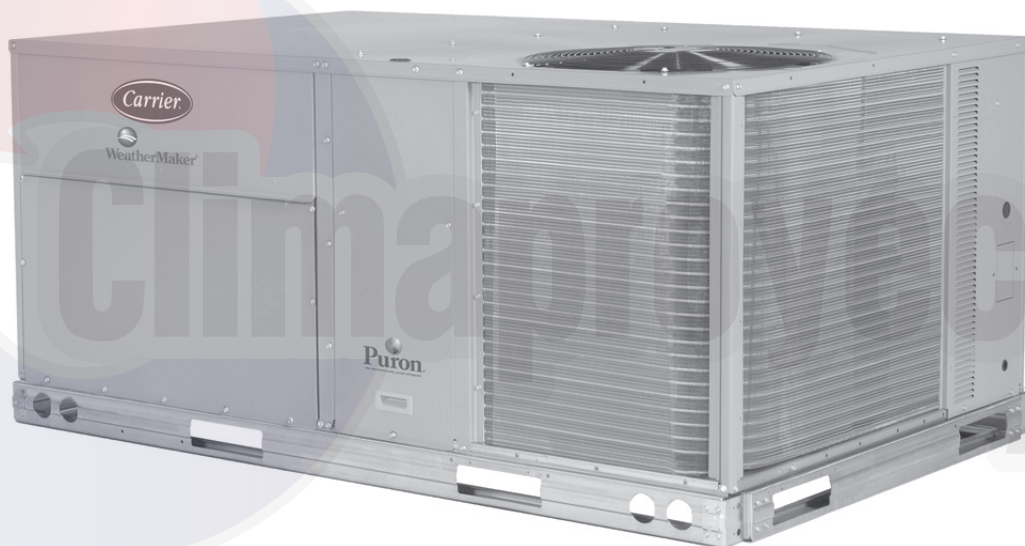


50TC
Cooling Only/Electric Heat Packaged Rooftop
3 to 12.5 Nominal Tons



Product Data



C08613



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Your Carrier rooftop unit (RTU) was designed by customers for customers. With no-strip screw collars, handled access panels, and more we’ve made your unit easy to install, easy to maintain and easy to use.

Easy to install:

All WeatherMaker™ units are field-convertible to horizontal air flow; no special adapter curbs or kits are necessary. Convertible airflow design makes it easy to adjust to unexpected job-site complications. Lighter units make easy replacement. Carrier 3-12.5 ton 50TC rooftops fit on existing Carrier curbs dating back to 1989. Also, our large control box gives you room to work and room to mount Carrier accessory controls.

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 on. Simply remove the black, composite plug, route your gauge line(s) through the hole, and connect them to the refrigeration service valve(s). Now, you can take refrigeration system pressure readings without affecting the condenser airflow.

Easy to use:

The newly designed, master 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. Carrier rooftops have high and low pressure switches, a filter drier, and 2” (51mm) filters standard.

FEATURES AND BENEFITS

- Up to 28% lighter than similar industry units. Lighter rooftops make easier replacement jobs.
- 3-12.5 ton units fit on existing Carrier rooftop curbs making the utility connections the same. This saves time and money on replacement jobs.
- Standardized components and layout. Standardized components and controls make service and stocking parts easier.
- Scroll compressors on all units. This makes service, stocking parts, replacement, and troubleshooting easier.
- Field convertible airflow (3-12.5 tons). Being able to convert a unit from vertical airflow to horizontal makes it easy to overcome job site complications.
- Easy-adjust, belt-drive motor available. Carrier provides a factory solution for most points in the fan performance table. There's no need for field-supplied drives or motors.
- Provisions for bottom or side condensate drain.
- Capable of thru-the-base or thru-the-curb electrical routing.
- Single-point electrical connection.
- Sloped, composite drain pan. Sloped, composite drain pan sheds water; and won't rust.
- Standardized controls and control box layout. Standardized components and controls make stocking parts and service easier.
- Clean, easy to use control box.
- Color-coded wiring.
- Large, laminated wiring and power wiring drawings which are affixed to unit make troubleshooting easy.
- Single, central terminal board for test and wiring connections.
- Fast-access, handled, panels for easy access to the blower and blower motor, control box, and compressors.
- "No-strip" screw system guides screws into the panel and captures them tightly without stripping the screw, the panel, or the unit.
- Exclusive, newly-design indoor refrigerant header for easier maintenance and replacement.
- Mechanical cooling (115°F to 40°F or 46°C to 4°C) standard on all models. Winter start kit allows cooling operation down to 25°F (-4°C) and MotorMaster to -20°F (-29°C).
- 2" (51mm) disposable filters on all units.
- Refrigerant filter-drier on each circuit.
- High and low pressure switches. Added reliability with high pressure switch and low pressure switch.
- Factory-installed Humidi-MiZer adaptive dehumidification system on 3-12.5 ton models, includes MotorMaster I controller for cooling operation down to -20°F (-29°C).

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MODEL NUMBER NOMENCLATURE

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

Unit Heat Type

50 = Cooling/Elec Heat RTU with Puron refrigerant

Model

TC = WeatherMaker Series

Heat Size

- = No heat

Refrig. System Options

A = Standard 1-stage cooling
 B = Standard 1-stage cooling models with Humidi-MiZer (04-07 models only)
 D = Standard 2-stage cooling
 E = 2-stage cooling 08-14 w/Al/Cu condenser coil and Humidi-MiZer

Cooling 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 = CO₂ sensor
 F = RA smoke detector & CO₂
 G = SA smoke detector & CO₂
 H = RA & SA smoke detector & CO₂

Indoor Fan Options

1 = Standard static option
 2 = Medium static option
 3 = High static option

Brand / Packaging

0 = Standard
 1 = LTL

Electrical Options

A = None
 C = Non-fused disc
 D = Thru the base
 F = Non-fused & thru the base

Service Options

0 = None
 1 = Unpowered convenience outlet
 2 = Powered convenience outlet

Intake / Exhaust Options

A = None
 B = Temp econo w/ baro relief
 F = Enthalpy econo w/ baro relief
 K = 2 position damper

Base Unit Controls

0 = Electromechanical controller
 1 = PremierLink DDC controller
 2 = Open protocol DDC controller

Design Rev

Factory assigned

Voltage

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

Models w/Round Tube Plate Fin (RTPF) condenser coil (Outdoor - Indoor - Hail Guard)

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

Models w/All aluminum, Novation condenser coils (Outdoor - Indoor - Hail Guard)

G = Al/Al - Al/Cu
 H = Al/Al - Cu/Cu
 J = Al/Al - E-coat Al/Cu
 K = E-coat Al/Al - Al/Cu
 L = E-coat Al/Al - E-coat Al/Cu
 T = Al/Al - Al/Cu - Louvered Hail Guards
 U = Al/Al - Cu/Cu - Louvered Hail Guards
 V = Al/Al - E-coat Al/Cu - Louvered Hail Guards
 W = E-coat Al/Al - Al/Cu - Louvered Hail Guards
 X = E-coat Al/Al - E-coat Al/Cu - Louvered Hail Guards

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

CATEGORY	ITEM	FACTORY INSTALLED OPTION	FIELD INSTALLED ACCESSORY
Cabinet	Thru – the – base electrical connections	X	X
Coil Options	Cu/Cu indoor and/or outdoor coils ¹	X	
	Pre – coated outdoor coils ¹	X	
	Premium, E – coated outdoor coils ¹	X	
Humidity Control	Humidi – MiZer Adaptive Dehumidification System (3 – 12.5T)	X	
Condenser Protection	Condenser coil hail guard (louvered design)	X	X
Controls	Thermostats, temperature sensors, and subbases		X
	PremierLink DDC communicating controller	X	X
	RTU – MP open – protocol controller	X	
	Smoke detector (supply and/or return air)	X	
	Time Guard II compressor delay control circuit		X
	Phase Monitor		X
Economizers & Outdoor Air Dampers	EconoMi\$er IV (for electro – mechanical controlled RTUs)	X	X
	EconoMi\$er2 (for DDC controlled RTUs)	X	X
	Motorized 2 position outdoor – air damper	X	X
	Manual outdoor – air damper (25% and 50%)		X
	Barometric relief ²	X	X
	Power exhaust		X
Economizer Sensors & IAQ Devices	Single dry bulb temperature sensors ³	X	X
	Differential dry bulb temperature sensors ³		X
	Single enthalpy sensors ³	X	X
	Differential enthalpy sensors ³		X
	CO ₂ sensor (wall, duct, or unit mounted) ³	X	X
Electric Heat	Electric Resistance Heaters		X
	Single Point Kit		X
Indoor Motor & Drive	Multiple motor and drive packages	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	
Roof Curbs	Roof curb 14 – in (356mm)		X
	Roof curb 24 – in (610mm)		X

NOTES:

1. Novation coated coils are only available with E – coat.
2. Included with economizer.
3. Sensors for optimizing economizer.
4. See application data for assistance.

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FACTORY OPTIONS AND/OR ACCESSORIES

Economizer (dry-bulb or enthalpy)

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

Economizers are available, installed and tested by the factory, with either enthalpy or dry-bulb temperature inputs. 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 which equalizes building pressure and ambient air pressures. This can be a cost effective solution to prevent building pressurization.

CO₂ Sensor

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

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

Smoke Detectors

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

Louvered Hail Guards

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

Convenience Outlet (powered or un-powered)

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

Non-fused Disconnect

This OSHA-compliant, factory-installed, safety switch allows a service technician to locally secure power to the rooftop.

Power Exhaust with Barometric Relief.

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

PremierLink

This CCN controller regulates your rooftop’s performance to tighter tolerances and expanded limits, as well as facilitates zoning systems and digital accessories. It also unites your Carrier HVAC equipment together on one, coherent CCN network. The PremierLink can be factory-installed, or easily field-installed.

RTU-MP, Multi-protocol Controller

Connect the rooftop to an existing BAS without needing complicated translators or adapter modules using the RTU-MP controller. This new controller speaks the 4 most common building automation system languages (Bacnet, Modbus, N2, and Lonworks). Use this controller when you have an existing BAS.

Time Guard II Control Circuit

This accessory protects your compressor by preventing short-cycling in the event of some other failure, prevents the compressor from restarting for 30 seconds after stopping. Not required with PremierLink, RTU-MP, or authorized commercial thermostats.

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.

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.

Optional Humidi-MiZer Adaptive Dehumidification System

Carrier’s Humidi-MiZer adaptive dehumidification system is an all-inclusive factory-installed option that can be ordered with any WeatherMaker 50TC-04-14 rooftop unit.

FACTORY OPTIONS AND/OR ACCESSORIES (cont.)

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

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

The WeatherMaker 50TC-04-14 rooftop coupled with the Humidi-MiZer system is capable of operating in normal design cooling mode, subcooling mode, and hot gas reheat mode. Normal design cooling mode is when the unit will operate under its normal sequence of operation by cycling compressors to maintain comfort conditions.

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

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 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.

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.

50TC

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Table 2 – AHRI COOLING RATING TABLES

UNIT	COOLING STAGES	NOM. CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (KW)	SEER	EER	IEER
A04	1	3	34.6	3.1	13.00	11.00	N/A
A05	1	4	45.0	4.0	13.00	11.00	N/A
A06	1	5	59.0	5.5	13.00	10.75	N/A
A07	1	6	70.0	6.4	N/A	11.20	11.4
A08	1	7.5	88.0	8.0	N/A	11.20	11.4
A09	1	8.5	97.0	8.8	N/A	11.20	11.4
A12	1	10	117.0	10.6	N/A	11.20	11.4

TABLE 3 – AHRI COOLING RATING TABLE2-STAGE COOLING

UNIT	COOLING STAGES	NOM. CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	SEER	EER	IEER
D08	2	7.5	83.0	7.5	N/A	11.20	11.7
D09	2	8.5	99.0	9.0	N/A	11.20	11.7
D12	2	10	114.0	10.3	N/A	11.30	12.2
D14	2	12.5	140.0	12.9	N/A	11.00	11.2

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LEGEND

- AHRI – Air Conditioning, Heating and Refrigeration Institute
- 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 and certified under AHRI Standard 210/240 or 340/360, as appropriate.
2. Ratings are based on:
Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temp and 95°F 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 50TC units comply with ASHRAE 90.1 Energy Standard for minimum SEER and EER requirements.
4. Where appropriate, 50TC units comply with US Energy Policy Act (2005). Refer to state and local codes or visit the following website: <http://bcap-energy.org> to determine if compliance with this standard pertains to your state, territory, or municipality.



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.

Table 4 – MINIMUM - MAXIMUM AIRFLOWS ELECTRIC HEAT

UNIT	COOLING		ELECTRIC HEATERS	
	Minimum	Maximum	Minimum	Maximum
50TC**04	900	1500	900	1500
50TC**05	1200	2000	1200	2000
50TC**06	1500	2500	1500	2500
50TC**07	1800	3000	1800	3000
50TC**08	2250	3750	2250*	3750
50TC**09	2550	4250	2250*	4250
50TC**12	3000	5000	3000*	5000
50TC**14	3600	6000	3000*	6000

* Minimum electric heat CFM exceptions :

UNIT	UNIT VOLTAGE	HEATER KW	UNIT CONFIGURATION	REQUIRED MINIMUM CFM
50TC**12 50TC**14	208/230	42.4	Horizontal	3200
50TC**12 50TC**14	208/230	50.0	Horizontal	3200
50TC**12 50TC**14	460	50.0	Horizontal or Vertical	3200
50TC**08 50TC**09 50TC**12 50TC**14	575	17.0	Horizontal or Vertical	2800
		34.0		2350

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Table 5 – SOUND PERFORMANCE TABLE

UNIT	COOLING STAGES	OUTDOOR SOUND (dB)								
		A-WEIGHTED	63	125	250	500	1000	2000	4000	8000
A04	1	80	90.6	80.9	80.2	76	74.6	71.3	68.5	63.9
A05	1	81	90.9	84.6	79.5	77.9	76.5	71.1	66.9	62.5
A06	1	78	84.0	82.2	76.3	74.8	72.5	68.8	65.6	61.8
A07	1	78	88.8	81.8	76.9	74.4	73.3	69.8	66.3	62.7
A08	1	82	90.1	82.6	81.0	79.4	77.0	73.0	70.4	66.7
D08	2	82	85.8	84.3	80.5	78.7	76.4	72.7	68.3	65.1
A09	1	83	91.2	86.4	81.9	81.0	78.3	73.9	71.4	67.3
A12	1	82	88.6	85.0	81.6	79.5	77.4	74.1	71.0	66.3
D12	2	82	89.0	83.1	80.5	78.5	75.5	71.6	69.6	69.3
D14	2	87	87.0	85.2	84.6	84.9	82.2	78.4	75.3	72.9

LEGEND

dB – Decibel

NOTES:

1. Outdoor sound data is measure in accordance with AHRI standard 270–2008.
2. Measurements are expressed in terms of sound power. Do not compare these values to sound pressure values because sound pressure accounts for specific environmental factors which 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 an “average” human ear. A–weighted measurements for Carrier units are taken in accordance with 270–2008.

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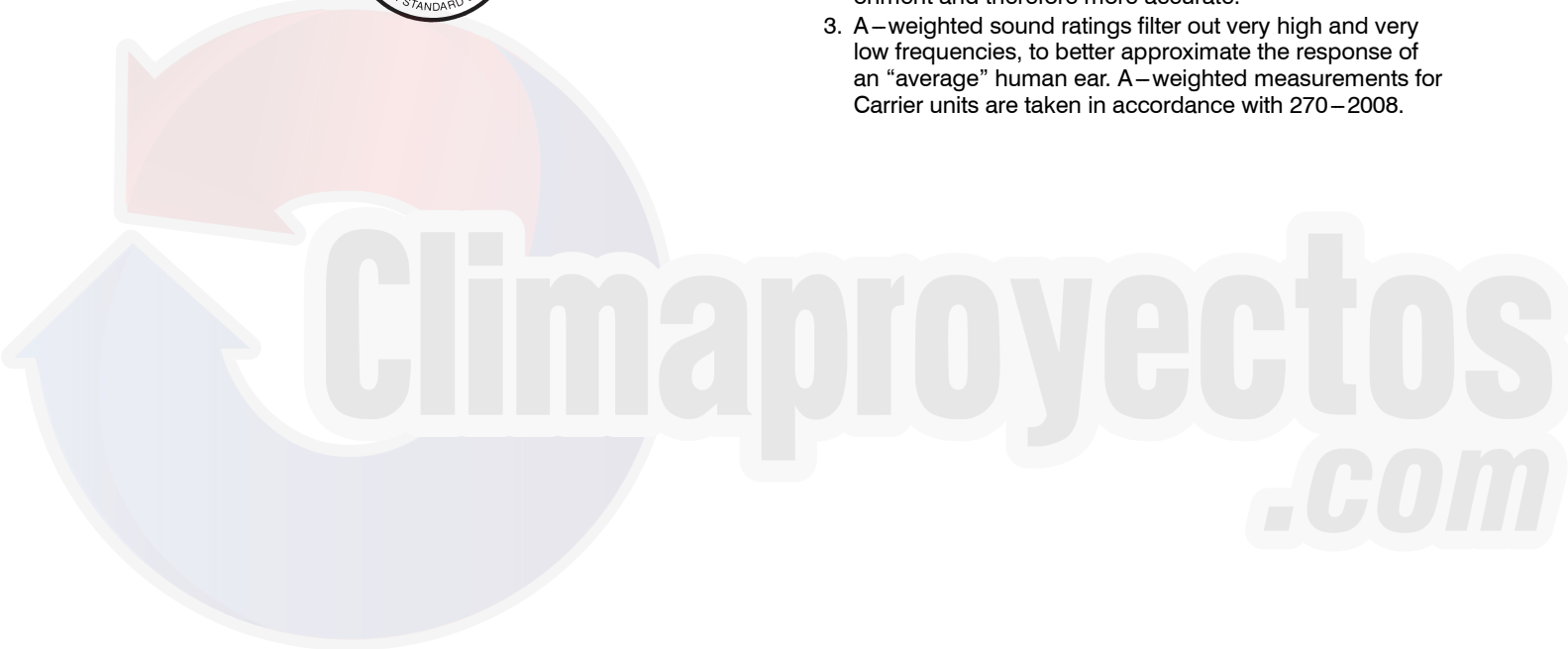


Table 6 – PHYSICAL DATA

(COOLING)

3 - 6 TONS

		50TC*A04	50TC*A05	50TC*A06	50TC*A07
Refrigeration System					
# Circuits / # Comp. / Type		1 / 1 / Scroll	1 / 1 / Scroll	1 / 1 / Scroll	1 / 1 / Scroll
Puron® refrig. (R-410A) charge per circuit A/B (lbs-oz)		5-10 / -	8-8 / -	10-11 / -	14-2 / -
Operating charge (lbs-oz) – Humidi-MiZer Unit		8-11	14-13	16-0	22-5
Metering Device		Acutrol	Acutrol	Acutrol	Acutrol
High-press. Trip / Reset (psig)		630 / 505	630 / 505	630 / 505	630 / 505
Low-press. Trip / Reset (psig)		54 / 117	54 / 117	54 / 117	54 / 117
Compressor Capacity Staging (%)		100%	100%	100%	100%
Evap. Coil					
Material (Tube/Fin)		Cu / Al	Cu / Al	Cu / Al	Cu / Al
Coil type		3/8-in RTPF	3/8-in RTPF	3/8-in RTPF	3/8-in RTPF
Rows / FPI		2 / 15	2 / 15	4 / 15	4 / 15
Total Face Area (ft²)		5.5	5.5	5.5	7.3
Condensate Drain Conn. Size		3/4-in	3/4-in	3/4-in	3/4-in
Evap. Fan and Motor					
Standard Static 1 phase	Motor Qty / Drive Type	1 / Belt	1 / Belt	1 / Belt	-
	Max BHP	1.2	1.2	1.2	-
	RPM Range	560-854	560-854	770-1175	-
	Motor Frame Size	48	48	48	-
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	-
	Fan Diameter (in)	10 x 10	10 x 10	10 x 10	-
	Medium Static 1 phase	Motor Qty / Drive Type	1 / Belt	1 / Belt	1 / Belt
Max BHP	1.2	1.2	1.5	-	
RPM Range	770-1175	770-1175	1035-1466	-	
Motor Frame Size	48	48	56	-	
Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	-	
Fan Diameter (in)	10 x 10	10 x 10	10 x 10	-	
Standard Static 3 phase	Motor Qty / Drive Type	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	1.2	1.2	1.5	2.4
	RPM Range	560-854	560-854	770-1175	1073-1457
	Motor Frame Size	48	48	48	56
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	10 x 10	10 x 10	10 x 10	10 x 10
	Medium Static 3 phase	Motor Qty / Drive Type	1 / Belt	1 / Belt	1 / Belt
Max BHP	1.2	1.2	2.4	2.9*	
RPM Range	770-1175	770-1175	1035-1466	1173-1518	
Motor Frame Size	48	48	56	56	
Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	
Fan Diameter (in)	10 x 10	10 x 10	10 x 10	10 x 10	
High Static 3 phase	Motor Qty / Drive Type	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	2.4	2.4	2.9	3.7
	RPM Range	1035-1466	1035-1466	1303-1687	1474-1788
	Motor Frame Size	56	56	56	56
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	10 x 10	10 x 10	10 x 10	10 x 10
	Cond. Coil				
Material (Tube/Fin)		Cu / Al	Cu / Al	Cu / Al	Cu / Al
Coil type		3/8-in RTPF	3/8-in RTPF	3/8-in RTPF	3/8-in RTPF
Rows / FPI		1 / 17	2 / 17	2 / 17	2 / 17
Total Face Area (ft²)		14.6	16.5	16.5	21.3
Humidi-MiZer Coil					
Material (Tube/Fin)		Cu / Al	Cu / Al	Cu / Al	Cu / Al
Rows..Fins/in.		1 / 17	2 / 17	2 / 17	2 / 17
Total Face Area (ft²)		3.9	3.9	3.9	5.2
Cond. fan / motor					
Qty / Motor Drive Type		1/ Direct	1/ Direct	1/ Direct	1/ Direct
Motor HP / RPM		1/4 / 1100	1/4 / 1100	1/4 / 1100	1/4 / 1100
Fan diameter (in)		22	22	22	22
Filters					
RA Filter # / Size (in)		2 / 16 x 25 x 2	2 / 16 x 25 x 2	2 / 16 x 25 x 2	4 / 16 x 16 x 2
OA inlet screen # / Size (in)		1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 24 x 1

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NOTE: Humidi-MiZer is not available with Novation condenser coil models. Only Round Tube / Plate Fin (RTPF).

* 575V motor utilizes 3.7 BHP.

Table 7 – PHYSICAL DATA

(COOLING)

7.5 - 8.5 TONS

		50TC*A08	50TC*D08	50TC*A09	50TC*D09
Refrigeration System					
# Circuits / # Comp. / Type		1 / 1 / Scroll	2 / 2 / Scroll	1 / 1 / Scroll	2 / 2 / Scroll
RTPF models R-410a charge A/B (lbs – oz)		13 – 12	8 – 5 / 8 – 2	15 – 4	10 – 5 / 10 – 12
Humidi-MiZer R-410a charge A/B (lbs – oz)		–	13 – 3 / 13 – 3	–	16 – 13 / 16 – 13
Metering device		Acutrol	Acutrol	Acutrol	Acutrol
Novation R-410a charge A/B (lbs – oz)		–	4 – 6 / 4 – 6	–	–
High–press. Trip / Reset (psig)		630 / 505	630 / 505	630 / 505	630 / 505
Low–press. Trip / Reset (psig)		54 / 117	54 / 117	54 / 117	54 / 117
Compressor Capacity Staging (%)		100%	50% / 100%	100%	50% / 100%
Evap. Coil					
Material (Tube/Fin)		Cu / Al	Cu / Al	Cu / Al	Cu / Al
Coil type		3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF
Rows / FPI		3 / 15	3 / 15	3 / 15	3 / 15
Total face area (ft ²)		8.9	8.9	11.1	11.1
Condensate drain conn. size		3/4"	3/4"	3/4"	3/4"
Evap. fan and motor					
Standard Static 3 phase	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	1.7	1.7	1.7	1.7
	RPM range	489–747	489–747	518–733	518–733
	Motor frame size	56	56	56	56
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	15 x 15	15 x 15	15 x 15	15 x 15
Medium Static 3 phase	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	2.9	2.9	2.4	2.4
	RPM range	733–949	733–949	690–936	690–936
	Motor frame size	56	56	56	56
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	15 x 15	15 x 15	15 x 15	15 x 15
High Static 3 phase	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	4.7	4.7	3.7	3.7
	RPM range	909–1102	909–1102	838–1084	838–1084
	Motor frame size	145TY	145TY	56	56
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	15 x 15	15 x 15	15 x 15	15 x 15
RTPF Cond. Coil					
Material (Tube/Fin)		Cu / Al	Cu / Al	Cu / Al	Cu / Al
Coil type		3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF
Rows / FPI		2 / 17	2 / 17	2 / 17	2 / 17
Total Face Area (ft ²)		20.5	20.5	21.4	25.1
Humidi–MiZer Cond. Coil					
Material (Tube/Fin)		–	Cu / Al	–	Cu / Al
Coil type		–	3/8–in RTPF	–	3/8–in RTPF
Rows / FPI		–	1 / 20	–	1 / 20
Total Face Area (ft ²)		–	6.3	–	8.4
Novation Cond. Coil					
Material (Tube/Fin)		–	Al / Al	–	–
Coil type		–	Novation	–	–
Rows / FPI		–	1 / 20	–	–
Total Face Area (ft ²)		–	20.5	–	–
Cond. fan / motor					
Qty / Motor drive type		2 / Direct	2 / Direct	2 / Direct	2 / Direct
Motor HP / RPM		1/4 / 1100	1/4 / 1100	1/4 / 1100	1/4 / 1100
Fan diameter (in)		22	22	22	22
Filters					
RA Filter # / size (in)		4 / 16 x 20 x 2	4 / 16 x 20 x 2	4 / 20 x 20 x 2	4 / 20 x 20 x 2
OA inlet screen # / size (in)		1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 24 x 1

NOTE: Humidi–MiZer is not available with Novation condenser coil models or RTPF 08–12 models.

50TC

TABLE 8 – PHYSICAL DATA

(COOLING)

10 - 12.5 TONS

		50TC*A12	50TC*D12	50TC*D14
Refrigeration System				
# Circuits / # Comp. / Type		1 / 1 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll
RTPF models R-410a charge A/B (lbs – oz)		20 – 0	10 – 5 / 10 – 3	11 – 0 / 11 – 6
Humidi-MiZer R-410a charge A/B (lbs – oz)		-	16 – 10 / 16 – 0	17 – 10 / 18 – 3
Metering device		Acutrol	Acutrol	Acutrol
Novation R-410a charge A/B (lbs – oz)		-	6 – 0 / 6 – 0	7 – 6 / 8 – 0
High–press. Trip / Reset (psig)		630 / 505	630 / 505	630 / 505
Low–press. Trip / Reset (psig)		54 / 117	54 / 117	54 / 117
Compressor Capacity Staging (%)		100%	50% / 100%	50% / 100%
Evap. Coil				
Material (Tube/Fin)		Cu / Al	Cu / Al	Cu / Al
Coil type		3/8–in RTPF	3/8–in RTPF	3/8–in RTPF
Rows / FPI		4 / 15	4 / 15	4 / 15
Total Face Area (ft ²)		11.1	11.1	11.1
Condensate drain conn. size		3/4–in	3/4–in	3/4–in
Evap. fan and motor				
Standard Static 3 phase	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt
	Max BHP	2.4	2.4	2.9
	RPM range	591–838	591–838	652–843
	Motor frame size	56	56	56
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	15 x 15	15 x 15	15 x 15
Medium Static 3 phase	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt
	Max BHP	3.7	3.7	3.7
	RPM range	838–1084	838–1084	838–1084
	Motor frame size	56	56	56
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	15 x 15	15 x 15	15 x 15
High Static 3 phase	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt
	Max BHP	4.7	4.7	4.7
	RPM range	1022–1240	1022–1240	1022–1240
	Motor frame size	145TY	145TY	145TY
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	15 x 15	15 x 15	15 x 15
RTPF Cond. Coil				
Material (Tube/Fin)		Cu / Al	Cu / Al	Cu / Al
Coil type		3/8–in RTPF	3/8–in RTPF	3/8–in RTPF
Rows / FPI		2 / 17	2 / 17	3 / 17
Total face area (ft ²)		25.1	25.1	25.1
Humidi–MiZer Cond. Coil				
Material (Tube/Fin)		-	Cu / Al	Cu / Al
Coil type		-	3/8–in RTPF	3/8–in RTPF
Rows / FPI		-	2 / 17	2 / 17
Total Face Area (ft ²)		-	8.4	8.4
Novation Cond. Coil				
Material (Tube/Fin)		-	Al / Al	Al / Al
Coil type		-	Novation	Novation
Rows / FPI		-	1 / 20	2 / 20
Total Face Area (ft ²)		-	25.1	25.1
Cond. fan / motor				
Qty / Motor drive type		2 / Direct	2 / Direct	1 / Direct
Motor HP / RPM		1/4 / 1100	1/4 / 1100	1 / 1175
Fan diameter (in)		22	22	30
Filters				
RA Filter # / size (in)		4 / 20 x 20 x 2	4 / 20 x 20 x 2	4 / 20 x 20 x 2
OA inlet screen # / size (in)		1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 24 x 1

NOTE: Humidi–MiZer is not available with Novation condenser coil models or RTPF 08–12 models.

50TC

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Table 9 – ELECTRIC HEAT - ELECTRICAL DATA

3 - 12.5 TONS

50TC

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATERXXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXXX			
						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)
50TC*A04	208/230-1-60	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	040A00	040A00	040A00	040A00
			102A00,102A00	13	9.8/11.9	040A00	040A00	040A00	040A00
			101A00	4.4	3.3/4.0	-	-	-	-
	208/230-3-60	MED	102A00	6.5	4.9/6.0	-	-	-	-
			103B00	8.7	6.5/8.0	-	-	-	-
			104B00	10.5	7.9/9.6	040A00	040A00	040A00	040A00
			102A00,102A00	13	9.8/11.9	040A00	040A00	040A00	040A00
			101A00	4.4	3.3/4.0	-	-	-	-
			102A00	6.5	4.9/6.0	-	-	-	-
	208/230-3-60	STD	103B00	8.7	6.5/8.0	-	-	-	-
			104B00	10.5	7.9/9.6	-	-	-	-
			105A00	16	12.0/14.7	-	-	038A00	038A00
			101A00	4.4	3.3/4.0	-	-	-	-
			102A00	6.5	4.9/6.0	-	-	-	-
			103B00	8.7	6.5/8.0	-	-	-	-
	208/230-3-60	MED	104B00	10.5	7.9/9.6	-	-	-	-
			105A00	16	12.0/14.7	-	-	038A00	038A00
			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	-	-	-	-
208/230-3-60	HIGH	105A00	16	12.0/14.7	-	-	038A00	038A00	
		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	-	-	038A00	038A00	
460-3-60	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
- C.O. – Convenience outlet
- FLA – Full load amps
- IFM – Indoor fan motor
- NOM PWR – 240V / 480V / 600V
- P.E. – Power exhaust
- PWRD – Powered convenience outlet
- UNPWRD – Unpowered convenience outlet

Table 9 - (cont.) ELECTRIC HEAT - ELECTRICAL DATA

3 - 12.5 TONS

UNIT	NOM. V - PH - HZ	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATERXXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXXX			
						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)
50TC*A05	208/230-1-60	STD	101A00	4.4	3.3/4.0	-	-	-	-
			103B00	8.7	6.5/8.0	-	-	-	-
			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	-	-	-	-
			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	STD	102A00	6.5	4.9/6.0	-	-	-	-
			103B00	8.7	6.5/8.0	-	-	-	-
			105A00	16	12.0/14.7	-	-	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	-	-	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	-	-	038A00	038A00
			104B00,104B00	21	15.8/19.3	038A00	038A00	038A00	038A00
	460-3-60	STD	106A00	6	5.5	-	-	-	-
			108A00	11.5	10.6	-	-	-	-
109A00			14	12.9	-	-	-	-	
108A00,108A00			23	21.1	-	-	-	-	
MED		106A00	6	5.5	-	-	-	-	
		108A00	11.5	10.6	-	-	-	-	
		109A00	14	12.9	-	-	-	-	
		108A00,108A00	23	21.1	-	-	-	-	
HIGH		106A00	6	5.5	-	-	-	-	
		108A00	11.5	10.6	-	-	-	-	
		109A00	14	12.9	-	-	-	-	
		108A00,108A00	23	21.1	-	-	-	-	

50TC

LEGEND

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

Table 9 - (cont.) ELECTRIC HEAT - ELECTRICAL DATA

3 - 12.5 TONS

50TC

UNIT	NOM. V - PH - HZ	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATERXXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXXX			
						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)
50TC*A06	208/230-1-60	STD	102A00	6.5	4.9/6.0	-	-	-	-
			103B00	8.7	6.5/8.0	-	-	-	-
			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	
		102A00	6.5	4.9/6.0	-	-	-	-	
	103B00	8.7	6.5/8.0	-	-	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	STD	102A00	6.5	4.9/6.0	-	-	-	-
			104B00	10.5	7.9/9.6	-	-	-	-
105A00			16	12.0/14.7	-	-	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	
102A00			6.5	4.9/6.0	-	-	-	-	
104B00		10.5	7.9/9.6	-	-	-	-		
105A00		16	12.0/14.7	-	-	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	-	-	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		
	106A00	6	5.5	-	-	-	-		
460-3-60	STD	108A00	11.5	10.6	-	-	-	-	
		109A00	14	12.9	-	-	-	-	
		108A00,108A00	23	21.1	-	-	-	-	
		108A00,109A00	25.5	23.4	-	-	-	-	
		106A00	6	5.5	-	-	-	-	
	MED	108A00	11.5	10.6	-	-	-	-	
		109A00	14	12.9	-	-	-	-	
		108A00,108A00	23	21.1	-	-	-	-	
		108A00,109A00	25.5	23.4	-	-	-	-	
		106A00	6	5.5	-	-	-	-	
	HIGH	108A00	11.5	10.6	-	-	-	-	
		109A00	14	12.9	-	-	-	-	
108A00,108A00	23	21.1	-	-	-	-			
108A00,109A00	25.5	23.4	-	-	-	-			

LEGEND

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

Table 9 - (cont.) ELECTRIC HEAT - ELECTRICAL DATA

3 - 12.5 TONS

UNIT	NOM. V - PH - HZ	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATERXXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXXX			
						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)
50TC*A07	208/230-3-60	STD	102A00	6.5	4.9/6.0	-	-	-	-
			104B00	10.5	7.9/9.6	-	-	-	-
			105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00
			104B00,104B00	21.0	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	16.0	12.0/14.7	037A00	037A00	038A00	038A00
			104B00,104B00	21.0	15.8/19.3	038A00	038A00	038A00	038A00
	HIGH	104B00,105A00	26.5	19.9/24.3	038A00	038A00	038A00	038A00	
		102A00	6.5	4.9/6.0	-	-	-	-	
		104B00	10.5	7.9/9.6	-	-	-	-	
		105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00	
	460-3-60	STD	104B00,104B00	21.0	15.8/19.3	038A00	038A00	038A00	038A00
			104B00,105A00	26.5	19.9/24.3	038A00	038A00	038A00	038A00
			106A00	6.0	5.5	-	-	-	-
			108A00	11.5	10.6	-	-	-	-
			109A00	14.0	12.9	-	-	-	-
MED		108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00	
		108A00,109A00	25.5	23.4	037A00	037A00	037A00	037A00	
		106A00	6.0	5.5	-	-	-	-	
		108A00	11.5	10.6	-	-	-	-	
		109A00	14.0	12.9	-	-	-	-	
HIGH		108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00	
		108A00,109A00	25.5	23.4	037A00	037A00	037A00	037A00	
	106A00	6.0	5.5	-	-	-	-		
	108A00	11.5	10.6	-	-	-	-		
		109A00	14.0	12.9	-	-	-	-	
		108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00	
		108A00,109A00	25.5	23.4	037A00	037A00	037A00	037A00	
		109A00	14.0	12.9	-	-	-	-	

50TC

LEGEND

- APP PWR – 208 / 230V / 460V / 575V
- C.O. – Convenience outlet
- FLA – Full load amps
- IFM – Indoor fan motor
- NOM PWR – 240V / 480V / 600V
- PE. – Power exhaust
- PWRD – Powered convenience outlet
- UNPWRD – Unpowered convenience outlet

Table 9 - (cont.) ELECTRIC HEAT - ELECTRICAL DATA

3 - 12.5 TONS

50TC

UNIT	NOM. V - PH - HZ	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATERXXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXXX			
						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)
50TC*A08	208/230-3-60	STD	117A00	10.4	7.8/9.6	042A00	042A00	042A00	042A00
			110A00	16.0	12.0/14.7	042A00	042A00	043A00	043A00
			111A00	24.8	18.6/22.8	043A00	043A00	043A00	043A00
			112A00	32.0	24.0/29.4	043A00	043A00	043A00	043A00
			112A00,117A00	42.4	31.8/38.9	045A00	045A00	045A00	045A00
		MED	117A00	10.4	7.8/9.6	042A00	042A00	042A00	042A00
			110A00	16.0	12.0/14.7	042A00	043A00	043A00	043A00
			111A00	24.8	18.6/22.8	043A00	043A00	043A00	043A00
			112A00	32.0	24.0/29.4	043A00	043A00	043A00	043A00
		HIGH	112A00,117A00	42.4	31.8/38.9	045A00	045A00	045A00	045A00
			117A00	10.4	7.8/9.6	042A00	042A00	043A00	043A00
			110A00	16.0	12.0/14.7	043A00	043A00	043A00	043A00
111A00	24.8		18.6/22.8	043A00	043A00	043A00	043A00		
112A00	32.0		24.0/29.4	043A00	043A00	043A00	043A00		
50TC*A08	460-3-60	STD	116A00	13.9	12.8	042A00	042A00	042A00	042A00
			113A00	16.5	15.2	042A00	042A00	042A00	042A00
			114A00	27.8	25.5	042A00	042A00	042A00	042A00
			115A00	33.0	30.3	042A00	042A00	042A00	042A00
			114A00,116A00	41.7	38.3	044A00	044A00	044A00	044A00
		MED	116A00	13.9	12.8	042A00	042A00	042A00	042A00
			113A00	16.5	15.2	042A00	042A00	042A00	042A00
			114A00	27.8	25.5	042A00	042A00	042A00	042A00
			115A00	33.0	30.3	042A00	042A00	042A00	042A00
		HIGH	114A00,116A00	41.7	38.3	044A00	044A00	044A00	044A00
			116A00	13.9	12.8	042A00	042A00	042A00	042A00
			113A00	16.5	15.2	042A00	042A00	042A00	042A00
114A00	27.8		25.5	042A00	042A00	042A00	042A00		
115A00	33.0		30.3	042A00	044A00	044A00	044A00		
575-3-60	STD	118A00	17.0	17.0	042A00	042A00	042A00	042A00	
		119A00	34.0	34.0	042A00	042A00	042A00	044A00	
		118A00	17.0	17.0	042A00	042A00	042A00	042A00	
	HIGH	119A00	34.0	34.0	042A00	042A00	042A00	044A00	
		118A00	17.0	17.0	042A00	042A00	042A00	042A00	
		119A00	34.0	34.0	042A00	044A00	044A00	044A00	

LEGEND

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

Table 9 - (cont.) ELECTRIC HEAT - ELECTRICAL DATA

3 - 12.5 TONS

UNIT	NOM. V - PH - HZ	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATERXXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXXX			
						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)
50TC*D08	208/230-3-60	STD	117A00	10.4	7.8/9.6	042A00	042A00	042A00	042A00
			110A00	16.0	12.0/14.7	042A00	042A00	043A00	043A00
			111A00	24.8	18.6/22.8	043A00	043A00	043A00	043A00
			112A00	32.0	24.0/29.4	043A00	043A00	043A00	043A00
			112A00,117A00	42.4	31.8/38.9	045A00	045A00	045A00	045A00
		MED	117A00	10.4	7.8/9.6	042A00	042A00	042A00	042A00
			110A00	16.0	12.0/14.7	042A00	043A00	043A00	043A00
			111A00	24.8	18.6/22.8	043A00	043A00	043A00	043A00
			112A00	32.0	24.0/29.4	043A00	043A00	043A00	043A00
			112A00,117A00	42.4	31.8/38.9	045A00	045A00	045A00	045A00
		HIGH	117A00	10.4	7.8/9.6	042A00	042A00	042A00	043A00
			110A00	16.0	12.0/14.7	043A00	043A00	043A00	043A00
	111A00		24.8	18.6/22.8	043A00	043A00	043A00	043A00	
	112A00		32.0	24.0/29.4	043A00	043A00	043A00	043A00	
	112A00,117A00		42.4	31.8/38.9	045A00	045A00	045A00	045A00	
	460-3-60	STD	116A00	13.9	12.8	042A00	042A00	042A00	042A00
			113A00	16.5	15.2	042A00	042A00	042A00	042A00
			114A00	27.8	25.5	042A00	042A00	042A00	042A00
			115A00	33.0	30.3	042A00	042A00	042A00	042A00
			114A00,116A00	41.7	38.3	044A00	044A00	044A00	044A00
		MED	116A00	13.9	12.8	042A00	042A00	042A00	042A00
			113A00	16.5	15.2	042A00	042A00	042A00	042A00
			114A00	27.8	25.5	042A00	042A00	042A00	042A00
			115A00	33.0	30.3	042A00	042A00	042A00	042A00
114A00,116A00			41.7	38.3	044A00	044A00	044A00	044A00	
HIGH		116A00	13.9	12.8	042A00	042A00	042A00	042A00	
		113A00	16.5	15.2	042A00	042A00	042A00	042A00	
	114A00	27.8	25.5	042A00	042A00	042A00	042A00		
	115A00	33.0	30.3	042A00	044A00	044A00	044A00		
	114A00,116A00	41.7	38.3	044A00	044A00	044A00	044A00		
575-3-60	STD	118A00	17.0	17.0	042A00	042A00	042A00	042A00	
		119A00	34.0	34.0	042A00	042A00	042A00	044A00	
	MED	118A00	17.0	17.0	042A00	042A00	042A00	042A00	
		119A00	34.0	34.0	042A00	042A00	042A00	044A00	
	HIGH	118A00	17.0	17.0	042A00	042A00	042A00	042A00	
		119A00	34.0	34.0	042A00	044A00	044A00	044A00	

50TC

LEGEND

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

Table 9 - (cont.) ELECTRIC HEAT - ELECTRICAL DATA

3 - 12.5 TONS

50TC

UNIT	NOM. V - PH - HZ	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATERXXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXXX			
						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)
50TC*A09	208/230-3-60	STD	117A00	10.4	7.8/9.6	047A00	047A00	047A00	049A00
			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	049A00
			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
		HIGH	112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
			117A00	10.4	7.8/9.6	047A00	049A00	049A00	049A00
			110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
111A00	24.8		18.6/22.8	049A00	049A00	049A00	049A00		
50TC*A09	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
		HIGH	114A00,116A00	41.7	38.3	050A00	050A00	050A00	050A00
			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		
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. - Convenience outlet
- FLA - Full load amps
- IFM - Indoor fan motor
- NOM PWR - 240V / 480V / 600V
- P.E. - Power exhaust
- PWRD - Powered convenience outlet
- UNPWRD - Unpowered convenience outlet

Table 9 - (cont.) ELECTRIC HEAT - ELECTRICAL DATA

3 - 12.5 TONS

UNIT	NOM. V - PH - HZ	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATERXXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXXX			
						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)
50TC*D09	208/230-3-60	STD	117A00	10.4	7.8/9.6	047	047	047	047
			110A00	16.0	12.0/14.7	047	047	049	049
			111A00	24.8	18.6/22.8	049	049	049	049
			112A00	32.0	24.0/29.4	049	049	049	049
			112A00,117A00	42.4	31.8/38.9	051	051	051	051
		MED	117A00	10.4	7.8/9.6	047	047	047	047
			110A00	16.0	12.0/14.7	047	047	049	049
			111A00	24.8	18.6/22.8	049	049	049	049
			112A00	32.0	24.0/29.4	049	049	049	049
			112A00,117A00	42.4	31.8/38.9	051	051	051	051
		HIGH	117A00	10.4	7.8/9.6	047	047	047	047
			110A00	16.0	12.0/14.7	049	049	049	049
	111A00		24.8	18.6/22.8	049	049	049	049	
	112A00		32.0	24.0/29.4	049	049	049	049	
	112A00,117A00	42.4	31.8/38.9	051	051	051	051		
	460-3-60	STD	116A00	13.9	12.8	047	047	047	047
			113A00	16.5	15.2	047	047	047	047
			114A00	27.8	25.5	047	047	047	047
			115A00	33.0	30.3	047	047	047	047
			114A00,116A00	41.7	38.3	050	050	050	050
		MED	116A00	13.9	12.8	047	047	047	047
			113A00	16.5	15.2	047	047	047	047
			114A00	27.8	25.5	047	047	047	047
			115A00	33.0	30.3	047	047	047	047
114A00,116A00			41.7	38.3	050	050	050	050	
HIGH		116A00	13.9	12.8	047	047	047	047	
		113A00	16.5	15.2	047	047	047	047	
	114A00	27.8	25.5	047	047	047	047		
	115A00	33.0	30.3	047	047	047	050		
114A00,116A00	41.7	38.3	050	050	050	050			
575-3-60	STD	118A00	17.0	17.0	047	047	047	047	
		119A00	34.0	34.0	047	047	047	050	
	MED	118A00	17.0	17.0	047	047	047	047	
		119A00	34.0	34.0	047	047	047	050	
	HIGH	118A00	17.0	17.0	047	047	047	047	
		119A00	34.0	34.0	047	047	047	050	

50TC

LEGEND

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

Table 9 - (cont.) ELECTRIC HEAT - ELECTRICAL DATA

3 - 12.5 TONS

50TC

UNIT	NOM. V - PH - HZ	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATERXXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXXX			
						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)
50TC*A12	208/230-3-60	STD	117A00	10.4	7.8/9.6	047A00	047A00	047A00	049A00
			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	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
	HIGH	112A00,110A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00	
		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	
	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	
HIGH	115A00,113A00	50.0	45.9	050A00	050A00	050A00	050A00		
	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		
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. - Convenience outlet
- FLA - Full load amps
- IFM - Indoor fan motor
- NOM PWR - 240V / 480V / 600V
- P.E. - Power exhaust
- PWRD - Powered convenience outlet
- UNPWRD - Unpowered convenience outlet

Table 9 - (cont.) ELECTRIC HEAT - ELECTRICAL DATA

3 - 12.5 TONS

UNIT	NOM. V - PH - HZ	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATERXXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXXX			
						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)
50TC*D12	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	047A00	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
	HIGH	112A00,110A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00	
		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	
	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	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	

50TC

LEGEND

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

Table 9 - (cont.) ELECTRIC HEAT - ELECTRICAL DATA

3 - 12.5 TONS

50TC

UNIT	NOM. V - PH - HZ	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATERXXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXXX			
						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)
50TC*D14	208/230-3-60	STD	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
		MED	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
		HIGH	Std Unit Without Heat	-	-	-	-	-	049A00
			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
	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	050A00	050A00	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	
		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	

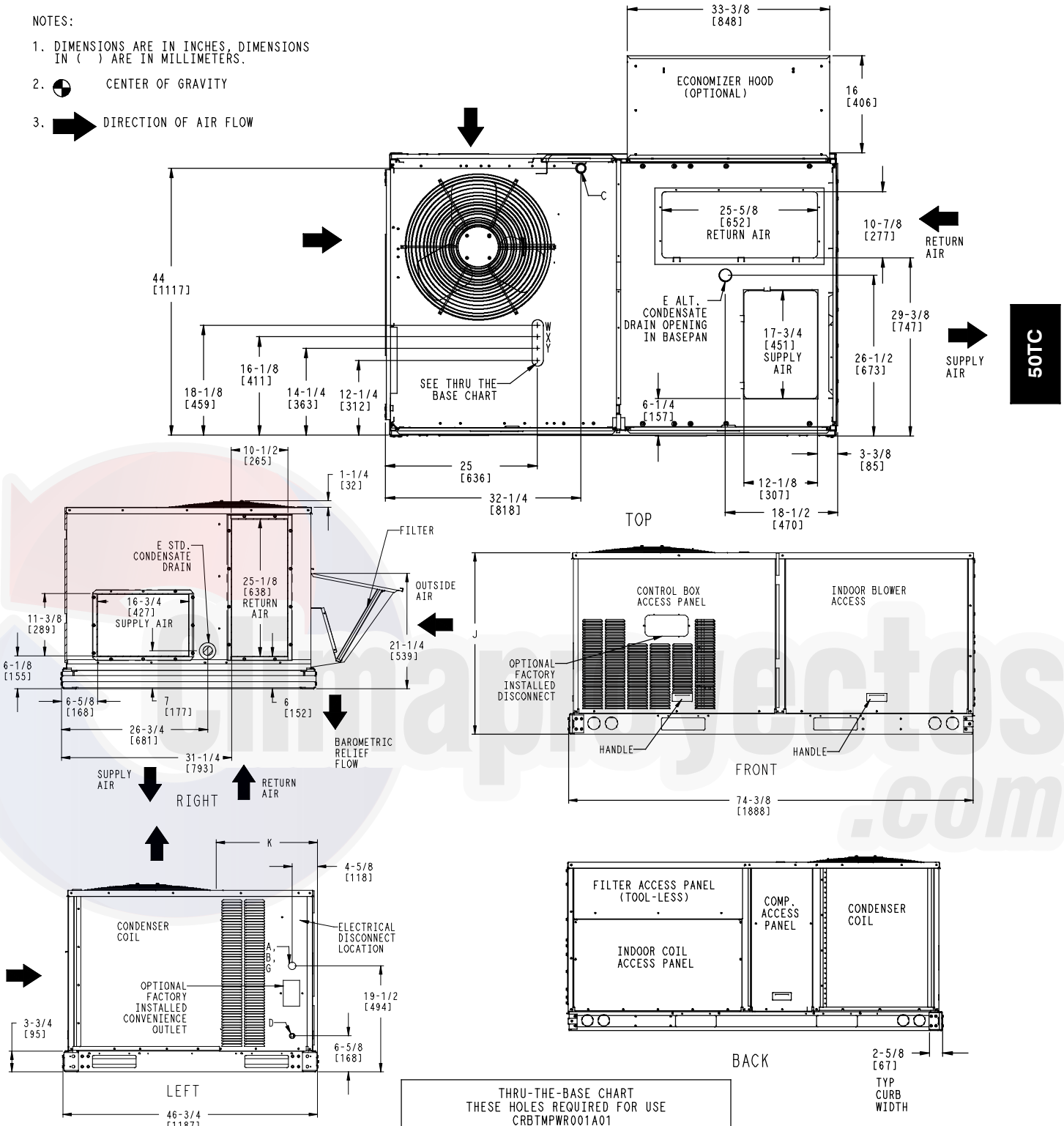
LEGEND

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

CURBS & WEIGHTS DIMENSIONS - 50TC 04-07

NOTES:

1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN () ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW



CONNECTION SIZES	
A	1 3/8" DIA [35] FIELD POWER SUPPLY HOLE
B	2" DIA [51] POWER SUPPLY KNOCKOUT
C	1 3/4" DIA [44] GAUGE ACCESS PLUG
D	7/8" DIA [22] FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
G	2 1/2" DIA [64] POWER SUPPLY KNOCK-OUT

THRU-THE-BASE CHART THESE HOLES REQUIRED FOR USE CRBTMPWR001A01			
	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
	W	1/2"	ACC. 7/8" (22.2)
	X	1/2"	24V 7/8" (22.2)
	Y *	3/4" (001)	POWER 1 1/8" (28.4)
FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X & Y ARE PROVIDED			
* SELECT EITHER 3/4" OR 1/2" FOR POWER, DEPENDING ON WIRE SIZE			

UNIT	J	K
50TC-A04	33 3/8 [847]	18 5/8 [472]
50TC-A05	33 3/8 [847]	14 7/8 [377]
50TC-A06	33 3/8 [847]	14 7/8 [377]
50TC-A07	41 3/8 [1051]	14 7/8 [377]

Fig. 1 - Dimensions 50TC 04-07

C08529

CURBS & WEIGHTS DIMENSIONS - 50TC 04-07 (cont.)

