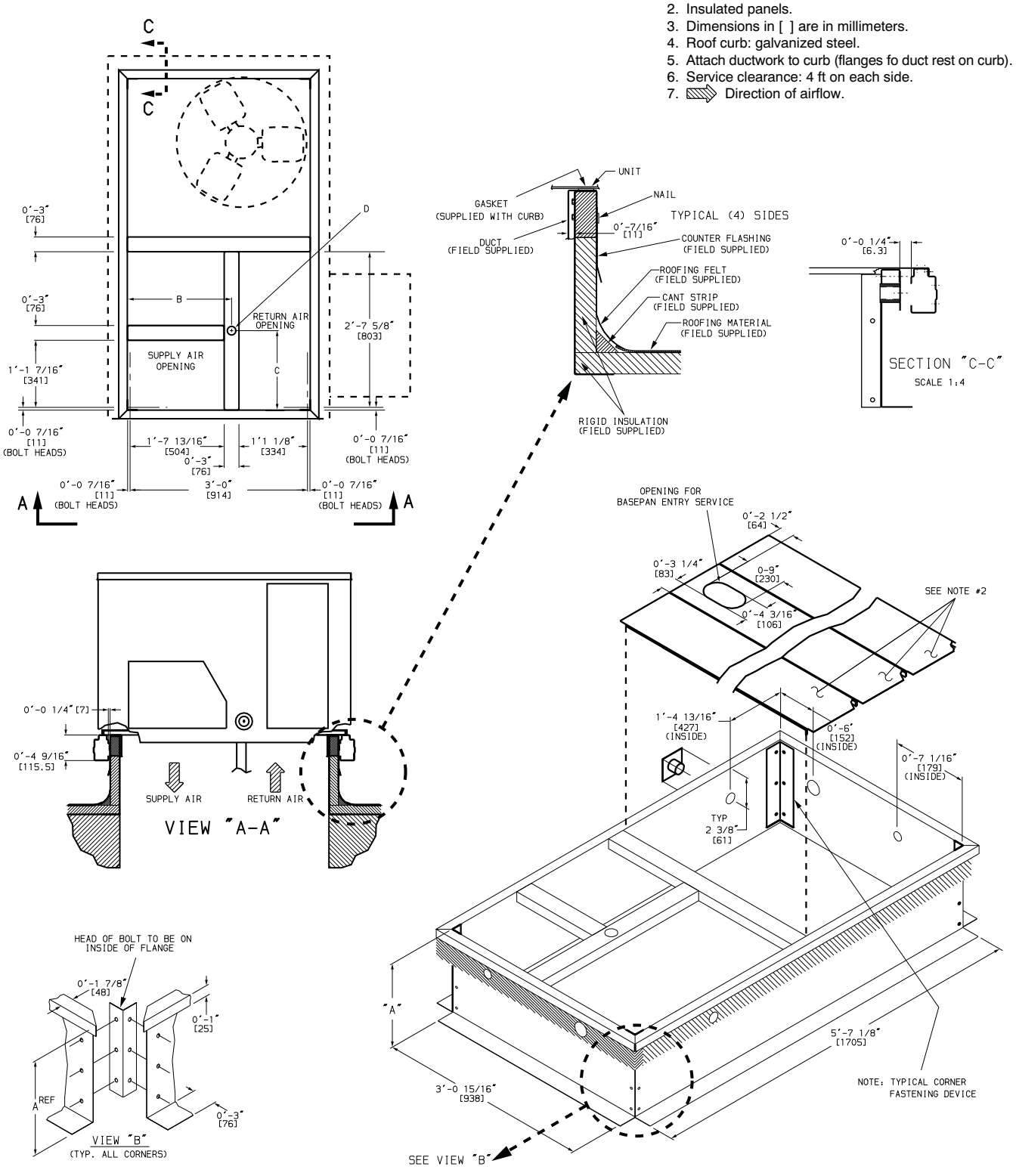
Fig. 8 - Dimensions 50HC 14 Single Zone Electric Cooling with Gas Heat and ERV

CURBS & WEIGHTS DIMENSIONS - ROOF CURB DETAILS (SIZE 04-06 UNITS)

CONNECTOR PKG. ACCY.	B	C	D ALT DRAIN HOLE	POWER	CONTROL	ACCESSORY POWER
CRBTMPWR001A01	1'-9 11/16" [551]	1'-4" [406]	1 3/4" [44.5]	3/4" [19] NPT	1/2" [12.7] NPT	1/2" [12.7] NPT
CRBTMPWR003A01				1 1/4" [31.7]		

ROOFCURB ACCESSORY	A	UNIT SIZE
CRRFCURB001A01	1'-2" [356]	50HC A04-A06
CRRFCURB002A01	2'-0" [610]	

NOTES:
1. Roof curb accessory is shipped disassembled.
2. Insulated panels.
3. Dimensions in [ ] are in millimeters.
4. Roof curb: galvanized steel.
5. Attach ductwork to curb (flanges fo duct rest on curb).
6. Service clearance: 4 ft on each side.
7. Direction of airflow.



C11059A

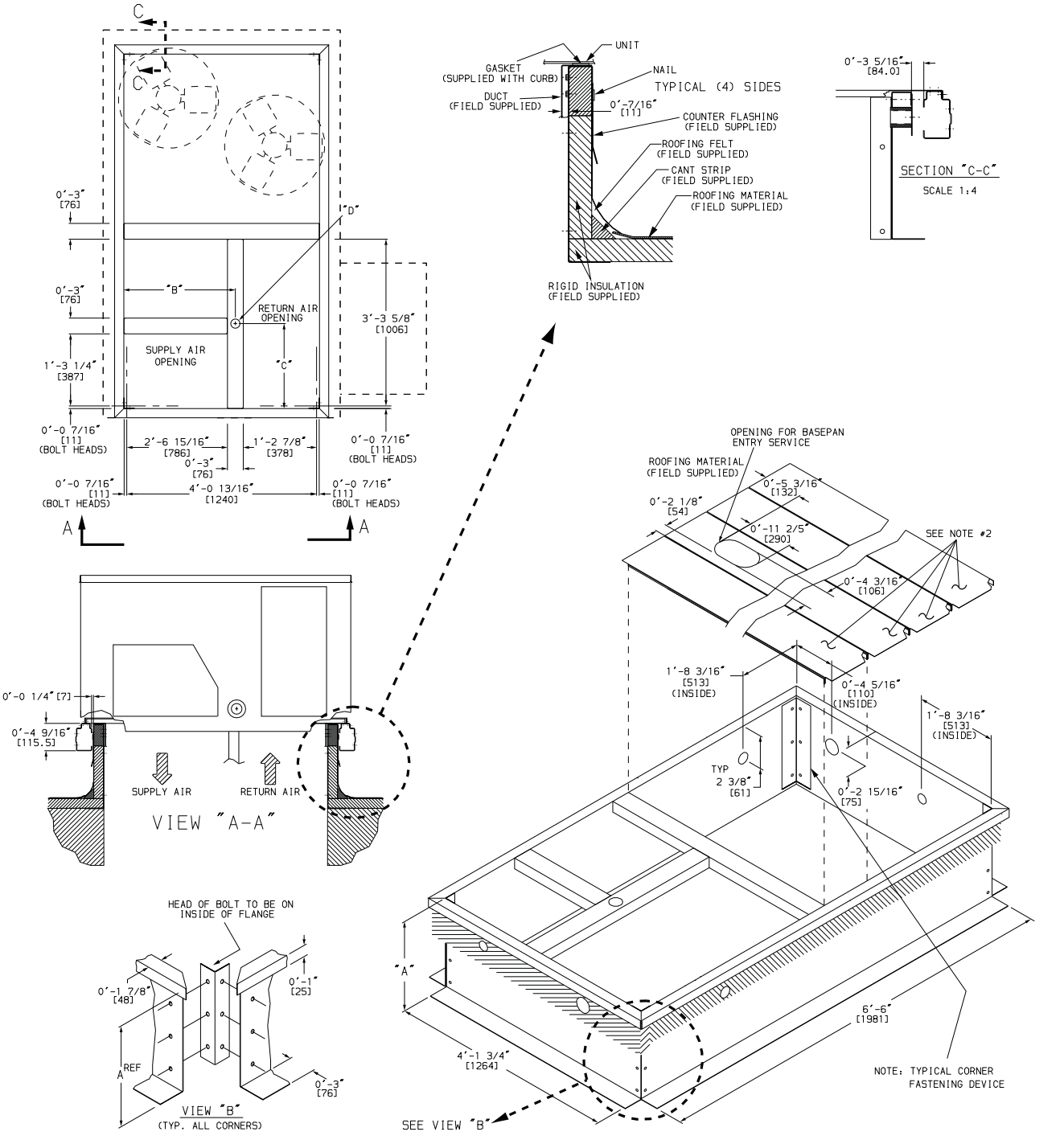
Fig. 9 - Roof Curb Details

CURBS & WEIGHTS DIMENSIONS - ROOF CURB DETAILS (SIZE 07-09 UNITS)

ROOFCURB ACCESSORY	A	UNIT SIZE
CRRFCURB003A01	1'-2" [356]	50HC-*07-09
CRRFCURB004A01	2'-0" [610]	

NOTES:
1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. INSULATED PANELS: 1" THK. POLYURETHANE FOAM, 1-3/4 # DENSITY.
3. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
4. ROOFCURB: 16 GAGE STEEL.
5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB)
6. SERVICE CLEARANCE 4' ON EACH SIDE.
7. ▨ DIRECTION OF AIR FLOW.

CONNECTOR PKG. ACC.	B	C	D ALT DRAIN HOLE	POWER	CONTROL	ACCESSORY PWR
CRBTMPWR002A01	2'-8 7/16" [827]	1'-10 15/16" [583]	1 3/4" [44.5]	1 1/4 [31.7]	1/2" [12.7] NPT	1/2" [12.7] NPT
CRBTMPWR004A01						



C10123B

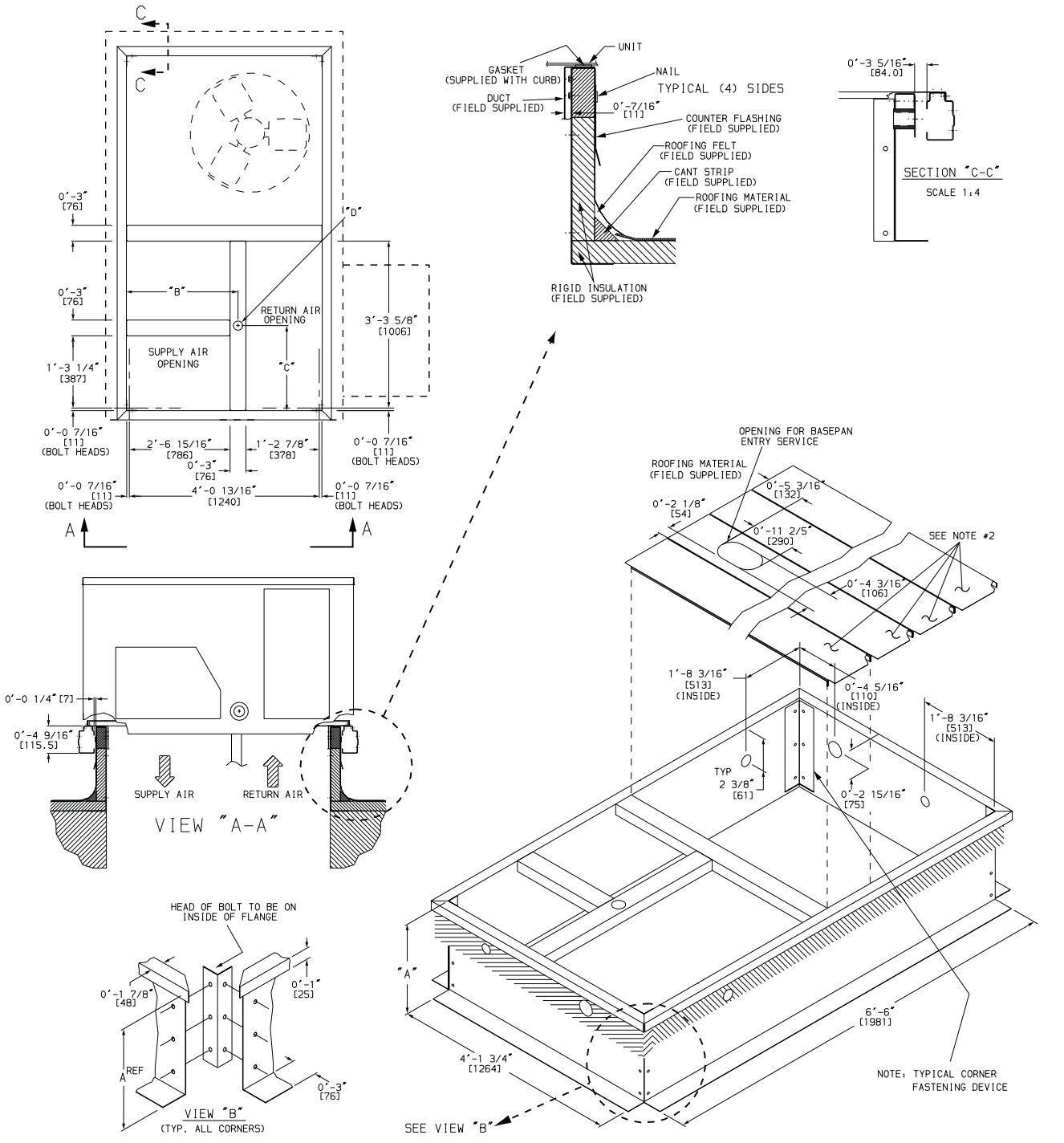
Fig. 10 - Roof Curb Details

CURBS & WEIGHTS DIMENSIONS - ROOF CURB DETAILS (SIZE 12 UNITS)

ROOFCURB ACCESSORY	A	UNIT SIZE
CRRFCURB003A01	1' - 2" [356]	50HC-*12
CRRFCURB004A01	2' - 0" [610]	

NOTES:
1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. INSULATED PANELS: 1" THK. POLYURETHANE FOAM, 1-3/4 # DENSITY.
3. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
4. ROOFCURB: 16 GAGE STEEL.
5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB)
6. SERVICE CLEARANCE 4' ON EACH SIDE.
7. ▨ DIRECTION OF AIR FLOW.

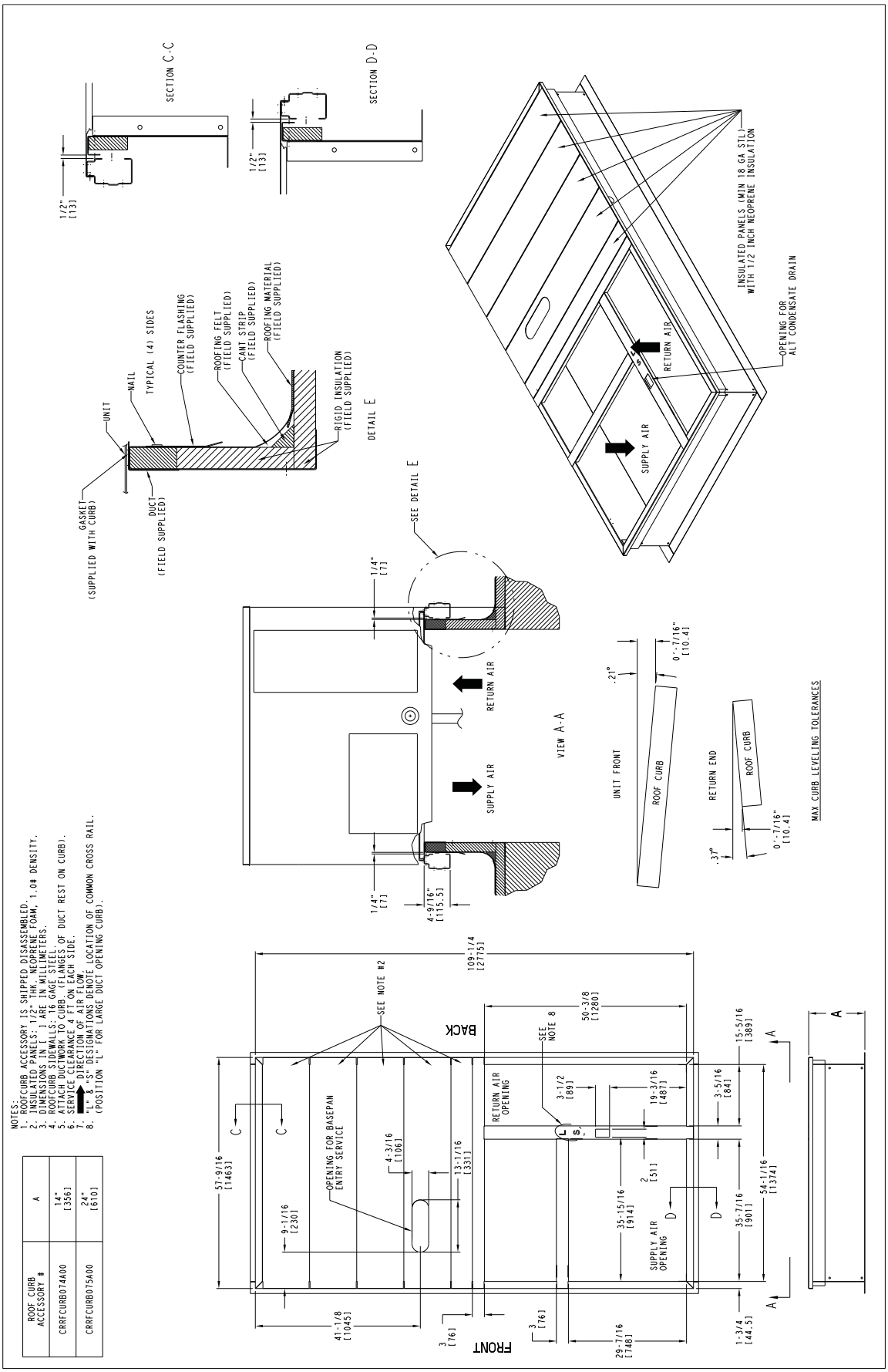
CONNECTOR PKG. ACC.	B	C	D ALT DRAIN HOLE	POWER	CONTROL	ACCESSORY PWR
CRBTMPWR002A01	2'-8 7/16" [827]	1'-10 15/16" [583]	1 3/4" [44.5]	1 1/4 [31.7]	1/2" [12.7] NPT	1/2" [12.7] NPT
CRBTMPWR004A01						



C10157B

Fig. 11 - Roof Curb Details

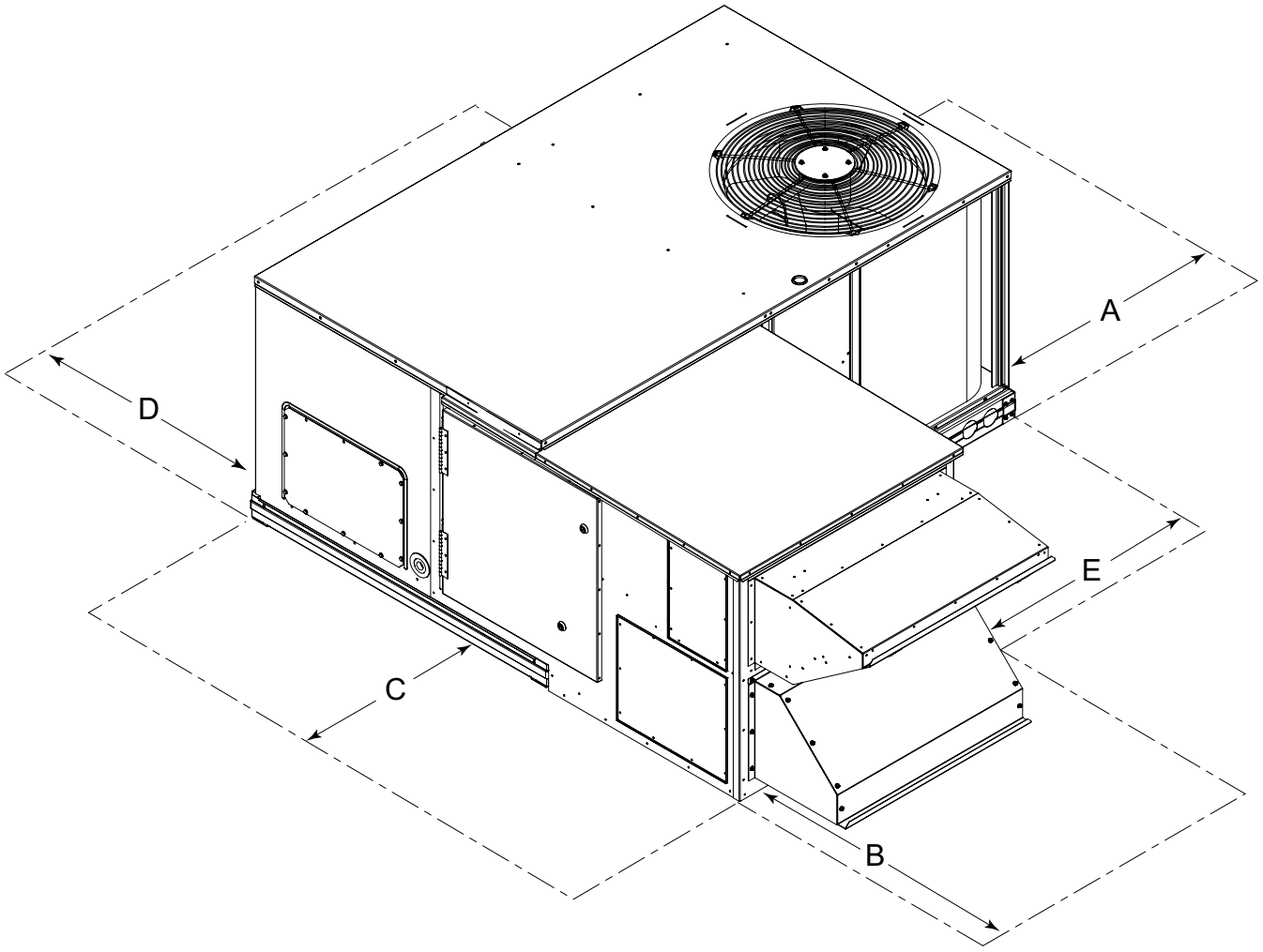
CURBS & WEIGHTS DIMENSIONS ROOF CURB DETAILS (SIZE 14 UNITS)



C10772B

Fig. 12 - Roof Curb Details

CURBS & WEIGHTS DIMENSIONS - SERVICE CLEARANCES (04-06)



C12184

Fig. 13 - Service Clearance

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	36 – in (914 mm)	Recommended service clearance
C	36 – in (914 mm)	Recommended service 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
E	36 – in (914 mm)	Recommended service clearance

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

CURBS & WEIGHT DIMENSIONS - SERVICE CLEARANCES (07-09)

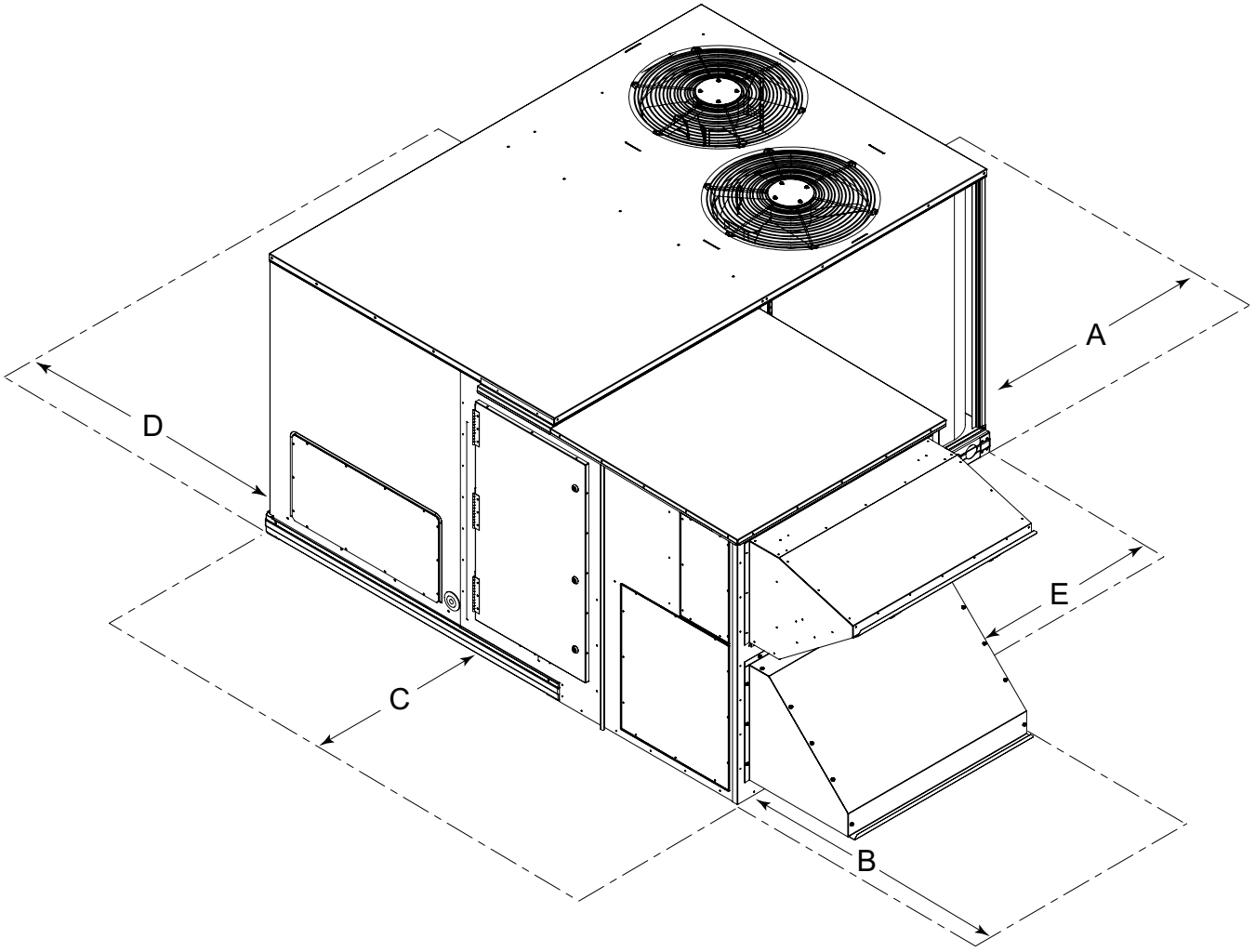


Fig. 14 - Service Clearance

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	36 – in (914 mm)	Recommended service clearance
C	36 – in (914 mm)	Recommended service 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
E	36 – in (914 mm)	Recommended service clearance

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

CURBS & WEIGHT DIMENSIONS - SERVICE CLEARANCES (12-14)

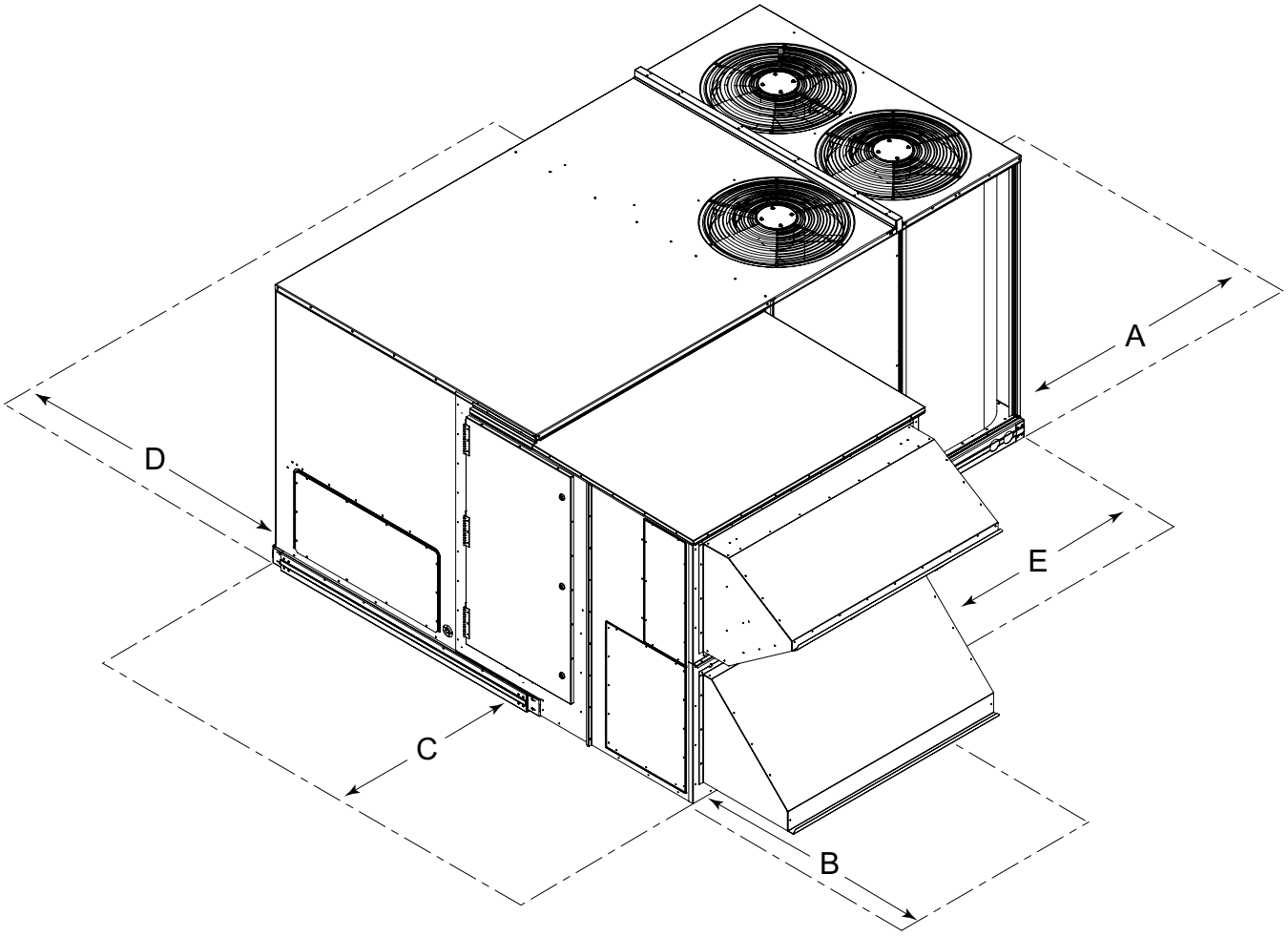


Fig. 15 - Service Clearance

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	36 – in (914 mm)	Recommended service clearance
C	36 – in (914 mm)	Recommended service 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
E	36 – in (914 mm)	Recommended service clearance

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

OPTIONS & ACCESSORY WEIGHTS

OPTION / ACCESSORY	OPTION / ACCESSORY WEIGHTS															
	04		05		06		07		08		09		12		14	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
EconoMi$er vertical	50	23	50	23	50	23	75	34	75	34	75	34	75	34	115	52
Hail Guard (louvered)	16	7	16	7	16	7	34	15	34	15	34	15	34	15	45	20
Cu/Cu Condenser Coil	35	16	35	16	35	16	95	43	95	43	95	43	170	77	160	73
Cu/Cu Condenser & Evaporator Coils	60	27	60	27	90	41	140	64	140	64	195	88	270	122	280	127
Roof Curb (14–in. curb)	115	52	115	52	115	52	143	65	143	65	143	65	143	65	180	82
Roof Curb (24–in. curb)	197	89	197	89	197	89	245	111	245	111	245	111	245	111	255	116
CO_2 sensor	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Electric Heater	30	14	30	14	30	14	45	20	45	20	45	20	45	20	25	11
Single Point Kit	10	5	10	5	10	5	12	5	12	5	12	5	12	5	25	11
Optional Indoor Motor / Drive	10	5	10	5	10	5	15	7	15	7	15	7	15	7	45	20
Motor Master Controller	35	16	35	16	35	16	35	16	35	16	35	16	35	16	40	18
Return Smoke Detector (08–14 only)	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Supply Smoke Detector	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Fan / Filter Status Switch	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1
Non–Fused Disconnect	15	7	15	7	15	7	15	7	15	7	15	7	15	7	10	5
Powered Convenience outlet	35	16	35	16	35	16	35	16	35	16	35	16	35	16	32	15
Non–Powered Convenience outlet	5	2	5	2	5	2	5	2	5	2	5	2	5	2	4	2
HACR Breaker	15	7	15	7	15	7	15	7	15	7	15	7	15	7	15	7
Enthalpy Sensor	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1
Differential Enthalpy Sensor	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1
SAV System with VFD	–	–	–	–	–	–	–	–	20	9	20	9	20	9	20	9

NOTE: Where multiple variations are available, the heaviest combination is listed.
– Not Available

APPLICATION DATA

EnergyX

When selecting the WeatherMaster Series Unit and EnergyX system to use on a given application, it is strongly recommended that the Carrier Packaged RTU Builder (PRB) Selection Software be used. This is because there are a number of variables which become complex when manual calculations are performed, but can easily be accounted for in a computer operation. Most specifically, the AHRI certified ratings use Standard CFM values, but due to real world operation, variances in altitude and air density are very important. The Carrier PRB software uses altitude corrected airflows (ACFM).

See Carrier's Packaged Rooftop Builder selection software for automated calculation of unit selection and Combined Efficiency Factor (CEF) values.

Typical Energy Recovery unit selection involves the following steps:

1. Determine the zone cooling and heating requirements at the design conditions.
2. Select Energy Recovery unit based on desired outdoor airflow rate.
   Note: It is recommended that the outdoor airflow and exhaust airflow rates be designed at the same or close to the same value. If the difference between the two airflows becomes large enough, the energy recovery unit's cooling capacity, heating capacity and overall efficiency will be negatively impacted.
3. Calculate the Energy Recovery unit's leaving air conditions and unit capacities based on the outside airflow rate, temperature (dB & wB) and exhaust airflow rate and temperatures (dB and wB) at the design temperatures and maximum ventilation rate.
4. Subtract the Energy Recovery unit's cooling and heating capacities from the design zone requirements. The value that remains is the necessary design size of the rooftop unit.
5. Use the Energy Recovery unit's leaving air temperatures (dB and wB) as the ventilation air temperatures entering the rooftop unit to be mixed with the return air before passing through the rooftop unit's evaporator.
6. After selecting the desired Energy Recovery unit and rooftop unit, use AHRI's Guideline V to calculate the Combine Efficiency Factor (system EER).

Additional information on Energy Recovery capacity calculations and leaving air temperature calculations can be found in the two AHRI documents below:

AHRI Guideline V – Calculating the efficiency of energy recovery ventilation and its effect on efficiency and sizing of building HVAC systems.

AHRI Standard 1060 - Performance rating of air-to-air heat exchangers for energy recovery ventilation equipment.

Airxchange Energy Recovery Cassette

UL certified, AHRI listed, silica gel enthalpy desiccant, wheels > 25-in diameter are segmented for easy cleaning, washable with detergent and water, 5 year std limited warranty.

Operation

Energy recovery wheels rotate between the incoming outdoor airstream and the building exhaust airstream. As the wheel rotates, it transfers heat and moisture from one airstream to the other. Result = outdoor air is pre-conditioned, significantly reducing the capacity and energy needed from the mechanical HVAC system.

Factory installed accessories

Economizer option – allows true modulating economizer capability when OA is suitable for free cooling

- operates as a true wheel bypass damper
- uses stop/jog operation for wheel
- required when using CO_2 sensor for DCV operation

Frost control option – uses exhaust air to defrost the wheel when necessary.

EnergyX System ComfortLink V5 integrated controls

All ERV configuration, setup and troubleshooting is done via ComfortLink controls.

- Modulating OA ventilation damper
- New "Outside Air Unit" points table
- New control functions for accessory devices:
  Cold air tempering kit
  Exhaust fan building pressure control

ComfortLink Controls

Carrier ComfortLink Controls allows added unit diagnostics and operation set up capabilities.

The ComfortLink control is your link to a world of simple and easy to use rooftop units that offer outstanding performance and value. When used with a space temperature sensor, the ComfortLink control's intelligence maintains control over the economizer and condenser fans. It optimizes the performance of the refrigeration circuits as conditions change, resulting in the following features:

— Better control of temperature and humidity
— Superior reliability
— Automatic redundancy
— Low ambient cooling operation to 0°F
— More accurate diagnostics, at unit or remote

APPLICATION DATA (cont.)

ComfortLink Controls (cont.)

The ComfortLink Scrolling Marquee is very easy to use. The messages are displayed in easy to understand English, no decoding is required. A scrolling readout provides detailed explanations of control information. Only four, large, easy-to-use buttons are required to maneuver through the entire menu. The readout is designed to be visible even in the brightest sunlight. A handheld Navigator accessory or wall-mounted System Pilot™ accessory can be used for added service flexibility.

The ComfortLink control provides unparalleled service diagnostic information. Temperature and pressure can be read directly from the display with no need for separate gauges. Other data, such as compressor cycles, unit run time hours, current alarms, can also be accessed. A history of alarms is also available for viewing.

The service run test can be very helpful when troubleshooting. The user can run test major components to determine the root cause of a problem. The unit can be run-tested before an installation is complete to ensure satisfactory start-up. To ensure reliability, the ComfortLink control prevents reverse compressor rotation. No laptop computers are required for start-up.

Time schedules are built in and the Scrolling Marquee display provides easy access to setpoints. The ComfortLink control accepts input from a CO_2 sensor and a smoke detector. Both are available as factory installed options or as field installed accessories.

Field installed accessories

Horizontal roofcurb adaptors – used when horizontal supply &/or return is desired.

Motor status indicator accessory – monitors wheel, supply & exhaust motors and provides indication if not operating.

Filter status indicator accessory – monitors static pressure across supply & exhaust filters and provides indication when filters become clogged.

Motorized exhaust damper accessory – replaces the standard barometric exhaust damper blades with motorized (open/shut) damper.

Min operating ambient temp (cooling):

In mechanical cooling mode, your Carrier rooftop can safely operate down to an outdoor ambient temperature of 35°F (-2°C). It is possible to provide cooling at lower outdoor ambient temperatures by using less outside air, economizers, and/or accessory low ambient kits.

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 the Fan Performance tables, 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.

APPLICATION DATA (cont.)

Low ambient applications

When equipped with a Carrier economizer, your rooftop unit can cool your space by bringing in fresh, cool outside air. In fact, when so equipped, accessory low-ambient kit may not be necessary. In low ambient conditions, unless the outdoor air is excessively humid or contaminated, economizer-based “free cooling” is the preferred less costly and energy conscious method.

In low ambient applications where outside air might not be desired (such as contaminated or excessively humid outdoor environments), your Carrier rooftop can operate to ambient temperatures down to -20°F (-29°C) using the recommended accessory Motormaster low ambient controller.

Application/Selection Option

Selection software by Carrier saves time by performing many of the steps above. Contact your Carrier sales representative for assistance.