UNIT	STD. UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		HEIGHT
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50TC-A04	438	199	108	49	115	52	110	50	104	47	38 [965]	22 [559]	17 1/4 [438]
50TC-A05	494	224	122	55	130	59	125	57	117	53	38 [965]	22 [559]	17 1/2 [445]
50TC-A06	524	238	130	59	138	63	132	60	124	56	38 [965]	22 [559]	17 3/4 [451]
50TC-A07	607	275	150	68	160	73	153	69	144	65	38 [965]	22 [559]	20 3/4 [527]

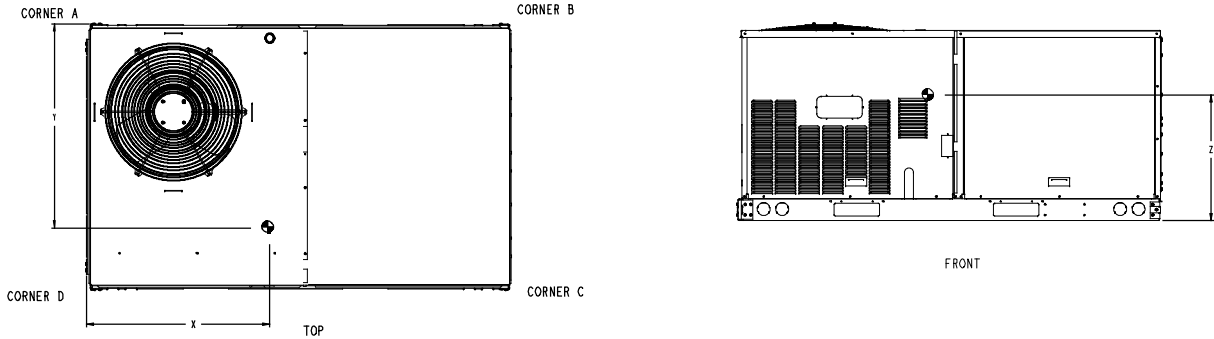


Fig. 2 - Dimensions 50TC 04-07

C08530

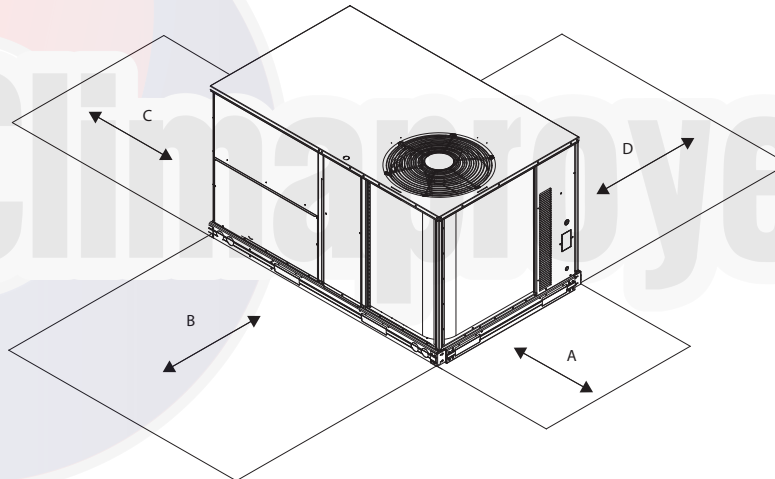


Fig. 3 - Service Clearance

C08337

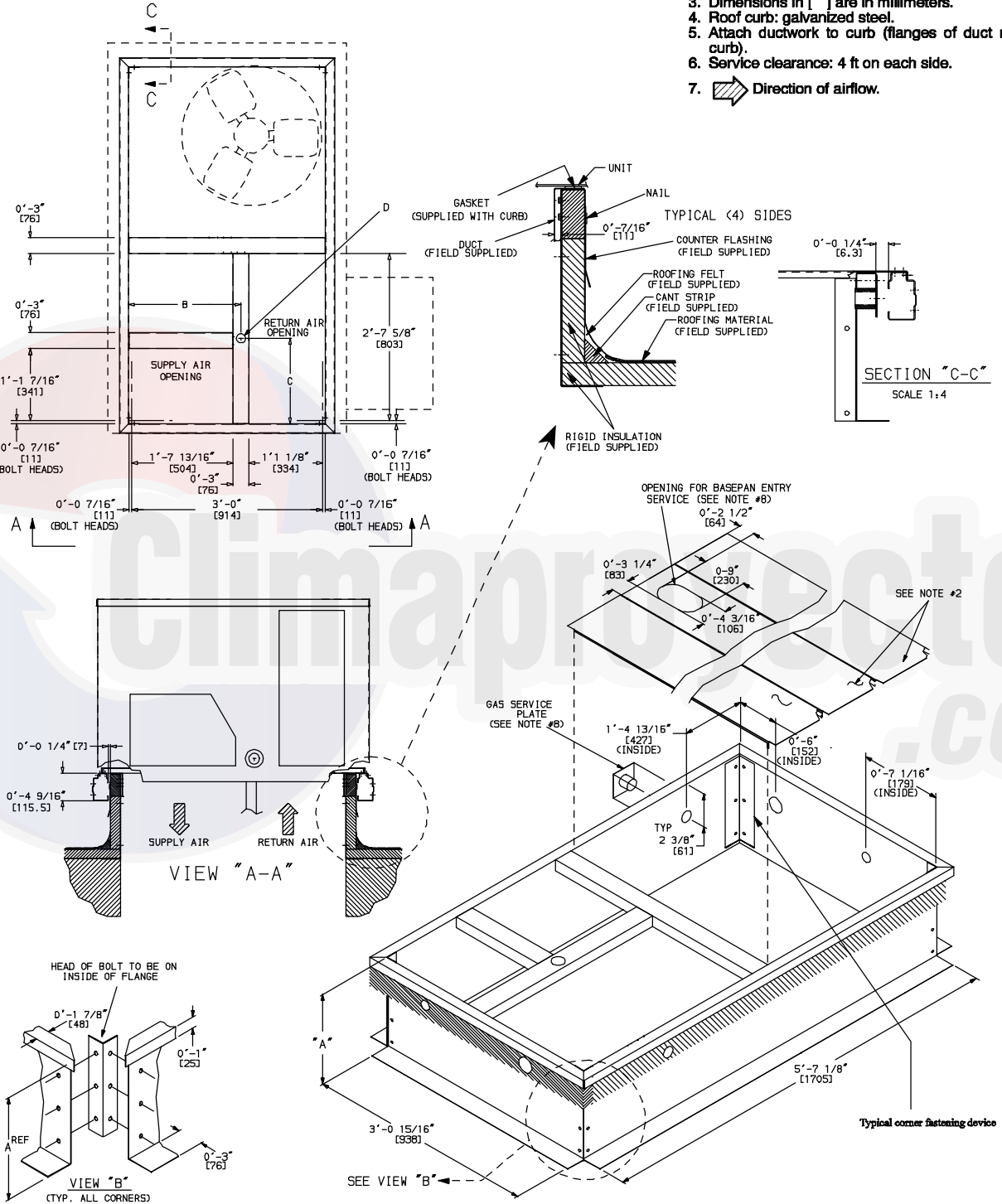
LOC	DIMENSION	CONDITION
A	48-in (1219 mm)	Unit disconnect is mounted on panel
	18-in (457 mm)	No disconnect, convenience outlet option
	18-in (457 mm)	Recommended service clearance
	12-in (305 mm)	Minimum clearance
B	42-in (1067 mm)	Surface behind servicer is grounded (e.g., metal, masonry wall)
	36-in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

CURBS & WEIGHTS DIMENSIONS - 50TC 04-07 (cont.)

CONNECTOR PKG. ACCY.	B	C	D ALT DRAIN HOLE	POWER	CONTROL	ACCESSORY POWER
CRBTMPWR003A01	1-9 ¹¹ / ₁₆ [551]	1-4 [408]	1 ³ / ₄ [44.5]	3/4 [19] NPT	1/2 [12.7] NPT	1/2 [12.7] NPT
CRBTMPWR004A01				1 1/4 [31.7]		

ROOF CURB ACCESSORY	A	UNIT SIZE
CRRFCURB001A01	1-2 [356]	50TC A04-A07
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 of duct rest on curb).
 6. Service clearance: 4 ft on each side.
 7. Direction of airflow.



50TC

Fig. 4 - Roof Curb Details

C10318

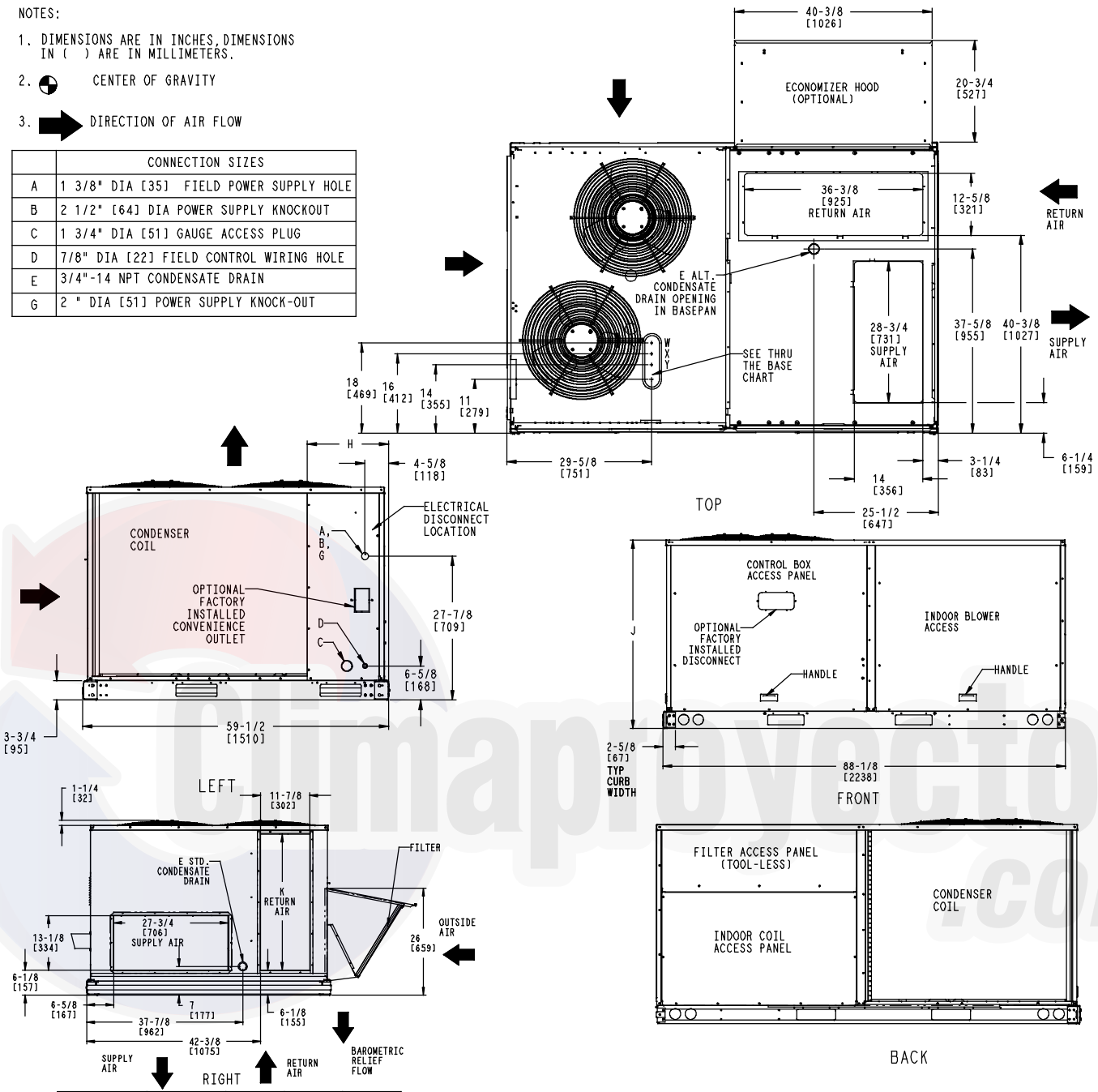
CURBS & WEIGHTS DIMENSIONS - 50TC 08-12

NOTES:

1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN () ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW

CONNECTION SIZES		
A	1 3/8" DIA [35]	FIELD POWER SUPPLY HOLE
B	2 1/2" [64]	DIA POWER SUPPLY KNOCKOUT
C	1 3/4" DIA [51]	GAUGE ACCESS PLUG
D	7/8" DIA [22]	FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT	CONDENSATE DRAIN
G	2" DIA [51]	POWER SUPPLY KNOCK-OUT

50TC



UNIT	OUTDOOR COIL TYPE	J	K	H
50TC-A08	RTPF	41 1/4 [1048]	33 [658]	15 7/8 [403]
50TC-A09	RTPF	49 3/8 [1253]	37 1/4 [946]	27 7/8 [708]
50TC-A12	RTPF	49 3/8 [1253]	37 1/4 [946]	15 7/8 [403]
50TC-D08	RTPF	41 1/4 [1048]	33 [658]	15 7/8 [403]
50TC-D09	RTPF	49 3/8 [1253]	37 1/4 [946]	15 7/8 [403]
50TC-D12	RTPF	49 3/8 [1253]	37 1/4 [946]	15 7/8 [403]
50TC-D08	MCHX	41 1/4 [1048]	33 [658]	23 [584.2]
50TC-D12	MCHX	49 3/8 [1253]	37 1/4 [946]	11 [279.4]

RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)
MCHX - NOVIATION (ALUM/ALUM)

THRU-THE-BASE CHART (FIELD INST)			
THESE HOLES REQUIRED FOR USE WITH ACCY KITS: CRBTMPWR002A01			
	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	ACC.	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	1 1/4" (002)	POWER	1 3/4" [44.4]

THRU-THE-BASE CHART (FIOP)			
FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X & Y ARE PROVIDED: (1) 1/2" & (1) 1 1/4" ELECTRICAL FITTINGS.			

Fig. 5 - Dimensions 50TC 08-12

C10300

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

UNIT	OUTDOOR COIL TYPE	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
50TC-A08	RTPF	705	320	172	78	142	64.5	177	80.4	214	97.2	39 7/8 [1013]	33 [838]	21 1/4 [540]
50TC-A09	RTPF	845	383.6	206	93.5	167	76	212	96.2	261	118.5	39 1/2 [1003]	33 1/4 [845]	24 [610]
50TC-A12	RTPF	855	388	210	95.3	180	81.7	215	97.6	250	113.5	40 3/4 [1035]	32 3/8 [822]	25 1/4 [641]
50TC-D08	RTPF	760	345	158	71.7	155	70.4	222	100.8	225	102.2	43 3/4 [1111.3]	35 [889]	20 [508]
50TC-D09	RTPF	855	388.2	223	101.2	171	77.6	200	90.8	261	118.5	38 3/8 [975]	32 1/8 [816]	19 1/8 [486]
50TC-D12	RTPF	865	392.7	225	102.2	173	78.5	203	92.2	264	120	38 3/8 [975]	32 1/8 [816]	19 1/8 [486]
50TC-D08	MCHX	730	331.4	153	69.5	138	62.7	208	94.4	231	104.9	41 3/4 [1060.5]	35 3/4 [908]	21 1/8 [536.6]
50TC-D12	MCHX	820	372.3	179	81.3	161	73.1	228	103.5	253	114.9	41 3/4 [1060.5]	34 7/8 [885.8]	23 3/4 [603.3]

RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)
 MCHX - NOVATION (ALUM/ALUM)

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

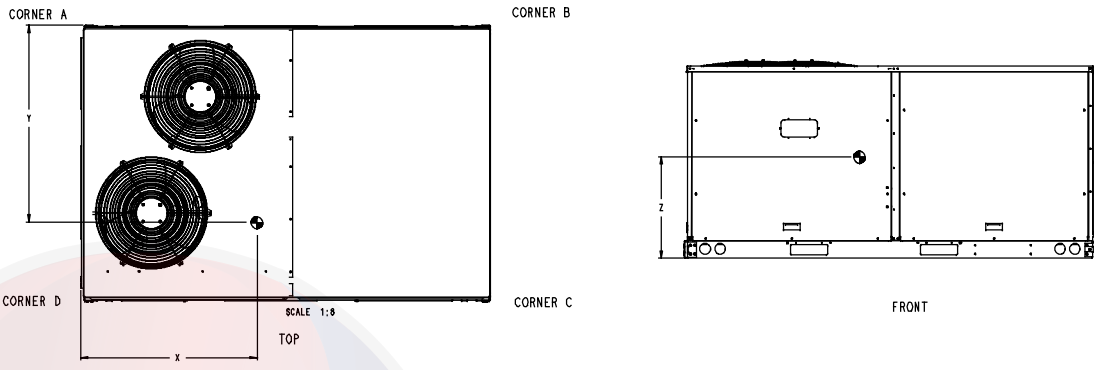


Fig. 6 - Dimensions 50TC 08-12

C10301

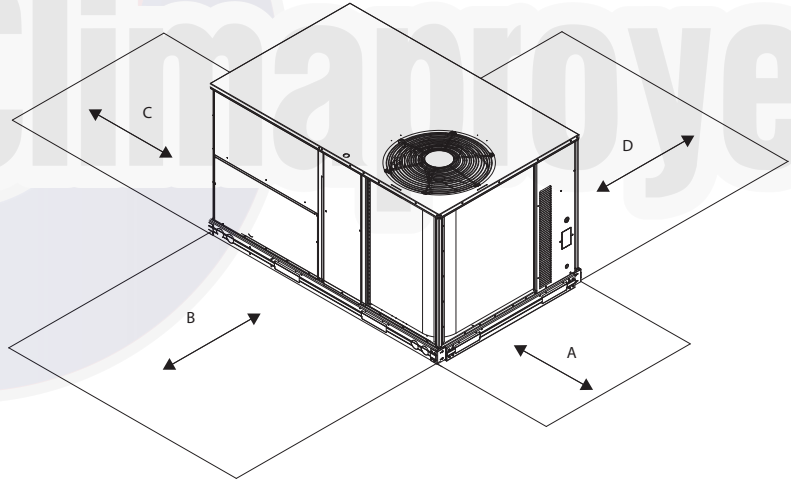


Fig. 7 - Service Clearance

C08337

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

CURBS & WEIGHTS DIMENSIONS - 50TC 08-14

ROOFCURB ACCESSORY	A	UNIT SIZE
CRRFCURB003A01	1' - 2" (356)	50T**08 - 14
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
CRBTMPWR001A01 CRBTMPWR002A01	2'-8 7/16" [827]	1'-10 15/16" [583]	1 3/4" [44.5]	3/4" [19]NPT 1 1/4" [31.7]	1/2" [12.7]NPT	1/2" [12.7]NPT
CRBTMPWR003A01				3/4" [19]NPT		
CRBTMPWR004A01				1 1/4" [31.7]		

50TC

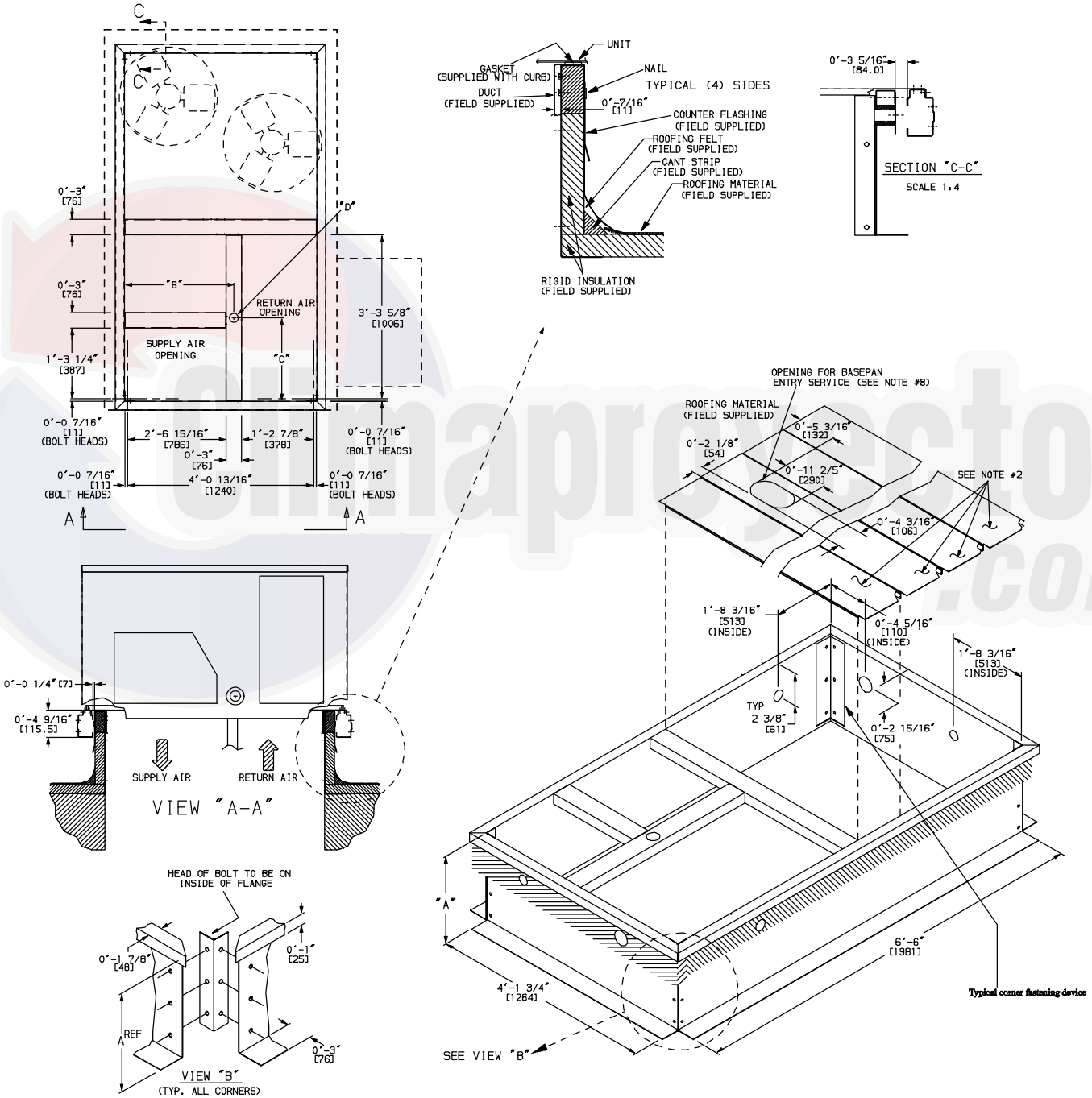


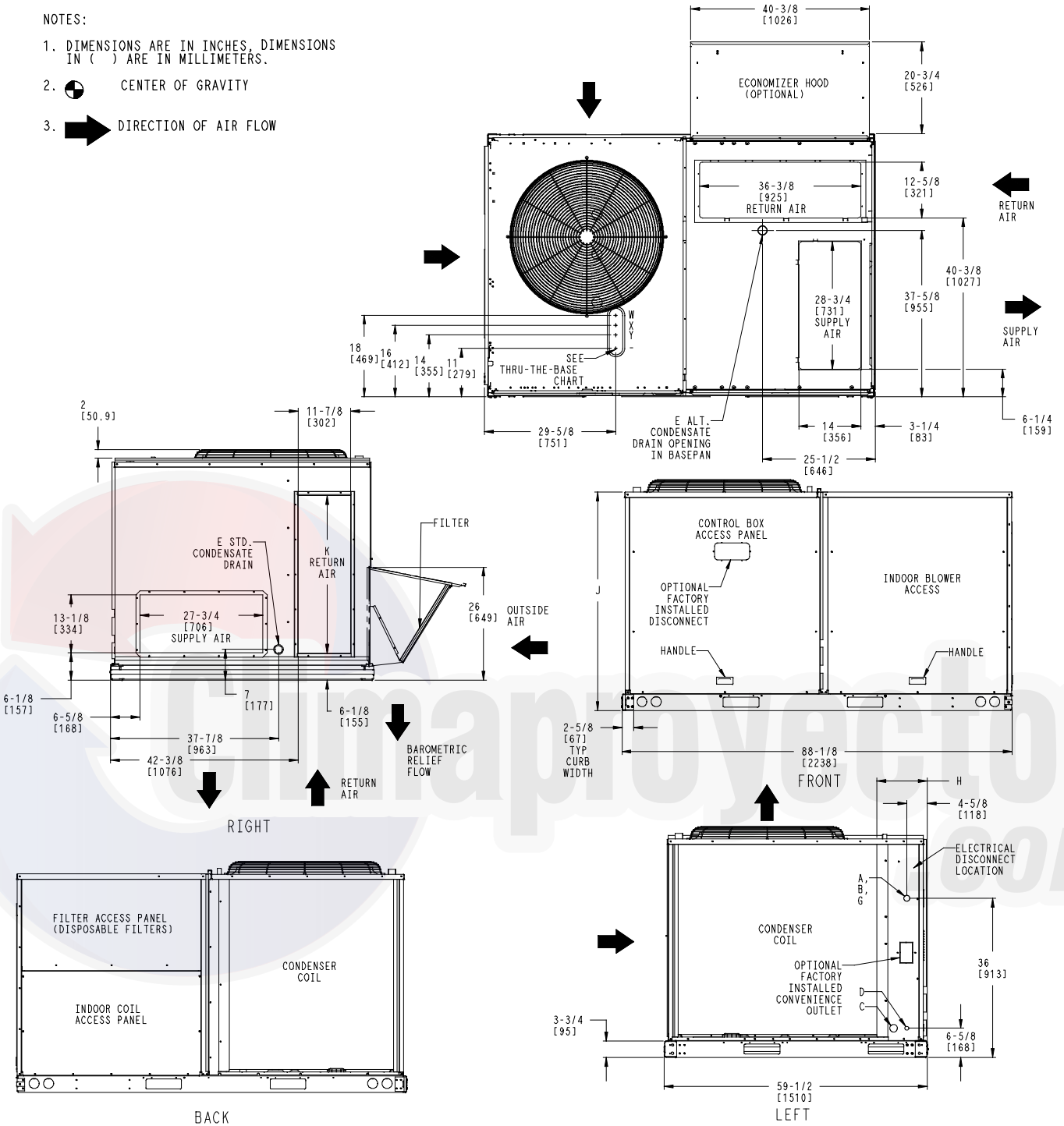
Fig. 8 - Roof Curb Details

C10317

CURBS & WEIGHTS DIMENSIONS - 50TC 14

NOTES:

1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN () ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW



50TC

CONNECTION SIZES	
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2 1/2" [64] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
G	2" [51] DIA POWER SUPPLY KNOCK-OUT

THRU-THE-BASE CHART THESE HOLES REQUIRED FOR USE CRBTMPWR002A01			
	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	ACC.	7/8" (22.2)
X	1/2"	24V	7/8" (22.2)
Y	1 1/4" (002)	POWER	1 3/4" (44.4)
FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X & Y ARE PROVIDED			

UNIT	H	J	K
50TC-D14	11 3/8 [289]	49 3/8 [1253]	35 5/8 [905]

Fig. 9 - Dimensions 50TC-14

C08533

CURBS & WEIGHTS DIMENSIONS - 50TC 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
50TC-D14	1030	467	294	133	146	66	197	89	395	179	28 3/8 (721)	33 1/8(841)	21 3/8 (543)

NOTE: The STD, UNIT WEIGHT in the table above is for the unit equipped with NOVATION coils.
Add 65 lbs (29.5 kg) for units equipped with RTPF coils.

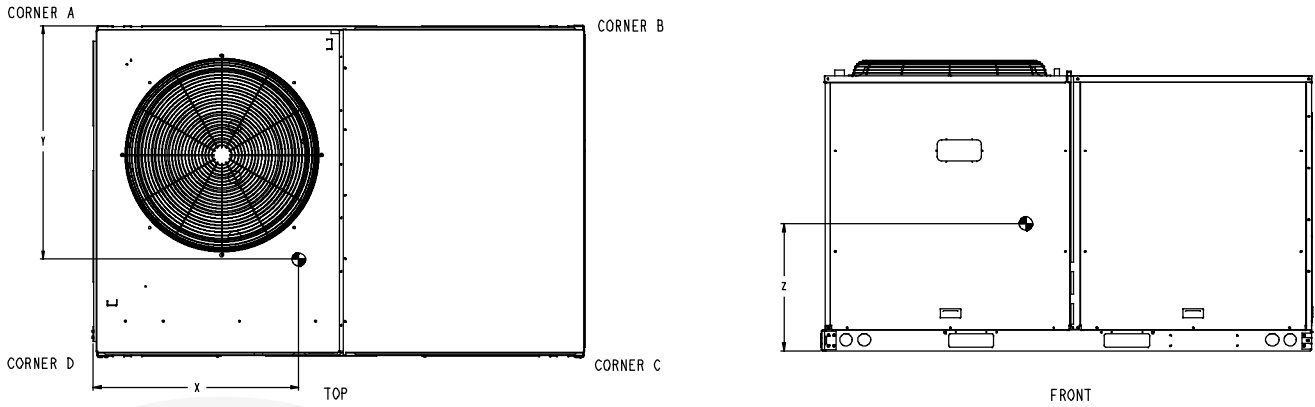


Fig. 10 - Dimensions 50TC-14

C10329

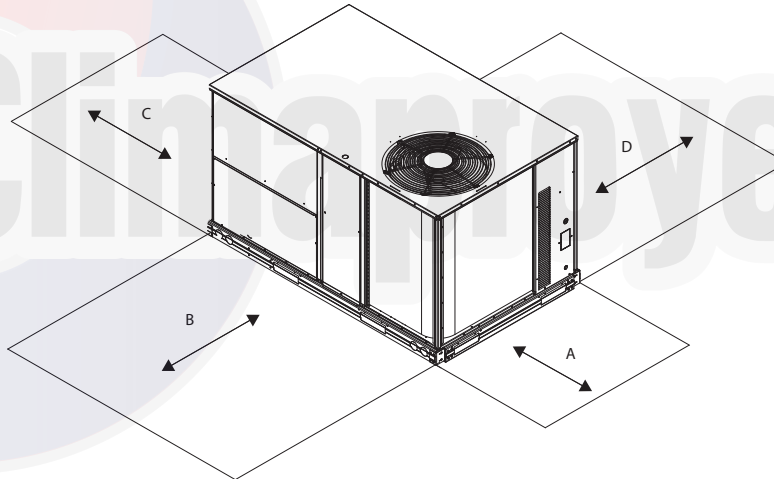


Fig. 11 - Service Clearance

C08337

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

OPTION / ACCESSORY WEIGHTS

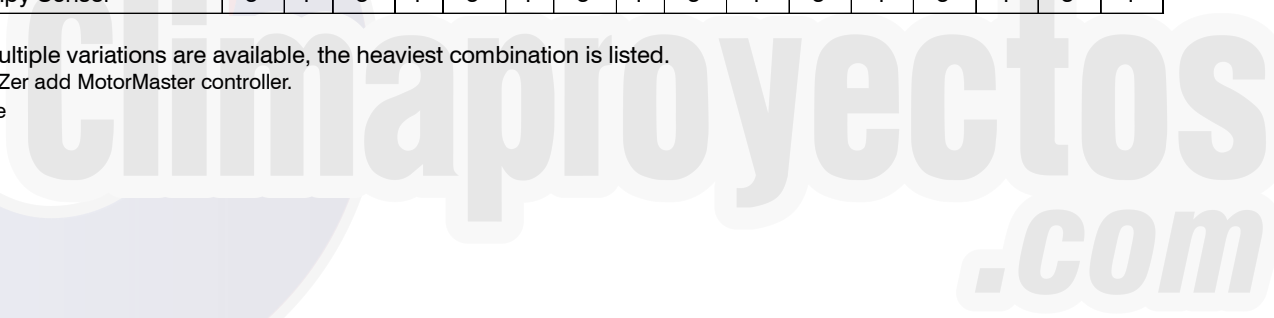
OPTION / ACCESSORY	OPTION / ACCESSORY WEIGHTS															
	04		05		06		07		08		09		12		14	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
Humidi-MiZer ¹	15	7	23	10	25	11	29	13	38	17	47	21	57	21	47	21
Power Exhaust – vertical	50	23	50	23	50	23	50	23	75	34	75	34	75	34	75	34
Power Exhaust – horizontal	30	14	30	14	30	14	30	14	30	14	30	14	30	14	30	14
EconoMi\$er (IV or 2)	50	23	50	23	50	23	50	23	75	34	75	34	75	34	75	34
Two Position damper	39	18	39	18	39	18	39	18	58	26	58	26	58	26	58	26
Manual Dampers	12	5	12	5	12	5	12	5	18	8	18	8	18	8	18	8
Hail Guard (louvered)	16	7	16	7	16	7	16	7	34	15	34	15	34	15	34	15
Cu/Cu Condenser Coil ²	6	3	13	6	13	6	15	7	12	5	23	10	23	10	23	10
Cu/Cu Cond. & Evaporator Coils ²	12	5	19	9	21	10	26	12	25	11	49	22	49	22	49	22
Roof Curb (14-in. curb)	115	52	115	52	115	52	115	52	143	65	143	65	143	65	143	65
Roof Curb (24-in. curb)	197	89	197	89	197	89	197	89	245	111	245	111	245	111	245	111
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	30	14	45	20	45	20	45	20	45	20
Single Point Kit	10	5	10	5	10	5	10	5	12	5	12	5	12	5	15	7
Optional Indoor Motor / Drive	10	5	10	5	10	5	10	5	15	7	15	7	15	7	15	7
Motor Master Controller	35	16	35	16	35	16	35	16	35	16	35	16	35	16	40	18
Return Smoke Detector	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
Non-Fused Disconnect	15	7	15	7	15	7	15	7	15	7	15	7	15	7	15	7
Powered Convenience outlet	35	16	35	16	35	16	35	16	35	16	35	16	35	16	35	16
Non-Powered Convenience outlet	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
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

50TC

NOTE: Where multiple variations are available, the heaviest combination is listed.

¹ For Humidi-MiZer add MotorMaster controller.

² Where Available



APPLICATION DATA

Min operating ambient temp (cooling):

In mechanical cooling mode, your Carrier rooftop can safely operate down to an outdoor ambient temperature of 40°F (4°C) and 25°F (-4°C), with an accessory winter start kit. 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 115°F (46°C). While cooling operation above 115°F (46°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, Brake horsepower (BHP):

Due to Carrier's internal unit design, air path, and specially designed motors, the full horsepower (maximum continuous BHP) band, as listed in Table 5, 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.

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 at ambient temperatures down to -20°F (-29°C) using the recommended accessory Motormaster low ambient controller.

Winter start

Carrier's winter start kit 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.

SELECTION PROCEDURE (WITH 50TC*A07 EXAMPLE)

I. Determine cooling and heating loads.

Given:

Mixed Air Drybulb	80°F (27°C)
Mixed Air Wetbulb	67°F (19°C)
Ambient Drybulb	95°F (35°C)
TC _{Load}	69.0 MBH
SHC _{Load}	51.0 MBH
Vertical Supply Air	2100 CFM
External Static Pressure	0.66 in.wg
Electrical Characteristics	230-3-60

II. Make an initial guess at cooling tons.

Refrig. tons = TC_{Load} / 12 MBH per ton
 Refrig. tons = 69.0 / 12 = 5.75 tons

In this case, start by looking at the 50TC*A07.

III. Look up the rooftop's TC and SHC.

Table 12 shows that, at the application's supply air CFM, mixed air and ambient temperatures, the 50TC*A07 supplies:

TC_{Load} = 73.7 MBH
 SHC_{Load} = 54.4 MBH.

IV. Calculate the building Latent Heat Load.

LC_{Load} = TC_{Load} - SHC_{Load}
 LC_{Load} = 69.0 MBH - 51.0 MBH = 18.0 MBH

V. Calculate RTU Latent Heat Capacity

LC = TC - SHC
 LC = 73.7 MBH - 54.4 MBH = 19.3 MBH

VI. Compare RTU capacities to loads. ^{2,3}

Compare the rooftop's SHC and LC to the building's Sensible and Latent Heat Loads.

VII. Select factory options (FIOP)

Local code requires an economizer for any unit with TC larger than 65.0 MBH.

VIII. Calculate the total static pressure.

External static pressure	0.66 in. wg
Sum of FIOP/Accessory static	<u>+0.14 in. wg</u>
Total Static Pressure	0.80 in. wg

50TC

IX. Look up the Indoor Fan RPM & BHP.

Table 33 shows, at 2100 CFM & ESP= 0.8, RPM = 1268 & BHP = 1.52

X. Determine electrical requirements

Table 52 shows the MCA and MOCP of a 50TC*A07 (without convenience outlet) as:

MCA = 30.5 amps & MOCP = 45 amps
 Min. Disconnect Size: FLA = 30 & LRA = 157.

LEGEND

BHP	— Brake horsepower
FLA	— Full load amps
LC	— Latent capacity
LRA	— Lock rotor amp
MBH	— (1,000) BTUH
MCA	— Min. circuit ampacity
MOCP	— Max. over-current protection
RPM	— Revolutions per minute
RTU	— Rooftop unit
SHC	— Sensible heat capacity
TC	— Total capacity

NOTES:

1. Selection software by Carrier saves time by performing many of the steps above. Contact your Carrier sales representative for assistance.
2. Selecting a unit with a SHC slightly lower than the SHC_{Load} is often better than oversizing. Slightly lower SHC's will help control indoor humidity, and prevent temperature swings.
3. If the rooftop's capacity meets the Sensible Heat Load, but not the Latent Heat Load.
4. Indoor Fan Motor efficiency is available in Table 42. Use the decimal form in the equation eg. 80% = .8.

Table 10 – COOLING CAPACITIES

1-STAGE COOLING

3 TONS

50TC*A04 (RTPF)				AMBIENT TEMPERATURE											
				85			95			105			115		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85
50TC	900 Cfm	EAT (wb)	58 TC	28.1	28.1	31.7	26.3	26.3	29.8	24.5	24.5	27.7	22.6	22.6	25.5
			SHC	24.4	28.1	31.7	22.9	26.3	29.8	21.3	24.5	27.7	19.6	22.6	25.5
		62	TC	30.3	30.3	31.0	27.8	27.8	29.8	25.1	25.1	28.4	22.6	22.6	26.5
			SHC	22.6	26.8	31.0	21.5	25.7	29.8	20.2	24.3	28.4	18.7	22.6	26.5
		67	TC	35.5	35.5	35.5	33.1	33.1	33.1	30.5	30.5	30.5	27.5	27.5	27.5
			SHC	19.5	23.7	27.9	18.5	22.7	26.9	17.4	21.6	25.8	16.2	20.4	24.6
		72	TC	39.0	39.0	39.0	37.1	37.1	37.1	35.1	35.1	35.1	32.7	32.7	32.7
			SHC	15.3	19.5	23.7	14.5	18.8	23.0	13.7	17.9	22.2	12.9	17.1	21.3
		76	TC	-	41.4	41.4	-	39.6	39.6	-	37.6	37.6	-	35.4	35.4
			SHC	-	16.0	21.0	-	15.4	20.2	-	14.6	19.3	-	13.8	18.3
1050 Cfm	EAT (wb)	58	TC	30.2	30.2	34.2	28.4	28.4	32.2	26.5	26.5	30.0	24.5	24.5	27.7
			SHC	26.3	30.2	34.2	24.7	28.4	32.2	23.1	26.5	30.0	21.3	24.5	27.7
		62	TC	31.9	31.9	34.2	29.4	29.4	32.8	26.7	26.7	31.2	24.5	24.5	28.8
			SHC	24.6	29.4	34.2	23.4	28.1	32.8	22.0	26.6	31.2	20.3	24.5	28.8
		67	TC	36.7	36.7	36.7	34.8	34.8	34.8	32.2	32.2	32.2	29.1	29.1	29.1
			SHC	20.6	25.4	30.2	19.8	24.6	29.4	18.8	23.6	28.4	17.6	22.4	27.2
		72	TC	40.1	40.1	40.1	38.2	38.2	38.2	36.1	36.1	36.1	33.7	33.7	33.7
			SHC	15.7	20.5	25.3	15.0	19.8	24.6	14.2	19.0	23.8	13.4	18.2	23.0
		76	TC	-	42.4	42.4	-	40.6	40.6	-	38.5	38.5	-	36.2	36.2
			SHC	-	16.6	22.2	-	15.9	21.3	-	15.2	20.4	-	14.4	19.5
1200 Cfm	EAT (wb)	58	TC	32.2	32.2	36.4	30.4	30.4	34.3	28.4	28.4	32.1	26.3	26.3	29.7
			SHC	28.0	32.2	36.4	26.4	30.4	34.3	24.7	28.4	32.1	22.8	26.3	29.7
		62	TC	33.3	33.3	37.0	30.8	30.8	35.5	28.4	28.4	33.4	26.3	26.3	30.9
			SHC	26.4	31.7	37.0	25.1	30.3	35.5	23.4	28.4	33.4	21.7	26.3	30.9
		67	TC	37.7	37.7	37.7	35.6	35.6	35.6	33.4	33.4	33.4	30.4	30.4	30.4
			SHC	21.7	27.0	32.4	20.9	26.3	31.6	20.0	25.4	30.8	18.8	24.2	29.6
		72	TC	40.9	40.9	40.9	39.0	39.0	39.0	36.9	36.9	36.9	34.4	34.4	34.4
			SHC	16.1	21.5	26.8	15.4	20.8	26.1	14.7	20.0	25.4	13.8	19.2	24.5
		76	TC	-	43.1	43.1	-	41.3	41.3	-	39.1	39.1	-	36.8	36.8
			SHC	-	17.1	23.1	-	16.4	22.3	-	15.7	21.4	-	14.9	20.5
1350 Cfm	EAT (wb)	58	TC	-	-	-	32.1	32.1	36.3	30.0	30.0	34.0	27.9	27.9	31.5
			SHC	-	-	-	27.9	32.1	36.3	26.1	30.0	34.0	24.2	27.9	31.5
		62	TC	28.4	28.4	30.5	32.2	32.2	37.8	30.1	30.1	35.3	27.9	27.9	32.8
			SHC	17.6	24.1	30.5	26.6	32.2	37.8	24.8	30.1	35.3	23.0	27.9	32.8
		67	TC	33.2	33.2	33.2	36.4	36.4	36.4	34.1	34.1	34.1	31.5	31.5	32.0
			SHC	15.0	21.4	27.9	21.9	27.8	33.7	21.0	26.9	32.9	20.0	26.0	32.0
		72	TC	37.5	37.5	37.5	39.7	39.7	39.7	37.5	37.5	37.5	35.0	35.0	35.0
			SHC	11.8	18.3	24.8	15.8	21.7	27.5	15.0	20.9	26.8	14.2	20.1	26.0
		76	TC	-	40.1	40.1	-	41.8	41.8	-	39.6	39.6	-	37.3	37.3
			SHC	-	15.3	22.7	-	16.8	23.2	-	16.1	22.3	-	15.3	21.5
1500 Cfm	EAT (wb)	58	TC	28.1	28.1	34.2	33.7	33.7	38.1	31.6	31.6	35.7	29.3	29.3	33.2
			SHC	21.9	28.1	34.2	29.3	33.7	38.1	27.4	31.6	35.7	25.5	29.3	33.2
		62	TC	30.3	30.3	33.8	33.7	33.7	39.6	31.6	31.6	37.1	29.4	29.4	34.5
			SHC	19.8	26.8	33.8	27.8	33.7	39.6	26.1	31.6	37.1	24.2	29.4	34.5
		67	TC	35.5	35.5	35.5	36.9	36.9	36.9	34.6	34.6	34.9	32.0	32.0	34.0
			SHC	16.7	23.7	30.7	22.8	29.2	35.7	21.9	28.4	34.9	21.0	27.5	34.0
		72	TC	39.0	39.0	39.0	40.2	40.2	40.2	38.0	38.0	38.0	35.5	35.5	35.5
			SHC	12.4	19.5	26.6	16.1	22.5	28.8	15.4	21.7	28.1	14.6	21.0	27.4
		76	TC	-	41.4	41.4	-	42.2	42.2	-	40.0	40.0	-	-	-
			SHC	-	16.0	24.3	-	17.2	24.0	-	16.5	23.2	-	-	-

LEGEND:

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

50TC04 (3 TONS) – UNIT WITH HUMIDI-MIZER SYSTEM IN SUBCOOLING MODE										
Air Entering Evaporator – CFM										
Temp (F) Air Ent Condenser (Edb)		80 dry bulb 72 wet bulb			80 dry bulb 67 wet bulb			80 dry bulb 62 wet bulb		
		900	1200	1500	900	1200	1500	900	1200	1500
		75	TC	40.6	43.2	45.3	37.0	39.4	41.3	33.4
	SHC	21.6	23.9	25.6	25.6	27.7	29.3	29.6	31.6	33.1
	kW	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
85	TC	37.0	39.6	41.7	33.6	36.0	37.9	30.2	32.3	34.1
	SHC	17.7	20.2	22.2	22.7	25.0	26.9	27.7	29.9	31.6
	kW	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
95	TC	33.5	36.0	38.1	30.2	32.5	34.4	26.9	29.1	30.8
	SHC	13.7	16.6	18.8	19.7	22.4	24.4	25.7	28.2	30.1
	kW	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.5
105	TC	29.9	32.4	34.5	26.8	29.1	31.0	23.6	25.8	27.5
	SHC	9.8	12.9	15.3	16.8	19.7	22.0	23.8	26.5	28.6
	kW	2.9	2.9	2.9	2.8	2.8	2.8	2.8	2.8	2.8
115	TC	26.3	28.8	30.9	23.3	25.7	27.5	20.4	22.5	24.2
	SHC	5.8	9.2	11.9	13.8	17.0	19.5	21.9	24.8	27.1
	kW	3.2	3.2	3.2	3.1	3.1	3.1	3.1	3.1	3.1

50TC

50TC04 (3 TONS) – UNIT WITH HUMIDI-MIZER SYSTEM IN HOT GAS REHEAT MODE										
Air Entering Evaporator – CFM										
Temp (F) Air Ent Condenser (Edb)		75 dry bulb 62.5 wet bulb (50% relative)			75 dry bulb 64 wet bulb (55% relative)			75 dry bulb 65.3 wet bulb (60% relative)		
		1050	1200	1350	1050	1200	1350	1050	1200	1350
		80	TC	14.7	15.5	16.2	15.9	16.7	17.4	16.9
	SHC	6.7	7.6	8.5	4.8	5.7	6.6	3.2	4.1	5.0
	kW	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
75	TC	15.1	15.8	16.4	16.2	17.0	17.6	17.2	18.0	18.6
	SHC	7.5	8.4	9.2	5.8	6.7	7.5	4.4	5.2	6.0
	kW	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0
70	TC	15.5	16.1	16.7	16.6	17.3	17.9	17.5	18.2	18.8
	SHC	8.4	9.3	10.0	6.9	7.7	8.5	5.5	6.4	7.1
	kW	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
60	TC	16.2	16.8	17.3	17.2	17.8	18.3	18.1	18.7	19.2
	SHC	10.2	10.9	11.6	8.9	9.7	10.4	7.8	8.6	9.3
	kW	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9
50	TC	17.0	17.5	17.9	17.9	18.4	18.8	18.7	19.2	19.6
	SHC	11.9	12.6	13.2	11.0	11.6	12.2	10.1	10.8	11.4
	kW	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8
40	TC	17.7	18.1	18.5	18.6	19.0	19.3	19.3	19.7	20.1
	SHC	13.7	14.3	14.8	13.0	13.6	14.1	12.4	13.0	13.5
	kW	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7

LEGEND

- Edb** – Entering Dry–Bulb
- Ewb** – Entering Wet–Bulb
- kW** – Compressor Motor Power Input
- ldb** – Leaving Dry–Bulb
- lwb** – Leaving Wet–Bulb
- SHC** – Sensible Heat Capacity (1000 Btuh) Gross
- TC** – Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet–bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

Table 12 – COOLING CAPACITIES

1-STAGE COOLING

4 TONS

50TC

50TC*A05 (RTPF)			AMBIENT TEMPERATURE												
			85			95			105			115			
			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
			75	80	85	75	80	85	75	80	85	75	80	85	
1200 Cfm	EAT (wb)	58	TC	-	-	-	-	-	-	36.1	36.1	40.7	34.3	34.3	38.6
			SHC	-	-	-	-	-	-	31.5	36.1	40.7	29.9	34.3	38.6
		62	TC	43.1	43.1	43.1	40.8	40.8	40.8	38.4	38.4	39.4	35.9	35.9	38.2
			SHC	31.2	36.4	41.7	30.1	35.3	40.6	28.9	34.1	39.4	27.8	33.0	38.2
		67	TC	47.4	47.4	47.4	45.2	45.2	45.2	42.9	42.9	42.9	40.3	40.3	40.3
			SHC	25.9	31.2	36.4	25.0	30.2	35.5	23.9	29.2	34.4	22.9	28.2	33.4
		72	TC	51.1	51.1	51.1	49.1	49.1	49.1	46.8	46.8	46.8	43.9	43.9	43.9
			SHC	20.1	25.5	30.9	19.4	24.7	30.1	18.4	23.7	29.0	17.4	22.7	28.0
		76	TC	-	53.3	53.3	-	51.5	51.5	-	49.2	49.2	-	45.9	45.9
			SHC	-	20.8	27.4	-	20.2	26.8	-	19.3	25.7	-	18.3	24.6
1400 cfm	EAT (wb)	58	TC	41.9	41.9	47.3	40.1	40.1	45.3	38.2	38.2	43.2	36.3	36.3	41.0
			SHC	36.6	41.9	47.3	35.0	40.1	45.3	33.3	38.2	43.2	31.7	36.3	41.0
		62	TC	44.6	44.6	45.4	42.3	42.3	44.2	39.8	39.8	42.9	37.3	37.3	41.6
			SHC	33.4	39.4	45.4	32.3	38.3	44.2	31.0	37.0	42.9	29.8	35.7	41.6
		67	TC	48.7	48.7	48.7	46.6	46.6	46.6	44.2	44.2	44.2	41.4	41.4	41.4
			SHC	27.3	33.2	39.2	26.4	32.3	38.3	25.3	31.3	37.3	24.2	30.2	36.2
		72	TC	52.2	52.2	52.2	50.3	50.3	50.3	47.8	47.8	47.8	44.8	44.8	44.8
			SHC	20.6	26.7	32.7	19.9	25.9	32.0	18.9	24.9	30.9	17.9	23.8	29.7
		76	TC	-	54.1	54.1	-	52.3	52.3	-	49.9	49.9	-	46.4	46.4
			SHC	-	21.5	29.0	-	20.8	28.0	-	19.9	26.9	-	18.8	25.7
1600 Cfm	EAT (wb)	58	TC	44.0	44.0	49.6	42.1	42.1	47.4	40.1	40.1	45.2	38.1	38.1	43.0
			SHC	38.3	44.0	49.6	36.7	42.1	47.4	34.9	40.1	45.2	33.2	38.1	43.0
		62	TC	45.7	45.7	48.6	43.5	43.5	47.5	41.0	41.0	46.0	38.5	38.5	44.4
			SHC	35.3	42.0	48.6	34.2	40.8	47.5	32.9	39.4	46.0	31.6	38.0	44.4
		67	TC	49.8	49.8	49.8	47.6	47.6	47.6	45.1	45.1	45.1	42.3	42.3	42.3
			SHC	28.4	35.0	41.6	27.6	34.2	40.9	26.5	33.2	39.9	25.4	32.1	38.7
		72	TC	53.0	53.0	53.0	51.1	51.1	51.1	48.6	48.6	48.6	45.4	45.4	45.4
			SHC	21.0	27.6	34.3	20.3	27.0	33.6	19.4	26.0	32.6	18.3	24.8	31.3
		76	TC	-	54.6	54.6	-	52.8	52.8	-	50.4	50.4	-	46.8	46.8
			SHC	-	22.0	29.9	-	21.3	29.0	-	20.3	27.9	-	19.2	26.6
1800 Cfm	EAT (wb)	58	TC	44.0	44.0	50.3	42.1	42.1	48.1	40.1	40.1	45.9	38.0	38.0	43.5
			SHC	37.6	44.0	50.3	36.0	42.1	48.1	34.3	40.1	45.9	32.6	38.0	43.5
		62	TC	45.7	45.7	49.5	43.5	43.5	48.3	41.0	41.0	46.8	38.4	38.4	45.2
			SHC	34.5	42.0	49.5	33.4	40.8	48.3	32.1	39.4	46.8	30.8	38.0	45.2
		67	TC	49.8	49.8	49.8	47.6	47.6	47.6	45.1	45.1	45.1	42.3	42.3	42.3
			SHC	27.6	35.0	42.5	26.8	34.2	41.7	25.7	33.2	40.7	24.6	32.1	39.5
		72	TC	53.0	53.0	53.0	51.1	51.1	51.1	48.6	48.6	48.6	45.4	45.4	45.4
			SHC	20.2	27.6	35.1	19.5	27.0	34.4	18.5	26.0	33.4	17.5	24.8	32.1
		76	TC	-	54.6	54.6	-	52.8	52.8	-	50.4	50.4	-	46.8	46.8
			SHC	-	22.0	30.9	-	21.3	30.0	-	20.3	28.9	-	19.2	27.5
2000 Cfm	EAT (wb)	58	TC	46.9	46.9	52.9	45.0	45.0	50.8	42.9	42.9	48.4	40.7	40.7	45.9
			SHC	40.9	46.9	52.9	39.3	45.0	50.8	37.4	42.9	48.4	35.5	40.7	45.9
		62	TC	47.5	47.5	54.0	45.3	45.3	52.5	43.0	43.0	50.3	40.7	40.7	47.7
			SHC	38.5	46.3	54.0	37.3	44.9	52.5	35.6	43.0	50.3	33.8	40.7	47.7
		67	TC	51.2	51.2	51.2	49.1	49.1	49.1	46.5	46.5	46.5	43.5	43.5	43.5
			SHC	30.5	38.3	46.0	29.8	37.6	45.5	28.7	36.6	44.5	27.5	35.4	43.2
		72	TC	54.0	54.0	54.0	52.1	52.1	52.1	49.7	49.7	49.7	46.2	46.2	46.2
			SHC	21.7	29.2	36.8	21.1	28.7	36.4	20.1	27.8	35.4	18.9	26.4	33.9
		76	TC	-	55.2	55.2	-	53.5	53.5	-	51.0	51.0	-	47.3	47.3
			SHC	-	22.7	31.4	-	22.0	30.6	-	21.1	29.6	-	19.9	28.1

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

50TC05 (4 TONS) – UNIT WITH HUMIDI-MIZER SYSTEM IN SUBCOOLING MODE										
Air Entering Evaporator – CFM										
Temp (F) Air Ent Condenser (Edb)		80 dry bulb 72 wet bulb			80 dry bulb 67 wet bulb			80 dry bulb 62 wet bulb		
		1200	1600	2000	1200	1600	2000	1200	1600	2000
		75	TC	52.5	55.9	58.6	47.1	50.2	52.7	41.7
	SHC	22.6	25.5	27.8	27.1	29.9	32.0	31.6	34.2	36.2
	kW	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
85	TC	48.7	52.2	54.9	43.4	46.5	49.0	38.0	40.8	43.1
	SHC	18.0	21.3	23.9	23.6	26.8	29.2	29.3	32.2	34.4
	kW	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
95	TC	44.9	48.4	51.2	39.6	42.8	45.3	34.3	37.1	39.4
	SHC	13.4	17.2	20.0	20.2	23.7	26.4	27.0	30.2	32.7
	kW	3.4	3.4	3.4	3.3	3.3	3.3	3.3	3.3	3.3
105	TC	41.1	44.7	47.5	35.9	39.1	41.7	30.6	33.5	35.8
	SHC	8.8	13.0	16.1	16.7	20.6	23.6	24.6	28.2	31.0
	kW	3.8	3.8	3.8	3.7	3.7	3.7	3.7	3.7	3.7
115	TC	37.4	41.0	43.9	32.1	35.4	38.0	26.8	29.8	32.1
	SHC	4.3	8.8	12.2	13.3	17.5	20.7	22.3	26.2	29.2
	kW	4.2	4.2	4.2	4.2	4.2	4.2	4.1	4.1	4.1

50TC

50TC05 (4 TONS) – UNIT WITH HUMIDI-MIZER SYSTEM IN HOT GAS REHEAT MODE										
Air Entering Evaporator – CFM										
Temp (F) Air Ent Condenser (Edb)		75 dry bulb 62.5 wet bulb (50% relative)			75 dry bulb 64 wet bulb (55% relative)			75 dry bulb 65.3 wet bulb (60% relative)		
		1200	1600	2000	1200	1600	2000	1200	1600	2000
		80	TC	11.6	13.8	15.5	13.5	15.8	17.6	15.2
	SHC	-1.0	1.2	3.0	-3.1	-0.8	0.9	-4.8	-2.6	-0.9
	kW	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
75	TC	12.5	14.6	16.2	14.3	16.4	18.1	15.9	18.1	19.8
	SHC	-0.7	1.4	3.0	-2.7	-0.6	1.1	-4.3	-2.2	-0.6
	kW	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
70	TC	13.4	15.3	16.8	15.1	17.1	18.7	16.6	18.7	20.3
	SHC	-0.5	1.5	3.0	-2.3	-0.3	1.2	-3.8	-1.9	-0.3
	kW	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
60	TC	15.1	16.8	18.1	16.7	18.4	19.8	18.1	19.9	21.2
	SHC	0.0	1.7	3.1	-1.5	0.2	1.5	-2.8	-1.1	0.2
	kW	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
50	TC	16.9	18.3	19.4	18.3	19.8	20.9	19.6	21.0	22.2
	SHC	0.6	2.0	3.1	-0.7	0.7	1.8	-1.8	-0.4	0.7
	kW	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
40	TC	18.7	19.8	20.7	19.9	21.1	22.0	21.0	22.2	23.2
	SHC	1.1	2.2	3.1	0.1	1.2	2.1	-0.8	0.4	1.3
	kW	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7

LEGEND

- Edb** – Entering Dry–Bulb
- Ewb** – Entering Wet–Bulb
- kW** – Compressor Motor Power Input
- ldb** – Leaving Dry–Bulb
- lwb** – Leaving Wet–Bulb
- SHC** – Sensible Heat Capacity (1000 Btuh) Gross
- TC** – Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet–bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

Table 14 – COOLING CAPACITIES

1-STAGE COOLING

5 TONS

50TC*A06 (RTPF)			AMBIENT TEMPERATURE												
			85			95			105			115			
			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
			75	80	85	75	80	85	75	80	85	75	80	85	
1500 Cfm	EAT (wb)	58	TC	52.9	52.9	60.0	49.9	49.9	56.6	46.6	46.6	52.9	43.1	43.1	48.9
			SHC	45.8	52.9	60.0	43.2	49.9	56.6	40.4	46.6	52.9	37.3	43.1	48.9
		62	TC	56.2	56.2	57.6	52.2	52.2	55.7	47.8	47.8	53.5	43.2	43.2	51.0
			SHC	41.8	49.7	57.6	39.9	47.8	55.7	37.8	45.6	53.5	35.5	43.2	51.0
		67	TC	62.4	62.4	62.4	58.8	58.8	58.8	54.4	54.4	54.4	49.5	49.5	49.5
			SHC	34.8	42.8	50.7	33.2	41.2	49.1	31.4	39.3	47.3	29.4	37.3	45.3
		72	TC	68.2	68.2	68.2	64.8	64.8	64.8	60.8	60.8	60.8	56.2	56.2	56.2
			SHC	27.2	35.2	43.2	25.9	33.9	41.9	24.4	32.4	40.4	22.6	30.6	38.6
		76	TC	-	71.1	71.1	-	69.0	69.0	-	65.4	65.4	-	60.9	60.9
			SHC	-	28.4	36.6	-	27.6	35.9	-	26.3	34.6	-	24.8	33.0
1750 Cfm	EAT (wb)	58	TC	56.5	56.5	64.0	53.3	53.3	60.4	49.8	49.8	56.5	46.1	46.1	52.3
			SHC	48.9	56.5	64.0	46.1	53.3	60.4	43.1	49.8	56.5	39.9	46.1	52.3
		62	TC	58.5	58.5	63.4	54.4	54.4	61.3	49.9	49.9	58.9	46.1	46.1	54.4
			SHC	45.2	54.3	63.4	43.2	52.2	61.3	41.0	49.9	58.9	37.9	46.1	54.4
		67	TC	64.3	64.3	64.3	60.5	60.5	60.5	56.2	56.2	56.2	51.3	51.3	51.3
			SHC	36.9	46.1	55.2	35.3	44.5	53.7	33.6	42.8	51.9	31.6	40.8	49.9
		72	TC	69.5	69.5	69.5	66.5	66.5	66.5	62.4	62.4	62.4	57.7	57.7	57.7
			SHC	27.8	36.9	45.9	26.7	35.9	45.1	25.2	34.5	43.7	23.5	32.8	42.0
		76	TC	-	72.2	72.2	-	70.1	70.1	-	66.6	66.6	-	-	-
			SHC	-	29.3	38.9	-	28.6	38.2	-	27.4	36.8	-	-	-
2000 Cfm	EAT (wb)	58	TC	59.3	59.3	67.3	56.1	56.1	63.6	52.5	52.5	59.5	48.6	48.6	55.1
			SHC	51.4	59.3	67.3	48.6	56.1	63.6	45.4	52.5	59.5	42.1	48.6	55.1
		62	TC	60.1	60.1	68.5	56.2	56.2	66.3	52.5	52.5	62.0	48.7	48.7	57.4
			SHC	48.1	58.3	68.5	46.2	56.2	66.3	43.1	52.5	62.0	39.9	48.7	57.4
		67	TC	65.7	65.7	65.7	61.9	61.9	61.9	57.5	57.5	57.5	52.6	52.6	54.4
			SHC	38.8	49.1	59.5	37.3	47.7	58.1	35.6	46.0	56.4	33.6	44.0	54.4
		72	TC	70.1	70.1	70.1	67.6	67.6	67.6	63.6	63.6	63.6	58.9	58.9	58.9
			SHC	28.3	38.1	48.0	27.4	37.7	48.0	26.0	36.4	46.7	24.3	34.7	45.2
		76	TC	-	72.9	72.9	-	70.8	70.8	-	67.4	67.4	-	-	-
			SHC	-	30.1	40.7	-	29.3	39.9	-	28.2	38.7	-	-	-
2250 Cfm	EAT (wb)	58	TC	61.5	61.5	69.8	58.4	58.4	66.2	54.8	54.8	62.1	50.8	50.8	57.6
			SHC	53.2	61.5	69.8	50.5	58.4	66.2	47.4	54.8	62.1	43.9	50.8	57.6
		62	TC	61.6	61.6	72.6	58.4	58.4	68.9	54.8	54.8	64.6	50.8	50.8	59.9
			SHC	50.6	61.6	72.6	47.9	58.4	68.9	45.0	54.8	64.6	41.7	50.8	59.9
		67	TC	66.8	66.8	66.8	63.0	63.0	63.0	58.5	58.5	60.6	53.6	53.6	58.6
			SHC	40.5	52.0	63.4	39.1	50.7	62.3	37.4	49.0	60.6	35.5	47.0	58.6
		72	TC	70.8	70.8	70.8	68.5	68.5	68.5	64.5	64.5	64.5	59.8	59.8	59.8
			SHC	28.7	39.5	50.2	28.0	39.3	50.5	26.7	38.1	49.6	25.0	36.6	48.1
		76	TC	-	73.4	73.4	-	71.2	71.2	-	67.9	67.9	-	-	-
			SHC	-	30.7	42.1	-	30.0	41.4	-	28.9	40.4	-	-	-
2500 Cfm	EAT (wb)	58	TC	63.3	63.3	71.8	60.1	60.1	68.2	56.5	56.5	64.1	52.6	52.6	59.6
			SHC	54.8	63.3	71.8	52.1	60.1	68.2	49.0	56.5	64.1	45.5	52.6	59.6
		62	TC	63.4	63.4	74.7	60.2	60.2	71.0	56.6	56.6	66.7	52.6	52.6	62.1
			SHC	52.0	63.4	74.7	49.4	60.2	71.0	46.5	56.6	66.7	43.2	52.6	62.1
		67	TC	67.6	67.6	67.6	63.8	63.8	66.2	59.3	59.3	64.6	54.4	54.4	62.5
			SHC	42.1	54.6	67.1	40.9	53.5	66.2	39.2	51.9	64.6	37.2	49.8	62.5
		72	TC	71.3	71.3	71.3	69.0	69.0	69.0	65.1	65.1	65.1	60.4	60.4	60.4
			SHC	29.1	40.7	52.2	28.5	40.7	52.9	27.3	39.7	52.2	25.7	38.3	50.9
		76	TC	-	73.8	73.8	-	71.4	71.4	-	68.3	68.3	-	-	-
			SHC	-	31.2	43.3	-	30.5	42.6	-	29.6	41.9	-	-	-

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

50TC06 (5 TONS) – UNIT WITH HUMIDI-MIZER SYSTEM IN SUBCOOLING MODE										
Air Entering Evaporator – CFM										
Temp (F) Air Ent Condenser (Edb)		80 dry bulb 72 wet bulb			80 dry bulb 67 wet bulb			80 dry bulb 62 wet bulb		
		1750	2000	2250	1750	2000	2250	1750	2000	2250
		75	TC	73.1	78.7	84.5	63.2	66.9	70.8	53.2
	SHC	35.3	37.2	38.8	42.0	43.7	45.3	48.7	50.3	51.8
	kW	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
85	TC	67.6	71.2	75.0	59.1	61.2	63.3	50.6	51.1	51.5
	SHC	27.9	30.0	31.9	36.3	38.3	40.1	44.8	46.6	48.2
	kW	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
95	TC	62.1	63.8	65.5	55.1	55.4	55.8	48.0	47.0	46.0
	SHC	20.5	22.9	24.9	30.7	32.9	34.8	40.9	42.9	44.7
	kW	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
105	TC	56.6	56.3	56.0	51.0	49.6	48.3	45.4	43.0	40.5
	SHC	13.1	15.7	18.0	25.0	27.5	29.6	36.9	39.2	41.2
	kW	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.7	4.7
115	TC	51.1	48.8	46.5	46.9	43.9	40.7	42.8	39.0	35.0
	SHC	5.8	8.6	11.0	19.4	22.0	24.4	33.0	35.5	37.7
	kW	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2	5.2

50TC

50TC06 (5 TONS) – UNIT WITH HUMIDI-MIZER SYSTEM IN HOT GAS REHEAT MODE										
Air Entering Evaporator – CFM										
Temp (F) Air Ent Condenser (Edb)		75 dry bulb 62.5 wet bulb (50% relative)			75 dry bulb 64 wet bulb (55% relative)			75 dry bulb 65.3 wet bulb (60% relative)		
		1750	2000	2250	1750	2000	2250	1750	2000	2250
		80	TC	23.0	24.4	25.6	24.7	26.2	27.4	26.3
	SHC	5.3	6.1	6.8	3.2	4.0	4.7	1.4	2.2	2.9
	kW	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
75	TC	23.3	24.6	25.7	25.0	26.3	27.5	26.4	27.8	29.0
	SHC	5.1	5.8	6.5	3.1	3.9	4.5	1.4	2.2	2.8
	kW	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
70	TC	23.5	24.8	25.9	25.2	26.4	27.5	26.6	27.9	29.0
	SHC	4.8	5.5	6.2	3.0	3.7	4.3	1.4	2.1	2.8
	kW	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
60	TC	24.1	25.2	26.1	25.6	26.7	27.7	26.9	28.0	29.0
	SHC	4.3	5.0	5.5	2.8	3.4	3.9	1.4	2.0	2.6
	kW	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
50	TC	24.7	25.6	26.4	26.1	27.0	27.8	27.2	28.2	29.0
	SHC	3.8	4.4	4.8	2.5	3.1	3.5	1.4	2.0	2.4
	kW	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
40	TC	25.3	26.0	26.7	26.5	27.3	27.9	27.6	28.3	29.0
	SHC	3.3	3.8	4.2	2.3	2.8	3.1	1.4	1.9	2.3
	kW	3.1	3.1	3.1	3.2	3.2	3.2	3.2	3.2	3.2

LEGEND

- Edb** – Entering Dry–Bulb
- Ewb** – Entering Wet–Bulb
- kW** – Compressor Motor Power Input
- ldb** – Leaving Dry–Bulb
- lwb** – Leaving Wet–Bulb
- SHC** – Sensible Heat Capacity (1000 Btuh) Gross
- TC** – Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet–bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

Table 16 – COOLING CAPACITIES

1-STAGE COOLING

6 TONS

50TC*A07 (RTPF)			AMBIENT TEMPERATURE												
			85			95			105			115			
			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
			75	80	85	75	80	85	75	80	85	75	80	85	
1800 Cfm	EAT (wb)	58	TC	64.9	64.9	73.3	62.1	62.1	70.0	58.9	58.9	66.4	55.6	55.6	62.7
			SHC	56.6	64.9	73.3	54.1	62.1	70.0	51.4	58.9	66.4	48.5	55.6	62.7
		62	TC	68.7	68.7	70.3	64.9	64.9	68.5	60.8	60.8	66.4	56.4	56.4	64.0
			SHC	51.7	61.0	70.3	49.9	59.2	68.5	47.9	57.2	66.4	45.7	54.9	64.0
		67	TC	75.6	75.6	75.6	71.7	71.7	71.7	67.4	67.4	67.4	62.5	62.5	62.5
			SHC	42.8	52.2	61.5	41.2	50.5	59.8	39.3	48.6	58.0	37.2	46.5	55.8
		72	TC	82.6	82.6	82.6	78.5	78.5	78.5	73.7	73.7	73.7	67.8	67.8	67.8
			SHC	33.5	42.8	52.2	31.9	41.3	50.6	30.0	39.3	48.6	27.8	36.9	45.9
		76	TC	–	87.5	87.5	–	83.3	83.3	–	77.7	77.7	–	70.9	70.9
			SHC	–	35.0	44.9	–	33.5	43.4	–	31.6	41.5	–	29.3	39.1
2100 Cfm	EAT (wb)	58	TC	68.9	68.9	77.7	65.9	65.9	74.3	62.5	62.5	70.5	58.7	58.7	66.2
			SHC	60.1	68.9	77.7	57.4	65.9	74.3	54.5	62.5	70.5	51.2	58.7	66.2
		62	TC	70.9	70.9	76.9	67.1	67.1	75.0	63.0	63.0	72.5	58.7	58.7	68.7
			SHC	55.6	66.3	76.9	53.8	64.4	75.0	51.6	62.1	72.5	48.7	58.7	68.7
		67	TC	77.8	77.8	77.8	73.7	73.7	73.7	69.2	69.2	69.2	64.0	64.0	64.0
			SHC	45.4	56.1	66.8	43.7	54.4	65.2	41.8	52.5	63.2	39.6	50.2	60.7
		72	TC	84.5	84.5	84.5	80.3	80.3	80.3	75.1	75.1	75.1	68.8	68.8	68.8
			SHC	34.5	45.2	55.9	32.9	43.5	54.2	30.9	41.4	52.0	28.5	38.7	48.9
		76	TC	–	89.2	89.2	–	84.7	84.7	–	78.8	78.8	–	71.6	71.6
			SHC	–	36.3	47.8	–	34.7	46.0	–	32.6	43.7	–	30.1	40.9
2400 Cfm	EAT (wb)	58	TC	72.0	72.0	81.2	68.7	68.7	77.5	65.2	65.2	73.5	61.1	61.1	68.9
			SHC	62.8	72.0	81.2	60.0	68.7	77.5	56.9	65.2	73.5	53.3	61.1	68.9
		62	TC	72.8	72.8	82.8	68.9	68.9	80.7	65.2	65.2	76.4	61.2	61.2	71.6
			SHC	59.1	71.0	82.8	57.2	68.9	80.7	54.1	65.2	76.4	50.7	61.2	71.6
		67	TC	79.4	79.4	79.4	75.2	75.2	75.2	70.5	70.5	70.5	65.1	65.1	65.3
			SHC	47.7	59.8	71.8	46.0	58.1	70.2	44.0	56.0	68.1	41.6	53.5	65.3
		72	TC	86.0	86.0	86.0	81.6	81.6	81.6	76.1	76.1	76.1	69.6	69.6	69.6
			SHC	35.3	47.2	59.2	33.7	45.6	57.5	31.7	43.3	55.0	29.1	40.3	51.4
		76	TC	–	90.3	90.3	–	85.7	85.7	–	79.6	79.6	–	72.1	72.1
			SHC	–	37.3	49.8	–	35.6	48.0	–	33.5	45.6	–	30.8	42.5
2700 Cfm	EAT (wb)	58	TC	60.3	60.3	74.1	71.1	71.1	80.2	67.4	67.4	76.0	63.0	63.0	71.1
			SHC	46.4	60.3	74.1	62.0	71.1	80.2	58.8	67.4	76.0	55.0	63.0	71.1
		62	TC	65.4	65.4	69.3	71.2	71.2	83.3	67.5	67.5	79.0	63.1	63.1	73.8
			SHC	41.0	55.1	69.3	59.0	71.2	83.3	55.9	67.5	79.0	52.3	63.1	73.8
		67	TC	72.7	72.7	72.7	76.3	76.3	76.3	71.5	71.5	72.6	65.8	65.8	69.4
			SHC	33.8	48.0	62.2	48.2	61.6	74.9	46.1	59.3	72.6	43.5	56.5	69.4
		72	TC	79.7	79.7	79.7	82.5	82.5	82.5	76.9	76.9	76.9	70.1	70.1	70.1
			SHC	25.8	40.2	54.6	34.5	47.5	60.5	32.3	45.0	57.7	29.7	41.7	53.8
		76	TC	–	85.1	85.1	–	86.4	86.4	–	80.2	80.2	–	72.5	72.5
			SHC	–	33.5	48.4	–	36.5	49.9	–	34.3	47.3	–	31.5	44.0
3000 Cfm	EAT (wb)	58	TC	64.9	64.9	78.8	73.1	73.1	82.5	69.2	69.2	78.0	64.5	64.5	72.7
			SHC	51.1	64.9	78.8	63.8	73.1	82.5	60.3	69.2	78.0	56.2	64.5	72.7
		62	TC	68.7	68.7	76.5	73.2	73.2	85.7	69.2	69.2	81.0	64.5	64.5	75.5
			SHC	45.5	61.0	76.5	60.7	73.2	85.7	57.4	69.2	81.0	53.5	64.5	75.5
		67	TC	75.6	75.6	75.6	77.2	77.2	79.4	72.2	72.2	76.8	66.3	66.3	73.0
			SHC	36.6	52.2	67.7	50.2	64.8	79.4	48.0	62.4	76.8	45.1	59.1	73.0
		72	TC	82.6	82.6	82.6	83.3	83.3	83.3	77.5	77.5	77.5	70.5	70.5	70.5
			SHC	27.2	42.8	58.5	35.1	49.2	63.3	32.9	46.6	60.3	30.2	43.0	55.9
		76	TC	–	87.5	87.5	–	86.9	86.9	–	80.6	80.6	–	72.8	72.8
			SHC	–	35.0	51.5	–	37.3	51.6	–	35.0	48.9	–	32.1	45.3

LEGEND:

- Do not operate in this region
- 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

50TC07 (6 TONS) – UNIT WITH HUMIDI-MIZER SYSTEM IN SUBCOOLING MODE										
Air Entering Evaporator – CFM										
Temp (F) Air Ent Condenser (Edb)		80 dry bulb 72 wet bulb			80 dry bulb 67 wet bulb			80 dry bulb 62 wet bulb		
		2100	2400	2700	2100	2400	2700	2100	2400	2700
		75	TC	86.7	89.9	92.8	79.3	82.3	84.9	71.9
	SHC	40.1	41.8	43.3	46.9	48.5	49.9	53.7	55.2	56.5
	kW	4.3	4.3	4.3	4.2	4.2	4.2	4.2	4.2	4.2
85	TC	79.5	82.6	85.4	72.5	75.3	77.9	65.4	68.0	70.3
	SHC	32.1	34.0	35.7	40.7	42.5	44.1	49.4	51.0	52.5
	kW	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.9	4.9
95	TC	72.4	75.3	78.1	65.6	68.3	70.8	58.8	61.3	63.6
	SHC	24.1	26.3	28.1	34.6	36.6	38.3	45.1	46.9	48.5
	kW	5.8	5.8	5.8	5.7	5.7	5.7	5.6	5.6	5.6
105	TC	65.2	68.1	70.7	58.7	61.4	63.8	52.3	54.7	56.8
	SHC	16.2	18.5	20.5	28.5	30.6	32.6	40.7	42.8	44.6
	kW	6.5	6.5	6.5	6.4	6.4	6.4	6.3	6.3	6.3
115	TC	58.0	60.8	63.3	51.9	54.4	56.7	45.7	48.0	50.1
	SHC	8.2	10.7	13.0	22.3	24.7	26.8	36.4	38.6	40.6
	kW	7.2	7.2	7.2	7.1	7.1	7.1	7.0	7.0	7.0

50TC

50TC07 (6 TONS) – UNIT WITH HUMIDI-MIZER SYSTEM IN HOT GAS REHEAT MODE										
Air Entering Evaporator – CFM										
Temp (F) Air Ent Condenser (Edb)		75 dry bulb 62.5 wet bulb (50% relative)			75 dry bulb 64 wet bulb (55% relative)			75 dry bulb 65.3 wet bulb (60% relative)		
		2100	2400	2700	2100	2400	2700	1750	2000	2700
		80	TC	16.7	19.8	22.5	18.8	21.9	24.7	16.2
	SHC	0.6	0.6	0.6	-0.4	-0.4	-0.4	-1.3	-1.3	-1.3
	kW	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
75	TC	17.7	20.6	23.1	19.6	22.6	25.3	17.3	20.3	27.1
	SHC	0.6	0.6	0.6	-0.3	-0.3	-0.3	-1.2	-1.2	-1.2
	kW	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
70	TC	18.6	21.3	23.7	20.5	23.3	25.8	18.3	21.1	27.6
	SHC	0.7	0.7	0.7	-0.2	-0.2	-0.2	-1.0	-1.0	-1.0
	kW	4.0	4.0	4.0	4.1	4.1	4.1	4.1	4.1	4.1
60	TC	20.5	22.9	25.0	22.2	24.7	26.8	20.4	22.8	28.5
	SHC	0.7	0.7	0.7	-0.0	-0.0	-0.0	-0.7	-0.7	-0.7
	kW	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
50	TC	22.4	24.4	26.2	24.0	26.0	27.9	22.4	24.5	29.3
	SHC	0.8	0.8	0.8	0.1	0.1	0.1	-0.4	-0.4	-0.4
	kW	4.1	4.1	4.1	4.1	4.1	4.1	4.2	4.2	4.2
40	TC	24.3	25.9	27.4	25.7	27.4	28.9	24.5	26.3	30.2
	SHC	0.8	0.8	0.8	0.3	0.3	0.3	-0.1	-0.1	-0.1
	kW	4.1	4.1	4.1	4.2	4.2	4.2	4.2	4.2	4.2

LEGEND

- Edb** – Entering Dry–Bulb
- Ewb** – Entering Wet–Bulb
- kW** – Compressor Motor Power Input
- ldb** – Leaving Dry–Bulb
- lwb** – Leaving Wet–Bulb
- SHC** – Sensible Heat Capacity (1000 Btuh) Gross
- TC** – Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

$$t_{lwb} = \text{Wet–bulb temperature corresponding to enthalpy of air leaving evaporator coil } (h_{lwb})$$

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

Table 18 – COOLING CAPACITIES

1-STAGE COOLING

7.5 TONS

50TC*A08 (RTPF)			AMBIENT TEMPERATURE												
			85			95			105			115			
			EAT (db)			EAT (db)			EAT (db)			EA (db)			
			75	80	85	75	80	85	75	80	85	75	80	85	
2250 Cfm	EAT (wb)	58	TC	81.2	81.2	91.8	77.5	77.5	87.7	73.6	73.6	83.3	69.5	69.5	78.7
			SHC	70.5	81.2	91.8	67.3	77.5	87.7	63.9	73.6	83.3	60.4	69.5	78.7
		62	TC	86.9	86.9	86.9	82.3	82.3	84.0	77.2	77.2	81.5	71.9	71.9	78.8
			SHC	63.6	74.9	86.2	61.4	72.7	84.0	58.9	70.2	81.5	56.3	67.6	78.8
		67	TC	95.2	95.2	95.2	90.7	90.7	90.7	85.7	85.7	85.7	79.9	79.9	79.9
			SHC	52.8	64.2	75.6	50.9	62.2	73.6	48.8	60.1	71.5	46.3	57.6	68.9
		72	TC	103.5	103.5	103.5	98.9	98.9	98.9	93.8	93.8	93.8	87.3	87.3	87.3
			SHC	41.5	53.1	64.6	39.7	51.2	62.7	37.7	49.2	60.6	35.3	46.6	57.8
		76	TC	-	109.6	109.6	-	104.8	104.8	-	99.1	99.1	-	91.6	91.6
			SHC	-	43.7	56.0	-	42.0	54.3	-	40.0	52.4	-	37.4	49.8
2625 Cfm	EAT (wb)	58	TC	85.9	85.9	97.2	82.2	82.2	93.1	78.1	78.1	88.4	73.9	73.9	83.6
			SHC	74.6	85.9	97.2	71.4	82.2	93.1	67.9	78.1	88.4	64.1	73.9	83.6
		62	TC	89.6	89.6	94.1	85.1	85.1	91.7	80.1	80.1	89.1	74.6	74.6	86.0
			SHC	68.1	81.1	94.1	65.9	78.8	91.7	63.4	76.3	89.1	60.6	73.3	86.0
		67	TC	97.9	97.9	97.9	93.2	93.2	93.2	88.1	88.1	88.1	82.0	82.0	82.0
			SHC	55.7	68.7	81.7	53.7	66.7	79.8	51.6	64.6	77.6	49.0	62.0	74.9
		72	TC	106.0	106.0	106.0	101.3	101.3	101.3	95.9	95.9	95.9	89.0	89.0	89.0
			SHC	42.7	55.8	68.9	40.9	53.9	67.0	38.8	51.8	64.7	36.2	48.9	61.7
		76	TC	-	111.8	111.8	-	106.9	106.9	-	100.7	100.7	-	92.7	92.7
			SHC	-	45.3	59.8	-	43.6	58.0	-	41.4	55.6	-	38.7	52.6
3000 Cfm	EAT (wb)	58	TC	89.6	89.6	101.4	85.9	85.9	97.2	81.7	81.7	92.5	77.0	77.0	87.1
			SHC	77.9	89.6	101.4	74.6	85.9	97.2	71.0	81.7	92.5	66.9	77.0	87.1
		62	TC	91.8	91.8	101.1	87.2	87.2	98.6	82.3	82.3	95.5	77.1	77.1	90.6
			SHC	72.2	86.7	101.1	69.9	84.3	98.6	67.2	81.3	95.5	63.5	77.1	90.6
		67	TC	99.9	99.9	99.9	95.2	95.2	95.2	89.9	89.9	89.9	83.6	83.6	83.6
			SHC	58.3	72.9	87.5	56.4	71.0	85.5	54.2	68.8	83.4	51.6	66.1	80.5
		72	TC	107.9	107.9	107.9	103.0	103.0	103.0	97.3	97.3	97.3	90.1	90.1	90.1
			SHC	43.7	58.3	72.8	41.9	56.4	70.9	39.7	54.1	68.4	37.0	51.0	65.0
		76	TC	-	113.8	113.8	-	108.4	108.4	-	102.0	102.0	-	93.4	93.4
			SHC	-	46.7	62.5	-	44.8	60.4	-	42.6	57.9	-	39.6	54.7
3375 Cfm	EAT (wb)	58	TC	92.7	92.7	104.9	88.8	88.8	100.5	84.6	84.6	95.7	79.6	79.6	90.0
			SHC	80.5	92.7	104.9	77.1	88.8	100.5	73.4	84.6	95.7	69.1	79.6	90.0
		62	TC	93.7	93.7	107.3	89.1	89.1	104.7	84.6	84.6	99.5	79.6	79.6	93.6
			SHC	75.8	91.6	107.3	73.5	89.1	104.7	69.8	84.6	99.5	65.6	79.6	93.6
		67	TC	101.5	101.5	101.5	96.7	96.7	96.7	91.3	91.3	91.3	84.8	84.8	85.7
			SHC	60.8	76.9	93.0	58.8	74.9	91.0	56.7	72.8	88.9	53.9	69.8	85.7
		72	TC	109.4	109.4	109.4	104.3	104.3	104.3	98.4	98.4	98.4	90.9	90.9	90.9
			SHC	44.6	60.5	76.4	42.8	58.6	74.4	40.5	56.2	71.8	37.7	52.8	68.0
		76	TC	-	115.1	115.1	-	109.5	109.5	-	102.8	102.8	-	94.0	94.0
			SHC	-	47.8	64.9	-	45.9	62.7	-	43.5	60.1	-	40.4	56.5
3750 Cfm	EAT (wb)	58	TC	95.3	95.3	107.8	91.3	91.3	103.3	86.9	86.9	98.3	81.7	81.7	92.4
			SHC	82.7	95.3	107.8	79.3	91.3	103.3	75.5	86.9	98.3	70.9	81.7	92.4
		62	TC	95.5	95.5	112.2	91.3	91.3	107.4	87.0	87.0	102.2	81.7	81.7	96.0
			SHC	78.7	95.5	112.2	75.3	91.3	107.4	71.7	87.0	102.2	67.4	81.7	96.0
		67	TC	102.8	102.8	102.8	97.9	97.9	97.9	92.3	92.3	94.0	85.7	85.7	90.5
			SHC	63.1	80.6	98.2	61.2	78.7	96.3	59.0	76.5	94.0	56.0	73.2	90.5
		72	TC	110.6	110.6	110.6	105.4	105.4	105.4	99.2	99.2	99.2	91.5	91.5	91.5
			SHC	45.5	62.7	79.9	43.5	60.7	77.8	41.3	58.1	75.0	38.3	54.5	70.7
		76	TC	-	116.1	116.1	-	110.3	110.3	-	103.5	103.5	-	94.5	94.5
			SHC	-	48.9	67.0	-	46.8	64.8	-	44.4	62.0	-	41.1	58.1

LEGEND:

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

Table 19 – COOLING CAPACITIES

2-STAGE COOLING

7.5 TONS

50TC*D08 (RTPF & Novation)			AMBIENT TEMPERATURE												
			85			95			105			115			
			EAT (db)			EAT (db)			EAT (db)			EA (db)			
			75	80	85	75	80	85	75	80	85	75	80	85	
2250 Cfm	EAT (wb)	58	TC	77.4	77.4	87.8	73.8	73.8	83.8	70.1	70.1	79.5	66.0	66.0	74.9
		SHC	66.9	77.4	87.8	63.9	73.8	83.8	60.6	70.1	79.5	57.1	66.0	74.9	
		62	TC	82.2	82.2	83.9	77.5	77.5	81.7	72.6	72.6	79.2	67.3	67.3	76.4
		SHC	60.8	72.4	83.9	58.6	70.1	81.7	56.3	67.7	79.2	53.6	65.0	76.4	
		67	TC	90.1	90.1	90.1	86.0	86.0	86.0	81.4	81.4	81.4	75.9	75.9	75.9
		SHC	50.2	61.8	73.3	48.5	60.1	71.6	46.5	58.1	69.7	44.2	55.8	67.4	
		72	TC	98.0	98.0	98.0	94.0	94.0	94.0	89.5	89.5	89.5	84.3	84.3	84.3
		SHC	39.1	50.7	62.4	37.5	49.2	60.9	35.8	47.5	59.2	33.8	45.5	57.2	
		76	TC	-	104.3	104.3	-	100.4	100.4	-	95.9	95.9	-	90.7	90.7
		SHC	-	41.7	54.0	-	40.3	52.7	-	38.7	51.0	-	36.8	49.0	
2625 Cfm	EAT (wb)	58	TC	82.1	82.1	93.2	78.4	78.4	89.0	74.4	74.4	84.4	70.0	70.0	79.5
		SHC	71.0	82.1	93.2	67.8	78.4	89.0	64.3	74.4	84.4	60.6	70.0	79.5	
		62	TC	84.9	84.9	91.8	80.4	80.4	89.5	75.4	75.4	86.7	70.2	70.2	82.9
		SHC	65.4	78.6	91.8	63.2	76.3	89.5	60.6	73.7	86.7	57.6	70.2	82.9	
		67	TC	92.5	92.5	92.5	88.3	88.3	88.3	83.6	83.6	83.6	78.3	78.3	78.3
		SHC	53.0	66.3	79.5	51.3	64.6	78.0	49.4	62.8	76.1	47.2	60.6	73.9	
		72	TC	100.4	100.4	100.4	96.4	96.4	96.4	91.7	91.7	91.7	86.4	86.4	86.4
		SHC	40.2	53.5	66.7	38.7	52.0	65.3	36.9	50.3	63.7	35.0	48.4	61.8	
		76	TC	-	106.5	106.5	-	102.6	102.6	-	98.0	98.0	-	92.7	92.7
		SHC	-	43.3	57.6	-	41.8	55.9	-	40.2	54.1	-	38.4	52.2	
3000 Cfm	EAT (wb)	58	TC	85.7	85.7	97.3	82.2	82.2	93.3	78.0	78.0	88.6	73.5	73.5	83.4
		SHC	74.1	85.7	97.3	71.1	82.2	93.3	67.5	78.0	88.6	63.6	73.5	83.4	
		62	TC	86.9	86.9	98.7	82.8	82.8	96.4	78.2	78.2	92.3	73.6	73.6	86.9
		SHC	69.3	84.0	98.7	67.2	81.8	96.4	64.1	78.2	92.3	60.3	73.6	86.9	
		67	TC	94.3	94.3	94.3	90.1	90.1	90.1	85.2	85.2	85.2	79.8	79.8	80.1
		SHC	55.6	70.5	85.4	54.0	68.9	83.9	52.1	67.1	82.2	49.9	65.0	80.1	
		72	TC	102.2	102.2	102.2	98.1	98.1	98.1	93.3	93.3	93.3	87.9	87.9	87.9
		SHC	41.2	56.0	70.7	39.7	54.6	69.5	38.0	53.0	68.0	36.0	51.1	66.2	
		76	TC	-	108.1	108.1	-	104.2	104.2	-	99.5	99.5	-	94.2	94.2
		SHC	-	44.5	60.2	-	43.2	58.7	-	41.6	57.0	-	39.8	55.2	
3375 Cfm	EAT (wb)	58	TC	88.5	88.5	100.4	85.0	85.0	96.4	81.0	81.0	92	76.5	76.5	86.8
		SHC	76.5	88.5	100.4	73.5	85.0	96.4	70.1	81.0	92	66.1	76.5	86.8	
		62	TC	88.9	88.9	103.9	85.1	85.1	100.4	81.1	81.1	95.7	76.5	76.5	90.3
		SHC	72.3	88.1	103.9	69.7	85.1	100.4	66.5	81.1	95.7	62.7	76.5	90.3	
		67	TC	95.8	95.8	95.8	91.5	91.5	91.5	86.6	86.6	87.9	81.1	81.1	85.8
		SHC	58.0	74.4	90.9	56.4	73.0	89.6	54.6	71.3	87.9	52.4	69.1	85.8	
		72	TC	103.6	103.6	103.6	99.4	99.4	99.4	94.6	94.6	94.6	89.1	89.1	89.1
		SHC	42.0	58.3	74.5	40.6	57.0	73.4	38.9	55.5	72.0	37.0	53.7	70.3	
		76	TC	-	109.2	109.2	-	105.4	105.4	-	100.7	100.7	-	95.3	95.3
		SHC	-	45.6	62.6	-	44.4	61.3	-	42.8	59.7	-	41.0	58.0	
3750 Cfm	EAT (wb)	58	TC	90.8	90.8	103.0	87.3	87.3	99.1	83.3	83.3	94.5	78.8	78.8	89.4
		SHC	78.5	90.8	103.0	75.5	87.3	99.1	72.0	83.3	94.5	68.2	78.8	89.4	
		62	TC	90.9	90.9	107.2	87.4	87.4	103.1	83.3	83.3	98.4	78.9	78.9	93.1
		SHC	74.5	90.9	107.2	71.6	87.4	103.1	68.3	83.3	98.4	64.7	78.9	93.1	
		67	TC	97.0	97.0	97.0	92.6	92.6	95.1	87.6	87.6	93.4	82.1	82.1	91.2
		SHC	60.3	78.2	96.2	58.8	76.9	95.1	56.9	75.2	93.4	54.8	73.0	91.2	
		72	TC	104.7	104.7	104.7	100.5	100.5	100.5	95.6	95.6	95.6	90.1	90.1	90.1
		SHC	42.9	60.5	78.1	41.4	59.3	77.1	39.8	57.8	75.9	37.9	56.1	74.3	
		76	TC	-	110.2	110.2	-	106.2	106.2	-	101.6	101.6	-	96.1	96.1
		SHC	-	46.7	64.8	-	45.4	63.6	-	44.0	62.3	-	42.2	60.6	