Table 21 – COOLING CAPACITIES 1-STAGE COOLING 3 TONS

50HC*A04				AMBIENT TEMPERATURE															
				85			95			105			115			125		
				EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
900 Cfm	EAT (wB)	58	TC	32.1	32.1	36.3	30.8	30.8	34.9	29.4	29.4	33.4	28.0	28.0	31.7	26.3	26.3	29.8
			SHC	27.8	32.1	36.3	26.7	30.8	34.9	25.5	29.4	33.4	24.2	28.0	31.7	22.8	26.3	29.8
		62	TC	34.0	34.0	34.3	32.3	32.3	33.5	30.6	30.6	32.6	28.7	28.7	31.7	26.6	26.6	30.6
			SHC	25.0	29.7	34.3	24.2	28.9	33.5	23.4	28.0	32.6	22.5	27.1	31.7	21.5	26.0	30.6
		67	TC	37.3	37.3	37.3	35.5	35.5	35.5	33.6	33.6	33.6	31.5	31.5	31.5	29.2	29.2	29.2
			SHC	20.7	25.4	30.0	20.0	24.6	29.3	19.2	23.8	28.4	18.3	22.9	27.6	17.4	22.0	26.6
		72	TC	40.8	40.8	40.8	38.9	38.9	38.9	36.9	36.9	36.9	34.6	34.6	34.6	32.2	32.2	32.2
			SHC	16.3	21.0	25.7	15.6	20.3	25.0	14.8	19.5	24.1	13.9	18.6	23.3	13.0	17.7	22.3
		76	TC	–	43.9	43.9	–	41.8	41.8	–	39.6	39.6	–	37.2	37.2	–	34.6	34.6
			SHC	–	17.4	22.4	–	16.7	21.7	–	15.9	20.8	–	15.1	19.9	–	14.2	19.0
1050 Cfm	EAT (wB)	58	TC	33.8	33.8	38.4	32.5	32.5	36.8	31.0	31.0	35.1	29.4	29.4	33.3	27.6	27.6	31.3
			SHC	29.3	33.8	38.4	28.1	32.5	36.8	26.9	31.0	35.1	25.5	29.4	33.3	23.9	27.6	31.3
		62	TC	35.1	35.1	37.5	33.3	33.3	36.6	31.5	31.5	35.7	29.6	29.6	34.5	27.7	27.7	32.6
			SHC	26.9	32.2	37.5	26.0	31.3	36.6	25.1	30.4	35.7	24.1	29.3	34.5	22.7	27.7	32.6
		67	TC	38.4	38.4	38.4	36.5	36.5	36.5	34.5	34.5	34.5	32.3	32.3	32.3	29.9	29.9	29.9
			SHC	22.0	27.3	32.7	21.2	26.5	31.9	20.3	25.7	31.0	19.4	24.8	30.1	18.5	23.8	29.1
		72	TC	42.0	42.0	42.0	40.0	40.0	40.0	37.8	37.8	37.8	35.5	35.5	35.5	32.9	32.9	32.9
			SHC	16.9	22.3	27.6	16.1	21.5	26.9	15.3	20.7	26.0	14.4	19.8	25.1	13.5	18.8	24.2
		76	TC	–	45.0	45.0	–	42.9	42.9	–	40.6	40.6	–	38.0	38.0	–	35.3	35.3
			SHC	–	18.1	23.8	–	17.4	23.0	–	16.6	22.2	–	15.7	21.3	–	14.8	20.3
1200 Cfm	EAT (wB)	58	TC	35.3	35.3	40.0	33.9	33.9	38.4	32.3	32.3	36.6	30.6	30.6	34.7	28.7	28.7	32.5
			SHC	30.6	35.3	40.0	29.4	33.9	38.4	28.0	32.3	36.6	26.5	30.6	34.7	24.9	28.7	32.5
		62	TC	35.9	35.9	40.5	34.2	34.2	39.4	32.4	32.4	38.1	30.6	30.6	36.1	28.7	28.7	33.9
			SHC	28.6	34.5	40.5	27.7	33.6	39.4	26.6	32.4	38.1	25.2	30.6	36.1	23.6	28.7	33.9
		67	TC	39.3	39.3	39.3	37.3	37.3	37.3	35.2	35.2	35.2	32.9	32.9	32.9	30.5	30.5	31.6
			SHC	23.1	29.1	35.2	22.3	28.3	34.4	21.4	27.5	33.5	20.5	26.6	32.6	19.5	25.6	31.6
		72	TC	42.9	42.9	42.9	40.8	40.8	40.8	38.5	38.5	38.5	36.1	36.1	36.1	33.4	33.4	33.4
			SHC	17.3	23.4	29.5	16.6	22.6	28.7	15.7	21.8	27.9	14.8	20.9	27.0	13.9	19.9	26.0
		76	TC	–	45.9	45.9	–	43.7	43.7	–	41.3	41.3	–	38.7	38.7	–	35.9	35.9
			SHC	–	18.8	25.1	–	18.0	24.3	–	17.2	23.4	–	16.3	22.5	–	15.4	21.5
1350 Cfm	EAT (wB)	58	TC	36.6	36.6	41.5	35.1	35.1	39.7	33.4	33.4	37.9	31.6	31.6	35.8	29.6	29.6	33.6
			SHC	31.7	36.6	41.5	30.4	35.1	39.7	28.9	33.4	37.9	27.4	31.6	35.8	25.7	29.6	33.6
		62	TC	36.7	36.7	43.2	35.1	35.1	41.3	33.4	33.4	39.4	31.6	31.6	37.3	29.6	29.6	34.9
			SHC	30.2	36.7	43.2	28.8	35.1	41.3	27.5	33.4	39.4	26.0	31.6	37.3	24.4	29.6	34.9
		67	TC	39.9	39.9	39.9	37.9	37.9	37.9	35.8	35.8	35.9	33.4	33.4	34.9	30.9	30.9	33.9
			SHC	24.2	30.9	37.6	23.4	30.1	36.8	22.5	29.2	35.9	21.6	28.3	34.9	20.6	27.2	33.9
		72	TC	43.6	43.6	43.6	41.4	41.4	41.4	39.1	39.1	39.1	36.6	36.6	36.6	33.9	33.9	33.9
			SHC	17.8	24.5	31.3	17.0	23.7	30.5	16.1	22.9	29.6	15.2	22.0	28.7	14.3	21.0	27.7
		76	TC	–	46.7	46.7	–	44.4	44.4	–	41.9	41.9	–	39.2	39.2	–	36.3	36.3
			SHC	–	19.4	26.3	–	18.6	25.5	–	17.8	24.6	–	16.9	23.7	–	15.9	22.7
1500 Cfm	EAT (wB)	58	TC	37.7	37.7	42.7	36.1	36.1	40.9	34.3	34.3	38.9	32.5	32.5	36.8	30.4	30.4	34.4
			SHC	32.6	37.7	42.7	31.3	36.1	40.9	29.8	34.3	38.9	28.1	32.5	36.8	26.3	30.4	34.4
		62	TC	37.7	37.7	44.4	36.1	36.1	42.5	34.4	34.4	40.5	32.5	32.5	38.3	30.4	30.4	35.8
			SHC	31.0	37.7	44.4	29.7	36.1	42.5	28.3	34.4	40.5	26.7	32.5	38.3	25.0	30.4	35.8
		67	TC	40.5	40.5	40.5	38.4	38.4	39.1	36.2	36.2	38.2	33.8	33.8	37.2	31.2	31.2	36.1
			SHC	25.2	32.6	40.0	24.4	31.7	39.1	23.5	30.8	38.2	22.5	29.9	37.2	21.5	28.8	36.1
		72	TC	44.2	44.2	44.2	41.9	41.9	41.9	39.6	39.6	39.6	37.0	37.0	37.0	34.2	34.2	34.2
			SHC	18.2	25.6	33.0	17.4	24.8	32.2	16.5	23.9	31.3	15.6	23.0	30.4	14.7	22.0	29.4
		76	TC	–	47.2	47.2	–	44.9	44.9	–	42.3	42.3	–	39.6	39.6	–	36.7	36.7
			SHC	–	19.9	27.5	–	19.1	26.7	–	18.3	25.8	–	17.4	24.9	–	16.4	23.9

LEGEND:

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

Table 22 – COOLING CAPACITIES 1-STAGE COOLING 4 TONS

50HC*A05				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
1200 Cfm	EAT (wB)	58	TC	43.2	43.2	49.1	41.5	41.5	47.2	39.7	39.7	45.1	37.7	37.7	42.9	35.6	35.6	40.4	
			SHC	37.3	43.2	49.1	35.9	41.5	47.2	34.3	39.7	45.1	32.6	37.7	42.9	30.7	35.6	40.4	
		62	TC	45.9	45.9	46.0	43.7	43.7	45.0	41.3	41.3	43.8	38.8	38.8	42.6	36.0	36.0	41.2	
			SHC	33.5	39.8	46.0	32.5	38.7	45.0	31.3	37.6	43.8	30.1	36.3	42.6	28.8	35.0	41.2	
		67	TC	50.5	50.5	50.5	48.0	48.0	48.0	45.4	45.4	45.4	42.6	42.6	42.6	39.6	39.6	39.6	
			SHC	27.9	34.1	40.4	26.8	33.1	39.4	25.7	32.0	38.2	24.5	30.8	37.1	23.2	29.5	35.8	
		72	TC	55.4	55.4	55.4	52.7	52.7	52.7	49.9	49.9	49.9	46.8	46.8	46.8	43.5	43.5	43.5	
			SHC	22.0	28.4	34.7	21.0	27.3	33.7	19.9	26.2	32.5	18.7	25.0	31.3	17.4	23.8	30.1	
		76	TC	–	59.7	59.7	–	56.8	56.8	–	53.7	53.7	–	50.4	50.4	–	46.8	46.8	
			SHC	–	23.6	30.2	–	22.6	29.2	–	21.5	28.1	–	20.3	26.8	–	19.1	25.5	
1400 Cfm	EAT (wB)	58	TC	45.6	45.6	51.9	43.8	43.8	49.8	41.9	41.9	47.6	39.7	39.7	45.1	37.3	37.3	42.4	
			SHC	39.4	45.6	51.9	37.9	43.8	49.8	36.2	41.9	47.6	34.3	39.7	45.1	32.3	37.3	42.4	
		62	TC	47.4	47.4	50.5	45.1	45.1	49.3	42.6	42.6	48.0	40.0	40.0	46.5	37.4	37.4	44.2	
			SHC	36.0	43.2	50.5	34.9	42.1	49.3	33.7	40.9	48.0	32.4	39.5	46.5	30.6	37.4	44.2	
		67	TC	52.1	52.1	52.1	49.5	49.5	49.5	46.7	46.7	46.7	43.7	43.7	43.7	40.5	40.5	40.5	
			SHC	29.5	36.8	44.0	28.4	35.7	42.9	27.3	34.5	41.8	26.0	33.3	40.5	24.7	32.0	39.2	
		72	TC	57.1	57.1	57.1	54.3	54.3	54.3	51.2	51.2	51.2	48.0	48.0	48.0	44.5	44.5	44.5	
			SHC	22.8	30.1	37.4	21.7	29.0	36.3	20.5	27.8	35.1	19.3	26.6	33.9	18.0	25.3	32.6	
		76	TC	–	61.4	61.4	–	58.3	58.3	–	55.1	55.1	–	51.6	51.6	–	47.8	47.8	
			SHC	–	24.6	32.2	–	23.5	31.1	–	22.4	29.9	–	21.2	28.7	–	19.9	27.4	
1600 Cfm	EAT (wB)	58	TC	47.7	47.7	54.2	45.8	45.8	52.0	43.7	43.7	49.6	41.3	41.3	47.0	38.8	38.8	44.1	
			SHC	41.2	47.7	54.2	39.5	45.8	52.0	37.7	43.7	49.6	35.7	41.3	47.0	33.5	38.8	44.1	
		62	TC	48.7	48.7	54.5	46.3	46.3	53.2	43.7	43.7	51.7	41.4	41.4	48.9	38.8	38.8	45.9	
			SHC	38.3	46.4	54.5	37.1	45.2	53.2	35.8	43.7	51.7	33.9	41.4	48.9	31.8	38.8	45.9	
		67	TC	53.3	53.3	53.3	50.6	50.6	50.6	47.7	47.7	47.7	44.6	44.6	44.6	41.2	41.2	42.6	
			SHC	31.0	39.2	47.5	29.9	38.1	46.3	28.7	37.0	45.2	27.5	35.7	43.9	26.2	34.4	42.6	
		72	TC	58.4	58.4	58.4	55.4	55.4	55.4	52.3	52.3	52.3	48.9	48.9	48.9	45.2	45.2	45.2	
			SHC	23.4	31.7	39.9	22.3	30.6	38.8	21.1	29.4	37.6	19.9	28.2	36.4	18.6	26.8	35.1	
		76	TC	–	62.7	62.7	–	59.5	59.5	–	56.1	56.1	–	52.5	52.5	–	48.6	48.6	
			SHC	–	25.5	34.0	–	24.4	32.9	–	23.2	31.7	–	22.0	30.4	–	20.7	29.1	
1800 Cfm	EAT (wB)	58	TC	49.5	49.5	56.2	47.4	47.4	53.9	45.2	45.2	51.3	42.7	42.7	48.5	40.1	40.1	45.5	
			SHC	42.8	49.5	56.2	41.0	47.4	53.9	39.0	45.2	51.3	36.9	42.7	48.5	34.6	40.1	45.5	
		62	TC	49.8	49.8	58.1	47.5	47.5	56.1	45.2	45.2	53.4	42.8	42.8	50.5	40.1	40.1	47.4	
			SHC	40.4	49.2	58.1	38.8	47.5	56.1	37.0	45.2	53.4	35.0	42.8	50.5	32.8	40.1	47.4	
		67	TC	54.3	54.3	54.3	51.5	51.5	51.5	48.5	48.5	48.5	45.3	45.3	47.1	41.8	41.8	45.7	
			SHC	32.5	41.7	50.8	31.4	40.5	49.7	30.2	39.3	48.5	28.9	38.0	47.1	27.5	36.6	45.7	
		72	TC	59.4	59.4	59.4	56.3	56.3	56.3	53.1	53.1	53.1	49.6	49.6	49.6	45.8	45.8	45.8	
			SHC	24.0	33.2	42.4	22.9	32.1	41.3	21.7	30.9	40.1	20.4	29.6	38.8	19.1	28.3	37.5	
		76	TC	–	63.8	63.8	–	60.5	60.5	–	57.0	57.0	–	53.2	53.2	–	49.2	49.2	
			SHC	–	26.3	35.8	–	25.2	34.6	–	24.0	33.4	–	22.8	32.1	–	21.5	30.8	
2000 Cfm	EAT (wB)	58	TC	51.0	51.0	58.0	48.8	48.8	55.5	46.5	46.5	52.8	43.9	43.9	49.9	41.1	41.1	46.7	
			SHC	44.1	51.0	58.0	42.2	48.8	55.5	40.2	46.5	52.8	37.9	43.9	49.9	35.5	41.1	46.7	
		62	TC	51.1	51.1	60.4	48.9	48.9	57.8	46.5	46.5	55.0	44.0	44.0	51.9	41.1	41.1	48.6	
			SHC	41.8	51.1	60.4	40.0	48.9	57.8	38.1	46.5	55.0	36.0	44.0	51.9	33.7	41.1	48.6	
		67	TC	55.1	55.1	55.1	52.1	52.1	52.9	49.1	49.1	51.6	45.8	45.8	50.2	42.3	42.3	48.7	
			SHC	33.9	44.0	54.1	32.7	42.8	52.9	31.5	41.5	51.6	30.2	40.2	50.2	28.8	38.8	48.7	
		72	TC	60.3	60.3	60.3	57.1	57.1	57.1	53.7	53.7	53.7	50.1	50.1	50.1	46.3	46.3	46.3	
			SHC	24.5	34.7	44.8	23.4	33.5	43.6	22.2	32.3	42.4	21.0	31.1	41.2	19.6	29.7	39.8	
		76	TC	–	64.6	64.6	–	61.2	61.2	–	57.6	57.6	–	53.8	53.8	–	49.7	49.7	
			SHC	–	27.1	37.5	–	26.0	36.3	–	24.8	35.1	–	23.5	33.8	–	22.2	32.4	

LEGEND:

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

Table 23 – COOLING CAPACITIES 1-STAGE COOLING 5 TONS

50HC*A06				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
1500 Cfm	EAT (wB)	58	TC	53.4	53.4	60.6	51.3	51.3	58.2	49.0	49.0	55.6	46.5	46.5	52.7	43.7	43.7	49.5	
			SHC	46.3	53.4	60.6	44.5	51.3	58.2	42.5	49.0	55.6	40.3	46.5	52.7	37.9	43.7	49.5	
		62	TC	55.6	55.6	58.2	52.9	52.9	56.9	50.0	50.0	55.5	46.9	46.9	53.9	43.8	43.8	51.6	
			SHC	42.0	50.1	58.2	40.7	48.8	56.9	39.4	47.4	55.5	37.9	45.9	53.9	36.0	43.8	51.6	
		67	TC	60.8	60.8	60.8	57.8	57.8	57.8	54.6	54.6	54.6	51.1	51.1	51.1	47.4	47.4	47.4	
			SHC	34.4	42.6	50.7	33.2	41.3	49.4	31.8	39.9	48.1	30.4	38.5	46.6	28.9	37.0	45.1	
		72	TC	66.6	66.6	66.6	63.2	63.2	63.2	59.7	59.7	59.7	55.9	55.9	55.9	51.8	51.8	51.8	
			SHC	26.7	34.8	43.0	25.4	33.6	41.7	24.1	32.2	40.4	22.6	30.8	38.9	21.1	29.3	37.4	
		76	TC	–	71.4	71.4	–	67.9	67.9	–	64.0	64.0	–	59.9	59.9	–	55.5	55.5	
			SHC	–	28.5	36.7	–	27.2	35.5	–	25.9	34.2	–	24.5	32.7	–	23.0	31.3	
1750 Cfm	EAT (wB)	58	TC	56.3	56.3	63.8	54.0	54.0	61.2	51.5	51.5	58.3	48.7	48.7	55.2	45.7	45.7	51.8	
			SHC	48.8	56.3	63.8	46.8	54.0	61.2	44.6	51.5	58.3	42.2	48.7	55.2	39.6	45.7	51.8	
		62	TC	57.3	57.3	64.0	54.5	54.5	62.5	51.6	51.6	60.7	48.8	48.8	57.5	45.8	45.8	53.9	
			SHC	45.3	54.7	64.0	44.0	53.3	62.5	42.4	51.6	60.7	40.1	48.8	57.5	37.6	45.8	53.9	
		67	TC	62.5	62.5	62.5	59.3	59.3	59.3	55.9	55.9	55.9	52.3	52.3	52.3	48.3	48.3	49.7	
			SHC	36.6	46.0	55.4	35.3	44.7	54.1	33.9	43.3	52.7	32.4	41.8	51.3	30.9	40.3	49.7	
		72	TC	68.3	68.3	68.3	64.8	64.8	64.8	61.0	61.0	61.0	57.0	57.0	57.0	52.7	52.7	52.7	
			SHC	27.5	37.0	46.5	26.2	35.7	45.2	24.9	34.4	43.8	23.4	32.9	42.4	21.9	31.4	40.8	
		76	TC	–	73.2	73.2	–	69.4	69.4	–	65.4	65.4	–	61.1	61.1	–	56.5	56.5	
			SHC	–	29.7	39.3	–	28.4	38.0	–	27.1	36.7	–	25.6	35.2	–	24.1	33.7	
2000 Cfm	EAT (wB)	58	TC	58.7	58.7	66.5	56.2	56.2	63.7	53.5	53.5	60.6	50.6	50.6	57.3	47.3	47.3	53.7	
			SHC	50.9	58.7	66.5	48.7	56.2	63.7	46.4	53.5	60.6	43.8	50.6	57.3	41.0	47.3	53.7	
		62	TC	58.8	58.8	69.2	56.3	56.3	66.3	53.6	53.6	63.1	50.6	50.6	59.6	47.4	47.4	55.8	
			SHC	48.3	58.8	69.2	46.3	56.3	66.3	44.0	53.6	63.1	41.6	50.6	59.6	39.0	47.4	55.8	
		67	TC	63.8	63.8	63.8	60.4	60.4	60.4	56.9	56.9	57.3	53.1	53.1	55.8	49.1	49.1	54.1	
			SHC	38.6	49.3	60.1	37.3	48.0	58.7	35.9	46.6	57.3	34.4	45.1	55.8	32.8	43.4	54.1	
		72	TC	69.6	69.6	69.6	65.9	65.9	65.9	62.1	62.1	62.1	57.9	57.9	57.9	53.5	53.5	53.5	
			SHC	28.4	39.1	49.9	27.0	37.8	48.6	25.7	36.4	47.2	24.2	35.0	45.7	22.6	33.4	44.2	
		76	TC	–	74.5	74.5	–	70.6	70.6	–	66.5	66.5	–	62.0	62.0	–	–	–	
			SHC	–	30.8	41.8	–	29.5	40.4	–	28.2	39.0	–	26.7	37.6	–	–	–	
2250 Cfm	EAT (wB)	58	TC	60.7	60.7	68.8	58.1	58.1	65.8	55.2	55.2	62.6	52.1	52.1	59.1	48.7	48.7	55.2	
			SHC	52.6	60.7	68.8	50.3	58.1	65.8	47.9	55.2	62.6	45.2	52.1	59.1	42.2	48.7	55.2	
		62	TC	60.8	60.8	71.6	58.1	58.1	68.5	55.3	55.3	65.1	52.2	52.2	61.4	48.7	48.7	57.4	
			SHC	50.0	60.8	71.6	47.8	58.1	68.5	45.4	55.3	65.1	42.9	52.2	61.4	40.1	48.7	57.4	
		67	TC	64.7	64.7	64.7	61.3	61.3	63.2	57.7	57.7	61.7	53.8	53.8	60.1	49.7	49.7	58.3	
			SHC	40.6	52.6	64.5	39.2	51.2	63.2	37.8	49.7	61.7	36.2	48.2	60.1	34.6	46.5	58.3	
		72	TC	70.6	70.6	70.6	66.8	66.8	66.8	62.8	62.8	62.8	58.6	58.6	58.6	54.0	54.0	54.0	
			SHC	29.1	41.2	53.3	27.8	39.9	51.9	26.4	38.4	50.5	24.9	37.0	49.0	23.3	35.4	47.4	
		76	TC	–	75.6	75.6	–	71.6	71.6	–	67.3	67.3	–	–	–	–	–	–	
			SHC	–	31.9	44.1	–	30.6	42.8	–	29.2	41.4	–	–	–	–	–	–	
2500 Cfm	EAT (wB)	58	TC	62.5	62.5	70.8	59.7	59.7	67.6	56.7	56.7	64.2	53.4	53.4	60.5	49.9	49.9	56.5	
			SHC	54.1	62.5	70.8	51.7	59.7	67.6	49.1	56.7	64.2	46.3	53.4	60.5	43.2	49.9	56.5	
		62	TC	62.5	62.5	73.6	59.7	59.7	70.3	56.7	56.7	66.8	53.5	53.5	63.0	49.9	49.9	58.8	
			SHC	51.4	62.5	73.6	49.1	59.7	70.3	46.6	56.7	66.8	43.9	53.5	63.0	41.0	49.9	58.8	
		67	TC	65.5	65.5	68.9	62.0	62.0	67.4	58.3	58.3	65.9	54.4	54.4	64.2	50.2	50.2	62.2	
			SHC	42.5	55.7	68.9	41.1	54.3	67.4	39.6	52.7	65.9	38.0	51.1	64.2	36.3	49.2	62.2	
		72	TC	71.4	71.4	71.4	67.5	67.5	67.5	63.4	63.4	63.4	59.1	59.1	59.1	54.4	54.4	54.4	
			SHC	29.9	43.2	56.5	28.5	41.8	55.2	27.1	40.4	53.7	25.6	38.9	52.2	24.0	37.3	50.6	
		76	TC	–	76.4	76.4	–	72.3	72.3	–	–	–	–	–	–	–	–	–	
			SHC	–	33.0	46.4	–	31.6	45.1	–	–	–	–	–	–	–	–	–	

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 24 – COOLING CAPACITIES 1-STAGE COOLING 6 TONS

50HC*A07				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
1800 Cfm	EAT (wB)	58	TC	64.1	64.1	72.5	61.8	61.8	69.9	59.2	59.2	67	56.3	56.3	63.7	53.2	53.2	60.2	
			SHC	55.7	64.1	72.5	53.7	61.8	69.9	51.4	59.2	67	48.9	56.3	63.7	46.2	53.2	60.2	
		62	TC	67.9	67.9	68.5	64.9	64.9	67	61.5	61.5	65.3	57.9	57.9	63.5	54	54	61.4	
			SHC	50.2	59.4	68.5	48.8	57.9	67	47.1	56.2	65.3	45.4	54.4	63.5	43.4	52.4	61.4	
		67	TC	74.8	74.8	74.8	71.5	71.5	71.5	67.8	67.8	67.8	63.8	63.8	63.8	59.5	59.5	59.5	
			SHC	41.8	50.9	60.1	40.3	49.5	58.7	38.8	47.9	57.1	37.1	46.2	55.4	35.3	44.4	53.6	
		72	TC	82.2	82.2	82.2	78.7	78.7	78.7	74.7	74.7	74.7	70.4	70.4	70.4	65.6	65.6	65.6	
			SHC	33	42.3	51.6	31.6	40.9	50.2	30.1	39.3	48.6	28.4	37.7	46.9	26.7	35.9	45.1	
		76	TC	–	88.7	88.7	–	84.8	84.8	–	80.6	80.6	–	76	76	–	70.9	70.9	
			SHC	–	35.3	45.2	–	33.9	43.7	–	32.4	42	–	30.7	40.3	–	28.9	38.5	
2100 Cfm	EAT (wB)	58	TC	67.6	67.6	76.5	65.1	65.1	73.7	62.3	62.3	70.5	59.3	59.3	67.1	55.9	55.9	63.2	
			SHC	58.7	67.6	76.5	56.6	65.1	73.7	54.1	62.3	70.5	51.5	59.3	67.1	48.5	55.9	63.2	
		62	TC	70.1	70.1	74.9	67	67	73.2	63.5	63.5	71.3	59.7	59.7	69.1	56	56	65.8	
			SHC	53.9	64.4	74.9	52.4	62.8	73.2	50.6	61	71.3	48.7	58.9	69.1	46.2	56	65.8	
		67	TC	77.1	77.1	77.1	73.6	73.6	73.6	69.7	69.7	69.7	65.5	65.5	65.5	60.9	60.9	60.9	
			SHC	44.2	54.8	65.3	42.7	53.3	63.9	41.2	51.7	62.3	39.4	50	60.5	37.6	48.1	58.6	
		72	TC	84.7	84.7	84.7	80.9	80.9	80.9	76.8	76.8	76.8	72.2	72.2	72.2	67.2	67.2	67.2	
			SHC	34.2	44.8	55.5	32.7	43.4	54	31.1	41.8	52.4	29.5	40.1	50.7	27.6	38.2	48.8	
		76	TC	–	91.3	91.3	–	87.2	87.2	–	82.7	82.7	–	77.8	77.8	–	72.5	72.5	
			SHC	–	36.7	47.8	–	35.3	46.3	–	33.7	44.7	–	32	43	–	30.2	41.1	
2400 Cfm	EAT (wB)	58	TC	70.6	70.6	79.9	68	68	76.9	65	65	73.5	61.7	61.7	69.8	58.1	58.1	65.8	
			SHC	61.3	70.6	79.9	59	68	76.9	56.4	65	73.5	53.6	61.7	69.8	50.5	58.1	65.8	
		62	TC	72	72	80.6	68.7	68.7	78.7	65.2	65.2	76.6	61.8	61.8	72.6	58.2	58.2	68.4	
			SHC	57.3	69	80.6	55.6	67.2	78.7	53.7	65.2	76.6	50.9	61.8	72.6	48	58.2	68.4	
		67	TC	78.9	78.9	78.9	75.2	75.2	75.2	71.2	71.2	71.2	66.8	66.8	66.8	62	62	63.4	
			SHC	46.5	58.4	70.3	45	56.9	68.8	43.4	55.3	67.2	41.6	53.5	65.4	39.7	51.6	63.4	
		72	TC	86.6	86.6	86.6	82.7	82.7	82.7	78.3	78.3	78.3	73.6	73.6	73.6	68.4	68.4	68.4	
			SHC	35.2	47.2	59.2	33.7	45.7	57.7	32.1	44.1	56	30.4	42.3	54.3	28.5	40.5	52.4	
		76	TC	–	93.3	93.3	–	89	89	–	84.4	84.4	–	79.3	79.3	–	73.7	73.7	
			SHC	–	38	50.4	–	36.6	48.9	–	35	47.3	–	33.3	45.5	–	31.4	43.6	
2700 Cfm	EAT (wB)	58	TC	73.2	73.2	82.8	70.4	70.4	79.6	67.3	67.3	76.1	63.8	63.8	72.2	60	60	67.9	
			SHC	63.6	73.2	82.8	61.1	70.4	79.6	58.4	67.3	76.1	55.4	63.8	72.2	52.1	60	67.9	
		62	TC	73.7	73.7	85.5	70.5	70.5	82.8	67.3	67.3	79.1	63.9	63.9	75.1	60.1	60.1	70.6	
			SHC	60.2	72.9	85.5	58.1	70.5	82.8	55.5	67.3	79.1	52.7	63.9	75.1	49.5	60.1	70.6	
		67	TC	80.3	80.3	80.3	76.5	76.5	76.5	72.4	72.4	72.4	67.8	67.8	70	62.9	62.9	67.9	
			SHC	48.7	61.9	75.1	47.1	60.4	73.6	45.5	58.7	71.9	43.7	56.8	70	41.7	54.8	67.9	
		72	TC	88.2	88.2	88.2	84	84	84	79.6	79.6	79.6	74.6	74.6	74.6	69.3	69.3	69.3	
			SHC	36.1	49.4	62.7	34.6	47.9	61.2	33	46.2	59.5	31.2	44.5	57.7	29.3	42.6	55.8	
		76	TC	–	94.9	94.9	–	90.4	90.4	–	85.6	85.6	–	80.4	80.4	–	74.7	74.7	
			SHC	–	39.2	52.9	–	37.7	51.4	–	36.1	49.7	–	34.4	47.9	–	32.5	46	
3000 Cfm	EAT (wB)	58	TC	75.4	75.4	85.3	72.5	72.5	82	69.2	69.2	78.3	65.6	65.6	74.2	61.7	61.7	69.8	
			SHC	65.5	75.4	85.3	62.9	72.5	82	60.1	69.2	78.3	57	65.6	74.2	53.5	61.7	69.8	
		62	TC	75.5	75.5	88.7	72.5	72.5	85.3	69.3	69.3	81.4	65.7	65.7	77.2	61.7	61.7	72.5	
			SHC	62.2	75.5	88.7	59.8	72.5	85.3	57.1	69.3	81.4	54.1	65.7	77.2	50.9	61.7	72.5	
		67	TC	81.4	81.4	81.4	77.5	77.5	78.1	73.3	73.3	76.4	68.7	68.7	74.4	63.7	63.7	72.2	
			SHC	50.7	65.2	79.7	49.2	63.7	78.1	47.5	61.9	76.4	45.6	60	74.4	43.6	57.9	72.2	
		72	TC	89.4	89.4	89.4	85.2	85.2	85.2	80.5	80.5	80.5	75.5	75.5	75.5	70.1	70.1	70.1	
			SHC	36.9	51.5	66.1	35.4	50	64.6	33.8	48.3	62.9	32	46.5	61.1	30.1	44.6	59.1	
		76	TC	–	96.1	96.1	–	91.6	91.6	–	86.7	86.7	–	81.3	81.3	–	75.5	75.5	
			SHC	–	40.4	55.3	–	38.9	53.8	–	37.2	52.1	–	35.5	50.3	–	33.6	48.3	

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 25 – COOLING CAPACITIES 2-STAGE COOLING 7.5 TONS

50HC*D08				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
2250 Cfm	EAT (wB)	58	TC	81	81	91.8	77.9	77.9	88.4	74.7	74.7	84.6	71.1	71.1	80.6	67.3	67.3	76.3	
			SHC	70.2	81	91.8	67.5	77.9	88.4	64.7	74.7	84.6	61.6	71.1	80.6	58.3	67.3	76.3	
		62	TC	85.1	85.1	87.2	81.1	81.1	85.3	76.9	76.9	83.2	72.5	72.5	81	67.8	67.8	78.5	
			SHC	63.3	75.3	87.2	61.4	73.4	85.3	59.5	71.3	83.2	57.3	69.2	81	55	66.7	78.5	
		67	TC	93.3	93.3	93.3	89	89	89	84.3	84.3	84.3	79.4	79.4	79.4	74.1	74.1	74.1	
			SHC	52.3	64.2	76.2	50.4	62.4	74.4	48.4	60.4	72.4	46.4	58.3	70.3	44.2	56.2	68.1	
		72	TC	102.3	102.3	102.3	97.5	97.5	97.5	92.5	92.5	92.5	87.1	87.1	87.1	81.3	81.3	81.3	
			SHC	40.9	53	65	39	51.1	63.1	37.1	49.2	61.2	35.1	47.1	59.1	32.9	44.9	57	
		76	TC	–	110	110	–	104.8	104.8	–	99.4	99.4	–	93.5	93.5	–	87.3	87.3	
			SHC	–	43.7	56.1	–	41.9	54.2	–	39.9	52.2	–	37.9	50.2	–	35.8	48	
2625 Cfm	EAT (wB)	58	TC	85.4	85.4	96.9	82.1	82.1	93.1	78.6	78.6	89.1	74.7	74.7	84.7	70.5	70.5	80	
			SHC	74	85.4	96.9	71.2	82.1	93.1	68.1	78.6	89.1	64.7	74.7	84.7	61.1	70.5	80	
		62	TC	87.8	87.8	95.7	83.7	83.7	93.6	79.3	79.3	91.3	75	75	87.8	70.6	70.6	83.2	
			SHC	68.2	82	95.7	66.2	79.9	93.6	64.1	77.7	91.3	61.3	74.6	87.8	58	70.6	83.2	
		67	TC	96	96	96	91.4	91.4	91.4	86.5	86.5	86.5	81.3	81.3	81.3	75.8	75.8	75.8	
			SHC	55.4	69.3	83.2	53.5	67.4	81.2	51.5	65.4	79.2	49.4	63.2	77.1	47.2	61	74.8	
		72	TC	105.2	105.2	105.2	100.1	100.1	100.1	94.8	94.8	94.8	89.1	89.1	89.1	83	83	83	
			SHC	42.3	56.2	70.2	40.4	54.3	68.2	38.4	52.3	66.2	36.3	50.2	64.1	34.1	48	61.9	
		76	TC	–	112.9	112.9	–	107.5	107.5	–	101.7	101.7	–	95.6	95.6	–	89.1	89.1	
			SHC	–	45.5	59.8	–	43.6	57.8	–	41.7	55.8	–	39.6	53.7	–	37.4	51.5	
3000 Cfm	EAT (wB)	58	TC	89.2	89.2	101.1	85.6	85.6	97.1	81.8	81.8	92.8	77.7	77.7	88.1	73.2	73.2	83	
			SHC	77.3	89.2	101.1	74.2	85.6	97.1	70.9	81.8	92.8	67.3	77.7	88.1	63.5	73.2	83	
		62	TC	90.1	90.1	103.5	86.1	86.1	100.3	81.9	81.9	96.5	77.8	77.8	91.6	73.3	73.3	86.4	
			SHC	72.7	88.1	103.5	70.1	85.2	100.3	67.3	81.9	96.5	63.9	77.8	91.6	60.2	73.3	86.4	
		67	TC	98.1	98.1	98.1	93.3	93.3	93.3	88.2	88.2	88.2	82.8	82.8	83.6	77	77	81.3	
			SHC	58.4	74.1	89.9	56.5	72.2	87.9	54.4	70.1	85.8	52.3	67.9	83.6	50	65.6	81.3	
		72	TC	107.3	107.3	107.3	102.1	102.1	102.1	96.5	96.5	96.5	90.6	90.6	90.6	84.3	84.3	84.3	
			SHC	43.5	59.3	75.1	41.6	57.3	73.1	39.5	55.3	71.1	37.4	53.2	69	35.2	50.9	66.7	
		76	TC	–	115.2	115.2	–	109.5	109.5	–	103.5	103.5	–	97.2	97.2	–	90.4	90.4	
			SHC	–	47.2	63.2	–	45.3	61.3	–	43.3	59.3	–	41.2	57.1	–	38.9	54.8	
3375 Cfm	EAT (wB)	58	TC	92.4	92.4	104.7	88.6	88.6	100.4	84.6	84.6	95.9	80.2	80.2	90.9	75.5	75.5	85.6	
			SHC	80	92.4	104.7	76.8	88.6	100.4	73.3	84.6	95.9	69.5	80.2	90.9	65.4	75.5	85.6	
		62	TC	92.5	92.5	109	88.7	88.7	104.5	84.6	84.6	99.7	80.3	80.3	94.6	75.6	75.6	89	
			SHC	76	92.5	109	72.9	88.7	104.5	69.6	84.6	99.7	66	80.3	94.6	62.1	75.6	89	
		67	TC	99.7	99.7	99.7	94.8	94.8	94.8	89.5	89.5	92.2	84	84	89.9	78	78	87.4	
			SHC	61.3	78.8	96.4	59.3	76.8	94.3	57.2	74.7	92.2	55	72.4	89.9	52.6	70	87.4	
		72	TC	109	109	109	103.6	103.6	103.6	97.8	97.8	97.8	91.8	91.8	91.8	85.3	85.3	85.3	
			SHC	44.6	62.2	79.9	42.7	60.3	77.9	40.6	58.2	75.8	38.5	56.1	73.6	36.2	53.8	71.3	
		76	TC	–	116.9	116.9	–	111.1	111.1	–	104.9	104.9	–	98.4	98.4	–	91.5	91.5	
			SHC	–	48.8	66.6	–	46.8	64.6	–	44.8	62.6	–	42.7	60.4	–	40.4	58.1	
3750 Cfm	EAT (wB)	58	TC	95.1	95.1	107.8	91.2	91.2	103.3	86.9	86.9	98.5	82.3	82.3	93.3	77.4	77.4	87.8	
			SHC	82.4	95.1	107.8	79	91.2	103.3	75.3	86.9	98.5	71.3	82.3	93.3	67.1	77.4	87.8	
		62	TC	95.2	95.2	112.2	91.2	91.2	107.5	87	87	102.5	82.4	82.4	97.1	77.5	77.5	91.3	
			SHC	78.2	95.2	112.2	75	91.2	107.5	71.5	87	102.5	67.7	82.4	97.1	63.7	77.5	91.3	
		67	TC	101.1	101.1	102.6	96	96	100.5	90.6	90.6	98.3	84.9	84.9	95.9	78.9	78.9	93.2	
			SHC	64	83.3	102.6	62	81.2	100.5	59.8	79.1	98.3	57.6	76.7	95.9	55.1	74.2	93.2	
		72	TC	110.4	110.4	110.4	104.8	104.8	104.8	98.9	98.9	98.9	92.7	92.7	92.7	86.1	86.1	86.1	
			SHC	45.7	65.1	84.5	43.7	63.1	82.5	41.7	61	80.4	39.5	58.8	78.2	37.2	56.5	75.9	
		76	TC	–	118.3	118.3	–	112.4	112.4	–	106	106	–	99.4	99.4	–	92.3	92.3	
			SHC	–	50.3	69.9	–	48.3	67.9	–	46.2	65.8	–	44.1	63.6	–	41.8	61.3	

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 26 – COOLING CAPACITIES 2-STAGE COOLING 8.5 TONS

50HC*D09				AMBIENT TEMPERATURE													
				85			95			105			115			125		
				EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
2550 Cfm	EAT (wB)	58	TC	90.5	90.5	102.4	87	87	98.5	83.2	83.2	94.2	79.1	79.1	89.6	74.7	74.7	84.6
			SHC	78.6	90.5	102.4	75.5	87	98.5	72.2	83.2	94.2	68.7	79.1	89.6	64.8	74.7	84.6
		62	TC	94.8	94.8	98.1	90.2	90.2	95.8	85.4	85.4	93.4	80.3	80.3	90.8	74.9	74.9	87.8
			SHC	71.2	84.6	98.1	69.1	82.4	95.8	66.8	80.1	93.4	64.3	77.5	90.8	61.6	74.7	87.8
		67	TC	104	104	104	99	99	99	93.7	93.7	93.7	88	88	88	81.9	81.9	81.9
			SHC	58.7	72.2	85.7	56.6	70	83.5	54.3	67.8	81.3	52	65.4	78.9	49.5	62.9	76.4
		72	TC	114	114	114	108.5	108.5	108.5	102.7	102.7	102.7	96.5	96.5	96.5	89.8	89.8	89.8
			SHC	45.8	59.3	72.9	43.7	57.2	70.8	41.4	55	68.5	39.1	52.7	66.2	36.7	50.2	63.7
		76	TC	–	122.4	122.4	–	116.5	116.5	–	110.3	110.3	–	103.7	103.7	–	96.5	96.5
			SHC	–	48.8	62.8	–	46.7	60.6	–	44.5	58.4	–	42.2	56	–	39.8	53.5
2975 Cfm	EAT (wB)	58	TC	95.4	95.4	108	91.6	91.6	103.7	87.5	87.5	99	83.1	83.1	94	78.3	78.3	88.6
			SHC	82.8	95.4	108	79.5	91.6	103.7	75.9	87.5	99	72.1	83.1	94	68	78.3	88.6
		62	TC	97.7	97.7	107.4	93	93	104.9	88.1	88.1	102.1	83.2	83.2	97.9	78.4	78.4	92.2
			SHC	76.7	92	107.4	74.3	89.6	104.9	71.8	86.9	102.1	68.6	83.2	97.9	64.6	78.4	92.2
		67	TC	106.9	106.9	106.9	101.6	101.6	101.6	96	96	96	90.1	90.1	90.1	83.7	83.7	83.9
			SHC	62.3	77.8	93.4	60.1	75.6	91.2	57.8	73.3	88.9	55.4	70.9	86.5	52.8	68.3	83.9
		72	TC	117	117	117	111.2	111.2	111.2	105.1	105.1	105.1	98.6	98.6	98.6	91.7	91.7	91.7
			SHC	47.3	62.9	78.6	45.1	60.8	76.4	42.9	58.5	74.1	40.5	56.1	71.7	38	53.6	69.2
		76	TC	–	125.6	125.6	–	119.4	119.4	–	112.8	112.8	–	105.9	105.9	–	98.4	98.4
			SHC	–	50.8	66.8	–	48.7	64.6	–	46.4	62.3	–	44.1	59.9	–	41.6	57.4
3400 Cfm	EAT (wB)	58	TC	99.5	99.5	112.7	95.4	95.4	108	91	91	103	86.3	86.3	97.7	81.2	81.2	91.9
			SHC	86.4	99.5	112.7	82.8	95.4	108	79	91	103	74.9	86.3	97.7	70.5	81.2	91.9
		62	TC	100.3	100.3	115.8	95.6	95.6	112.4	91.2	91.2	107.2	86.4	86.4	101.6	81.3	81.3	95.6
			SHC	81.5	98.6	115.8	78.7	95.6	112.4	75.1	91.2	107.2	71.2	86.4	101.6	67	81.3	95.6
		67	TC	109.1	109.1	109.1	103.6	103.6	103.6	97.8	97.8	97.8	91.6	91.6	93.7	85	85	90.9
			SHC	65.6	83.2	100.8	63.4	81	98.6	61	78.6	96.2	58.6	76.1	93.7	55.9	73.4	90.9
		72	TC	119.3	119.3	119.3	113.3	113.3	113.3	107	107	107	100.3	100.3	100.3	93	93	93
			SHC	48.7	66.4	84.1	46.5	64.2	81.8	44.2	61.8	79.5	41.8	59.4	77.1	39.2	56.9	74.5
		76	TC	–	128	128	–	121.5	121.5	–	114.7	114.7	–	107.5	107.5	–	99.8	99.8
			SHC	–	52.6	70.6	–	50.5	68.4	–	48.2	66.1	–	45.8	63.6	–	43.3	61.1
3825 Cfm	EAT (wB)	58	TC	103	103	116.6	98.7	98.7	111.7	94	94	106.4	89	89	100.8	83.6	83.6	94.7
			SHC	89.4	103	116.6	85.6	98.7	111.7	81.6	94	106.4	77.3	89	100.8	72.6	83.6	94.7
		62	TC	103.1	103.1	121.3	98.8	98.8	116.1	94.1	94.1	110.7	89.1	89.1	104.8	83.7	83.7	98.4
			SHC	85	103.1	121.3	81.4	98.8	116.1	77.5	94.1	110.7	73.4	89.1	104.8	69	83.7	98.4
		67	TC	110.9	110.9	110.9	105.2	105.2	105.7	99.2	99.2	103.2	92.9	92.9	100.5	86.1	86.1	97.6
			SHC	68.8	88.4	108	66.5	86.1	105.7	64.1	83.7	103.2	61.6	81.1	100.5	58.9	78.3	97.6
		72	TC	121.2	121.2	121.2	114.9	114.9	114.9	108.4	108.4	108.4	101.5	101.5	101.5	94.1	94.1	94.1
			SHC	50	69.7	89.4	47.7	67.4	87.1	45.4	65.1	84.7	43	62.6	82.3	40.4	60	79.6
		76	TC	–	129.8	129.8	–	123.2	123.2	–	116.2	116.2	–	108.8	108.8	–	100.9	100.9
			SHC	–	54.4	74.3	–	52.2	72.1	–	49.9	69.7	–	47.5	67.3	–	44.9	64.7
4250 Cfm	EAT (wB)	58	TC	106	106	119.9	101.4	101.4	114.8	96.6	96.6	109.3	91.3	91.3	103.4	85.7	85.7	97
			SHC	92	106	119.9	88	101.4	114.8	83.8	96.6	109.3	79.3	91.3	103.4	74.4	85.7	97
		62	TC	106.1	106.1	124.7	101.5	101.5	119.4	96.6	96.6	113.6	91.4	91.4	107.5	85.7	85.7	100.8
			SHC	87.4	106.1	124.7	83.6	101.5	119.4	79.6	96.6	113.6	75.3	91.4	107.5	70.6	85.7	100.8
		67	TC	112.3	112.3	114.9	106.5	106.5	112.5	100.4	100.4	109.9	93.9	93.9	107	87.1	87.1	103.8
			SHC	71.8	93.4	114.9	69.5	91	112.5	67	88.5	109.9	64.4	85.7	107	61.6	82.7	103.8
		72	TC	122.6	122.6	122.6	116.2	116.2	116.2	109.5	109.5	109.5	102.5	102.5	102.5	94.9	94.9	94.9
			SHC	51.2	72.8	94.5	48.9	70.5	92.2	46.6	68.2	89.8	44.1	65.7	87.3	41.5	63.1	84.6
		76	TC	–	131.3	131.3	–	124.5	124.5	–	117.4	117.4	–	109.8	109.8	–	101.8	101.8
			SHC	–	56	77.9	–	53.8	75.6	–	51.5	73.3	–	49.1	70.8	–	46.5	68.1

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 27 – COOLING CAPACITIES 2-STAGE COOLING 10 TONS

50HC*D12				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
3000 Cfm	EAT (wb)	58	TC	104.3	104.3	118.5	99.5	99.5	113	93.4	93.4	106.1	86.7	86.7	98.6	79.7	79.7	90.6	
			SHC	90.2	104.3	118.5	86	99.5	113	80.6	93.4	106.1	74.9	86.7	98.6	68.8	79.7	90.6	
		62	TC	109.7	109.7	112.4	103.6	103.6	109.5	95.9	95.9	105.9	87.6	87.6	101.2	79.8	79.8	94.4	
			SHC	80.8	96.6	112.4	78	93.8	109.5	74.5	90.2	105.9	70.3	85.7	101.2	65.2	79.8	94.4	
		67	TC	121.5	121.5	121.5	115.4	115.4	115.4	107.8	107.8	107.8	98.7	98.7	98.7	89.1	89.1	89.1	
			SHC	65.2	81	96.9	62.7	78.6	94.5	59.7	75.6	91.5	56.2	72	87.9	52.5	68.3	84.2	
		72	TC	133	133	133	127.1	127.1	127.1	120.5	120.5	120.5	112	112	112	102.1	102.1	102.1	
			SHC	48.7	64.5	80.4	46.5	62.4	78.3	44.1	60	75.9	41.2	57.1	73	37.8	53.7	69.6	
		76	TC	–	140.9	140.9	–	135.1	135.1	–	128.4	128.4	–	121.3	121.3	–	112.5	112.5	
			SHC	–	50.6	67.1	–	48.7	65.2	–	46.6	63.1	–	44.3	60.7	–	41.4	57.7	
3500 Cfm	EAT (wb)	58	TC	109.9	109.9	124.9	104.9	104.9	119.3	98.7	98.7	112.2	91.6	91.6	104.2	84.2	84.2	95.8	
			SHC	94.9	109.9	124.9	90.6	104.9	119.3	85.2	98.7	112.2	79	91.6	104.2	72.6	84.2	95.8	
		62	TC	112.8	112.8	123.1	106.7	106.7	120	99.5	99.5	115.3	91.7	91.7	108.5	84.3	84.3	99.8	
			SHC	86.8	104.9	123.1	83.9	102	120	80	97.6	115.3	74.9	91.7	108.5	68.8	84.3	99.8	
		67	TC	124.2	124.2	124.2	118	118	118	110.3	110.3	110.3	101	101	101	91	91	92.5	
			SHC	68.4	86.7	104.9	66.1	84.3	102.6	63.2	81.5	99.8	59.6	78	96.3	55.9	74.2	92.5	
		72	TC	135.2	135.2	135.2	129.1	129.1	129.1	122.4	122.4	122.4	114.2	114.2	114.2	104.2	104.2	104.2	
			SHC	49.2	67.3	85.4	47.1	65.3	83.4	44.8	63	81.2	42	60.4	78.7	38.7	57.1	75.5	
		76	TC	–	142.4	142.4	–	136.5	136.5	–	129.6	129.6	–	122.4	122.4	–	114	114	
			SHC	–	51.7	70.9	–	49.7	68.7	–	47.5	66.3	–	45.2	63.8	–	42.6	61.2	
4000 Cfm	EAT (wb)	58	TC	114.3	114.3	130	109.2	109.2	124.2	102.9	102.9	117	95.4	95.4	108.7	87.7	87.7	99.9	
			SHC	98.6	114.3	130	94.2	109.2	124.2	88.7	102.9	117	82.2	95.4	108.7	75.5	87.7	99.9	
		62	TC	115.3	115.3	132.4	109.6	109.6	128.3	102.9	102.9	121.9	95.5	95.5	113.2	87.8	87.8	104.1	
			SHC	91.9	112.2	132.4	88.7	108.5	128.3	84	102.9	121.9	77.9	95.5	113.2	71.5	87.8	104.1	
		67	TC	125.8	125.8	125.8	119.5	119.5	119.5	111.9	111.9	111.9	102.4	102.4	104.2	92.2	92.2	100.4	
			SHC	71.3	91.8	112.3	69	89.6	110.2	66.2	86.9	107.6	62.8	83.5	104.2	59.1	79.7	100.4	
		72	TC	136.3	136.3	136.3	130.2	130.2	130.2	123.4	123.4	123.4	115.4	115.4	115.4	105.3	105.3	105.3	
			SHC	49.5	69.7	89.8	47.4	67.7	87.9	45.1	65.5	85.9	42.5	63.1	83.7	39.3	60.1	80.9	
		76	TC	–	143.1	143.1	–	137.1	137.1	–	130.1	130.1	–	122.6	122.6	–	114.5	114.5	
			SHC	–	52.2	73.2	–	50.2	71.1	–	48	68.7	–	45.7	66.4	–	43.3	64.1	
4500 Cfm	EAT (wb)	58	TC	117.5	117.5	133.8	112.4	112.4	127.9	106	106	120.7	98.4	98.4	112.1	90.3	90.3	103	
			SHC	101.3	117.5	133.8	96.8	112.4	127.9	91.2	106	120.7	84.6	98.4	112.1	77.7	90.3	103	
		62	TC	117.6	117.6	139.4	112.5	112.5	133.3	106.1	106.1	125.8	98.5	98.5	116.8	90.4	90.4	107.4	
			SHC	95.9	117.6	139.4	91.6	112.5	133.3	86.4	106.1	125.8	80.1	98.5	116.8	73.5	90.4	107.4	
		67	TC	126.6	126.6	126.6	120.2	120.2	120.2	112.8	112.8	114.8	103.2	103.2	111.6	93	93	107.6	
			SHC	73.7	96.4	119.2	71.5	94.3	117.2	68.9	91.8	114.8	65.6	88.6	111.6	61.8	84.7	107.6	
		72	TC	136.7	136.7	136.7	130.5	130.5	130.5	123.6	123.6	123.6	115.7	115.7	115.7	105.7	105.7	105.7	
			SHC	49.4	71.6	93.7	47.4	69.7	91.9	45.1	67.5	89.9	42.7	65.4	88.2	39.5	62.6	85.8	
		76	TC	–	143.1	143.1	–	137	137	–	129.9	129.9	–	122.4	122.4	–	114.3	114.3	
			SHC	–	52.4	75.1	–	50.5	73.1	–	48.2	70.8	–	46	68.5	–	43.7	66.5	
5000 Cfm	EAT (wb)	58	TC	119.9	119.9	136.7	114.7	114.7	130.7	108.4	108.4	123.6	100.6	100.6	114.8	92.3	92.3	105.4	
			SHC	103.2	119.9	136.7	98.6	114.7	130.7	93.2	108.4	123.6	86.4	100.6	114.8	79.2	92.3	105.4	
		62	TC	120	120	142.4	114.7	114.7	136.2	108.5	108.5	128.8	100.7	100.7	119.7	92.4	92.4	109.9	
			SHC	97.6	120	142.4	93.3	114.7	136.2	88.1	108.5	128.8	81.7	100.7	119.7	74.9	92.4	109.9	
		67	TC	126.8	126.8	126.8	120.4	120.4	123.6	113.2	113.2	121.3	103.8	103.8	118.4	93.6	93.6	114	
			SHC	75.7	100.6	125.4	73.6	98.6	123.6	71.2	96.2	121.3	68	93.2	118.4	64.2	89.1	114	
		72	TC	136.5	136.5	136.5	130.2	130.2	130.2	123.2	123.2	123.2	115.5	115.5	115.5	105.6	105.6	105.6	
			SHC	49.1	73.1	97	47.1	71.3	95.4	44.9	69.2	93.5	42.5	67.3	92	39.5	64.9	90.2	
		76	TC	–	142.7	142.7	–	136.5	136.5	–	129.4	129.4	–	121.6	121.6	–	113.6	113.6	
			SHC	–	52.2	76.7	–	50.4	74.7	–	48.2	72.4	–	45.9	70.1	–	43.7	68.3	

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 28 – COOLING CAPACITIES 2-STAGE COOLING 12.5 TONS

50HC*D14				Ambient Temperature													
				85			95			105			115			125		
				EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)			EAT (dB)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
3750 Cfm	EAT (wB)	58	TC	131.9	131.9	149.8	127.0	127.0	144.1	121.5	121.5	137.9	115.4	115.4	131.0	108.7	108.7	123.4
			SHC	114.1	131.9	149.8	109.8	127.0	144.1	105.0	121.5	137.9	99.8	115.4	131.0	94.0	108.7	123.4
		62	TC	138.0	138.0	143.4	131.7	131.7	140.4	124.7	124.7	136.9	117.1	117.1	133.1	109.4	109.4	127.4
			SHC	103.4	123.4	143.4	100.4	120.4	140.4	97.1	117.0	136.9	93.4	113.2	133.1	88.8	108.1	127.4
		67	TC	151.5	151.5	151.5	144.5	144.5	144.5	136.9	136.9	136.9	128.5	128.5	128.5	119.4	119.4	119.4
			SHC	85.1	105.2	125.3	82.1	102.2	122.3	78.9	99.0	119.0	75.4	95.5	115.5	71.7	91.8	111.8
		72	TC	166.1	166.1	166.1	158.5	158.5	158.5	150.2	150.2	150.2	141.1	141.1	141.1	131.3	131.3	131.3
			SHC	66.2	86.5	106.7	63.3	83.6	103.8	60.2	80.4	100.6	56.8	76.9	97.1	53.1	73.3	93.4
		76	TC	–	178.6	178.6	–	170.5	170.5	–	161.6	161.6	–	151.8	151.8	–	141.3	141.3
			SHC	–	71.1	91.8	–	68.3	88.9	–	65.2	85.8	–	61.8	82.5	–	58.2	78.7
4375 Cfm	EAT (wB)	58	TC	139.2	139.2	158.0	133.8	133.8	151.9	127.9	127.9	145.2	121.3	121.3	137.7	114.1	114.1	129.5
			SHC	120.4	139.2	158.0	115.7	133.8	151.9	110.6	127.9	145.2	104.9	121.3	137.7	98.7	114.1	129.5
		62	TC	142.4	142.4	157.6	135.8	135.8	154.1	128.9	128.9	149.2	121.7	121.7	142.9	114.2	114.2	134.8
			SHC	111.5	134.5	157.6	108.2	131.2	154.1	104.2	126.7	149.2	99.4	121.1	142.9	93.6	114.2	134.8
		67	TC	155.8	155.8	155.8	148.5	148.5	148.5	140.4	140.4	140.4	131.6	131.6	131.6	122.1	122.1	123.0
			SHC	90.3	113.6	136.8	87.3	110.5	133.8	84.0	107.2	130.5	80.4	103.6	126.8	76.6	99.8	123.0
		72	TC	170.6	170.6	170.6	162.7	162.7	162.7	154.0	154.0	154.0	144.4	144.4	144.4	134.1	134.1	134.1
			SHC	68.5	91.9	115.3	65.5	88.9	112.3	62.3	85.6	109.0	58.8	82.1	105.4	55.1	78.4	101.7
		76	TC	–	183.3	183.3	–	174.8	174.8	–	165.4	165.4	–	155.2	155.2	–	144.3	144.3
			SHC	–	74.3	98.3	–	71.3	95.2	–	68.0	91.9	–	64.6	88.3	–	60.9	84.5
5000 Cfm	EAT (wB)	58	TC	145.3	145.3	164.9	139.5	139.5	158.4	133.2	133.2	151.2	126.2	126.2	143.2	118.5	118.5	134.5
			SHC	125.6	145.3	164.9	120.7	139.5	158.4	115.2	133.2	151.2	109.1	126.2	143.2	102.5	118.5	134.5
		62	TC	146.5	146.5	169.3	140.2	140.2	163.9	133.3	133.3	157.4	126.3	126.3	149.1	118.6	118.6	140.0
			SHC	118.3	143.8	169.3	114.1	139.0	163.9	109.3	133.3	157.4	103.5	126.3	149.1	97.2	118.6	140.0
		67	TC	159.1	159.1	159.1	151.5	151.5	151.5	143.1	143.1	143.1	134.0	134.0	137.7	124.2	124.2	133.7
			SHC	95.2	121.6	148.0	92.2	118.5	144.9	88.8	115.1	141.5	85.1	111.4	137.7	81.3	107.5	133.7
		72	TC	174.1	174.1	174.1	165.9	165.9	165.9	156.8	156.8	156.8	146.9	146.9	146.9	136.2	136.2	136.2
			SHC	70.5	97.0	123.5	67.5	94.0	120.5	64.2	90.7	117.1	60.6	87.1	113.5	56.9	83.3	109.6
		76	TC	–	187.0	187.0	–	178.1	178.1	–	168.3	168.3	–	157.7	157.7	–	146.4	146.4
			SHC	–	77.0	104.0	–	74.0	100.9	–	70.7	97.5	–	67.2	93.9	–	63.4	90.0
5625 Cfm	EAT (wB)	58	TC	150.4	150.4	170.8	144.4	144.4	163.9	137.7	137.7	156.3	130.3	130.3	147.9	122.2	122.2	138.7
			SHC	130.1	150.4	170.8	124.9	144.4	163.9	119.0	137.7	156.3	112.7	130.3	147.9	105.7	122.2	138.7
		62	TC	150.7	150.7	177.9	144.5	144.5	170.6	137.8	137.8	162.7	130.4	130.4	153.9	122.3	122.3	144.4
			SHC	123.5	150.7	177.9	118.4	144.5	170.6	112.9	137.8	162.7	106.8	130.4	153.9	100.2	122.3	144.4
		67	TC	161.7	161.7	161.7	153.9	153.9	155.6	145.3	145.3	152.1	135.9	135.9	148.2	125.9	125.9	143.9
			SHC	100.0	129.4	158.8	96.8	126.2	155.6	93.4	122.7	152.1	89.7	118.9	148.2	85.6	114.8	143.9
		72	TC	176.9	176.9	176.9	168.3	168.3	168.3	159.0	159.0	159.0	148.8	148.8	148.8	137.9	137.9	137.9
			SHC	72.3	101.9	131.5	69.3	98.8	128.4	66.0	95.5	125.0	62.4	91.8	121.3	58.6	88.0	117.4
		76	TC	–	189.8	189.8	–	180.6	180.6	–	170.6	170.6	–	159.7	159.7	–	148.1	148.1
			SHC	–	79.6	109.7	–	76.5	106.5	–	73.2	103.0	–	69.6	99.2	–	65.7	95.1
6250 Cfm	EAT (wB)	58	TC	154.8	154.8	175.8	148.5	148.5	168.6	141.5	141.5	160.6	133.7	133.7	151.8	125.3	125.3	142.3
			SHC	133.9	154.8	175.8	128.4	148.5	168.6	122.3	141.5	160.6	115.6	133.7	151.8	108.4	125.3	142.3
		62	TC	155.0	155.0	183.0	148.6	148.6	175.5	141.6	141.6	167.2	133.9	133.9	158.0	125.4	125.4	148.1
			SHC	127.0	155.0	183.0	121.8	148.6	175.5	116.0	141.6	167.2	109.7	133.9	158.0	102.8	125.4	148.1
		67	TC	163.8	163.8	169.3	155.8	155.8	166.0	147.0	147.0	162.3	137.5	137.5	158.1	127.4	127.4	153.3
			SHC	104.5	136.9	169.3	101.3	133.6	166.0	97.8	130.0	162.3	93.9	126.0	158.1	89.7	121.5	153.3
		72	TC	179.1	179.1	179.1	170.3	170.3	170.3	160.8	160.8	160.8	150.3	150.3	150.3	139.2	139.2	139.2
			SHC	74.1	106.7	139.3	71.0	103.6	136.1	67.7	100.2	132.7	64.1	96.5	128.9	60.2	92.6	124.9
		76	TC	–	192.1	192.1	–	182.7	182.7	–	172.3	172.3	–	161.2	161.2	–	149.4	149.4
			SHC	–	82.1	115.1	–	79.0	111.8	–	75.6	108.2	–	71.9	104.3	–	67.9	100.0

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 29 – STATIC PRESSURE ADDERS (in. wg) - Factory Options and/or Accessories

Electric Heaters

3–5 TONS										
CFM	600	900	1200	1400	1600	1800	2000	2200	2400	2600
1 Electric Heater Module	0.03	0.05	0.07	0.09	0.09	0.10	0.11	0.11	0.12	0.13
2 Electric Heater Modules	0.13	0.15	0.16	0.16	0.16	0.17	0.17	0.17	0.18	0.18

6 – 10 TONS								
CFM	2250	2500	2750	3000	3250	3500	3750	4000
1 Electric Heater Module	0.031	0.037	0.044	0.051	0.059	0.067	0.076	0.085
2 Electric Heater Modules	0.038	0.046	0.053	0.062	0.070	0.080	0.089	0.100

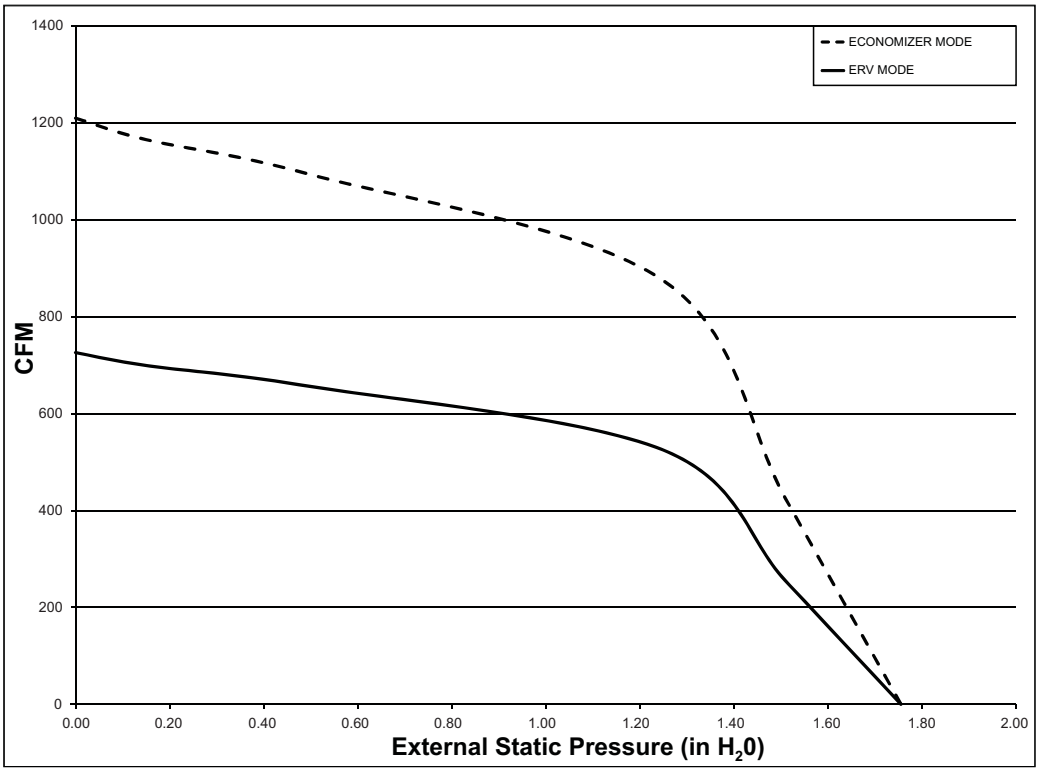
6 – 10 TONS								
CFM	4250	4500	4750	5000	5250	5500	5750	6000
1 Electric Heater Module	0.095	0.105	0.116	0.127	0.139	0.151	0.164	0.177
2 Electric Heater Modules	0.110	0.122	0.133	0.146	0.158	0.172	0.185	0.200

12.5 TON									
CFM	3750	4063	4375	4688	5000	5313	5625	5938	6250
Vertical - 1 Electric Heater Module	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04
Vertical - 2 Electric Heater Modules	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.08
Horizontal - 1 Electric Heater Module	0.04	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.09
Horizontal - 2 Electric Heater Modules	0.04	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.08

GENERAL FAN PERFORMANCE NOTES:

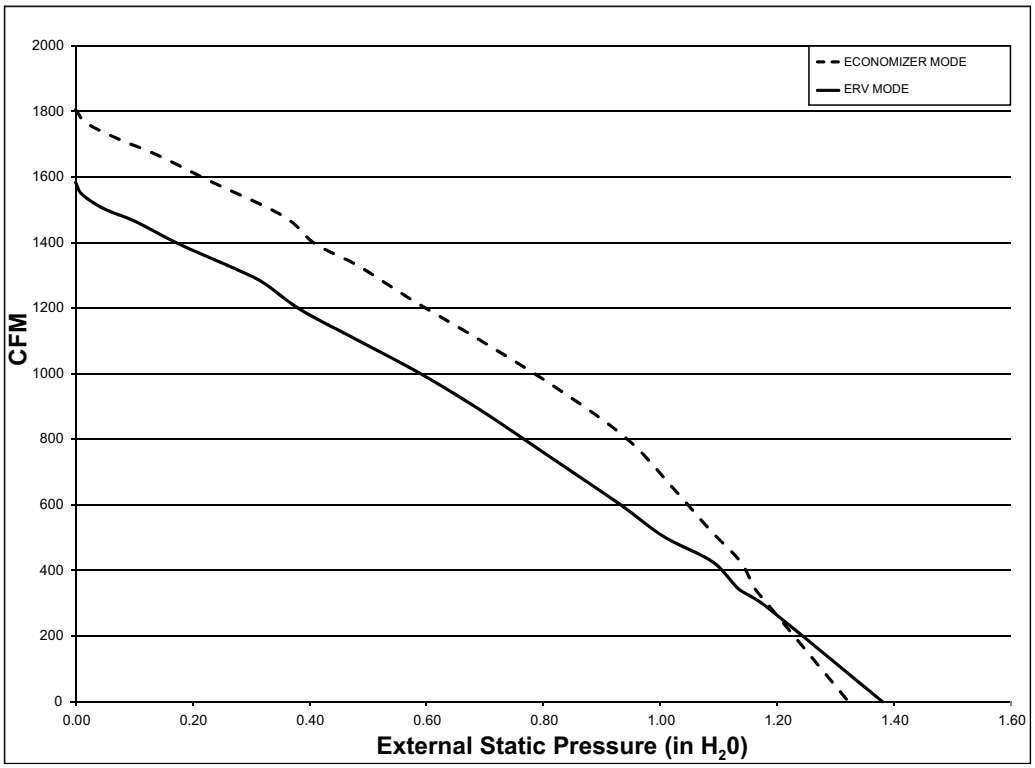
1. Interpolation is permissible. Do not extrapolate.
2. External static pressure is the static pressure difference between the return duct and the supply duct plus the static pressure caused by any FIOPs or accessories.
3. Tabular data accounts for pressure loss due to clean filters, unit casing, and 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 of 1992) 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.

PE PERFORMANCE



C12206

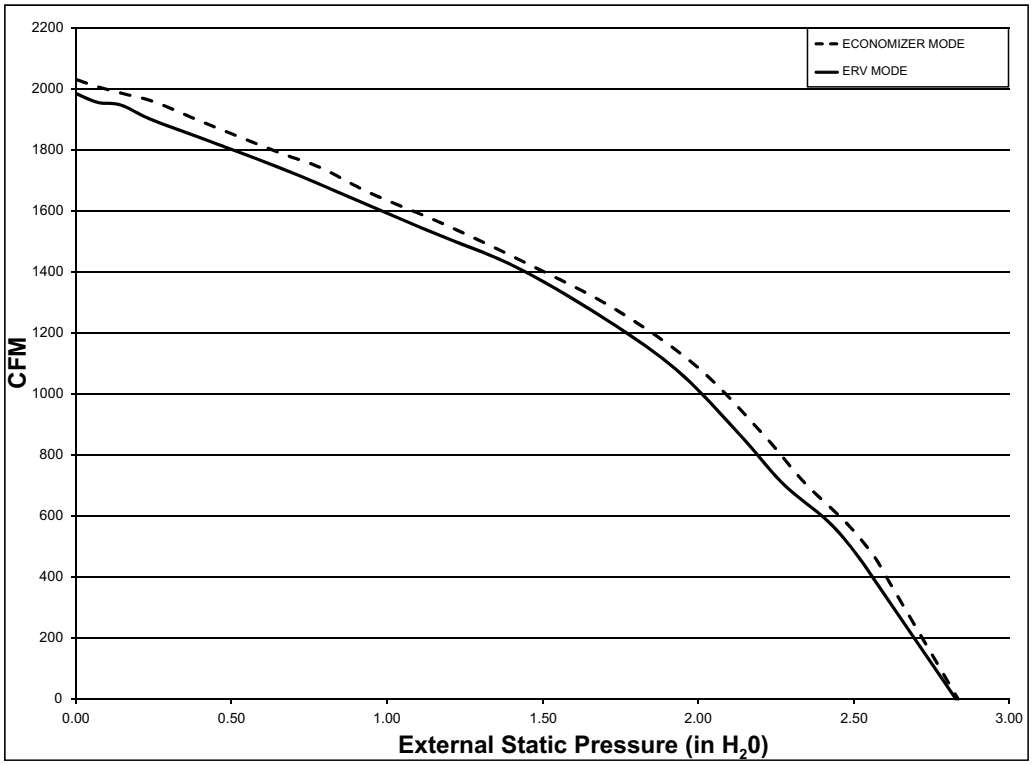
Fig. 16 – 50HC04**



C12207

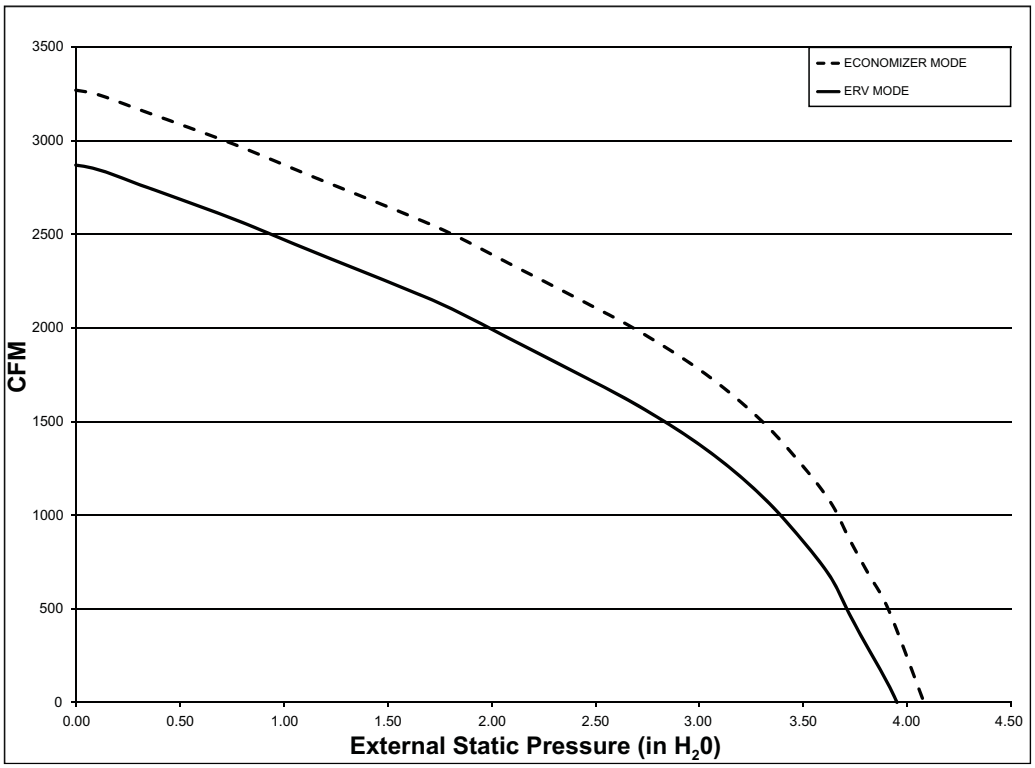
Fig. 17 – 50HC05 – 06**

PE PERFORMANCE (cont.)



C12208

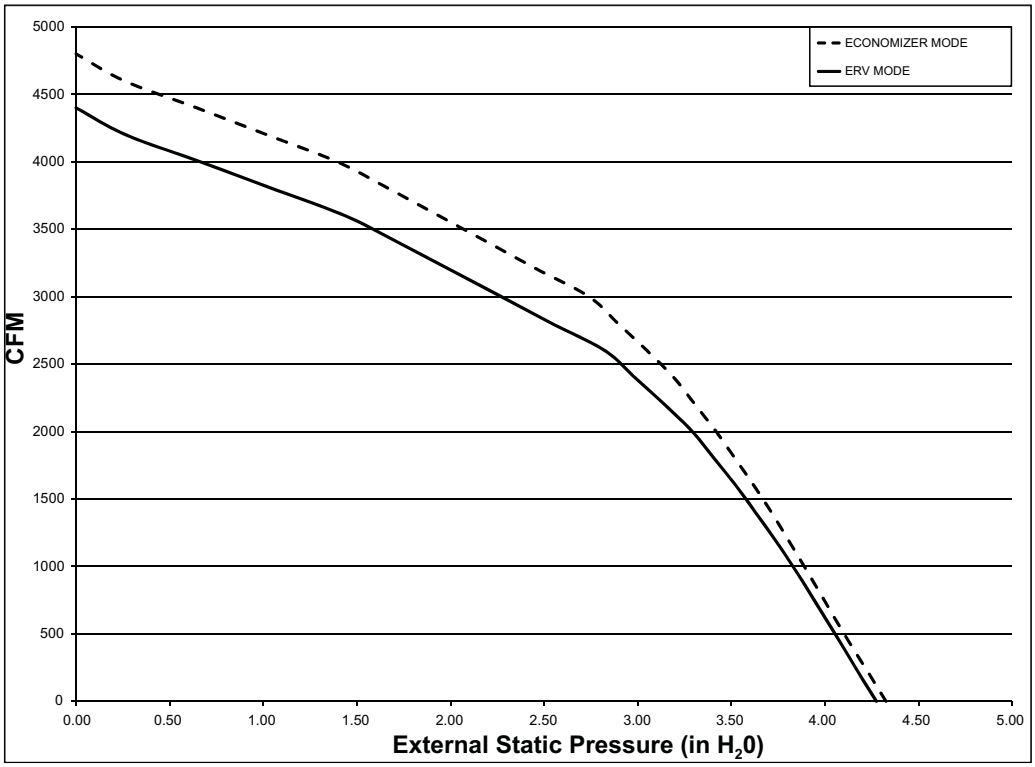
Fig. 18 – 50HC07**



C12209

Fig. 19 – 50HC08 – 12**

PE PERFORMANCE (cont.)



C12210

Fig. 20 – 50HC14**

FAN PERFORMANCE (BELT DRIVE)

Table 30 – 50HC04** **3 PHASE** **3 TON VERTICAL SUPPLY**

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	**594**	**0.15**	**740**	**0.25**	867	0.37	981	0.52	1084	0.68
975	**618**	**0.17**	**758**	**0.28**	881	0.40	991	0.55	1092	0.71
1050	**642**	**0.19**	777	0.30	896	0.43	1003	0.58	1102	0.75
1125	**668**	**0.22**	797	0.34	912	0.47	1017	0.62	1113	0.79
1200	**695**	**0.25**	818	0.37	930	0.51	1032	0.66	1126	0.83
1275	**722**	**0.29**	841	0.41	949	0.55	1048	0.71	1140	0.88
1350	**750**	**0.33**	864	0.46	968	0.60	1065	0.76	1155	0.93
1425	778	0.37	888	0.50	989	0.65	1083	0.81	1171	0.99
1500	807	0.42	913	0.56	1011	0.71	1103	0.87	1188	1.05

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	1180	0.86	1269	1.05	1354	1.25	1434	1.47	**1511**	**1.70**
975	1186	0.89	1275	1.08	1358	1.29	1437	1.51	**1513**	**1.74**
1050	1194	0.92	1281	1.12	1363	1.32	1441	1.54	**1516**	**1.78**
1125	1204	0.97	1289	1.16	1370	1.37	1447	1.59	**1520**	**1.82**
1200	1215	1.01	1298	1.21	1378	1.42	1454	1.64	**1526**	**1.87**
1275	1227	1.06	1309	1.26	1387	1.47	1462	1.69	**1533**	**1.92**
1350	1240	1.12	1321	1.32	1397	1.53	**1471**	**1.75**	**1541**	**1.99**
1425	1254	1.18	1333	1.38	1409	1.59	**1481**	**1.82**	**–**	**–**
1500	1270	1.24	1347	1.45	1421	1.66	**1492**	**1.89**	**–**	**–**

NOTE: For more information, see General Fan Performance Notes.
Boldface indicates field–supplied drive is required.
Medium static 770–1175 RPM, 1.2 BHP max
High static 1035–1466 RPM, 2.4 BHP max

Table 31 – 50HC04** **3 PHASE** **3 TON HORIZONTAL SUPPLY**

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	**574**	**0.13**	**707**	**0.23**	817	0.34	913	0.47	999	0.61
975	**597**	**0.15**	**727**	**0.25**	835	0.37	929	0.50	1015	0.64
1050	**621**	**0.18**	**747**	**0.28**	853	0.40	946	0.53	1030	0.68
1125	**646**	**0.20**	**768**	**0.31**	872	0.43	964	0.57	1047	0.72
1200	**671**	**0.23**	790	0.34	892	0.47	982	0.61	1064	0.76
1275	**696**	**0.26**	812	0.38	912	0.51	1001	0.65	1082	0.81
1350	**723**	**0.30**	835	0.42	933	0.55	1020	0.70	1100	0.86
1425	**749**	**0.34**	859	0.46	955	0.60	1040	0.75	1119	0.91
1500	776	0.38	883	0.51	977	0.65	1061	0.80	1138	0.97

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	1078	0.77	1151	0.93	1220	1.11	1284	1.30	1346	1.49
975	1093	0.80	1165	0.97	1233	1.15	1297	1.33	1358	1.53
1050	1108	0.84	1180	1.01	1247	1.19	1311	1.38	1371	1.58
1125	1123	0.88	1195	1.05	1261	1.23	1325	1.42	1385	1.62
1200	1140	0.92	1210	1.10	1276	1.28	1339	1.47	1399	1.68
1275	1157	0.97	1226	1.15	1292	1.33	1354	1.53	1414	1.73
1350	1174	1.02	1243	1.20	1308	1.39	1370	1.59	1429	1.80
1425	1192	1.08	1260	1.26	1325	1.45	1386	1.65	1444	1.86
1500	1210	1.14	1278	1.33	1342	1.52	1403	1.72	1461	1.93

NOTE: For more information, see General Fan Performance Notes.
Boldface indicates field–supplied drive is required.
Medium static 770–1175 RPM, 1.2 BHP max
High static 1035–1466 RPM, 2.4 BHP max

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 32 – 50HC05** **3 PHASE** **4 TON VERTICAL SUPPLY**

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	**695**	**0.25**	**818**	**0.37**	930	0.51	1032	0.66	1126	0.83
1300	**731**	**0.30**	**849**	**0.43**	955	0.57	1053	0.72	1145	0.89
1400	**769**	**0.36**	**880**	**0.49**	982	0.63	1077	0.79	1166	0.97
1500	**807**	**0.42**	**913**	**0.56**	1011	0.71	1103	0.87	1188	1.05
1600	**847**	**0.49**	948	0.63	1042	0.79	1130	0.96	1213	1.14
1700	**887**	**0.57**	983	0.72	1073	0.88	1158	1.06	1239	1.24
1800	928	0.66	1020	0.82	1106	0.98	1188	1.16	1266	1.35
1900	969	0.76	1057	0.92	1140	1.09	1219	1.28	1295	1.48
2000	1010	0.87	1095	1.04	1175	1.21	1251	1.41	1325	1.61

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	1215	1.01	1298	1.21	1378	1.42	1454	1.64	1526	1.87
1300	1231	1.08	1313	1.28	1390	1.49	1465	1.71	1536	1.94
1400	1249	1.16	1329	1.36	1405	1.57	1478	1.79	1547	2.03
1500	1270	1.24	1347	1.45	1421	1.66	1492	1.89	1561	2.13
1600	1292	1.34	1367	1.54	1440	1.76	1509	1.99	1576	2.23
1700	1315	1.44	1389	1.65	1459	1.88	1527	2.11	1593	2.35
1800	1341	1.56	1412	1.77	1481	2.00	1547	2.23	1612	2.48
1900	1367	1.68	1437	1.90	1504	2.13	1569	2.37	1632	2.62
2000	1395	1.82	1463	2.04	1528	2.28	1591	2.52	**1653**	**2.77**

NOTE: For more information, see General Fan Performance Notes.
Boldface indicates field–supplied drive is required.
Medium Static 920–1303 RPM, 1.7 BHP max
High Static 1208–1639 RPM, 2.9 BHP max

Table 33 – 50HC05** **3 PHASE** **4 TON HORIZONTAL SUPPLY**

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	**671**	**0.23**	**790**	**0.34**	**892**	**0.47**	982	0.61	1064	0.76
1300	**705**	**0.28**	**820**	**0.39**	**919**	**0.52**	1007	0.67	1088	0.82
1400	**740**	**0.33**	**851**	**0.45**	947	0.58	1034	0.73	1113	0.89
1500	**776**	**0.38**	**883**	**0.51**	977	0.65	1061	0.80	1138	0.97
1600	**813**	**0.45**	**916**	**0.58**	1007	0.73	1089	0.89	1165	1.05
1700	**851**	**0.52**	949	0.66	1038	0.81	1118	0.97	1192	1.15
1800	**888**	**0.60**	984	0.75	1069	0.90	1148	1.07	1221	1.25
1900	927	0.69	1019	0.84	1102	1.00	1179	1.18	1250	1.36
2000	965	0.78	1054	0.94	1135	1.11	1210	1.29	1280	1.48

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	1140	0.92	1210	1.10	1276	1.28	1339	1.47	1399	1.68
1300	1162	0.99	1232	1.16	1297	1.35	1360	1.55	1419	1.75
1400	1186	1.06	1254	1.24	1319	1.43	1381	1.63	1439	1.84
1500	1210	1.14	1278	1.33	1342	1.52	1403	1.72	1461	1.93
1600	1236	1.23	1302	1.42	1365	1.62	1425	1.82	1483	2.04
1700	1262	1.33	1328	1.52	1390	1.72	1449	1.93	1505	2.15
1800	1289	1.44	1354	1.63	1415	1.84	1473	2.05	1529	2.27
1900	1317	1.55	1380	1.75	1441	1.96	1498	2.18	1553	2.41
2000	1345	1.68	1408	1.88	1467	2.10	1524	2.32	1579	2.55

NOTE: For more information, see General Fan Performance Notes.
Boldface indicates field–supplied drive is required.
Medium Static 920–1303 RPM, 1.7 BHP max
High Static 1208–1639 RPM, 2.9 max BHP

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 34 – 50HC06** **3 PHASE** **5 TON VERTICAL SUPPLY**

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	**794**	**0.41**	**902**	**0.55**	**993**	**0.69**	1074	0.85	1147	1.00
1625	**840**	**0.49**	**945**	**0.64**	**1034**	**0.80**	1113	0.96	1185	1.13
1750	**888**	**0.59**	**988**	**0.75**	1075	0.92	1153	1.09	1223	1.26
1875	**936**	**0.70**	**1033**	**0.87**	1117	1.05	1193	1.23	1263	1.41
2000	**984**	**0.82**	1078	1.00	1160	1.19	1235	1.39	1303	1.58
2125	**1033**	**0.96**	1124	1.15	1204	1.35	1277	1.56	1343	1.76
2250	1083	1.11	1170	1.32	1248	1.53	1319	1.74	1385	1.96
2375	1133	1.28	1217	1.50	1293	1.72	1363	1.95	1427	2.17
2500	1183	1.47	1265	1.70	1339	1.93	1406	2.17	1470	2.41

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	1214	1.16	1277	1.33	1336	1.50	1392	1.67	1445	1.85
1625	1251	1.30	1313	1.47	1371	1.65	1427	1.83	1479	2.02
1750	1289	1.44	1350	1.63	1407	1.81	1462	2.01	1514	2.20
1875	1327	1.60	1387	1.80	1444	1.99	1498	2.19	1550	2.40
2000	1366	1.78	1426	1.98	1482	2.19	1535	2.40	1586	2.61
2125	1406	1.97	1464	2.18	1520	2.40	1573	2.62	1623	2.84
2250	1446	2.18	1504	2.40	1559	2.62	1611	2.85	**1661**	**3.09**
2375	1487	2.40	1544	2.63	1598	2.87	**1650**	**3.11**	–	–
2500	1529	2.64	1585	2.89	**1638**	**3.13**	–	–	–	–

NOTE: For more information, see General Fan Performance Notes.
Boldface indicates field–supplied drive is required.

Medium Static 1035 – 1466 RPM, 2.4 BHP max
High Static 1303 – 1687 RPM, 2.9 max BHP

Table 35 – 50HC06** **3 PHASE** **5 TON HORIZONTAL SUPPLY**

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	**725**	**0.33**	**840**	**0.46**	937	0.60	1023	0.75	1101	0.90
1625	**765**	**0.40**	**876**	**0.54**	970	0.68	1054	0.84	1131	1.00
1750	**806**	**0.48**	**912**	**0.63**	1004	0.78	1087	0.94	1162	1.11
1875	**847**	**0.57**	**950**	**0.72**	1039	0.88	1120	1.05	1194	1.23
2000	**889**	**0.66**	**988**	**0.83**	1075	1.00	1154	1.18	1226	1.36
2125	**931**	**0.78**	**1027**	**0.95**	1112	1.13	1189	1.31	1260	1.50
2250	**974**	**0.90**	1067	1.08	1149	1.27	1224	1.46	1294	1.66
2375	**1018**	**1.03**	1107	1.23	1187	1.43	1261	1.63	1329	1.84
2500	1061	1.19	1148	1.39	1226	1.59	1297	1.81	1364	2.02

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	1172	1.06	1239	1.23	1302	1.40	1361	1.58	1418	1.77
1625	1201	1.16	1267	1.34	1329	1.52	1388	1.71	1444	1.90
1750	1231	1.28	1296	1.46	1358	1.65	1416	1.84	1472	2.04
1875	1262	1.41	1326	1.60	1387	1.79	1445	1.99	1499	2.20
2000	1294	1.55	1357	1.74	1417	1.95	1474	2.15	1528	2.36
2125	1326	1.70	1388	1.90	1447	2.11	1504	2.33	1557	2.55
2250	1359	1.87	1420	2.08	1479	2.29	1534	2.51	1587	2.74
2375	1393	2.05	1453	2.27	1511	2.49	1566	2.72	**1618**	**2.95**
2500	1427	2.24	1487	2.47	1543	2.70	**1597**	**2.94**	**1649**	**3.18**

NOTE: For more information, see General Fan Performance Notes.
Boldface indicates field–supplied drive is required.

Medium Static 1035 – 1466 RPM, 2.4 BHP max
High Static 1303 – 1687 RPM, 2.9 BHP max

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 36 – 50HC07** **3 PHASE** **6 TON VERTICAL SUPPLY**

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1800	446	0.33	534	0.50	609	0.70	676	0.91	736	1.14
1950	467	0.39	552	0.57	625	0.77	690	0.99	750	1.23
2100	489	0.45	571	0.64	642	0.86	706	1.08	764	1.33
2250	511	0.53	591	0.73	660	0.95	722	1.19	779	1.44
2400	534	0.61	611	0.82	678	1.05	739	1.30	795	1.56
2550	558	0.71	631	0.93	697	1.17	756	1.42	811	1.69
2700	581	0.81	652	1.04	716	1.29	774	1.55	828	1.83
2850	605	0.93	674	1.17	736	1.43	792	1.70	845	1.98
3000	630	1.06	696	1.31	756	1.58	811	1.86	863	2.15

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1800	791	1.39	843	1.65	892	1.93	938	2.22	981	2.53
1950	804	1.49	855	1.76	903	2.04	949	2.34	992	2.65
2100	818	1.59	868	1.87	915	2.16	961	2.46	1003	2.78
2250	832	1.71	882	1.99	928	2.29	973	2.59	1015	2.92
2400	847	1.83	896	2.12	942	2.43	986	2.74	1028	3.07
2550	862	1.97	910	2.27	956	2.58	999	2.90	1041	3.23
2700	878	2.12	926	2.42	971	2.74	1013	3.07	1055	3.41
2850	895	2.28	941	2.59	986	2.92	1028	3.25	1069	3.60
3000	912	2.46	958	2.78	1001	3.11	1043	3.45	1083	3.80

NOTE: For more information, see General Fan Performance Notes.

Standard static 489–747 RPM, 1.7 BHP max
Medium static 733–949 RPM, 2.9 BHP max
High static 909–1102 RPM, 4.7 BHP max

Table 37 – 50HC07** **3 PHASE** **6 TON HORIZONTAL SUPPLY**

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1800	415	0.28	510	0.46	588	0.65	655	0.85	715	1.08
1950	431	0.32	525	0.51	601	0.71	668	0.93	727	1.16
2100	448	0.38	540	0.57	615	0.78	681	1.01	740	1.25
2250	465	0.43	555	0.64	629	0.86	694	1.10	753	1.34
2400	483	0.49	571	0.71	644	0.94	708	1.19	766	1.45
2550	501	0.56	587	0.79	659	1.04	722	1.29	779	1.56
2700	519	0.64	603	0.88	674	1.14	737	1.40	793	1.68
2850	538	0.72	620	0.98	689	1.24	751	1.52	807	1.80
3000	557	0.82	637	1.08	705	1.36	766	1.64	822	1.94

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1800	770	1.31	821	1.56	868	1.82	913	2.09	955	2.36
1950	782	1.40	832	1.66	879	1.92	924	2.20	966	2.49
2100	794	1.50	844	1.76	891	2.03	935	2.32	977	2.61
2250	806	1.60	856	1.87	903	2.15	947	2.45	988	2.75
2400	819	1.71	868	1.99	915	2.28	958	2.58	1000	2.89
2550	832	1.83	881	2.12	927	2.42	971	2.73	1012	3.05
2700	845	1.96	894	2.26	940	2.57	983	2.88	1024	3.21
2850	859	2.10	907	2.41	953	2.72	995	3.05	1036	3.38
3000	873	2.24	921	2.56	966	2.89	1008	3.22	1049	3.56

NOTE: For more information, see General Fan Performance Notes.

Standard static 489–747 RPM, 1.7 BHP max
Medium static 733–949 RPM, 2.9 BHP max
High static 909–1102 RPM, 4.7 BHP max

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 38 – 50HC08** **3 PHASE** **7.5 TON VERTICAL SUPPLY**

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2250	482	0.36	577	0.51	659	0.66	732	0.82	799	0.98
2438	505	0.43	597	0.59	676	0.75	748	0.92	813	1.09
2625	529	0.51	617	0.68	694	0.85	764	1.03	827	1.22
2813	554	0.60	638	0.78	713	0.97	781	1.16	843	1.35
3000	579	0.70	660	0.89	732	1.09	799	1.29	860	1.50
3188	604	0.81	683	1.02	753	1.23	817	1.44	877	1.65
3375	630	0.94	706	1.15	774	1.37	836	1.60	895	1.82
3563	657	1.08	729	1.31	795	1.54	856	1.77	913	2.01
3750	683	1.23	753	1.47	817	1.71	877	1.96	933	2.21

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2250	860	1.14	917	1.31	971	1.48	1022	1.66	1071	1.84
2438	873	1.27	929	1.45	983	1.63	1033	1.81	1081	2.00
2625	887	1.40	942	1.59	995	1.78	1045	1.98	1092	2.18
2813	901	1.55	956	1.75	1008	1.95	1057	2.15	1104	2.36
3000	917	1.70	970	1.91	1021	2.13	1070	2.34	1117	2.56
3188	933	1.87	986	2.09	1036	2.32	1084	2.54	1130	2.77
3375	950	2.05	1002	2.29	1051	2.52	1098	2.76	1144	3.00
3563	967	2.25	1018	2.49	1067	2.74	1113	2.99	1158	3.24
3750	985	2.46	1035	2.71	1083	2.97	1129	3.23	1173	3.49

NOTE: For more information, see General Fan Performance Notes.

Standard static 518–733 RPM, 1.7 BHP max
Medium static 690–936 RPM, 2.4 BHP max
High static 838–1084 RPM, 3.7 BHP max

Table 39 – 50HC08** **3 PHASE** **7.5 TON HORIZONTAL SUPPLY**

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2250	433	0.29	518	0.41	596	0.54	667	0.67	733	0.81
2438	454	0.35	535	0.48	609	0.61	677	0.75	741	0.90
2625	477	0.42	553	0.55	624	0.69	689	0.84	751	1.00
2813	500	0.49	572	0.64	640	0.78	703	0.94	763	1.10
3000	523	0.58	592	0.73	657	0.88	718	1.05	775	1.22
3188	547	0.68	613	0.83	675	1.00	733	1.17	789	1.34
3375	571	0.78	634	0.95	694	1.12	750	1.30	804	1.48
3563	596	0.90	656	1.07	713	1.25	768	1.44	820	1.63
3750	621	1.03	679	1.21	734	1.40	786	1.59	837	1.79

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2250	795	0.96	854	1.11	910	1.27	963	1.43	1014	1.60
2438	802	1.05	859	1.21	913	1.38	966	1.55	1016	1.72
2625	810	1.16	865	1.32	919	1.49	970	1.67	1019	1.85
2813	819	1.27	874	1.44	925	1.62	975	1.80	1023	1.99
3000	830	1.39	883	1.57	934	1.76	982	1.95	1029	2.14
3188	843	1.53	894	1.71	943	1.90	990	2.10	1036	2.30
3375	856	1.67	905	1.86	953	2.06	1000	2.27	1045	2.48
3563	870	1.83	918	2.03	965	2.23	1010	2.44	1054	2.66
3750	885	1.99	932	2.20	978	2.42	1022	2.64	1065	2.86

NOTE: For more information, see General Fan Performance Notes.

Standard static 518–733 RPM, 1.7 BHP max
Medium static 690–936 RPM, 2.4 BHP max
High static 838–1084 RPM, 3.7 BHP max

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 40 – 50HC09** **3 PHASE** **8.5 TON VERTICAL SUPPLY**

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2250	482	0.36	577	0.51	659	0.66	732	0.82	799	0.98
2438	505	0.43	597	0.59	676	0.75	748	0.92	813	1.09
2625	529	0.51	617	0.68	694	0.85	764	1.03	827	1.22
2813	554	0.60	638	0.78	713	0.97	781	1.16	843	1.35
3000	579	0.70	660	0.89	732	1.09	799	1.29	860	1.50
3188	604	0.81	683	1.02	753	1.23	817	1.44	877	1.65
3375	630	0.94	706	1.15	774	1.37	836	1.60	895	1.82
3563	657	1.08	729	1.31	795	1.54	856	1.77	913	2.01
3750	683	1.23	753	1.47	817	1.71	877	1.96	933	2.21

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2250	860	1.14	917	1.31	971	1.48	1022	1.66	1071	1.84
2438	873	1.27	929	1.45	983	1.63	1033	1.81	1081	2.00
2625	887	1.40	942	1.59	995	1.78	1045	1.98	1092	2.18
2813	901	1.55	956	1.75	1008	1.95	1057	2.15	1104	2.36
3000	917	1.70	970	1.91	1021	2.13	1070	2.34	1117	2.56
3188	933	1.87	986	2.09	1036	2.32	1084	2.54	1130	2.77
3375	950	2.05	1002	2.29	1051	2.52	1098	2.76	1144	3.00
3563	967	2.25	1018	2.49	1067	2.74	1113	2.99	1158	3.24
3750	985	2.46	1035	2.71	1083	2.97	1129	3.23	1173	3.49

NOTE: For more information, see General Fan Performance Notes.