LEGEND:

- Do not operate in this region
- 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

50TC

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Table 20 – COOLING CAPACITIES

2-STAGE COOLING

7.5 TONS

50TC08 COOLING CAPACITIES, UNIT WITH HUMIDI-MIZER SYSTEM IN SUBCOOLING MODE

TEMP (F) AIR ENT CONDENSER (Edb)		AIR ENTERING EVAPORATOR – CFM								
		2250/0.05			3000/0.07			3750/0.09		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	103.05	93.02	83.60	109.77	99.52	90.08	114.01	103.69	95.19
	SHC	43.66	55.34	67.09	50.99	66.29	81.31	57.49	76.27	92.20
	kW	4.90	4.83	4.77	4.82	4.88	4.96	4.99	4.91	4.85
85	TC	95.39	85.83	76.88	101.59	91.89	82.95	105.53	95.76	87.77
	SHC	36.42	48.47	60.60	43.24	58.99	74.40	49.44	68.68	84.90
	kW	5.49	5.42	5.36	5.40	5.47	5.54	5.58	5.50	5.44
95	TC	87.48	78.44	69.97	93.21	84.05	75.61	96.84	87.63	80.14
	SHC	28.98	41.46	53.97	35.32	51.53	67.34	41.21	60.92	77.41
	kW	6.16	6.09	6.03	6.08	6.14	6.21	6.24	6.17	6.11
105	TC	79.35	70.83	62.84	84.57	75.96	68.04	87.88	79.23	72.26
	SHC	21.34	34.26	47.18	27.17	43.86	60.08	32.73	52.95	69.70
	kW	6.93	6.86	6.81	6.85	6.91	6.97	7.00	6.93	6.88
115	TC	70.87	62.89	55.42	75.58	67.54	60.15	78.56	70.51	64.06
	SHC	13.40	26.79	40.14	18.70	35.89	52.54	23.94	44.68	61.67
	kW	7.79	7.74	7.69	7.73	7.78	7.83	7.86	7.80	7.76

50TC08 COOLING CAPACITIES, UNIT WITH HUMIDI-MIZER SYSTEM IN HOT GAS REHEAT MODE

TEMP (F) AIR ENT CONDENSER (Edb)		AIR ENTERING EVAPORATOR – Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator – Cfm								
		2250	3000	3750	2250	3000	3750	2250	3000	3750
80	TC	27.60	32.75	30.19	40.09	39.43	37.73	45.06	45.25	44.25
	SHC	-3.12	5.20	6.71	3.75	5.24	6.75	3.77	5.26	6.78
	kW	4.56	4.51	4.46	4.63	4.60	4.56	4.70	4.67	4.64
75	TC	35.40	33.78	31.20	41.14	40.51	38.80	46.15	46.37	45.38
	SHC	4.67	6.17	7.69	4.71	6.21	7.73	4.74	6.24	7.76
	kW	4.41	4.36	4.39	4.41	4.36	4.36	4.41	4.39	4.36
70	TC	36.36	34.71	32.18	42.10	41.47	39.77	47.08	47.31	46.32
	SHC	5.63	7.14	8.66	5.67	7.18	8.71	5.70	7.21	8.74
	kW	4.43	4.49	4.41	4.44	4.40	4.39	4.49	4.47	4.44
60	TC	38.25	36.64	34.15	43.97	43.37	41.72	48.98	49.22	48.26
	SHC	7.56	9.09	10.62	7.60	9.13	10.66	7.62	9.15	10.69
	kW	4.56	4.55	4.43	4.57	4.53	4.46	4.56	4.55	4.50
50	TC	40.15	38.60	36.14	45.95	45.37	43.73	50.57	50.97	49.56
	SHC	9.48	11.03	12.58	9.52	11.07	12.62	9.54	11.10	12.64
	kW	4.63	4.52	4.38	4.45	4.41	4.33	5.25	4.91	5.60
40	TC	42.18	40.62	38.11	47.80	47.25	45.43	52.65	52.75	51.83
	SHC	11.41	12.98	14.54	11.45	13.02	14.58	11.47	13.04	14.60
	kW	4.32	4.37	4.37	4.65	4.60	4.89	4.96	5.20	5.12

LEGEND

- Edb** – Entering Dry–Bulb
- Ewb** – Entering Wet–Bulb
- kW** – Compressor Motor Power Input
- ldb** – Leaving Dry–Bulb
- lwb** – Leaving Wet–Bulb
- SHC** – Sensible Heat Capacity (1000 Btuh) Gross
- TC** – Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

$$t_{lwb} = \text{Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil } (h_{lwb})$$

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$
 Where: h_{ewb} = Enthalpy of air entering evaporator coil

50TC

Table 21 – COOLING CAPACITIES

1-STAGE COOLING

8.5 TONS

50TC*A09 (RTPF)			AMBIENT TEMPERATURE												
			85			95			105			115			
			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
			75	80	85	75	80	85	75	80	85	75	80	85	
2550 Cfm	EAT (wb)	58	TC	88.1	88.1	99.9	84.1	84.1	95.3	79.6	79.6	90.3	74.9	74.9	84.9
			SHC	76.4	88.1	99.9	72.8	84.1	95.3	69.0	79.6	90.3	64.9	74.9	84.9
		62	TC	93.9	93.9	95.2	88.6	88.6	92.6	82.8	82.8	89.7	76.6	76.6	86.5
			SHC	69.4	82.3	95.2	66.8	79.7	92.6	64.1	76.9	89.7	61.0	73.8	86.5
		67	TC	103.8	103.8	103.8	98.7	98.7	98.7	93.0	93.0	93.0	86.7	86.7	86.7
			SHC	57.8	70.7	83.6	55.6	68.5	81.4	53.1	66.1	79.0	50.5	63.4	76.4
		72	TC	113.1	113.1	113.1	108.0	108.0	108.0	102.4	102.4	102.4	96.1	96.1	96.1
			SHC	45.2	58.3	71.3	43.2	56.3	69.3	41.1	54.1	67.1	38.7	51.7	64.7
		76	TC	-	119.9	119.9	-	114.7	114.7	-	109.0	109.0	-	102.7	102.7
			SHC	-	47.9	61.9	-	46.0	60.1	-	44.1	58.1	-	41.9	55.8
2975 Cfm	EAT (wb)	58	TC	93.6	93.6	106.1	89.3	89.3	101.2	84.6	84.6	96.0	79.6	79.6	90.3
			SHC	81.1	93.6	106.1	77.4	89.3	101.2	73.3	84.6	96.0	69.0	79.6	90.3
		62	TC	97.5	97.5	104.3	92.0	92.0	101.4	86.1	86.1	98.3	79.8	79.8	94.1
			SHC	74.7	89.5	104.3	72.0	86.7	101.4	69.1	83.7	98.3	65.6	79.8	94.1
		67	TC	106.7	106.7	106.7	101.5	101.5	101.5	95.7	95.7	95.7	89.2	89.2	89.2
			SHC	61.0	75.8	90.6	58.8	73.6	88.5	56.4	71.3	86.1	53.8	68.7	83.6
		72	TC	115.8	115.8	115.8	110.6	110.6	110.6	104.9	104.9	104.9	98.4	98.4	98.4
			SHC	46.5	61.3	76.2	44.5	59.4	74.2	42.3	57.2	72.1	40.0	54.8	69.7
		76	TC	-	122.4	122.4	-	117.0	117.0	-	111.1	111.1	-	104.5	104.5
			SHC	-	49.8	66.1	-	47.8	63.9	-	45.7	61.6	-	43.4	59.0
3400 Cfm	EAT (wb)	58	TC	98.1	98.1	111.3	93.7	93.7	106.2	88.9	88.9	100.8	83.7	83.7	94.9
			SHC	85.0	98.1	111.3	81.2	93.7	106.2	77.0	88.9	100.8	72.5	83.7	94.9
		62	TC	100.0	100.0	112.3	94.9	94.9	108.6	89.1	89.1	104.9	83.8	83.8	98.7
			SHC	79.3	95.8	112.3	76.3	92.5	108.6	73.2	89.1	104.9	68.8	83.8	98.7
		67	TC	109.0	109.0	109.0	103.6	103.6	103.6	97.6	97.6	97.6	91.0	91.0	91.0
			SHC	63.9	80.5	97.2	61.8	78.5	95.2	59.4	76.1	92.9	56.8	73.5	90.3
		72	TC	117.9	117.9	117.9	112.5	112.5	112.5	106.6	106.6	106.6	100.0	100.0	100.0
			SHC	47.6	64.1	80.6	45.6	62.1	78.7	43.4	60.0	76.6	41.1	57.6	74.2
		76	TC	-	124.2	124.2	-	118.6	118.6	-	112.5	112.5	-	105.7	105.7
			SHC	-	51.2	69.0	-	49.2	66.7	-	47.0	64.4	-	44.7	61.9
3825 Cfm	EAT (wb)	58	TC	101.6	101.6	115.1	97.2	97.2	110.1	92.3	92.3	104.6	87.0	87.0	98.6
			SHC	88.0	101.6	115.1	84.2	97.2	110.1	80.0	92.3	104.6	75.4	87.0	98.6
		62	TC	101.9	101.9	120.0	97.3	97.3	114.6	92.4	92.4	108.9	87.1	87.1	102.6
			SHC	83.7	101.8	120.0	79.9	97.3	114.6	75.9	92.4	108.9	71.6	87.1	102.6
		67	TC	110.7	110.7	110.7	105.3	105.3	105.3	99.2	99.2	99.3	92.5	92.5	96.7
			SHC	66.7	85.0	103.4	64.6	83.0	101.5	62.2	80.8	99.3	59.6	78.2	96.7
		72	TC	119.4	119.4	119.4	114.0	114.0	114.0	108.0	108.0	108.0	101.3	101.3	101.3
			SHC	48.5	66.6	84.6	46.6	64.7	82.7	44.4	62.6	80.7	42.1	60.2	78.4
		76	TC	-	125.5	125.5	-	119.8	119.8	-	113.6	113.6	-	106.7	106.7
			SHC	-	52.4	71.5	-	50.4	69.3	-	48.2	67.0	-	45.9	64.4
4250 Cfm	EAT (wb)	58	TC	104.4	104.4	118.3	99.9	99.9	113.2	95.0	95.0	107.6	89.5	89.5	101.5
			SHC	90.4	104.4	118.3	86.6	99.9	113.2	82.3	95.0	107.6	77.6	89.5	101.5
		62	TC	104.4	104.4	123.0	99.9	99.9	117.8	95.0	95.0	112.0	89.6	89.6	105.6
			SHC	85.8	104.4	123.0	82.1	99.9	117.8	78.1	95.0	112.0	73.6	89.6	105.6
		67	TC	112.1	112.1	112.1	106.6	106.6	107.5	100.4	100.4	105.3	93.6	93.6	102.7
			SHC	69.2	89.2	109.2	67.2	87.3	107.5	64.9	85.1	105.3	62.3	82.5	102.7
		72	TC	120.7	120.7	120.7	115.1	115.1	115.1	109.0	109.0	109.0	102.2	102.2	102.2
			SHC	49.4	68.9	88.4	47.4	67.0	86.5	45.3	64.9	84.6	42.9	62.6	82.3
		76	TC	-	126.6	126.6	-	120.8	120.8	-	114.5	114.5	-	107.4	107.4
			SHC	-	53.5	73.9	-	51.5	71.7	-	49.3	69.4	-	46.9	66.8

LEGEND:

- Do not operate in this region
- 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

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TABLE 22 – COOLING CAPACITIES

2-STAGE COOLING

8.5 TONS

50TC*D09 (RTPF)			AMBIENT TEMPERATURE												
			85			95			105			115			
			EA (dB)			EA (dB)			EA (dB)			EA (dB)			
			75	80	85	75	80	85	75	80	85	75	80	85	
2550 Cfm	EAT (wb)	58	TC	89.7	89.7	101.6	85.2	85.2	96.5	79.6	79.6	90.1	73.8	73.8	83.6
		SHC	77.8	89.7	101.6	73.9	85.2	96.5	69.0	79.6	90.1	64.0	73.8	83.6	
		62	TC	94.3	94.3	97.9	88.7	88.7	95.2	81.3	81.3	91.5	74.3	74.3	86.5
		SHC	71.0	84.4	97.9	68.2	81.7	95.2	64.7	78.1	91.5	60.6	73.6	86.5	
		67	TC	105.0	105.0	105.0	99.3	99.3	99.3	92.2	92.2	92.2	84.1	84.1	84.1
		SHC	59.0	72.6	86.1	56.6	70.1	83.7	53.6	67.1	80.7	50.3	63.8	77.3	
		72	TC	115.9	115.9	115.9	110.4	110.4	110.4	104.2	104.2	104.2	96.0	96.0	96.0
		SHC	46.4	60.0	73.6	44.3	57.9	71.5	41.9	55.5	69.1	38.8	52.4	65.9	
		76	TC	-	123.7	123.7	-	118.3	118.3	-	112.4	112.4	-	105.7	105.7
		SHC	-	49.3	63.3	-	47.3	61.4	-	45.3	59.3	-	42.9	56.7	
2975 Cfm	EAT (wb)	58	TC	95.3	95.3	107.9	90.7	90.7	102.7	84.8	84.8	96.1	78.7	78.7	89.1
		SHC	82.6	95.3	107.9	78.6	90.7	102.7	73.5	84.8	96.1	68.2	78.7	89.1	
		62	TC	97.9	97.9	107.8	92.1	92.1	104.7	85.4	85.4	99.4	78.8	78.8	92.8
		SHC	76.7	92.2	107.8	73.9	89.3	104.7	69.6	84.5	99.4	64.8	78.8	92.8	
		67	TC	108.5	108.5	108.5	102.6	102.6	102.6	95.4	95.4	95.4	86.9	86.9	86.9
		SHC	62.8	78.4	94.1	60.4	76.0	91.7	57.4	73.1	88.8	54.0	69.7	85.3	
		72	TC	119.1	119.1	119.1	113.5	113.5	113.5	107.2	107.2	107.2	99.2	99.2	99.2
		SHC	47.9	63.5	79.2	45.8	61.5	77.1	43.5	59.2	74.9	40.6	56.3	72.0	
		76	TC	-	126.4	126.4	-	120.8	120.8	-	114.8	114.8	-	108.2	108.2
		SHC	-	51.1	67.4	-	49.2	65.3	-	47.0	63.0	-	44.8	60.7	
3400 Cfm	EAT (wb)	58	TC	100.0	100.0	113.3	95.2	95.2	107.9	89.3	89.3	101.1	82.9	82.9	93.9
		SHC	86.7	100.0	113.3	82.6	95.2	107.9	77.4	89.3	101.1	71.8	82.9	93.9	
		62	TC	101.1	101.1	115.8	95.7	95.7	111.7	89.4	89.4	105.3	83.0	83.0	97.7
		SHC	81.5	98.7	115.8	78.2	94.9	111.7	73.5	89.4	105.3	68.2	83.0	97.7	
		67	TC	111.1	111.1	111.1	105.1	105.1	105.1	97.8	97.8	97.8	89.1	89.1	93.0
		SHC	66.2	83.9	101.6	63.9	81.6	99.3	61.0	78.7	96.5	57.5	75.3	93.0	
		72	TC	121.3	121.3	121.3	115.6	115.6	115.6	109.4	109.4	109.4	101.5	101.5	101.5
		SHC	49.2	66.7	84.3	47.1	64.7	82.3	44.9	62.5	80.2	42.1	59.9	77.7	
		76	TC	-	128.3	128.3	-	122.6	122.6	-	116.3	116.3	-	109.7	109.7
		SHC	-	52.7	70.7	-	50.7	68.6	-	48.6	66.4	-	46.4	64.2	
3825 Cfm	EAT (wb)	58	TC	104.0	104.0	117.8	99.1	99.1	112.3	93.2	93.2	105.5	86.5	86.5	97.9
		SHC	90.2	104.0	117.8	86.0	99.1	112.3	80.8	93.2	105.5	75.0	86.5	97.9	
		62	TC	104.2	104.2	122.7	99.3	99.3	116.9	93.3	93.3	109.8	86.6	86.6	101.9
		SHC	85.7	104.2	122.7	81.7	99.3	116.9	76.7	93.3	109.8	71.2	86.6	101.9	
		67	TC	113.1	113.1	113.1	107.1	107.1	107.1	99.9	99.9	103.8	91.0	91.0	100.3
		SHC	69.4	89.1	108.8	67.1	86.8	106.5	64.3	84.1	103.8	60.9	80.6	100.3	
		72	TC	123.0	123.0	123.0	117.2	117.2	117.2	110.9	110.9	110.9	103.3	103.3	103.3
		SHC	50.3	69.7	89.0	48.3	67.7	87.1	46.1	65.6	85.2	43.5	63.3	83.0	
		76	TC	-	129.7	129.7	-	124.0	124.0	-	117.5	117.5	-	110.8	110.8
		SHC	-	54.0	73.7	-	52.1	71.7	-	50.0	69.5	-	47.8	67.4	
4250 Cfm	EAT (wb)	58	TC	107.4	107.4	121.7	102.5	102.5	116.1	96.5	96.5	109.3	89.5	89.5	101.4
		SHC	93.1	107.4	121.7	88.9	102.5	116.1	83.7	96.5	109.3	77.6	89.5	101.4	
		62	TC	107.5	107.5	126.6	102.6	102.6	120.8	96.6	96.6	113.7	89.6	89.6	105.5
		SHC	88.4	107.5	126.6	84.4	102.6	120.8	79.5	96.6	113.7	73.7	89.6	105.5	
		67	TC	114.7	114.7	115.6	108.7	108.7	113.5	101.7	101.7	110.8	92.6	92.6	107.2
		SHC	72.5	94.0	115.6	70.2	91.8	113.5	67.5	89.2	110.8	64.0	85.6	107.2	
		72	TC	124.3	124.3	124.3	118.5	118.5	118.5	112.1	112.1	112.1	104.7	104.7	104.7
		SHC	51.3	72.4	93.4	49.3	70.5	91.7	47.2	68.5	89.9	44.7	66.4	88.1	
		76	TC	-	130.7	130.7	-	125.0	125.0	-	118.5	118.5	-	111.6	111.6
		SHC	-	55.3	76.5	-	53.5	74.6	-	51.3	72.4	-	49.2	70.3	

LEGEND:

- Do not operate in this region
- 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

50TC09 COOLING CAPACITIES, UNIT WITH HUMIDI-MIZER SYSTEM IN SUBCOOLING MODE										
TEMP (F) AIR ENT CONDENSER (Edb)		AIR ENTERING EVAPORATOR – CFM								
		2550/0.04			3400/0.05			4250/0.07		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	119.20	107.44	96.41	126.95	114.98	103.92	131.87	119.81	109.54
	SHC	50.63	63.94	77.40	59.17	76.72	94.21	66.80	88.44	108.22
	kW	5.67	5.57	5.47	5.54	5.63	5.74	5.79	5.68	5.59
85	TC	110.40	99.22	88.76	117.63	106.26	95.77	122.21	110.77	101.07
	SHC	42.39	56.16	70.07	50.42	68.45	86.38	57.71	79.86	99.95
	kW	6.33	6.23	6.14	6.20	6.30	6.40	6.45	6.34	6.25
95	TC	101.37	90.79	80.86	108.07	97.31	87.39	112.29	101.47	92.38
	SHC	33.97	48.22	62.56	41.46	60.01	78.39	48.40	71.09	91.47
	kW	7.08	6.99	6.90	6.96	7.05	7.16	7.20	7.09	7.01
105	TC	92.04	82.06	72.71	98.19	88.05	78.72	102.07	91.86	83.40
	SHC	25.31	40.06	54.88	32.24	51.33	70.17	38.85	62.06	82.67
	kW	7.94	7.85	7.77	7.83	7.91	8.01	8.06	7.95	7.87
115	TC	82.37	73.01	64.24	87.95	78.45	69.73	91.46	81.90	74.09
	SHC	16.38	31.65	46.95	22.71	42.37	61.69	28.94	52.74	73.52
	kW	8.92	8.84	8.77	8.82	8.89	8.98	9.02	8.93	8.86

50TC

50TC09 COOLING CAPACITIES, UNIT WITH HUMIDI-MIZER SYSTEM IN HOT GAS REHEAT MODE										
TEMP (F) AIR ENT CONDENSER (Edb)		AIR ENTERING EVAPORATOR – Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator – Cfm								
		2550	3400	4250	2550	3400	4250	2550	3400	4250
80	TC	37.61	33.13	26.77	44.74	41.60	36.46	50.96	48.99	44.93
	SHC	-0.52	-0.63	-0.73	-0.46	-0.57	-0.67	-0.42	-0.53	-0.62
	kW	5.88	5.68	5.44	6.13	5.97	5.76	6.35	6.24	6.06
75	TC	38.71	34.24	27.86	45.84	42.73	37.59	52.05	50.11	46.06
	SHC	0.45	0.34	0.25	0.50	0.40	0.31	0.54	0.44	0.36
	kW	5.68	5.47	5.22	5.94	5.78	5.56	6.18	6.07	5.88
70	TC	39.70	35.25	28.83	46.80	43.70	38.59	52.97	51.04	47.02
	SHC	1.41	1.32	1.23	1.47	1.37	1.29	1.50	1.41	1.34
	kW	5.65	5.42	5.24	5.97	5.79	5.53	6.26	6.13	5.91
60	TC	41.77	37.33	30.76	48.86	45.80	40.71	55.00	53.10	49.12
	SHC	3.34	3.26	3.18	3.40	3.32	3.25	3.43	3.36	3.29
	kW	5.42	5.15	5.17	5.80	5.59	5.30	6.16	6.01	5.75
50	TC	43.83	39.27	32.61	50.92	47.89	42.70	57.04	55.16	51.22
	SHC	5.27	5.21	5.14	5.32	5.27	5.21	5.36	5.31	5.25
	kW	5.18	5.15	5.17	5.62	5.39	5.05	6.04	5.87	5.59
40	TC	45.75	41.13	34.50	53.08	50.00	44.64	59.24	57.40	53.44
	SHC	7.20	7.15	6.95	7.26	7.21	7.16	7.29	7.25	7.21
	kW	4.79	4.98	4.80	5.25	5.01	5.23	5.68	5.51	5.21

NOTE: Humidi-MiZer only available on 2-stage RTPF models.

LEGEND

- Edb** – Entering Dry-Bulb
- Ewb** – Entering Wet-Bulb
- kW** – Compressor Motor Power Input
- ldb** – Leaving Dry-Bulb
- lwb** – Leaving Wet-Bulb
- SHC** – Sensible Heat Capacity (1000 Btuh) Gross
- TC** – Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

Table 24 – COOLING CAPACITIES

1-STAGE COOLING

10 TONS

50TC

50TC*A12 (RTPF)			AMBIENT TEMPERATURE												
			85			95			105			115			
			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
			75	80	85	75	80	85	75	80	85	75	80	85	
3000 Cfm	EAT (wb)	58	TC	106.3	106.3	120.5	101.7	101.7	115.2	96.6	96.6	109.4	91.0	91.0	103.1
			SHC	92.2	106.3	120.5	88.2	101.7	115.2	83.8	96.6	109.4	78.9	91.0	103.1
		62	TC	112.5	112.5	115.2	106.5	106.5	112.3	99.9	99.9	109.0	92.7	92.7	105.2
			SHC	83.8	99.5	115.2	81.0	96.6	112.3	77.8	93.4	109.0	74.2	89.7	105.2
		67	TC	123.5	123.5	123.5	117.8	117.8	117.8	111.3	111.3	111.3	104.0	104.0	104.0
			SHC	69.2	85.0	100.7	66.8	82.5	98.3	64.1	79.8	95.5	61.0	76.8	92.5
		72	TC	134.3	134.3	134.3	128.5	128.5	128.5	122.0	122.0	122.0	114.7	114.7	114.7
			SHC	53.8	69.6	85.5	51.6	67.4	83.2	49.1	64.9	80.7	46.3	62.1	77.9
		76	TC	-	142.4	142.4	-	136.3	136.3	-	129.5	129.5	-	121.8	121.8
			SHC	-	56.8	73.3	-	54.7	71.2	-	52.3	68.8	-	49.7	66.2
3500 Cfm	EAT (wb)	58	TC	112.9	112.9	127.8	108.0	108.0	122.3	102.7	102.7	116.3	96.8	96.8	109.7
			SHC	97.9	112.9	127.8	93.6	108.0	122.3	89.0	102.7	116.3	83.9	96.8	109.7
		62	TC	116.3	116.3	126.2	110.5	110.5	123.3	103.8	103.8	119.5	97.1	97.1	114.3
			SHC	90.2	108.2	126.2	87.4	105.3	123.3	84.0	101.8	119.5	79.8	97.1	114.3
		67	TC	126.9	126.9	126.9	120.9	120.9	120.9	114.3	114.3	114.3	106.8	106.8	106.8
			SHC	73.2	91.3	109.4	70.8	88.9	107.1	68.1	86.2	104.4	65.0	83.2	101.3
		72	TC	137.5	137.5	137.5	131.4	131.4	131.4	124.7	124.7	124.7	117.2	117.2	117.2
			SHC	55.3	73.4	91.5	53.1	71.1	89.2	50.6	68.7	86.7	47.8	65.9	83.9
		76	TC	-	145.1	145.1	-	138.8	138.8	-	131.7	131.7	-	123.6	123.6
			SHC	-	59.0	78.2	-	56.7	75.8	-	54.3	73.1	-	51.5	70.0
4000 Cfm	EAT (wb)	58	TC	117.8	117.8	133.5	113.0	113.0	128.0	107.5	107.5	121.8	101.5	101.5	115.0
			SHC	102.2	117.8	133.5	98.0	113.0	128.0	93.3	107.5	121.8	88.0	101.5	115.0
		62	TC	119.1	119.1	136.0	113.5	113.5	132.5	107.7	107.7	126.7	101.6	101.6	119.6
			SHC	95.8	115.9	136.0	92.8	112.6	132.5	88.6	107.7	126.7	83.6	101.6	119.6
		67	TC	129.4	129.4	129.4	123.3	123.3	123.3	116.5	116.5	116.5	108.9	108.9	109.8
			SHC	76.9	97.3	117.7	74.5	95.0	115.4	71.8	92.3	112.8	68.8	89.3	109.8
		72	TC	139.7	139.7	139.7	133.5	133.5	133.5	126.6	126.6	126.6	118.8	118.8	118.8
			SHC	56.7	76.8	97.0	54.4	74.6	94.7	51.9	72.1	92.3	49.1	69.3	89.5
		76	TC	-	147.0	147.0	-	140.5	140.5	-	133.2	133.2	-	124.9	124.9
			SHC	-	60.6	81.7	-	58.4	79.3	-	55.8	76.5	-	53.0	73.5
4500 Cfm	EAT (wb)	58	TC	121.7	121.7	137.9	116.8	116.8	132.3	111.2	111.2	126.0	105.0	105.0	118.9
			SHC	105.6	121.7	137.9	101.3	116.8	132.3	96.4	111.2	126.0	91.0	105.0	118.9
		62	TC	121.8	121.8	143.4	116.9	116.9	137.6	111.3	111.3	131.0	105.1	105.1	123.7
			SHC	100.2	121.8	143.4	96.1	116.9	137.6	91.6	111.3	131.0	86.5	105.1	123.7
		67	TC	131.3	131.3	131.3	125.1	125.1	125.1	118.2	118.2	120.8	110.5	110.5	117.7
			SHC	80.3	102.9	125.5	78.0	100.7	123.3	75.3	98.0	120.8	72.3	95.0	117.7
		72	TC	141.5	141.5	141.5	135.1	135.1	135.1	128.0	128.0	128.0	120.1	120.1	120.1
			SHC	57.9	80.0	102.1	55.6	77.7	99.9	53.1	75.2	97.4	50.3	72.4	94.6
		76	TC	-	148.3	148.3	-	141.8	141.8	-	134.3	134.3	-	125.8	125.8
			SHC	-	62.1	84.9	-	59.8	82.5	-	57.3	79.7	-	54.4	76.6
5000 Cfm	EAT (wb)	58	TC	125.0	125.0	141.6	120.0	120.0	135.9	114.3	114.3	129.5	107.9	107.9	122.3
			SHC	108.4	125.0	141.6	104.0	120.0	135.9	99.1	114.3	129.5	93.6	107.9	122.3
		62	TC	125.1	125.1	147.2	120.1	120.1	141.4	114.4	114.4	134.7	108.0	108.0	127.2
			SHC	102.9	125.1	147.2	98.8	120.1	141.4	94.1	114.4	134.7	88.9	108.0	127.2
		67	TC	132.8	132.8	133.0	126.5	126.5	130.8	119.6	119.6	128.2	111.8	111.8	125.1
			SHC	83.6	108.3	133.0	81.2	106.0	130.8	78.6	103.4	128.2	75.6	100.3	125.1
		72	TC	142.8	142.8	142.8	136.3	136.3	136.3	129.1	129.1	129.1	121.1	121.1	121.1
			SHC	59.0	82.9	106.9	56.7	80.7	104.7	54.1	78.2	102.2	51.3	75.4	99.4
		76	TC	-	149.4	149.4	-	142.8	142.8	-	135.1	135.1	-	126.5	126.5
			SHC	-	63.4	87.9	-	61.2	85.5	-	58.6	82.7	-	55.6	79.4

LEGEND:

- Do not operate in this region
- 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

10 TONS

50TC*D12 (RTPF & Novation)			AMBIENT TEMPERATURE												
			85			95			105			115			
			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
			75	80	85	75	80	85	75	80	85	75	80	85	
3000 Cfm	EAT (wb)	58	TC	107.6	107.6	121.9	102.5	102.5	116.2	96.8	96.8	109.7	90.5	90.5	102.6
			SHC	93.2	107.6	121.9	88.8	102.5	116.2	83.9	96.8	109.7	78.4	90.5	102.6
		62	TC	113.6	113.6	116.5	107.1	107.1	113.4	99.7	99.7	109.8	91.8	91.8	104.9
			SHC	84.6	100.6	116.5	81.5	97.4	113.4	78.0	93.9	109.8	73.7	89.3	104.9
		67	TC	124.4	124.4	124.4	118.4	118.4	118.4	111.5	111.5	111.5	103.3	103.3	103.3
			SHC	69.7	85.7	101.7	67.1	83.2	99.2	64.3	80.3	96.3	60.8	76.8	92.8
		72	TC	135.8	135.8	135.8	129.7	129.7	129.7	122.8	122.8	122.8	115	115	115
			SHC	54.3	70.4	86.6	52.0	68.1	84.2	49.3	65.4	81.6	46.4	62.5	78.6
		76	TC	-	145.3	145.3	-	139	139	-	131.9	131.9	-	124.1	124.1
			SHC	-	57.8	74.3	-	55.6	72.1	-	53.1	69.6	-	50.4	66.9
3500 Cfm	EAT (wb)	58	TC	114.2	114.2	129.4	108.9	108.9	123.4	102.9	102.9	116.6	96.3	96.3	109.1
			SHC	98.9	114.2	129.4	94.3	108.9	123.4	89.1	102.9	116.6	83.4	96.3	109.1
		62	TC	117.2	117.2	127.9	111.0	111.0	124.7	104.0	104.0	119.5	96.5	96.5	113.7
			SHC	91.1	109.5	127.9	88.1	106.4	124.7	83.9	101.7	119.5	79.3	96.5	113.7
		67	TC	127.8	127.8	127.8	121.7	121.7	121.7	114.5	114.5	114.5	106.6	106.6	106.6
			SHC	73.8	92.3	110.8	71.3	89.8	108.3	68.4	87.0	105.5	65.2	83.8	102.3
		72	TC	139.4	139.4	139.4	133.0	133.0	133	125.8	125.8	125.8	117.9	117.9	117.9
			SHC	56.0	74.6	93.1	53.7	72.2	90.8	51.0	69.6	88.2	48.1	66.7	85.4
		76	TC	-	148.8	148.8	-	142.2	142.2	-	134.9	134.9	-	126.8	126.8
			SHC	-	60.2	79.5	-	58.0	77.1	-	55.4	74.5	-	52.7	71.6
4000 Cfm	EAT (wb)	58	TC	119.0	119.0	134.9	114.0	114.0	129.2	108.0	108.0	122.4	101.1	101.1	114.6
			SHC	103.1	119.0	134.9	98.7	114.0	129.2	93.6	108.0	122.4	87.6	101.1	114.6
		62	TC	120.3	120.3	137.1	114.7	114.7	132.8	108.2	108.2	127.5	101.3	101.3	119.3
			SHC	96.5	116.8	137.1	93.0	112.9	132.8	88.9	108.2	127.5	83.2	101.3	119.3
		67	TC	130.5	130.5	130.5	124.1	124.1	124.1	116.8	116.8	116.8	108.7	108.7	111.1
			SHC	77.7	98.6	119.5	75.2	96.2	117.2	72.3	93.3	114.4	69.1	90.1	111.1
		72	TC	142.1	142.1	142.1	135.5	135.5	135.5	128.2	128.2	128.2	120.0	120.0	120.0
			SHC	57.6	78.4	99.3	55.2	76.1	97.1	52.5	73.6	94.6	49.7	70.7	91.8
		76	TC	-	151.4	151.4	-	144.7	144.7	-	137.1	137.1	-	-	-
			SHC	-	62.3	83.8	-	60.0	81.4	-	57.5	78.8	-	-	-
4500 Cfm	EAT (wb)	58	TC	123.0	123.0	139.5	117.8	117.8	133.6	111.9	111.9	126.9	105.3	105.3	119.3
			SHC	106.6	123.0	139.5	102.1	117.8	133.6	97.0	111.9	126.9	91.2	105.3	119.3
		62	TC	123.4	123.4	144.4	117.9	117.9	139.0	112.0	112.0	132.0	105.4	105.4	124.2
			SHC	100.9	122.7	144.4	96.9	117.9	139	92.1	112.0	132	86.6	105.4	124.2
		67	TC	132.6	132.6	132.6	126.0	126	126.0	118.7	118.7	122.9	110.4	110.4	119.6
			SHC	81.4	104.6	127.9	78.9	102.3	125.7	76.1	99.5	122.9	72.9	96.2	119.6
		72	TC	144.2	144.2	144.2	137.4	137.4	137.4	129.9	129.9	129.9	121.6	121.6	121.6
			SHC	59.0	82.1	105.2	56.6	79.8	103.1	54.0	77.3	100.7	51.1	74.5	98
		76	TC	-	153.4	153.4	-	146.6	146.6	-	138.9	138.9	-	-	-
			SHC	-	64.1	87.8	-	61.9	85.6	-	59.4	83	-	-	-
5000 Cfm	EAT (wb)	58	TC	126.5	126.5	143.3	121.2	121.2	137.4	115.1	115.1	130.5	108.4	108.4	122.8
			SHC	109.6	126.5	143.3	105.0	121.2	137.4	99.8	115.1	130.5	93.9	108.4	122.8
		62	TC	126.5	126.5	149.1	121.3	121.3	142.9	115.2	115.2	135.8	108.5	108.5	127.8
			SHC	104.0	126.5	149.1	99.7	121.3	142.9	94.7	115.2	135.8	89.1	108.5	127.8
		67	TC	134.2	134.2	135.9	127.5	127.5	133.8	120.1	120.1	131.0	111.9	111.9	127.6
			SHC	84.9	110.4	135.9	82.4	108.1	133.8	79.6	105.3	131	76.4	102.0	127.6
		72	TC	145.8	145.8	145.8	139.0	139.0	139.0	131.3	131.3	131.3	122.9	122.9	122.9
			SHC	60.3	85.6	110.8	57.9	83.4	108.9	55.3	81.0	106.6	52.5	78.2	104
		76	TC	-	155.1	155.1	-	148.2	148.2	-	-	-	-	-	-
			SHC	-	65.9	91.5	-	63.7	89.5	-	-	-	-	-	-

LEGEND:

- Do not operate in this region
- 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

50TC



50TC12 COOLING CAPACITIES, UNIT WITH HUMIDI-MIZER SYSTEM IN SUBCOOLING MODE

TEMP (F) AIR ENT CONDENSER (Edb)		AIR ENTERING EVAPORATOR – CFM								
		3000/0.04			4000/0.06			5000/0.07		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	142.85	129.44	116.93	152.09	138.44	125.76	157.99	144.23	132.06
	SHC	58.38	74.88	91.58	67.96	89.45	111.02	76.63	102.94	127.93
	kW	7.19	6.97	6.79	6.92	7.12	7.35	7.45	7.22	7.02
85	TC	132.33	119.68	107.86	140.92	128.03	116.10	146.41	133.41	121.98
	SHC	48.44	65.56	82.83	57.37	79.50	101.68	65.65	92.58	118.12
	kW	7.98	7.77	7.58	7.72	7.92	8.14	8.25	8.01	7.82
95	TC	121.41	109.52	98.43	129.35	117.22	106.04	134.43	122.20	111.50
	SHC	38.19	55.92	73.78	46.47	69.22	92.01	54.34	81.92	107.96
	kW	8.87	8.66	8.48	8.61	8.80	9.03	9.14	8.90	8.71
105	TC	110.04	98.92	88.56	117.27	105.94	95.53	121.88	110.46	100.54
	SHC	27.59	45.94	64.39	35.16	58.57	81.98	42.56	70.82	97.40
	kW	9.86	9.66	9.48	9.61	9.79	10.02	10.12	9.89	9.70
115	TC	98.09	87.74	78.13	104.62	94.08	84.45	108.76	98.13	89.01
	SHC	16.52	35.47	54.53	23.37	47.44	71.46	30.32	59.25	86.31
	kW	10.95	10.76	10.60	10.72	10.89	11.10	11.19	10.98	10.81

50TC12 COOLING CAPACITIES, UNIT WITH HUMIDI-MIZER SYSTEM IN HOT GAS REHEAT MODE

TEMP (F) AIR ENT CONDENSER (Edb)		AIR ENTERING EVAPORATOR – Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator – Cfm								
		3000	4000	5000	3000	4000	5000	3000	4000	5000
80	TC	44.78	39.41	31.89	53.22	49.44	43.38	60.56	58.12	53.32
	SHC	-0.44	-0.57	-0.69	-0.37	-0.51	-0.61	-0.33	-0.46	-0.56
	kW	6.96	6.77	6.52	7.26	7.13	6.91	7.54	7.45	7.27
75	TC	45.84	40.46	32.86	54.28	50.51	44.45	61.61	59.19	54.40
	SHC	0.53	0.40	0.29	0.60	0.47	0.37	0.64	0.52	0.42
	kW	6.77	6.56	6.29	7.11	6.95	6.72	7.41	7.31	7.12
70	TC	46.91	41.48	33.50	55.36	51.59	45.50	62.69	60.28	55.49
	SHC	1.51	1.38	1.27	1.57	1.45	1.35	1.61	1.50	1.40
	kW	6.54	6.32	6.02	6.90	6.74	6.49	7.23	7.13	6.92
60	TC	48.88	43.42	35.76	57.29	53.56	47.48	64.56	62.16	57.42
	SHC	3.44	3.34	3.24	3.51	3.40	3.31	3.55	3.45	3.37
	kW	6.45	6.16	6.70	6.93	6.72	6.39	7.38	7.24	6.96
50	TC	50.83	45.28	37.67	59.22	55.52	49.43	66.05	64.03	59.34
	SHC	5.38	5.29	5.20	5.45	5.36	5.28	5.48	5.40	5.33
	kW	6.46	6.01	6.34	6.98	6.71	6.29	8.15	7.38	7.02
40	TC	52.82	47.29	39.50	61.14	57.48	51.39	68.23	65.88	61.25
	SHC	7.32	7.24	7.20	7.38	7.31	7.24	7.43	7.36	7.29
	kW	6.29	6.09	6.12	7.05	6.72	6.29	7.78	7.55	7.10

NOTE: Humidi-MiZer only available on 2-stage RTPF models.

LEGEND

- Edb – Entering Dry-Bulb
- Ewb – Entering Wet-Bulb
- kW – Compressor Motor Power Input
- ldb – Leaving Dry-Bulb
- lwb – Leaving Wet-Bulb
- SHC – Sensible Heat Capacity (1000 Btuh) Gross
- TC – Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

50TC

Table 27 – COOLING CAPACITIES

2-STAGE COOLING

12.5 TONS

50TC*D14 (RTPF & Novation)			AMBIENT TEMPERATURE												
			85			95			105			115			
			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
			75	80	85	75	80	85	75	80	85	75	80	85	
3600 Cfm	EAT (wb)	58	TC	127.6	127.6	142.9	121.7	121.7	137.6	115.0	115.0	130	108.3	108.3	122.6
			SHC	110.3	126.6	142.9	105.8	121.7	137.6	99.9	115.0	130	94.1	108.3	122.6
		62	TC	136.1	136.1	136.1	131.1	131.1	131.1	123.8	123.8	124.5	114.9	114.9	120.3
			SHC	96.6	112.8	129.0	94.7	111.2	127.7	91.4	108.0	124.5	87.3	103.8	120.3
		67	TC	146.2	146.2	146.2	142.0	142.0	142.0	136.2	136.2	136.2	128.8	128.8	128.8
			SHC	78.5	94.4	110.3	76.9	93.1	109.2	74.7	91.0	107.3	71.7	88.1	104.6
		72	TC	155.9	155.9	155.9	152.4	152.4	152.4	147.2	147.2	147.2	140.1	140.1	140.1
			SHC	60.1	76.6	93.2	58.7	75.2	91.7	56.8	73.3	89.7	54.2	70.6	87.0
		76	TC	-	163.0	163	-	160.0	160	-	155.1	155.1	-	148.2	148.2
			SHC	-	62.0	81.8	-	61.1	80.9	-	59.5	79.3	-	57.0	76.3
4200 Cfm	EAT (wb)	58	TC	132.2	132.2	149.5	128.2	128.2	144.9	121.9	121.9	137.8	115.0	115.0	130.1
			SHC	115.0	132.2	149.5	111.5	128.2	144.9	106.0	121.9	137.8	99.9	115.0	130.1
		62	TC	139.6	139.6	139.6	134.7	134.7	138	128.0	128.0	135.6	119.1	119.1	131.2
			SHC	102.5	120.8	139	100.8	119.4	138	98.1	116.8	135.6	93.9	112.6	131.2
		67	TC	149.5	149.5	149.5	145.4	145.4	145.4	139.6	139.6	139.6	132.1	132.1	132.1
			SHC	81.8	99.6	117.4	80.6	98.7	116.8	78.5	96.9	115.2	75.7	94.3	112.8
		72	TC	159.0	159.0	159.0	155.5	155.5	155.5	150.3	150.3	150.3	143.1	143.1	143.1
			SHC	61.4	79.6	97.8	60.2	78.5	96.8	58.3	76.7	95	55.8	74.2	92.5
		76	TC	-	165.7	165.7	-	162.8	162.8	-	157.8	157.8	-	150.8	150.8
			SHC	-	64.6	87.7	-	63.5	86.3	-	61.5	83.3	-	58.9	79.9
4800 Cfm	EAT (wb)	58	TC	136.7	136.7	154.5	133.0	133.0	150.3	127.7	127.7	144.3	120.6	120.6	136.4
			SHC	118.9	136.7	154.5	115.7	133.0	150.3	111.0	127.7	144.3	104.9	120.6	136.4
		62	TC	142.2	142.2	147.8	137.4	137.4	147.1	131.0	131.0	144.7	122.8	122.8	140.3
			SHC	107.7	127.8	147.8	106.2	126.7	147.1	103.6	124.2	144.7	99.3	119.8	140.3
		67	TC	152.1	152.1	152.1	148.0	148	148	142.2	142.2	142.2	134.6	134.6	134.6
			SHC	84.8	104.3	123.7	83.8	103.8	123.7	82.0	102.3	122.6	79.4	99.9	120.4
		72	TC	161.3	161.3	161.3	157.8	157.8	157.8	152.5	152.5	152.5	145.4	145.4	145.4
			SHC	62.6	82.2	101.9	61.4	81.4	101.3	59.7	79.7	99.8	57.2	77.3	97.5
		76	TC	-	167.7	167.7	-	164.9	164.9	-	159.9	159.9	-	152.8	152.8
			SHC	-	66.4	91.4	-	65	89.2	-	63.1	86.4	-	60.5	83.1
5400 Cfm	EAT (wb)	58	TC	140.5	140.5	158.8	136.9	136.9	154.7	131.8	131.8	149	125.2	125.2	141.6
			SHC	122.2	140.5	158.8	119	136.9	154.7	114.7	131.8	149	108.9	125.2	141.6
		62	TC	144.3	144.3	155.7	139.6	139.6	155	133.5	133.5	152.4	125.8	125.8	147.8
			SHC	112.2	133.9	155.7	110.9	132.9	155	108.1	130.2	152.4	103.9	125.8	147.8
		67	TC	154.2	154.2	154.2	150.0	150.0	150.0	144.2	144.2	144.2	136.7	136.7	136.7
			SHC	87.6	108.6	129.6	86.8	108.5	130.1	85.2	107.3	129.4	82.8	105.1	127.4
		72	TC	163.1	163.1	163.1	159.7	159.7	159.7	154.3	154.3	154.3	147.1	147.1	147.1
			SHC	63.6	84.6	105.6	62.5	83.9	105.4	60.8	82.5	104.2	58.4	80.2	102
		76	TC	-	169.3	169.3	-	166.5	166.5	-	161.5	161.5	-	154.2	154.2
			SHC	-	67.6	93.7	-	66.4	91.7	-	64.5	89.2	-	61.9	86.1
6000 Cfm	EAT (wb)	58	TC	143.6	143.6	162.3	140.1	140.1	158.3	135.1	135.1	152.7	128.7	128.7	145.5
			SHC	124.9	143.6	162.3	121.8	140.1	158.3	117.5	135.1	152.7	111.9	128.7	145.5
		62	TC	146.1	146.1	162.4	141.7	141.7	161.5	135.6	135.6	159.2	128.8	128.8	151.2
			SHC	116.1	139.3	162.4	114.7	138.1	161.5	112.1	135.6	159.2	106.4	128.8	151.2
		67	TC	155.8	155.8	155.8	151.6	151.6	151.6	145.9	145.9	145.9	138.3	138.3	138.3
			SHC	90.1	112.6	135	89.6	112.8	136	88.3	112.0	135.8	85.9	110.0	134.1
		72	TC	164.5	164.5	164.5	161.2	161.2	161.2	155.8	155.8	155.8	148.5	148.5	148.5
			SHC	64.5	86.7	108.9	63.5	86.3	109.1	61.9	85.1	108.2	59.6	82.9	106.3
		76	TC	-	170.6	170.6	-	167.8	167.8	-	162.8	162.8	-	155.5	155.5
			SHC	-	68.7	95.8	-	67.5	94.1	-	65.7	91.8	-	63.3	88.8

LEGEND:

- Do not operate in this region
- 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

50TC



50TC14 COOLING CAPACITIES, UNIT WITH HUMIDI-MIZER SYSTEM IN SUBCOOLING MODE

TEMP (F) AIR ENT CONDENSER (Edb)		AIR ENTERING EVAPORATOR – CFM/BF								
		3750/0.02			5000/0.06			6250/0.05		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	183.66	166.86	151.43	194.90	177.83	162.05	201.97	184.84	170.53
	SHC	79.39	100.52	121.91	91.70	119.42	147.05	102.94	137.00	166.71
	kW	9.82	9.63	9.46	9.58	9.76	9.96	10.04	9.84	9.67
85	TC	172.71	156.78	142.09	183.32	167.13	152.17	189.98	173.73	160.25
	SHC	69.03	90.92	112.95	80.69	109.17	137.51	91.49	126.33	156.65
	kW	10.82	10.63	10.45	10.57	10.76	10.96	11.04	10.84	10.67
95	TC	161.37	146.24	132.38	171.36	156.04	141.86	177.62	162.22	149.50
	SHC	58.44	81.04	103.77	69.42	98.67	127.71	79.83	115.45	146.15
	kW	11.92	11.73	11.56	11.68	11.86	12.05	12.14	11.93	11.77
105	TC	149.57	135.32	122.21	158.89	144.45	131.10	164.74	150.27	138.35
	SHC	47.57	70.92	94.32	57.85	87.91	117.61	67.79	104.26	135.30
	kW	13.12	12.94	12.77	12.89	13.06	13.24	13.32	13.13	12.97
115	TC	137.22	123.88	111.55	145.85	132.33	119.84	151.27	137.71	126.67
	SHC	36.31	60.47	84.57	45.87	76.77	107.19	55.34	92.66	123.98
	kW	14.41	14.25	14.10	14.20	14.35	14.53	14.59	14.42	14.28

50TC

50 TC14 COOLING CAPACITIES, UNIT WITH HUMIDI-MIZER SYSTEM IN HOT GAS REHEAT MODE

TEMP (F) AIR ENT CONDENSER (Edb)		AIR ENTERING EVAPORATOR – Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator – Cfm								
		3750	5000	6250	3750	5000	6250	3750	5000	6250
80	TC	52.42	45.88	36.99	62.64	58.07	51.07	71.56	68.64	63.23
	SHC	-0.39	-0.54	-0.67	-0.31	-0.46	-0.58	-0.26	-0.40	-0.52
	kW	9.65	9.39	9.07	9.97	9.77	9.50	10.25	10.11	9.89
75	TC	53.45	46.63	36.10	63.77	59.11	51.87	72.76	69.80	64.31
	SHC	0.59	0.44	0.30	0.67	0.52	0.40	0.72	0.58	0.47
	kW	9.09	8.83	8.49	9.39	9.20	8.94	9.67	9.53	9.32
70	TC	54.33	46.91	37.58	64.77	60.01	52.30	73.80	70.80	65.24
	SHC	1.56	1.41	1.29	1.64	1.50	1.38	1.70	1.56	1.45
	kW	8.81	8.53	8.62	9.15	8.94	8.65	9.46	9.31	9.08
60	TC	55.47	49.48	40.48	66.62	62.07	54.88	75.68	72.76	67.28
	SHC	3.50	3.38	3.27	3.59	3.47	3.36	3.65	3.52	3.42
	kW	8.36	8.84	8.98	9.88	9.56	9.10	9.83	9.64	9.31
50	TC	58.33	51.72	42.81	68.72	63.93	55.84	77.74	74.77	69.24
	SHC	5.47	5.35	5.24	5.54	5.43	5.32	5.60	5.49	5.39
	kW	8.98	9.25	9.43	9.33	8.97	8.73	9.55	9.33	9.70
40	TC	60.33	53.69	46.89	70.67	65.93	49.83	79.46	76.62	71.24
	SHC	7.42	7.31	7.22	7.49	7.39	7.23	7.55	7.45	7.37
	kW	9.16	9.88	9.06	9.50	9.05	9.47	10.31	10.00	9.48

NOTE: Humidi-MiZer only available on 2-stage RTPF models.