Standard static 518–733 RPM, 1.7 BHP max

Medium static 690–936 RPM, 2.4 BHP max

High static 838–1084 RPM, 3.7 BHP max

Table 41 – 50HC09** **3 PHASE** **8.5 TON HORIZONTAL SUPPLY**

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2250	433	0.29	518	0.41	596	0.54	667	0.67	733	0.81
2438	454	0.35	535	0.48	609	0.61	677	0.75	741	0.90
2625	477	0.42	553	0.55	624	0.69	689	0.84	751	1.00
2813	500	0.49	572	0.64	640	0.78	703	0.94	763	1.10
3000	523	0.58	592	0.73	657	0.88	718	1.05	775	1.22
3188	547	0.68	613	0.83	675	1.00	733	1.17	789	1.34
3375	571	0.78	634	0.95	694	1.12	750	1.30	804	1.48
3563	596	0.90	656	1.07	713	1.25	768	1.44	820	1.63
3750	621	1.03	679	1.21	734	1.40	786	1.59	837	1.79

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2250	795	0.96	854	1.11	910	1.27	963	1.43	1014	1.60
2438	802	1.05	859	1.21	913	1.38	966	1.55	1016	1.72
2625	810	1.16	865	1.32	919	1.49	970	1.67	1019	1.85
2813	819	1.27	874	1.44	925	1.62	975	1.80	1023	1.99
3000	830	1.39	883	1.57	934	1.76	982	1.95	1029	2.14
3188	843	1.53	894	1.71	943	1.90	990	2.10	1036	2.30
3375	856	1.67	905	1.86	953	2.06	1000	2.27	1045	2.48
3563	870	1.83	918	2.03	965	2.23	1010	2.44	1054	2.66
3750	885	1.99	932	2.20	978	2.42	1022	2.64	1065	2.86

NOTE: For more information, see General Fan Performance Notes.

Standard static 518–733 RPM, 1.7 BHP max

Medium static 690–936 RPM, 2.4 BHP max

High static 838–1084 RPM, 3.7 BHP max

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 42 – 50HC12** **3 PHASE** **10 TON VERTICAL SUPPLY**

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	556	0.65	623	0.80	684	0.95	738	1.11	789	1.26
3250	590	0.79	655	0.96	713	1.13	766	1.29	815	1.46
3500	625	0.96	687	1.14	742	1.32	794	1.50	841	1.68
3750	661	1.16	719	1.35	773	1.54	822	1.73	869	1.93
4000	697	1.37	753	1.58	804	1.79	852	1.99	897	2.20
4250	733	1.62	787	1.84	836	2.06	883	2.28	926	2.49
4500	770	1.89	821	2.13	869	2.36	914	2.59	956	2.82
4750	807	2.20	856	2.45	902	2.69	945	2.94	986	3.18
5000	844	2.54	891	2.80	936	3.06	978	3.31	1018	3.57

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	836	1.42	881	1.57	923	1.73	963	1.89	1001	2.05
3250	861	1.63	904	1.79	945	1.96	985	2.13	1023	2.30
3500	886	1.86	929	2.04	969	2.22	1008	2.40	1045	2.58
3750	912	2.12	954	2.31	994	2.50	1031	2.70	1068	2.89
4000	940	2.40	980	2.61	1019	2.81	1056	3.02	1092	3.22
4250	968	2.71	1007	2.93	1045	3.15	1081	3.36	1117	3.58
4500	996	3.05	1035	3.28	1072	3.51	1108	3.74	1142	3.97
4750	1026	3.42	1063	3.66	1100	3.91	1135	4.15	1168	4.39
5000	1056	3.82	1093	4.08	1128	4.34	1162	4.59	–	–

NOTE: For more information, see General Fan Performance Notes.

Standard static 591 – 838 RPM, 2.4 BHP max
Medium static 838 – 1084 RPM, 3.7 BHP max
High static 1022 – 1240 RPM, 4.9 BHP max

Table 43 – 50HC12** **3 PHASE** **10 TON HORIZONTAL SUPPLY**

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	523	0.58	592	0.73	657	0.88	718	1.05	775	1.22
3250	555	0.71	620	0.87	681	1.04	739	1.21	794	1.39
3500	588	0.86	649	1.03	707	1.21	762	1.39	815	1.58
3750	621	1.03	679	1.21	734	1.40	786	1.59	837	1.79
4000	655	1.23	709	1.42	761	1.61	812	1.82	860	2.03
4250	689	1.45	741	1.65	790	1.86	838	2.07	885	2.29
4500	723	1.69	773	1.90	820	2.12	866	2.35	910	2.57
4750	758	1.96	805	2.19	850	2.42	894	2.65	937	2.89
5000	793	2.26	838	2.50	881	2.74	923	2.98	965	3.23

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	830	1.39	883	1.57	934	1.76	982	1.95	1029	2.14
3250	847	1.57	897	1.76	946	1.96	993	2.16	1039	2.36
3500	865	1.77	914	1.97	961	2.18	1007	2.38	1051	2.60
3750	885	1.99	932	2.20	978	2.42	1022	2.64	1065	2.86
4000	907	2.24	952	2.46	996	2.68	1038	2.91	1080	3.14
4250	930	2.51	973	2.74	1015	2.97	1057	3.21	1097	3.45
4500	954	2.81	996	3.05	1037	3.29	1076	3.54	1115	3.79
4750	979	3.13	1019	3.38	1059	3.63	1097	3.89	1135	4.15
5000	1005	3.49	1044	3.74	1082	4.01	1119	4.27	1156	4.55

NOTE: For more information, see General Fan Performance Notes.

Standard static 591 – 838 RPM, 2.4 BHP max
Medium static 838 – 1084 RPM, 3.7 BHP max
High static 1022 – 1240 RPM, 4.9 BHP max

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 44 – 50HC14** **3 PHASE** **12.5 TON VERTICAL SUPPLY**

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3438	383	0.46	458	0.66	530	0.91	601	1.20	668	1.53
3750	402	0.56	474	0.77	540	1.01	605	1.30	670	1.64
4063	422	0.67	491	0.90	552	1.14	613	1.43	674	1.76
4375	443	0.79	508	1.04	567	1.29	623	1.58	680	1.90
4688	464	0.93	527	1.19	583	1.46	636	1.75	689	2.07
5000	486	1.10	546	1.37	600	1.65	651	1.95	700	2.27
5313	509	1.28	565	1.56	618	1.86	666	2.17	713	2.49
5625	533	1.48	585	1.77	636	2.09	683	2.41	728	2.74
5938	557	1.71	605	2.01	655	2.34	701	2.67	744	3.02
6250	581	1.97	626	2.26	673	2.61	718	2.96	760	3.32

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3438	729	1.88	783	2.25	833	2.62	879	2.99	921	3.37
3750	731	2.00	787	2.39	838	2.78	885	3.18	929	3.59
4063	733	2.13	789	2.52	841	2.94	890	3.36	935	3.79
4375	736	2.27	791	2.67	843	3.10	892	3.54	938	3.99
4688	741	2.43	794	2.83	845	3.26	894	3.72	941	4.19
5000	749	2.63	799	3.02	848	3.45	896	3.90	942	4.39
5313	760	2.85	806	3.23	853	3.66	899	4.11	944	4.60
5625	772	3.10	816	3.48	860	3.90	904	4.35	947	4.83
5938	786	3.38	827	3.76	869	4.18	911	4.62	952	5.09
6250	801	3.69	841	4.07	880	4.49	920	4.93	959	5.40

NOTE: For more information, see General Fan Performance Notes.

Standard static 440–609 RPM, 2.9 BHP max
Medium static 609–778 RPM, 3.7 BHP max
High static 776–955 RPM, 6.1 BHP max

Table 45 – 50HC14** **3 PHASE** **12.5 TON HORIZONTAL SUPPLY**

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3438	379	0.48	455	0.69	526	0.94	593	1.23	655	1.54
3750	399	0.59	469	0.80	536	1.06	600	1.35	660	1.67
4063	420	0.71	486	0.93	549	1.19	609	1.49	667	1.81
4375	442	0.84	503	1.08	562	1.35	620	1.65	675	1.97
4688	464	1.00	522	1.25	578	1.52	632	1.83	685	2.16
5000	486	1.17	541	1.44	594	1.72	646	2.03	696	2.37
5313	509	1.37	561	1.64	612	1.94	661	2.26	708	2.60
5625	532	1.58	582	1.87	630	2.18	677	2.51	722	2.86
5938	555	1.82	603	2.13	649	2.45	694	2.78	737	3.14
6250	578	2.09	625	2.41	669	2.74	711	3.09	753	3.45

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3438	713	1.89	766	2.25	816	2.64	863	3.04	907	3.46
3750	717	2.02	770	2.39	820	2.79	867	3.20	911	3.63
4063	722	2.17	774	2.55	824	2.95	870	3.37	914	3.81
4375	728	2.33	779	2.72	828	3.13	874	3.56	918	4.00
4688	736	2.52	785	2.91	832	3.32	878	3.76	922	4.21
5000	745	2.73	792	3.12	838	3.54	883	3.98	926	4.44
5313	755	2.97	801	3.36	846	3.78	889	4.23	931	4.69
5625	767	3.23	811	3.63	854	4.05	896	4.50	937	4.97
5938	780	3.52	822	3.92	864	4.35	904	4.80	944	5.27
6250	794	3.84	835	4.25	875	4.68	914	5.13	952	5.61

NOTE: For more information, see General Fan Performance Notes.

Standard static 440–609 RPM, 2.9 BHP max
Medium static 609–778 RPM, 3.7 BHP max
High static 776–955 RPM, 6.1 BHP max

FAN PERFORMANCE (cont.)
X13 MULTI SPEED/TORQUE MOTOR

Table 46 – 50HC*A04 Vertical Unit-Direct Drive

Speed (Torque) Tap	CFM	ESP	BHP
1	900	0.36	0.16
	975	0.27	0.16
	1050	0.18	0.15
	1125	0.10	0.15
	1200	0.04	0.16
	1275	–	–
	1350	–	–
	1425	–	–
	1500	–	–
2	900	0.51	0.21
	975	0.40	0.20
	1050	0.30	0.19
	1125	0.21	0.18
	1200	0.11	0.17
	1275	0.02	0.16
	1350	–	–
	1425	–	–
	1500	–	–
3	900	0.84	0.33
	975	0.72	0.32
	1050	0.60	0.31
	1125	0.49	0.29
	1200	0.38	0.28
	1275	0.28	0.26
	1350	0.17	0.25
	1425	0.07	0.24
	1500	–	–
4	900	1.06	0.41
	975	0.96	0.41
	1050	0.86	0.41
	1125	0.74	0.40
	1200	0.63	0.38
	1275	0.50	0.37
	1350	0.38	0.35
	1425	0.26	0.34
	1500	0.15	0.32
5	900	1.24	0.51
	975	1.19	0.52
	1050	1.14	0.54
	1125	1.08	0.57
	1200	1.03	0.59
	1275	0.98	0.61
	1350	0.93	0.64
	1425	0.88	0.67
	1500	0.82	0.69

Table 47 – 50HC*A04 Horizontal Unit-Direct Drive

Speed (Torque) Tap	CFM	ESP	BHP
1	900	0.47	0.21
	975	0.38	0.20
	1050	0.29	0.19
	1125	0.21	0.18
	1200	0.13	0.18
	1275	0.06	0.20
	1350	–	–
	1425	–	–
	1500	–	–
2	900	0.65	0.27
	975	0.54	0.26
	1050	0.44	0.25
	1125	0.33	0.24
	1200	0.23	0.23
	1275	0.13	0.21
	1350	0.02	0.20
	1425	–	–
	1500	–	–
3	900	0.96	0.38
	975	0.84	0.37
	1050	0.73	0.36
	1125	0.61	0.34
	1200	0.50	0.33
	1275	0.38	0.31
	1350	0.26	0.30
	1425	0.15	0.28
	1500	0.04	0.26
4	900	1.17	0.46
	975	1.08	0.46
	1050	0.98	0.46
	1125	0.87	0.45
	1200	0.75	0.44
	1275	0.63	0.42
	1350	0.51	0.40
	1425	0.39	0.39
	1500	0.27	0.37
5	900	1.35	0.52
	975	1.30	0.54
	1050	1.26	0.57
	1125	1.21	0.59
	1200	1.16	0.62
	1275	1.12	0.64
	1350	1.07	0.67
	1425	1.02	0.70
	1500	0.97	0.73

FAN PERFORMANCE (cont.)
X13 MULTI SPEED/TORQUE MOTOR

Table 48 – 50HC*A05 Vertical Unit-Direct Drive

Speed (Torque) Tap	CFM	ESP	BHP
1	1200	0.57	0.31
	1300	0.44	0.29
	1400	0.30	0.27
	1500	0.16	0.25
	1600	0.03	0.25
	1700	–	–
	1800	–	–
	1900	–	–
	2000	–	–
2	1200	0.68	0.35
	1300	0.54	0.33
	1400	0.40	0.31
	1500	0.24	0.28
	1600	0.10	0.26
	1700	–	–
	1800	–	–
	1900	–	–
	2000	–	–
3	1200	1.15	0.54
	1300	1.09	0.54
	1400	1.02	0.55
	1500	0.93	0.58
	1600	0.82	0.57
	1700	0.69	0.55
	1800	0.54	0.52
	1900	0.38	0.50
	2000	0.21	0.47
4	1200	1.16	0.56
	1300	1.12	0.59
	1400	1.07	0.61
	1500	1.00	0.65
	1600	0.92	0.65
	1700	0.80	0.66
	1800	0.67	0.65
	1900	0.51	0.62
	2000	0.34	0.59
5	1200	1.16	0.59
	1300	1.11	0.63
	1400	1.00	0.67
	1500	0.88	0.67
	1600	0.96	0.75
	1700	0.91	0.75
	1800	0.86	0.83
	1900	0.80	0.87
	2000	0.74	0.91

Table 49 – 50HC*A05 Horizontal Unit-Direct Drive

Speed (Torque) Tap	CFM	ESP	BHP
1	1200	0.62	0.34
	1300	0.48	0.32
	1400	0.35	0.30
	1500	0.23	0.28
	1600	0.12	0.28
	1700	0.02	0.27
	1800	–	–
	1900	–	–
	2000	–	–
2	1200	0.74	0.39
	1300	0.60	0.37
	1400	0.46	0.35
	1500	0.32	0.32
	1600	0.19	0.30
	1700	0.07	0.27
	1800	–	–
	1900	–	–
	2000	–	–
3	1200	1.20	0.59
	1300	1.12	0.60
	1400	1.01	0.61
	1500	0.89	0.62
	1600	0.76	0.59
	1700	0.61	0.56
	1800	0.47	0.53
	1900	0.32	0.50
	2000	0.18	0.47
4	1200	1.24	0.60
	1300	1.18	0.63
	1400	1.11	0.65
	1500	1.03	0.69
	1600	0.93	0.69
	1700	0.82	0.69
	1800	0.70	0.69
	1900	0.56	0.66
	2000	0.41	0.63
5	1200	1.25	0.61
	1300	1.20	0.65
	1400	1.11	0.68
	1500	1.03	0.68
	1600	1.05	0.76
	1700	1.01	0.76
	1800	0.96	0.84
	1900	0.91	0.89
	2000	0.87	0.93

FAN PERFORMANCE (cont.)
X13 MULTI SPEED/TORQUE MOTOR

Table 50 – 50HC*A06 Vertical Unit-Direct Drive

Speed (Torque) tap	CFM	ESP	BHP
1	1500	0.50	0.44
	1625	0.32	0.42
	1750	0.14	0.39
	1875	–	–
	2000	–	–
	2125	–	–
	2250	–	–
	2375	–	–
	2500	–	–
2	1500	0.72	0.56
	1625	0.53	0.53
	1750	0.34	0.50
	1875	0.18	0.48
	2000	–	–
	2125	–	–
	2250	–	–
	2375	–	–
	2500	–	–
3	1500	1.20	0.84
	1625	1.02	0.82
	1750	0.82	0.82
	1875	0.61	0.79
	2000	0.40	0.75
	2125	0.20	0.71
	2250	0.04	0.67
	2375	–	–
	2500	–	–
4	1500	1.31	0.92
	1625	1.17	0.92
	1750	0.99	0.95
	1875	0.80	0.94
	2000	0.59	0.90
	2125	0.37	0.86
	2250	0.17	0.83
	2375	0.00	0.79
	2500	–	–
5	1500	1.36	0.94
	1625	1.24	0.99
	1750	0.99	1.02
	1875	0.80	1.05
	2000	0.74	1.03
	2125	0.53	0.99
	2250	0.31	0.94
	2375	0.08	0.90
	2500	–	0.86

Table 51 – 50HC*A06 Horizontal Unit-Direct Drive

Speed (Torque) tap	CFM	ESP	BHP
1	1500	0.63	0.49
	1625	0.45	0.46
	1750	0.27	0.43
	1875	0.10	0.39
	2000	–	–
	2125	–	–
	2250	–	–
	2375	–	–
	2500	–	–
2	1500	0.88	0.61
	1625	0.69	0.58
	1750	0.49	0.55
	1875	0.30	0.51
	2000	0.12	0.48
	2125	–	–
	2250	–	–
	2375	–	–
	2500	–	–
3	1500	1.37	0.89
	1625	1.20	0.87
	1750	1.02	0.86
	1875	0.81	0.83
	2000	0.60	0.79
	2125	0.39	0.75
	2250	0.21	0.71
	2375	0.07	0.67
	2500	–	–
4	1500	1.48	0.95
	1625	1.35	0.95
	1750	1.20	0.99
	1875	1.03	0.99
	2000	0.83	0.96
	2125	0.63	0.93
	2250	0.42	0.89
	2375	0.22	0.84
	2500	0.05	0.78
5	1500	1.52	0.97
	1625	1.42	1.01
	1750	1.20	1.05
	1875	1.03	1.09
	2000	1.00	1.09
	2125	0.82	1.06
	2250	0.62	1.02
	2375	0.40	0.98
	2500	0.16	0.93

Table 52 – PULLEY ADJUSTMENT

UNIT		Motor/Drive Combo	Motor Pulley turns open										
			0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
04	1 Phase	Standard Static	854	825	795	766	736	707	678	648	619	589	560
		Medium Static	1175	1135	1094	1054	1013	973	932	892	851	811	770
	3 Phase	Standard Static	854	825	795	766	736	707	678	648	619	589	560
		Medium Static	1175	1135	1094	1054	1013	973	932	892	851	811	770
		High Static	1466	1423	1380	1337	1294	1251	1207	1164	1121	1078	1035
05	1 Phase	Standard Static	854	825	795	766	736	707	678	648	619	589	560
		Medium Static	1175	1135	1094	1054	1013	973	932	892	851	811	770
	3 Phase	Standard Static	854	825	795	766	736	707	678	648	619	589	560
		Medium Static	1303	1265	1226	1188	1150	1112	1073	1035	997	958	920
		High Static	1639	1596	1553	1510	1467	1424	1380	1337	1294	1251	1208
06	1 Phase	Standard Static	1175	1135	1094	1054	1013	973	932	892	851	811	770
		Medium Static	1466	1423	1380	1337	1294	1251	1207	1164	1121	1078	1035
	3 Phase	Standard Static	1175	1135	1094	1054	1013	973	932	892	851	811	770
		Medium Static	1466	1423	1380	1337	1294	1251	1207	1164	1121	1078	1035
		High Static	1687	1649	1610	1572	1533	1495	1457	1418	1380	1341	1303
07	3 Phase	Standard Static	747	721	695	670	644	618	592	566	541	515	489
		Medium Static	949	927	906	884	863	841	819	798	776	755	733
		High Static	1102	1083	1063	1044	1025	1006	986	967	948	928	909
08	3 Phase	Standard Static	733	712	690	669	647	626	604	583	561	540	518
		Medium Static	936	911	887	862	838	813	788	764	739	715	690
		High Static	1084	1059	1035	1010	986	961	936	912	887	863	838
09	3 Phase	Standard Static	733	712	690	669	647	626	604	583	561	540	518
		Medium Static	936	911	887	862	838	813	788	764	739	715	690
		High Static	1084	1059	1035	1010	986	961	936	912	887	863	838
12	3 Phase	Standard Static	838	813	789	764	739	715	690	665	640	616	591
		Medium Static	1084	1059	1035	1010	986	961	936	912	887	863	838
		High Static	1240	1218	1196	1175	1153	1131	1109	1087	1066	1044	1022
14	3 Phase	Standard Static	609	592	575	558	541	525	508	491	474	457	440
		Medium Static	778	761	744	727	710	694	677	660	643	626	609
		High Static	955	973	951	929	907	886	864	842	820	798	776

– Factory settings

ELECTRICAL DATA

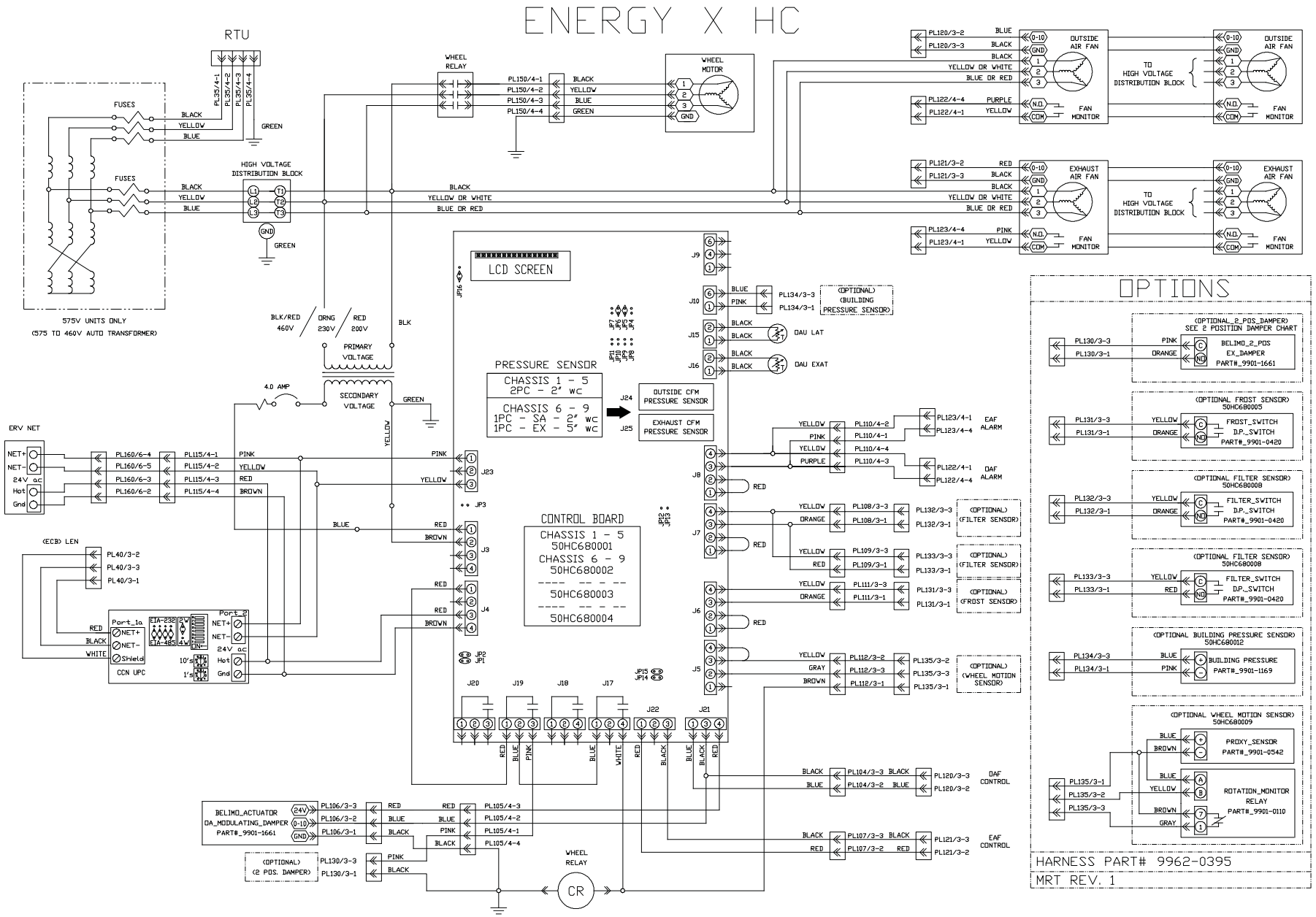


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Fig. 21 - Typical Wiring Diagram 2-Stage Cooling Model

ELECTRICAL DATA (cont.)

Table 53 – 50HC04**

V–Ph–Hz	UNIT VOLTAGE RANGE		COMP 1		OFM (ea)		IFM			COMBUSTION FAN MOTOR FLA	ERV Motors						ERV TOTAL FLA
											Exhaust		Supply		Wheel		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA		QTY	FLA (ea)	QTY	FLA (ea)	QTY	FLA (ea)	
208–3–60	187	253	10.4	73	190	1.0	DD–STD	78%	7.4	0.48	1	3.89	1	1.44	1	0.3	5.6
					190	1.0	STD	67%	4.9								
					190	1.0	MED	67%	4.9								
					190	1.0	HIGH	69%	5.2								
230–3–60	187	253	10.4	73	190	1.0	DD–STD	78%	7.4	0.48	1	3.89	1	1.44	1	0.3	5.6
					190	1.0	STD	67%	4.9								
					190	1.0	MED	67%	4.9								
					190	1.0	HIGH	69%	5.2								
460–3–60	414	506	5.8	38	190	0.5	DD–STD	78%	4.0	0.25	1	1.76	1	1.44	1	0.3	3.5
					190	0.5	STD	73%	2.1								
					190	0.5	MED	73%	2.1								
					190	0.5	HIGH	69%	2.6								
575–3–60	518	633	3.8	37	190	0.5	DD–STD	78%	4.0	0.24	1	3.52	1	1.44	1	0.3	5.3
					190	0.5	STD	73%	1.9								
					190	0.5	MED	73%	1.9								
					190	0.5	HIGH	78%	2.0								

Table 54 – 50HC05**

V–Ph–Hz	UNIT VOLTAGE RANGE		COMP 1		OFM (ea)		IFM			COMBUSTION FAN MOTOR FLA	ERV Motors						ERV TOTAL FLA
											Exhaust		Supply		Wheel		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA		QTY	FLA (ea)	QTY	FLA (ea)	QTY	FLA (ea)	
208–3–60	187	253	13.7	83	325	1.4	DD–STD	78%	7.4	0.48	1	3.89	1	3.89	1	0.3	8.1
					325	1.4	STD	67%	4.9								
					325	1.4	MED	75%	5.2								
					325	1.4	HIGH	79%	7.5								
230–3–60	187	253	13.7	83	325	1.4	DD–STD	78%	7.4	0.48	1	3.89	1	3.89	1	0.3	8.1
					325	1.4	STD	67%	4.9								
					325	1.4	MED	75%	5.2								
					325	1.4	HIGH	79%	7.5								
460–3–60	414	506	6.2	41	325	0.9	DD–STD	78%	4.0	0.25	1	1.76	1	1.76	1	0.3	3.8
					325	0.9	STD	73%	2.1								
					325	0.9	MED	75%	2.6								
					325	0.9	HIGH	79%	3.4								
575–3–60	518	633	4.8	33	325	0.9	DD–STD	78%	4.0	0.24	1	1.76	1	1.76	1	0.3	3.8
					325	0.9	STD	73%	1.9								
					325	0.9	MED	72%	1.6								
					325	0.9	HIGH	77%	2.8								

ELECTRICAL DATA (cont.)

Table 55 – 50HC06**

V–Ph–Hz	UNIT VOLTAGE RANGE		COMP 1		OFM (ea)		IFM			COMBUSTION FAN MOTOR FLA	ERV Motors						ERV TOTAL FLA
											Exhaust		Supply		Wheel		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA		QTY	FLA (ea)	QTY	FLA (ea)	QTY	FLA (ea)	
208–3–60	187	253	15.9	110	325	1.4	DD–STD	78%	7.4	0.48	1	3.89	1	3.89	1	0.3	8.1
					325	1.4	STD	67%	4.9								
					325	1.4	MED	69%	5.2								
					325	1.4	HIGH	79%	7.5								
230–3–60	187	253	15.9	110	325	1.4	DD–STD	78%	7.4	0.48	1	3.89	1	3.89	1	0.3	8.1
					325	1.4	STD	67%	4.9								
					325	1.4	MED	69%	5.2								
					325	1.4	HIGH	79%	7.5								
460–3–60	414	506	7.0	52	325	0.9	DD–STD	78%	4.0	0.25	1	1.76	1	1.76	1	0.3	3.8
					325	0.9	STD	73%	2.1								
					325	0.9	MED	69%	2.6								
					325	0.9	HIGH	79%	3.4								
575–3–60	518	633	5.1	40	325	0.9	DD–STD	78%	4.0	0.24	1	1.76	1	1.76	1	0.3	3.8
					325	0.9	STD	73%	1.9								
					325	0.9	MED	78%	2.0								
					325	0.9	HIGH	77%	2.8								

Table 56 – 50HC07**

V–Ph–Hz	UNIT VOLTAGE RANGE		COMP 1		OFM (ea)		IFM			COMBUSTION FAN MOTOR FLA	ERV Motors*						ERV TOTAL FLA
											Exhaust		Supply		Wheel		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA		QTY	FLA (ea)	QTY	FLA (ea)	QTY	FLA (ea)	
208–3–60	187	253	19.0	123	325	1.5	STD	75%	5.2	0.48	1	3.89	1	3.89	1	0.3	8.1
					325	1.5	MED	79%	7.5								
					325	1.5	HIGH	81%	15								
230–3–60	187	253	19.0	123	325	1.5	STD	75%	5.2	0.48	1	3.89	1	3.89	1	0.3	8.1
					325	1.5	MED	79%	7.5								
					325	1.5	HIGH	81%	15								
460–3–60	414	506	9.7	62	325	0.8	STD	75%	2.6	0.25	1	1.76	1	1.76	1	0.3	3.8
					325	0.8	MED	79%	3.4								
					325	0.8	HIGH	81%	7.4								
575–3–60	518	633	7.4	50	325	0.6	STD	73%	1.2	0.24	1	1.76	1	1.76	1	0.3	3.8
					325	0.6	MED	77%	2.8								
					325	0.6	HIGH	81%	5.6								

* On 575v units, the ERV motors are 230v or 460v.

ELECTRICAL DATA (cont.)

Table 57 – 50HC08**

V–Ph–Hz	UNIT VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		IFM			COMBUSTION FAN MOTOR FLA	ERV Motors*						ERV TOTAL FLA
													Exhaust		Supply		Wheel		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA		QTY	FLA (ea)	QTY	FLA (ea)	QTY	FLA (ea)	
208–3–60	187	253	13.6	83	13.6	83	325	1.5	STD	75%	5.2	0.48	1	7.78	1	3.89	1	0.3	12.0
							325	1.5	MED	69%	5.2								
							325	1.5	HIGH	81%	10								
230–3–60	187	253	13.6	83	13.6	83	325	1.5	STD	75%	5.2	0.48	1	7.78	1	3.89	1	0.3	12.0
							325	1.5	MED	69%	5.2								
							325	1.5	HIGH	81%	10								
460–3–60	414	506	6.1	41	6.1	41	325	0.8	STD	75%	2.6	0.25	1	3.39	1	1.76	1	0.3	5.5
							325	0.8	MED	69%	2.6								
							325	0.8	HIGH	81%	4.4								
575–3–60	518	633	4.2	33	4.2	33	325	0.6	STD	73%	1.2	0.24	1	3.39	1	1.76	1	0.3	5.5
							325	0.6	MED	78%	2								
							325	0.6	HIGH	77%	2.8								

* On 575v units, the ERV motors are 230v or 460v.

Table 58 – 50HC09**

V–Ph–Hz	UNIT VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		IFM			COMBUSTION FAN MOTOR FLA	ERV Motors*						ERV TOTAL FLA
													Exhaust		Supply		Wheel		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA		QTY	FLA (ea)	QTY	FLA (ea)	QTY	FLA (ea)	
208–3–60	187	253	13.7	83	13.7	83	325	1.5	STD	75%	5.2	0.48	1	7.78	1	3.89	1	0.3	12.0
							325	1.5	MED	69%	5.2								
							325	1.5	HIGH	81%	10								
230–3–60	187	253	13.7	83	13.7	83	325	1.5	STD	75%	5.2	0.48	1	7.78	1	3.89	1	0.3	12.0
							325	1.5	MED	69%	5.2								
							325	1.5	HIGH	81%	10								
460–3–60	414	506	6.2	41	6.2	41	325	0.8	STD	75%	2.6	0.25	1	3.39	1	1.76	1	0.3	5.5
							325	0.8	MED	69%	2.6								
							325	0.8	HIGH	81%	4.4								
575–3–60	518	633	4.8	33	4.8	33	325	0.6	STD	73%	1.2	0.24	1	3.39	1	1.76	1	0.3	5.5
							325	0.6	MED	78%	2								
							325	0.6	HIGH	77%	2.8								

* On 575v units, the ERV motors are 230v or 460v.

ELECTRICAL DATA (cont.)

Table 59 – 50HC12**

V–Ph–Hz	UNIT VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		IFM			COMBUSTION FAN MOTOR FLA	ERV Motors*						ERV TOTAL FLA
													Exhaust		Supply		Wheel		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA		QTY	FLA (ea)	QTY	FLA (ea)	QTY	FLA (ea)	
208–3–60	187	253	15.9	110	15.9	110	1070	6.2	STD	69%	5.2	0.48	1	7.78	1	3.89	1	0.3	12.0
							1070	6.2	MED	81%	10								
							1070	6.2	HIGH	81%	15								
230–3–60	187	253	15.9	110	15.9	110	1070	6.2	STD	69%	5.2	0.48	1	7.78	1	3.89	1	0.3	12.0
							1070	6.2	MED	81%	10								
							1070	6.2	HIGH	81%	15								
460–3–60	414	506	7.7	52	7.7	52	1070	3.1	STD	69%	2.6	0.25	1	3.39	1	1.76	1	0.3	5.5
							1070	3.1	MED	81%	4.4								
							1070	3.1	HIGH	81%	7.4								
575–3–60	518	633	5.7	39	5.7	39	1070	2.5	STD	78%	2	0.24	1	3.39	1	1.76	1	0.3	5.5
							1070	2.5	MED	77%	2.8								
							1070	2.5	HIGH	81%	5.6								

* On 575v units, the ERV motors are 230v or 460v.

Table 60 – 50HC14**

V–Ph–Hz	UNIT VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		IFM			COMBUSTION FAN MOTOR FLA	ERV Motors*						ERV TOTAL FLA
													Exhaust		Supply		Wheel		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA		QTY	FLA (ea)	QTY	FLA (ea)	QTY	FLA (ea)	
208–3–60	187	253	19.0	123	19.0	123	280	1.5	STD	79%	7.5	0.48	1	7.78	1	7.78	1	0.6	16.2
							280	1.5	MED	81%	10								
							280	1.5	HIGH	90%	20.4								
230–3–60	187	253	19.0	123	19.0	123	280	1.5	STD	79%	7.5	0.48	1	7.78	1	7.78	1	0.6	16.2
							280	1.5	MED	81%	10								
							280	1.5	HIGH	90%	20.4								
460–3–60	414	506	9.7	62	9.7	62	280	0.8	STD	79%	3.4	0.25	1	3.39	1	3.39	1	0.25	7.0
							280	0.8	MED	81%	4.4								
							280	0.8	HIGH	90%	10.2								
575–3–60	518	633	7.4	50	7.4	50	280	0.7	STD	77%	2.8	0.24	1	3.39	1	3.39	1	0.25	7.0
							280	0.7	MED	77%	2.8								
							280	0.7	HIGH	94%	9								

* On 575v units, the ERV motors are 230v or 460v.

ELECTRICAL DATA (cont.)

Table 61 – 50HC*A04 SINGLE STAGE COOLING MCA/MOCP WITH ERV

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–1–60	DD–STD	35	50	35	94	35	50	35	94	40	50	41	99	40	50	41	99
		36/39	50/50	35/36	94/94	36/39	50/50	35/36	94/94	42/45	50/50	41/41	99/99	42/45	50/50	41/41	99/99
		46/50	50/50	42/46	94/94	46/50	50/50	42/46	94/94	52/56	60/60	47/51	99/99	52/56	60/60	47/51	99/99
		56/62	60/70	51/57	94/94	56/62	60/70	51/57	94/94	62/68	70/70	56/62	99/99	62/68	70/70	56/62	99/99
		64/71	70/80	58/65	94/94	64/71	70/80	58/65	94/94	70/77	70/80	64/71	99/99	70/77	70/80	64/71	99/99
		75/84	80/90	69/77	94/94	75/84	80/90	69/77	94/94	81/90	90/90	74/83	99/99	81/90	90/90	74/83	99/99
	STD	33	45	32	99	33	45	32	99	37	50	38	104	37	50	38	104
		33/36	45/45	32/33	99/99	33/36	45/45	32/33	99/99	39/42	50/50	38/38	104/104	39/42	50/50	38/38	104/104
		43/47	45/50	39/43	99/99	43/47	45/50	39/43	99/99	49/53	50/60	44/49	104/104	49/53	50/60	44/49	104/104
		53/59	60/60	48/54	99/99	53/59	60/60	48/54	99/99	59/65	60/70	54/59	104/104	59/65	60/70	54/59	104/104
		61/68	70/70	56/62	99/99	61/68	70/70	56/62	99/99	67/74	70/80	61/68	104/104	67/74	70/80	61/68	104/104
		72/81	80/90	66/74	99/99	72/81	80/90	66/74	99/99	78/87	80/90	71/80	104/104	78/87	80/90	71/80	104/104
	MED	33	45	32	99	33	45	32	99	37	50	38	104	37	50	38	104
		33/36	45/45	32/33	99/99	33/36	45/45	32/33	99/99	39/42	50/50	38/38	104/104	39/42	50/50	38/38	104/104
		43/47	45/50	39/43	99/99	43/47	45/50	39/43	99/99	49/53	50/60	44/49	104/104	49/53	50/60	44/49	104/104
		53/59	60/60	48/54	99/99	53/59	60/60	48/54	99/99	59/65	60/70	54/59	104/104	59/65	60/70	54/59	104/104
		61/68	70/70	56/62	99/99	61/68	70/70	56/62	99/99	67/74	70/80	61/68	104/104	67/74	70/80	61/68	104/104
		72/81	80/90	66/74	99/99	72/81	80/90	66/74	99/99	78/87	80/90	71/80	104/104	78/87	80/90	71/80	104/104
208/ 230–3–60	DD–STD	27	30	28	88	27	30	28	88	32	40	34	93	32	40	34	93
		28/30	30/30	28/28	88/88	28/30	30/30	28/28	88/88	34/36	40/40	34/34	93/93	34/36	40/40	34/34	93/93
		34/36	35/40	31/33	88/88	34/36	35/40	31/33	88/88	40/42	40/45	36/38	93/93	40/42	40/45	36/38	93/93
		39/43	40/45	36/39	88/88	39/43	40/45	36/39	88/88	45/49	45/50	41/45	93/93	45/49	45/50	41/45	93/93
		44/48	45/50	40/44	88/88	44/48	45/50	40/44	88/88	50/54	50/60	46/50	93/93	50/54	50/60	46/50	93/93
		58/65	60/70	53/59	88/88	58/65	60/70	53/59	88/88	64/71	70/80	59/65	93/93	64/71	70/80	59/65	93/93
	STD	25	30	25	93	25	30	25	93	30	35	31	98	30	35	31	98
		25/27	30/30	25/25	93/93	25/27	30/30	25/25	93/93	31/33	35/35	31/31	98/98	31/33	35/35	31/31	98/98
		31/33	35/35	28/30	93/93	31/33	35/35	28/30	93/93	37/39	40/40	33/36	98/98	37/39	40/40	33/36	98/98
		36/40	40/40	33/36	93/93	36/40	40/40	33/36	93/93	42/46	45/50	38/42	98/98	42/46	45/50	38/42	98/98
		41/45	45/45	37/41	93/93	41/45	45/45	37/41	93/93	47/51	50/60	43/47	98/98	47/51	50/60	43/47	98/98
		55/62	60/70	51/56	93/93	55/62	60/70	51/56	93/93	61/68	70/70	56/62	98/98	61/68	70/70	56/62	98/98
	MED	25	30	25	93	25	30	25	93	30	35	31	98	30	35	31	98
		25/27	30/30	25/25	93/93	25/27	30/30	25/25	93/93	31/33	35/35	31/31	98/98	31/33	35/35	31/31	98/98
		31/33	35/35	28/30	93/93	31/33	35/35	28/30	93/93	37/39	40/40	33/36	98/98	37/39	40/40	33/36	98/98
		36/40	40/40	33/36	93/93	36/40	40/40	33/36	93/93	42/46	45/50	38/42	98/98	42/46	45/50	38/42	98/98
		41/45	45/45	37/41	93/93	41/45	45/45	37/41	93/93	47/51	50/60	43/47	98/98	47/51	50/60	43/47	98/98
		55/62	60/70	51/56	93/93	55/62	60/70	51/56	93/93	61/68	70/70	56/62	98/98	61/68	70/70	56/62	98/98
	HIGH	25	30	26	111	25	30	26	111	30	40	31	116	30	40	31	116
		25/27	30/30	26/26	111/111	25/27	30/30	26/26	111/111	31/33	40/40	31/31	116/116	31/33	40/40	31/31	116/116
		31/33	35/35	28/30	111/111	31/33	35/35	28/30	111/111	37/39	40/40	34/36	116/116	37/39	40/40	34/36	116/116
		37/40	40/40	33/36	111/111	37/40	40/40	33/36	111/111	43/46	45/50	39/42	116/116	43/46	45/50	39/42	116/116
		41/46	45/50	38/42	111/111	41/46	45/50	38/42	111/111	47/52	50/60	43/47	116/116	47/52	50/60	43/47	116/116
		56/62	60/70	51/57	111/111	56/62	60/70	51/57	111/111	62/68	70/70	56/62	116/116	62/68	70/70	56/62	116/116

ELECTRICAL DATA (cont.)

Table 64 (cont.) - 50HC*A04 SINGLE STAGE COOLING MCA/MOCP WITH ERV

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
460–3–60	DD–STD	16	20	16	47	16	20	16	47	18	20	18	49	18	20	18	49
		19	20	17	47	19	20	17	47	22	25	19	49	22	25	19	49
		23	25	21	47	23	25	21	47	26	30	23	49	26	30	23	49
		27	30	24	47	27	30	24	47	30	30	27	49	30	30	27	49
		31	35	28	47	31	35	28	47	34	35	30	49	34	35	30	49
	STD	14	15	14	49	14	15	14	49	16	20	16	51	16	20	16	51
		16	20	15	49	16	20	15	49	19	20	17	51	19	20	17	51
		21	25	19	49	21	25	19	49	23	25	21	51	23	25	21	51
		25	25	22	49	25	25	22	49	27	30	25	51	27	30	25	51
		28	30	26	49	28	30	26	49	31	35	28	51	31	35	28	51
	MED	14	15	14	49	14	15	14	49	16	20	16	51	16	20	16	51
		16	20	15	49	16	20	15	49	19	20	17	51	19	20	17	51
		21	25	19	49	21	25	19	49	23	25	21	51	23	25	21	51
		25	25	22	49	25	25	22	49	27	30	25	51	27	30	25	51
		28	30	26	49	28	30	26	49	31	35	28	51	31	35	28	51
	HIGH	14	20	14	58	14	20	14	58	17	20	17	60	17	20	17	60
		17	20	15	58	17	20	15	58	20	20	18	60	20	20	18	60
		21	25	19	58	21	25	19	58	24	25	22	60	24	25	22	60
		25	25	23	58	25	25	23	58	28	30	25	60	28	30	25	60
		29	30	26	58	29	30	26	58	32	35	29	60	32	35	29	60
575–3–60	DD–STD	15	20	16	47	15	20	16	47	17	20	18	49	17	20	18	49
		24	25	21	47	24	25	21	47	26	30	23	49	26	30	23	49
		29	30	27	47	29	30	27	47	31	35	28	49	31	35	28	49
	STD	13	15	13	48	13	15	13	48	15	20	15	50	15	20	15	50
		21	25	19	48	21	25	19	48	23	25	21	50	23	25	21	50
		27	30	24	48	27	30	24	48	29	30	26	50	29	30	26	50
	MED	13	15	13	48	13	15	13	48	15	20	15	50	15	20	15	50
		21	25	19	48	21	25	19	48	23	25	21	50	23	25	21	50
		27	30	24	48	27	30	24	48	29	30	26	50	29	30	26	50
	HIGH	13	15	13	54	13	15	13	54	15	20	15	56	15	20	15	56
		21	25	19	54	21	25	19	54	23	25	21	56	23	25	21	56
		27	30	24	54	27	30	24	54	29	30	26	56	29	30	26	56

ELECTRICAL DATA (cont.)

Table 62 – 50HC*A05 SINGLE STAGE COOLING MCA/MOCP WITH ERV

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–1–60	DD–STD	44	60	44	135	44	60	44	135	49	60	50	140	49	60	50	140
		44/44	60/60	44/44	135/135	44/44	60/60	44/44	135/135	49/49	60/60	50/50	140/140	49/49	60/60	50/50	140/140
		59/65	60/70	54/59	135/135	59/65	60/70	54/59	135/135	65/71	70/80	59/65	140/140	65/71	70/80	59/65	140/140
		78/87	80/90	71/80	135/135	78/87	80/90	71/80	135/135	84/93	90/100	77/85	140/140	84/93	90/100	77/85	140/140
		98/110	100/110	90/101	135/135	98/110	100/110	90/101	135/135	104/116	110/125	95/106	140/140	104/116	110/125	95/106	140/140
		114/129	125/150	105/118	135/135	114/129	125/150	105/118	135/135	120/135	125/150	110/124	140/140	120/135	125/150	110/124	140/140
	STD	42	60	41	140	42	60	41	140	47	60	47	145	47	60	47	145
		42/42	60/60	41/41	140/140	42/42	60/60	41/41	140/140	47/47	60/60	47/47	145/145	47/47	60/60	47/47	145/145
		56/62	60/70	51/56	140/140	56/62	60/70	51/56	140/140	62/68	70/70	56/62	145/145	62/68	70/70	56/62	145/145
		75/84	80/90	68/77	140/140	75/84	80/90	68/77	140/140	81/90	90/90	74/82	145/145	81/90	90/90	74/82	145/145
		95/107	100/110	87/98	140/140	95/107	100/110	87/98	140/140	101/113	110/125	92/103	145/145	101/113	110/125	92/103	145/145
		111/126	125/150	102/115	140/140	111/126	125/150	102/115	140/140	117/132	125/150	107/121	145/145	117/132	125/150	107/121	145/145
	MED	42	60	41	140	42	60	41	140	47	60	47	145	47	60	47	145
		42/42	60/60	41/41	140/140	42/42	60/60	41/41	140/140	47/47	60/60	47/47	145/145	47/47	60/60	47/47	145/145
		56/62	60/70	51/56	140/140	56/62	60/70	51/56	140/140	62/68	70/70	56/62	145/145	62/68	70/70	56/62	145/145
		75/84	80/90	68/77	140/140	75/84	80/90	68/77	140/140	81/90	90/90	74/82	145/145	81/90	90/90	74/82	145/145
		95/107	100/110	87/98	140/140	95/107	100/110	87/98	140/140	101/113	110/125	92/103	145/145	101/113	110/125	92/103	145/145
		111/126	125/150	102/115	140/140	111/126	125/150	102/115	140/140	117/132	125/150	107/121	145/145	117/132	125/150	107/121	145/145
208/ 230–3–60	DD–STD	34	45	35	101	34	45	35	101	39	50	41	106	39	50	41	106
		37/39	45/45	35/36	101/101	37/39	45/45	35/36	101/101	43/45	50/50	41/41	106/106	43/45	50/50	41/41	106/106
		42/46	45/50	39/42	101/101	42/46	45/50	39/42	101/101	48/52	50/60	44/47	106/106	48/52	50/60	44/47	106/106
		62/68	70/70	56/62	101/101	62/68	70/70	56/62	101/101	68/74	70/80	62/68	106/106	68/74	70/80	62/68	106/106
		75/83	80/90	68/76	101/101	75/83	80/90	68/76	101/101	81/89	90/90	74/81	106/106	81/89	90/90	74/81	106/106
	STD	32	45	32	106	32	45	32	106	37	50	38	111	37	50	38	111
		34/36	45/45	32/33	106/106	34/36	45/45	32/33	106/106	40/42	50/50	38/38	111/111	40/42	50/50	38/38	111/111
		39/43	45/45	36/39	106/106	39/43	45/45	36/39	106/106	45/49	50/50	41/44	111/111	45/49	50/50	41/44	111/111
		58/65	60/70	53/59	106/106	58/65	60/70	53/59	106/106	64/71	70/80	59/65	111/111	64/71	70/80	59/65	111/111
		71/80	80/80	65/73	106/106	71/80	80/80	65/73	106/106	77/86	80/90	71/79	111/111	77/86	80/90	71/79	111/111
	MED	32	45	33	113	32	45	33	113	37	50	38	118	37	50	38	118
		34/37	45/45	33/33	113/113	34/37	45/45	33/33	113/113	40/43	50/50	38/39	118/118	40/43	50/50	38/39	118/118
		40/43	45/45	36/39	113/113	40/43	45/45	36/39	113/113	46/49	50/50	42/45	118/118	46/49	50/50	42/45	118/118
		59/65	60/70	54/60	113/113	59/65	60/70	54/60	113/113	65/71	70/80	59/65	118/118	65/71	70/80	59/65	118/118
		72/80	80/80	66/73	113/113	72/80	80/80	66/73	113/113	78/86	80/90	71/79	118/118	78/86	80/90	71/79	118/118
	HIGH	35	45	35	150	35	45	35	150	39	50	41	155	39	50	41	155
		37/39	45/45	35/36	150/150	37/39	45/45	35/36	150/150	43/45	50/50	41/41	155/155	43/45	50/50	41/41	155/155
		43/46	45/50	39/42	150/150	43/46	45/50	39/42	150/150	49/52	50/60	44/47	155/155	49/52	50/60	44/47	155/155
		62/68	70/70	56/62	150/150	62/68	70/70	56/62	150/150	68/74	70/80	62/68	155/155	68/74	70/80	62/68	155/155
		75/83	80/90	68/76	150/150	75/83	80/90	68/76	150/150	81/89	90/90	74/82	155/155	81/89	90/90	74/82	155/155

ELECTRICAL DATA (cont.)

Table 64 (cont.) - 50HC*A05 SINGLE STAGE COOLING MCA/MOCP WITH ERV

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
460–3–60	DD–STD	17	20	17	51	17	20	17	51	19	25	20	53	19	25	20	53
		19	20	17	51	19	20	17	51	22	25	20	53	22	25	20	53
		27	30	25	51	27	30	25	51	30	30	27	53	30	30	27	53
		31	35	28	51	31	35	28	51	34	35	31	53	34	35	31	53
		45	45	41	51	45	45	41	51	48	50	43	53	48	50	43	53
	STD	15	20	15	53	15	20	15	53	17	20	18	55	17	20	18	55
		17	20	15	53	17	20	15	53	20	20	18	55	20	20	18	55
		25	25	23	53	25	25	23	53	28	30	25	55	28	30	25	55
		29	30	26	53	29	30	26	53	32	35	29	55	32	35	29	55
		42	45	39	53	42	45	39	53	45	45	41	55	45	45	41	55
	MED	16	20	16	56	16	20	16	56	18	20	18	58	18	20	18	58
		17	20	16	56	17	20	16	56	20	20	18	58	20	20	18	58
		26	30	23	56	26	30	23	56	28	30	26	58	28	30	26	58
		29	30	27	56	29	30	27	56	32	35	29	58	32	35	29	58
		43	45	39	56	43	45	39	56	46	50	42	58	46	50	42	58
	HIGH	16	20	16	75	16	20	16	75	19	20	19	77	19	20	19	77
		18	20	17	75	18	20	17	75	21	25	19	77	21	25	19	77
		27	30	24	75	27	30	24	75	29	30	27	77	29	30	27	77
		30	35	28	75	30	35	28	75	33	35	30	77	33	35	30	77
		44	45	40	75	44	45	40	75	47	50	43	77	47	50	43	77
575–3–60	DD–STD	15	20	16	43	15	20	16	43	17	20	18	45	17	20	18	45
		22	25	20	43	22	25	20	43	24	25	22	45	24	25	22	45
		27	30	25	43	27	30	25	43	30	30	27	45	30	30	27	45
	STD	13	15	13	44	13	15	13	44	15	20	15	46	15	20	15	46
		19	20	17	44	19	20	17	44	21	25	19	46	21	25	19	46
		25	25	22	44	25	25	22	44	27	30	24	46	27	30	24	46
	MED	13	15	13	46	13	15	13	46	14	20	15	48	14	20	15	48
		19	20	17	46	19	20	17	46	21	25	19	48	21	25	19	48
		24	25	22	46	24	25	22	46	27	30	24	48	27	30	24	48
	HIGH	14	15	14	61	14	15	14	61	16	20	16	63	16	20	16	63
		20	20	18	61	20	20	18	61	22	25	20	63	22	25	20	63
		26	30	23	61	26	30	23	61	28	30	25	63	28	30	25	63

ELECTRICAL DATA (cont.)

Table 63 – 50HC*A06 SINGLE STAGE COOLING MCA/MOCP WITH ERV

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–1–60	DD–STD	48	60	48	152	48	60	48	152	53	60	53	157	53	60	53	157
		49/53	60/60	48/49	152/152	49/53	60/60	48/49	152/152	55/59	60/60	53/54	157/157	55/59	60/60	53/54	157/157
		59/65	60/70	54/59	152/152	59/65	60/70	54/59	152/152	65/71	70/80	59/65	157/157	65/71	70/80	59/65	157/157
		78/87	80/90	71/80	152/152	78/87	80/90	71/80	152/152	84/93	90/100	77/85	157/157	84/93	90/100	77/85	157/157
		98/110	100/110	90/101	152/152	98/110	100/110	90/101	152/152	104/116	110/125	95/106	157/157	104/116	110/125	95/106	157/157
		114/129	125/150	105/118	152/152	114/129	125/150	105/118	152/152	120/135	125/150	110/124	157/157	120/135	125/150	110/124	157/157
	STD	46	60	45	157	46	60	45	157	51	60	50	162	51	60	50	162
		46/50	60/60	45/46	157/157	46/50	60/60	45/46	157/157	52/56	60/60	50/51	162/162	52/56	60/60	50/51	162/162
		56/62	60/70	51/56	157/157	56/62	60/70	51/56	157/157	62/68	70/70	56/62	162/162	62/68	70/70	56/62	162/162
		75/84	80/90	68/77	157/157	75/84	80/90	68/77	157/157	81/90	90/90	74/82	162/162	81/90	90/90	74/82	162/162
		95/107	100/110	87/98	157/157	95/107	100/110	87/98	157/157	101/113	110/125	92/103	162/162	101/113	110/125	92/103	162/162
		111/126	125/150	102/115	157/157	111/126	125/150	102/115	157/157	117/132	125/150	107/121	162/162	117/132	125/150	107/121	162/162
	MED	48	60	47	182	48	60	47	182	53	60	53	187	53	60	53	187
		48/53	60/60	47/48	182/182	48/53	60/60	47/48	182/182	54/59	60/60	53/54	187/187	54/59	60/60	53/54	187/187
		58/64	60/70	53/59	182/182	58/64	60/70	53/59	182/182	64/70	70/70	59/64	187/187	64/70	70/70	59/64	187/187
		78/87	80/90	71/79	182/182	78/87	80/90	71/79	182/182	84/93	90/100	76/85	187/187	84/93	90/100	76/85	187/187
		97/110	100/110	89/100	182/182	97/110	100/110	89/100	182/182	103/116	110/125	95/106	187/187	103/116	110/125	95/106	187/187
		114/128	125/150	104/118	182/182	114/128	125/150	104/118	182/182	120/134	125/150	110/123	187/187	120/134	125/150	110/123	187/187
208/ 230–3–60	DD–STD	37	50	38	128	37	50	38	128	42	50	43	133	42	50	43	133
		37/39	50/50	38/38	128/128	37/39	50/50	38/38	128/128	43/45	50/50	43/43	133/133	43/45	50/50	43/43	133/133
		47/51	50/60	43/47	128/128	47/51	50/60	43/47	128/128	53/57	60/60	49/52	133/133	53/57	60/60	49/52	133/133
		62/68	70/70	56/62	128/128	62/68	70/70	56/62	128/128	68/74	70/80	62/68	133/133	68/74	70/80	62/68	133/133
		75/83	80/90	68/76	128/128	75/83	80/90	68/76	128/128	81/89	90/90	74/81	133/133	81/89	90/90	74/81	133/133
		89/100	90/100	81/91	128/128	89/100	90/100	81/91	128/128	95/106	100/110	87/97	133/133	95/106	100/110	87/97	133/133
	STD	35	50	35	133	35	50	35	133	40	50	40	138	40	50	40	138
		35/36	50/50	35/35	133/133	35/36	50/50	35/35	133/133	40/42	50/50	40/40	138/138	40/42	50/50	40/40	138/138
		44/48	50/50	40/44	133/133	44/48	50/50	40/44	133/133	50/54	50/60	46/50	138/138	50/54	50/60	46/50	138/138
		58/65	60/70	53/59	133/133	58/65	60/70	53/59	133/133	64/71	70/80	59/65	138/138	64/71	70/80	59/65	138/138
		71/80	80/80	65/73	133/133	71/80	80/80	65/73	133/133	77/86	80/90	71/79	138/138	77/86	80/90	71/79	138/138
		86/96	90/100	78/88	133/133	86/96	90/100	78/88	133/133	92/102	100/110	84/94	138/138	92/102	100/110	84/94	138/138
	MED	35	50	35	151	35	50	35	151	40	50	41	156	40	50	41	156
		35/37	50/50	35/35	151/151	35/37	50/50	35/35	151/151	40/43	50/50	41/41	156/156	40/43	50/50	41/41	156/156
		44/49	50/50	40/44	151/151	44/49	50/50	40/44	151/151	50/55	50/60	46/50	156/156	50/55	50/60	46/50	156/156
		59/65	60/70	54/60	151/151	59/65	60/70	54/60	151/151	65/71	70/80	59/65	156/156	65/71	70/80	59/65	156/156
		72/80	80/80	66/73	151/151	72/80	80/80	66/73	151/151	78/86	80/90	71/79	156/156	78/86	80/90	71/79	156/156
		86/97	90/100	79/89	151/151	86/97	90/100	79/89	151/151	92/103	100/110	84/94	156/156	92/103	100/110	84/94	156/156
	HIGH	37	50	38	177	37	50	38	177	42	50	43	182	42	50	43	182
		37/39	50/50	38/38	177/177	37/39	50/50	38/38	177/177	43/45	50/50	43/43	182/182	43/45	50/50	43/43	182/182
		47/52	50/60	43/47	177/177	47/52	50/60	43/47	177/177	53/58	60/60	49/53	182/182	53/58	60/60	49/53	182/182
		62/68	70/70	56/62	177/177	62/68	70/70	56/62	177/177	68/74	70/80	62/68	182/182	68/74	70/80	62/68	182/182
		75/83	80/90	68/76	177/177	75/83	80/90	68/76	177/177	81/89	90/90	74/82	182/182	81/89	90/90	74/82	182/182
		89/100	90/100	81/91	177/177	89/100	90/100	81/91	177/177	95/106	100/110	87/97	182/182	95/106	100/110	87/97	182/182

ELECTRICAL DATA (cont.)

Table 64 (cont.) - 50HC*A06 SINGLE STAGE COOLING MCA/MOCP WITH ERV

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
460–3–60	DD–STD	18	20	18	62	18	20	18	62	20	25	21	64	20	25	21	64
		19	20	18	62	19	20	18	62	22	25	21	64	22	25	21	64
		27	30	25	62	27	30	25	62	30	30	27	64	30	30	27	64
		31	35	28	62	31	35	28	62	34	35	31	64	34	35	31	64
		45	45	41	62	45	45	41	62	48	50	43	64	48	50	43	64
		49	50	44	62	49	50	44	62	51	60	47	64	51	60	47	64
	STD	16	20	16	64	16	20	16	64	18	20	18	66	18	20	18	66
		17	20	16	64	17	20	16	64	20	20	18	66	20	20	18	66
		25	25	23	64	25	25	23	64	28	30	25	66	28	30	25	66
		29	30	26	64	29	30	26	64	32	35	29	66	32	35	29	66
		42	45	39	64	42	45	39	64	45	45	41	66	45	45	41	66
		46	50	42	64	46	50	42	64	49	50	45	66	49	50	45	66
	MED	17	20	16	73	17	20	16	73	19	25	19	75	19	25	19	75
		17	20	16	73	17	20	16	73	20	25	19	75	20	25	19	75
		26	30	23	73	26	30	23	73	28	30	26	75	28	30	26	75
		29	30	27	73	29	30	27	73	32	35	29	75	32	35	29	75
		43	45	39	73	43	45	39	73	46	50	42	75	46	50	42	75
		47	50	43	73	47	50	43	73	50	50	45	75	50	50	45	75
	HIGH	17	20	17	86	17	20	17	86	20	25	20	88	20	25	20	88
		18	20	17	86	18	20	17	86	21	25	20	88	21	25	20	88
		27	30	24	86	27	30	24	86	29	30	27	88	29	30	27	88
		30	35	28	86	30	35	28	86	33	35	30	88	33	35	30	88
		44	45	40	86	44	45	40	86	47	50	43	88	47	50	43	88
		48	50	44	86	48	50	44	86	51	60	46	88	51	60	46	88
575–3–60	DD–STD	16	20	16	50	16	20	16	50	17	20	18	52	17	20	18	52
		27	30	25	50	27	30	25	50	30	30	27	52	30	30	27	52
		39	40	36	50	39	40	36	50	41	45	38	52	41	45	38	52
	STD	13	15	13	51	13	15	13	51	15	20	15	53	15	20	15	53
		25	25	22	51	25	25	22	51	27	30	24	53	27	30	24	53
		36	40	33	51	36	40	33	51	39	40	35	53	39	40	35	53
	MED	14	15	14	57	14	15	14	57	15	20	16	59	15	20	16	59
		25	25	23	57	25	25	23	57	27	30	25	59	27	30	25	59
		37	40	33	57	37	40	33	57	39	40	35	59	39	40	35	59
	HIGH	14	20	15	68	14	20	15	68	16	20	16	70	16	20	16	70
		26	30	23	68	26	30	23	68	28	30	25	70	28	30	25	70
		38	40	34	68	38	40	34	68	40	40	36	70	40	40	36	70

ELECTRICAL DATA (cont.)

Table 64 – 50HC*A07 SINGLE STAGE COOLING MCA/MOCP WITH ERV

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–3–60	STD	40	50	41	156	40	50	41	156	45	60	46	161	45	60	46	161
		40/40	50/50	41/41	156/156	40/40	50/50	41/41	156/156	45/45	60/60	46/46	161/161	45/45	60/60	46/46	161/161
		44/48	50/50	41/44	156/156	44/48	50/50	41/44	156/156	50/54	60/60	46/50	161/161	50/54	60/60	46/50	161/161
		59/65	60/70	54/60	156/156	59/65	60/70	54/60	156/156	65/71	70/80	59/65	161/161	65/71	70/80	59/65	161/161
		72/80	80/80	66/73	156/156	72/80	80/80	66/73	156/156	78/86	80/90	71/79	161/161	78/86	80/90	71/79	161/161
		86/97	90/100	79/89	156/156	86/97	90/100	79/89	156/156	92/103	100/110	84/94	161/161	92/103	100/110	84/94	161/161
	MED	43	60	43	193	43	60	43	193	48	60	49	198	48	60	49	198
		43/43	60/60	43/43	193/193	43/43	60/60	43/43	193/193	48/48	60/60	49/49	198/198	48/48	60/60	49/49	198/198
		47/51	60/60	43/47	193/193	47/51	60/60	43/47	193/193	53/57	60/60	49/52	198/198	53/57	60/60	49/52	198/198
		62/68	70/70	56/62	193/193	62/68	70/70	56/62	193/193	68/74	70/80	62/68	198/198	68/74	70/80	62/68	198/198
		75/83	80/90	68/76	193/193	75/83	80/90	68/76	193/193	81/89	90/90	74/82	198/198	81/89	90/90	74/82	198/198
		89/100	90/100	81/91	193/193	89/100	90/100	81/91	193/193	95/106	100/110	87/97	198/198	95/106	100/110	87/97	198/198
	HIGH	50	60	52	219	50	60	52	219	55	60	57	224	55	60	57	224
		50/50	60/60	52/52	219/219	50/50	60/60	52/52	219/219	55/55	60/60	57/57	224/224	55/55	60/60	57/57	224/224
		56/61	60/70	52/55	219/219	56/61	60/70	52/55	219/219	62/67	70/70	57/61	224/224	62/67	70/70	57/61	224/224
		71/77	80/80	65/71	219/219	71/77	80/80	65/71	219/219	77/83	80/90	70/76	224/224	77/83	80/90	70/76	224/224
		84/92	90/100	77/85	219/219	84/92	90/100	77/85	219/219	90/98	90/100	82/90	224/224	90/98	90/100	82/90	224/224
		98/109	100/110	90/100	219/219	98/109	100/110	90/100	219/219	104/115	110/125	96/105	224/224	104/115	110/125	96/105	224/224
460–3–60	STD	21	25	20	79	21	25	20	79	23	30	23	81	23	30	23	81
		21	25	20	79	21	25	20	79	23	30	23	81	23	30	23	81
		26	30	23	79	26	30	23	79	28	30	26	81	28	30	26	81
		29	30	27	79	29	30	27	79	32	35	29	81	32	35	29	81
		43	45	39	79	43	45	39	79	46	50	42	81	46	50	42	81
		47	50	43	79	47	50	43	79	50	50	45	81	50	50	45	81
	MED	21	30	21	98	21	30	21	98	24	30	24	100	24	30	24	100
		21	30	21	98	21	30	21	98	24	30	24	100	24	30	24	100
		27	30	24	98	27	30	24	98	29	30	27	100	29	30	27	100
		30	35	28	98	30	35	28	98	33	35	30	100	33	35	30	100
		44	45	40	98	44	45	40	98	47	50	43	100	47	50	43	100
		48	50	44	98	48	50	44	98	51	60	46	100	51	60	46	100
	HIGH	25	30	26	111	25	30	26	111	28	30	28	113	28	30	28	113
		25	30	26	111	25	30	26	111	28	30	28	113	28	30	28	113
		32	35	29	111	32	35	29	111	34	35	31	113	34	35	31	113
		35	40	32	111	35	40	32	111	38	40	35	113	38	40	35	113
		49	50	45	111	49	50	45	111	52	60	47	113	52	60	47	113
		53	60	48	111	53	60	48	111	56	60	51	113	56	60	51	113
575–3–60	STD	16	20	16	65	16	20	16	65	18	20	18	67	18	20	18	67
		32	35	29	65	32	35	29	65	34	35	31	67	34	35	31	67
		39	40	35	65	39	40	35	65	41	45	37	67	41	45	37	67
	MED	18	20	18	80	18	20	18	80	19	25	19	82	19	25	19	82
		34	35	31	80	34	35	31	80	36	40	33	82	36	40	33	82
		41	45	37	80	41	45	37	80	43	45	39	82	43	45	39	82
	HIGH	20	25	21	94	20	25	21	94	22	25	23	96	22	25	23	96
		38	40	34	94	38	40	34	94	40	40	36	96	40	40	36	96
		44	45	41	94	44	45	41	94	47	50	42	96	47	50	42	96

ELECTRICAL DATA (cont.)

Table 65 – 50HC*D08 TWO STAGE COOLING MCA/MOCP WITH ERV

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–3–60	STD	51	60	54	203	51	60	54	203	56	60	60	208	56	60	60	208
		51/53	60/60	54/54	203/203	51/53	60/60	54/54	203/203	56/59	60/60	60/60	208/208	56/59	60/60	60/60	208/208
		64/70	70/70	58/64	203/203	64/70	70/70	58/64	203/203	70/76	70/80	64/70	208/208	70/76	70/80	64/70	208/208
		87/97	90/100	79/88	203/203	87/97	90/100	79/88	203/203	93/103	100/110	85/94	208/208	93/103	100/110	85/94	208/208
		105/118	110/125	96/108	203/203	105/118	110/125	96/108	203/203	111/124	125/125	102/114	208/208	111/124	125/125	102/114	208/208
		132/149	150/150	121/137	203/203	132/149	150/150	121/137	203/203	138/155	150/175	127/143	208/208	138/155	150/175	127/143	208/208
	MED	51	60	54	214	51	60	54	214	56	60	60	219	56	60	60	219
		51/53	60/60	54/54	214/214	51/53	60/60	54/54	214/214	56/59	60/60	60/60	219/219	56/59	60/60	60/60	219/219
		64/70	70/70	58/64	214/214	64/70	70/70	58/64	214/214	70/76	70/80	64/70	219/219	70/76	70/80	64/70	219/219
		87/97	90/100	79/88	214/214	87/97	90/100	79/88	214/214	93/103	100/110	85/94	219/219	93/103	100/110	85/94	219/219
		105/118	110/125	96/108	214/214	105/118	110/125	96/108	214/214	111/124	125/125	102/114	219/219	111/124	125/125	102/114	219/219
		132/149	150/150	121/137	214/214	132/149	150/150	121/137	214/214	138/155	150/175	127/143	219/219	138/155	150/175	127/143	219/219
	HIGH	56	60	60	257	56	60	60	257	61	70	66	262	61	70	66	262
		56/59	60/60	60/60	257/257	56/59	60/60	60/60	257/257	61/65	70/70	66/66	262/262	61/65	70/70	66/66	262/262
		70/76	70/80	64/70	257/257	70/76	70/80	64/70	257/257	76/82	80/90	69/75	262/262	76/82	80/90	69/75	262/262
		93/103	100/110	85/94	257/257	93/103	100/110	85/94	257/257	99/109	100/110	90/99	262/262	99/109	100/110	90/99	262/262
		111/124	125/125	102/114	257/257	111/124	125/125	102/114	257/257	117/130	125/150	107/119	262/262	117/130	125/150	107/119	262/262
		138/155	150/175	127/143	257/257	138/155	150/175	127/143	257/257	144/161	150/175	132/148	262/262	144/161	150/175	132/148	262/262
460–3–60	STD	24	25	25	101	24	25	25	101	26	30	28	103	26	30	28	103
		31	35	28	101	31	35	28	101	34	35	31	103	34	35	31	103
		35	35	32	101	35	35	32	101	38	40	35	103	38	40	35	103
		52	60	48	101	52	60	48	101	55	60	50	103	55	60	50	103
		60	60	55	101	60	60	55	101	63	70	57	103	63	70	57	103
		73	80	67	101	73	80	67	101	76	80	70	103	76	80	70	103
	MED	24	25	25	107	24	25	25	107	26	30	28	109	26	30	28	109
		31	35	28	107	31	35	28	107	34	35	31	109	34	35	31	109
		35	35	32	107	35	35	32	107	38	40	35	109	38	40	35	109
		52	60	48	107	52	60	48	107	55	60	50	109	55	60	50	109
		60	60	55	107	60	60	55	107	63	70	57	109	63	70	57	109
		73	80	67	107	73	80	67	107	76	80	70	109	76	80	70	109
	HIGH	26	30	27	129	26	30	27	129	28	30	30	131	28	30	30	131
		34	35	31	129	34	35	31	129	36	40	33	131	36	40	33	131
		38	40	34	129	38	40	34	129	40	40	37	131	40	40	37	131
		55	60	50	129	55	60	50	129	57	60	52	131	57	60	52	131
		62	70	57	129	62	70	57	129	65	70	60	131	65	70	60	131
		76	80	69	129	76	80	69	129	78	80	72	131	78	80	72	131
575–3–60	STD	18	20	19	83	18	20	19	83	19	25	21	85	19	25	21	85
		34	35	31	83	34	35	31	83	36	40	33	85	36	40	33	85
		60	60	55	83	60	60	55	83	62	70	57	85	62	70	57	85
	MED	19	20	20	87	19	20	20	87	20	25	22	89	20	25	22	89
		35	35	32	87	35	35	32	87	37	40	34	89	37	40	34	89
		61	70	56	87	61	70	56	87	63	70	58	89	63	70	58	89
	HIGH	19	20	21	98	19	20	21	98	21	25	22	100	21	25	22	100
		36	40	33	98	36	40	33	98	38	40	35	100	38	40	35	100
		62	70	57	98	62	70	57	98	64	70	58	100	64	70	58	100

ELECTRICAL DATA (cont.)

Table 66 – 50HC*D09 TWO STAGE COOLING **MCA/MOCP** **WITH ERV**

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–3–60	STD	51	60	55	203	51	60	55	203	56	60	60	208	56	60	60	208
		51/53	60/60	55/55	203/203	51/53	60/60	55/55	203/203	56/59	60/60	60/60	208/208	56/59	60/60	60/60	208/208
		64/70	70/70	58/64	203/203	64/70	70/70	58/64	203/203	70/76	70/80	64/70	208/208	70/76	70/80	64/70	208/208
		87/97	90/100	79/88	203/203	87/97	90/100	79/88	203/203	93/103	100/110	85/94	208/208	93/103	100/110	85/94	208/208
		105/118	110/125	96/108	203/203	105/118	110/125	96/108	203/203	111/124	125/125	102/114	208/208	111/124	125/125	102/114	208/208
		132/149	150/150	121/137	203/203	132/149	150/150	121/137	203/203	138/155	150/175	127/143	208/208	138/155	150/175	127/143	208/208
	MED	51	60	55	214	51	60	55	214	56	60	60	219	56	60	60	219
		51/53	60/60	55/55	214/214	51/53	60/60	55/55	214/214	56/59	60/60	60/60	219/219	56/59	60/60	60/60	219/219
		64/70	70/70	58/64	214/214	64/70	70/70	58/64	214/214	70/76	70/80	64/70	219/219	70/76	70/80	64/70	219/219
		87/97	90/100	79/88	214/214	87/97	90/100	79/88	214/214	93/103	100/110	85/94	219/219	93/103	100/110	85/94	219/219
		105/118	110/125	96/108	214/214	105/118	110/125	96/108	214/214	111/124	125/125	102/114	219/219	111/124	125/125	102/114	219/219
		132/149	150/150	121/137	214/214	132/149	150/150	121/137	214/214	138/155	150/175	127/143	219/219	138/155	150/175	127/143	219/219
	HIGH	56	60	60	257	56	60	60	257	61	70	66	262	61	70	66	262
		56/59	60/60	60/60	257/257	56/59	60/60	60/60	257/257	61/65	70/70	66/66	262/262	61/65	70/70	66/66	262/262
		70/76	70/80	64/70	257/257	70/76	70/80	64/70	257/257	76/82	80/90	69/75	262/262	76/82	80/90	69/75	262/262
		93/103	100/110	85/94	257/257	93/103	100/110	85/94	257/257	99/109	100/110	90/99	262/262	99/109	100/110	90/99	262/262
		111/124	125/125	102/114	257/257	111/124	125/125	102/114	257/257	117/130	125/150	107/119	262/262	117/130	125/150	107/119	262/262
		138/155	150/175	127/143	257/257	138/155	150/175	127/143	257/257	144/161	150/175	132/148	262/262	144/161	150/175	132/148	262/262
460–3–60	STD	24	30	25	101	24	30	25	101	26	30	28	103	26	30	28	103
		31	35	28	101	31	35	28	101	34	35	31	103	34	35	31	103
		35	35	32	101	35	35	32	101	38	40	35	103	38	40	35	103
		52	60	48	101	52	60	48	101	55	60	50	103	55	60	50	103
		60	60	55	101	60	60	55	101	63	70	57	103	63	70	57	103
		73	80	67	101	73	80	67	101	76	80	70	103	76	80	70	103
	MED	24	30	25	107	24	30	25	107	26	30	28	109	26	30	28	109
		31	35	28	107	31	35	28	107	34	35	31	109	34	35	31	109
		35	35	32	107	35	35	32	107	38	40	35	109	38	40	35	109
		52	60	48	107	52	60	48	107	55	60	50	109	55	60	50	109
		60	60	55	107	60	60	55	107	63	70	57	109	63	70	57	109
		73	80	67	107	73	80	67	107	76	80	70	109	76	80	70	109
	HIGH	26	30	27	129	26	30	27	129	28	30	30	131	28	30	30	131
		34	35	31	129	34	35	31	129	36	40	33	131	36	40	33	131
		38	40	34	129	38	40	34	129	40	40	37	131	40	40	37	131
		55	60	50	129	55	60	50	129	57	60	52	131	57	60	52	131
		62	70	57	129	62	70	57	129	65	70	60	131	65	70	60	131
		76	80	69	129	76	80	69	129	78	80	72	131	78	80	72	131
575–3–60	STD	19	20	20	83	19	20	20	83	21	25	22	85	21	25	22	85
		34	35	31	83	34	35	31	83	36	40	33	85	36	40	33	85
		60	60	55	83	60	60	55	83	62	70	57	85	62	70	57	85
	MED	20	25	21	87	20	25	21	87	22	25	23	89	22	25	23	89
		35	35	32	87	35	35	32	87	37	40	34	89	37	40	34	89
		61	70	56	87	61	70	56	87	63	70	58	89	63	70	58	89
	HIGH	21	25	22	98	21	25	22	98	22	25	24	100	22	25	24	100
		36	40	33	98	36	40	33	98	38	40	35	100	38	40	35	100
		62	70	57	98	62	70	57	98	64	70	58	100	64	70	58	100

ELECTRICAL DATA (cont.)

Table 67 – 50HC*D12 TWO STAGE COOLING MCA/MOCP WITH ERV

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–3–60	STD	60	70	63	294	60	70	63	294	64	70	69	299	64	70	69	299
		60/60	70/70	63/63	294/294	60/60	70/70	63/63	294/294	64/64	70/70	69/69	299/299	64/64	70/70	69/69	299/299
		64/70	70/70	63/64	294/294	64/70	70/70	63/64	294/294	70/76	70/80	69/70	299/299	70/76	70/80	69/70	299/299
		105/118	110/125	96/108	294/294	105/118	110/125	96/108	294/294	111/124	125/125	102/114	299/299	111/124	125/125	102/114	299/299
		132/149	150/150	121/137	294/294	132/149	150/150	121/137	294/294	138/155	150/175	127/143	299/299	138/155	150/175	127/143	299/299
		152/142	175/150	140/158	294/294	152/142	175/150	140/158	294/294	158/148	175/175	145/164	299/299	158/148	175/175	145/164	299/299
	MED	64	70	69	337	64	70	69	337	69	80	74	342	69	80	74	342
		64/64	70/70	69/69	337/337	64/64	70/70	69/69	337/337	69/69	80/80	74/74	342/342	69/69	80/80	74/74	342/342
		70/76	70/80	69/70	337/337	70/76	70/80	69/70	337/337	76/82	80/90	74/75	342/342	76/82	80/90	74/75	342/342
		111/124	125/125	102/114	337/337	111/124	125/125	102/114	337/337	117/130	125/150	107/119	342/342	117/130	125/150	107/119	342/342
		138/155	150/175	127/143	337/337	138/155	150/175	127/143	337/337	144/161	150/175	132/148	342/342	144/161	150/175	132/148	342/342
		158/148	175/175	145/164	337/337	158/148	175/175	145/164	337/337	164/154	175/175	151/169	342/342	164/154	175/175	151/169	342/342
	HIGH	69	80	75	346	69	80	75	346	74	80	80	351	74	80	80	351
		69/69	80/80	75/75	346/346	69/69	80/80	75/75	346/346	74/74	80/80	80/80	351/351	74/74	80/80	80/80	351/351
		76/82	80/90	75/75	346/346	76/82	80/90	75/75	346/346	82/88	90/90	80/81	351/351	82/88	90/90	80/81	351/351
		118/130	125/150	108/120	346/346	118/130	125/150	108/120	346/346	124/136	125/150	113/125	351/351	124/136	125/150	113/125	351/351
		145/162	150/175	133/148	346/346	145/162	150/175	133/148	346/346	151/168	175/175	138/154	351/351	151/168	175/175	138/154	351/351
		164/154	175/175	151/169	346/346	164/154	175/175	151/169	346/346	170/160	175/175	156/175	351/351	170/160	175/175	156/175	351/351
460–3–60	STD	29	35	31	141	29	35	31	141	31	35	33	143	31	35	33	143
		31	35	31	141	31	35	31	141	34	35	33	143	34	35	33	143
		35	35	32	141	35	35	32	141	38	40	35	143	38	40	35	143
		60	60	55	141	60	60	55	141	63	70	57	143	63	70	57	143
		73	80	67	141	73	80	67	141	76	80	70	143	76	80	70	143
		71	80	78	141	71	80	78	141	73	80	81	143	73	80	81	143
	MED	31	35	33	163	31	35	33	163	33	40	35	165	33	40	35	165
		34	35	33	163	34	35	33	163	36	40	35	165	36	40	35	165
		38	40	34	163	38	40	34	163	40	40	37	165	40	40	37	165
		62	70	57	163	62	70	57	163	65	70	60	165	65	70	60	165
		76	80	69	163	76	80	69	163	78	80	72	165	78	80	72	165
		73	80	80	163	73	80	80	163	76	80	83	165	76	80	83	165
	HIGH	34	40	36	167	34	40	36	167	36	40	39	169	36	40	39	169
		37	40	36	167	37	40	36	167	40	40	39	169	40	40	39	169
		41	45	38	167	41	45	38	167	44	45	40	169	44	45	40	169
		66	70	60	167	66	70	60	167	69	70	63	169	69	70	63	169
		79	80	73	167	79	80	73	167	82	90	75	169	82	90	75	169
		77	80	84	167	77	80	84	167	79	80	86	169	79	80	86	169
575–3–60	STD	23	25	25	111	23	25	25	111	25	30	27	113	25	30	27	113
		35	35	32	111	35	35	32	111	37	40	34	113	37	40	34	113
		61	70	56	111	61	70	56	111	63	70	58	113	63	70	58	113
		71	80	79	111	71	80	79	111	73	80	81	113	73	80	81	113
	MED	24	30	25	122	24	30	25	122	26	30	27	124	26	30	27	124
		36	40	33	122	36	40	33	122	38	40	35	124	38	40	35	124
		62	70	57	122	62	70	57	122	64	70	58	124	64	70	58	124
	HIGH	27	30	29	136	27	30	29	136	29	30	31	138	29	30	31	138
		40	40	36	136	40	40	36	136	42	45	38	138	42	45	38	138
		65	70	60	136	65	70	60	136	68	70	62	138	68	70	62	138
		76	80	83	136	76	80	83	136	78	80	85	138	78	80	85	138

ELECTRICAL DATA (cont.)

Table 68 – 50HC*D14 TWO STAGE COOLING MCA/MOCP WITH ERV

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–3–60	STD	71	80	76	330	71	80	76	330	76	90	82	335	76	90	82	335
		73/80	80/80	76/76	330/330	73/80	80/80	76/76	330/330	79/86	90/90	82/82	335/335	79/86	90/90	82/82	335/335
		99/110	100/110	91/101	330/330	99/110	100/110	91/101	330/330	105/116	110/125	96/106	335/335	105/116	110/125	96/106	335/335
		117/131	125/150	108/120	330/330	117/131	125/150	108/120	330/330	123/137	125/150	113/125	335/335	123/137	125/150	113/125	335/335
		143/161	150/175	132/148	330/330	143/161	150/175	132/148	330/330	149/167	150/175	137/153	335/335	149/167	150/175	137/153	335/335
		160/150	175/175	147/166	330/330	160/150	175/175	147/166	330/330	166/156	175/175	153/171	335/335	166/156	175/175	153/171	335/335
	MED	74	80	79	347	74	80	79	347	79	90	84	352	79	90	84	352
		76/83	80/90	79/79	347/347	76/83	80/90	79/79	347/347	82/89	90/90	84/84	352/352	82/89	90/90	84/84	352/352
		102/113	110/125	94/103	347/347	102/113	110/125	94/103	347/347	108/119	110/125	99/109	352/352	108/119	110/125	99/109	352/352
		121/134	125/150	110/123	347/347	121/134	125/150	110/123	347/347	127/140	150/150	116/128	352/352	127/140	150/150	116/128	352/352
		147/164	150/175	134/150	347/347	147/164	150/175	134/150	347/347	153/170	175/175	140/156	352/352	153/170	175/175	140/156	352/352
		164/153	175/175	150/168	347/347	164/153	175/175	150/168	347/347	170/159	175/175	156/174	352/352	170/159	175/175	156/174	352/352
	HIGH	85	100	91	366	85	100	91	366	89	100	96	371	89	100	96	371
		89/96	100/100	91/91	366/366	89/96	100/100	91/91	366/366	95/102	100/110	96/96	371/371	95/102	100/110	96/96	371/371
		115/126	125/150	106/115	366/366	115/126	125/150	106/115	366/366	121/132	125/150	111/121	371/371	121/132	125/150	111/121	371/371
		134/147	150/150	122/135	366/366	134/147	150/150	122/135	366/366	140/153	150/175	128/140	371/371	140/153	150/175	128/140	371/371
		160/177	175/200	146/162	366/366	160/177	175/200	146/162	366/366	166/183	175/200	152/168	371/371	166/183	175/200	152/168	371/371
		177/166	200/175	162/180	366/366	177/166	200/175	162/180	366/366	183/172	200/175	168/186	371/371	183/172	200/175	168/186	371/371
460–3–60	STD	35	40	37	165	35	40	37	165	37	45	40	167	37	45	40	167
		38	40	37	165	38	40	37	165	41	45	40	167	41	45	40	167
		53	60	49	165	53	60	49	165	56	60	51	167	56	60	51	167
		64	70	58	165	64	70	58	165	67	70	61	167	67	70	61	167
		79	80	72	165	79	80	72	165	82	90	75	167	82	90	75	167
		74	80	81	165	74	80	81	165	76	80	84	167	76	80	84	167
	MED	36	45	38	174	36	45	38	174	38	45	41	176	38	45	41	176
		40	45	38	174	40	45	38	174	42	45	41	176	42	45	41	176
		55	60	50	174	55	60	50	174	57	60	52	176	57	60	52	176
		65	70	59	174	65	70	59	174	68	70	62	176	68	70	62	176
		80	80	73	174	80	80	73	174	83	90	76	176	83	90	76	176
		75	80	82	174	75	80	82	174	78	80	85	176	78	80	85	176
	HIGH	42	50	45	183	42	50	45	183	44	50	47	185	44	50	47	185
		47	50	45	183	47	50	45	183	50	50	47	185	50	50	47	185
		62	70	56	183	62	70	56	183	65	70	59	185	65	70	59	185
		72	80	66	183	72	80	66	183	75	80	69	185	75	80	69	185
		87	90	80	183	87	90	80	183	90	90	82	185	90	90	82	185
		82	90	89	183	82	90	89	183	85	90	92	185	85	90	92	185

ELECTRICAL DATA (cont.)

Table 71 (cont.) - 50HC*D14 TWO STAGE COOLING MCA/MOCP WITH ERV

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
575–3–60	STD	29	35	31	135	29	35	31	135	31	35	33	137	31	35	33	137
		33	35	31	135	33	35	31	135	35	35	33	137	35	35	33	137
		45	45	41	135	45	45	41	135	47	50	43	137	47	50	43	137
		53	60	48	135	53	60	48	135	55	60	50	137	55	60	50	137
		65	70	59	135	65	70	59	135	67	70	61	137	67	70	61	137
		61	70	67	135	61	70	67	135	63	70	69	137	63	70	69	137
	MED	29	35	31	135	29	35	31	135	31	35	33	137	31	35	33	137
		33	35	31	135	33	35	31	135	35	35	33	137	35	35	33	137
		45	45	41	135	45	45	41	135	47	50	43	137	47	50	43	137
		53	60	48	135	53	60	48	135	55	60	50	137	55	60	50	137
		65	70	59	135	65	70	59	135	67	70	61	137	67	70	61	137
		61	70	67	135	61	70	67	135	63	70	69	137	63	70	69	137
	HIGH	36	40	38	147	36	40	38	147	37	45	40	149	37	45	40	149
		40	40	38	147	40	40	38	147	42	45	40	149	42	45	40	149
		52	60	48	147	52	60	48	147	54	60	50	149	54	60	50	149
		61	70	55	147	61	70	55	147	63	70	57	149	63	70	57	149
		73	80	67	147	73	80	67	147	75	80	68	149	75	80	68	149
		69	70	74	147	69	70	74	147	71	80	76	149	71	80	76	149

ELECTRICAL DATA (cont.)