LEGEND

- Edb – Entering Dry-Bulb
- Ewb – Entering Wet-Bulb
- kW – Compressor Motor Power Input
- ldb – Leaving Dry-Bulb
- lwb – Leaving Wet-Bulb
- SHC – Sensible Heat Capacity (1000 Btuh) Gross
- TC – Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

$$t_{lwb} = \text{Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil } (h_{lwb})$$

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

Table 29 – STATIC PRESSURE ADDERS (Factory Options and/or Accessories)

Economizer

3 – 6 TONS												
CFM (in. wg)	600	800	1000	1250	1500	1750	2000	2250	2500	2750	3000	
Vertical Economizer	0.01	0.02	0.04	0.05	0.07	0.09	0.12	0.15	0.18	0.22	0.26	
Horizontal Economizer	0.02	0.03	0.04	0.06	0.08	0.10	0.13	0.15	0.18	0.23	0.28	

7.5 – 12.5 TONS																
CFM (in. wg)	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000
Vertical Economizer	0.06	0.08	0.09	0.12	0.13	0.15	0.17	0.20	0.22	0.25	0.29	0.33	0.36	0.40	0.44	0.48
Horizontal Economizer	0.08	0.10	0.13	0.15	0.18	0.21	0.25	0.28	0.30	0.34	0.39	0.43	0.47	0.51	0.56	0.60

Electric Heaters

3 – 6 TONS										
CFM (in. wg)	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

7.5 – 12.5 TONS																
CFM (in. wg)	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000
1 Electric Heater Module	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.15	0.16	0.18
2 Electric Heater Modules	0.04	0.05	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.15	0.16	0.17	0.19	0.20

Humidi-MiZer

3–6 TONS									
CFM (in. wg)	1000	1250	1500	1750	2000	2250	2500	2750	3000
3 Tons	0.04	0.052	0.07	–	–	–	–	–	–
4 Tons	–	0.106	0.138	0.172	0.21	–	–	–	–
5 Tons	–	–	0.138	0.172	0.21	0.252	0.30	–	–
6 Tons	–	–	–	0.112	0.125	0.161	0.19	0.22	0.25

7.5–12.5 TONS																
CFM (in. wg)	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000
7.5 Tons	0.12	0.14	0.16	0.19	0.21	0.23	0.26	–	–	–	–	–	–	–	–	–
8.5 Tons	–	0.11	0.12	0.13	0.15	0.17	0.18	0.20	0.22	–	–	–	–	–	–	–
10 Tons	–	–	–	0.13	0.15	0.17	0.18	0.20	0.22	0.24	0.26	0.28	–	–	–	–
12.5 Tons	–	–	–	–	–	0.17	0.18	0.20	0.22	0.24	0.26	0.28	0.31	0.33	0.36	0.39

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, as shown in the tables above. 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. Therefore, the indoor fan motors for Carrier 50TC04-14 units are exempt from these requirements.

FAN PERFORMANCE

Table 30 – 50TC04**

1 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
	Field Supplied Drive ¹		Standard Static Option				Medium Static Option			
900	554	0.14	681	0.22	783	0.32	870	0.42	947	0.53
975	575	0.16	701	0.25	801	0.35	888	0.45	965	0.57
1050	597	0.18	721	0.28	821	0.38	906	0.49	983	0.61
1125	620	0.21	741	0.31	840	0.42	925	0.54	1001	0.66
1200	643	0.23	762	0.35	860	0.46	944	0.58	1020	0.71
1275	666	0.27	784	0.38	880	0.50	964	0.63	1039	0.76
1350	690	0.30	805	0.42	900	0.55	983	0.68	1058	0.82
1425	714	0.34	827	0.47	921	0.60	1003	0.74	1077	0.88
1500	738	0.38	849	0.52	942	0.66	1024	0.80	1097	0.95

50TC

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
	Medium Static Option					Field Supplied Drive ²				
900	1017	0.64	1082	0.76	1143	0.88	1200	1.01	1254	1.14
975	1035	0.68	1100	0.81	1160	0.93	1217	1.07	1271	1.20
1050	1053	0.73	1117	0.86	1177	0.99	1234	1.13	-	-
1125	1071	0.78	1135	0.92	1195	1.05	1251	1.19	-	-
1200	1089	0.84	1153	0.98	1212	1.12	-	-	-	-
1275	1107	0.90	1171	1.04	1230	1.19	-	-	-	-
1350	1126	0.96	1189	1.11	-	-	-	-	-	-
1425	1145	1.03	1208	1.18	-	-	-	-	-	-
1500	1164	1.10	-	-	-	-	-	-	-	-

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AG006) and belt (part no. KR30AE039).
2. Recommend using field-supplied motor pulley (part no. KR11HY161) and belt (part no. KR30AE035).

Table 31 – 50TC04**

1 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
	Field Supplied Drive ¹		Standard Static Option				Medium Static Option			
900	566	0.14	690	0.23	791	0.32	879	0.42	957	0.52
975	590	0.17	711	0.26	811	0.36	897	0.46	975	0.57
1050	615	0.19	733	0.29	831	0.39	916	0.50	993	0.62
1125	640	0.22	755	0.33	851	0.43	936	0.55	1012	0.67
1200	666	0.25	778	0.36	873	0.48	956	0.60	1031	0.72
1275	692	0.29	802	0.41	894	0.53	976	0.65	1051	0.78
1350	719	0.33	825	0.45	916	0.58	997	0.71	1071	0.84
1425	746	0.37	850	0.50	939	0.63	1019	0.77	1091	0.91
1500	774	0.42	875	0.55	962	0.69	1041	0.83	1112	0.98

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
	Medium Static Option					Field Supplied Drive ²				
900	1029	0.63	1095	0.75	1157	0.86	1216	0.99	1272	1.11
975	1046	0.68	1112	0.80	1174	0.92	1232	1.05	1287	1.18
1050	1064	0.73	1129	0.86	1190	0.98	1248	1.11	-	-
1125	1082	0.79	1147	0.92	1208	1.05	1265	1.18	-	-
1200	1100	0.85	1165	0.98	1225	1.12	-	-	-	-
1275	1119	0.91	1183	1.05	1243	1.19	-	-	-	-
1350	1139	0.98	1202	1.12	-	-	-	-	-	-
1425	1159	1.05	1221	1.20	-	-	-	-	-	-
1500	1179	1.13	-	-	-	-	-	-	-	-

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AG006) and belt (part no. KR30AE039).
2. Recommend using field-supplied motor pulley (part no. KR11HY161) and belt (part no. KR30AE035).

FAN PERFORMANCE (cont.)

Table 32 – 50TC**04

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
	Field Supplied Drive ¹		Standard Static Option				Medium Static Option			
900	554	0.14	681	0.22	783	0.32	870	0.42	947	0.53
975	575	0.16	701	0.25	801	0.35	888	0.45	965	0.57
1050	597	0.18	721	0.28	821	0.38	906	0.49	983	0.61
1125	620	0.21	741	0.31	840	0.42	925	0.54	1001	0.66
1200	643	0.23	762	0.35	860	0.46	944	0.58	1020	0.71
1275	666	0.27	784	0.38	880	0.50	964	0.63	1039	0.76
1350	690	0.30	805	0.42	900	0.55	983	0.68	1058	0.82
1425	714	0.34	827	0.47	921	0.60	1003	0.74	1077	0.88
1500	738	0.38	849	0.52	942	0.66	1024	0.80	1097	0.95

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
	Medium Static Option					High Static Option				
900	1017	0.64	1082	0.76	1143	0.88	1200	1.01	1254	1.14
975	1035	0.68	1100	0.81	1160	0.93	1217	1.07	1271	1.20
1050	1053	0.73	1117	0.86	1177	0.99	1234	1.13	1288	1.27
1125	1071	0.78	1135	0.92	1195	1.05	1251	1.19	1305	1.34
1200	1089	0.84	1153	0.98	1212	1.12	1269	1.26	1322	1.41
1275	1107	0.90	1171	1.04	1230	1.19	1286	1.33	1340	1.49
1350	1126	0.96	1189	1.11	1249	1.26	1304	1.41	1357	1.57
1425	1145	1.03	1208	1.18	1267	1.33	1323	1.49	1375	1.66
1500	1164	1.10	1227	1.25	1285	1.41	1341	1.58	1394	1.75

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AG006) and belt (part no. KR30AE039).

Table 33 – 50TC**04

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
	Field Supplied Drive ¹		Standard Static Option				Medium Static Option			
900	566	0.14	690	0.23	791	0.32	879	0.42	957	0.52
975	590	0.17	711	0.26	811	0.36	897	0.46	975	0.57
1050	615	0.19	733	0.29	831	0.39	916	0.50	993	0.62
1125	640	0.22	755	0.33	851	0.43	936	0.55	1012	0.67
1200	666	0.25	778	0.36	873	0.48	956	0.60	1031	0.72
1275	692	0.29	802	0.41	894	0.53	976	0.65	1051	0.78
1350	719	0.33	825	0.45	916	0.58	997	0.71	1071	0.84
1425	746	0.37	850	0.50	939	0.63	1019	0.77	1091	0.91
1500	774	0.42	875	0.55	962	0.69	1041	0.83	1112	0.98

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
	Medium Static Option					High Static Option				
900	1029	0.63	1095	0.75	1157	0.86	1216	0.99	1272	1.11
975	1046	0.68	1112	0.80	1174	0.92	1232	1.05	1287	1.18
1050	1064	0.73	1129	0.86	1190	0.98	1248	1.11	1304	1.25
1125	1082	0.79	1147	0.92	1208	1.05	1265	1.18	1320	1.32
1200	1100	0.85	1165	0.98	1225	1.12	1282	1.26	1337	1.40
1275	1119	0.91	1183	1.05	1243	1.19	1300	1.34	1354	1.49
1350	1139	0.98	1202	1.12	1262	1.27	1318	1.42	1372	1.57
1425	1159	1.05	1221	1.20	1280	1.35	1336	1.51	1390	1.66
1500	1179	1.13	1241	1.28	1300	1.44	1355	1.60	1408	1.76

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AG006) and belt (part no. KR30AE039).

50TC

FAN PERFORMANCE (cont.)

Table 34 – 50TC**05

1 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
	Standard Static Option					Medium Static Option				
1200	643	0.23	762	0.35	860	0.46	944	0.58	1020	0.71
1300	674	0.28	791	0.40	887	0.52	970	0.65	1045	0.78
1400	706	0.33	820	0.45	914	0.59	997	0.72	1071	0.86
1500	738	0.38	849	0.52	942	0.66	1024	0.80	1097	0.95
1600	771	0.44	879	0.59	971	0.74	1051	0.89	1124	1.04
1700	804	0.51	910	0.66	1000	0.82	1079	0.98	1151	1.14
1800	837	0.59	941	0.75	1029	0.91	1107	1.08	-	-
1900	871	0.67	972	0.84	1059	1.02	1136	1.19	-	-
2000	906	0.76	1004	0.94	1089	1.12	-	-	-	-

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
	Medium Static Option					Field Supplied Drive ¹				
1200	1089	0.84	1153	0.98	1212	1.12	-	-	-	-
1300	1114	0.92	1177	1.06	-	-	-	-	-	-
1400	1139	1.01	1202	1.15	-	-	-	-	-	-
1500	1164	1.10	-	-	-	-	-	-	-	-
1600	1190	1.20	-	-	-	-	-	-	-	-
1700	-	-	-	-	-	-	-	-	-	-
1800	-	-	-	-	-	-	-	-	-	-
1900	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied motor pulley (part no. KR11HY161) and belt (part no. KR30AE035).

Table 35 – 50TC**05

1 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
	Standard Static Option					Medium Static Option				
1200	666	0.25	778	0.36	873	0.48	956	0.60	1031	0.72
1300	701	0.30	809	0.42	902	0.54	983	0.67	1057	0.80
1400	737	0.36	842	0.48	932	0.61	1012	0.75	1085	0.89
1500	774	0.42	875	0.55	962	0.69	1041	0.83	1112	0.98
1600	811	0.49	909	0.63	994	0.78	1071	0.93	1141	1.08
1700	849	0.57	943	0.72	1026	0.87	1101	1.03	1170	1.19
1800	887	0.65	978	0.81	1059	0.98	1133	1.14	-	-
1900	926	0.75	1014	0.92	1092	1.09	-	-	-	-
2000	965	0.86	1050	1.03	-	-	-	-	-	-

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
	Medium Static Option					Field Supplied Drive ¹				
1200	1100	0.85	1165	0.98	1225	1.12	-	-	-	-
1300	1126	0.94	1189	1.07	-	-	-	-	-	-
1400	1152	1.03	1215	1.17	-	-	-	-	-	-
1500	1179	1.13	-	-	-	-	-	-	-	-
1600	1206	1.24	-	-	-	-	-	-	-	-
1700	1235	1.36	-	-	-	-	-	-	-	-
1800	1264	1.48	-	-	-	-	-	-	-	-
1900	1293	1.62	-	-	-	-	-	-	-	-
2000	1324	1.77	-	-	-	-	-	-	-	-

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied motor pulley (part no. KR11HY161) and belt (part no. KR30AE035).

50TC

FAN PERFORMANCE (cont.)

Table 36 – 50TC**05

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
Standard Static Option					Medium Static Option					
1200	643	0.23	762	0.35	860	0.46	944	0.58	1020	0.71
1300	674	0.28	791	0.40	887	0.52	970	0.65	1045	0.78
1400	706	0.33	820	0.45	914	0.59	997	0.72	1071	0.86
1500	738	0.38	849	0.52	942	0.66	1024	0.80	1097	0.95
1600	771	0.44	879	0.59	971	0.74	1051	0.89	1124	1.04
1700	804	0.51	910	0.66	1000	0.82	1079	0.98	1151	1.14
1800	837	0.59	941	0.75	1029	0.91	1107	1.08	1178	1.25
1900	871	0.67	972	0.84	1059	1.02	1136	1.19	1206	1.37
2000	906	0.76	1004	0.94	1089	1.12	1165	1.31	1234	1.49

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
Medium Static Option					High Static Option					
1200	1089	0.84	1153	0.98	1212	1.12	1269	1.26	1322	1.41
1300	1114	0.92	1177	1.06	1236	1.21	1292	1.36	1346	1.52
1400	1139	1.01	1202	1.15	1261	1.31	1316	1.47	1369	1.63
1500	1164	1.10	1227	1.25	1285	1.41	1341	1.58	1394	1.75
1600	1190	1.20	1252	1.36	1311	1.53	1366	1.70	1418	1.87
1700	1217	1.31	1278	1.48	1336	1.65	1391	1.83	1443	2.01
1800	1244	1.42	1305	1.60	1362	1.78	1416	1.97	1468	2.15
1900	1271	1.55	1331	1.73	1388	1.92	1442	2.11	1494	2.31
2000	1298	1.68	1358	1.87	1415	2.07	1468	2.27	-	-

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AZ506), motor pulley (part no. KR11HY181) and belt (part no. KR30AE041).

Table 37 – 50TC**05

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
Standard Static Option					Medium Static Option					
1200	666	0.25	778	0.36	873	0.48	956	0.60	1031	0.72
1300	701	0.30	809	0.42	902	0.54	983	0.67	1057	0.80
1400	737	0.36	842	0.48	932	0.61	1012	0.75	1085	0.89
1500	774	0.42	875	0.55	962	0.69	1041	0.83	1112	0.98
1600	811	0.49	909	0.63	994	0.78	1071	0.93	1141	1.08
1700	849	0.57	943	0.72	1026	0.87	1101	1.03	1170	1.19
1800	887	0.65	978	0.81	1059	0.98	1133	1.14	1200	1.31
1900	926	0.75	1014	0.92	1092	1.09	1164	1.26	1231	1.44
2000	965	0.86	1050	1.03	1127	1.21	1197	1.39	1262	1.58

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
Medium Static Option					High Static Option					
1200	1100	0.85	1165	0.98	1225	1.12	1282	1.26	1337	1.40
1300	1126	0.94	1189	1.07	1249	1.22	1306	1.36	1360	1.51
1400	1152	1.03	1215	1.17	1274	1.32	1330	1.48	1384	1.63
1500	1179	1.13	1241	1.28	1300	1.44	1355	1.60	1408	1.76
1600	1206	1.24	1268	1.40	1326	1.56	1381	1.73	1433	1.90
1700	1235	1.36	1295	1.52	1352	1.69	1407	1.87	1459	2.04
1800	1264	1.48	1323	1.66	1380	1.84	1434	2.02	1485	2.20
1900	1293	1.62	1352	1.80	1408	1.99	1461	2.17	1512	2.37
2000	1324	1.77	1381	1.96	1436	2.15	1489	2.34	-	-

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AZ506), motor pulley (part no. KR11HY181) and belt (part no. KR30AE041).

50TC

FAN PERFORMANCE (cont.)

Table 38 – 50TC06**

1 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
	Field Supplied Drive¹		Standard Static Option							
1500	724	0.33	837	0.45	937	0.59	1028	0.74	1111	0.91
1625	765	0.40	873	0.53	969	0.67	1056	0.83	1137	1.00
1750	806	0.48	909	0.61	1002	0.76	1087	0.92	1165	1.10
1875	849	0.57	947	0.71	1036	0.86	1118	1.03	1195	1.21
2000	892	0.67	986	0.82	1072	0.98	1151	1.15	1226	1.33
2125	935	0.79	1025	0.94	1108	1.11	1185	1.29	1258	1.47
2250	980	0.92	1066	1.08	1146	1.25	1220	1.43	-	-
2375	1024	1.06	1107	1.23	1184	1.41	-	-	-	-
2500	1069	1.22	1149	1.39	-	-	-	-	-	-

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
	Medium Static Option									
1500	1188	1.09	1261	1.29	1330	1.49	-	-	-	-
1625	1213	1.18	1284	1.38	-	-	-	-	-	-
1750	1239	1.28	1309	1.49	-	-	-	-	-	-
1875	1267	1.40	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-
2125	-	-	-	-	-	-	-	-	-	-
2250	-	-	-	-	-	-	-	-	-	-
2375	-	-	-	-	-	-	-	-	-	-
2500	-	-	-	-	-	-	-	-	-	-

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AZ606) and belt (part no. KR30AE037).

Table 39 – 50TC06**

1 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
	Standard Static Option									
1500	790	0.40	897	0.53	991	0.68	1075	0.83	1152	1.00
1625	837	0.48	940	0.62	1030	0.77	1112	0.94	1187	1.11
1750	885	0.58	983	0.73	1070	0.89	1150	1.06	1223	1.24
1875	934	0.69	1027	0.85	1112	1.01	1189	1.19	1260	1.38
2000	983	0.81	1073	0.98	1154	1.16	1229	1.34	-	-
2125	1033	0.95	1119	1.13	1198	1.31	1270	1.50	-	-
2250	1084	1.11	1166	1.29	1242	1.49	-	-	-	-
2375	1134	1.28	1214	1.48	-	-	-	-	-	-
2500	1185	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
	Medium Static Option									
1500	1224	1.18	1291	1.36	-	-	-	-	-	-
1625	1257	1.30	1323	1.49	-	-	-	-	-	-
1750	1292	1.43	-	-	-	-	-	-	-	-
1875	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-
2125	-	-	-	-	-	-	-	-	-	-
2250	-	-	-	-	-	-	-	-	-	-
2375	-	-	-	-	-	-	-	-	-	-
2500	-	-	-	-	-	-	-	-	-	-

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

Boldface indicates field-supplied drive is required.

50TC

FAN PERFORMANCE (cont.)

Table 40 – 50TC**06

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
	Field Supplied Drive ¹		Standard Static Option							
1500	724	0.33	837	0.45	937	0.59	1028	0.74	1111	0.91
1625	765	0.40	873	0.53	969	0.67	1056	0.83	1137	1.00
1750	806	0.48	909	0.61	1002	0.76	1087	0.92	1165	1.10
1875	849	0.57	947	0.71	1036	0.86	1118	1.03	1195	1.21
2000	892	0.67	986	0.82	1072	0.98	1151	1.15	1226	1.33
2125	935	0.79	1025	0.94	1108	1.11	1185	1.29	1258	1.47
2250	980	0.92	1066	1.08	1146	1.25	1220	1.43	1291	1.63
2375	1024	1.06	1107	1.23	1184	1.41	1256	1.60	1325	1.79
2500	1069	1.22	1149	1.39	1223	1.58	1293	1.77	1360	1.98

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
	Medium Static Option									
1500	1188	1.09	1261	1.29	1330	1.49	1395	1.71	1457	1.95
1625	1213	1.18	1284	1.38	1352	1.59	1416	1.81	1478	2.04
1750	1239	1.28	1309	1.49	1375	1.70	1439	1.92	1499	2.16
1875	1267	1.40	1335	1.60	1400	1.82	1462	2.04	1522	2.28
2000	1296	1.53	1363	1.74	1427	1.95	1488	2.18	1546	2.42
2125	1326	1.67	1392	1.88	1454	2.11	1514	2.34	1571	2.58
2250	1358	1.83	1421	2.05	1483	2.27	1541	2.51	1598	2.75
2375	1390	2.00	1452	2.22	1512	2.45	1570	2.69	1625	2.94
2500	1424	2.19	1484	2.42	1543	2.65	1599	2.89	1654	3.15

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

■ – High Static Option

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AZ606) and belt (part no. KR30AE037).

Table 41 – 50TC**06

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
	Standard Static Option									
1500	790	0.40	897	0.53	991	0.68	1075	0.83	1152	1.00
1625	837	0.48	940	0.62	1030	0.77	1112	0.94	1187	1.11
1750	885	0.58	983	0.73	1070	0.89	1150	1.06	1223	1.24
1875	934	0.69	1027	0.85	1112	1.01	1189	1.19	1260	1.38
2000	983	0.81	1073	0.98	1154	1.16	1229	1.34	1299	1.53
2125	1033	0.95	1119	1.13	1198	1.31	1270	1.50	1338	1.71
2250	1084	1.11	1166	1.29	1242	1.49	1312	1.69	1386	1.89
2375	1134	1.28	1214	1.48	1287	1.68	1355	1.89	1420	2.10
2500	1185	1.48	1262	1.68	1333	1.89	1399	2.10	1462	2.33

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
	Medium Static Option								High Static Option	
1500	1224	1.18	1291	1.36	1354	1.56	1414	1.77	1472	1.98
1625	1257	1.30	1323	1.49	1385	1.69	1445	1.90	1501	2.12
1750	1292	1.43	1356	1.63	1418	1.83	1476	2.05	1532	2.27
1875	1327	1.57	1391	1.78	1451	1.99	1509	2.21	1564	2.44
2000	1364	1.74	1427	1.95	1486	2.17	1542	2.39	1596	2.63
2125	1402	1.92	1463	2.13	1521	2.36	1577	2.59	1630	2.83
2250	1441	2.11	1501	2.34	1558	2.57	1612	2.81	–	–
2375	1481	2.33	1539	2.56	1595	2.80	–	–	–	–
2500	1522	2.56	1579	2.80	–	–	–	–	–	–

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

Boldface indicates field-supplied drive is required.

50TC

FAN PERFORMANCE (cont.)

Table 42 – 50TC**07

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
	Field Supplied Drive ¹					Standard Static Option				
1800	822	0.51	927	0.66	1018	0.82	1100	0.98	1174	1.15
1950	872	0.62	973	0.79	1061	0.95	1140	1.13	1213	1.31
2100	923	0.75	1019	0.92	1104	1.10	1182	1.29	1253	1.48
2250	974	0.90	1067	1.08	1149	1.27	1224	1.46	1294	1.66
2400	1026	1.06	1115	1.26	1195	1.46	1268	1.66	1336	1.87
2550	1079	1.25	1164	1.46	1241	1.67	1312	1.88	1379	2.10
2700	1132	1.46	1214	1.67	1289	1.90	1358	2.12	1422	2.35
2850	1186	1.69	1264	1.92	1336	2.15	1404	2.39	1467	2.63
3000	1240	1.94	1315	2.18	1385	2.43	1451	2.68	1512	2.93

50TC

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
	Standard Static Option								Medium Static Option	
1800	1244	1.33	1308	1.51	1369	1.70	1427	1.90	1483	2.10
1950	1281	1.49	1345	1.68	1405	1.88	1462	2.09	1517	2.30
2100	1320	1.67	1382	1.87	1441	2.08	1498	2.29	1552	2.51
2250	1359	1.87	1420	2.08	1479	2.29	1534	2.51	1587	2.74
2400	1400	2.09	1460	2.31	1517	2.53	1572	2.76	1624	2.99
2550	1441	2.33	1500	2.55	1557	2.79	1610	3.03	1662	3.27
2700	1483	2.59	1541	2.83	1597	3.07	1650	3.32	1701	3.57
2850	1527	2.87	1583	3.12	1638	3.37	1690	3.63	-	-
3000	1571	3.18	1626	3.44	1680	3.70	-	-	-	-

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

■ – Medium Static Option ■ – High Static Option

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AZ406), motor pulley (part no. KR11HY151) and belt (part no. KR30AE035).

Table 43 – 50TC**07

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
	Field Supplied Drive ¹					Standard Static Option				
1800	907	0.63	1006	0.80	1092	0.97	1169	1.14	1239	1.32
1950	965	0.77	1060	0.95	1143	1.13	1218	1.32	1287	1.51
2100	1024	0.93	1115	1.12	1195	1.32	1268	1.52	1335	1.72
2250	1083	1.11	1170	1.32	1248	1.53	1319	1.74	1385	1.96
2400	1143	1.32	1227	1.54	1302	1.76	1371	1.99	1435	2.22
2550	1203	1.55	1284	1.78	1357	2.02	1424	2.26	1487	2.50
2700	1264	1.81	1342	2.06	1412	2.31	1478	2.56	1539	2.82
2850	1326	2.09	1400	2.36	1469	2.62	1532	2.89	1592	3.16
3000	1387	2.41	1459	2.69	1525	2.97	1587	3.25	1646	3.53

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
	Standard Static Option						Medium Static Option		High Static Option	
1800	1304	1.51	1365	1.69	1422	1.88	1477	2.08	1528	2.28
1950	1350	1.71	1410	1.91	1467	2.11	1520	2.31	1572	2.52
2100	1398	1.93	1457	2.14	1512	2.35	1565	2.57	1616	2.79
2250	1446	2.18	1504	2.40	1559	2.62	1611	2.85	1661	3.09
2400	1496	2.45	1552	2.68	1606	2.92	1658	3.16	1707	3.40
2550	1546	2.75	1601	2.99	1654	3.24	1705	3.50	-	-
2700	1597	3.07	1651	3.33	1703	3.59	-	-	-	-
2850	1648	3.43	1702	3.70	-	-	-	-	-	-
3000	-	-	-	-	-	-	-	-	-	-

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AZ406), motor pulley (part no. KR11HY151) and belt (part no. KR30AE035).

FAN PERFORMANCE (cont.)

Table 44 – 50TC**08

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
	Field Supplied Drive ¹			Standard Static Option						Medium Static Option
2250	465	0.43	555	0.64	629	0.86	694	1.10	753	1.34
2438	488	0.51	575	0.73	648	0.97	712	1.21	769	1.47
2625	510	0.60	595	0.84	666	1.09	729	1.34	786	1.62
2813	533	0.70	616	0.95	686	1.22	748	1.49	804	1.77
3000	557	0.82	637	1.08	705	1.36	766	1.64	822	1.94
3188	581	0.94	659	1.23	726	1.51	785	1.81	840	2.12
3375	606	1.08	681	1.38	746	1.68	805	2.00	859	2.32
3563	630	1.24	703	1.55	767	1.87	825	2.20	878	2.53
3750	655	1.41	726	1.74	789	2.07	845	2.41	897	2.76

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
	Medium Static Option						High Static Option			
2250	806	1.60	856	1.87	903	2.15	947	2.45	988	2.75
2438	822	1.74	872	2.03	918	2.32	961	2.62	1003	2.93
2625	839	1.90	887	2.19	933	2.49	977	2.81	1018	3.13
2813	856	2.06	904	2.37	949	2.68	992	3.01	1033	3.34
3000	873	2.24	921	2.56	966	2.89	1008	3.22	1049	3.56
3188	891	2.44	938	2.77	982	3.10	1025	3.45	1065	3.81
3375	909	2.65	955	2.99	1000	3.34	1041	3.70	1081	4.06
3563	927	2.88	973	3.23	1017	3.59	1059	3.96	1098	4.34
3750	946	3.12	992	3.48	1035	3.86	1076	4.24	1115	4.63²

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AK012), motor pulley (part no. KR11HY161) and belt (part no. KR30AE035).
2. Recommend using field-supplied fan pulley (part no. KR11AZ002) and belt (part no. KR29AF054).

Table 45 – 50TC**08

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
	Standard Static Option						Medium Static Option			
2250	511	0.53	591	0.73	660	0.95	722	1.19	779	1.44
2438	540	0.64	616	0.85	683	1.08	743	1.33	799	1.59
2625	569	0.76	642	0.99	706	1.23	765	1.49	819	1.76
2813	599	0.90	669	1.14	731	1.39	788	1.66	841	1.94
3000	630	1.06	696	1.31	756	1.58	811	1.86	863	2.15
3188	661	1.23	724	1.50	782	1.78	836	2.07	886	2.38
3375	692	1.43	753	1.71	809	2.00	861	2.31	910	2.62
3563	723	1.65	782	1.94	836	2.25	887	2.56	934	2.89
3750	755	1.89	811	2.20	864	2.52	913	2.84	959	3.18

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
	Medium Static Option						High Static Option			
2250	832	1.71	882	1.99	928	2.29	973	2.59	1015	2.92
2438	851	1.87	899	2.16	945	2.46	989	2.78	1031	3.11
2625	870	2.04	918	2.34	963	2.66	1006	2.98	1048	3.32
2813	890	2.24	937	2.55	982	2.87	1024	3.21	1065	3.55
3000	912	2.46	958	2.78	1001	3.11	1043	3.45	1083	3.80
3188	934	2.69	979	3.02	1022	3.36	1063	3.72	1102	4.08
3375	956	2.95	1000	3.29	1042	3.64	1083	4.00	1122	4.38
3563	980	3.23	1023	3.58	1064	3.94	1104	4.32	1142	4.70
3750	1004	3.54	1046	3.90	1086	4.27	1125	4.65	-	-

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AZ002) and belt (part no. KR29AF054).

50TC

FAN PERFORMANCE (cont.)

Table 46 – 50TC**09

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
	Field Supplied Drive¹					Standard Static Option				
2550	438	0.39	523	0.50	595	0.64	658	0.78	716	0.94
2763	459	0.47	541	0.60	611	0.73	673	0.88	730	1.05
2975	481	0.56	560	0.70	628	0.84	689	1.00	745	1.16
3188	504	0.67	580	0.82	646	0.97	705	1.13	760	1.30
3400	526	0.80	600	0.95	664	1.11	722	1.27	776	1.45
3613	550	0.94	620	1.10	683	1.26	740	1.43	793	1.62
3825	573	1.09	641	1.26	702	1.43	758	1.61	810	1.80
4038	597	1.26	663	1.44	722	1.62	777	1.81	827	2.00
4250	621	1.45	685	1.64	743	1.83	796	2.02	845	2.22

50TC

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
	Medium Static Option								High Static Option	
2550	769	1.11	819	1.30	865	1.49	909	1.70	951	1.92
2763	782	1.22	831	1.41	877	1.60	921	1.81	963	2.04
2975	796	1.34	845	1.53	890	1.73	933	1.94	974	2.16
3188	811	1.48	858	1.67	903	1.88	946	2.09	987	2.31
3400	826	1.63	873	1.83	917	2.04	959	2.25	1000	2.48
3613	842	1.81	888	2.01	932	2.22	973	2.44	1013	2.67
3825	858	2.00	903	2.20	946	2.42	988	2.64	1027	2.87
4038	875	2.20	919	2.41	962	2.63	1002	2.86	1041	3.10
4250	892	2.43	936	2.65	978	2.87	1018	3.10	1056	3.34

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AK012) and belt (part no. KR30AE055).

Table 47 – 50TC**09

3 PHASE

8.5 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
	Field Supplied Drive¹					Standard Static Option				
									Medium Static Option	
2550	477	0.43	556	0.57	624	0.71	685	0.85	742	0.99
2763	503	0.52	578	0.67	644	0.82	704	0.97	759	1.13
2975	529	0.62	601	0.79	665	0.95	724	1.11	777	1.28
3188	556	0.74	625	0.92	687	1.09	744	1.26	796	1.44
3400	583	0.88	650	1.06	710	1.24	765	1.43	816	1.62
3613	611	1.03	675	1.22	733	1.42	787	1.61	836	1.81
3825	639	1.19	701	1.40	757	1.61	809	1.81	857	2.02
4038	668	1.38	727	1.60	781	1.81	832	2.03	879	2.25
4250	696	1.58	753	1.81	806	2.04	855	2.27	901	2.50

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
	Medium Static Option								High Static Option	
2550	794	1.14	842	1.29	888	1.44	932	1.59	973	1.75
2763	810	1.28	858	1.44	903	1.60	946	1.77	987	1.93
2975	827	1.44	874	1.61	919	1.78	961	1.95	1001	2.13
3188	845	1.62	891	1.79	935	1.98	977	2.16	1017	2.34
3400	864	1.80	909	1.99	952	2.18	993	2.38	1033	2.57
3613	883	2.01	928	2.21	970	2.41	1010	2.61	1049	2.82
3825	903	2.23	947	2.44	988	2.65	1028	2.87	1066	3.08
4038	924	2.47	967	2.70	1008	2.92	1047	3.14	1084	3.37
4250	945	2.73	987	2.97	1027	3.20	1066	3.43	1103	3.67²

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AK012) and belt (part no. KR29AE055).

2. Recommend using field-supplied fan pulley (part no. KR11AZ002), motor pulley (part no. KR11HY310) and belt (part no. KR29AF054).

FAN PERFORMANCE (cont.)

Table 48 – 50TC**12

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
	Field Supplied Drive ¹		Standard Static Option							
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
	Standard Static Opt.		Medium Static Option							
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.

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AD912) and belt (part no. KR29AF051).

Table 49 – 50TC**12

3 PHASE

10 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
	Field Supplied Drive ¹		Standard Static Option							
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
			Medium Static Option							
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.

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AD912) and belt (part no. KR29AF051).

50TC

FAN PERFORMANCE (cont.)

Table 50 – 50TC**14

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
	Field Supplied Drive¹		Standard Static Option							
3438	580	0.82	642	0.99	700	1.16	756	1.34	809	1.53
3750	621	1.03	679	1.21	734	1.40	786	1.59	837	1.79
4063	663	1.28	717	1.47	769	1.67	818	1.88	866	2.09
4375	706	1.56	757	1.77	805	1.98	852	2.20	897	2.43
4688	749	1.89	797	2.11	843	2.34	887	2.57	930	2.81
5000	793	2.26	838	2.50	881	2.74	923	2.98	965	3.23
5313	837	2.69	880	2.93	921	3.19	961	3.44	1000	3.71
5625	882	3.16	922	3.42	961	3.68	999	3.95	1037	4.23
5938	926	3.68	964	3.96	1001	4.23	1038	4.52	-	-
6250	971	4.26	1007	4.55	-	-	-	-	-	-

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
	Medium Static Option									
3438	860	1.72	910	1.92	957	2.12	1003	2.32	1048	2.54
3750	885	1.99	932	2.20	978	2.42	1022	2.64	1065	2.86
4063	912	2.31	957	2.53	1001	2.75	1043	2.98	1084	3.22
4375	941	2.66	984	2.89	1026	3.13	1066	3.37	1106	3.62
4688	972	3.05	1013	3.29	1053	3.54	1092	3.80	1130	4.06
5000	1005	3.49	1044	3.74	1082	4.01	1119	4.27	1156	4.55
5313	1038	3.97	1076	4.24	1113	4.52	-	-	-	-
5625	1073	4.51	-	-	-	-	-	-	-	-
5938	-	-	-	-	-	-	-	-	-	-
6250	-	-	-	-	-	-	-	-	-	-

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AK012) and belt (part no. KR29AE055).
2. Recommend using field-supplied fan pulley (part no. KR11AZ002), motor pulley (part no. KR11HY310) and belt (part no. KR29AF054).

Table 51 – 50TC**14

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
	Field Supplied Drive¹		Standard Static Option							
3438	616	0.92	679	1.10	735	1.27	786	1.45	835	1.62
3750	661	1.16	719	1.35	773	1.54	822	1.73	869	1.93
4063	706	1.43	761	1.64	812	1.85	860	2.06	904	2.27
4375	752	1.75	804	1.98	852	2.20	898	2.43	941	2.65
4688	798	2.12	847	2.36	894	2.60	937	2.85	979	3.09
5000	844	2.54	891	2.80	936	3.06	978	3.31	1018	3.57
5313	891	3.01	936	3.28	978	3.56	1019	3.83	1057	4.11
5625	938	3.53	981	3.83	1022	4.12	1060	4.41	1097	4.70
5938	986	4.12	1026	4.43	-	-	-	-	-	-
6250	-	-	-	-	-	-	-	-	-	-

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
	Medium Static Option									
3438	880	1.80	922	1.98	963	2.15	1002	2.33	1039	2.51
3750	912	2.12	954	2.31	994	2.50	1031	2.70	1068	2.89
4063	947	2.48	987	2.68	1025	2.89	1062	3.10	1098	3.31
4375	982	2.88	1021	3.10	1058	3.32	1094	3.55	1129	3.77
4688	1018	3.33	1056	3.57	1093	3.81	1128	4.04	1162	4.29
5000	1056	3.82	1093	4.08	1128	4.34	1162	4.59	-	-
5313	1094	4.38	1130	4.65	-	-	-	-	-	-
5625	-	-	-	-	-	-	-	-	-	-
5938	-	-	-	-	-	-	-	-	-	-
6250	-	-	-	-	-	-	-	-	-	-

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

■ – High Static Option

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. KR11AK012) and belt (part no. KR29AE055).
2. Recommend using field-supplied fan pulley (part no. KR11AZ002), motor pulley (part no. KR11HY310) and belt (part no. KR29AF054).

FAN PERFORMANCE (cont.)

Table 52 – PULLEY ADJUSTMENT

UNIT	MOTOR/DRIVE COMBO	MOTOR PULLEY TURNS OPEN											
		0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	
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
		High Static	-	-	-	-	-	-	-	-	-	-	-
	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
		High Static	-	-	-	-	-	-	-	-	-	-	-
	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
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
		High Static	-	-	-	-	-	-	-	-	-	-	-
	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	1457	1419	1380	1342	1303	1265	1227	1188	1150	1111	1073
		Medium Static	1518	1484	1449	1415	1380	1346	1311	1277	1242	1208	1173
		High Static	1788	1757	1725	1694	1662	1631	1600	1568	1537	1505	1474
08	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
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	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

NOTE: Do not adjust pulley further than 5 turns open.

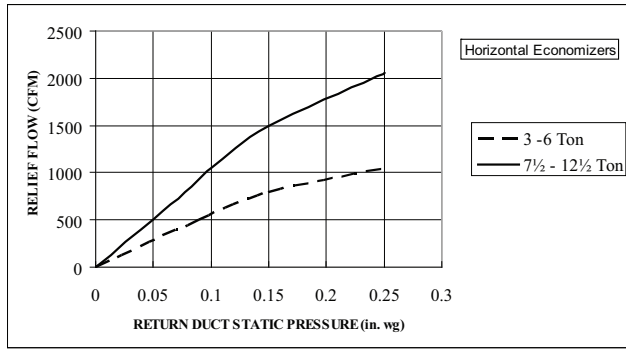
■ - Factory settings

50TC

OS
om

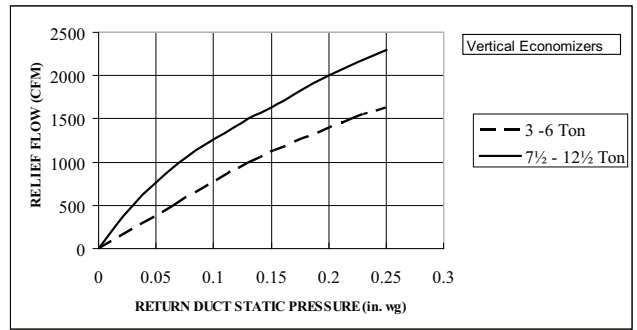
ECONOMIZER, BAROMETRIC RELIEF AND PE PERFORMANCE

50TC



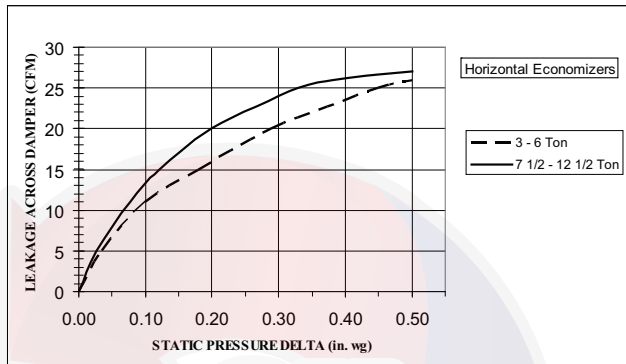
C08070

Fig. 12 - Barometric Relief Flow Capacity



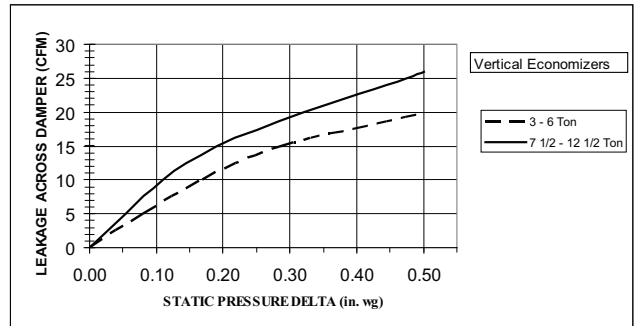
C08073

Fig. 16 - Barometric Relief Flow Capacity



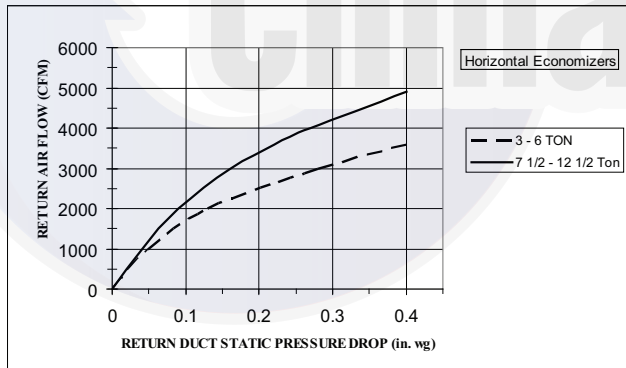
C08071

Fig. 13 - Outdoor Air Damper Leakage



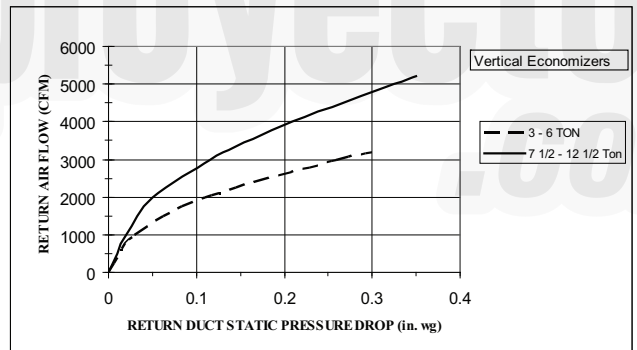
C08074

Fig. 17 - Outdoor Air Damper Leakage



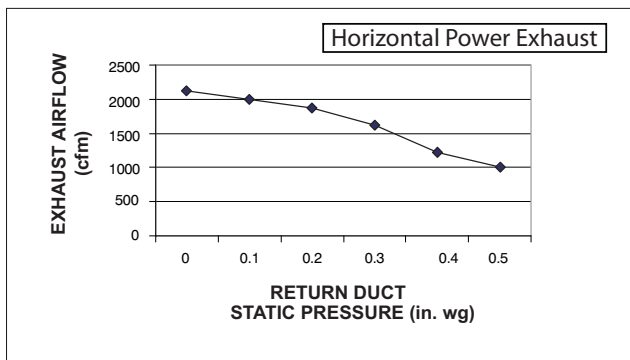
C08072

Fig. 14 - Return Air Pressure Drop



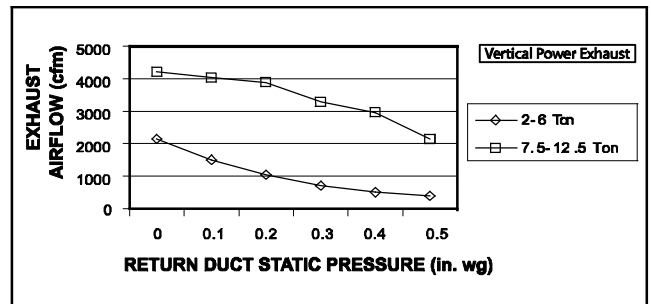
C08075

Fig. 18 - Return Air Pressure Drop



C08012

Fig. 15 - Horizontal Power Exhaust Performance



C08013

Fig. 19 - Power Exhaust Performance

ELECTRICAL INFORMATION

Table 53 – 50TC*A04
1-Stage Cooling
3 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM				
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	Max WATTS	Max AMP Draw	EFF at Full Load	FLA
208-1-60	187	253	16.6	79	325	1.5	Std Static	1000	5.1	70%	4.9
							Med Static	1000	5.1	70%	4.9
230-1-60	187	253	16.6	79	325	1.5	Std Static	1000	5.1	70%	4.9
							Med Static	1000	5.1	70%	4.9
208-3-60	187	253	10.4	73	325	1.5	Std Static	1000	5.1	70%	4.9
							Med Static	1000	5.1	70%	4.9
							High Static	2120	5.5	80%	5.2
230-3-60	187	253	10.4	73	325	1.5	Std Static	1000	5.1	70%	4.9
							Med Static	1000	5.1	70%	4.9
							High Static	2120	5.5	80%	5.2
460-3-60	414	506	5.8	38	325	0.8	Std Static	1000	2.2	70%	2.1
							Med Static	1000	2.2	70%	2.1
							High Static	2120	2.7	80%	2.6
575-3-60	518	633	3.8	37	325	0.6	Std Static	1000	2.0	71%	1.9
							Med Static	1000	2.0	71%	1.9
							High Static	2120	2.1	80%	2.0

50TC
Table 54 – 50TC*A05
1-Stage Cooling
4 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM				
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	Max WATTS	Max AMP Draw	EFF at Full Load	FLA
208-1-60	187	253	21.8	117	325	1.5	Std Static	1000	5.1	70%	4.9
							Med Static	1850	7.4	78%	7.0
230-1-60	187	253	21.8	117	325	1.5	Std Static	1000	5.1	70%	4.9
							Med Static	1850	7.4	78%	7.0
208-3-60	187	253	13.7	83	325	1.5	Std Static	1000	5.1	70%	4.9
							Med Static	1000	5.1	70%	4.9
							High Static	2120	5.5	80%	5.2
230-3-60	187	253	13.7	83	325	1.5	Std Static	1000	5.1	70%	4.9
							Med Static	1000	5.1	70%	4.9
							High Static	2120	5.5	80%	5.2
460-3-60	414	506	6.2	41	325	0.8	Std Static	1000	2.2	70%	2.1
							Med Static	1000	2.2	70%	2.1
							High Static	2120	2.7	80%	2.6
575-3-60	518	633	4.8	37	325	0.6	Std Static	1000	2.0	71%	1.9
							Med Static	1000	2.2	71%	2.1
							High Static	2120	2.1	80%	2.0

Table 55 – 50TC*A06
1-Stage Cooling
5 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM				
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	Max WATTS	Max AMP Draw	EFF at Full Load	FLA
208-1-60	187	253	26.2	134	325	1.5	Std Static	1000	5.1	70%	4.9
							Med Static	1850	7.4	78%	7.0
230-1-60	187	253	26.2	134	325	1.5	Std Static	1000	5.1	70%	4.9
							Med Static	1850	7.4	78%	7.0
208-3-60	187	253	15.6	110	325	1.5	Std Static	1000	5.1	70%	4.9
							Med Static	2120	5.5	80%	5.2
							High Static	2615	7.9	81%	7.5
230-3-60	187	253	15.6	110	325	1.5	Std Static	1000	5.1	70%	4.9
							Med Static	2120	5.5	80%	5.2
							High Static	2615	7.9	81%	7.5
460-3-60	414	506	7.7	52	325	0.8	Std Static	1000	2.2	70%	2.1
							Med Static	2120	2.7	80%	2.6
							High Static	2615	3.6	81%	3.4
575-3-60	518	633	5.8	39	325	0.6	Std Static	1000	2.0	71%	1.9
							Med Static	1390	2.1	81%	2.0
							High Static	3775	2.9	81%	2.8

ELECTRICAL INFORMATION (cont.)