Table 69 – 50HC*A04 SINGLE STAGE COOLING MCA/MOCP WITH ERV AND HACR BREAKER

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–1–60	DD– STD	35	50	35	94	35	50	35	94	40	50	41	99	40	50	41	99
		39/39	50/50	35/36	94/94	39/39	50/50	35/36	94/94	45/45	50/50	41/41	99/99	45/45	50/50	41/41	99/99
		50/50	50/50	42/46	94/94	50/50	50/50	42/46	94/94	56/56	60/60	47/51	99/99	56/56	60/60	47/51	99/99
		62/62	70/70	51/57	94/94	62/62	70/70	51/57	94/94	68/68	70/70	56/62	99/99	68/68	70/70	56/62	99/99
		71/71	80/80	58/65	94/94	71/71	80/80	58/65	94/94	77/77	80/80	64/71	99/99	77/77	80/80	64/71	99/99
		84/84	90/90	69/77	94/94	84/84	90/90	69/77	94/94	90/90	90/90	74/83	99/99	90/90	90/90	74/83	99/99
	STD	33	45	32	99	33	45	32	99	37	50	38	104	37	50	38	104
		36/36	45/45	32/33	99/99	36/36	45/45	32/33	99/99	42/42	50/50	38/38	104/104	42/42	50/50	38/38	104/104
		47/47	50/50	39/43	99/99	47/47	50/50	39/43	99/99	53/53	60/60	44/49	104/104	53/53	60/60	44/49	104/104
		59/59	60/60	48/54	99/99	59/59	60/60	48/54	99/99	65/65	70/70	54/59	104/104	65/65	70/70	54/59	104/104
		68/68	70/70	56/62	99/99	68/68	70/70	56/62	99/99	74/74	80/80	61/68	104/104	74/74	80/80	61/68	104/104
		81/81	90/90	66/74	99/99	81/81	90/90	66/74	99/99	87/87	90/90	71/80	104/104	87/87	90/90	71/80	104/104
	MED	33	45	32	99	33	45	32	99	37	50	38	104	37	50	38	104
		36/36	45/45	32/33	99/99	36/36	45/45	32/33	99/99	42/42	50/50	38/38	104/104	42/42	50/50	38/38	104/104
		47/47	50/50	39/43	99/99	47/47	50/50	39/43	99/99	53/53	60/60	44/49	104/104	53/53	60/60	44/49	104/104
		59/59	60/60	48/54	99/99	59/59	60/60	48/54	99/99	65/65	70/70	54/59	104/104	65/65	70/70	54/59	104/104
		68/68	70/70	56/62	99/99	68/68	70/70	56/62	99/99	74/74	80/80	61/68	104/104	74/74	80/80	61/68	104/104
		81/81	90/90	66/74	99/99	81/81	90/90	66/74	99/99	87/87	90/90	71/80	104/104	87/87	90/90	71/80	104/104
208/ 230–3–60	DD– STD	27	30	28	88	27	30	28	88	32	40	34	93	32	40	34	93
		30/30	30/30	28/28	88/88	30/30	30/30	28/28	88/88	36/36	40/40	34/34	93/93	36/36	40/40	34/34	93/93
		36/36	40/40	31/33	88/88	36/36	40/40	31/33	88/88	42/42	45/45	36/38	93/93	42/42	45/45	36/38	93/93
		43/43	45/45	36/39	88/88	43/43	45/45	36/39	88/88	49/49	50/50	41/45	93/93	49/49	50/50	41/45	93/93
		48/48	50/50	40/44	88/88	48/48	50/50	40/44	88/88	54/54	60/60	46/50	93/93	54/54	60/60	46/50	93/93
		65/65	70/70	53/59	88/88	65/65	70/70	53/59	88/88	71/71	80/80	59/65	93/93	71/71	80/80	59/65	93/93
	STD	25	30	25	93	25	30	25	93	30	35	31	98	30	35	31	98
		27/27	30/30	25/25	93/93	27/27	30/30	25/25	93/93	33/33	35/35	31/31	98/98	33/33	35/35	31/31	98/98
		33/33	35/35	28/30	93/93	33/33	35/35	28/30	93/93	39/39	40/40	33/36	98/98	39/39	40/40	33/36	98/98
		40/40	40/40	33/36	93/93	40/40	40/40	33/36	93/93	46/46	50/50	38/42	98/98	46/46	50/50	38/42	98/98
		45/45	45/45	37/41	93/93	45/45	45/45	37/41	93/93	51/51	60/60	43/47	98/98	51/51	60/60	43/47	98/98
		62/62	70/70	51/56	93/93	62/62	70/70	51/56	93/93	68/68	70/70	56/62	98/98	68/68	70/70	56/62	98/98
	MED	25	30	25	93	25	30	25	93	30	35	31	98	30	35	31	98
		27/27	30/30	25/25	93/93	27/27	30/30	25/25	93/93	33/33	35/35	31/31	98/98	33/33	35/35	31/31	98/98
		33/33	35/35	28/30	93/93	33/33	35/35	28/30	93/93	39/39	40/40	33/36	98/98	39/39	40/40	33/36	98/98
		40/40	40/40	33/36	93/93	40/40	40/40	33/36	93/93	46/46	50/50	38/42	98/98	46/46	50/50	38/42	98/98
		45/45	45/45	37/41	93/93	45/45	45/45	37/41	93/93	51/51	60/60	43/47	98/98	51/51	60/60	43/47	98/98
		62/62	70/70	51/56	93/93	62/62	70/70	51/56	93/93	68/68	70/70	56/62	98/98	68/68	70/70	56/62	98/98
	HIGH	25	30	26	111	25	30	26	111	30	40	31	116	30	40	31	116
		27/27	30/30	26/26	111/111	27/27	30/30	26/26	111/111	33/33	40/40	31/31	116/116	33/33	40/40	31/31	116/116
		33/33	35/35	28/30	111/111	33/33	35/35	28/30	111/111	39/39	40/40	34/36	116/116	39/39	40/40	34/36	116/116
		40/40	40/40	33/36	111/111	40/40	40/40	33/36	111/111	46/46	50/50	39/42	116/116	46/46	50/50	39/42	116/116
		46/46	50/50	38/42	111/111	46/46	50/50	38/42	111/111	52/52	60/60	43/47	116/116	52/52	60/60	43/47	116/116
		62/62	70/70	51/57	111/111	62/62	70/70	51/57	111/111	68/68	70/70	56/62	116/116	68/68	70/70	56/62	116/116

ELECTRICAL DATA (cont.)

Table 72 (cont.) - 50HC*A04 SINGLE STAGE COOLING MCA/MOCP WITH ERV AND HACR BREAKER

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
460–3–60	DD–STD	16	20	16	47	16	20	16	47	18	20	18	49	18	20	18	49
		19	20	17	47	19	20	17	47	22	25	19	49	22	25	19	49
		23	25	21	47	23	25	21	47	26	30	23	49	26	30	23	49
		27	30	24	47	27	30	24	47	30	30	27	49	30	30	27	49
		31	35	28	47	31	35	28	47	34	35	30	49	34	35	30	49
	STD	14	15	14	49	14	15	14	49	16	20	16	51	16	20	16	51
		16	20	15	49	16	20	15	49	19	20	17	51	19	20	17	51
		21	25	19	49	21	25	19	49	23	25	21	51	23	25	21	51
		25	25	22	49	25	25	22	49	27	30	25	51	27	30	25	51
		28	30	26	49	28	30	26	49	31	35	28	51	31	35	28	51
	MED	14	15	14	49	14	15	14	49	16	20	16	51	16	20	16	51
		16	20	15	49	16	20	15	49	19	20	17	51	19	20	17	51
		21	25	19	49	21	25	19	49	23	25	21	51	23	25	21	51
		25	25	22	49	25	25	22	49	27	30	25	51	27	30	25	51
		28	30	26	49	28	30	26	49	31	35	28	51	31	35	28	51
	HIGH	14	20	14	58	14	20	14	58	17	20	17	60	17	20	17	60
		17	20	15	58	17	20	15	58	20	20	18	60	20	20	18	60
		21	25	19	58	21	25	19	58	24	25	22	60	24	25	22	60
		25	25	23	58	25	25	23	58	28	30	25	60	28	30	25	60
		29	30	26	58	29	30	26	58	32	35	29	60	32	35	29	60
575–3–60	DD–STD	15	20	16	47	15	20	16	47	17	20	18	49	17	20	18	49
		24	25	21	47	24	25	21	47	26	30	23	49	26	30	23	49
		29	30	27	47	29	30	27	47	31	35	28	49	31	35	28	49
	STD	13	15	13	48	13	15	13	48	15	20	15	50	15	20	15	50
		21	25	19	48	21	25	19	48	23	25	21	50	23	25	21	50
		27	30	24	48	27	30	24	48	29	30	26	50	29	30	26	50
	MED	13	15	13	48	13	15	13	48	15	20	15	50	15	20	15	50
		21	25	19	48	21	25	19	48	23	25	21	50	23	25	21	50
		27	30	24	48	27	30	24	48	29	30	26	50	29	30	26	50
	HIGH	13	15	13	54	13	15	13	54	15	20	15	56	15	20	15	56
		21	25	19	54	21	25	19	54	23	25	21	56	23	25	21	56
		27	30	24	54	27	30	24	54	29	30	26	56	29	30	26	56

ELECTRICAL DATA (cont.)

Table 70 – 50HC*A05 SINGLE STAGE COOLING MCA/MOCP WITH ERV AND HACR BREAKER

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/230–1–60	DD–STD	44	60	44	135	44	60	44	135	49	60	50	140	49	60	50	140
		44/44	60/60	44/44	135/135	44/44	60/60	44/44	135/135	49/49	60/60	50/50	140/140	49/49	60/60	50/50	140/140
		65/65	70/70	54/59	135/135	65/65	70/70	54/59	135/135	71/71	80/80	59/65	140/140	71/71	80/80	59/65	140/140
		87/87	90/90	71/80	135/135	87/87	90/90	71/80	135/135	93/93	100/100	77/85	140/140	93/93	100/100	77/85	140/140
		110/110	110/110	90/101	135/135	110/110	110/110	90/101	135/135	116/116	125/125	95/106	140/140	116/116	125/125	95/106	140/140
		129/129	150/150	105/118	135/135	129/129	150/150	105/118	135/135	135/135	150/150	110/124	140/140	135/135	150/150	110/124	140/140
	STD	42	60	41	140	42	60	41	140	47	60	47	145	47	60	47	145
		42/42	60/60	41/41	140/140	42/42	60/60	41/41	140/140	47/47	60/60	47/47	145/145	47/47	60/60	47/47	145/145
		62/62	70/70	51/56	140/140	62/62	70/70	51/56	140/140	68/68	70/70	56/62	145/145	68/68	70/70	56/62	145/145
		84/84	90/90	68/77	140/140	84/84	90/90	68/77	140/140	90/90	90/90	74/82	145/145	90/90	90/90	74/82	145/145
		107/107	110/110	87/98	140/140	107/107	110/110	87/98	140/140	113/113	125/125	92/103	145/145	113/113	125/125	92/103	145/145
		126/126	150/150	102/115	140/140	126/126	150/150	102/115	140/140	132/132	150/150	107/121	145/145	132/132	150/150	107/121	145/145
	MED	42	60	41	140	42	60	41	140	47	60	47	145	47	60	47	145
		42/42	60/60	41/41	140/140	42/42	60/60	41/41	140/140	47/47	60/60	47/47	145/145	47/47	60/60	47/47	145/145
		62/62	70/70	51/56	140/140	62/62	70/70	51/56	140/140	68/68	70/70	56/62	145/145	68/68	70/70	56/62	145/145
		84/84	90/90	68/77	140/140	84/84	90/90	68/77	140/140	90/90	90/90	74/82	145/145	90/90	90/90	74/82	145/145
		107/107	110/110	87/98	140/140	107/107	110/110	87/98	140/140	113/113	125/125	92/103	145/145	113/113	125/125	92/103	145/145
		126/126	150/150	102/115	140/140	126/126	150/150	102/115	140/140	132/132	150/150	107/121	145/145	132/132	150/150	107/121	145/145
208/230–3–60	DD–STD	34	45	35	101	34	45	35	101	39	50	41	106	39	50	41	106
		39/39	45/45	35/36	101/101	39/39	45/45	35/36	101/101	45/45	50/50	41/41	106/106	45/45	50/50	41/41	106/106
		46/46	50/50	39/42	101/101	46/46	50/50	39/42	101/101	52/52	60/60	44/47	106/106	52/52	60/60	44/47	106/106
		68/68	70/70	56/62	101/101	68/68	70/70	56/62	101/101	74/74	80/80	62/68	106/106	74/74	80/80	62/68	106/106
		83/83	90/90	68/76	101/101	83/83	90/90	68/76	101/101	89/89	90/90	74/81	106/106	89/89	90/90	74/81	106/106
	STD	32	45	32	106	32	45	32	106	37	50	38	111	37	50	38	111
		36/36	45/45	32/33	106/106	36/36	45/45	32/33	106/106	42/42	50/50	38/38	111/111	42/42	50/50	38/38	111/111
		43/43	45/45	36/39	106/106	43/43	45/45	36/39	106/106	49/49	50/50	41/44	111/111	49/49	50/50	41/44	111/111
		65/65	70/70	53/59	106/106	65/65	70/70	53/59	106/106	71/71	80/80	59/65	111/111	71/71	80/80	59/65	111/111
		80/80	80/80	65/73	106/106	80/80	80/80	65/73	106/106	86/86	90/90	71/79	111/111	86/86	90/90	71/79	111/111
	MED	32	45	33	113	32	45	33	113	37	50	38	118	37	50	38	118
		37/37	45/45	33/33	113/113	37/37	45/45	33/33	113/113	43/43	50/50	38/39	118/118	43/43	50/50	38/39	118/118
		43/43	45/45	36/39	113/113	43/43	45/45	36/39	113/113	49/49	50/50	42/45	118/118	49/49	50/50	42/45	118/118
		65/65	70/70	54/60	113/113	65/65	70/70	54/60	113/113	71/71	80/80	59/65	118/118	71/71	80/80	59/65	118/118
		80/80	80/80	66/73	113/113	80/80	80/80	66/73	113/113	86/86	90/90	71/79	118/118	86/86	90/90	71/79	118/118
	HIGH	35	45	35	150	35	45	35	150	39	50	41	155	39	50	41	155
		39/39	45/45	35/36	150/150	39/39	45/45	35/36	150/150	45/45	50/50	41/41	155/155	45/45	50/50	41/41	155/155
		46/46	50/50	39/42	150/150	46/46	50/50	39/42	150/150	52/52	60/60	44/47	155/155	52/52	60/60	44/47	155/155
		68/68	70/70	56/62	150/150	68/68	70/70	56/62	150/150	74/74	80/80	62/68	155/155	74/74	80/80	62/68	155/155
		83/83	90/90	68/76	150/150	83/83	90/90	68/76	150/150	89/89	90/90	74/82	155/155	89/89	90/90	74/82	155/155

ELECTRICAL DATA (cont.)

Table 73 (cont.) - 50HC*A05 SINGLE STAGE COOLING MCA/MOCP WITH ERV AND HACR BREAKER

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
460–3–60	DD–STD	17	20	17	51	17	20	17	51	19	25	20	53	19	25	20	53
		19	20	17	51	19	20	17	51	22	25	20	53	22	25	20	53
		27	30	25	51	27	30	25	51	30	30	27	53	30	30	27	53
		31	35	28	51	31	35	28	51	34	35	31	53	34	35	31	53
		45	45	41	51	45	45	41	51	48	50	43	53	48	50	43	53
	STD	15	20	15	53	15	20	15	53	17	20	18	55	17	20	18	55
		17	20	15	53	17	20	15	53	20	20	18	55	20	20	18	55
		25	25	23	53	25	25	23	53	28	30	25	55	28	30	25	55
		29	30	26	53	29	30	26	53	32	35	29	55	32	35	29	55
		42	45	39	53	42	45	39	53	45	45	41	55	45	45	41	55
	MED	16	20	16	56	16	20	16	56	18	20	18	58	18	20	18	58
		17	20	16	56	17	20	16	56	20	20	18	58	20	20	18	58
		26	30	23	56	26	30	23	56	28	30	26	58	28	30	26	58
		29	30	27	56	29	30	27	56	32	35	29	58	32	35	29	58
		43	45	39	56	43	45	39	56	46	50	42	58	46	50	42	58
	HIGH	16	20	16	75	16	20	16	75	19	20	19	77	19	20	19	77
		18	20	17	75	18	20	17	75	21	25	19	77	21	25	19	77
		27	30	24	75	27	30	24	75	29	30	27	77	29	30	27	77
		30	35	28	75	30	35	28	75	33	35	30	77	33	35	30	77
		44	45	40	75	44	45	40	75	47	50	43	77	47	50	43	77
575–3–60	DD–STD	15	20	16	43	15	20	16	43	17	20	18	45	17	20	18	45
		22	25	20	43	22	25	20	43	24	25	22	45	24	25	22	45
		27	30	25	43	27	30	25	43	30	30	27	45	30	30	27	45
	STD	13	15	13	44	13	15	13	44	15	20	15	46	15	20	15	46
		19	20	17	44	19	20	17	44	21	25	19	46	21	25	19	46
		25	25	22	44	25	25	22	44	27	30	24	46	27	30	24	46
	MED	13	15	13	46	13	15	13	46	14	20	15	48	14	20	15	48
		19	20	17	46	19	20	17	46	21	25	19	48	21	25	19	48
		24	25	22	46	24	25	22	46	27	30	24	48	27	30	24	48
	HIGH	14	15	14	61	14	15	14	61	16	20	16	63	16	20	16	63
		20	20	18	61	20	20	18	61	22	25	20	63	22	25	20	63
		26	30	23	61	26	30	23	61	28	30	25	63	28	30	25	63

ELECTRICAL DATA (cont.)

Table 71 – 50HC*A06 SINGLE STAGE COOLING MCA/MOCP WITH ERV AND HACR BREAKER

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–1–60	DD– STD	48	60	48	152	48	60	48	152	53	60	53	157	53	60	53	157
		53/53	60/60	48/49	152/152	53/53	60/60	48/49	152/152	59/59	60/60	53/54	157/157	59/59	60/60	53/54	157/157
		65/65	70/70	54/59	152/152	65/65	70/70	54/59	152/152	71/71	80/80	59/65	157/157	71/71	80/80	59/65	157/157
		87/87	90/90	71/80	152/152	87/87	90/90	71/80	152/152	93/93	100/100	77/85	157/157	93/93	100/100	77/85	157/157
		110/110	110/110	90/101	152/152	110/110	110/110	90/101	152/152	116/116	125/125	95/106	157/157	116/116	125/125	95/106	157/157
		129/129	150/150	105/118	152/152	129/129	150/150	105/118	152/152	135/135	150/150	110/124	157/157	135/135	150/150	110/124	157/157
	STD	46	60	45	157	46	60	45	157	51	60	50	162	51	60	50	162
		50/50	60/60	45/46	157/157	50/50	60/60	45/46	157/157	56/56	60/60	50/51	162/162	56/56	60/60	50/51	162/162
		62/62	70/70	51/56	157/157	62/62	70/70	51/56	157/157	68/68	70/70	56/62	162/162	68/68	70/70	56/62	162/162
		84/84	90/90	68/77	157/157	84/84	90/90	68/77	157/157	90/90	90/90	74/82	162/162	90/90	90/90	74/82	162/162
		107/107	110/110	87/98	157/157	107/107	110/110	87/98	157/157	113/113	125/125	92/103	162/162	113/113	125/125	92/103	162/162
		126/126	150/150	102/115	157/157	126/126	150/150	102/115	157/157	132/132	150/150	107/121	162/162	132/132	150/150	107/121	162/162
	MED	48	60	47	182	48	60	47	182	53	60	53	187	53	60	53	187
		53/53	60/60	47/48	182/182	53/53	60/60	47/48	182/182	59/59	60/60	53/54	187/187	59/59	60/60	53/54	187/187
		64/64	70/70	53/59	182/182	64/64	70/70	53/59	182/182	70/70	70/70	59/64	187/187	70/70	70/70	59/64	187/187
		87/87	90/90	71/79	182/182	87/87	90/90	71/79	182/182	93/93	100/100	76/85	187/187	93/93	100/100	76/85	187/187
		110/110	110/110	89/100	182/182	110/110	110/110	89/100	182/182	116/116	125/125	95/106	187/187	116/116	125/125	95/106	187/187
		128/128	150/150	104/118	182/182	128/128	150/150	104/118	182/182	134/134	150/150	110/123	187/187	134/134	150/150	110/123	187/187
208/ 230–3–60	DD– STD	37	50	38	128	37	50	38	128	42	50	43	133	42	50	43	133
		39/39	50/50	38/38	128/128	39/39	50/50	38/38	128/128	45/45	50/50	43/43	133/133	45/45	50/50	43/43	133/133
		51/51	60/60	43/47	128/128	51/51	60/60	43/47	128/128	57/57	60/60	49/52	133/133	57/57	60/60	49/52	133/133
		68/68	70/70	56/62	128/128	68/68	70/70	56/62	128/128	74/74	80/80	62/68	133/133	74/74	80/80	62/68	133/133
		83/83	90/90	68/76	128/128	83/83	90/90	68/76	128/128	89/89	90/90	74/81	133/133	89/89	90/90	74/81	133/133
		100/100	100/100	81/91	128/128	100/100	100/100	81/91	128/128	106/106	110/110	87/97	133/133	106/106	110/110	87/97	133/133
	STD	35	50	35	133	35	50	35	133	40	50	40	138	40	50	40	138
		36/36	50/50	35/35	133/133	36/36	50/50	35/35	133/133	42/42	50/50	40/40	138/138	42/42	50/50	40/40	138/138
		48/48	50/50	40/44	133/133	48/48	50/50	40/44	133/133	54/54	60/60	46/50	138/138	54/54	60/60	46/50	138/138
		65/65	70/70	53/59	133/133	65/65	70/70	53/59	133/133	71/71	80/80	59/65	138/138	71/71	80/80	59/65	138/138
		80/80	80/80	65/73	133/133	80/80	80/80	65/73	133/133	86/86	90/90	71/79	138/138	86/86	90/90	71/79	138/138
		96/96	100/100	78/88	133/133	96/96	100/100	78/88	133/133	102/102	110/110	84/94	138/138	102/102	110/110	84/94	138/138
	MED	35	50	35	151	35	50	35	151	40	50	41	156	40	50	41	156
		37/37	50/50	35/35	151/151	37/37	50/50	35/35	151/151	43/43	50/50	41/41	156/156	43/43	50/50	41/41	156/156
		49/49	50/50	40/44	151/151	49/49	50/50	40/44	151/151	55/55	60/60	46/50	156/156	55/55	60/60	46/50	156/156
		65/65	70/70	54/60	151/151	65/65	70/70	54/60	151/151	71/71	80/80	59/65	156/156	71/71	80/80	59/65	156/156
		80/80	80/80	66/73	151/151	80/80	80/80	66/73	151/151	86/86	90/90	71/79	156/156	86/86	90/90	71/79	156/156
		97/97	100/100	79/89	151/151	97/97	100/100	79/89	151/151	103/103	110/110	84/94	156/156	103/103	110/110	84/94	156/156
	HIGH	37	50	38	177	37	50	38	177	42	50	43	182	42	50	43	182
		39/39	50/50	38/38	177/177	39/39	50/50	38/38	177/177	45/45	50/50	43/43	182/182	45/45	50/50	43/43	182/182
		52/52	60/60	43/47	177/177	52/52	60/60	43/47	177/177	58/58	60/60	49/53	182/182	58/58	60/60	49/53	182/182
		68/68	70/70	56/62	177/177	68/68	70/70	56/62	177/177	74/74	80/80	62/68	182/182	74/74	80/80	62/68	182/182
		83/83	90/90	68/76	177/177	83/83	90/90	68/76	177/177	89/89	90/90	74/82	182/182	89/89	90/90	74/82	182/182
		100/100	100/100	81/91	177/177	100/100	100/100	81/91	177/177	106/106	110/110	87/97	182/182	106/106	110/110	87/97	182/182

ELECTRICAL DATA (cont.)

Table 74 (cont.) - 50HC*A06 SINGLE STAGE COOLING MCA/MOCP WITH ERV AND HACR BREAKER

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
460–3–60	DD–STD	18	20	18	62	18	20	18	62	20	25	21	64	20	25	21	64
		19	20	18	62	19	20	18	62	22	25	21	64	22	25	21	64
		27	30	25	62	27	30	25	62	30	30	27	64	30	30	27	64
		31	35	28	62	31	35	28	62	34	35	31	64	34	35	31	64
		45	45	41	62	45	45	41	62	48	50	43	64	48	50	43	64
		49	50	44	62	49	50	44	62	51	60	47	64	51	60	47	64
	STD	16	20	16	64	16	20	16	64	18	20	18	66	18	20	18	66
		17	20	16	64	17	20	16	64	20	20	18	66	20	20	18	66
		25	25	23	64	25	25	23	64	28	30	25	66	28	30	25	66
		29	30	26	64	29	30	26	64	32	35	29	66	32	35	29	66
		42	45	39	64	42	45	39	64	45	45	41	66	45	45	41	66
		46	50	42	64	46	50	42	64	49	50	45	66	49	50	45	66
	MED	17	20	16	73	17	20	16	73	19	25	19	75	19	25	19	75
		17	20	16	73	17	20	16	73	20	25	19	75	20	25	19	75
		26	30	23	73	26	30	23	73	28	30	26	75	28	30	26	75
		29	30	27	73	29	30	27	73	32	35	29	75	32	35	29	75
		43	45	39	73	43	45	39	73	46	50	42	75	46	50	42	75
		47	50	43	73	47	50	43	73	50	50	45	75	50	50	45	75
	HIGH	17	20	17	86	17	20	17	86	20	25	20	88	20	25	20	88
		18	20	17	86	18	20	17	86	21	25	20	88	21	25	20	88
		27	30	24	86	27	30	24	86	29	30	27	88	29	30	27	88
		30	35	28	86	30	35	28	86	33	35	30	88	33	35	30	88
		44	45	40	86	44	45	40	86	47	50	43	88	47	50	43	88
		48	50	44	86	48	50	44	86	51	60	46	88	51	60	46	88
575–3–60	DD–STD	16	20	16	50	16	20	16	50	17	20	18	52	17	20	18	52
		27	30	25	50	27	30	25	50	30	30	27	52	30	30	27	52
		39	40	36	50	39	40	36	50	41	45	38	52	41	45	38	52
	STD	13	15	13	51	13	15	13	51	15	20	15	53	15	20	15	53
		25	25	22	51	25	25	22	51	27	30	24	53	27	30	24	53
		36	40	33	51	36	40	33	51	39	40	35	53	39	40	35	53
	MED	14	15	14	57	14	15	14	57	15	20	16	59	15	20	16	59
		25	25	23	57	25	25	23	57	27	30	25	59	27	30	25	59
		37	40	33	57	37	40	33	57	39	40	35	59	39	40	35	59
	HIGH	14	20	15	68	14	20	15	68	16	20	16	70	16	20	16	70
		26	30	23	68	26	30	23	68	28	30	25	70	28	30	25	70
		38	40	34	68	38	40	34	68	40	40	36	70	40	40	36	70

ELECTRICAL DATA (cont.)

Table 72 – 50HC*A07 SINGLE STAGE COOLING MCA/MOCP WITH ERV AND HACR BREAKER

50HC–A07 SINGLE STAGE COOLING																	
NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/230–3–60	STD	40	50	41	156	40	50	41	156	45	60	46	161	45	60	46	161
		40/40	50/50	41/41	156/156	40/40	50/50	41/41	156/156	45/45	60/60	46/46	161/161	45/45	60/60	46/46	161/161
		48/48	50/50	41/44	156/156	48/48	50/50	41/44	156/156	54/54	60/60	46/50	161/161	54/54	60/60	46/50	161/161
		65/65	70/70	54/60	156/156	65/65	70/70	54/60	156/156	71/71	80/80	59/65	161/161	71/71	80/80	59/65	161/161
		80/80	80/80	66/73	156/156	80/80	80/80	66/73	156/156	86/86	90/90	71/79	161/161	86/86	90/90	71/79	161/161
		97/97	100/100	79/89	156/156	97/97	100/100	79/89	156/156	103/103	110/110	84/94	161/161	103/103	110/110	84/94	161/161
	MED	43	60	43	193	43	60	43	193	48	60	49	198	48	60	49	198
		43/43	60/60	43/43	193/193	43/43	60/60	43/43	193/193	48/48	60/60	49/49	198/198	48/48	60/60	49/49	198/198
		51/51	60/60	43/47	193/193	51/51	60/60	43/47	193/193	57/57	60/60	49/52	198/198	57/57	60/60	49/52	198/198
		68/68	70/70	56/62	193/193	68/68	70/70	56/62	193/193	74/74	80/80	62/68	198/198	74/74	80/80	62/68	198/198
		83/83	90/90	68/76	193/193	83/83	90/90	68/76	193/193	89/89	90/90	74/82	198/198	89/89	90/90	74/82	198/198
		100/100	100/100	81/91	193/193	100/100	100/100	81/91	193/193	106/106	110/110	87/97	198/198	106/106	110/110	87/97	198/198
	HIGH	50	60	52	219	50	60	52	219	55	60	57	224	55	60	57	224
		50/50	60/60	52/52	219/219	50/50	60/60	52/52	219/219	55/55	60/60	57/57	224/224	55/55	60/60	57/57	224/224
		61/61	70/70	52/55	219/219	61/61	70/70	52/55	219/219	67/67	70/70	57/61	224/224	67/67	70/70	57/61	224/224
		77/77	80/80	65/71	219/219	77/77	80/80	65/71	219/219	83/83	90/90	70/76	224/224	83/83	90/90	70/76	224/224
		92/92	100/100	77/85	219/219	92/92	100/100	77/85	219/219	98/98	100/100	82/90	224/224	98/98	100/100	82/90	224/224
		109/109	110/110	90/100	219/219	109/109	110/110	90/100	219/219	115/115	125/125	96/105	224/224	115/115	125/125	96/105	224/224
460–3–60	STD	21	25	20	79	21	25	20	79	23	30	23	81	23	30	23	81
		21	25	20	79	21	25	20	79	23	30	23	81	23	30	23	81
		26	30	23	79	26	30	23	79	28	30	26	81	28	30	26	81
		29	30	27	79	29	30	27	79	32	35	29	81	32	35	29	81
		43	45	39	79	43	45	39	79	46	50	42	81	46	50	42	81
		47	50	43	79	47	50	43	79	50	50	45	81	50	50	45	81
	MED	21	30	21	98	21	30	21	98	24	30	24	100	24	30	24	100
		21	30	21	98	21	30	21	98	24	30	24	100	24	30	24	100
		27	30	24	98	27	30	24	98	29	30	27	100	29	30	27	100
		30	35	28	98	30	35	28	98	33	35	30	100	33	35	30	100
		44	45	40	98	44	45	40	98	47	50	43	100	47	50	43	100
		48	50	44	98	48	50	44	98	51	60	46	100	51	60	46	100
	HIGH	25	30	26	111	25	30	26	111	28	30	28	113	28	30	28	113
		25	30	26	111	25	30	26	111	28	30	28	113	28	30	28	113
		32	35	29	111	32	35	29	111	34	35	31	113	34	35	31	113
		35	40	32	111	35	40	32	111	38	40	35	113	38	40	35	113
		49	50	45	111	49	50	45	111	52	60	47	113	52	60	47	113
		53	60	48	111	53	60	48	111	56	60	51	113	56	60	51	113
575–3–60	STD	16	20	16	65	16	20	16	65	18	20	18	67	18	20	18	67
		32	35	29	65	32	35	29	65	34	35	31	67	34	35	31	67
		39	40	35	65	39	40	35	65	41	45	37	67	41	45	37	67
	MED	18	20	18	80	18	20	18	80	19	25	19	82	19	25	19	82
		34	35	31	80	34	35	31	80	36	40	33	82	36	40	33	82
		41	45	37	80	41	45	37	80	43	45	39	82	43	45	39	82
	HIGH	20	25	21	94	20	25	21	94	22	25	23	96	22	25	23	96
		38	40	34	94	38	40	34	94	40	40	36	96	40	40	36	96
		44	45	41	94	44	45	41	94	47	50	42	96	47	50	42	96

ELECTRICAL DATA (cont.)

Table 73 – 50HC*D08 TWO STAGE COOLING MCA/MOCP WITH ERV AND HACR BREAKER

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–3–60	STD	51	60	54	203	51	60	54	203	56	60	60	208	56	60	60	208
		53/53	60/60	54/54	203/203	53/53	60/60	54/54	203/203	59/59	60/60	60/60	208/208	59/59	60/60	60/60	208/208
		70/70	70/70	58/64	203/203	70/70	70/70	58/64	203/203	76/76	80/80	64/70	208/208	76/76	80/80	64/70	208/208
		97/97	100/100	79/88	203/203	97/97	100/100	79/88	203/203	103/103	110/110	85/94	208/208	103/103	110/110	85/94	208/208
		118/118	125/125	96/108	203/203	118/118	125/125	96/108	203/203	124/124	125/125	102/114	208/208	124/124	125/125	102/114	208/208
		149/149	150/150	121/137	203/203	149/149	150/150	121/137	203/203	155/155	175/175	127/143	208/208	155/155	175/175	127/143	208/208
	MED	51	60	54	214	51	60	54	214	56	60	60	219	56	60	60	219
		53/53	60/60	54/54	214/214	53/53	60/60	54/54	214/214	59/59	60/60	60/60	219/219	59/59	60/60	60/60	219/219
		70/70	70/70	58/64	214/214	70/70	70/70	58/64	214/214	76/76	80/80	64/70	219/219	76/76	80/80	64/70	219/219
		97/97	100/100	79/88	214/214	97/97	100/100	79/88	214/214	103/103	110/110	85/94	219/219	103/103	110/110	85/94	219/219
		118/118	125/125	96/108	214/214	118/118	125/125	96/108	214/214	124/124	125/125	102/114	219/219	124/124	125/125	102/114	219/219
		149/149	150/150	121/137	214/214	149/149	150/150	121/137	214/214	155/155	175/175	127/143	219/219	155/155	175/175	127/143	219/219
	HIGH	56	60	60	257	56	60	60	257	61	70	66	262	61	70	66	262
		59/59	60/60	60/60	257/257	59/59	60/60	60/60	257/257	65/65	70/70	66/66	262/262	65/65	70/70	66/66	262/262
		76/76	80/80	64/70	257/257	76/76	80/80	64/70	257/257	82/82	90/90	69/75	262/262	82/82	90/90	69/75	262/262
		103/103	110/110	85/94	257/257	103/103	110/110	85/94	257/257	109/109	110/110	90/99	262/262	109/109	110/110	90/99	262/262
		124/124	125/125	102/114	257/257	124/124	125/125	102/114	257/257	130/130	150/150	107/119	262/262	130/130	150/150	107/119	262/262
		155/155	175/175	127/143	257/257	155/155	175/175	127/143	257/257	161/161	175/175	132/148	262/262	161/161	175/175	132/148	262/262
460–3–60	STD	24	25	25	101	24	25	25	101	26	30	28	103	26	30	28	103
		31	35	28	101	31	35	28	101	34	35	31	103	34	35	31	103
		35	35	32	101	35	35	32	101	38	40	35	103	38	40	35	103
		52	60	48	101	52	60	48	101	55	60	50	103	55	60	50	103
		60	60	55	101	60	60	55	101	63	70	57	103	63	70	57	103
		73	80	67	101	73	80	67	101	76	80	70	103	76	80	70	103
	MED	24	25	25	107	24	25	25	107	26	30	28	109	26	30	28	109
		31	35	28	107	31	35	28	107	34	35	31	109	34	35	31	109
		35	35	32	107	35	35	32	107	38	40	35	109	38	40	35	109
		52	60	48	107	52	60	48	107	55	60	50	109	55	60	50	109
		60	60	55	107	60	60	55	107	63	70	57	109	63	70	57	109
		73	80	67	107	73	80	67	107	76	80	70	109	76	80	70	109
	HIGH	26	30	27	129	26	30	27	129	28	30	30	131	28	30	30	131
		34	35	31	129	34	35	31	129	36	40	33	131	36	40	33	131
		38	40	34	129	38	40	34	129	40	40	37	131	40	40	37	131
		55	60	50	129	55	60	50	129	57	60	52	131	57	60	52	131
		62	70	57	129	62	70	57	129	65	70	60	131	65	70	60	131
		76	80	69	129	76	80	69	129	78	80	72	131	78	80	72	131
575–3–60	STD	18	20	19	83	18	20	19	83	19	25	21	85	19	25	21	85
		34	35	31	83	34	35	31	83	36	40	33	85	36	40	33	85
		60	60	55	83	60	60	55	83	62	70	57	85	62	70	57	85
	MED	19	20	20	87	19	20	20	87	20	25	22	89	20	25	22	89
		35	35	32	87	35	35	32	87	37	40	34	89	37	40	34	89
		61	70	56	87	61	70	56	87	63	70	58	89	63	70	58	89
	HIGH	19	20	21	98	19	20	21	98	21	25	22	100	21	25	22	100
		36	40	33	98	36	40	33	98	38	40	35	100	38	40	35	100
		62	70	57	98	62	70	57	98	64	70	58	100	64	70	58	100

ELECTRICAL DATA (cont.)

Table 74 – 50HC*D9 TWO STAGE COOLING MCA/MOCP WITH ERV AND HACR BREAKER

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–3–60	STD	51	60	55	203	51	60	55	203	56	60	60	208	56	60	60	208
		53/53	60/60	55/55	203/203	53/53	60/60	55/55	203/203	59/59	60/60	60/60	208/208	59/59	60/60	60/60	208/208
		70/70	70/70	58/64	203/203	70/70	70/70	58/64	203/203	76/76	80/80	64/70	208/208	76/76	80/80	64/70	208/208
		97/97	100/100	79/88	203/203	97/97	100/100	79/88	203/203	103/103	110/110	85/94	208/208	103/103	110/110	85/94	208/208
		118/118	125/125	96/108	203/203	118/118	125/125	96/108	203/203	124/124	125/125	102/114	208/208	124/124	125/125	102/114	208/208
		149/149	150/150	121/137	203/203	149/149	150/150	121/137	203/203	155/155	175/175	127/143	208/208	155/155	175/175	127/143	208/208
	MED	51	60	55	214	51	60	55	214	56	60	60	219	56	60	60	219
		53/53	60/60	55/55	214/214	53/53	60/60	55/55	214/214	59/59	60/60	60/60	219/219	59/59	60/60	60/60	219/219
		70/70	70/70	58/64	214/214	70/70	70/70	58/64	214/214	76/76	80/80	64/70	219/219	76/76	80/80	64/70	219/219
		97/97	100/100	79/88	214/214	97/97	100/100	79/88	214/214	103/103	110/110	85/94	219/219	103/103	110/110	85/94	219/219
		118/118	125/125	96/108	214/214	118/118	125/125	96/108	214/214	124/124	125/125	102/114	219/219	124/124	125/125	102/114	219/219
		149/149	150/150	121/137	214/214	149/149	150/150	121/137	214/214	155/155	175/175	127/143	219/219	155/155	175/175	127/143	219/219
	HIGH	56	60	60	257	56	60	60	257	61	70	66	262	61	70	66	262
		59/59	60/60	60/60	257/257	59/59	60/60	60/60	257/257	65/65	70/70	66/66	262/262	65/65	70/70	66/66	262/262
		76/76	80/80	64/70	257/257	76/76	80/80	64/70	257/257	82/82	90/90	69/75	262/262	82/82	90/90	69/75	262/262
		103/103	110/110	85/94	257/257	103/103	110/110	85/94	257/257	109/109	110/110	90/99	262/262	109/109	110/110	90/99	262/262
		124/124	125/125	102/114	257/257	124/124	125/125	102/114	257/257	130/130	150/150	107/119	262/262	130/130	150/150	107/119	262/262
		155/155	175/175	127/143	257/257	155/155	175/175	127/143	257/257	161/161	175/175	132/148	262/262	161/161	175/175	132/148	262/262
460–3–60	STD	24	30	25	101	24	30	25	101	26	30	28	103	26	30	28	103
		31	35	28	101	31	35	28	101	34	35	31	103	34	35	31	103
		35	35	32	101	35	35	32	101	38	40	35	103	38	40	35	103
		52	60	48	101	52	60	48	101	55	60	50	103	55	60	50	103
		60	60	55	101	60	60	55	101	63	70	57	103	63	70	57	103
		73	80	67	101	73	80	67	101	76	80	70	103	76	80	70	103
	MED	24	30	25	107	24	30	25	107	26	30	28	109	26	30	28	109
		31	35	28	107	31	35	28	107	34	35	31	109	34	35	31	109
		35	35	32	107	35	35	32	107	38	40	35	109	38	40	35	109
		52	60	48	107	52	60	48	107	55	60	50	109	55	60	50	109
		60	60	55	107	60	60	55	107	63	70	57	109	63	70	57	109
		73	80	67	107	73	80	67	107	76	80	70	109	76	80	70	109
	HIGH	26	30	27	129	26	30	27	129	28	30	30	131	28	30	30	131
		34	35	31	129	34	35	31	129	36	40	33	131	36	40	33	131
		38	40	34	129	38	40	34	129	40	40	37	131	40	40	37	131
		55	60	50	129	55	60	50	129	57	60	52	131	57	60	52	131
		62	70	57	129	62	70	57	129	65	70	60	131	65	70	60	131
		76	80	69	129	76	80	69	129	78	80	72	131	78	80	72	131
575–3–60	STD	19	20	20	83	19	20	20	83	21	25	22	85	21	25	22	85
		34	35	31	83	34	35	31	83	36	40	33	85	36	40	33	85
		60	60	55	83	60	60	55	83	62	70	57	85	62	70	57	85
	MED	20	25	21	87	20	25	21	87	22	25	23	89	22	25	23	89
		35	35	32	87	35	35	32	87	37	40	34	89	37	40	34	89
		61	70	56	87	61	70	56	87	63	70	58	89	63	70	58	89
	HIGH	21	25	22	98	21	25	22	98	22	25	24	100	22	25	24	100
		36	40	33	98	36	40	33	98	38	40	35	100	38	40	35	100
		62	70	57	98	62	70	57	98	64	70	58	100	64	70	58	100

ELECTRICAL DATA (cont.)

Table 75 – 50HC*D12 TWO STAGE COOLING MCA/MOCP WITH ERV AND HACR BREAKER

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA	MCA	HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA	MCA	HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA	MCA	HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA
208/ 230–3–60	STD	60	70	63	294	60	70	63	294	64	70	69	299	64	70	69	299
		60/60	70/70	63/63	294/294	60/60	70/70	63/63	294/294	64/64	70/70	69/69	299/299	64/64	70/70	69/69	299/299
		70/70	70/70	63/64	294/294	70/70	70/70	63/64	294/294	76/76	80/80	69/70	299/299	76/76	80/80	69/70	299/299
		118/118	125/125	96/108	294/294	118/118	125/125	96/108	294/294	124/124	125/125	102/114	299/299	124/124	125/125	102/114	299/299
		149/149	150/150	121/137	294/294	149/149	150/150	121/137	294/294	155/155	175/175	127/143	299/299	155/155	175/175	127/143	299/299
		152/152	175/175	140/158	294/294	152/152	175/175	140/158	294/294	158/158	175/175	145/164	299/299	158/158	175/175	145/164	299/299
	MED	64	70	69	337	64	70	69	337	69	80	74	342	69	80	74	342
		64/64	70/70	69/69	337/337	64/64	70/70	69/69	337/337	69/69	80/80	74/74	342/342	69/69	80/80	74/74	342/342
		76/76	80/80	69/70	337/337	76/76	80/80	69/70	337/337	82/82	90/90	74/75	342/342	82/82	90/90	74/75	342/342
		124/124	125/125	102/114	337/337	124/124	125/125	102/114	337/337	130/130	150/150	107/119	342/342	130/130	150/150	107/119	342/342
		155/155	175/175	127/143	337/337	155/155	175/175	127/143	337/337	161/161	175/175	132/148	342/342	161/161	175/175	132/148	342/342
		158/158	175/175	145/164	337/337	158/158	175/175	145/164	337/337	164/164	175/175	151/169	342/342	164/164	175/175	151/169	342/342
	HIGH	69	80	75	346	69	80	75	346	74	80	80	351	74	80	80	351
		69/69	80/80	75/75	346/346	69/69	80/80	75/75	346/346	74/74	80/80	80/80	351/351	74/74	80/80	80/80	351/351
		82/82	90/90	75/75	346/346	82/82	90/90	75/75	346/346	88/88	90/90	80/81	351/351	88/88	90/90	80/81	351/351
		130/130	150/150	108/120	346/346	130/130	150/150	108/120	346/346	136/136	150/150	113/125	351/351	136/136	150/150	113/125	351/351
		162/162	175/175	133/148	346/346	162/162	175/175	133/148	346/346	168/168	175/175	138/154	351/351	168/168	175/175	138/154	351/351
		164/164	175/175	151/169	346/346	164/164	175/175	151/169	346/346	170/170	175/175	156/175	351/351	170/170	175/175	156/175	351/351
460–3–60	STD	29	35	31	141	29	35	31	141	31	35	33	143	31	35	33	143
		31	35	31	141	31	35	31	141	34	35	33	143	34	35	33	143
		35	35	32	141	35	35	32	141	38	40	35	143	38	40	35	143
		60	60	55	141	60	60	55	141	63	70	57	143	63	70	57	143
		73	80	67	141	73	80	67	141	76	80	70	143	76	80	70	143
		71	80	78	141	71	80	78	141	73	80	81	143	73	80	81	143
	MED	31	35	33	163	31	35	33	163	33	40	35	165	33	40	35	165
		34	35	33	163	34	35	33	163	36	40	35	165	36	40	35	165
		38	40	34	163	38	40	34	163	40	40	37	165	40	40	37	165
		62	70	57	163	62	70	57	163	65	70	60	165	65	70	60	165
		76	80	69	163	76	80	69	163	78	80	72	165	78	80	72	165
		73	80	80	163	73	80	80	163	76	80	83	165	76	80	83	165
	HIGH	34	40	36	167	34	40	36	167	36	40	39	169	36	40	39	169
		37	40	36	167	37	40	36	167	40	40	39	169	40	40	39	169
		41	45	38	167	41	45	38	167	44	45	40	169	44	45	40	169
		66	70	60	167	66	70	60	167	69	70	63	169	69	70	63	169
		79	80	73	167	79	80	73	167	82	90	75	169	82	90	75	169
		77	80	84	167	77	80	84	167	79	80	86	169	79	80	86	169
575–3–60	STD	23	25	25	111	23	25	25	111	25	30	27	113	25	30	27	113
		35	35	32	111	35	35	32	111	37	40	34	113	37	40	34	113
		61	70	56	111	61	70	56	111	63	70	58	113	63	70	58	113
		71	80	79	111	71	80	79	111	73	80	81	113	73	80	81	113
	MED	24	30	25	122	24	30	25	122	26	30	27	124	26	30	27	124
		36	40	33	122	36	40	33	122	38	40	35	124	38	40	35	124
		62	70	57	122	62	70	57	122	64	70	58	124	64	70	58	124
		72	80	80	122	72	80	80	122	74	80	82	124	74	80	82	124
	HIGH	27	30	29	136	27	30	29	136	29	30	31	138	29	30	31	138
		40	40	36	136	40	40	36	136	42	45	38	138	42	45	38	138
		65	70	60	136	65	70	60	136	68	70	62	138	68	70	62	138
		76	80	83	136	76	80	83	136	78	80	85	138	78	80	85	138

ELECTRICAL DATA (cont.)

Table 76 – 50HC*D14 TWO STAGE COOLING MCA/MOCP WITH ERV AND HACR BREAKER

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–3–60	STD	71	80	76	330	71	80	76	330	76	90	82	335	76	90	82	335
		80/80	80/80	76/76	330/330	80/80	80/80	76/76	330/330	86/86	90/90	82/82	335/335	86/86	90/90	82/82	335/335
		110/110	110/110	91/101	330/330	110/110	110/110	91/101	330/330	116/116	125/125	96/106	335/335	116/116	125/125	96/106	335/335
		131/131	150/150	108/120	330/330	131/131	150/150	108/120	330/330	137/137	150/150	113/125	335/335	137/137	150/150	113/125	335/335
		161/161	175/175	132/148	330/330	161/161	175/175	132/148	330/330	167/167	175/175	137/153	335/335	167/167	175/175	137/153	335/335
		160/160	175/175	147/166	330/330	160/160	175/175	147/166	330/330	166/166	175/175	153/171	335/335	166/166	175/175	153/171	335/335
	MED	74	80	79	347	74	80	79	347	79	90	84	352	79	90	84	352
		83/83	90/90	79/79	347/347	83/83	90/90	79/79	347/347	89/89	90/90	84/84	352/352	89/89	90/90	84/84	352/352
		113/113	125/125	94/103	347/347	113/113	125/125	94/103	347/347	119/119	125/125	99/109	352/352	119/119	125/125	99/109	352/352
		134/134	150/150	110/123	347/347	134/134	150/150	110/123	347/347	140/140	150/150	116/128	352/352	140/140	150/150	116/128	352/352
		164/164	175/175	134/150	347/347	164/164	175/175	134/150	347/347	170/170	175/175	140/156	352/352	170/170	175/175	140/156	352/352
	HIGH	85	100	91	366	85	100	91	366	89	100	96	371	89	100	96	371
		96/96	100/100	91/91	366/366	96/96	100/100	91/91	366/366	102/102	110/110	96/96	371/371	102/102	110/110	96/96	371/371
		126/126	150/150	106/115	366/366	126/126	150/150	106/115	366/366	132/132	150/150	111/121	371/371	132/132	150/150	111/121	371/371
		147/147	150/150	122/135	366/366	147/147	150/150	122/135	366/366	153/153	175/175	128/140	371/371	153/153	175/175	128/140	371/371
		177/177	200/200	146/162	366/366	177/177	200/200	146/162	366/366	183/183	200/200	152/168	371/371	183/183	200/200	152/168	371/371
		177/177	200/200	162/180	366/366	177/177	200/200	162/180	366/366	183/183	200/200	168/186	371/371	183/183	200/200	168/186	371/371
460–3–60	STD	35	40	37	165	35	40	37	165	37	45	40	167	37	45	40	167
		38	40	37	165	38	40	37	165	41	45	40	167	41	45	40	167
		53	60	49	165	53	60	49	165	56	60	51	167	56	60	51	167
		64	70	58	165	64	70	58	165	67	70	61	167	67	70	61	167
		79	80	72	165	79	80	72	165	82	90	75	167	82	90	75	167
		74	80	81	165	74	80	81	165	76	80	84	167	76	80	84	167
	MED	36	45	38	174	36	45	38	174	38	45	41	176	38	45	41	176
		40	45	38	174	40	45	38	174	42	45	41	176	42	45	41	176
		55	60	50	174	55	60	50	174	57	60	52	176	57	60	52	176
		65	70	59	174	65	70	59	174	68	70	62	176	68	70	62	176
		80	80	73	174	80	80	73	174	83	90	76	176	83	90	76	176
		75	80	82	174	75	80	82	174	78	80	85	176	78	80	85	176
	HIGH	42	50	45	183	42	50	45	183	44	50	47	185	44	50	47	185
		47	50	45	183	47	50	45	183	50	50	47	185	50	50	47	185
		62	70	56	183	62	70	56	183	65	70	59	185	65	70	59	185
		72	80	66	183	72	80	66	183	75	80	69	185	75	80	69	185
		87	90	80	183	87	90	80	183	90	90	82	185	90	90	82	185
		82	90	89	183	82	90	89	183	85	90	92	185	85	90	92	185

ELECTRICAL DATA (cont.)

Table 79 (cont.) - 50HC*A14 SINGLE STAGE COOLING MCA/MOCP WITH ERV AND HACR BREAKER

575–3–60	STD	29	35	31	135	29	35	31	135	31	35	33	137	31	35	33	137
		33	35	31	135	33	35	31	135	35	35	33	137	35	35	33	137
		45	45	41	135	45	45	41	135	47	50	43	137	47	50	43	137
		53	60	48	135	53	60	48	135	55	60	50	137	55	60	50	137
		65	70	59	135	65	70	59	135	67	70	61	137	67	70	61	137
		61	70	67	135	61	70	67	135	63	70	69	137	63	70	69	137
	MED	29	35	31	135	29	35	31	135	31	35	33	137	31	35	33	137
		33	35	31	135	33	35	31	135	35	35	33	137	35	35	33	137
		45	45	41	135	45	45	41	135	47	50	43	137	47	50	43	137
		53	60	48	135	53	60	48	135	55	60	50	137	55	60	50	137
		65	70	59	135	65	70	59	135	67	70	61	137	67	70	61	137
		61	70	67	135	61	70	67	135	63	70	69	137	63	70	69	137
	HIGH	36	40	38	147	36	40	38	147	37	45	40	149	37	45	40	149
		40	40	38	147	40	40	38	147	42	45	40	149	42	45	40	149
		52	60	48	147	52	60	48	147	54	60	50	149	54	60	50	149
		61	70	55	147	61	70	55	147	63	70	57	149	63	70	57	149
		73	80	67	147	73	80	67	147	75	80	68	149	75	80	68	149
		69	70	74	147	69	70	74	147	71	80	76	149	71	80	76	149

ELECTRICAL DATA (cont.)

Table 77 – 50HC*D08 TWO STAGE COOLING & TWO SPEED INDOOR FAN MOTOR

MCA/MOCP WITH ERV

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–3–60	STD	52/52	60/60	55/55	207	52/52	60/60	55/55	207	57/56	60/60	61/60	212	57/56	60/60	61/60	212
		52/54	60/60	55/55	207/207	52/54	60/60	55/55	207/207	57/60	60/60	61/60	212/212	57/60	60/60	61/60	212/212
		64/71	70/80	59/64	207/207	64/71	70/80	59/64	207/207	70/77	70/80	64/70	212/212	70/77	70/80	64/70	212/212
		87/97	90/100	80/89	207/207	87/97	90/100	80/89	207/207	93/103	100/110	85/94	212/212	93/103	100/110	85/94	212/212
		106/119	110/125	97/109	207/207	106/119	110/125	97/109	207/207	112/125	125/125	103/114	212/212	112/125	125/125	103/114	212/212
		133/150	150/150	122/138	207/207	133/150	150/150	122/138	207/207	139/156	150/175	128/143	212/212	139/156	150/175	128/143	212/212
	MED	53/53	60/60	57/56	211	53/53	60/60	57/56	211	58/58	70/70	62/62	216	58/58	70/70	62/62	216
		53/55	60/60	57/56	211/211	53/55	60/60	57/56	211/211	58/61	70/70	62/62	216/216	58/61	70/70	62/62	216/216
		66/72	70/80	60/66	211/211	66/72	70/80	60/66	211/211	72/78	80/80	66/71	216/216	72/78	80/80	66/71	216/216
		89/99	90/100	81/90	211/211	89/99	90/100	81/90	211/211	95/105	100/110	87/96	216/216	95/105	100/110	87/96	216/216
		108/120	110/125	99/110	211/211	108/120	110/125	99/110	211/211	114/126	125/150	104/116	216/216	114/126	125/150	104/116	216/216
		135/151	150/175	124/139	211/211	135/151	150/175	124/139	211/211	141/157	150/175	129/144	216/216	141/157	150/175	129/144	216/216
	HIGH	57/56	60/60	61/60	261	57/56	60/60	61/60	261	62/61	70/70	66/65	266	62/61	70/70	66/65	266
		57/59	60/60	61/60	261/261	57/59	60/60	61/60	261/261	62/65	70/70	66/65	266/266	62/65	70/70	66/65	266/266
		71/76	80/80	65/69	261/261	71/76	80/80	65/69	261/261	77/82	80/90	70/75	266/266	77/82	80/90	70/75	266/266
		94/102	100/110	86/94	261/261	94/102	100/110	86/94	261/261	100/108	100/110	91/99	266/266	100/108	100/110	91/99	266/266
		112/124	125/125	103/114	261/261	112/124	125/125	103/114	261/261	118/130	125/150	108/119	266/266	118/130	125/150	108/119	266/266
		139/155	150/175	128/142	261/261	139/155	150/175	128/142	261/261	145/161	150/175	133/148	266/266	145/161	150/175	133/148	266/266
460–3–60	STD	24	30	25	103	24	30	25	103	26	30	28	105	26	30	28	105
		32	35	29	103	32	35	29	103	35	35	31	105	35	35	31	105
		36	40	32	103	36	40	32	103	38	40	35	105	38	40	35	105
		53	60	48	103	53	60	48	103	55	60	51	105	55	60	51	105
		61	70	55	103	61	70	55	103	63	70	58	105	63	70	58	105
		74	80	67	103	74	80	67	103	76	80	70	105	76	80	70	105
	MED	25	30	27	106	25	30	27	106	27	30	29	108	27	30	29	108
		33	35	30	106	33	35	30	106	36	40	32	108	36	40	32	108
		37	40	33	106	37	40	33	106	40	40	36	108	40	40	36	108
		54	60	49	106	54	60	49	106	57	60	52	108	57	60	52	108
		62	70	56	106	62	70	56	106	64	70	59	108	64	70	59	108
		75	80	68	106	75	80	68	106	78	80	71	108	78	80	71	108
	HIGH	26	30	28	131	26	30	28	131	28	30	30	133	28	30	30	133
		34	35	31	131	34	35	31	131	37	40	34	133	37	40	34	133
		38	40	35	131	38	40	35	131	41	45	37	133	41	45	37	133
		55	60	50	131	55	60	50	131	58	60	53	133	58	60	53	133
		63	70	58	131	63	70	58	131	66	70	60	133	66	70	60	133
		76	80	70	131	76	80	70	131	79	80	72	133	79	80	72	133
575–3–60	STD	19	20	21	85	19	20	21	85	21	25	22	87	21	25	22	87
		36	40	33	85	36	40	33	85	38	40	35	87	38	40	35	87
		62	70	57	85	62	70	57	85	64	70	58	87	64	70	58	87
	MED	20	25	21	89	20	25	21	89	22	25	23	91	22	25	23	91
		37	40	34	89	37	40	34	89	39	40	36	91	39	40	36	91
		63	70	57	89	63	70	57	89	65	70	59	91	65	70	59	91
	HIGH	21	25	22	98	21	25	22	98	23	25	24	100	23	25	24	100
		38	40	35	98	38	40	35	98	41	45	37	100	41	45	37	100
		64	70	58	98	64	70	58	98	66	70	60	100	66	70	60	100

ELECTRICAL DATA (cont.)

Table 78 – 50HC*D09 TWO STAGE COOLING & TWO SPEED INDOOR FAN MOTOR

MCA/MOCP WITH ERV

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–3–60	STD	52/52	60/60	55/55	207	52/52	60/60	55/55	207	57/57	60/60	61/61	212	57/57	60/60	61/61	212
		52/54	60/60	55/55	207/207	52/54	60/60	55/55	207/207	57/60	60/60	61/61	212/212	57/60	60/60	61/61	212/212
		64/71	70/80	59/64	207/207	64/71	70/80	59/64	207/207	70/77	70/80	64/70	212/212	70/77	70/80	64/70	212/212
		87/97	90/100	80/89	207/207	87/97	90/100	80/89	207/207	93/103	100/110	85/94	212/212	93/103	100/110	85/94	212/212
		106/119	110/125	97/109	207/207	106/119	110/125	97/109	207/207	112/125	125/125	103/114	212/212	112/125	125/125	103/114	212/212
		133/150	150/150	122/138	207/207	133/150	150/150	122/138	207/207	139/156	150/175	128/143	212/212	139/156	150/175	128/143	212/212
	MED	53/53	60/60	57/57	211	53/53	60/60	57/57	211	58/58	70/70	62/62	216	58/58	70/70	62/62	216
		53/55	60/60	57/57	211/211	53/55	60/60	57/57	211/211	58/61	70/70	62/62	216/216	58/61	70/70	62/62	216/216
		66/72	70/80	60/66	211/211	66/72	70/80	60/66	211/211	72/78	80/80	66/71	216/216	72/78	80/80	66/71	216/216
		89/99	90/100	81/90	211/211	89/99	90/100	81/90	211/211	95/105	100/110	87/96	216/216	95/105	100/110	87/96	216/216
		108/120	110/125	99/110	211/211	108/120	110/125	99/110	211/211	114/126	125/150	104/116	216/216	114/126	125/150	104/116	216/216
		135/151	150/175	124/139	211/211	135/151	150/175	124/139	211/211	141/157	150/175	129/144	216/216	141/157	150/175	129/144	216/216
	HIGH	57/56	70/60	61/60	261	57/56	70/60	61/60	261	62/61	70/70	67/66	266	62/61	70/70	67/66	266
		57/59	70/60	61/60	261/261	57/59	70/60	61/60	261/261	62/65	70/70	67/66	266/266	62/65	70/70	67/66	266/266
		71/76	80/80	65/69	261/261	71/76	80/80	65/69	261/261	77/82	80/90	70/75	266/266	77/82	80/90	70/75	266/266
		94/102	100/110	86/94	261/261	94/102	100/110	86/94	261/261	100/108	100/110	91/99	266/266	100/108	100/110	91/99	266/266
		112/124	125/125	103/114	261/261	112/124	125/125	103/114	261/261	118/130	125/150	108/119	266/266	118/130	125/150	108/119	266/266
		139/155	150/175	128/142	261/261	139/155	150/175	128/142	261/261	145/161	150/175	133/148	266/266	145/161	150/175	133/148	266/266
460–3–60	STD	24	30	26	103	24	30	26	103	27	30	28	105	27	30	28	105
		32	35	29	103	32	35	29	103	35	35	31	105	35	35	31	105
		36	40	32	103	36	40	32	103	38	40	35	105	38	40	35	105
		53	60	48	103	53	60	48	103	55	60	51	105	55	60	51	105
		61	70	55	103	61	70	55	103	63	70	58	105	63	70	58	105
		74	80	67	103	74	80	67	103	76	80	70	105	76	80	70	105
	MED	25	30	27	106	25	30	27	106	27	30	29	108	27	30	29	108
		33	35	30	106	33	35	30	106	36	40	32	108	36	40	32	108
		37	40	33	106	37	40	33	106	40	40	36	108	40	40	36	108
		54	60	49	106	54	60	49	106	57	60	52	108	57	60	52	108
		62	70	56	106	62	70	56	106	64	70	59	108	64	70	59	108
		75	80	68	106	75	80	68	106	78	80	71	108	78	80	71	108
	HIGH	26	30	28	131	26	30	28	131	29	30	31	133	29	30	31	133
		34	35	31	131	34	35	31	131	37	40	34	133	37	40	34	133
		38	40	35	131	38	40	35	131	41	45	37	133	41	45	37	133
		55	60	50	131	55	60	50	131	58	60	53	133	58	60	53	133
		63	70	58	131	63	70	58	131	66	70	60	133	66	70	60	133
		76	80	70	131	76	80	70	131	79	80	72	133	79	80	72	133
575–3–60	STD	21	25	22	85	21	25	22	85	22	25	24	87	22	25	24	87
		36	40	33	85	36	40	33	85	38	40	35	87	38	40	35	87
		62	70	57	85	62	70	57	85	64	70	58	87	64	70	58	87
	MED	21	25	23	89	21	25	23	89	23	25	25	91	23	25	25	91
		37	40	34	89	37	40	34	89	39	40	36	91	39	40	36	91
		63	70	57	89	63	70	57	89	65	70	59	91	65	70	59	91
	HIGH	22	25	24	98	22	25	24	98	24	25	26	100	24	25	26	100
		38	40	35	98	38	40	35	98	41	45	37	100	41	45	37	100
		64	70	58	98	64	70	58	98	66	70	60	100	66	70	60	100

ELECTRICAL DATA (cont.)

Table 79 – 50HC*D12 TWO STAGE COOLING & TWO SPEED INDOOR FAN MOTOR **MCA/MOCP WITH ERV**

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–3–60	STD	61/61	70/70	66/65	291	61/61	70/70	66/65	291	66/66	80/80	71/71	296	66/66	80/80	71/71	296
		61/61	70/70	66/65	291/291	61/61	70/70	66/65	291/291	66/66	80/80	71/71	296/296	66/66	80/80	71/71	296/296
		66/72	70/80	66/66	291/291	66/72	70/80	66/66	291/291	72/78	80/80	71/71	296/296	72/78	80/80	71/71	296/296
		108/120	110/125	99/110	291/291	108/120	110/125	99/110	291/291	114/126	125/150	104/116	296/296	114/126	125/150	104/116	296/296
		135/151	150/175	124/139	291/291	135/151	150/175	124/139	291/291	141/157	150/175	129/144	296/296	141/157	150/175	129/144	296/296
		155/144	175/150	142/160	291/291	155/144	175/150	142/160	291/291	161/150	175/175	147/165	296/296	161/150	175/175	147/165	296/296
	MED	65/64	80/70	70/69	341	65/64	80/70	70/69	341	70/69	80/80	75/74	346	70/69	80/80	75/74	346
		65/64	80/70	70/69	341/341	65/64	80/70	70/69	341/341	70/69	80/80	75/74	346/346	70/69	80/80	75/74	346/346
		71/76	80/80	70/69	341/341	71/76	80/80	70/69	341/341	77/82	80/90	75/75	346/346	77/82	80/90	75/75	346/346
		112/124	125/125	103/114	341/341	112/124	125/125	103/114	341/341	118/130	125/150	108/119	346/346	118/130	125/150	108/119	346/346
		139/155	150/175	128/142	341/341	139/155	150/175	128/142	341/341	145/161	150/175	133/148	346/346	145/161	150/175	133/148	346/346
		159/148	175/175	146/163	341/341	159/148	175/175	146/163	341/341	165/154	175/175	152/169	346/346	165/154	175/175	152/169	346/346
	HIGH	68/67	80/80	73/72	352	68/67	80/80	73/72	352	73/72	80/80	79/78	357	73/72	80/80	79/78	357
		68/67	80/80	73/72	352/352	68/67	80/80	73/72	352/352	73/72	80/80	79/78	357/357	73/72	80/80	79/78	357/357
		74/79	80/80	73/73	352/352	74/79	80/80	73/73	352/352	80/85	80/90	79/78	357/357	80/85	80/90	79/78	357/357
		116/128	125/150	106/117	352/352	116/128	125/150	106/117	352/352	122/134	125/150	112/122	357/357	122/134	125/150	112/122	357/357
		143/159	150/175	131/146	352/352	143/159	150/175	131/146	352/352	149/165	150/175	137/151	357/357	149/165	150/175	137/151	357/357
		163/152	175/175	149/167	352/352	163/152	175/175	149/167	352/352	169/158	175/175	155/172	357/357	169/158	175/175	155/172	357/357
460–3–60	STD	30	35	32	140	30	35	32	140	32	35	34	142	32	35	34	142
		33	35	32	140	33	35	32	140	36	40	34	142	36	40	34	142
		37	40	33	140	37	40	33	140	40	40	36	142	40	40	36	142
		62	70	56	140	62	70	56	140	64	70	59	142	64	70	59	142
		75	80	68	140	75	80	68	140	78	80	71	142	78	80	71	142
		72	80	80	140	72	80	80	140	75	80	82	142	75	80	82	142
	MED	31	35	33	165	31	35	33	165	33	40	36	167	33	40	36	167
		34	35	33	165	34	35	33	165	37	40	36	167	37	40	36	167
		38	40	35	165	38	40	35	165	41	45	37	167	41	45	37	167
		63	70	58	165	63	70	58	165	66	70	60	167	66	70	60	167
		76	80	70	165	76	80	70	165	79	80	72	167	79	80	72	167
		73	80	81	165	73	80	81	165	76	80	84	167	76	80	84	167
	HIGH	33	35	35	170	33	35	35	170	35	40	37	172	35	40	37	172
		36	40	35	170	36	40	35	170	39	40	37	172	39	40	37	172
		40	40	36	170	40	40	36	170	43	45	39	172	43	45	39	172
		65	70	59	170	65	70	59	170	68	70	62	172	68	70	62	172
		78	80	71	170	78	80	71	170	81	90	74	172	81	90	74	172
		75	80	83	170	75	80	83	170	78	80	85	172	78	80	85	172
575–3–60	STD	25	30	26	113	25	30	26	113	26	30	28	115	26	30	28	115
		37	40	34	113	37	40	34	113	39	40	36	115	39	40	36	115
		63	70	57	113	63	70	57	113	65	70	59	115	65	70	59	115
		73	80	81	113	73	80	81	113	75	80	83	115	75	80	83	115
	MED	26	30	27	122	26	30	27	122	27	30	29	124	27	30	29	124
		38	40	35	122	38	40	35	122	41	45	37	124	41	45	37	124
		64	70	58	122	64	70	58	122	66	70	60	124	66	70	60	124
		74	80	82	122	74	80	82	122	76	80	84	124	76	80	84	124
	HIGH	28	30	29	136	28	30	29	136	29	35	31	138	29	35	31	138
		41	45	37	136	41	45	37	136	43	45	39	138	43	45	39	138
		66	70	60	136	66	70	60	136	68	70	62	138	68	70	62	138
		76	80	84	136	76	80	84	136	78	80	86	138	78	80	86	138

ELECTRICAL DATA (cont.)

Table 80 – 50HC*D14 TWO STAGE COOLING & TWO SPEED INDOOR FAN MOTOR **MCA/MOCP WITH ERV**

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–3–60	STD	72/72	80/80	77/76	327	72/72	80/80	77/76	327	77/76	90/90	83/82	332	77/76	90/90	83/82	332
		74/80	80/80	77/76	327/327	74/80	80/80	77/76	327/327	80/86	90/90	83/82	332/332	80/86	90/90	83/82	332/332
		101/110	110/110	92/101	327/327	101/110	110/110	92/101	327/327	107/116	110/125	98/106	332/332	107/116	110/125	98/106	332/332
		119/131	125/150	109/120	327/327	119/131	125/150	109/120	327/327	125/137	125/150	114/126	332/332	125/137	125/150	114/126	332/332
		145/161	150/175	133/148	327/327	145/161	150/175	133/148	327/327	151/167	175/175	138/153	332/332	151/167	175/175	138/153	332/332
		162/151	175/175	148/166	327/327	162/151	175/175	148/166	327/327	168/157	175/175	154/171	332/332	168/157	175/175	154/171	332/332
	MED	75/74	80/80	80/79	351	75/74	80/80	80/79	351	79/78	90/90	85/84	356	79/78	90/90	85/84	356
		77/83	80/90	80/79	351/351	77/83	80/90	80/79	351/351	83/89	90/90	85/84	356/356	83/89	90/90	85/84	356/356
		103/113	110/125	95/103	351/351	103/113	110/125	95/103	351/351	109/119	110/125	100/109	356/356	109/119	110/125	100/109	356/356
		122/134	125/150	111/123	351/351	122/134	125/150	111/123	351/351	128/140	150/150	117/128	356/356	128/140	150/150	117/128	356/356
		148/164	150/175	135/150	351/351	148/164	150/175	135/150	351/351	154/170	175/175	141/156	356/356	154/170	175/175	141/156	356/356
		165/153	175/175	151/168	351/351	165/153	175/175	151/168	351/351	171/159	175/175	156/174	356/356	171/159	175/175	156/174	356/356
	HIGH	85	100	91	366	85	100	91	366	89	100	96	371	89	100	96	371
		89/96	100/100	91/91	366/366	89/96	100/100	91/91	366/366	95/102	100/110	96/96	371/371	95/102	100/110	96/96	371/371
		115/126	125/150	106/115	366/366	115/126	125/150	106/115	366/366	121/132	125/150	111/121	371/371	121/132	125/150	111/121	371/371
		134/147	150/150	122/135	366/366	134/147	150/150	122/135	366/366	140/153	150/175	128/140	371/371	140/153	150/175	128/140	371/371
		160/177	175/200	146/162	366/366	160/177	175/200	146/162	366/366	166/183	175/200	152/168	371/371	166/183	175/200	152/168	371/371
		177/166	200/175	162/180	366/366	177/166	200/175	162/180	366/366	183/172	200/175	168/186	371/371	183/172	200/175	168/186	371/371
460–3–60	STD	36	40	38	164	36	40	38	164	38	45	40	166	38	45	40	166
		39	40	38	164	39	40	38	164	42	45	40	166	42	45	40	166
		54	60	49	164	54	60	49	164	57	60	52	166	57	60	52	166
		64	70	59	164	64	70	59	164	67	70	61	166	67	70	61	166
		79	80	73	164	79	80	73	164	82	90	75	166	82	90	75	166
		74	80	82	164	74	80	82	164	77	80	84	166	77	80	84	166
	MED	37	45	39	176	37	45	39	176	39	45	41	178	39	45	41	178
		40	45	39	176	40	45	39	176	43	45	41	178	43	45	41	178
		55	60	50	176	55	60	50	176	58	60	53	178	58	60	53	178
		66	70	60	176	66	70	60	176	68	70	63	178	68	70	63	178
		81	90	74	176	81	90	74	176	83	90	76	178	83	90	76	178
		76	80	83	176	76	80	83	176	78	80	85	178	78	80	85	178
	HIGH	42	50	45	183	42	50	45	183	44	50	47	185	44	50	47	185
		47	50	45	183	47	50	45	183	50	50	47	185	50	50	47	185
		62	70	56	183	62	70	56	183	65	70	59	185	65	70	59	185
		72	80	66	183	72	80	66	183	75	80	69	185	75	80	69	185
		87	90	80	183	87	90	80	183	90	90	82	185	90	90	82	185
		82	90	89	183	82	90	89	183	85	90	92	185	85	90	92	185

ELECTRICAL DATA (cont.)

Table 83 (cont.) - 50HC*D14 TWO STAGE COOLING & TWO SPEED INDOOR FAN MOTOR **MCA/MOCP WITH ERV**

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
575–3–60	STD	31	35	33	135	31	35	33	135	32	35	35	137	32	35	35	137
		35	35	33	135	35	35	33	135	37	40	35	137	37	40	35	137
		47	50	43	135	47	50	43	135	49	50	45	137	49	50	45	137
		55	60	50	135	55	60	50	135	57	60	52	137	57	60	52	137
		67	70	61	135	67	70	61	135	69	70	63	137	69	70	63	137
		63	70	69	135	63	70	69	135	65	70	71	137	65	70	71	137
	MED	31	35	33	135	31	35	33	135	32	35	35	137	32	35	35	137
		35	35	33	135	35	35	33	135	37	40	35	137	37	40	35	137
		47	50	43	135	47	50	43	135	49	50	45	137	49	50	45	137
		55	60	50	135	55	60	50	135	57	60	52	137	57	60	52	137
		67	70	61	135	67	70	61	135	69	70	63	137	69	70	63	137
		63	70	69	135	63	70	69	135	65	70	71	137	65	70	71	137
	HIGH	36	40	38	147	36	40	38	147	37	45	40	149	37	45	40	149
		40	40	38	147	40	40	38	147	42	45	40	149	42	45	40	149
		52	60	48	147	52	60	48	147	54	60	50	149	54	60	50	149
		61	70	55	147	61	70	55	147	63	70	57	149	63	70	57	149
		73	80	67	147	73	80	67	147	75	80	68	149	75	80	68	149
		69	70	74	147	69	70	74	147	71	80	76	149	71	80	76	149

ELECTRICAL DATA (cont.)

Table 81 – 50HC*D08 TWO STAGE COOLING & TWO SPEED INDOOR FAN MOTOR

MCA/MOCP WITH ERV AND HACR BREAKER

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–3–60	STD	52/52	60/60	55/55	207	52/52	60/60	55/55	207	57/57	60/60	61/60	212	57/57	60/60	61/60	212
		54/54	60/60	55/55	207/207	54/54	60/60	55/55	207/207	60/60	60/60	61/60	212/212	60/60	60/60	61/60	212/212
		71/71	80/80	59/64	207/207	71/71	80/80	59/64	207/207	77/77	80/80	64/70	212/212	77/77	80/80	64/70	212/212
		97/97	100/100	80/89	207/207	97/97	100/100	80/89	207/207	103/103	110/110	85/94	212/212	103/103	110/110	85/94	212/212
		119/119	125/125	97/109	207/207	119/119	125/125	97/109	207/207	125/125	125/125	103/114	212/212	125/125	125/125	103/114	212/212
		150/150	150/150	122/138	207/207	150/150	150/150	122/138	207/207	156/156	175/175	128/143	212/212	156/156	175/175	128/143	212/212
	MED	53/53	60/60	57/56	211	53/53	60/60	57/56	211	58/58	70/70	62/62	216	58/58	70/70	62/62	216
		55/55	60/60	57/56	211/211	55/55	60/60	57/56	211/211	61/61	70/70	62/62	216/216	61/61	70/70	62/62	216/216
		72/72	80/80	60/66	211/211	72/72	80/80	60/66	211/211	78/78	80/80	66/71	216/216	78/78	80/80	66/71	216/216
		99/99	100/100	81/90	211/211	99/99	100/100	81/90	211/211	105/105	110/110	87/96	216/216	105/105	110/110	87/96	216/216
		120/120	125/125	99/110	211/211	120/120	125/125	99/110	211/211	126/126	150/150	104/116	216/216	126/126	150/150	104/116	216/216
		151/151	175/175	124/139	211/211	151/151	175/175	124/139	211/211	157/157	175/175	129/144	216/216	157/157	175/175	129/144	216/216
	HIGH	57/57	60/60	61/60	261	57/57	60/60	61/60	261	62/62	70/70	66/65	266	62/62	70/70	66/65	266
		59/59	60/60	61/60	261/261	59/59	60/60	61/60	261/261	65/65	70/70	66/65	266/266	65/65	70/70	66/65	266/266
		76/76	80/80	65/69	261/261	76/76	80/80	65/69	261/261	82/82	90/90	70/75	266/266	82/82	90/90	70/75	266/266
		102/102	110/110	86/94	261/261	102/102	110/110	86/94	261/261	108/108	110/110	91/99	266/266	108/108	110/110	91/99	266/266
		124/124	125/125	103/114	261/261	124/124	125/125	103/114	261/261	130/130	150/150	108/119	266/266	130/130	150/150	108/119	266/266
		155/155	175/175	128/142	261/261	155/155	175/175	128/142	261/261	161/161	175/175	133/148	266/266	161/161	175/175	133/148	266/266
460–3–60	STD	24	30	25	103	24	30	25	103	26	30	28	105	26	30	28	105
		32	35	29	103	32	35	29	103	35	35	31	105	35	35	31	105
		36	40	32	103	36	40	32	103	38	40	35	105	38	40	35	105
		53	60	48	103	53	60	48	103	55	60	51	105	55	60	51	105
		61	70	55	103	61	70	55	103	63	70	58	105	63	70	58	105
		74	80	67	103	74	80	67	103	76	80	70	105	76	80	70	105
	MED	25	30	27	106	25	30	27	106	27	30	29	108	27	30	29	108
		33	35	30	106	33	35	30	106	36	40	32	108	36	40	32	108
		37	40	33	106	37	40	33	106	40	40	36	108	40	40	36	108
		54	60	49	106	54	60	49	106	57	60	52	108	57	60	52	108
		62	70	56	106	62	70	56	106	64	70	59	108	64	70	59	108
		75	80	68	106	75	80	68	106	78	80	71	108	78	80	71	108
	HIGH	26	30	28	131	26	30	28	131	28	30	30	133	28	30	30	133
		34	35	31	131	34	35	31	131	37	40	34	133	37	40	34	133
		38	40	35	131	38	40	35	131	41	45	37	133	41	45	37	133
		55	60	50	131	55	60	50	131	58	60	53	133	58	60	53	133
		63	70	58	131	63	70	58	131	66	70	60	133	66	70	60	133
		76	80	70	131	76	80	70	131	79	80	72	133	79	80	72	133
575–3–60	STD	19	20	21	85	19	20	21	85	21	25	22	87	21	25	22	87
		36	40	33	85	36	40	33	85	38	40	35	87	38	40	35	87
		62	70	57	85	62	70	57	85	64	70	58	87	64	70	58	87
	MED	20	25	21	89	20	25	21	89	22	25	23	91	22	25	23	91
		37	40	34	89	37	40	34	89	39	40	36	91	39	40	36	91
		63	70	57	89	63	70	57	89	65	70	59	91	65	70	59	91
	HIGH	21	25	22	98	21	25	22	98	23	25	24	100	23	25	24	100
		38	40	35	98	38	40	35	98	41	45	37	100	41	45	37	100
		64	70	58	98	64	70	58	98	66	70	60	100	66	70	60	100

ELECTRICAL DATA (cont.)

Table 82 – 50HC*D09 TWO STAGE COOLING & TWO SPEED INDOOR FAN MOTOR

MCA/MOCP WITH ERV AND HACR BREAKER

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/ 230–3–60	STD	52/52	60/60	55/55	207	52/52	60/60	55/55	207	57/57	60/60	61/61	212	57/57	60/60	61/61	212
		54/54	60/60	55/55	207/207	54/54	60/60	55/55	207/207	60/60	60/60	61/61	212/212	60/60	60/60	61/61	212/212
		71/71	80/80	59/64	207/207	71/71	80/80	59/64	207/207	77/77	80/80	64/70	212/212	77/77	80/80	64/70	212/212
		97/97	100/100	80/89	207/207	97/97	100/100	80/89	207/207	103/103	110/110	85/94	212/212	103/103	110/110	85/94	212/212
		119/119	125/125	97/109	207/207	119/119	125/125	97/109	207/207	125/125	125/125	103/114	212/212	125/125	125/125	103/114	212/212
		150/150	150/150	122/138	207/207	150/150	150/150	122/138	207/207	156/156	175/175	128/143	212/212	156/156	175/175	128/143	212/212
	MED	53/53	60/60	57/57	211	53/53	60/60	57/57	211	58/58	70/70	62/62	216	58/58	70/70	62/62	216
		55/55	60/60	57/57	211/211	55/55	60/60	57/57	211/211	61/61	70/70	62/62	216/216	61/61	70/70	62/62	216/216
		72/72	80/80	60/66	211/211	72/72	80/80	60/66	211/211	78/78	80/80	66/71	216/216	78/78	80/80	66/71	216/216
		99/99	100/100	81/90	211/211	99/99	100/100	81/90	211/211	105/105	110/110	87/96	216/216	105/105	110/110	87/96	216/216
		120/120	125/125	99/110	211/211	120/120	125/125	99/110	211/211	126/126	150/150	104/116	216/216	126/126	150/150	104/116	216/216
		151/151	175/175	124/139	211/211	151/151	175/175	124/139	211/211	157/157	175/175	129/144	216/216	157/157	175/175	129/144	216/216
	HIGH	57/57	70/70	61/60	261	57/57	70/70	61/60	261	62/62	70/70	67/66	266	62/62	70/70	67/66	266
		59/59	70/70	61/60	261/261	59/59	70/70	61/60	261/261	65/65	70/70	67/66	266/266	65/65	70/70	67/66	266/266
		76/76	80/80	65/69	261/261	76/76	80/80	65/69	261/261	82/82	90/90	70/75	266/266	82/82	90/90	70/75	266/266
		102/102	110/110	86/94	261/261	102/102	110/110	86/94	261/261	108/108	110/110	91/99	266/266	108/108	110/110	91/99	266/266
		124/124	125/125	103/114	261/261	124/124	125/125	103/114	261/261	130/130	150/150	108/119	266/266	130/130	150/150	108/119	266/266
		155/155	175/175	128/142	261/261	155/155	175/175	128/142	261/261	161/161	175/175	133/148	266/266	161/161	175/175	133/148	266/266
460–3–60	STD	24	30	26	103	24	30	26	103	27	30	28	105	27	30	28	105
		32	35	29	103	32	35	29	103	35	35	31	105	35	35	31	105
		36	40	32	103	36	40	32	103	38	40	35	105	38	40	35	105
		53	60	48	103	53	60	48	103	55	60	51	105	55	60	51	105
		61	70	55	103	61	70	55	103	63	70	58	105	63	70	58	105
		74	80	67	103	74	80	67	103	76	80	70	105	76	80	70	105
	MED	25	30	27	106	25	30	27	106	27	30	29	108	27	30	29	108
		33	35	30	106	33	35	30	106	36	40	32	108	36	40	32	108
		37	40	33	106	37	40	33	106	40	40	36	108	40	40	36	108
		54	60	49	106	54	60	49	106	57	60	52	108	57	60	52	108
		62	70	56	106	62	70	56	106	64	70	59	108	64	70	59	108
		75	80	68	106	75	80	68	106	78	80	71	108	78	80	71	108
	HIGH	26	30	28	131	26	30	28	131	29	30	31	133	29	30	31	133
		34	35	31	131	34	35	31	131	37	40	34	133	37	40	34	133
		38	40	35	131	38	40	35	131	41	45	37	133	41	45	37	133
		55	60	50	131	55	60	50	131	58	60	53	133	58	60	53	133
		63	70	58	131	63	70	58	131	66	70	60	133	66	70	60	133
		76	80	70	131	76	80	70	131	79	80	72	133	79	80	72	133
575–3–60	STD	21	25	22	85	21	25	22	85	22	25	24	87	22	25	24	87
		36	40	33	85	36	40	33	85	38	40	35	87	38	40	35	87
		62	70	57	85	62	70	57	85	64	70	58	87	64	70	58	87
	MED	21	25	23	89	21	25	23	89	23	25	25	91	23	25	25	91
		37	40	34	89	37	40	34	89	39	40	36	91	39	40	36	91
		63	70	57	89	63	70	57	89	65	70	59	91	65	70	59	91
	HIGH	22	25	24	98	22	25	24	98	24	25	26	100	24	25	26	100
		38	40	35	98	38	40	35	98	41	45	37	100	41	45	37	100
		64	70	58	98	64	70	58	98	66	70	60	100	66	70	60	100

ELECTRICAL DATA (cont.)

Table 83 – 50HC*D12 TWO STAGE COOLING & TWO SPEED INDOOR FAN MOTOR

MCA/MOCP WITH ERV AND HACR BREAKER

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA	MCA	HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA	MCA	HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA	MCA	HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA
208/ 230–3–60	STD	61/61	70/70	66/65	291	61/61	70/70	66/65	291	66/66	80/80	71/71	296	66/66	80/80	71/71	296
		61/61	70/70	66/65	291/291	61/61	70/70	66/65	291/291	66/66	80/80	71/71	296/296	66/66	80/80	71/71	296/296
		72/72	80/80	66/66	291/291	72/72	80/80	66/66	291/291	78/78	80/80	71/71	296/296	78/78	80/80	71/71	296/296
		120/120	125/125	99/110	291/291	120/120	125/125	99/110	291/291	126/126	150/150	104/116	296/296	126/126	150/150	104/116	296/296
		151/151	175/175	124/139	291/291	151/151	175/175	124/139	291/291	157/157	175/175	129/144	296/296	157/157	175/175	129/144	296/296
		155/155	175/175	142/160	291/291	155/155	175/175	142/160	291/291	161/161	175/175	147/165	296/296	161/161	175/175	147/165	296/296
	MED	65/65	80/80	70/69	341	65/65	80/80	70/69	341	70/70	80/80	75/74	346	70/70	80/80	75/74	346
		65/65	80/80	70/69	341/341	65/65	80/80	70/69	341/341	70/70	80/80	75/74	346/346	70/70	80/80	75/74	346/346
		76/76	80/80	70/69	341/341	76/76	80/80	70/69	341/341	82/82	90/90	75/75	346/346	82/82	90/90	75/75	346/346
		124/124	125/125	103/114	341/341	124/124	125/125	103/114	341/341	130/130	150/150	108/119	346/346	130/130	150/150	108/119	346/346
		155/155	175/175	128/142	341/341	155/155	175/175	128/142	341/341	161/161	175/175	133/148	346/346	161/161	175/175	133/148	346/346
		159/159	175/175	146/163	341/341	159/159	175/175	146/163	341/341	165/165	175/175	152/169	346/346	165/165	175/175	152/169	346/346
	HIGH	68/68	80/80	73/72	352	68/68	80/80	73/72	352	73/73	80/80	79/78	357	73/73	80/80	79/78	357
		68/68	80/80	73/72	352/352	68/68	80/80	73/72	352/352	73/73	80/80	79/78	357/357	73/73	80/80	79/78	357/357
		79/79	80/80	73/73	352/352	79/79	80/80	73/73	352/352	85/85	90/90	79/78	357/357	85/85	90/90	79/78	357/357
		128/128	150/150	106/117	352/352	128/128	150/150	106/117	352/352	134/134	150/150	112/122	357/357	134/134	150/150	112/122	357/357
		159/159	175/175	131/146	352/352	159/159	175/175	131/146	352/352	165/165	175/175	137/151	357/357	165/165	175/175	137/151	357/357
		163/163	175/175	149/167	352/352	163/163	175/175	149/167	352/352	169/169	175/175	155/172	357/357	169/169	175/175	155/172	357/357
460–3–60	STD	30	35	32	140	30	35	32	140	32	35	34	142	32	35	34	142
		33	35	32	140	33	35	32	140	36	40	34	142	36	40	34	142
		37	40	33	140	37	40	33	140	40	40	36	142	40	40	36	142
		62	70	56	140	62	70	56	140	64	70	59	142	64	70	59	142
		75	80	68	140	75	80	68	140	78	80	71	142	78	80	71	142
		72	80	80	140	72	80	80	140	75	80	82	142	75	80	82	142
	MED	31	35	33	165	31	35	33	165	33	40	36	167	33	40	36	167
		34	35	33	165	34	35	33	165	37	40	36	167	37	40	36	167
		38	40	35	165	38	40	35	165	41	45	37	167	41	45	37	167
		63	70	58	165	63	70	58	165	66	70	60	167	66	70	60	167
		76	80	70	165	76	80	70	165	79	80	72	167	79	80	72	167
		73	80	81	165	73	80	81	165	76	80	84	167	76	80	84	167
	HIGH	33	35	35	170	33	35	35	170	35	40	37	172	35	40	37	172
		36	40	35	170	36	40	35	170	39	40	37	172	39	40	37	172
		40	40	36	170	40	40	36	170	43	45	39	172	43	45	39	172
		65	70	59	170	65	70	59	170	68	70	62	172	68	70	62	172
		78	80	71	170	78	80	71	170	81	90	74	172	81	90	74	172
		75	80	83	170	75	80	83	170	78	80	85	172	78	80	85	172
575–3–60	STD	25	30	26	113	25	30	26	113	26	30	28	115	26	30	28	115
		37	40	34	113	37	40	34	113	39	40	36	115	39	40	36	115
		63	70	57	113	63	70	57	113	65	70	59	115	65	70	59	115
		73	80	81	113	73	80	81	113	75	80	83	115	75	80	83	115
	MED	26	30	27	122	26	30	27	122	27	30	29	124	27	30	29	124
		38	40	35	122	38	40	35	122	41	45	37	124	41	45	37	124
		64	70	58	122	64	70	58	122	66	70	60	124	66	70	60	124
		74	80	82	122	74	80	82	122	76	80	84	124	76	80	84	124
	HIGH	28	30	29	136	28	30	29	136	29	35	31	138	29	35	31	138
		41	45	37	136	41	45	37	136	43	45	39	138	43	45	39	138
		66	70	60	136	66	70	60	136	68	70	62	138	68	70	62	138
		76	80	84	136	76	80	84	136	78	80	86	138	78	80	86	138

ELECTRICAL DATA (cont.)