Table 56 – 50TC*A07
1-Stage Cooling
6 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM				
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	Max WATTS	Max AMP Draw	EFF at Full Load	FLA
208-3-60	187	253	19.0	123	325	1.5	Std Static	2120	5.5	80%	5.2
							Med Static	2615	7.9	81%	7.5
							High Static	2615	7.9	81%	7.5
230-3-60	187	253	19.0	123	325	1.5	Std Static	2120	5.5	80%	5.2
							Med Static	2615	7.9	81%	7.5
							High Static	2615	7.9	81%	7.5
460-3-60	414	506	9.7	62	325	0.8	Std Static	2120	2.7	80%	2.6
							Med Static	2615	3.6	81%	3.4
							High Static	3775	4.6	81%	4.4
575-3-60	518	633	7.4	50	325	0.6	Std Static	2120	2.1	80%	2.0
							Med Static	3775	2.9	81%	2.8
							High Static	3775	2.9	81%	2.8

50TC
Table 57 – 50TC*A08
1-Stage Cooling
7.5 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM				
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	Max WATTS	Max AMP Draw	EFF at Full Load	FLA
208-3-60	187	253	25.0	164	325	1.5	Std Static	1448	5.5	80%	5.2
							Med Static	2278	7.9	81%	7.5
							High Static	4400	15.0	81%	15.0
230-3-60	187	253	25.0	164	325	1.5	Std Static	1448	5.5	80%	5.2
							Med Static	2278	7.9	81%	7.5
							High Static	4400	15.0	81%	15.0
460-3-60	414	506	12.2	100	325	0.8	Std Static	1448	2.7	80%	2.6
							Med Static	2278	3.6	81%	3.4
							High Static	4400	7.4	81%	7.4
575-3-60	518	633	9.0	78	325	0.6	Std Static	1379	2.5	80%	2.4
							Med Static	3775	2.9	81%	2.8
							High Static	4400	5.9	81%	5.6

Table 58 – 50TC*D08
2-Stage Cooling
7.5 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM				
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	Max WATTS	Max AMP Draw	EFF at Full Load	FLA
208-3-60	187	253	13.6	83	13.6	83	325	1.5	STD	1448	5.5	80%	5.2
									MED	2278	7.9	81%	7.5
									HIGH	4400	15.0	81%	15.0
230-3-60	187	253	13.6	83	13.6	83	325	1.5	STD	1448	5.5	80%	5.2
									MED	2278	7.9	81%	7.5
									HIGH	4400	15.0	81%	15.0
460-3-60	414	506	6.1	41	6.1	41	325	0.8	STD	1448	2.7	80%	2.6
									MED	2278	3.6	81%	3.4
									HIGH	4400	7.4	81%	7.4
575-3-60	518	633	4.2	33	4.2	33	325	0.6	STD	1379	2.5	80%	2.4
									MED	3775	2.9	81%	2.8
									HIGH	4400	5.9	81%	5.6

ELECTRICAL INFORMATION (cont.)

Table 59 – 50TC*A09

1-Stage Cooling

8.5 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM				
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	Max WATTS	Max AMP Draw	EFF at Full Load	FLA
208-3-60	187	253	29.5	195	325	1.5	Std Static	1448	5.5	80%	5.2
							Med Static	2120	5.5	80%	5.2
							High Static	2694	10.5	80%	10.0
230-3-60	187	253	29.5	195	325	1.5	Std Static	1448	5.5	80%	5.2
							Med Static	2120	5.5	80%	5.2
							High Static	2694	10.5	80%	10.0
460-3-60	414	506	14.7	95	325	0.8	Std Static	1448	2.7	80%	2.6
							Med Static	2120	2.7	80%	2.6
							High Static	2694	4.6	80%	4.4
575-3-60	518	633	12.2	80	325	0.6	Std Static	1379	2.5	80%	2.4
							Med Static	1390	2.1	80%	2.0
							High Static	3775	2.9	81%	2.8

50TC

TABLE 60 – 50TC*D09

2-STAGE COOLING

8.5 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM				
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	Max WATTS	Max AMP Draw	EFF at Full Load	FLA
208-3-60	187	253	14.5	98	13.7	83	325	1.5	STD	1448	5.5	80%	5.2
									MED	2120	5.5	80%	5.2
									HIGH	2694	10.5	80%	10.0
230-3-60	187	253	14.5	98	13.7	83	325	1.5	STD	1448	5.5	80%	5.2
									MED	2120	5.5	80%	5.2
									HIGH	2694	10.5	80%	10.0
460-3-60	414	506	6.3	55	6.2	41	325	0.8	STD	1448	2.7	80%	2.6
									MED	2120	2.7	80%	2.6
									HIGH	2694	4.6	80%	4.4
575-3-60	518	633	6.0	41	4.8	33	325	0.6	STD	1379	2.5	80%	2.4
									MED	1390	2.1	80%	2.0
									HIGH	3775	2.9	81%	2.8

Table 61 – 50TC*A12

1-Stage Cooling

10 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM				
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	Max WATTS	Max AMP Draw	EFF at Full Load	FLA
208-3-60	187	253	30.1	225	325	1.5	Std Static	2120	5.5	80%	5.2
							Med Static	3775	10.5	81%	10.0
							High Static	4400	15.0	81%	15.0
230-3-60	187	253	30.1	225	325	1.5	Std Static	2120	5.5	80%	5.2
							Med Static	3775	10.5	81%	10.0
							High Static	4400	15.0	81%	15.0
460-3-60	414	506	16.7	114	325	0.8	Std Static	2120	2.7	80%	2.6
							Med Static	3775	4.6	81%	4.4
							High Static	4400	7.4	81%	7.4
575-3-60	518	633	12.2	80	325	0.6	Std Static	1390	2.1	80%	2.0
							Med Static	3775	2.9	81%	2.8
							High Static	4400	5.9	81%	5.6

ELECTRICAL INFORMATION (cont.)

Table 62 – 50TC*D12
2-Stage Cooling
10 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM				
			RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	Max WATTS	Max AMP Draw	EFF at Full Load	FLA
	MIN	MAX											
208-3-60	187	253	15.6	110	15.9	110	325	1.5	STD	2120	5.5	80%	5.2
									MED	3775	10.5	81%	10.0
									HIGH	4400	15.0	81%	15.0
230-3-60	187	253	15.6	110	15.9	110	325	1.5	STD	2120	5.5	80%	5.2
									MED	3775	10.5	81%	10.0
									HIGH	4400	15.0	81%	15.0
460-3-60	414	506	7.7	52	7.7	52	325	0.8	STD	2120	2.7	80%	2.6
									MED	3775	4.6	81%	4.4
									HIGH	4400	7.4	81%	7.4
575-3-60	518	633	5.8	39	5.7	39	325	0.6	STD	1390	2.1	80%	2.0
									MED	3775	2.9	81%	2.8
									HIGH	4400	5.9	81%	5.6

50TC
Table 63 – 50TC*D14
2-Stage Cooling
12.5 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM				
			RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	Max WATTS	Max AMP Draw	EFF at Full Load	FLA
	MIN	MAX											
208-3-60	187	253	19.0	123	22.4	149	1288	6.2	STD	2615	7.9	81%	7.5
									MED	3775	10.5	81%	10.0
									HIGH*	4400	15.0	81%	15.0
230-3-60	187	253	19.0	123	22.4	149	1288	6.2	STD	2615	7.9	81%	7.5
									MED	3775	10.5	81%	10.0
									HIGH*	4400	15.0	81%	15.0
460-3-60	414	506	9.7	62	10.6	75	1288	3.1	STD	2615	3.6	81%	3.4
									MED	3775	4.6	81%	4.4
									HIGH	4400	7.4	81%	7.4
575-3-60	518	633	7.4	50	7.7	54	1288	2.5	STD	3775	2.9	81%	2.8
									MED	3775	2.9	81%	2.8
									HIGH	4400	5.9	81%	5.6

* Single Point Kit required.

Table 64 – MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		NO C.O. or UNPWR C.O.							
			Nom* (kW)	FLA	NO PE.				w/ PE. (pwrd fr/unit)			
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE	
							FLA	LRA			FLA	LRA
50TC*A04	208/230 – 1 – 60	STD	None	None	27.2	40	26	95	29.1	45	29	97
			3.3/4.4	15.9/18.3	27.2/29.0	40/40	26/27	95/95	29.1/31.4	45/45	29/29	97/97
			4.9/6.5	23.5/27.1	35.5/40.0	40/45	33/37	95/95	37.9/42.4	45/45	35/39	97/97
			6.5/8.7	31.4/36.3	45.4/51.5	50/60	42/47	95/95	47.8/53.9	50/60	44/50	97/97
			7.9/10.5	37.9/43.8	53.5/60.9	60/70	49/56	95/95	55.9/63.3	60/70	51/58	97/97
			9.8/13.0	46.9/54.2	64.8/73.9	70/80	60/68	95/95	67.1/76.3	70/80	62/70	97/97
	208/230 – 3 – 60	MED	None	None	27.2	40	26	95	29.1	45	29	97
			3.3/4.4	15.9/18.3	27.2/29.0	40/40	26/27	95/95	29.1/31.4	45/45	29/29	97/97
			4.9/6.5	23.5/27.1	35.5/40.0	40/45	33/37	95/95	37.9/42.4	45/45	35/39	97/97
			6.5/8.7	31.4/36.3	45.4/51.5	50/60	42/47	95/95	47.8/53.9	50/60	44/50	97/97
			7.9/10.5	37.9/43.8	53.5/60.9	60/70	49/56	95/95	55.9/63.3	60/70	51/58	97/97
			9.8/13.0	46.9/54.2	64.8/73.9	70/80	60/68	95/95	67.1/76.3	70/80	62/70	97/97
	208/230 – 3 – 60	STD	None	None	19.4	25	19	89	21.3	30	22	91
			3.3/4.4	9.2/10.6	19.4/19.4	25/25	19/19	89/89	21.3/21.8	30/30	22/22	91/91
			4.9/6.5	13.6/15.6	23.1/25.6	25/30	21/24	89/89	25.5/28.0	30/30	23/26	91/91
			6.5/8.7	18.1/20.9	28.8/32.3	30/35	26/30	89/89	31.1/34.6	35/35	29/32	91/91
			7.9/10.5	21.9/25.3	33.5/37.8	35/40	31/35	89/89	35.9/40.1	40/45	33/37	91/91
			12.0/16.0	33.4/38.5	47.9/54.3	50/60	44/50	89/89	50.3/56.6	60/60	46/52	91/91
	208/230 – 3 – 60	MED	None	None	19.4	25	19	89	21.3	30	22	91
			3.3/4.4	9.2/10.6	19.4/19.4	25/25	19/19	89/89	21.3/21.8	30/30	22/22	91/91
			4.9/6.5	13.6/15.6	23.1/25.6	25/30	21/24	89/89	25.5/28.0	30/30	23/26	91/91
			6.5/8.7	18.1/20.9	28.8/32.3	30/35	26/30	89/89	31.1/34.6	35/35	29/32	91/91
			7.9/10.5	21.9/25.3	33.5/37.8	35/40	31/35	89/89	35.9/40.1	40/45	33/37	91/91
			12.0/16.0	33.4/38.5	47.9/54.3	50/60	44/50	89/89	50.3/56.6	60/60	46/52	91/91
460 – 3 – 60	HIGH	None	None	19.7	30	20	107	21.6	30	22	109	
		3.3/4.4	9.2/10.6	19.7/19.8	30/30	20/20	107/107	21.6/22.1	30/30	22/22	109/109	
		4.9/6.5	13.6/15.6	23.5/26.0	30/30	22/24	107/107	25.9/28.4	30/30	24/26	109/109	
		6.5/8.7	18.1/20.9	29.1/32.6	30/35	27/30	107/107	31.5/35.0	35/40	29/32	109/109	
		7.9/10.5	21.9/25.3	33.9/38.1	35/40	31/35	107/107	36.3/40.5	40/45	33/37	109/109	
		12.0/16.0	33.4/38.5	48.3/54.6	50/60	44/50	107/107	50.6/57.0	60/60	47/52	109/109	
460 – 3 – 60	STD	None	None	10.2	15	10	46	11.2	15	11	47	
		6.0	7.2	11.6	15	11	46	12.9	15	12	47	
		8.8	10.6	15.9	20	15	46	17.1	20	16	47	
		11.5	13.8	19.9	20	18	46	21.1	25	19	47	
		14.0	16.8	23.6	25	22	46	24.9	25	23	47	
	MED	None	None	10.2	15	10	46	11.2	15	11	47	
		6.0	7.2	11.6	15	11	46	12.9	15	12	47	
		8.8	10.6	15.9	20	15	46	17.1	20	16	47	
		11.5	13.8	19.9	20	18	46	21.1	25	19	47	
		14.0	16.8	23.6	25	22	46	24.9	25	23	47	
	HIGH	None	None	10.7	15	11	55	11.7	15	12	56	
		6.0	7.2	12.3	15	11	55	13.5	15	12	56	
8.8		10.6	16.5	20	15	55	17.8	20	16	56		
11.5		13.8	20.5	25	19	55	21.8	25	20	56		
14.0		16.8	24.3	25	22	55	25.5	30	23	56		
575 – 3 – 60	STD	None	None	7.3	15	7	44	9.2	15	9	46	
	MED	None	None	7.3	15	7	44	9.2	15	9	46	
	HIGH	None	None	7.4	15	7	50	9.3	15	10	52	

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 87.

50TC

Table 64 –(cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		NO C.O. or UNPWR C.O.								
			Nom* (kW)	FLA	NO PE.				w/ P.E. (pwrd fr/unit)				
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE		
							FLA	LRA			FLA	LRA	
50TC	208/230 – 1 – 60	STD	None	None	33.7	50	32	133	35.6	50	35	135	
			3.3/4.4	15.9/18.3	33.7/33.7	50/50	32/32	133/133	35.6/35.6	50/50	35/35	135/135	
			6.5/8.7	31.4/36.3	45.4/51.5	50/60	42/47	133/133	47.8/53.9	50/60	44/50	135/135	
			9.8/13.0	46.9/54.2	64.8/73.9	70/80	60/68	133/133	67.1/76.3	70/80	62/70	135/135	
			13.1/17.4	62.8/72.5	84.6/96.8	90/100	78/89	133/133	87.0/99.1	90/100	80/91	135/135	
			15.8/21.0	75.8/87.5	100.9/115.5	110/125	93/106	133/133	103.3/117.9	110/125	95/108	135/135	
	208/230 – 3 – 60	MED	None	None	33.7	50	32	133	35.6	50	35	135	
			3.3/4.4	15.9/18.3	33.7/33.7	50/50	32/32	133/133	35.6/35.6	50/50	35/35	135/135	
			6.5/8.7	31.4/36.3	45.4/51.5	50/60	42/47	133/133	47.8/53.9	50/60	44/50	135/135	
			9.8/13.0	46.9/54.2	64.8/73.9	70/80	60/68	133/133	67.1/76.3	70/80	62/70	135/135	
			13.1/17.4	62.8/72.5	84.6/96.8	90/100	78/89	133/133	87.0/99.1	90/100	80/91	135/135	
			15.8/21.0	75.8/87.5	100.9/115.5	110/125	93/106	133/133	103.3/117.9	110/125	95/108	135/135	
	50TC*A05	208/230 – 3 – 60	STD	None	None	23.5	30	23	99	25.4	30	25	101
				4.9/6.5	13.6/15.6	23.5/25.6	30/30	23/24	99/99	25.5/28.0	30/30	25/26	101/101
				6.5/8.7	18.1/20.9	28.8/32.3	30/35	26/30	99/99	31.1/34.6	35/35	29/32	101/101
				12.0/16.0	33.4/38.5	47.9/54.3	50/60	44/50	99/99	50.3/56.6	60/60	46/52	101/101
				15.8/21.0	43.8/50.5	60.9/69.3	70/70	56/64	99/99	63.3/71.6	70/80	58/66	101/101
				None	None	23.5	30	23	99	25.4	30	25	101
460 – 3 – 60		MED	None	None	23.5	30	23	99	25.4	30	25	101	
			4.9/6.5	13.6/15.6	23.5/25.6	30/30	23/24	99/99	25.5/28.0	30/30	25/26	101/101	
			6.5/8.7	18.1/20.9	28.8/32.3	30/35	26/30	99/99	31.1/34.6	35/35	29/32	101/101	
			12.0/16.0	33.4/38.5	47.9/54.3	50/60	44/50	99/99	50.3/56.6	60/60	46/52	101/101	
			15.8/21.0	43.8/50.5	60.9/69.3	70/70	56/64	99/99	63.3/71.6	70/80	58/66	101/101	
			None	None	23.8	30	23	117	25.7	30	26	119	
575 – 3 – 60	HIGH	4.9/6.5	13.6/15.6	23.8/26.0	30/30	23/24	117/117	25.9/28.4	30/30	26/26	119/119		
		6.5/8.7	18.1/20.9	29.1/32.6	30/35	27/30	117/117	31.5/35.0	35/40	29/32	119/119		
		12.0/16.0	33.4/38.5	48.3/54.6	50/60	44/50	117/117	50.6/57.0	60/60	47/52	119/119		
		15.8/21.0	43.8/50.5	61.3/69.6	70/70	56/64	117/117	63.6/72.0	70/80	59/66	119/119		
		None	None	10.7	15	10	49	11.7	15	12	50		
		6.0	7.2	11.6	15	11	49	12.9	15	12	50		
460 – 3 – 60	STD	11.5	13.8	19.9	20	18	49	21.1	25	19	50		
		14.0	16.8	23.6	25	22	49	24.9	25	23	50		
		23.0	27.7	37.3	40	34	49	38.5	40	35	50		
		None	None	10.7	15	10	49	11.7	15	12	50		
		6.0	7.2	11.6	15	11	49	12.9	15	12	50		
		11.5	13.8	19.9	20	18	49	21.1	25	19	50		
575 – 3 – 60	MED	14.0	16.8	23.6	25	22	49	24.9	25	23	50		
		23.0	27.7	37.3	40	34	49	38.5	40	35	50		
		None	None	11.2	15	11	58	12.2	15	12	59		
		6.0	7.2	12.3	15	11	58	13.5	15	12	59		
		11.5	13.8	20.5	25	19	58	21.8	25	20	59		
		14.0	16.8	24.3	25	22	58	25.5	30	23	59		
575 – 3 – 60	HIGH	23.0	27.7	37.9	40	35	58	39.1	40	36	59		
		None	None	8.5	15	8	44	10.4	15	11	46		
		None	None	8.5	15	8	44	10.4	15	11	46		
		None	None	8.6	15	9	50	10.5	15	11	52		

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 87.

Table 64 – (cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		NO C.O. or UNPWR C.O.								
			Nom* (kW)	FLA	NO PE.				w/ PE. (pwrd fr/unit)				
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE		
							FLA	LRA			FLA	LRA	
50TC*A06	208/230 – 1 – 60	STD	None	None	39.2	60	37	150	41.1	60	40	152	
			4.9/6.5	23.5/27.1	39.2/40.0	60/60	37/37	150/150	41.1/42.4	60/60	40/40	152/152	
			6.5/8.7	31.4/36.3	45.4/51.5	60/60	42/47	150/150	47.8/53.9	60/60	44/50	152/152	
			9.8/13.0	46.9/54.2	64.8/73.9	70/80	60/68	150/150	67.1/76.3	70/80	62/70	152/152	
			13.1/17.4	62.8/72.5	84.6/96.8	90/100	78/89	150/150	87.0/99.1	90/100	80/91	152/152	
			15.8/21.0	75.8/87.5	100.9/115.5	110/125	93/106	150/150	103.3/117.9	110/125	95/108	152/152	
	208/230 – 3 – 60	MED	None	None	41.3	60	40	175	43.2	60	42	177	
			4.9/6.5	23.5/27.1	41.3/42.6	60/60	40/40	175/175	43.2/45.0	60/60	42/42	177/177	
			6.5/8.7	31.4/36.3	48.0/54.1	60/60	44/50	175/175	50.4/56.5	60/60	46/52	177/177	
			9.8/13.0	46.9/54.2	67.4/76.5	70/80	62/70	175/175	69.8/78.9	70/80	64/73	177/177	
			13.1/17.4	62.8/72.5	87.3/99.4	90/100	80/91	175/175	89.6/101.8	90/110	82/94	177/177	
			15.8/21.0	75.8/87.5	103.5/118.1	110/125	95/109	175/175	105.9/120.5	110/125	97/111	177/177	
	460 – 3 – 60	STD	None	None	25.9	30	25	126	27.8	40	27	128	
			4.9/6.5	13.6/15.6	25.9/25.9	30/30	25/25	126/126	27.8/28.0	40/40	27/27	128/128	
			7.9/10.5	21.9/25.3	33.5/37.8	40/40	31/35	126/126	35.9/40.1	40/45	33/37	128/128	
			12.0/16.0	33.4/38.5	47.9/54.3	50/60	44/50	126/126	50.3/56.6	60/60	46/52	128/128	
			15.8/21.0	43.8/50.5	60.9/69.3	70/70	56/64	126/126	63.3/71.6	70/80	58/66	128/128	
			19.9/26.5	55.2/63.8	75.1/85.9	80/90	69/79	126/126	77.5/88.3	80/90	71/81	128/128	
		460 – 3 – 60	MED	None	None	26.2	40	26	144	28.1	40	28	146
				4.9/6.5	13.6/15.6	26.2/26.2	40/40	26/26	144/144	28.1/28.4	40/40	28/28	146/146
				7.9/10.5	21.9/25.3	33.9/38.1	40/40	31/35	144/144	36.3/40.5	40/45	33/37	146/146
				12.0/16.0	33.4/38.5	48.3/54.6	50/60	44/50	144/144	50.6/57.0	60/60	47/52	146/146
				15.8/21.0	43.8/50.5	61.3/69.6	70/70	56/64	144/144	63.6/72.0	70/80	59/66	146/146
				19.9/26.5	55.2/63.8	75.5/86.3	80/90	69/79	144/144	77.9/88.6	80/90	72/82	146/146
575 – 3 – 60	STD	None	None	12.5	20	12	60	13.5	20	13	61		
		6.0	7.2	12.5	20	12	60	13.5	20	13	61		
		11.5	13.8	19.9	20	18	60	21.1	25	19	61		
		14.0	16.8	23.6	25	22	60	24.9	25	23	61		
		23.0	27.7	37.3	40	34	60	38.5	40	35	61		
		25.5	30.7	41.0	45	38	60	42.3	45	39	61		
	575 – 3 – 60	MED	None	None	13	20	13	69	14	20	14	70	
			6.0	7.2	13.0	20	13	69	14.0	20	14	70	
			11.5	13.8	20.5	25	19	69	21.8	25	20	70	
			14.0	16.8	24.3	25	22	69	25.5	30	23	70	
			23.0	27.7	37.9	40	35	69	39.1	40	36	70	
			25.5	30.7	41.6	45	38	69	42.9	45	39	70	
575 – 3 – 60	HIGH	None	None	13.8	20	14	82	14.8	20	15	83		
		6.0	7.2	13.8	20	14	82	14.8	20	15	83		
		11.5	13.8	21.5	25	20	82	22.8	25	21	83		
		14.0	16.8	25.3	30	23	82	26.5	30	24	83		
		23.0	27.7	38.9	40	36	82	40.1	45	37	83		
		25.5	30.7	42.6	45	39	82	43.9	45	40	83		
575 – 3 – 60	STD	None	None	9.8	15	10	46	11.7	15	12	48		
	MED	None	None	9.9	15	10	52	11.8	15	12	54		
	HIGH	None	None	10.7	15	11	63	12.6	15	13	65		

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.

See Legend and calculations on page 87.

50TC

Table 64 –(cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		NO C.O. or UNPWR C.O.								
			Nom* (kW)	FLA	NO PE.				w/ PE. (pwrd fr/unit)				
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE		
							FLA	LRA			FLA	LRA	
50TC	208/230 – 3 – 60	STD	None	None	30.5	45	30	157	32.4	50	32	159	
			4.9/6.5	13.6/15.6	30.5/30.5	45/45	30/30	157/157	32.4/32.4	50/50	32/32	159/159	
			7.9/10.5	21.9/25.3	33.9/38.1	45/45	31/35	157/157	36.3/40.5	50/50	33/37	159/159	
			12.0/16.0	33.4/38.5	48.3/54.6	50/60	44/50	157/157	50.6/57.0	60/60	47/52	159/159	
			15.8/21.0	43.8/50.5	61.3/69.6	70/70	56/64	157/157	63.6/72.0	70/80	59/66	159/159	
		19.9/26.5	55.2/63.8	75.5/86.3	80/90	69/79	157/157	77.9/88.6	80/90	72/82	159/159		
		MED	None	None	32.8	50	32	183	34.7	50	34	185	
			4.9/6.5	13.6/15.6	32.8/32.8	50/50	32/32	183/183	34.7/34.7	50/50	34/34	185/185	
			7.9/10.5	21.9/25.3	36.8/41.0	50/50	34/38	183/183	39.1/43.4	50/50	36/40	185/185	
	12.0/16.0		33.4/38.5	51.1/57.5	60/60	47/53	183/183	53.5/59.9	60/60	49/55	185/185		
	HIGH	15.8/21.0	43.8/50.5	64.1/72.5	70/80	59/67	183/183	66.5/74.9	70/80	61/69	185/185		
		19.9/26.5	55.2/63.8	78.4/89.1	80/90	72/82	183/183	80.8/91.5	90/100	74/84	185/185		
		None	None	32.8	50	32	183	34.7	50	34	185		
		4.9/6.5	13.6/15.6	32.8/32.8	50/50	32/32	183/183	34.7/34.7	50/50	34/34	185/185		
		7.9/10.5	21.9/25.3	36.8/41.0	50/50	34/38	183/183	39.1/43.4	50/50	36/40	185/185		
	50TC*A07	460 – 3 – 60	STD	None	None	15.5	25	15	79	16.5	25	16	80
				6.0	7.2	15.5	25	15	79	16.5	25	16	80
				11.5	13.8	20.5	25	19	79	21.8	25	20	80
14.0				16.8	24.3	25	22	79	25.5	30	23	80	
23.0				27.7	37.9	40	35	79	39.1	40	36	80	
25.5			30.7	41.6	45	38	79	42.9	45	39	80		
MED		None	None	16.3	25	16	92	17.3	25	17	93		
		6.0	7.2	16.3	25	16	92	17.3	25	17	93		
		11.5	13.8	21.5	25	20	92	22.8	25	21	93		
		14.0	16.8	25.3	30	23	92	26.5	30	24	93		
		23.0	27.7	38.9	40	36	92	40.1	45	37	93		
25.5		30.7	42.6	45	39	92	43.9	45	40	93			
HIGH		None	None	17.3	25	17	101	18.3	25	18	102		
		6.0	7.2	17.3	25	17	101	18.3	25	18	102		
		11.5	13.8	22.8	25	21	101	24.0	25	22	102		
	14.0	16.8	26.5	30	24	101	27.8	30	26	102			
	23.0	27.7	40.1	45	37	101	41.4	45	38	102			
25.5	30.7	43.9	45	40	101	45.1	50	42	102				
575 – 3 – 60	STD	None	None	11.9	15	12	63	13.8	20	14	65		
	MED	None	None	12.7	20	12	74	14.6	20	15	76		
	HIGH	None	None	12.7	20	12	74	14.6	20	15	76		

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.

See Legend and calculations on page 87.

Table 64 –(cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		NO C.O. or UNPWR C.O.							
			Nom* (kW)	FLA	NO PE.				w/ PE. (pwrd fr/unit)			
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE	
							FLA	LRA			FLA	LRA
50TC*A08	208/230 – 3 – 60	STD	None	None	39.5	60	38	191	43.3	60	43	195
			7.8/10.4	21.7/25.0	39.5/39.5	60/60	38/38	191/191	43.3/43.3	60/60	43/43	195/195
			12.0/16.0	33.4/38.5	48.3/54.6	60/60	44/50	191/191	53.0/59.4	60/60	49/55	195/195
			18.6/24.8	51.7/59.7	71.1/81.1	80/90	65/75	191/191	75.9/85.9	80/90	70/79	195/195
			24.0/32.0	66.7/77.0	89.9/102.8	90/110	83/95	191/191	94.6/107.5	100/110	87/99	195/195
		31.8/42.4	88.4/102.0	117.0/134.0	125/150	108/123	191/191	121.8/138.8	125/150	112/128	195/195	
		MED	None	None	41.8	60	41	228	45.6	60	45	232
			7.8/10.4	21.7/25.0	41.8/41.8	60/60	41/41	228/228	45.6/45.6	60/60	45/45	232/232
			12.0/16.0	33.4/38.5	51.1/57.5	60/60	47/53	228/228	55.9/62.3	60/70	51/57	232/232
	18.6/24.8		51.7/59.7	74.0/84.0	80/90	68/77	228/228	78.8/88.8	80/90	72/82	232/232	
	24.0/32.0		66.7/77.0	92.8/105.6	100/110	85/97	228/228	97.5/110.4	100/125	90/102	232/232	
	31.8/42.4	88.4/102.0	119.9/136.9	125/150	110/126	228/228	124.6/141.6	125/150	115/130	232/232		
	HIGH	None	None	49.3	60	49	254	53.1	60	54	258	
		7.8/10.4	21.7/25.0	49.3/50.0	60/60	49/49	254/254	53.1/54.8	60/60	54/54	258/258	
		12.0/16.0	33.4/38.5	60.5/66.9	70/70	56/62	254/254	65.3/71.6	70/80	60/66	258/258	
		18.6/24.8	51.7/59.7	83.4/93.4	90/100	77/86	254/254	88.1/98.1	90/100	81/90	258/258	
		24.0/32.0	66.7/77.0	102.1/115.0	110/125	94/106	254/254	106.9/119.8	110/125	98/110	258/258	
	31.8/42.4	88.4/102.0	129.3/146.3	150/150	119/135	254/254	134.0/151.0	150/175	123/139	258/258		
	460 – 3 – 60	STD	None	None	19.5	30	19	113	21.3	30	21	115
			13.9	16.7	24.1	30	22	113	26.4	30	24	115
			16.5	19.8	28.0	30	26	113	30.3	35	28	115
			27.8	33.4	45.0	50	41	113	47.3	50	43	115
			33.0	39.7	52.9	60	49	113	55.1	60	51	115
		41.7	50.2	66.0	70	61	113	68.3	70	63	115	
MED		None	None	20.3	30	20	132	22.1	30	22	134	
		13.9	16.7	25.1	30	23	132	27.4	30	25	134	
		16.5	19.8	29.0	30	27	132	31.3	35	29	134	
		27.8	33.4	46.0	50	42	132	48.3	50	44	134	
		33.0	39.7	53.9	60	50	132	56.1	60	52	134	
41.7		50.2	67.0	70	62	132	69.3	70	64	134		
HIGH		None	None	24.3	30	24	145	26.1	30	26	147	
		13.9	16.7	30.1	35	28	145	32.4	35	30	147	
		16.5	19.8	34.0	35	31	145	36.3	40	33	147	
	27.8	33.4	51.0	60	47	145	53.3	60	49	147		
	33.0	39.7	58.9	60	54	145	61.1	70	56	147		
41.7	50.2	72.0	80	66	145	74.3	80	68	147			
575 – 3 – 60	STD	None	None	14.9	20	14	89	18.7	25	19	93	
		17.0	20.4	28.5	30	26	89	33.3	35	31	93	
		34.0	40.9	54.1	60	50	89	58.9	60	54	93	
	MED	None	None	15.3	20	15	104	19.1	25	19	108	
		17.0	20.4	29.0	30	27	104	33.8	35	31	108	
		34.0	40.9	54.6	60	50	104	59.4	60	55	108	
	HIGH	None	None	18.1	25	18	118	21.9	30	23	122	
		17.0	20.4	32.5	35	30	118	37.3	40	34	122	
		34.0	40.9	58.1	60	53	118	62.9	70	58	122	

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 87.

50TC

Table 64 –(cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		NO C.O. or UNPWR C.O.							
			Nom* (kW)	FLA	NO PE.				w/ P.E. (pwrd fr/unit)			
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE	
							FLA	LRA			FLA	LRA
50TC	208/230 – 3 – 60	STD	–	–	38.8	50	41	193	42.6	50	45	197
			7.8/10.4	21.7/25.0	38.8/38.8	50/50	41/41	193/193	42.6/42.6	50/50	45/45	197/197
			12.0/16.0	33.4/38.5	48.3/54.6	50/60	44/50	193/193	53.0/59.4	60/60	49/55	197/197
			18.6/24.8	51.7/59.7	71.1/81.1	80/90	65/75	193/193	75.9/85.9	80/90	70/79	197/197
			24.0/32.0	66.7/77.0	89.9/102.8	90/110	83/95	193/193	94.6/107.5	100/110	87/99	197/197
		31.8/42.4	88.4/102.0	117.0/134.0	125/150	108/123	193/193	121.8/138.8	125/150	112/128	197/197	
		MED	–	–	41.1	50	43	230	44.9	50	48	234
			7.8/10.4	21.7/25.0	41.1/41.1	50/50	43/43	230/230	44.9/45.4	50/50	48/48	234/234
			12.0/16.0	33.4/38.5	51.1/57.5	60/60	47/53	230/230	55.9/62.3	60/70	51/57	234/234
	18.6/24.8		51.7/59.7	74.0/84.0	80/90	68/77	230/230	78.8/88.8	80/90	72/82	234/234	
	HIGH	–	–	49.0	60	52	256	52.8	60	56	260	
		7.8/10.4	21.7/25.0	49.0/50.0	60/60	52/52	256/256	52.8/54.8	60/60	56/56	260/260	
		12.0/16.0	33.4/38.5	60.5/66.9	70/70	56/62	256/256	65.3/71.6	70/80	60/66	260/260	
		18.6/24.8	51.7/59.7	83.4/93.4	90/100	77/86	256/256	88.1/98.1	90/100	81/90	260/260	
		24.0/32.0	66.7/77.0	102.1/115.0	110/125	94/106	256/256	106.9/119.8	110/125	98/110	260/260	
31.8/42.4	88.4/102.0	129.3/146.3	150/150	119/135	256/256	134.0/151.0	150/175	123/139	260/260			
50TC*D08	460 – 3 – 60	STD	–	–	17.9	20	19	95	19.7	25	21	97
			13.9	16.7	24.1	25	22	95	26.4	30	24	97
			16.5	19.8	28.0	30	26	95	30.3	35	28	97
			27.8	33.4	45.0	50	41	95	47.3	50	43	97
			33.0	39.7	52.9	60	49	95	55.1	60	51	97
		41.7	50.2	66.0	70	61	95	68.3	70	63	97	
	MED	–	–	18.7	25	20	114	20.5	25	22	116	
		13.9	16.7	25.1	30	23	114	27.4	30	25	116	
		16.5	19.8	29.0	30	27	114	31.3	35	29	116	
		27.8	33.4	46.0	50	42	114	48.3	50	44	116	
		33.0	39.7	53.9	60	50	114	56.1	60	52	116	
	41.7	50.2	67.0	70	62	114	69.3	70	64	116		
	HIGH	–	–	23.1	30	24	127	24.9	30	26	129	
		13.9	16.7	30.1	35	28	127	32.4	35	30	129	
		16.5	19.8	34.0	35	31	127	36.3	40	33	129	
27.8		33.4	51.0	60	47	127	53.3	60	49	129		
33.0		39.7	58.9	60	54	127	61.1	70	56	129		
41.7	50.2	72.0	80	66	127	74.3	80	68	129			
575 – 3 – 60	STD	–	–	13.1	15	14	77	16.9	20	18	81	
		17.0	20.4	28.5	30	26	77	33.3	35	31	81	
		34.0	40.9	54.1	60	50	77	58.9	60	54	81	
	MED	–	–	13.5	15	14	92	17.3	20	19	96	
		17.0	20.4	29.0	30	27	92	33.8	35	31	96	
		34.0	40.9	54.6	60	50	92	59.4	60	55	96	
	HIGH	–	–	16.6	20	17	106	20.4	25	22	110	
		17.0	20.4	32.5	35	30	106	37.3	40	34	110	
		34.0	40.9	58.1	60	53	106	62.9	70	58	110	

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 87.

Table 64 –(cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		NO C.O. or UNPWR C.O.							
			Nom* (kW)	FLA	NO PE.				w/ PE. (pwrd fr/unit)			
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE	
							FLA	LRA			FLA	LRA
50TC*A09	208/230 – 3 – 60	STD	None	None	45.1	60	43	222	48.9	60	48	226
			7.8/10.4	21.7/25.0	45.1/45.1	60/60	43/43	222/222	48.9/48.9	60/60	48/48	226/226
			12.0/16.0	33.4/38.5	48.3/54.6	60/60	44/50	222/222	53.0/59.4	60/60	49/55	226/226
			18.6/24.8	51.7/59.7	71.1/81.1	80/90	65/75	222/222	75.9/85.9	80/90	70/79	226/226
			24.0/32.0	66.7/77.0	89.9/102.8	90/110	83/95	222/222	94.6/107.5	100/110	87/99	226/226
		31.8/42.4	88.4/102.0	117.0/134.0	125/150	108/123	222/222	121.8/138.8	125/150	112/128	226/226	
		MED	None	None	45.1	60	43	233	48.9	60	48	237
			7.8/10.4	21.7/25.0	45.1/45.1	60/60	43/43	233/233	48.9/48.9	60/60	48/48	237/237
			12.0/16.0	33.4/38.5	48.3/54.6	60/60	44/50	233/233	53.0/59.4	60/60	49/55	237/237
	18.6/24.8		51.7/59.7	71.1/81.1	80/90	65/75	233/233	75.9/85.9	80/90	70/79	237/237	
	HIGH	None	None	49.9	60	49	276	53.7	80	53	280	
		7.8/10.4	21.7/25.0	49.9/49.9	60/60	49/49	276/276	53.7/53.7	80/80	53/53	280/280	
12.0/16.0		33.4/38.5	54.3/60.6	60/70	50/56	276/276	59.0/65.4	80/80	54/60	280/280		
18.6/24.8		51.7/59.7	77.1/87.1	80/90	71/80	276/276	81.9/91.9	90/100	75/85	280/280		
50TC*A09	480 – 3 – 60	STD	None	None	22.6	30	22	108	24.4	30	24	110
			13.9	16.7	24.1	30	22	108	26.4	30	24	110
			16.5	19.8	28.0	30	26	108	30.3	35	28	110
			27.8	33.4	45.0	50	41	108	47.3	50	43	110
			33.0	39.7	52.9	60	49	108	55.1	60	51	110
		41.7	50.2	66.0	70	61	108	68.3	70	63	110	
		MED	None	None	22.6	30	22	114	24.4	30	24	116
			13.9	16.7	24.1	30	22	114	26.4	30	24	116
			16.5	19.8	28.0	30	26	114	30.3	35	28	116
	27.8		33.4	45.0	50	41	114	47.3	50	43	116	
	HIGH	None	None	24.4	30	24	136	26.2	30	26	138	
		13.9	16.7	26.4	30	24	136	28.6	30	26	138	
16.5		19.8	30.3	35	28	136	32.5	40	30	138		
27.8		33.4	47.3	50	43	136	49.5	50	46	138		
50TC*A09	575 – 3 – 60	STD	None	None	18.9	30	18	91	22.7	30	23	95
			17.0	20.4	28.5	30	26	91	33.3	35	31	95
			34.0	40.9	54.1	60	50	91	58.9	60	54	95
		MED	None	None	18.5	30	18	95	22.3	30	22	99
			17.0	20.4	28.0	30	26	95	32.8	35	30	99
			34.0	40.9	53.6	60	49	95	58.4	60	54	99
		HIGH	None	None	19.3	30	19	106	23.1	30	23	110
			17.0	20.4	29.0	30	27	106	33.8	35	31	110
			34.0	40.9	54.6	60	50	106	59.4	60	55	110

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 87.

50TC

Table 64 –(cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

UNIT	NOM. V – PH – HZ	ELECTRIC HEATER		NO C.O. or UNPWR C.O.									
		IFM TYPE	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE		
							FLA	LRA			FLA	LRA	
50TC	208/230 – 3 – 60	STD	–	–	40.0	50	42	208	43.8	50	46	212	
			7.8/10.4	21.7/25.0	40.0/40.0	50/50	42/42	208/208	43.8/43.8	50/50	46/46	212/212	
			12.0/16.0	33.4/38.5	48.3/54.6	50/60	44/50	208/208	53.0/59.4	60/60	49/55	212/212	
			18.6/24.8	51.7/59.7	71.1/81.1	80/90	65/75	208/208	75.9/85.9	80/90	70/79	212/212	
			24.0/32.0	66.7/77.0	89.9/102.8	90/110	83/95	208/208	94.6/107.5	100/110	87/99	212/212	
			31.8/42.4	88.4/102.0	117.0/134.0	125/150	108/123	208/208	121.8/138.8	125/150	112/128	212/212	
		MED	–	–	40.0	50	42	219	43.8	50	46	223	
			7.8/10.4	21.7/25.0	40.0/40.0	50/50	42/42	219/219	43.8/43.8	50/50	46/46	223/223	
			12.0/16.0	33.4/38.5	48.3/54.6	50/60	44/50	219/219	53.0/59.4	60/60	49/55	223/223	
			18.6/24.8	51.7/59.7	71.1/81.1	80/90	65/75	219/219	75.9/85.9	80/90	70/79	223/223	
			24.0/32.0	66.7/77.0	89.9/102.8	90/110	83/95	219/219	94.6/107.5	100/110	87/99	223/223	
			31.8/42.4	88.4/102.0	117.0/134.0	125/150	108/123	219/219	121.8/138.8	125/150	112/128	223/223	
	HIGH	–	–	44.8	50	47	262	48.6	60	52	266		
		7.8/10.4	21.7/25.0	44.8/44.8	50/50	47/47	262/262	48.6/48.6	60/60	52/52	266/266		
		12.0/16.0	33.4/38.5	54.3/60.6	60/70	50/56	262/262	59.0/65.4	60/70	54/60	266/266		
		18.6/24.8	51.7/59.7	77.1/87.1	80/90	71/80	262/262	81.9/91.9	90/100	75/85	266/266		
		24.0/32.0	66.7/77.0	95.9/108.8	100/110	88/100	262/262	100.6/113.5	110/125	93/104	266/266		
		31.8/42.4	88.4/102.0	123.0/140.0	125/150	113/129	262/262	127.8/144.8	150/150	118/133	266/266		
	50TC*D09	460 – 3 – 60	STD	–	–	18.3	20	19	109	20.1	25	21	111
				13.9	16.7	24.1	25	22	109	26.4	30	24	111
				16.5	19.8	28.0	30	26	109	30.3	35	28	111
				27.8	33.4	45.0	50	41	109	47.3	50	43	111
				33.0	39.7	52.9	60	49	109	55.1	60	51	111
				41.7	50.2	66.0	70	61	109	68.3	70	63	111
MED		–	–	18.3	20	19	115	20.1	25	21	117		
		13.9	16.7	24.1	25	22	115	26.4	30	24	117		
		16.5	19.8	28.0	30	26	115	30.3	35	28	117		
		27.8	33.4	45.0	50	41	115	47.3	50	43	117		
		33.0	39.7	52.9	60	49	115	55.1	60	51	117		
		41.7	50.2	66.0	70	61	115	68.3	70	63	117		
HIGH		–	–	20.1	25	21	137	21.9	25	23	139		
		13.9	16.7	26.4	30	24	137	28.6	30	26	139		
		16.5	19.8	30.3	35	28	137	32.5	35	30	139		
		27.8	33.4	47.3	50	43	137	49.5	50	46	139		
		33.0	39.7	55.1	60	51	137	57.4	60	53	139		
		41.7	50.2	68.3	70	63	137	70.5	80	65	139		
575 – 3 – 60	STD	–	–	15.9	20	17	85	19.7	25	21	89		
		17.0	20.4	28.5	30	26	85	33.3	35	31	89		
		34.0	40.9	54.1	60	50	85	58.9	60	54	89		
	MED	–	–	15.5	20	16	89	19.3	25	20	93		
		17.0	20.4	28.0	30	26	89	32.8	35	30	93		
		34.0	40.9	53.6	60	49	89	58.4	60	54	93		
	HIGH	–	–	16.3	20	17	100	20.1	25	21	104		
		17.0	20.4	29.0	30	27	100	33.8	35	31	104		
		34.0	40.9	54.6	60	50	100	59.4	60	55	104		

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 87.

Table 64 –(cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		NO C.O. or UNPWR C.O.							
			Nom* (kW)	FLA	NO PE.				w/ PE. (pwrd fr/unit)			
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE	
							FLA	LRA			FLA	LRA
50TC*A12	208/230 – 3 – 60	STD	None	None	45.8	60	44	263	49.6	60	48	267
			7.8/10.4	21.7/25.0	45.8/45.8	60/60	44/44	263/263	49.6/49.6	60/60	48/48	267/267
			12.0/16.0	33.4/38.5	48.3/54.6	60/60	44/50	263/263	53.0/59.4	60/60	49/55	267/267
			24.0/32.0	66.7/77.0	89.9/102.8	90/110	83/95	263/263	94.6/107.5	100/110	87/99	267/267
			31.8/42.4	88.4/102.0	117.0/134.0	125/150	108/123	263/263	121.8/138.8	125/150	112/128	267/267
			37.6/50.0	104.2/120.3	136.8/126.8	150/150	126/144	263/263	141.5/131.6	150/150	130/149	267/267
		MED	None	None	50.6	60	50	306	54.4	80	54	310
			7.8/10.4	21.7/25.0	50.6/50.6	60/60	50/50	306/306	54.4/54.4	80/80	54/54	310/310
			12.0/16.0	33.4/38.5	54.3/60.6	60/80	50/56	306/306	59.0/65.4	80/80	54/60	310/310
	HIGH	24.0/32.0	66.7/77.0	95.9/108.8	100/110	88/100	306/306	100.6/113.5	110/125	93/104	310/310	
		31.8/42.4	88.4/102.0	123.0/140.0	125/150	113/129	306/306	127.8/144.8	150/150	118/133	310/310	
		37.6/50.0	104.2/120.3	142.8/132.8	150/150	131/150	306/306	147.5/137.6	150/150	136/154	310/310	
None		None	55.6	80	55	315	59.4	80	60	319		
7.8/10.4		21.7/25.0	55.6/55.6	80/80	55/55	315/315	59.4/59.4	80/80	60/60	319/319		
12.0/16.0		33.4/38.5	60.5/66.9	80/80	56/62	315/315	65.3/71.6	80/80	60/66	319/319		
480 – 3 – 60	STD	None	None	25.1	30	24	133	26.9	40	26	135	
		13.9	16.7	25.1	30	24	133	26.9	40	26	135	
		16.5	19.8	28.0	30	26	133	30.3	40	28	135	
		33.0	39.7	52.9	60	49	133	55.1	60	51	135	
		41.7	50.2	66.0	70	61	133	68.3	70	63	135	
		50.0	60.1	63.4	70	72	133	65.6	70	74	135	
	MED	None	None	26.9	40	26	155	28.7	45	28	157	
		13.9	16.7	26.9	40	26	155	28.7	45	28	157	
		16.5	19.8	30.3	40	28	155	32.5	45	30	157	
HIGH	33.0	39.7	55.1	60	51	155	57.4	60	53	157		
	41.7	50.2	68.3	70	63	155	70.5	80	65	157		
	50.0	60.1	65.6	80	74	155	67.9	80	76	157		
	None	None	29.9	45	30	159	31.7	45	32	161		
	13.9	16.7	30.1	45	30	159	32.4	45	32	161		
	16.5	19.8	34.0	45	31	159	36.3	45	33	161		
575 – 3 – 60	STD	None	None	18.5	30	18	95	22.3	30	22	99	
		17.0	20.4	28.0	30	26	95	32.8	35	30	99	
		34.0	40.9	53.6	60	49	95	58.4	60	54	99	
		51.0	61.3	63.8	70	73	95	68.6	80	77	99	
		None	None	19.3	30	19	106	23.1	30	23	110	
		17.0	20.4	29.0	30	27	106	33.8	35	31	110	
	MED	34.0	40.9	54.6	60	50	106	59.4	60	55	110	
		51.0	61.3	64.8	70	74	106	69.6	80	78	110	
		None	None	22.1	30	22	120	25.9	30	26	124	
HIGH	17.0	20.4	32.5	35	30	120	37.3	40	34	124		
	34.0	40.9	58.1	60	53	120	62.9	70	58	124		
	51.0	61.3	68.3	80	77	120	73.1	80	81	124		
	51.0	61.3	68.3	80	77	120	73.1	80	81	124		

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 87.

50TC

Table 64 –(cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		NO C.O. or UNPWR C.O.							
			Nom* (kW)	FLA	NO PE.				w/ P.E. (pwr fr/unit)			
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE	
							FLA	LRA			FLA	LRA
50TC	208/230 – 3 – 60	STD	–	–	43.7	50	46	258	47.5	60	50	262
			7.8/10.4	21.7/25.0	43.7/43.7	50/50	46/46	258/258	47.5/47.5	60/60	50/50	262/262
			12.0/16.0	33.4/38.5	48.3/54.6	50/60	46/50	258/258	53.0/59.4	60/60	50/55	262/262
			24.0/32.0	66.7/77.0	89.9/102.8	90/110	83/95	258/258	94.6/107.5	100/110	87/99	262/262
			31.8/42.4	88.4/102.0	117.0/134.0	125/150	108/123	258/258	121.8/138.8	125/150	112/128	262/262
		37.6/50.0	104.2/120.3	136.8/126.8	150/150	126/144	258/258	141.5/131.6	150/150	130/149	262/262	
		MED	–	–	48.5	60	51	301	52.3	60	56	305
			7.8/10.4	21.7/25.0	48.5/48.5	60/60	51/51	301/301	52.3/52.3	60/60	56/56	305/305
			12.0/16.0	33.4/38.5	54.3/60.6	60/70	51/56	301/301	59.0/65.4	60/70	56/60	305/305
	24.0/32.0		66.7/77.0	95.9/108.8	100/110	88/100	301/301	100.6/113.5	110/125	93/104	305/305	
	HIGH	–	–	53.5	60	57	310	57.3	70	61	314	
		7.8/10.4	21.7/25.0	53.5/53.5	60/60	57/57	310/310	57.3/57.3	70/70	61/61	314/314	
12.0/16.0		33.4/38.5	60.5/66.9	70/70	57/62	310/310	65.3/71.6	70/80	61/66	314/314		
24.0/32.0		66.7/77.0	102.1/115.0	110/125	94/106	310/310	106.9/119.8	110/125	98/110	314/314		
31.8/42.4		88.4/102.0	129.3/146.3	150/150	119/135	310/310	134.0/151.0	150/175	123/139	314/314		
37.6/50.0	104.2/120.3	149.0/139.1	150/175	137/156	310/310	153.8/143.8	175/175	141/160	314/314			
50TC*D12	460 – 3 – 60	STD	–	–	21.5	25	23	123	23.3	30	25	125
			13.9	16.7	24.1	25	23	123	26.4	30	25	125
			16.5	19.8	28.0	30	26	123	30.3	35	28	125
			33.0	39.7	52.9	60	49	123	55.1	60	51	125
			41.7	50.2	66.0	70	61	123	68.3	70	63	125
		50.0	60.1	63.4	70	72	123	65.6	70	74	125	
	MED	–	–	23.3	30	25	145	25.1	30	27	147	
		13.9	16.7	26.4	30	25	145	28.6	30	27	147	
		16.5	19.8	30.3	35	28	145	32.5	35	30	147	
		33.0	39.7	55.1	60	51	145	57.4	60	53	147	
		41.7	50.2	68.3	70	63	145	70.5	80	65	147	
	50.0	60.1	65.6	80	74	145	67.9	80	76	147		
HIGH	–	–	26.3	30	28	149	28.1	35	30	151		
	13.9	16.7	30.1	35	28	149	32.4	35	30	151		
	16.5	19.8	34.0	35	31	149	36.3	40	33	151		
	33.0	39.7	58.9	60	54	149	61.1	70	56	151		
	41.7	50.2	72.0	80	66	149	74.3	80	68	151		
50.0	60.1	69.4	80	78	149	71.6	80	80	151			
575 – 3 – 60	STD	–	–	16.2	20	17	93	20.0	25	21	97	
		17.0	20.4	28.0	30	26	93	32.8	35	30	97	
		34.0	40.9	53.6	60	49	93	58.4	60	54	97	
		51.0	61.3	63.8	70	73	93	68.6	80	77	97	
	MED	–	–	17.0	20	18	104	20.8	25	22	108	
		17.0	20.4	29.0	30	27	104	33.8	35	31	108	
		34.0	40.9	54.6	60	50	104	59.4	60	55	108	
		51.0	61.3	64.8	70	74	104	69.6	80	78	108	
	HIGH	–	–	19.8	25	21	118	23.6	30	25	122	
17.0	20.4	32.5	35	30	118	37.3	40	34	122			
34.0	40.9	58.1	60	53	118	62.9	70	58	122			
51.0	61.3	68.3	80	77	118	73.1	80	81	122			

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 87.

Table 64 –(cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		NO C.O. or UNPWR C.O.							
			Nom* (kW)	FLA	NO PE.				w/ P.E. (pwrd fr/unit)			
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE	
							FLA	LRA			FLA	LRA
50TC*D14	208/230 – 3 – 60	STD	–	–	60.7	80	63	360	64.5	80	68	364
			7.8/10.4	21.7/25.0	60.7/60.7	80/80	63/63	360/360	64.5/64.5	80/80	68/68	364/364
			12.0/16.0	33.4/38.5	60.7/60.7	80/80	63/63	360/360	64.5/64.5	80/80	68/68	364/364
			24.0/32.0	66.7/77.0	92.8/105.6	100/110	85/97	360/360	97.5/110.4	100/125	90/102	364/364
			31.8/42.4	88.4/102.0	119.9/136.9	125/150	110/126	360/360	124.6/141.6	125/150	115/130	364/364
		37.6/50.0	104.2/120.3	139.6/129.7	150/150	128/147	360/360	144.4/134.4	150/150	133/151	364/364	
		MED	–	–	63.2	80	66	377	67.0	80	71	381
			7.8/10.4	21.7/25.0	63.2/63.2	80/80	66/66	377/377	67.0/67.0	80/80	71/71	381/381
			12.0/16.0	33.4/38.5	63.2/63.2	80/80	66/66	377/377	67.0/67.0	80/80	71/71	381/381
	24.0/32.0		66.7/77.0	95.9/108.8	100/110	88/100	377/377	100.6/113.5	110/125	93/104	381/381	
	HIGH	31.8/42.4	88.4/102.0	123.0/140.0	125/150	113/129	377/377	127.8/144.8	150/150	118/133	381/381	
		37.6/50.0	104.2/120.3	142.8/132.8	150/150	131/150	377/377	147.5/137.6	150/150	136/154	381/381	
–		–	68.2	80	72	386	72.0	80	76	390		
7.8/10.4		21.7/25.0	68.2/68.2	80/80	72/72	386/386	72.0/72.0	80/80	76/76	390/390		
12.0/16.0		33.4/38.5	68.2/68.2	80/80	72/72	386/386	72.0/72.0	80/80	76/76	390/390		
460 – 3 – 60	STD	24.0/32.0	66.7/77.0	102.1/115.0	110/125	94/106	386/386	106.9/119.8	110/125	98/110	390/390	
		31.8/42.4	88.4/102.0	129.3/146.3	150/150	119/135	386/386	134.0/151.0	150/175	123/139	390/390	
		37.6/50.0	104.2/120.3	149.0/139.1	150/175	137/156	386/386	153.8/143.8	175/175	141/160	390/390	
		–	–	29.5	40	31	181	31.3	40	33	183	
		13.9	16.7	29.5	40	31	181	31.3	40	33	183	
	16.5	19.8	29.5	40	31	181	31.3	40	33	183		
575 – 3 – 60	MED	33.0	39.7	53.9	60	50	181	56.1	60	52	183	
		41.7	50.2	67.0	70	62	181	69.3	70	64	183	
		50.0	60.1	64.4	70	73	181	66.6	70	75	183	
		–	–	30.5	40	32	190	32.3	40	34	192	
		13.9	16.7	30.5	40	32	190	32.3	40	34	192	
	16.5	19.8	30.5	40	32	190	32.5	40	34	192		
50TC*D14	HIGH	33.0	39.7	55.1	60	51	190	57.4	60	53	192	
		41.7	50.2	68.3	70	63	190	70.5	80	65	192	
		50.0	60.1	65.6	80	74	190	67.9	80	76	192	
		–	–	33.5	40	35	194	35.3	45	37	196	
		13.9	16.7	33.5	40	35	194	35.3	45	37	196	
	16.5	19.8	34.0	40	35	194	36.3	45	37	196		
50TC*D14	STD	33.0	39.7	58.9	60	54	194	61.1	70	56	196	
		41.7	50.2	72.0	80	66	194	74.3	80	68	196	
		50.0	60.1	69.4	80	78	194	71.6	80	80	196	
		–	–	22.3	30	23	142	26.1	30	28	146	
		17.0	20.4	29.0	30	27	142	33.8	35	31	146	
	34.0	40.9	54.6	60	50	142	59.4	60	55	146		
50TC*D14	MED	51.0	61.3	64.8	70	74	142	69.6	80	78	146	
		–	–	22.3	30	23	142	26.1	30	28	146	
		17.0	20.4	29.0	30	27	142	33.8	35	31	146	
		34.0	40.9	54.6	60	50	142	59.4	60	55	146	
		51.0	61.3	64.8	70	74	142	69.6	80	78	146	
	HIGH	–	–	25.1	30	27	156	28.9	35	31	160	
17.0		20.4	32.5	35	30	156	37.3	40	34	160		
34.0		40.9	58.1	60	53	156	62.9	70	58	160		
51.0		61.3	68.3	80	77	156	73.1	80	81	160		

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 87.

50TC

Table 65 – MCA/MOCP DETERMINATION W/ PWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		W/PWRD C.O.								
			Nom* (kW)	FLA	NO PE.				w/ P.E. (pwrd fr/unit)				
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE		
							FLA	LRA			FLA	LRA	
50TC	208/230 – 1 – 60	STD	None	None	32	45	32	100	33.9	50	34	102	
			3.3/4.4	15.9/18.3	32.0/35.0	45/45	32/32	100/100	34.4/37.4	50/50	34/34	102/102	
			4.9/6.5	23.5/27.1	41.5/46.0	45/50	38/42	100/100	43.9/48.4	50/50	40/45	102/102	
			6.5/8.7	31.4/36.3	51.4/57.5	60/60	47/53	100/100	53.8/59.9	60/60	49/55	102/102	
			7.9/10.5	37.9/43.8	59.5/66.9	60/70	55/62	100/100	61.9/69.3	70/70	57/64	102/102	
			9.8/13.0	46.9/54.2	70.8/79.9	80/80	65/73	100/100	73.1/82.3	80/90	67/76	102/102	
	208/230 – 3 – 60	MED	None	None	32	45	32	100	33.9	50	34	102	
			3.3/4.4	15.9/18.3	32.0/35.0	45/45	32/32	100/100	34.4/37.4	50/50	34/34	102/102	
			4.9/6.5	23.5/27.1	41.5/46.0	45/50	38/42	100/100	43.9/48.4	50/50	40/45	102/102	
			6.5/8.7	31.4/36.3	51.4/57.5	60/60	47/53	100/100	53.8/59.9	60/60	49/55	102/102	
			7.9/10.5	37.9/43.8	59.5/66.9	60/70	55/62	100/100	61.9/69.3	70/70	57/64	102/102	
			9.8/13.0	46.9/54.2	70.8/79.9	80/80	65/73	100/100	73.1/82.3	80/90	67/76	102/102	
	50TC*A04	208/230 – 3 – 60	STD	None	None	24.2	30	25	94	26.1	30	27	96
				3.3/4.4	9.2/10.6	24.2/25.4	30/30	25/25	94/94	26.1/27.8	30/30	27/27	96/96
				4.9/6.5	13.6/15.6	29.1/31.6	30/35	27/29	94/94	31.5/34.0	35/35	29/31	96/96
				6.5/8.7	18.1/20.9	34.8/38.3	35/40	32/35	94/94	37.1/40.6	40/45	34/37	96/96
				7.9/10.5	21.9/25.3	39.5/43.8	40/45	36/40	94/94	41.9/46.1	45/50	39/42	96/96
				12.0/16.0	33.4/38.5	53.9/60.3	60/70	50/55	94/94	56.3/62.6	60/70	52/58	96/96
		460 – 3 – 60	MED	None	None	24.2	30	25	94	26.1	30	27	96
				3.3/4.4	9.2/10.6	24.2/25.4	30/30	25/25	94/94	26.1/27.8	30/30	27/27	96/96
				4.9/6.5	13.6/15.6	29.1/31.6	30/35	27/29	94/94	31.5/34.0	35/35	29/31	96/96
				6.5/8.7	18.1/20.9	34.8/38.3	35/40	32/35	94/94	37.1/40.6	40/45	34/37	96/96
				7.9/10.5	21.9/25.3	39.5/43.8	40/45	36/40	94/94	41.9/46.1	45/50	39/42	96/96
				12.0/16.0	33.4/38.5	53.9/60.3	60/70	50/55	94/94	56.3/62.6	60/70	52/58	96/96
575 – 3 – 60	460 – 3 – 60	HIGH	None	None	24.5	30	25	112	26.4	30	27	114	
			3.3/4.4	9.2/10.6	24.5/25.8	30/30	25/25	112/112	26.4/28.1	30/30	27/27	114/114	
			4.9/6.5	13.6/15.6	29.5/32.0	30/35	27/29	112/112	31.9/34.4	35/35	29/32	114/114	
			6.5/8.7	18.1/20.9	35.1/38.6	40/40	32/36	112/112	37.5/41.0	40/45	35/38	114/114	
			7.9/10.5	21.9/25.3	39.9/44.1	40/45	37/41	112/112	42.3/46.5	45/50	39/43	114/114	
			12.0/16.0	33.4/38.5	54.3/60.6	60/70	50/56	112/112	56.6/63.0	60/70	52/58	114/114	
	575 – 3 – 60	STD	None	None	12.4	15	13	48	13.4	15	14	49	
			6.0	7.2	14.4	15	13	48	15.6	20	14	49	
			8.8	10.6	18.6	20	17	48	19.9	20	18	49	
			11.5	13.8	22.6	25	21	48	23.9	25	22	49	
			14.0	16.8	26.4	30	24	48	27.6	30	25	49	
			None	None	12.4	15	13	48	13.4	15	14	49	
575 – 3 – 60	MED	None	None	12.4	15	13	48	13.4	15	14	49		
		6.0	7.2	14.4	15	13	48	15.6	20	14	49		
		8.8	10.6	18.6	20	17	48	19.9	20	18	49		
		11.5	13.8	22.6	25	21	48	23.9	25	22	49		
		14.0	16.8	26.4	30	24	48	27.6	30	25	49		
		None	None	12.4	15	13	48	13.4	15	14	49		
575 – 3 – 60	HIGH	None	None	12.9	15	13	57	13.9	20	14	58		
		6.0	7.2	15.0	15	14	57	16.3	20	15	58		
		8.8	10.6	19.3	20	18	57	20.5	25	19	58		
		11.5	13.8	23.3	25	21	57	24.5	25	23	58		
		14.0	16.8	27.0	30	25	57	28.3	30	26	58		
		None	None	9	15	9	46	10.9	15	11	48		

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 87.

Table 65 –(cont.) MCA/MOCP DETERMINATION W/ PWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		W/PWRD C.O.							
			Nom* (kW)	FLA	NO PE.				w/ P.E. (pwrd fr/unit)			
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE	
							FLA	LRA			FLA	LRA
50TC*A05	208/230 – 1 – 60	STD	None	None	38.5	60	38	138	40.4	60	40	140
			3.3/4.4	15.9/18.3	38.5/38.5	60/60	38/38	138/138	40.4/40.4	60/60	40/40	140/140
			6.5/8.7	31.4/36.3	51.4/57.5	60/60	47/53	138/138	53.8/59.9	60/60	49/55	140/140
			9.8/13.0	46.9/54.2	70.8/79.9	80/80	65/73	138/138	73.1/82.3	80/90	67/76	140/140
	13.1/17.4	62.8/72.5	90.6/102.8	100/110	83/95	138/138	93.0/105.1	100/110	86/97	140/140		
	15.8/21.0	75.8/87.5	106.9/121.5	110/125	98/112	138/138	109.3/123.9	110/125	101/114	140/140		
	MED	None	None	38.5	60	38	138	40.4	60	40	140	
		3.3/4.4	15.9/18.3	38.5/38.5	60/60	38/38	138/138	40.4/40.4	60/60	40/40	140/140	
		6.5/8.7	31.4/36.3	51.4/57.5	60/60	47/53	138/138	53.8/59.9	60/60	49/55	140/140	
		9.8/13.0	46.9/54.2	70.8/79.9	80/80	65/73	138/138	73.1/82.3	80/90	67/76	140/140	
	13.1/17.4	62.8/72.5	90.6/102.8	100/110	83/95	138/138	93.0/105.1	100/110	86/97	140/140		
	15.8/21.0	75.8/87.5	106.9/121.5	110/125	98/112	138/138	109.3/123.9	110/125	101/114	140/140		
208/230 – 3 – 60	STD	None	None	28.3	40	29	104	30.2	40	31	106	
		4.9/6.5	13.6/15.6	29.1/31.6	40/40	29/29	104/104	31.5/34.0	40/40	31/31	106/106	
	6.5/8.7	18.1/20.9	34.8/38.3	40/40	32/35	104/104	37.1/40.6	40/45	34/37	106/106		
	12.0/16.0	33.4/38.5	53.9/60.3	60/70	50/55	104/104	56.3/62.6	60/70	52/58	106/106		
	15.8/21.0	43.8/50.5	66.9/75.3	70/80	62/69	104/104	69.3/77.6	70/80	64/71	106/106		
	MED	None	None	28.3	40	29	104	30.2	40	31	106	
4.9/6.5		13.6/15.6	29.1/31.6	40/40	29/29	104/104	31.5/34.0	40/40	31/31	106/106		
6.5/8.7		18.1/20.9	34.8/38.3	40/40	32/35	104/104	37.1/40.6	40/45	34/37	106/106		
12.0/16.0		33.4/38.5	53.9/60.3	60/70	50/55	104/104	56.3/62.6	60/70	52/58	106/106		
15.8/21.0	43.8/50.5	66.9/75.3	70/80	62/69	104/104	69.3/77.6	70/80	64/71	106/106			
HIGH	None	None	28.6	40	29	122	30.5	40	31	124		
	4.9/6.5	13.6/15.6	29.5/32.0	40/40	29/29	122/122	31.9/34.4	40/40	31/32	124/124		
	6.5/8.7	18.1/20.9	35.1/38.6	40/40	32/36	122/122	37.5/41.0	40/45	35/38	124/124		
	12.0/16.0	33.4/38.5	54.3/60.6	60/70	50/56	122/122	56.6/63.0	60/70	52/58	124/124		
15.8/21.0	43.8/50.5	67.3/75.6	70/80	62/70	122/122	69.6/78.0	70/80	64/72	124/124			
460 – 3 – 60	STD	None	None	12.9	15	13	51	13.9	20	14	52	
		6.0	7.2	14.4	15	13	51	15.6	20	14	52	
		11.5	13.8	22.6	25	21	51	23.9	25	22	52	
		14.0	16.8	26.4	30	24	51	27.6	30	25	52	
	23.0	27.7	40.0	45	37	51	41.3	45	38	52		
	MED	None	None	12.9	15	13	51	13.9	20	14	52	
		6.0	7.2	14.4	15	13	51	15.6	20	14	52	
		11.5	13.8	22.6	25	21	51	23.9	25	22	52	
		14.0	16.8	26.4	30	24	51	27.6	30	25	52	
	23.0	27.7	40.0	45	37	51	41.3	45	38	52		
	HIGH	None	None	13.4	15	14	60	14.4	20	15	61	
		6.0	7.2	15.0	15	14	60	16.3	20	15	61	
11.5		13.8	23.3	25	21	60	24.5	25	23	61		
14.0		16.8	27.0	30	25	60	28.3	30	26	61		
23.0	27.7	40.6	45	37	60	41.9	45	39	61			
575 – 3 – 60	STD	None	None	10.2	15	10	46	12.1	15	13	48	
	MED	None	None	10.2	15	10	46	12.1	15	13	48	
	HIGH	None	None	10.3	15	10	52	12.2	15	13	54	

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 87.

50TC

Table 65 –(cont.) MCA/MOCP DETERMINATION W/ PWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		W/PWRD C.O.								
			Nom* (kW)	FLA	NO PE.				w/ P.E. (pwrd fr/unit)				
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE		
							FLA	LRA			FLA	LRA	
50TC	208/230 – 1 – 60	STD	None	None	44	60	43	155	45.9	60	45	157	
			4.9/6.5	23.5/27.1	44.0/46.0	60/60	43/43	155/155	45.9/48.4	60/60	45/45	157/157	
			6.5/8.7	31.4/36.3	51.4/57.5	60/60	47/53	155/155	53.8/59.9	60/60	49/55	157/157	
			9.8/13.0	46.9/54.2	70.8/79.9	80/80	65/73	155/155	73.1/82.3	80/90	67/76	157/157	
			13.1/17.4	62.8/72.5	90.6/102.8	100/110	83/95	155/155	93.0/105.1	100/110	86/97	157/157	
			15.8/21.0	75.8/87.5	106.9/121.5	110/125	98/112	155/155	109.3/123.9	110/125	101/114	157/157	
	208/230 – 3 – 60	MED	None	None	46.1	60	45	180	48	60	48	182	
			4.9/6.5	23.5/27.1	46.1/48.6	60/60	45/45	180/180	48.0/51.0	60/60	48/48	182/182	
			6.5/8.7	31.4/36.3	54.0/60.1	60/70	50/55	180/180	56.4/62.5	60/70	52/58	182/182	
			9.8/13.0	46.9/54.2	73.4/82.5	80/90	68/76	180/180	75.8/84.9	80/90	70/78	182/182	
			13.1/17.4	62.8/72.5	93.3/105.4	100/110	86/97	180/180	95.6/107.8	100/110	88/99	182/182	
			15.8/21.0	75.8/87.5	109.5/124.1	110/125	101/114	180/180	111.9/126.5	125/150	103/116	182/182	
	50TC*A06	208/230 – 3 – 60	STD	None	None	30.7	45	31	131	32.6	45	33	133
				4.9/6.5	13.6/15.6	30.7/31.6	45/45	31/31	131/131	32.6/34.0	45/45	33/33	133/133
				7.9/10.5	21.9/25.3	39.5/43.8	45/45	36/40	131/131	41.9/46.1	45/50	39/42	133/133
				12.0/16.0	33.4/38.5	53.9/60.3	60/70	50/55	131/131	56.3/62.6	60/70	52/58	133/133
				15.8/21.0	43.8/50.5	66.9/75.3	70/80	62/69	131/131	69.3/77.6	70/80	64/71	133/133
				19.9/26.5	55.2/63.8	81.1/91.9	90/100	75/85	131/131	83.5/94.3	90/100	77/87	133/133
460 – 3 – 60		MED	None	None	31	45	31	149	32.9	45	33	151	
			4.9/6.5	13.6/15.6	31.0/32.0	45/45	31/31	149/149	32.9/34.4	45/45	33/33	151/151	
			7.9/10.5	21.9/25.3	39.9/44.1	45/45	37/41	149/149	42.3/46.5	45/50	39/43	151/151	
			12.0/16.0	33.4/38.5	54.3/60.6	60/70	50/56	149/149	56.6/63.0	60/70	52/58	151/151	
			15.8/21.0	43.8/50.5	67.3/75.6	70/80	62/70	149/149	69.6/78.0	70/80	64/72	151/151	
			19.9/26.5	55.2/63.8	81.5/92.3	90/100	75/85	149/149	83.9/94.6	90/100	77/87	151/151	
575 – 3 – 60		HIGH	None	None	33.3	45	34	175	35.2	50	36	177	
			4.9/6.5	13.6/15.6	33.3/34.9	45/45	34/34	175/175	35.2/37.3	50/50	36/36	177/177	
			7.9/10.5	21.9/25.3	42.8/47.0	45/50	39/43	175/175	45.1/49.4	50/50	42/45	177/177	
			12.0/16.0	33.4/38.5	57.1/63.5	60/70	53/58	175/175	59.5/65.9	60/70	55/61	177/177	
			15.8/21.0	43.8/50.5	70.1/78.5	80/80	65/72	175/175	72.5/80.9	80/90	67/74	177/177	
			19.9/26.5	55.2/63.8	84.4/95.1	90/100	78/88	175/175	86.8/97.5	90/100	80/90	177/177	
50TC	208/240V	STD	None	None	14.7	20	15	62	15.7	20	16	63	
			6.0	7.2	14.7	20	15	62	15.7	20	16	63	
			11.5	13.8	22.6	25	21	62	23.9	25	22	63	
			14.0	16.8	26.4	30	24	62	27.6	30	25	63	
			23.0	27.7	40.0	45	37	62	41.3	45	38	63	
			25.5	30.7	43.8	45	40	62	45.0	50	41	63	
	480V	MED	None	None	15.2	20	15	71	16.2	20	16	72	
			6.0	7.2	15.2	20	15	71	16.3	20	16	72	
			11.5	13.8	23.3	25	21	71	24.5	25	23	72	
			14.0	16.8	27.0	30	25	71	28.3	30	26	72	
			23.0	27.7	40.6	45	37	71	41.9	45	39	72	
			25.5	30.7	44.4	45	41	71	45.6	50	42	72	
	600V	HIGH	None	None	16	20	16	84	17	20	17	85	
			6.0	7.2	16.0	20	16	84	17.3	20	17	85	
			11.5	13.8	24.3	25	22	84	25.5	30	23	85	
			14.0	16.8	28.0	30	26	84	29.3	30	27	85	
			23.0	27.7	41.6	45	38	84	42.9	45	39	85	
			25.5	30.7	45.4	50	42	84	46.6	50	43	85	
575 – 3 – 60	STD	None	None	11.5	15	12	48	13.4	15	14	50		
	MED	None	None	11.6	15	12	54	13.5	15	14	56		
	HIGH	None	None	12.4	15	13	65	14.3	20	15	67		

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.

See Legend and calculations on page 87.

Table 65 –(cont.) MCA/MOCP DETERMINATION W/ PWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		W/PWRD C.O.							
			Nom* (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE	
							FLA	LRA			FLA	LRA
50TC*A07	208/230-3-60	STD	None	None	35.3	50	35	162	37.2	50	37	164
			4.9/6.5	13.6/15.6	35.3/35.3	50/50	35/35	162/162	37.2/37.2	50/50	37/37	164/164
			7.9/10.5	21.9/25.3	39.9/44.1	50/50	37/41	162/162	42.3/46.5	50/50	39/43	164/164
			12.0/16.0	33.4/38.5	54.3/60.6	60/70	50/56	162/162	56.6/63.0	60/70	52/58	164/164
			15.8/21.0	43.8/50.5	67.3/75.6	70/80	62/70	162/162	69.6/78.0	70/80	64/72	164/164
		19.9/26.5	55.2/63.8	81.5/92.3	90/100	75/85	162/162	83.9/94.6	90/100	77/87	164/164	
		MED	None	None	37.6	50	38	188	39.5	50	40	190
			4.9/6.5	13.6/15.6	37.6/37.6	50/50	38/38	188/188	39.5/39.5	50/50	40/40	190/190
			7.9/10.5	21.9/25.3	42.8/47.0	50/50	39/43	188/188	45.1/49.4	50/50	42/45	190/190
	12.0/16.0		33.4/38.5	57.1/63.5	60/70	53/58	188/188	59.5/65.9	60/70	55/61	190/190	
	HIGH	15.8/21.0	43.8/50.5	70.1/78.5	80/80	65/72	188/188	72.5/80.9	80/90	67/74	190/190	
		19.9/26.5	55.2/63.8	84.4/95.1	90/100	78/88	188/188	86.8/97.5	90/100	80/90	190/190	
		None	None	37.6	50	38	188	39.5	50	40	190	
		4.9/6.5	13.6/15.6	37.6/37.6	50/50	38/38	188/188	39.5/39.5	50/50	40/40	190/190	
		7.9/10.5	21.9/25.3	42.8/47.0	50/50	39/43	188/188	45.1/49.4	50/50	42/45	190/190	
	460-3-60	STD	None	None	17.7	25	18	81	18.7	25	19	82
			6.0	7.2	17.7	25	18	81	18.7	25	19	82
			11.5	13.8	23.3	25	21	81	24.5	25	23	82
14.0			16.8	27.0	30	25	81	28.3	30	26	82	
23.0			27.7	40.6	45	37	81	41.9	45	39	82	
25.5		30.7	44.4	45	41	81	45.6	50	42	82		
MED		None	None	18.5	25	19	94	19.5	25	20	95	
		6.0	7.2	18.5	25	19	94	19.5	25	20	95	
		11.5	13.8	24.3	25	22	94	25.5	30	23	95	
		14.0	16.8	28.0	30	26	94	29.3	30	27	95	
		23.0	27.7	41.6	45	38	94	42.9	45	39	95	
25.5		30.7	45.4	50	42	94	46.6	50	43	95		
HIGH		None	None	19.5	25	20	103	20.5	30	21	104	
		6.0	7.2	19.5	25	20	103	20.5	30	21	104	
		11.5	13.8	25.5	30	23	103	26.8	30	25	104	
	14.0	16.8	29.3	30	27	103	30.5	35	28	104		
	23.0	27.7	42.9	45	39	103	44.1	45	41	104		
25.5	30.7	46.6	50	43	103	47.9	50	44	104			
575-3-60	STD	None	None	13.6	20	13	65	15.5	20	16	67	
	MED	None	None	14.4	20	14	76	16.3	20	17	78	
	HIGH	None	None	14.4	20	14	76	16.3	20	17	78	

50TC

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.

LEGEND:

- C.O. – Convenience outlet
- DISC – Disconnect
- FLA – Full load amps
- IFM – Indoor fan motor
- LRA – Locked rotor amps
- MCA – Minimum circuit amps
- MOCP – Maximum over current protection
- P.E. – Power exhaust
- UNPWRD C.O. – Unpowered convenience outlet



Example: Supply voltage is 230-3-60



AB = 224 v
BC = 231 v
AC = 226 v

$$\text{Average Voltage} = \frac{(224 + 231 + 226)}{3} = \frac{681}{3} = 227$$

Determine maximum deviation from average voltage.

(AB) 227 – 224 = 3 v

Maximum deviation is 4 v.

(BC) 231 – 227 = 4 v

Determine percent of voltage imbalance.

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

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Table 65 –(cont.) MCA/MOCP DETERMINATION W/ PWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		W/PWRD C.O.							
			Nom* (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE	
							FLA	LRA			FLA	LRA
50TC	208/230 – 3 – 60	STD	None	None	44.3	60	44	196	48.1	60	48	200
			7.8/10.4	21.7/25.0	44.3/44.3	60/60	44/44	196/196	48.1/48.5	60/60	48/48	200/200
			12.0/16.0	33.4/38.5	54.3/60.6	60/70	50/56	196/196	59.0/65.4	60/70	54/60	200/200
			18.6/24.8	51.7/59.7	77.1/87.1	80/90	71/80	196/196	81.9/91.9	90/100	75/85	200/200
			24.0/32.0	66.7/77.0	95.9/108.8	100/110	88/100	196/196	100.6/113.5	110/125	93/104	200/200
		31.8/42.4	88.4/102.0	123.0/140.0	125/150	113/129	196/196	127.8/144.8	150/150	118/133	200/200	
		MED	None	None	46.6	60	46	233	50.4	60	51	237
			7.8/10.4	21.7/25.0	46.6/46.6	60/60	46/46	233/233	50.4/51.4	60/60	51/51	237/237
			12.0/16.0	33.4/38.5	57.1/63.5	60/70	53/58	233/233	61.9/68.3	70/70	57/63	237/237
	18.6/24.8		51.7/59.7	80.0/90.0	90/100	74/83	233/233	84.8/94.8	90/100	78/87	237/237	
	HIGH	24.0/32.0	66.7/77.0	98.8/111.6	100/125	91/103	233/233	103.5/116.4	110/125	95/107	237/237	
		31.8/42.4	88.4/102.0	125.9/142.9	150/150	116/131	233/233	130.6/147.6	150/150	120/136	237/237	
None		None	54.1	70	55	259	57.9	80	59	263		
7.8/10.4		21.7/25.0	54.1/56.0	70/70	55/55	259/259	57.9/60.8	80/80	59/59	263/263		
12.0/16.0		33.4/38.5	66.5/72.9	70/80	61/67	259/259	71.3/77.6	80/80	66/71	263/263		
50TC*A08	480 – 3 – 60	STD	None	None	21.7	30	21	115	23.5	30	23	117
			13.9	16.7	26.9	30	25	115	29.1	30	27	117
			16.5	19.8	30.8	35	28	115	33.0	35	30	117
			27.8	33.4	47.8	50	44	115	50.0	60	46	117
			33.0	39.7	55.6	60	51	115	57.9	60	53	117
		41.7	50.2	68.8	70	63	115	71.0	80	65	117	
		MED	None	None	22.5	30	22	134	24.3	30	24	136
			13.9	16.7	27.9	30	26	134	30.1	35	28	136
			16.5	19.8	31.8	35	29	134	34.0	35	31	136
	27.8		33.4	48.8	50	45	134	51.0	60	47	136	
	HIGH	33.0	39.7	56.6	60	52	134	58.9	60	54	136	
		41.7	50.2	69.8	70	64	134	72.0	80	66	136	
None		None	26.5	30	27	147	28.3	40	29	149		
13.9		16.7	32.9	35	30	147	35.1	40	32	149		
16.5		19.8	36.8	40	34	147	39.0	40	36	149		
575 – 3 – 60	STD	27.8	33.4	53.8	60	49	147	56.0	60	52	149	
		33.0	39.7	61.6	70	57	147	63.9	70	59	149	
		41.7	50.2	74.8	80	69	147	77.0	80	71	149	
	MED	None	None	16.6	25	16	91	20.4	25	21	95	
		17.0	20.4	30.6	35	28	91	35.4	40	33	95	
HIGH	34.0	40.9	56.3	60	52	91	61.0	70	56	95		
	None	None	17	25	17	106	20.8	25	21	110		
	17.0	20.4	31.1	35	29	106	35.9	40	33	110		
575 – 3 – 60	MED	34.0	40.9	56.8	60	52	106	61.5	70	57	110	
		None	None	19.8	25	20	120	23.6	30	24	124	
	HIGH	17.0	20.4	34.6	35	32	120	39.4	40	36	124	
34.0		40.9	60.3	70	55	120	65.0	70	60	124		

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.

See Legend and calculations on page 87.

Table 65 –(cont.) MCA/MOCP DETERMINATION W/ PWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		W/PWRD C.O.							
			Nom* (kW)	FLA	NO PE.				w/ P.E. (pwrd fr/unit)			
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE	
							FLA	LRA			FLA	LRA
50TC*D08	208/230 – 3 – 60	STD	–	–	43.6	50	46	198	47.4	60	51	202
			7.8/10.4	21.7/25.0	43.6/43.8	50/50	46/46	198/198	47.4/48.5	60/60	51/51	202/202
			12.0/16.0	33.4/38.5	54.3/60.6	60/70	50/56	198/198	59.0/65.4	60/70	54/60	202/202
			18.6/24.8	51.7/59.7	77.1/87.1	80/90	71/80	198/198	81.9/91.9	90/100	75/85	202/202
			24.0/32.0	66.7/77.0	95.9/108.8	100/110	88/100	198/198	100.6/113.5	110/125	93/104	202/202
		31.8/42.4	88.4/102.0	123.0/140.0	125/150	113/129	198/198	127.8/144.8	150/150	118/133	202/202	
		MED	–	–	45.9	50	49	235	49.7	60	53	239
			7.8/10.4	21.7/25.0	45.9/46.6	50/50	49/49	235/235	49.7/51.4	60/60	53/53	239/239
			12.0/16.0	33.4/38.5	57.1/63.5	60/70	53/58	235/235	61.9/68.3	70/70	57/63	239/239
	18.6/24.8		51.7/59.7	80.0/90.0	90/100	74/83	235/235	84.8/94.8	90/100	78/87	239/239	
	HIGH	–	–	53.8	60	58	261	57.6	70	62	265	
		7.8/10.4	21.7/25.0	53.8/56.0	60/60	58/58	261/261	57.6/60.8	70/70	62/62	265/265	
		12.0/16.0	33.4/38.5	66.5/72.9	70/80	61/67	261/261	71.3/77.6	80/80	66/71	265/265	
		18.6/24.8	51.7/59.7	89.4/99.4	90/100	82/91	261/261	94.1/104.1	100/110	87/96	265/265	
		24.0/32.0	66.7/77.0	108.1/121.0	110/125	99/111	261/261	112.9/125.8	125/150	104/116	265/265	
31.8/42.4	88.4/102.0	135.3/152.3	150/175	124/140	261/261	140.0/157.0	150/175	129/144	265/265			
460 – 3 – 60	STD	–	–	20.1	25	21	97	21.9	25	23	99	
		13.9	16.7	26.9	30	25	97	29.1	30	27	99	
		16.5	19.8	30.8	35	28	97	33.0	35	30	99	
		27.8	33.4	47.8	50	44	97	50.0	60	46	99	
		33.0	39.7	55.6	60	51	97	57.9	60	53	99	
		41.7	50.2	68.8	70	63	97	71.0	80	65	99	
	MED	–	–	20.9	25	22	116	22.7	25	24	118	
		13.9	16.7	27.9	30	26	116	30.1	35	28	118	
		16.5	19.8	31.8	35	29	116	34.0	35	31	118	
		27.8	33.4	48.8	50	45	116	51.0	60	47	118	
		33.0	39.7	56.6	60	52	116	58.9	60	54	118	
	41.7	50.2	69.8	70	64	116	72.0	80	66	118		
HIGH	–	–	25.3	30	27	129	27.1	30	29	131		
	13.9	16.7	32.9	35	30	129	35.1	40	32	131		
	16.5	19.8	36.8	40	34	129	39.0	40	36	131		
	27.8	33.4	53.8	60	49	129	56.0	60	52	131		
	33.0	39.7	61.6	70	57	129	63.9	70	59	131		
41.7	50.2	74.8	80	69	129	77.0	80	71	131			
575 – 3 – 60	STD	–	–	14.8	20	16	79	18.6	20	20	83	
		17.0	20.4	30.6	35	28	79	35.4	40	33	83	
		34.0	40.9	56.3	60	52	79	61.0	70	56	83	
	MED	–	–	15.2	20	16	94	19.0	25	21	98	
		17.0	20.4	31.1	35	29	94	35.9	40	33	98	
		34.0	40.9	56.8	60	52	94	61.5	70	57	98	
	HIGH	–	–	18.3	20	19	108	22.1	25	24	112	
		17.0	20.4	34.6	35	32	108	39.4	40	36	112	
		34.0	40.9	60.3	70	55	108	65.0	70	60	112	

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 87.

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Table 65 –(cont.) MCA/MOCP DETERMINATION W/ PWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		W/PWRD C.O.							
			Nom* (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE	
							FLA	LRA			FLA	LRA
50TC	208/230 – 3 – 60	STD	None	None	49.9	60	49	227	53.7	80	53	231
			7.8/10.4	21.7/25.0	49.9/49.9	60/60	49/49	227/227	53.7/53.7	80/80	53/53	231/231
			12.0/16.0	33.4/38.5	54.3/60.6	60/70	50/56	227/227	59.0/65.4	80/80	54/60	231/231
			18.6/24.8	51.7/59.7	77.1/87.1	80/90	71/80	227/227	81.9/91.9	90/100	75/85	231/231
			24.0/32.0	66.7/77.0	95.9/108.8	100/110	88/100	227/227	100.6/113.5	110/125	93/104	231/231
		31.8/42.4	88.4/102.0	123.0/140.0	125/150	113/129	227/227	127.8/144.8	150/150	118/133	231/231	
		MED	None	None	49.9	60	49	238	53.7	80	53	242
			7.8/10.4	21.7/25.0	49.9/49.9	60/60	49/49	238/238	53.7/53.7	80/80	53/53	242/242
			12.0/16.0	33.4/38.5	54.3/60.6	60/70	50/56	238/238	59.0/65.4	80/80	54/60	242/242
	18.6/24.8		51.7/59.7	77.1/87.1	80/90	71/80	238/238	81.9/91.9	90/100	75/85	242/242	
	HIGH	24.0/32.0	66.7/77.0	95.9/108.8	100/110	88/100	238/238	100.6/113.5	110/125	93/104	242/242	
		31.8/42.4	88.4/102.0	123.0/140.0	125/150	113/129	238/238	127.8/144.8	150/150	118/133	242/242	
None		None	54.7	80	54	281	58.5	80	59	285		
7.8/10.4		21.7/25.0	54.7/54.7	80/80	54/54	281/281	58.5/58.5	80/80	59/59	285/285		
12.0/16.0		33.4/38.5	60.3/66.6	80/80	55/61	281/281	65.0/71.4	80/80	60/66	285/285		
50TC*A09	480 – 3 – 60	STD	None	None	24.8	30	24	110	26.6	40	26	112
			13.9	16.7	26.9	30	25	110	29.1	40	27	112
			16.5	19.8	30.8	35	28	110	33.0	40	30	112
			27.8	33.4	47.8	50	44	110	50.0	60	46	112
			33.0	39.7	55.6	60	51	110	57.9	60	53	112
41.7		50.2	68.8	70	63	110	71.0	80	65	112		
MED	None	None	24.8	30	24	116	26.6	40	26	118		
	13.9	16.7	26.9	30	25	116	29.1	40	27	118		
	16.5	19.8	30.8	35	28	116	33.0	40	30	118		
	27.8	33.4	47.8	50	44	116	50.0	60	46	118		
	33.0	39.7	55.6	60	51	116	57.9	60	53	118		
41.7	50.2	68.8	70	63	116	71.0	80	65	118			
HIGH	None	None	26.6	40	26	138	28.4	40	28	140		
	13.9	16.7	29.1	40	27	138	31.4	40	29	140		
	16.5	19.8	33.0	40	30	138	35.3	40	32	140		
	27.8	33.4	50.0	60	46	138	52.3	60	48	140		
	33.0	39.7	57.9	60	53	138	60.1	70	55	140		
41.7	50.2	71.0	80	65	138	73.3	80	67	140			
575 – 3 – 60	STD	None	None	20.6	30	20	93	24.4	30	24	97	
		17.0	20.4	30.6	35	28	93	35.4	40	33	97	
		34.0	40.9	56.3	60	52	93	61.0	70	56	97	
	MED	None	None	20.2	30	20	97	24	30	24	101	
		17.0	20.4	30.1	35	28	97	34.9	35	32	101	
		34.0	40.9	55.8	60	51	97	60.5	70	56	101	
	HIGH	None	None	21	30	21	108	24.8	30	25	112	
		17.0	20.4	31.1	35	29	108	35.9	40	33	112	
		34.0	40.9	56.8	60	52	108	61.5	70	57	112	

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 87.