Table 84 – 50HC*D14 TWO STAGE COOLING & TWO SPEED INDOOR FAN MOTOR

MCA/MOCP WITH ERV AND HACR BREAKER

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA	MCA	HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA	MCA	HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA	MCA	HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA
208/ 230–3–60	STD	72/72	80/80	77/76	327	72/72	80/80	77/76	327	77/77	90/90	83/82	332	77/77	90/90	83/82	332
		80/80	80/80	77/76	327/327	80/80	80/80	77/76	327/327	86/86	90/90	83/82	332/332	86/86	90/90	83/82	332/332
		110/110	110/110	92/101	327/327	110/110	110/110	92/101	327/327	116/116	125/125	98/106	332/332	116/116	125/125	98/106	332/332
		131/131	150/150	109/120	327/327	131/131	150/150	109/120	327/327	137/137	150/150	114/126	332/332	137/137	150/150	114/126	332/332
		161/161	175/175	133/148	327/327	161/161	175/175	133/148	327/327	167/167	175/175	138/153	332/332	167/167	175/175	138/153	332/332
		162/162	175/175	148/166	327/327	162/162	175/175	148/166	327/327	168/168	175/175	154/171	332/332	168/168	175/175	154/171	332/332
	MED	75/75	80/80	80/79	351	75/75	80/80	80/79	351	79/79	90/90	85/84	356	79/79	90/90	85/84	356
		83/83	90/90	80/79	351/351	83/83	90/90	80/79	351/351	89/89	90/90	85/84	356/356	89/89	90/90	85/84	356/356
		113/113	125/125	95/103	351/351	113/113	125/125	95/103	351/351	119/119	125/125	100/109	356/356	119/119	125/125	100/109	356/356
		134/134	150/150	111/123	351/351	134/134	150/150	111/123	351/351	140/140	150/150	117/128	356/356	140/140	150/150	117/128	356/356
		164/164	175/175	135/150	351/351	164/164	175/175	135/150	351/351	170/170	175/175	141/156	356/356	170/170	175/175	141/156	356/356
		165/165	175/175	151/168	351/351	165/165	175/175	151/168	351/351	171/171	175/175	156/174	356/356	171/171	175/175	156/174	356/356
	HIGH	85	100	91	366	85	100	91	366	89	100	96	371	89	100	96	371
		96/96	100/100	91/91	366/366	96/96	100/100	91/91	366/366	102/102	110/110	96/96	371/371	102/102	110/110	96/96	371/371
		126/126	150/150	106/115	366/366	126/126	150/150	106/115	366/366	132/132	150/150	111/121	371/371	132/132	150/150	111/121	371/371
		147/147	150/150	122/135	366/366	147/147	150/150	122/135	366/366	153/153	175/175	128/140	371/371	153/153	175/175	128/140	371/371
		177/177	200/200	146/162	366/366	177/177	200/200	146/162	366/366	183/183	200/200	152/168	371/371	183/183	200/200	152/168	371/371
		177/177	200/200	162/180	366/366	177/177	200/200	162/180	366/366	183/183	200/200	168/186	371/371	183/183	200/200	168/186	371/371
460–3–60	STD	36	40	38	164	36	40	38	164	38	45	40	166	38	45	40	166
		39	40	38	164	39	40	38	164	42	45	40	166	42	45	40	166
		54	60	49	164	54	60	49	164	57	60	52	166	57	60	52	166
		64	70	59	164	64	70	59	164	67	70	61	166	67	70	61	166
		79	80	73	164	79	80	73	164	82	90	75	166	82	90	75	166
		74	80	82	164	74	80	82	164	77	80	84	166	77	80	84	166
	MED	37	45	39	176	37	45	39	176	39	45	41	178	39	45	41	178
		40	45	39	176	40	45	39	176	43	45	41	178	43	45	41	178
		55	60	50	176	55	60	50	176	58	60	53	178	58	60	53	178
		66	70	60	176	66	70	60	176	68	70	63	178	68	70	63	178
		81	90	74	176	81	90	74	176	83	90	76	178	83	90	76	178
		76	80	83	176	76	80	83	176	78	80	85	178	78	80	85	178
	HIGH	42	50	45	183	42	50	45	183	44	50	47	185	44	50	47	185
		47	50	45	183	47	50	45	183	50	50	47	185	50	50	47	185
		62	70	56	183	62	70	56	183	65	70	59	185	65	70	59	185
		72	80	66	183	72	80	66	183	75	80	69	185	75	80	69	185
		87	90	80	183	87	90	80	183	90	90	82	185	90	90	82	185
		82	90	89	183	82	90	89	183	85	90	92	185	85	90	92	185

ELECTRICAL DATA (cont.)

Table 87 (cont.) - 50HC*D14 TWO STAGE COOLING & TWO SPEED INDOOR FAN MOTOR

MCA/MOCP WITH ERV AND HACR BREAKER

NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		w/ERV w/o Economizer				w/ERV w/Economizer				w/ERV w/o Economizer				w/ERV w/Economizer			
		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
				FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
575–3–60	STD	31	35	33	135	31	35	33	135	32	35	35	137	32	35	35	137
		35	35	33	135	35	35	33	135	37	40	35	137	37	40	35	137
		47	50	43	135	47	50	43	135	49	50	45	137	49	50	45	137
		55	60	50	135	55	60	50	135	57	60	52	137	57	60	52	137
		67	70	61	135	67	70	61	135	69	70	63	137	69	70	63	137
		63	70	69	135	63	70	69	135	65	70	71	137	65	70	71	137
	MED	31	35	33	135	31	35	33	135	32	35	35	137	32	35	35	137
		35	35	33	135	35	35	33	135	37	40	35	137	37	40	35	137
		47	50	43	135	47	50	43	135	49	50	45	137	49	50	45	137
		55	60	50	135	55	60	50	135	57	60	52	137	57	60	52	137
		67	70	61	135	67	70	61	135	69	70	63	137	69	70	63	137
		63	70	69	135	63	70	69	135	65	70	71	137	65	70	71	137
	HIGH	36	40	38	147	36	40	38	147	37	45	40	149	37	45	40	149
		40	40	38	147	40	40	38	147	42	45	40	149	42	45	40	149
		52	60	48	147	52	60	48	147	54	60	50	149	54	60	50	149
		61	70	55	147	61	70	55	147	63	70	57	149	63	70	57	149
		73	80	67	147	73	80	67	147	75	80	68	149	75	80	68	149
		69	70	74	147	69	70	74	147	71	80	76	149	71	80	76	149

SEQUENCE OF OPERATION

CONTROLS

The EnergyX Energy Recovery Ventilator (ERV) module is controlled by a digital controller located inside the EnergyX chassis. It communicates with the WeatherMaster ComfortLink controller via a UPC translator module which connects to the WeatherMaster rooftop unit's ComfortLink controller via a LEN cable. All controller settings and configuration are input via the ComfortLink scrolling marquee display.

All control points, including outdoor airflow, exhaust airflow and CO_2 setpoints are configured via the ComfortLink scrolling marquee interface. (Note: CO_2 sensor requires a factory installed economizer.)

The EnergyX energy recovery unit pre-conditions the outdoor air before it mixes with the return air and enters the rooftop unit evaporator coil. As a result, the EnergyX operation is mostly independent of the rooftop unit operation except to allow the space conditioning needs to be met without RTU compressor operation or RTU heat operation for a significantly wider range of ambient temperatures (than a unit without an energy recovery module). This is achieved either by the pre-conditioning of the EnergyX wheel or the economizer (if equipped). The EnergyX will pre-condition the outside air in the cooling and heating modes of operation.

For more information regarding controller operation, see the EnergyX controls, Start-Up, Operations, and Troubleshooting supplement manual.

General

The sequence below describes the sequence of operation for a WeatherMaster unit with ComfortLink controls and an EnergyX. For more information regarding controller operation, see the EnergyX Start-Up, Operations, and Troubleshooting supplement manual.

The EnergyX module will not activate unless the RTU fan is on. The EnergyX default condition is to remain off in the unoccupied mode, however, this can be over-ridden via the control setpoints.

Cooling Operation

When the ComfortLink controller recognizes that the conditioned zone requires cooling (via the space temperature sensor or space thermostat) the EnergyX module is activated. The EnergyX control module follows the sequence of operation logic as listed below.

Step 1 — Economizer Operation

First, the EnergyX module checks if the outside air is suitable for free cooling via the outside air enthalpy sensor. If the outside air is suitable for free cooling and the unit has an economizer, the EnergyX will operate in "ventilation mode" where the wheel will remain off but the ERV economizer will modulate in free-cooling. If the unit is in Unoccupied mode, then the unit will not operate in economizer mode and will proceed to Step 2.

Step 2 — Wheel Operation

If the outside air is not suitable for free cooling, then the EnergyX will operate in either cooling or heating mode as called for by the rooftop unit ComfortLink controller.

NOTE: If the unit is in Unoccupied mode, the default configuration is that the EnergyX module will not operate. This can be over-ridden by an adjustable setpoint in the ERV controller.

Cooling Operation

If the outside air is not suitable for free cooling then the EnergyX wheel will activate and the supply fan will activate per the CFM setpoint.

Modulating EnergyX Units Only - If a CO_2 sensor is used (connected to the RTU ComfortLink controller) the supply fan will modulate between the DCV minimum and DCV maximum setpoints. The exhaust fan will modulate to follow the supply fan operation per the Exhaust CFM-offset value. If the economizer opens more than 5%, the wheel utilizes a "stop-jog" operation to periodically rotate the wheel and minimize potential dirt build-up and excess wear on one section of the wheel. (Note: CO_2 sensor requires a factory installed economizer).

Heating Operation

When the ComfortLink controller sees that the space requires heating via the space temperature sensor or when the thermostat or calls for heating, the EnergyX module is activated. The ERV wheel will rotate and the supply fan will activate per the CFM setpoint. Modulating EnergyX Units Only - If a CO_2 sensor is used (connected to the RTU ComfortLink controller) the supply fan will modulate between the DCV minimum and DCV maximum setpoints. The exhaust fan will modulate to follow the supply fan operation per the Exhaust CFM-offset value, via the Economizer Control Board (ECB).

Supply and Exhaust Air Frost Control Operation

When the factory installed frost protection option is used, the EnergyX module will sense pressure differential across the energy recovery cassette. The supply blower will be shut-off if the pressure differential across the energy recovery cassette exceeds the adjustable setpoint value. The blower will remain off for 5 minutes. The exhaust blower and wheel will remain on, in order to remove any frost build-up on the wheel.

EnergyX Wheel Maintenance and Blower Indicator Operation

When the optional factory installed wheel maintenance indicator is used, a proxy sensor monitors the EnergyX wheel and sends a corresponding alarm signal when appropriate. Pressure switches are used to detect and activate the unit alarm when blowers are not running.

EnergyX Filter Maintenance Indicator Operation

When the optional factory installed filter maintenance indicator is used, a factory-installed differential pressure switch measures pressure drop across the outside air filter and activates a field-supplied dry contact indicator when the pressure differential exceeds the adjustable switch setpoint. EnergyX operation is not interrupted.

APPLICATION DATA

Energy Recovery

Energy recovery devices such as the EnergyX typically result in substantial energy savings over other outdoor air devices. Specifically, the EnergyX adds sensible and latent capacity as well as additional stages of cooling and heating operation to the Rooftop Unit. Due to the EnergyX's significantly lower input watts than the corresponding RTU compressor(s), proper control strategies for this device maximize its operation to reduce the run time of the RTU compressor(s). This results in a much higher system efficiency than can typically be achieved by using a rooftop unit of the same total capacity.

The EnergyX with its modulating airflow capability allows a designer to increase the amount of outside air significantly more than normal with the following benefits:

- Reduced rooftop unit sizing - The more air that passes through the energy recovery device reduces the load (and potential unit size) on the rooftop unit's compressors and heating system
- Higher system cooling and heating efficiencies - Since the EnergyX uses the power of 'rotary enthalpy transfer' as opposed to mechanical compression conditioning of the ventilation air resulting in a much higher operating efficiency (RER) of the energy recovery unit and system Combined Efficiency Factor (CEF). The higher the airflow through the EnergyX, the higher the system efficiency (CEF) value. Since the EnergyX also conditions ventilation air in the heating mode, the necessary amount and/or operation of the rooftop unit heat system is reduced.
- Better part-load conditioning – as the EnergyX is able to modulate its airflow, the ability to match the changing zone part-load capacity (in cooling and in heating) is greatly increased.
- Higher air change rates – Larger amounts of ventilation air allows the zone air to be flushed out more often. This can contribute significantly to reduced sickness and more productive operating environments.

All ventilated spaces are good candidates for energy recovery systems. The applications that benefit most are those that require a large amount of outside air for a space that has a low internal load. This is true because most outside air loads are latent which requires a larger rooftop unit to accommodate both internal and ventilation loads. Advantages of the ERV unit include the ability to reduce the size of the rooftop unit, provide better humidity levels and provide a stable, tempered space.

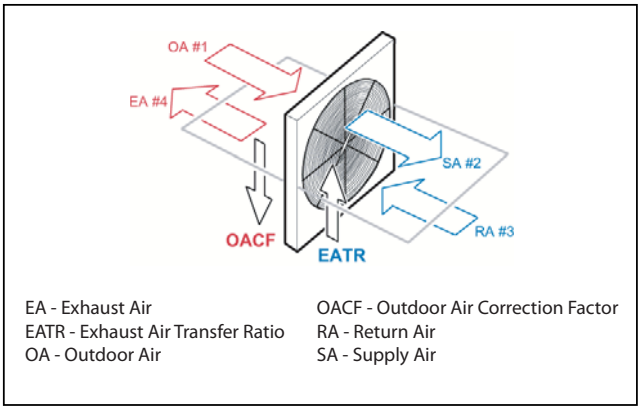

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Fig. 22 - Air-to-Air Energy Recover Ventilation - Airflow Convention

Examples of ERV applications are classrooms, churches, conference rooms, game rooms, auditoriums, movie theaters, day care centers, nursing homes, funeral homes, dormitories, and clinics. Retrofits of existing systems to handle outside air without modifying the rooftop unit are excellent applications. Other examples are bars, restaurants, casino/game rooms, barber/beauty shops, bingo halls, locker rooms, recreational facilities and health clubs. Animal shelters such as veterinary clinics and kennels have been very successful implementations. Retail spaces and manufacturing facilities are also good applications.

If the outside air requirement is greater than 10% of a rooftop unit's supply air rating the EnergyX unit should be considered to enhance the comfort of the occupants and reduce the tonnage of the rooftop unit. Carrier's Packaged RTU Builder selection software program offers a quick, simple look at the advantages and payback of the EnergyX system.

ASHRAE 62.1 Air Classification Requirements

The EnergyX allows for easy compliance with the current ASHRAE Standard 62.1 Air Classification Requirements. Pollutant transfer via Desiccant is a 'non issue' since by virtue of the ASHRAE "classes of air" the main determinant is EATR or cross transfer of air by leakage from exhaust to supply. Since the EATR is an AHRI Certified measurement of an AHRI certified wheel device, the user can be assured of meeting the air dilution requirements of ASHRAE 62.1 and therefore the air classification requirements.

Industrial Applications are by definition those that are Class 4 air (or worse). Most wheel manufacturers do not encourage application of wheels to these types of applications. When required, many wheel manufacturers make specialty wheels with specific mechanical purge construction for industrial applications, that can be used to field-replace the factory provided wheels. Contact the applicable wheel manufacture for specific application details.

Choosing the proper airflow is essential. Unit selection guidance for the EnergyX is in definite contrast to typical unit sizing and selections. Typical unit sizing methods are to select the energy recovery device per the desired amount of outdoor air and then calculate the total capacity of the resulting energy recovery unit. This capacity is then subtracted from the desired total capacity for the conditioned zone. The remaining value is the necessary capacity of the rooftop unit. By conventional cooling & heating capacity guidance, the effort is to reduce the amount of outside (ventilation air) as much as possible since this additional ventilation air results in increased load on the rooftop unit compressor and heating sections.

Note that all units can be used in applications that require more or less airflow than the published CFM operating range as long as the airflow range is within the capabilities of the EnergyX fan system. This option can be used for high-static applications. Although performance is optimized at equal exhaust and supply airflow rates, the selection program and the EnergyX unit can be used with unequal airflow amounts. The unit must be sized for the largest airflow amount. The smaller airflow used cannot be less than 50% of the larger airflow in the published range.

Energy recovery wheels

Carrier's EnergyX energy recovery wheels consist of a welded stainless steel hub, spoke and rim assembly, which is independent of the heat transfer matrix. The heat transfer matrix is contained in patented energy transfer segments, removable from the wheel without requiring tools. The energy wheel uses a unique parallel plate geometry and polymer film substrate to provide an optimized heat exchanger design. The polymer film construction is not subject to corrosion in coastal locations or swimming pool areas.

Silica gel technology

The EnergyX energy recovery wheels use the desiccant material known as silica gel, which is a highly porous solid adsorbent material that structurally resembles a rigid sponge. It has a very large internal surface composed of myriad microscopic cavities and a vast system of capillary channels that provide pathways connecting the internal microscopic cavities to the outside surface of the sponge. Silica gel enthalpy wheels transfer water by rotating between two air streams of different vapor pressures. The vapor pressure differential drives molecules into/from these cavities to transfer moisture from the more humid airstream to the drier airstream.

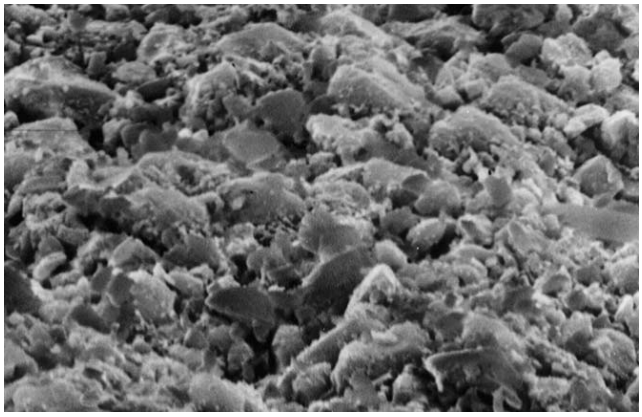

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Fig. 23 - Microscopic Image of Silica Gel

Adsorption: silica gel vs. molecular sieve

The graph below shows the effect of Relative Humidity on Desiccant Capacity characteristic curve for adsorption of water on silica gel. It shows the percent weight adsorbed versus relative humidity of the airstream in contact with the silica gel. The amount of water adsorbed rises linearly with increasing relative humidity (RH) until RH reaches near 60%. It then plateaus at above 40% adsorbed as relative humidity approaches 100%. For contrast, the curve for molecular sieves rises rapidly to plateau at about 20% absorbed at 20% RH.

The Effect of Relative Humidity on Desiccant Capacity graph explains the following application considerations:

- Molecular sieves are preferred for regenerated applications such as desiccant cooling and dehumidification systems that must reduce the processed air streams to very low relative humidities.
- Silica gel has superior characteristics for recovering space conditioning energy from exhaust air and handling high relative humidity outside conditions.

The transfer of water by adsorption/desorption is not dependent on temperature. Therefore, the silica gel enthalpy wheel works to reduce latent load at difficult part-load conditions.

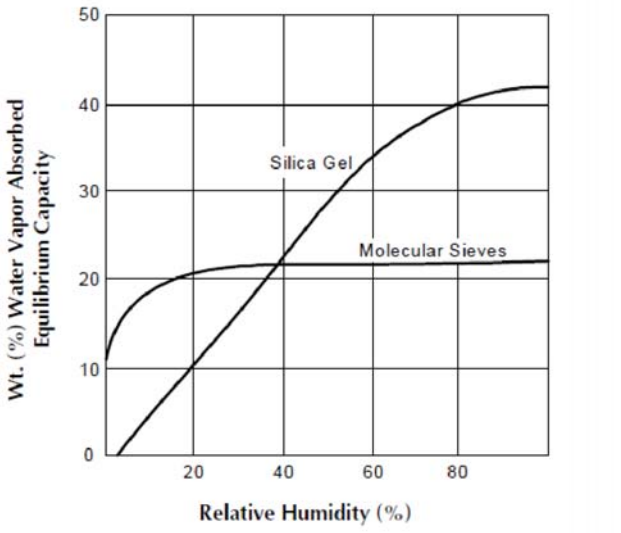

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Fig. 24 - Effect of Relative Humidity on Desiccant Capacity

Fungal growth and moisture transfer

Carrier EnergyX units have silica gel-based desiccant wheels. The water molecules are individually transferred by desorption/adsorption to and from the silica gel surfaces. Water is present on the wheel in a molecular layer only, and condensation does not occur. Therefore, Carrier's energy recovery wheels experience dry moisture transfer; there is no bulk liquid water present that could support fungal growth. Water transfer to and from the wheel's desiccant surfaces occurs in the vapor phase; there are no wet surfaces and liquid water does not enter the airstream. Silica gel is also highly selective for water, based on the strong preference of the gel surface for the dipolar water molecule over other compounds.

Frost control requirements

Energy recovery systems require frost protection or a means of defrosting in climates that experience severe winter conditions. Frost formation results in a reduction and eventual blockage of airflow through the energy wheel.

Frost formation causes reduced airflow through the heat exchanger. Without frost control, energy recovery and airflow may be significantly reduced. The frost threshold temperature is the point at which frost begins to accumulate on heat exchanger surfaces. It is a function of both outside temperature and indoor relative humidity.

The Frost Threshold Comparison figures compares the frost threshold of a plate-type sensible heat exchanger with that of an enthalpy wheel. Note that frost forms at temperatures between 22°F and 30°F in a plate-type heat exchanger, frost threshold temperatures for enthalpy wheels are generally 20 to 30 degrees lower, approximately 0°F to 20°F. This is because the enthalpy wheel removes water from the exhaust airstream, effectively lowering the exhaust's dew point. The water removed is subsequently picked up through desorption by the entering outdoor air. Depending on the indoor relative humidity in areas where winter outside temperatures are between –5°F and 22°F, enthalpy wheel based recovery systems have a significant advantage over sensible plate type units because there is no additional cost for frost control. Even in cold areas, in most cases, enthalpy wheel based systems for schools and office buildings can be designed without frost control because most of the frosting hours are at night when the building is unoccupied. Consult bin data, such as that provided by ASHRAE, to qualify daytime applications in cold climates for frost-free operation.

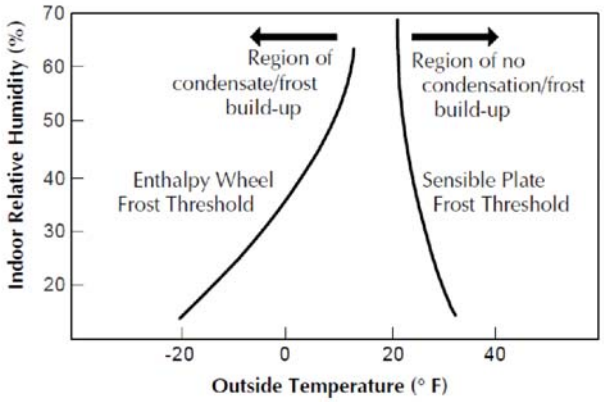

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Fig. 25 - Frost Threshold comparison

The Frost Thresholds Temperatures table below lists typical frost threshold temperatures for Carrier's EnergyX energy recovery wheels over a wide range of indoor-air temperatures and relative humidity. Frost control is not required until outdoor air temperatures are below the threshold.

INDOOR AIR RH (%)	INDOOR AIR DRY BULB TEMPERATURE			
	70 F	72 F	75 F	80 F
20	–14	–13	–11	–8
30	–3	–2	–1	3
40	5	7	9	11
50	12	13	15	18
60	18	19	21	26

In regions where winter temperatures are extreme, Carrier's energy recovery wheels can be used effectively with the Frost Protection Factory Installed Option (FIOP).

NOTE: Refer to ASHRAE for bin data in cold climates where the threat of wheel frosting is frequent. Consult this information to ensure appropriate preheat techniques are used during occupied times.

Frost prevention for frost control is required in extremely cold climates to preserve performance and assure the continuous supply of outdoor air. Enthalpy wheel frost control strategies take advantage of inherently low frosting thresholds. This results in minimized energy use and maximized design load reductions. In regions that experience extreme winter conditions, the Frost Protection FIOP allows the exhaust fan to operate below the frost threshold temperature; however, a temperature sensor would disable the supply fan when the outdoor-air temperatures reach the frost control setpoint. The outdoor-air temperature sensor is located in the outdoor air intake of the ERV section. To avoid depressurization of the space, fresh air dampers may be required as part of the building's ventilation system.

Economizers

As promulgated by ASHRAE, economizers reduce operating expenses and compressor run time by providing a source of free cooling and a means of ventilation to match changing application needs. When properly designed (per ASHRAE standards), the economizer will control the amount of outdoor air allowed into the building and is integrated with the operation of the compressors. Carrier economizers are properly designed and allow free cooling to occur when the outdoor air is suitable depending upon the control strategy chosen.

It has also been proven (by multiple independent sources) that using a Demand Control Ventilation (CO_2) strategy will result in considerable energy savings over a constant outdoor air volume strategy. This is because air to be brought in at a fixed rate has no variability as the outside air conditions change. Modulating EnergyX systems with DCV control allows the outside ventilation air to be reduced to the minimum building ventilation requirements as required by the actual occupancy load, which in term reduces the load on the unit compressors or heating system.

It is recommended that an economizer option always be used with the EnergyX. This allows for true free cooling operation when the outside air conditions allow for it.

Wheel Cleaning

The EnergyX includes a 5 year wheel warranty as a standard product feature. Wheels are self cleaning from dry dust and dirt due to laminar airflow through the wheel. If volatile organic compounds (VOC's) are present present, wheels need to be 'deep' cleaned just like evaporator coils must be in order to maintain latent recovery performance. Since it is easier and less risky to clean a wheel outside of the HVAC unit than within, EnergyX unit construction allows for easy wheel segment removal.

It is recommended that a different wheel segment be cleaned each time the unit air filters are changed in order to ensure periodic entire wheel cleaning. Wheel cleaning can be done simply and easily by hand. Proper wheel cleaning does not remove wheel desiccant. See the EnergyX Controls & Troubleshooting Supplement Instructions for additional wheel cleaning and service information.

EXHAUST FAN PERFORMANCE

Many applications that utilize energy recovery incorporate ducted return/exhaust air paths. In these applications, it is important to consider the duct pressure of the return/exhaust just as a designer would consider the effects of the supply duct static pressure on the airflow of the rooftop unit itself.

EnergyX Modulating Volume 3-12.5 ton Units – The exhaust fan in the Modulating Volume EnergyX unit will assist the rooftop unit fan in pulling air through the exhaust/return duct. These exhaust fans are backwards curved impeller designs which are capable of significant more static pressure operation than typical forward curved fan designs. The following exhaust fan performance curves are provided for additional guidance when considering return/exhaust duct design.

NOTE: If application designs require two separate ducts (one for exhaust air, one for return air) contact your Carrier Sales Engineer for additional guidance prior to specification or ordering.

General

The sequence below describes the sequence of operation for an electro-mechanical unit with and without a factory installed EconoMi$er™ IV (called "economizer" in this sequence). For information regarding a direct digital controller, see the start-up, operations, and troubleshooting manual for the applicable controller.

GUIDE SPECIFICATIONS - 50HC**04-14 WITH ENERGY*X*®

Note about this specification:

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

Cooling Only/Electric Heat Packaged Rooftop

HVAC Guide Specifications

Size Range: **3 to 12.5 Nominal Tons**

Section **Description**

23 06 80 Schedules for Decentralized HVAC Equipment

23 06 80.13 Decentralized Unitary HVAC Equipment Schedule

23 06 80.13.A. Rooftop unit schedule

1. Schedule is per the project specification requirements.

23 07 16 HVAC Equipment Insulation

23 07 16.13 Decentralized, Rooftop Units:

23 07 16.13.A. Evaporator fan compartment:

1. Interior cabinet surfaces shall be insulated with a minimum 1/2-in. thick, minimum 1 1/2 lb density, flexible fiberglass insulation bonded with a phenolic binder, neoprene coated 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 2 different stages of cooling, and 2 different stages of heating.
   c. include capability for occupancy scheduling.

23 09 23 Direct-digital Control system for HVAC

23 09 23.13 Decentralized, Rooftop Units:

23 09 23.13.A. ComfortLink Unit Controls shall contain:

1. Four button detailed English scrolling marquee display.
2. CCN (Carrier Comfort Network) capable.
3. Unit control with standard suction pressure transducers and condensing temperature thermistors.
4. Shall provide a 5°F temperature difference between cooling and heating set points to meet ASHRAE 90.1 Energy Standard.
5. Shall provide and display a current alarm list and an alarm history list.
6. Service run test capability.
7. Shall accept input from a CO_2 sensor (both indoor and outdoor).
8. Configurable alarm light shall be provided which activates when certain types of alarms occur.
9. Compressor minimum run time (3 minutes) and minimum off time (5 minutes) are provided.
10. Service diagnostic mode.
11. Economizer control (optional).
12. Control multi capacity stages
13. Unit shall be complete with self-contained low voltage control circuit.

14. Unit shall have 0°F low ambient cooling operation.

23 09 33 Electric and Electronic 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 central control terminal board to conveniently and safely provide connection points for vital control functions such as: smoke detectors, phase monitor, economizer, thermostat, DDC control options, and low and high pressure 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. Units with 2 compressors shall have different sized connectors for the circuit 1 and circuit 2 low and high pressure switches. They shall physically prevent the cross-wiring of the safety switches between circuits 1 and 2.
   b. 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. Units with 2 compressors shall have different sized connectors for the circuit 1 and circuit 2 low and high pressure switches. They shall physically prevent the cross-wiring of the safety switches between circuits 1 and 2.
   b. High pressure switch shall use different color wire than the low pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.
4. Automatic reset, motor thermal overload protector.

23 09 93 Sequence of Operations for HVAC Controls

23 09 93.13 Decentralized, Rooftop Units:

23 09 93.13 INSERT SEQUENCE OF OPERATION

23 40 13 Panel Air Filters

23 40 13.13 Decentralized, Rooftop Units:

23 40 13.13.A. Standard filter section

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

23 81 19 Self-Contained Air Conditioners

23 81 19.13 Small-Capacity Self-Contained Air Conditioners (50HC**04-14)

23 81 19.13.A. General

1. Outdoor, rooftop mounted, 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 ASHRAE 90.1 minimum efficiency requirements.
2. 3 phase units are Energy Star qualified.
3. Unit shall be rated in accordance with AHRI Standards 210/240 and 340/360.
4. Unit shall be designed to conform to ASHRAE 15, 2001.

5. Unit shall be UL-tested and certified in accordance with ANSI Z21.47 Standards and UL-listed and certified under Canadian standards as a total package for safety requirements.
6. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
7. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).
8. Unit casing shall be capable of withstanding Federal Test Method Standard No. 141 (Method 6061) 5000-hour salt spray.
9. Unit shall be designed in accordance with ISO 9001, and shall be manufactured in a facility registered by ISO 9001.
10. Roof curb shall be designed to conform to NRCA Standards.
11. Unit shall be subjected to a completely automated run test on the assembly line. The data for each unit will be stored at the factory, and must be available upon request.
12. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
13. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.
14. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.
15. High Efficient Motors listed shall meet section 313 of the Energy Independence and Security Act of 2007 (EISA 2007).

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

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

23 81 19.13.D. Project Conditions

1. As specified in the contract.

23 81 19.13.E. Project Conditions

1. As specified in the contract.

23 81 19.13.F. Operating Characteristics

1. Unit shall be capable of starting and running at 125°F (52°C) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 210/240 or 340/360 at ± 10% voltage.
2. Compressor with standard controls shall be capable of operation down to 35°F (2°C), ambient outdoor temperatures. Accessory low ambient kits shall be available if operation below 35°F (2°C), is required. See below for head pressure control package or winter start kit.
3. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
4. Unit shall be factory configured for vertical supply & return configurations.
5. Unit shall be field convertible from vertical to horizontal airflow on all models. No special kit required on 04-12 models. Supply duct kit required for 14 size model only.
6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.

23 81 19.13.G. Electrical Requirements

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

23 81 19.13.H. Unit Cabinet

1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a pre-painted baked enamel finish on all externally exposed surfaces.
2. Unit cabinet exterior paint shall be: film thickness, (dry) 0.003 inches minimum, gloss (per ASTM D523, 60°F): 60, Hardness: H-2H Pencil hardness.
3. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 210/240 or 340/360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 1/2-in. thick, 1 lb density, flexible fiberglass insulation, neoprene coated on the air side. Aluminum foil-faced fiberglass insulation shall be used in the heat compartment.
4. Base of unit shall have a minimum of four locations for thru-the-base gas and electrical connections (factory installed or field installed), standard.
5. Base Rail
   a. Unit shall have base rails on a minimum of 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 an internally sloped condensate drain pan made of a non-corrosive material.
   b. Shall comply with ASHRAE Standard 62.
   c. Shall use a 3/4" -14 NPT drain connection, possible either through the bottom or end of the drain pan. Connection shall be made per manufacturer's recommendations.
7. Top panel:
   a. Shall be a single piece top panel on 04 thru 12 sizes, two piece on 14 size.
8. Electrical Connections
   a. All unit power wiring shall enter unit cabinet at a single, factory-prepared, knockout location.
   b. Thru-the-base capability
      (1.) Standard unit shall have a thru-the-base electrical location(s) using a raised, embossed portion of the unit basepan.
      (2.) Optional, factory-approved, water-tight connection method must be used for thru-the-base electrical connections.
      (3.) No basepan penetration, other than those authorized by the manufacturer, is permitted.
9. Component access panels (standard)
   a. Cabinet panels shall be easily removable for servicing.
   b. Unit shall have one factory installed, tool-less, removable, filter access panel.
   c. Panels covering control box, indoor fan, indoor fan motor, gas components (where applicable), and compressors shall have molded composite handles.
   d. Handles shall be UV modified, composite, permanently attached, and recessed into the panel.
   e. Screws on the vertical portion of all removable access panel shall engage into heat resistant, molded composite collars.
   f. Collars shall be removable and easily replaceable using manufacturer recommended parts.

23 81 19.13.I. N/A

23 81 19.13.J. Coils

1. Standard Aluminum Fin/Copper Tube Coils:
   a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved 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 (3 phase models only):
   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 (3 phase models only):
   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 (3 phase models only):
   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 access port in the top panel of the unit.
2. There shall be gauge line access port in the skin of the rooftop, covered by a black, removable plug.
   a. The plug shall be easy to remove and replace.
   b. When the plug is removed, the gauge access port shall enable maintenance personnel to route their pressure gauge lines.
   c. This gauge access port shall facilitate correct and accurate condenser pressure readings by enabling the reading with the compressor access panel on.
   d. The plug shall be made of a leak proof, UV-resistant, composite material.
3. Compressors
   a. Unit shall use one fully hermetic, scroll compressor for each independent refrigeration circuit.
   b. Models shall be available with single compressor/single stage cooling designs on 04-07 sizes and 2 compressor/2-stage cooling models on 08-14 sizes.
   c. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
   d. Compressors shall be internally protected from high discharge temperature conditions.
   e. Compressors shall be protected from an over-temperature and over-amperage conditions by an internal, motor overload device.
   f. Compressor shall be factory mounted on rubber grommets.
   g. Compressor motors shall have internal line break thermal, current overload and high pressure differential protection.
   h. Crankcase heaters shall not be required for normal operating range, unless provided by the factory.

23 81 19.13.L. Filter Section

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

23 81 19.13.M. Evaporator Fan and Motor

1. Evaporator fan motor:
   a. Shall have permanently lubricated bearings.
   b. Shall have inherent automatic-reset thermal overload protection or circuit breaker.
   c. Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating shall be required.
2. Electric Drive (Direct Drive) X13 – 5 Speed/Torque Evaporator Fan:
   a. Multi speed motor with easy quick adjustment settings.
   b. Blower fan shall be double-inlet type with forward-curved blades.
   c. Shall be constructed from steel with a corrosion resistant finish and dynamically balanced.

d. Standard on all 04-06 3-phase models with optional belt drive.

3. Belt-driven Evaporator Fan:
   a. Belt drive shall include an adjustable-pitch motor pulley.
   b. Shall use sealed, permanently lubricated ball-bearing type.
   c. Blower fan shall be double-inlet type with forward-curved blades.
   d. Shall be constructed from steel with a corrosion resistant finish and dynamically balanced.
   e. Standard on all 04-07 size and 04-06 size models. Optional on all 04-06 3-phase models.

23 81 19.13.N. Condenser Fans and Motors

1. Condenser fan motors:
   a. Shall be a totally enclosed motor.
   b. Shall use permanently lubricated bearings.
   c. Shall have inherent thermal overload protection with an automatic reset feature.
   d. Shall use a shaft-down design on 04 to 14 models.
2. Condenser Fans:
   a. Shall be a direct-driven propeller type fan.
   b. Shall have aluminum blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.

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

1. EnergyX and Economizer
   a. System Description
   One-piece EnergyX (Energy Recovery Ventilation) unit is an electrically controlled ventilation air pre-conditioner utilizing an ARI 1060 certified Energy Recovery Cassette to reduce the cooling and heating loads placed on the primary HVAC unit by untreated outdoor air. Building exhaust air shall be introduced to the EnergyX unit through ductwork. Unit shall be designed as a factory-installed option to be used with WeatherMaster 48HC units for use in vertical return applications only.
   b. Quality Assurance
      (1.) Unit shall be designed in accordance with UL Standard 1995
      (2.) Energy Recovery unit shall be ETL tested and certified.
      (3.) Rooftop unit and Energy Recovery unit shall be ETL certified as one single system.
      (4.) Roof curb or curb extension shall be designed to conform to NRCA Standards.
      (5.) Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
      (6.) Unit casing shall be capable of withstanding ASTM No. 141 (Method 6061) 500-hour salt spray test.
      (7.) Unit shall contain ARI 1060 certified Energy Recovery Cassette.
      (8.) Unit shall leakage rates shall be capable of meeting ASHRAE Standard 62.1 requirements for use of class-2 exhaust with class-1 ventilation air.
2. Products
   a. Equipment (Standard)
      (1.) General
      The EnergyX unit shall be a factory assembled, single piece unit. Contained within the unit enclosure shall be all factory wiring with a single, pre-determined point of power input and a single point of 24-volt control wiring.
   b. Unit Cabinet
      (1.) Unit cabinet shall be constructed of galvanized steel coated with a pre-painted baked enamel finish.
      (2.) All models shall have hoods installed over outside air intake and exhaust openings. Outside air hood shall have aluminum water entrainment filters.
      (3.) All models have 1-in., 2 pound density fiberglass insulation.
      (4.) Hinged access doors with compression latches shall be provided on all units for access to fans and filters. Hinged doors shall be provided with at least one handle capable of being locked.
      (5.) Exhaust air stream shall have back-draft dampers to prevent air penetration during off cycles.
      (6.) Holes shall be provided in the base rails for rigging shackles to facilitate overhead rigging.
   c. Blowers
      (1.) Blowers shall be direct drive with variable speed motors.
      (2.) Blower wheel shall be made of steel with a corrosion resistant finish. It shall be dynamically balanced, double-inlet type with backward-curved blades.
      (3.) Blower shall be mounted on neoprene vibration isolation pads.
      (4.) Motor shall be high efficiency and have thermal overload protection.

d. Filter Section
(1.) Standard filter section shall accept commercially available, 2-in. pleated filter(s).
e. Controls and Safeties
(1.) The EnergyX unit shall operate in conjunction with rooftop unit fan.
f. Electrical Requirements
(1.) All unit power wiring shall enter unit cabinet at a single location.
g. Energy Recovery Cassette
(1.) The energy recovery media shall have a minimum of 70% effectiveness at nominal unit airflow.
(2.) Energy wheel performance shall be ARI Standard 1060 Certified and bear the ARI Certified Product Seal.
(3.) The energy recovery cassette shall be an UL Recognized component for electrical and fire safety.
(4.) The wheel shall be coated with silica gel desiccant, permanently bonded without the use of binders or adhesives.
(5.) Coated wheels shall be washable with detergent or alkaline coil cleaner and water.
(6.) The silica gel shall not dissolve or deliquesce in the presence of water or high humidity.
(7.) The substrate shall be made of a lightweight polymer and shall not degrade or require additional coatings for application in coastal environments.
(8.) The wheel polymer layers shall be wound continuously with one flat and one structured layer in an ideal parallel plate geometry providing laminar flow and minimum pressure drop.
(9.) The polymer layers shall be captured in a stainless steel wheel frame or aluminum and stainless steel segment frames that provide a rigid and self-supporting matrix.
(10.) Energy recovery wheels greater than 19 inches in diameter shall be provided with removable wheel segments.
(11.) Wheel frame shall be a welded hub, spoke and rim assembly of stainless, plated, and or coated steel and shall be self supporting without the wheel segments in place.
(12.) Wheel segments shall be removable without the use of tools to facilitate maintenance and cleaning.
(13.) Wheel rim shall be continuous rolled stainless steel and the wheel shall be connected to the shaft by means of taper locks.
(14.) Wheel bearings shall provide an L-10 life of 400,000 hours.
(15.) Drive belts of stretch urethane shall be provided for wheel rim drive without the need for external tensioners or adjustment.

3. Special Features (Options and Accessories)
a. Supply and exhaust air frost control option
(1.) Factory-installed frost protection module shall sense pressure differential across the energy recovery cassette.
(2.) Supply blower shall be shut-off if the pressure differential across the energy recovery cassette exceeds an adjustable set point. Blower shall remain off for an adjustable time period.
(3.) Exhaust blower and wheel shall remain in operation in order to remove any frost build-up on the wheel.
b. EnergyX maintenance indicator package
A factory-installed switch shall monitor EnergyX blowers and wheel motor amp draw and send a signal to field-supplied 24-v indicator upon amperage surge that maintenance required.
c. Filter maintenance indicator
A factory-installed differential pressure switch shall measure pressure drop across the outside air filter and activate a field-supplied 24-v indicator when airflow is restricted. It shall not interrupt EnergyX operation. Switch set point shall be adjustable.
d. EnergyX free cooling with enthalpy and stop/jog control
(1.) An enthalpy sensor shall prevent the wheel from rotating if the outside air conditions are acceptable for free cooling. Both exhaust and supply blowers will remain on.
(2.) Stop-Jog-Control shall energize the wheel periodically during the free cooling operation of the EnergyX to prevent dirt build-up on the wheel.
e. Economizer Option
(1.) The economizer shall be integrated in the energy recovery module and shall allow air to bypass the energy recovery wheel for free cooling and fail safe operation. Tilting wheel mechanisms shall not be allowed.
(2.) The economizer damper shall be motorized with factory installed, 24-volt Belimo actuator.
(3.) The EnergyX shall be capable of using the economizer in a free cooling operation.
(4.) The economizer shall utilize enthalpy sensor controls when in the economizer mode.
f. CO2 Sensor

(1.) The modulating airflow energy recovery unit shall be capable of incorporating a CO_2 sensor for use with Demand Control Ventilation.

(2.) The CO_2 sensor shall connect to the base rooftop unit's digital controller.

(3.) The modulating airflow energy recovery unit shall use at a minimum, a high & low CFM airflow set point when a CO_2 sensor is used.

g. Roof Curb Extension (HC04-14 sizes with EnergyX) Accessory for use with EnergyX units

(1.) The energy recovery module shall us the standard rooftop unit rooftop curb.

(2.) Rooftop extensions, support rails or other devices that come in contact with the roof surface to support the energy recovery module shall not be allowed.

(3.) A horizontal adapter curb shall be used to convert vertical return air applications into horizontal return air applications. The supply airflow shall be convertible via the base rooftop unit operation and restrictions.

4. Staged Air Volume System (SAV) for 2-stage cooling models only:
   a. Evaporator fan motor:
      (1.) Shall have permanently lubricated bearings.
      (2.) Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating.
      (3.) Shall be Variable Frequency duty and 2-speed control.
      (4.) Shall contain motor shaft grounding ring to prevent electrical bearing fluting damage by safely diverting harmful shaft voltages and bearing currents to ground.
5. Variable Frequency Drive (VFD). Only available on 2-speed indoor fan motor option (SAV):
   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.
6. Head Pressure Control Package
   a. Controller shall control coil head pressure by condenser-fan speed modulation or condenser-fan cycling and wind baffles.
   b. Shall consist of solid-state control and condenser-coil temperature sensor to maintain condensing temperature between 90°F (32°C) and 110°F (43°C) at outdoor ambient temperatures down to -20°F (-29°C).
7. Condenser Coil Hail Guard Assembly (Factory installed option on 3 phase models. Field installed on all 3 phase models)
   a. Shall protect against damage from hail.
   b. Shall be louvered design.
8. Unit-Mounted, Non-Fused Disconnect Switch:
   a. Switch shall be factory-installed, internally mounted.
   b. National Electric Code (NEC) and UL approved non-fused switch shall provide unit power shutoff.
   c. Shall be accessible from outside the unit
   d. Shall provide local shutdown and lockout capability.
9. 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 environmental protection.
   On 575V applications, HACR breaker can only be used with WYE power distribution systems. Use on Delta power distribution systems is prohibited.
10. Convenience Outlet:
    a. Powered convenience outlet (3 phase models only).
       (1.) Outlet shall be powered from main line power to the rooftop unit.
       (2.) Outlet shall be powered from line side or load side of disconnect by installing contractor, as required by code. If outlet is powered from load side of disconnect, unit electrical ratings shall be UL certified and rated for additional outlet amperage.

(3.) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.

(4.) Outlet shall include 15 amp GFI receptacles with independent fuse protection.

(5.) Voltage required to operate convenience outlet shall be provided by a factory-installed step-down transformer.

(6.) Outlet shall be accessible from outside the unit.

(7.) Outlet shall include a field-installed “Wet in Use” cover.

b. Non-Powered convenience outlet.

(1.) Outlet shall be powered from a separate 115/120v power source.

(2.) A transformer shall not be included.

(3.) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.

(4.) Outlet shall include 15 amp GFI receptacles with independent fuse protection.

(5.) Outlet shall be accessible from outside the unit.

(6.) Outlet shall include a field-installed “Wet in Use” cover.

11. Thru-the-Base Connectors:
    a. Kits shall provide connectors to permit electrical connections to be brought to the unit through the unit basepan.
    b. Minimum of four connection locations per unit.
12. 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.
13. 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.
14. Condenser Coil Grille:
    a. Shall protect against damage from hail.
    b. Shall be of louvered style.
15. Thru-the-Bottom Utility Connectors:
    a. Kit shall provide connectors to permit gas and electrical connections to be brought to the unit through the basepan.
16. 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.
17. 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.
18. Indoor Air Quality (CO_2) 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 set-point shall have adjustment capability.
19. Smoke detectors (factory-installed only) RA detector on 08-14 models only:
    a. Shall be a Four-Wire Controller and Detector.
    b. Shall be environmental compensated with differential sensing for reliable, stable, and drift-free sensitivity.
    c. Shall use magnet-activated test/reset sensor switches.
    d. Shall have tool-less connection terminal access.
    e. Shall have a recessed momentary switch for testing and resetting the detector.
    f. Controller shall include:
        (1.) One set of normally open alarm initiation contacts for connection to an initiating device circuit on a fire alarm control panel.
        (2.) Two Form-C auxiliary alarm relays for interface with rooftop unit or other equipment.
        (3.) One Form-C supervision (trouble) relay to control the operation of the Trouble LED on a remote test/reset station.

(4.) Capable of direct connection to two individual detector modules.

(5.) Can be wired to up to 14 other duct smoke detectors for multiple fan shutdown applications.

20. Winter start kit
    a. Shall contain a bypass device around the low pressure switch.
    b. Shall be required when mechanical cooling is required down to 25°F (-4°C).
    c. Shall not be required to operate on an economizer when below an outdoor ambient of 40°F (4°C).
21. 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.
22. 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.
23. 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.

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