Table 65 –(cont.) MCA/MOCP DETERMINATION W/ PWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		w/ PWRD C.O.							
			Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE	
							FLA	LRA			FLA	LRA
50TC*D09	208/230 – 3 – 60	STD	–	–	44.8	50	47	213	48.6	60	52	217
			7.8/10.4	21.7/25.0	44.8/44.8	50/50	47/47	213/213	48.6/48.6	60/60	52/52	217/217
			12.0/16.0	33.4/38.5	54.3/60.6	60/70	50/56	213/213	59.0/65.4	60/70	54/60	217/217
			18.6/24.8	51.7/59.7	77.1/87.1	80/90	71/80	213/213	81.9/91.9	90/100	75/85	217/217
			24.0/32.0	66.7/77.0	95.9/108.8	100/110	88/100	213/213	100.6/113.5	110/125	93/104	217/217
		31.8/42.4	88.4/102.0	123.0/140.0	125/150	113/129	213/213	127.8/144.8	150/150	118/133	217/217	
		MED	–	–	44.8	50	47	224	48.6	60	52	228
			7.8/10.4	21.7/25.0	44.8/44.8	50/50	47/47	224/224	48.6/48.6	60/60	52/52	228/228
			12.0/16.0	33.4/38.5	54.3/60.6	60/70	50/56	224/224	59.0/65.4	60/70	54/60	228/228
	18.6/24.8		51.7/59.7	77.1/87.1	80/90	71/80	224/224	81.9/91.9	90/100	75/85	228/228	
	HIGH	–	–	49.6	60	53	267	53.4	60	57	271	
		7.8/10.4	21.7/25.0	49.6/49.8	60/60	53/53	267/267	53.4/54.5	60/60	57/57	271/271	
12.0/16.0		33.4/38.5	60.3/66.6	70/70	55/61	267/267	65.0/71.4	70/80	60/66	271/271		
18.6/24.8		51.7/59.7	83.1/93.1	90/100	76/86	267/267	87.9/97.9	90/100	81/90	271/271		
24.0/32.0		66.7/77.0	101.9/114.8	110/125	94/106	267/267	106.6/119.5	110/125	98/110	271/271		
31.8/42.4	88.4/102.0	129.0/146.0	150/150	119/134	267/267	133.8/150.8	150/175	123/139	271/271			
460 – 3 – 60	STD	–	–	20.5	25	22	111	22.3	25	24	113	
		13.9	16.7	26.9	30	25	111	29.1	30	27	113	
		16.5	19.8	30.8	35	28	111	33.0	35	30	113	
		27.8	33.4	47.8	50	44	111	50.0	60	46	113	
		33.0	39.7	55.6	60	51	111	57.9	60	53	113	
	41.7	50.2	68.8	70	63	111	71.0	80	65	113		
	MED	–	–	20.5	25	22	117	22.3	25	24	119	
		13.9	16.7	26.9	30	25	117	29.1	30	27	119	
		16.5	19.8	30.8	35	28	117	33.0	35	30	119	
		27.8	33.4	47.8	50	44	117	50.0	60	46	119	
		33.0	39.7	55.6	60	51	117	57.9	60	53	119	
	41.7	50.2	68.8	70	63	117	71.0	80	65	119		
HIGH	–	–	22.3	25	24	139	24.1	30	26	141		
	13.9	16.7	29.1	30	27	139	31.4	35	29	141		
	16.5	19.8	33.0	35	30	139	35.3	40	32	141		
	27.8	33.4	50.0	60	46	139	52.3	60	48	141		
	33.0	39.7	57.9	60	53	139	60.1	70	55	141		
41.7	50.2	71.0	80	65	139	73.3	80	67	141			
575 – 3 – 60	STD	–	–	17.6	20	19	87	21.4	25	23	91	
		17.0	20.4	30.6	35	28	87	35.4	40	33	91	
		34.0	40.9	56.3	60	52	87	61.0	70	56	91	
	MED	–	–	17.2	20	18	91	21.0	25	22	95	
		17.0	20.4	30.1	35	28	91	34.9	35	32	95	
		34.0	40.9	55.8	60	51	91	60.5	70	56	95	
	HIGH	–	–	18.0	20	19	102	21.8	25	23	106	
		17.0	20.4	31.1	35	29	102	35.9	40	33	106	
		34.0	40.9	56.8	60	52	102	61.5	70	57	106	

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 87.

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Table 65 – (cont.) MCA/MOCP DETERMINATION W/ PWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		W/PWRD C.O.							
			Nom* (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE	
							FLA	LRA			FLA	LRA
50TC	208/230 – 3 – 60	STD	None	None	50.6	60	50	268	54.4	80	54	272
			7.8/10.4	21.7/25.0	50.6/50.6	60/60	50/50	268/268	54.4/54.4	80/80	54/54	272/272
			12.0/16.0	33.4/38.5	54.3/60.6	60/80	50/56	268/268	59.0/65.4	80/80	54/60	272/272
			24.0/32.0	66.7/77.0	95.9/108.8	100/110	88/100	268/268	100.6/113.5	110/125	93/104	272/272
			31.8/42.4	88.4/102.0	123.0/140.0	125/150	113/129	268/268	127.8/144.8	150/150	118/133	272/272
		37.6/50.0	104.2/120.3	142.8/132.8	150/150	131/150	268/268	147.5/137.6	150/150	136/154	272/272	
		MED	None	None	55.4	80	55	311	59.2	80	59	315
			7.8/10.4	21.7/25.0	55.4/55.4	80/80	55/55	311/311	59.2/59.2	80/80	59/59	315/315
			12.0/16.0	33.4/38.5	60.3/66.6	80/80	55/61	311/311	65.0/71.4	80/80	60/66	315/315
	24.0/32.0		66.7/77.0	101.9/114.8	110/125	94/106	311/311	106.6/119.5	110/125	98/110	315/315	
	HIGH	31.8/42.4	88.4/102.0	129.0/146.0	150/150	119/134	311/311	133.8/150.8	150/175	123/139	315/315	
		37.6/50.0	104.2/120.3	148.8/138.8	150/150	137/155	311/311	153.5/143.6	175/175	141/160	315/315	
None		None	60.4	90	61	320	64.2	90	65	324		
7.8/10.4		21.7/25.0	60.4/60.4	90/90	61/61	320/320	64.2/64.2	90/90	65/65	324/324		
12.0/16.0		33.4/38.5	66.5/72.9	90/90	61/67	320/320	71.3/77.6	90/90	66/71	324/324		
50TC*A12	480 – 3 – 60	STD	None	None	27.3	40	27	135	29.1	45	29	137
			13.9	16.7	27.3	40	27	135	29.1	45	29	137
			16.5	19.8	30.8	40	28	135	33.0	45	30	137
			33.0	39.7	55.6	60	51	135	57.9	60	53	137
			41.7	50.2	68.8	70	63	135	71.0	80	65	137
		50.0	60.1	66.1	70	75	135	68.4	70	77	137	
		MED	None	None	29.1	45	29	157	30.9	45	31	159
			13.9	16.7	29.1	45	29	157	31.4	45	31	159
			16.5	19.8	33.0	45	30	157	35.3	45	32	159
	33.0		39.7	57.9	60	53	157	60.1	70	55	159	
	HIGH	41.7	50.2	71.0	80	65	157	73.3	80	67	159	
		50.0	60.1	68.4	80	77	157	70.6	80	79	159	
None		None	32.1	45	32	161	33.9	50	34	163		
13.9		16.7	32.9	45	32	161	35.1	50	34	163		
16.5		19.8	36.8	45	34	161	39.0	50	36	163		
STD	33.0	39.7	61.6	70	57	161	63.9	70	59	163		
	41.7	50.2	74.8	80	69	161	77.0	80	71	163		
	50.0	60.1	72.1	80	80	161	74.4	80	82	163		
	None	None	20.2	30	20	97	24	30	24	101		
	17.0	20.4	30.1	35	28	97	34.9	35	32	101		
575 – 3 – 60	STD	34.0	40.9	55.8	60	51	97	60.5	70	56	101	
		51.0	61.3	65.9	70	75	97	70.7	80	79	101	
		None	None	21	30	21	108	24.8	30	25	112	
		17.0	20.4	31.1	35	29	108	35.9	40	33	112	
	MED	34.0	40.9	56.8	60	52	108	61.5	70	57	112	
		51.0	61.3	66.9	70	76	108	71.7	80	80	112	
		None	None	23.8	30	24	122	27.6	35	28	126	
		17.0	20.4	34.6	35	32	122	39.4	40	36	126	
		34.0	40.9	60.3	70	55	122	65.0	70	60	126	
51.0	61.3	70.4	80	79	122	75.2	80	83	126			

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.

See Legend and calculations on page 87.

Table 65 –(cont.) MCA/MOCP DETERMINATION W/ PWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		W/PWRD C.O.							
			Nom* (kW)	FLA	NO PE.				w/ P.E. (pwr fr/unit)			
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE	
							FLA	LRA			FLA	LRA
50TC*D12	208/230 – 3 – 60	STD	–	–	48.5	60	51	263	52.3	60	56	267
			7.8/10.4	21.7/25.0	48.5/48.5	60/60	51/51	263/263	52.3/52.3	60/60	56/56	267/267
			12.0/16.0	33.4/38.5	54.3/60.6	60/70	51/56	263/263	59.0/65.4	60/70	56/60	267/267
			24.0/32.0	66.7/77.0	95.9/108.8	100/110	88/100	263/263	100.6/113.5	110/125	93/104	267/267
			31.8/42.4	88.4/102.0	123.0/140.0	125/150	113/129	263/263	127.8/144.8	150/150	118/133	267/267
		37.6/50.0	104.2/120.3	142.8/132.8	150/150	131/150	263/263	147.5/137.6	150/150	136/154	267/267	
		MED	–	–	53.3	60	57	306	57.1	70	61	310
			7.8/10.4	21.7/25.0	53.3/53.3	60/60	57/57	306/306	57.1/57.1	70/70	61/61	310/310
			12.0/16.0	33.4/38.5	60.3/66.6	70/70	57/61	306/306	65.0/71.4	70/80	61/66	310/310
	24.0/32.0		66.7/77.0	101.9/114.8	110/125	94/106	306/306	106.6/119.5	110/125	98/110	310/310	
	HIGH	31.8/42.4	88.4/102.0	129.0/146.0	150/150	119/134	306/306	133.8/150.8	150/175	123/139	310/310	
		37.6/50.0	104.2/120.3	148.8/138.8	150/150	137/155	306/306	153.5/143.6	175/175	141/160	310/310	
–		–	58.3	70	62	315	62.1	70	67	319		
7.8/10.4		21.7/25.0	58.3/58.3	70/70	62/62	315/315	62.1/62.1	70/70	67/67	319/319		
12.0/16.0		33.4/38.5	66.5/72.9	70/80	62/67	315/315	71.3/77.6	80/80	67/71	319/319		
460 – 3 – 60	STD	–	–	23.7	30	25	125	25.5	30	27	127	
		13.9	16.7	26.9	30	25	125	29.1	30	27	127	
		16.5	19.8	30.8	35	28	125	33.0	35	30	127	
		33.0	39.7	55.6	60	51	125	57.9	60	53	127	
		41.7	50.2	68.8	70	63	125	71.0	80	65	127	
50.0	60.1	66.1	70	75	125	68.4	70	77	127			
MED	–	–	25.5	30	27	147	27.3	30	29	149		
	13.9	16.7	29.1	30	27	147	31.4	35	29	149		
	16.5	19.8	33.0	35	30	147	35.3	40	32	149		
	33.0	39.7	57.9	60	53	147	60.1	70	55	149		
	41.7	50.2	71.0	80	65	147	73.3	80	67	149		
50.0	60.1	68.4	80	77	147	70.6	80	79	149			
HIGH	–	–	28.5	35	31	151	30.3	35	33	153		
	13.9	16.7	32.9	35	31	151	35.1	40	33	153		
	16.5	19.8	36.8	40	34	151	39.0	40	36	153		
	33.0	39.7	61.6	70	57	151	63.9	70	59	153		
	41.7	50.2	74.8	80	69	151	77.0	80	71	153		
50.0	60.1	72.1	80	80	151	74.4	80	82	153			
575 – 3 – 60	STD	–	–	17.9	20	19	95	21.7	25	23	99	
		17.0	20.4	30.1	35	28	95	34.9	35	32	99	
		34.0	40.9	55.8	60	51	95	60.5	70	56	99	
		51.0	61.3	65.9	70	75	95	70.7	80	79	99	
	MED	–	–	18.7	25	20	106	22.5	25	24	110	
		17.0	20.4	31.1	35	29	106	35.9	40	33	110	
		34.0	40.9	56.8	60	52	106	61.5	70	57	110	
		51.0	61.3	66.9	70	76	106	71.7	80	80	110	
	HIGH	–	–	21.5	25	23	120	25.3	30	27	124	
		17.0	20.4	34.6	35	32	120	39.4	40	36	124	
		34.0	40.9	60.3	70	55	120	65.0	70	60	124	
		51.0	61.3	70.4	80	79	120	75.2	80	83	124	

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 87.

50TC

Table 65 – (cont.) MCA/MOCP DETERMINATION W/ PWRD C.O.

UNIT	NOM. V – PH – HZ	IFM TYPE	ELECTRIC HEATER		W/PWRD C.O.							
			Nom* (kW)	FLA	NO PE.				w/ P.E. (pwrd fr/unit)			
					MCA	MOCP	DISC. SIZE		MCA	MOCP	DISC. SIZE	
							FLA	LRA			FLA	LRA
50TC	208/230 – 3 – 60	STD	–	–	65.5	80	69	365	69.3	80	73	369
			7.8/10.4	21.7/25.0	65.5/65.5	80/80	69/69	365/365	69.3/69.3	80/80	73/73	369/369
			12.0/16.0	33.4/38.5	65.5/65.5	80/80	69/69	365/365	69.3/69.3	80/80	73/73	369/369
			24.0/32.0	66.7/77.0	98.8/111.6	100/125	91/103	365/365	103.5/116.4	110/125	95/107	369/369
			31.8/42.4	88.4/102.0	125.9/142.9	150/150	116/131	365/365	130.6/147.6	150/150	120/136	369/369
		37.6/50.0	104.2/120.3	145.6/135.7	150/150	134/152	365/365	150.4/140.4	175/150	138/157	369/369	
		MED	–	–	68.0	80	72	382	71.8	80	76	386
			7.8/10.4	21.7/25.0	68.0/68.0	80/80	72/72	382/382	71.8/71.8	80/80	76/76	386/386
			12.0/16.0	33.4/38.5	68.0/68.0	80/80	72/72	382/382	71.8/71.8	80/80	76/76	386/386
	24.0/32.0		66.7/77.0	101.9/114.8	110/125	94/106	382/382	106.6/119.5	110/125	98/110	386/386	
	HIGH	31.8/42.4	88.4/102.0	129.0/146.0	150/150	119/134	382/382	133.8/150.8	150/175	123/139	386/386	
		37.6/50.0	104.2/120.3	148.8/138.8	150/150	137/155	382/382	153.5/143.6	175/175	141/160	386/386	
–		–	73.0	80	78	391	76.8	90	82	395		
7.8/10.4		21.7/25.0	73.0/73.0	80/80	78/78	391/391	76.8/76.8	90/90	82/82	395/395		
12.0/16.0		33.4/38.5	73.0/73.0	80/80	78/78	391/391	76.8/77.6	90/90	82/82	395/395		
50TC*D14	460 – 3 – 60	STD	–	–	31.7	40	33	183	33.5	40	35	185
			13.9	16.7	31.7	40	33	183	33.5	40	35	185
			16.5	19.8	31.8	40	33	183	34.0	40	35	185
			33.0	39.7	56.6	60	52	183	58.9	60	54	185
			41.7	50.2	69.8	70	64	183	72.0	80	66	185
		50.0	60.1	67.1	70	76	183	69.4	80	78	185	
		MED	–	–	32.7	40	35	192	34.5	45	37	194
			13.9	16.7	32.7	40	35	192	34.5	45	37	194
			16.5	19.8	33.0	40	35	192	35.3	45	37	194
	33.0		39.7	57.9	60	53	192	60.1	70	55	194	
	HIGH	41.7	50.2	71.0	80	65	192	73.3	80	67	194	
		50.0	60.1	68.4	80	77	192	70.6	80	79	194	
–		–	35.7	45	38	196	37.5	45	40	198		
13.9		16.7	35.7	45	38	196	37.5	45	40	198		
16.5		19.8	36.8	45	38	196	39.0	45	40	198		
575 – 3 – 60	STD	–	–	24.0	30	25	144	27.8	30	30	148	
		17.0	20.4	31.1	35	29	144	35.9	40	33	148	
		34.0	40.9	56.8	60	52	144	61.5	70	57	148	
		51.0	61.3	66.9	70	76	144	71.7	80	80	148	
		–	–	24.0	30	25	144	27.8	30	30	148	
MED	17.0	20.4	31.1	35	29	144	35.9	40	33	148		
	34.0	40.9	56.8	60	52	144	61.5	70	57	148		
	51.0	61.3	66.9	70	76	144	71.7	80	80	148		
	–	–	26.8	30	29	158	30.6	35	33	162		
HIGH	17.0	20.4	34.6	35	32	158	39.4	40	36	162		
	34.0	40.9	60.3	70	55	158	65.0	70	60	162		
	51.0	61.3	70.4	80	79	158	75.2	80	83	162		

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.

See Legend and calculations on page 87.

TYPICAL WIRING DIAGRAMS

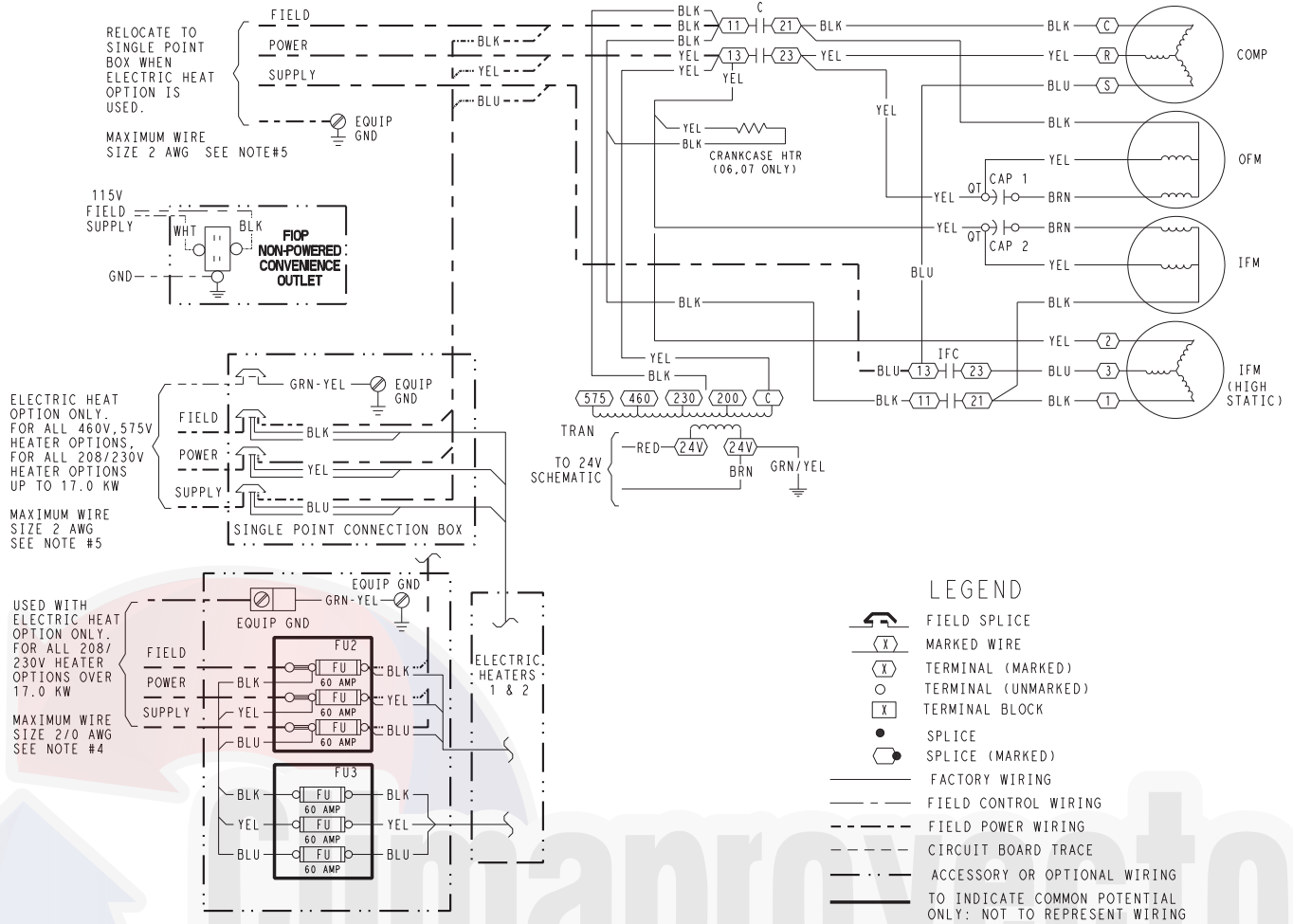


Fig. 20 - 1-Stage Cooling Typical Power Diagram

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LEGEND

C — Contactor, compressor
 CAP — Capacitor
 CB — Circuit breaker
 COMP — Compressor motor
 DDC — Direct digital control
 FU — Fuse
 GND — Ground
 HPS — High pressure switch
 IAQ — Indoor air quality sensors
 IFC — Indoor fan contactor
 IFM — Indoor fan motor
 LA — Low ambient lockout
 LPS — Low pressure switch

OAT — Outdoor air temp sensor
 OFM — Outdoor fan motor
 OLR — Overload relay
 PL — Plug assembly
 POT — Potentiometer
 PMR — Phase monitor relay
 QT — Quadruple terminal
 R — Relay
 RAT — Return air temp sensor
 SAT — Supply air temp sensor
 TDR — Time delay relay
 TRAN — Transformer

NOTES:

1. If any of the original wire furnished must be replaced, it must be replaced with type 90 C wire or its equivalent.
2. Compressor and fan motors are thermally protected. Three phase motors are protected against primary single phasing conditions.
3. On 208/230V units, transformer is wired for 230V. If unit is to be run with 208V power supply, disconnect black wire from 230V tap and connect to 200V tap. 230V, 200V taps on transformer do not appear on 575V transformer and 575V tap does not appear on 208/23/460V transformer.
4. Use copper, copper clad, aluminum or aluminum connectors.
5. Use copper conductor only.

TYPICAL WIRING DIAGRAMS (cont.)

50TC

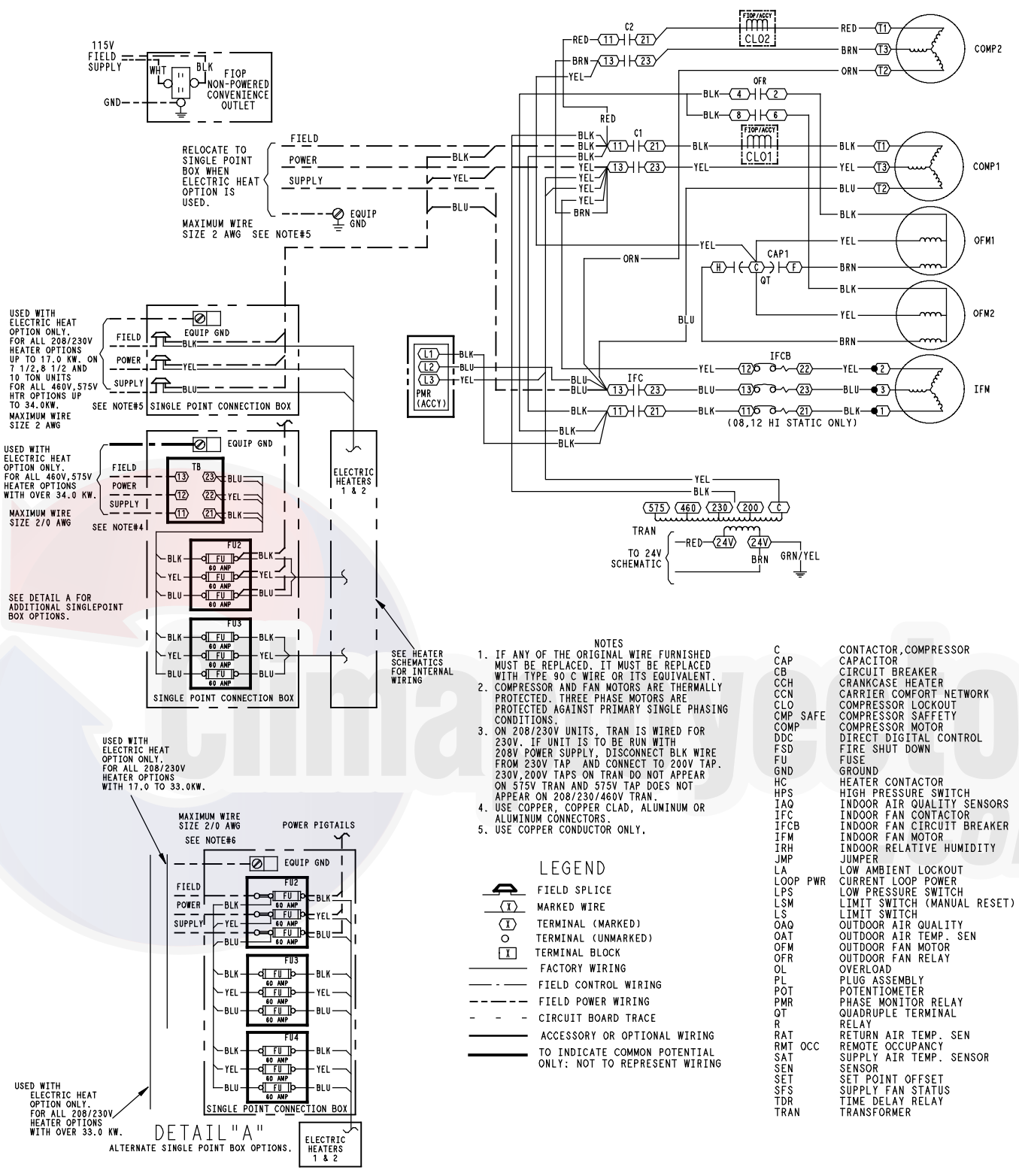
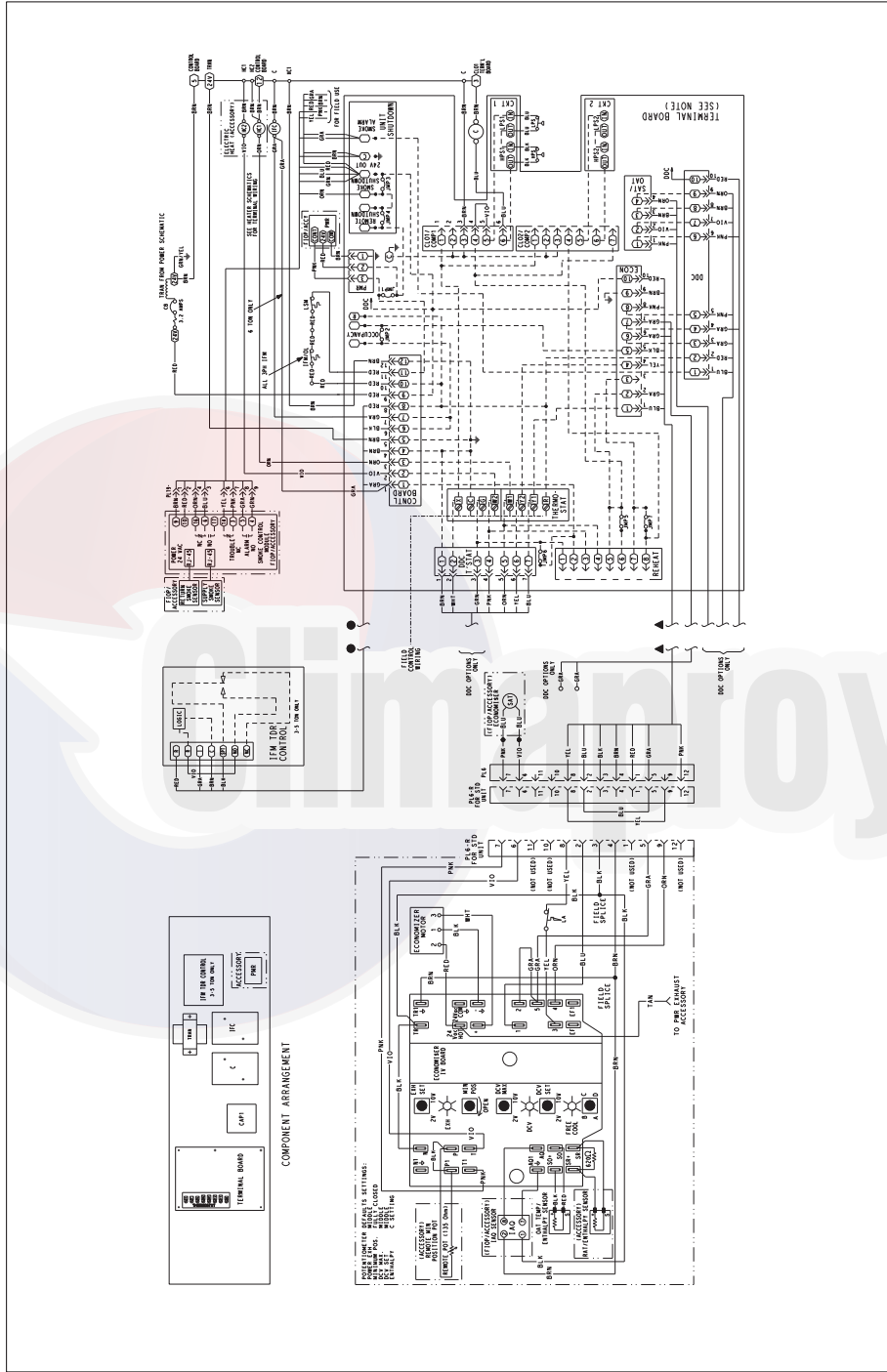


Fig. 21 - 2-Stage Cooling Typical Power Diagram

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C08002

Fig. 22 - 1-Stage Typical Wiring Diagram

NOTES:

Terminal board schematic layout does not match actual terminal board to simplify circuit traces. Ensure designated jumpers on terminal board are cut when adding smoke detectors, phase loss relay and remote shutdown.

ECONOMIZER NOTES:

1. 620 ohm, 1 watt, 5% resistor should be removed only when using differential enthalpy or dry bulb.
2. If a separate field –supplied 24V transformer is used for the IAQ sensor power supply, it cannot have the secondary of the transformer grounded.
3. For field – installed remote minimum position POT, remove black wire jumper between P and P1 and set control minimum position POT to the minimum position.

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SEQUENCE OF OPERATION

General

The sequence below describes the sequence of operation for an electromechanical 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.

Electromechanical units with no economizer

Cooling —

When the thermostat calls for cooling, terminals G and Y1 are energized. As a result, the indoor fan contactor (IFC) and the compressor contactor (C1) are energized, causing the indoor fan motor (IFM), compressor #1, and outdoor fan to start. If the unit has 2 stages of cooling, the thermostat will additionally energize Y2. The Y2 signal will energize compressor contactor #2 (C2), causing compressor #2 to start. Regardless of the number of stages, the outdoor fan motor runs continuously while unit is cooling.

Heating

NOTE: The 50TC is sold as cooling only. If electric heaters are required, use only factory-approved electric heaters. They will operate as described below.

Units have either 1 or 2 stages of electric heat. When the thermostat calls for heating, power is applied to the W1 terminal at the unit. The unit control will energize the indoor fan contactor and the first stage of electric heat. On units with two stage heating, when additional heating is required, the second stage of electric heat (if equipped) will be energized when power is applied at the W2 terminal on the unit.

Electromechanical units with an economizer

Cooling —

When free cooling is not available, the compressors will be controlled by the zone thermostat. When free cooling is available, the outdoor air damper is modulated by the EconoMi\$er IV control to provide a 50°F (10°C) to 55°F (13°C) mixed air temperature into the zone. As the mixed air temperature fluctuates above 55°F (13°C) or below 50°F (10°C) dampers will be modulated (open or close) to bring the mixed air temperature back within control. If mechanical cooling is utilized with free cooling, the outdoor air damper will maintain its current position at the time the compressor is started. If the increase in cooling capacity causes the mixed air temperature to drop below 45°F (9°C), then the outdoor air damper position will be decreased to the minimum position. If the mixed air temperature continues to fall, the outdoor air damper will close. Control returns to normal once the mixed air temperature rises above 48°F (9°C). The power exhaust fans will be energized and de-energized, if installed, as the outdoor air damper opens and closes.

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

When the EconoMi\$er IV control is in the occupied mode and a call for cooling exists (Y1 on the thermostat), the control will first check for indoor fan operation. If the fan is not on, then cooling will not be activated. If the fan is on, then the control will open the EconoMi\$er IV damper to the minimum position.

On the initial power to the EconoMi\$er IV control, it will take the damper up to 2 1/2 minutes before it begins to position itself. After the initial power-up, further changes in damper position can take up to 30 seconds to initiate. Damper movement from full closed to full open (or vice versa) will take between 1 1/2 and 2 1/2 minutes. If free cooling can be used as determined from the appropriate changeover command (switch, dry bulb, enthalpy curve, differential dry bulb, or differential enthalpy), then the control will modulate the dampers open to maintain the mixed air temperature setpoint at 50°F (10°C) to 55°F (13°C). If there is a further demand for cooling (cooling second stage - Y2 is energized), then the control will bring on compressor stage 1 to maintain the mixed air temperature setpoint. The EconoMi\$er IV damper will be open at maximum position. EconoMi\$er IV operation is limited to a single compressor.

Heating

The sequence of operation for the heating is the same as an electromechanical unit with no economizer. The only difference is how the economizer acts. The economizer will stay at the Economizer Minimum Position while the evaporator fan is operating. The outdoor air damper is closed when the indoor fan is not operating.

Optional Humidi-MiZer Dehumidification System

Units with the factory-equipped Humidi-MiZer option are capable of providing multiple modes of improved dehumidification as a variation of the normal cooling cycle. The Humidi-MiZer option includes additional valves in the liquid line and discharge line of each refrigerant circuit, a small reheat condenser coil downstream of the evaporator, and Motormaster variable-speed control of some or all outdoor fans. Operation of the revised refrigerant circuit for each mode is described below.

NOTE: x = refrigerant circuit A, B, or C.

SEQUENCE OF OPERATION (cont.)

Normal Cooling

Refrigerant flows from the outdoor condenser through the normally open Cooling Valve (CV.x) to the expansion device. Reheat1 Valve (RH1.x) and Reheat2 Valve (RH2.x) are closed.

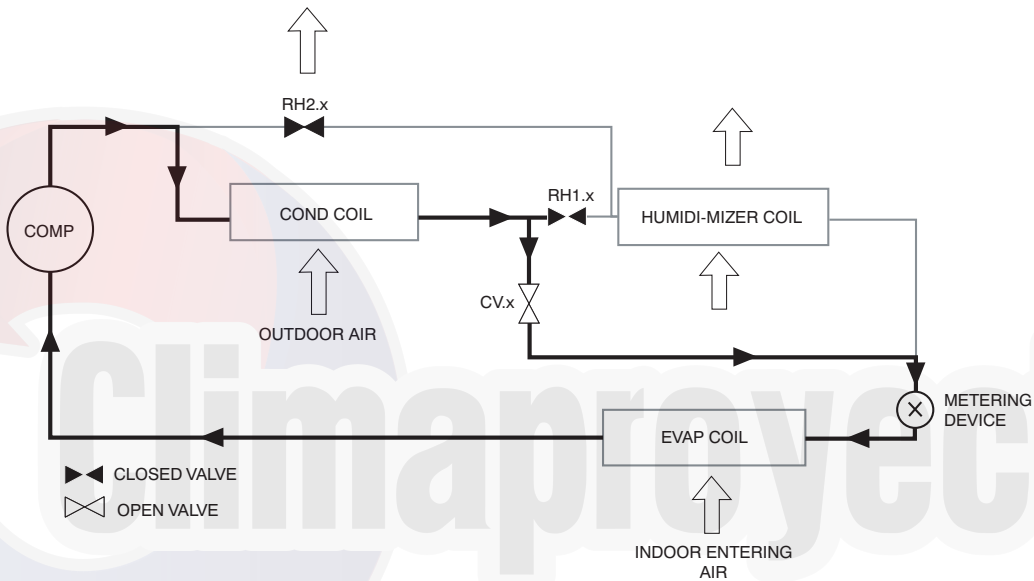
Reheat1 (Subcooling Mode) - 50TC04-14

This mode increases latent cooling and decreases sensible cooling compared to normal cooling. Refrigerant flows from the outdoor condenser, through the normally open Reheat1 Valve (RH1.x), and through the reheat condenser coil to the expansion device. Cooling Valve (CV.x) and Reheat2 Valve (RH2.x) are closed.

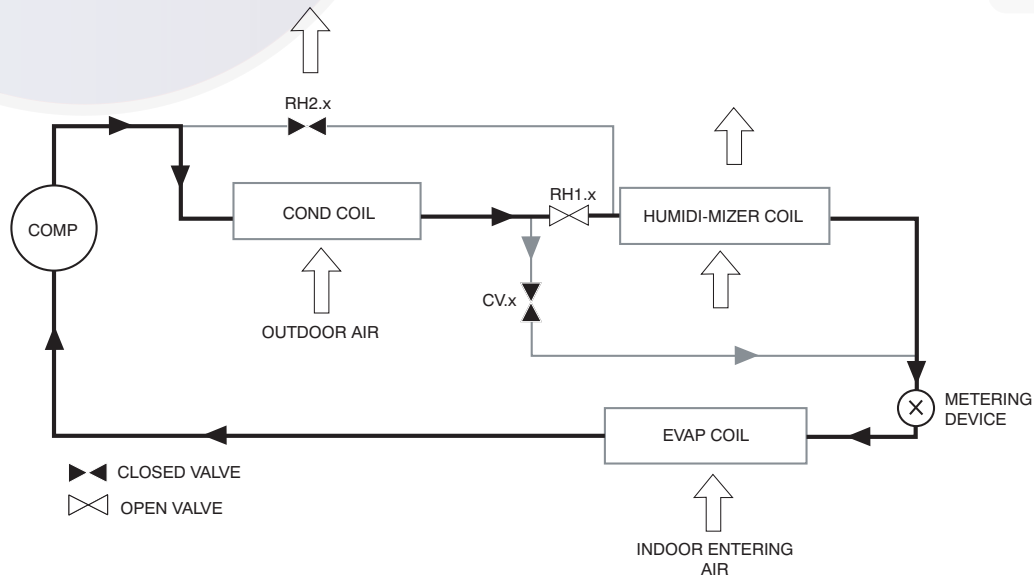
Reheat2 (Hot Gas Reheat Mode) -50TC04-14

This mode provides maximum latent cooling with little to no sensible capacity. This mode can operate to provide dehumidification when there is no cooling demand. Like Reheat1 mode, refrigerant flows from the outdoor condenser, through the normally open Reheat1 Valve (RH1.x), and through the reheat condenser coil to the expansion device. The Cooling Valve (CV.x) is closed. Reheat2 Valve (RH2.x) is open which provides some compressor discharge gas to the reheat condenser to further increase the reheat of the evaporator airstream.

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Normal Cooling Mode - Humidi-MiZer System (50TC04-14)

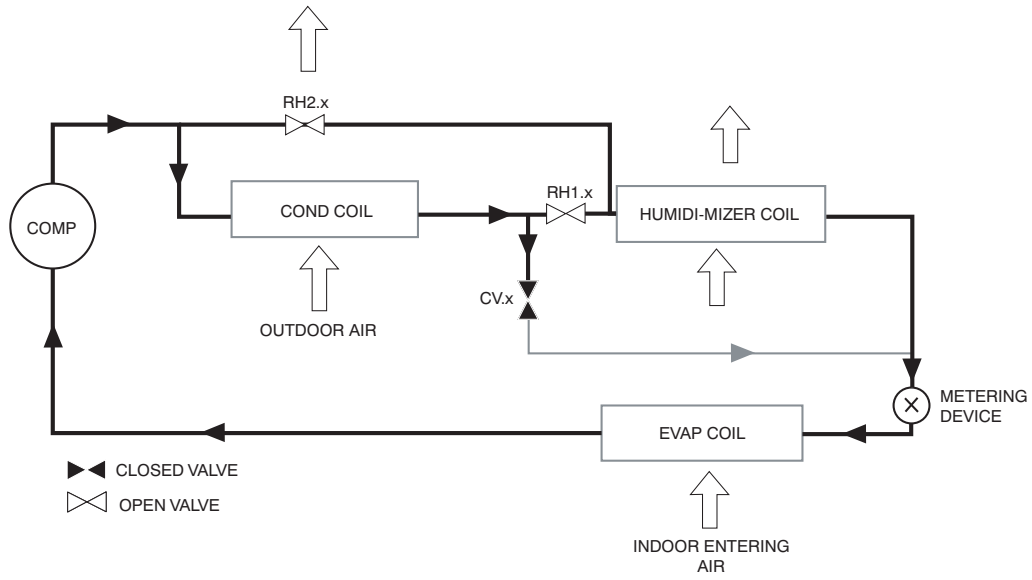


Subcooling Mode (Reheat 1) - Humidi-MiZer System (50TC04-14)

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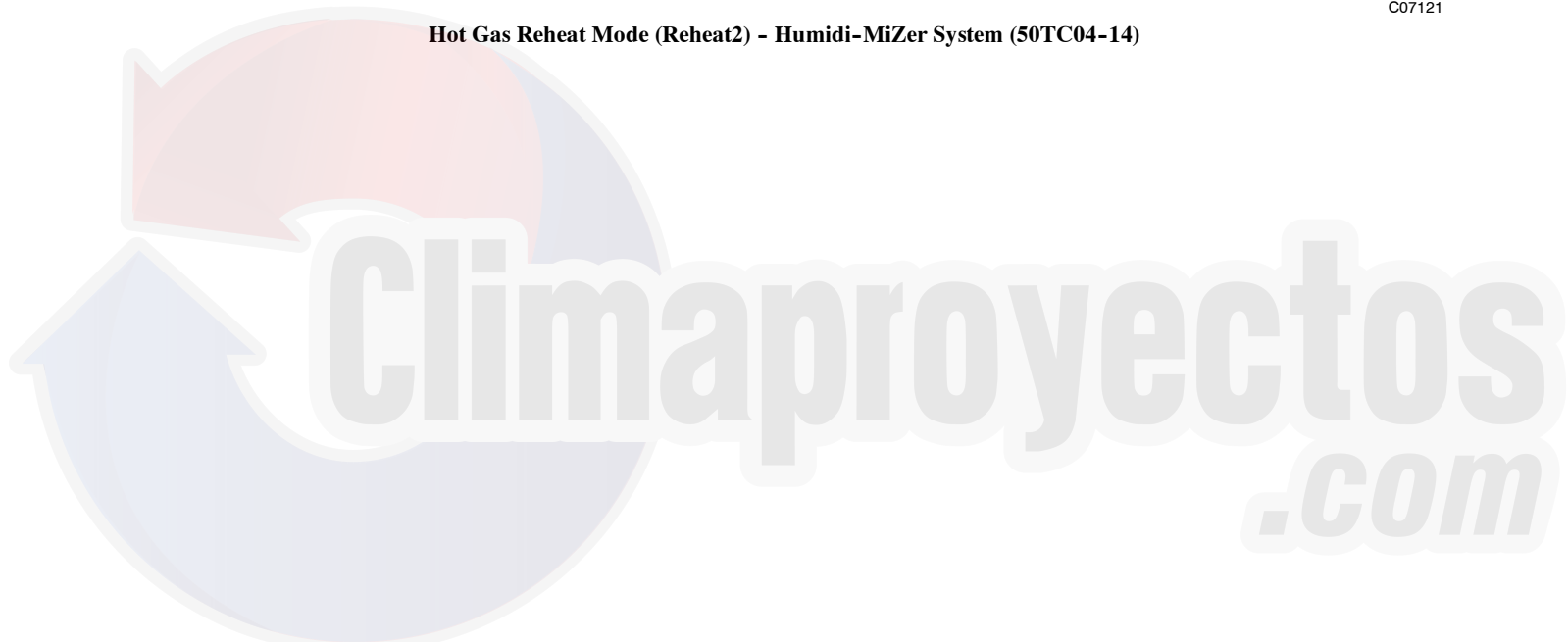
SEQUENCE OF OPERATION (cont.)



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Hot Gas Reheat Mode (Reheat2) - Humidi-MiZer System (50TC04-14)



GUIDE SPECIFICATIONS - 50TC**04-14

Note about this specification:

Carrier wrote this specification in the 2004 version of 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



<u>Section</u>	<u>Description</u>
----------------	--------------------

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. | PremierLink controller |
| 1. | Shall be ASHRAE 62-2001 compliant. |
| 2. | Shall accept 18-32VAC input power. |
| 3. | Shall have an operating temperature range from -40°F (-40°C) to 158°F (70°C), 10% - 95% RH (non-condensing). |
| 4. | Shall include an integrated economizer controller to support an economizer with 4 to 20 mA actuator input and no microprocessor controller. |
| 5. | Controller shall accept the following inputs: space temperature, setpoint adjustment, outdoor air temperature, indoor air quality, outdoor air quality, indoor relative humidity, compressor lock-out, fire shutdown, enthalpy, fan status, remote time clock/door switch. |
| 6. | Shall accept a CO ₂ sensor in the conditioned space, and be Demand Control Ventilation (DCV) ready. |
| 7. | Shall provide the following outputs: Economizer, fan, cooling stage 1, cooling stage 2, heat stage 1, heat stage 2, heat stage 3/ exhaust/ reversing valve/ dehumidify/ occupied. |
| 8. | Unit shall provide surge protection for the controller through a circuit breaker. |
| 9. | Shall be Internet capable, and communicate at a Baud rate of 38.4K or faster |
| 10. | Shall have an LED display independently showing the status of activity on the communication bus, and processor operation. |

50TC

- 11. Shall include an EIA-485 protocol communication port, an access port for connection of either a computer or a Carrier technician tool, an EIA-485 port for network communication to intelligent space sensors and displays, and a port to connect an optional LonWorks plug-in communications card.
- 12. Shall have built-in Carrier Comfort Network (CCN) protocol, and be compatible with other CCN devices, including ComfortLink and ComfortVIEW controllers.
- 13. Shall have built-in support for Carrier technician tool.
- 14. Software upgrades will be accomplished by local download. Software upgrades through chip replacements are not allowed.
- 15. Shall be shock resistant in all planes to 5G peak, 11ms during operation, and 100G peak, 11ms during storage.
- 16. Shall be vibration resistant in all planes to 1.5G @ 20-300 Hz.
- 17. Shall support a bus length of 4000 ft max, 60 devices per 1000 ft section, and 1 RS-485 repeater per 1000ft sections.

23 09 23.13.B. Open protocol, direct digital controller:

- 1. Shall be ASHRAE 62-2001 compliant.
- 2. Shall accept 18-30VAC, 50-60Hz, and consumer 15VA or less power.
- 3. Shall have an operating temperature range from -40°F (-40°C) to 130°F (54°C), 10% - 90% RH (non-condensing).
- 4. Shall include built-in protocol for BACNET (MS/TP and PTP modes), Modbus (RTU and ASCII), Johnson N2 and LonWorks. LonWorks Echelon processor required for all Lon applications shall be contained in separate communication board.
- 5. Shall allow access of up to 62 network variables (SNVT). Shall be compatible with all open controllers
- 6. Baud rate Controller shall be selectable using a dipswitch.
- 7. Shall have an LED display independently showing the status of serial communication, running, errors, power, all digital outputs, and all analog inputs.
- 8. Shall accept the following inputs: space temperature, setpoint adjustment, outdoor air temperature, indoor air quality, outdoor air quality, compressor lock-out, fire shutdown, enthalpy switch, and fan status/filter status/ humidity/ remote occupancy.
- 9. Shall provide the following outputs: economizer, fan, cooling stage 1, cooling stage 2, heat stage 1, heat stage 2, heat stage 3/ exhaust/ reversing valve.
- 10. Shall have built-in surge protection circuitry through solid state polyswitches. Polyswitches shall be used on incoming power and network connections. Polyswitches will return to normal when the “trip” condition clears.
- 11. Shall have a battery backup capable of a minimum of 10,000 hours of data and time clock retention during power outages.
- 12. Shall have built-in support for Carrier technician tool.
- 13. Shall include an EIA-485 protocol communication port, an access port for connection of either a computer or a Carrier technician tool, an EIA-485 port for network communication to intelligent space sensors and displays, and a port to connect an optional LonWorks communications card.
- 14. Software upgrades will be accomplished by either local or remote download. No software upgrades through chip replacements are allowed.

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 (50TC**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 9001:2000, and shall be manufactured in a facility registered by ISO 9001:2000.
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.

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 115°F (46°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 40°F (4°C) , ambient outdoor temperatures. Accessory winter start kit is necessary if mechanically cooling at ambient temperatures down to 25°F (-4°C).
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 configuration
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 a 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:

- a. Shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments.
- b. Coating shall be applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube.
- c. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.

3. Optional Copper-fin evaporator and condenser coils:

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

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

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

5. Standard All Aluminum Novation Coils:

- a. Standard condenser coils shall have all aluminum Novation Heat Exchanger Technology design consisting of aluminum multi port flat tube design and aluminum fin. Coils shall be a furnace brazed design and contain epoxy lined shrink wrap on all aluminum to copper connections.
- b. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 1995 burst test at 1980 psig.

6. 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. Fixed orifice metering system shall prevent mal-distribution of two-phase refrigerant by including multiple fixed orifice devices in each refrigeration circuit. Each orifice is to be optimized to the coil circuit it serves.
- 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. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
 - c. Compressors shall be internally protected from high discharge temperature conditions.
 - d. Compressors shall be protected from an over-temperature and over-amperage conditions by an internal, motor overload device.
 - e. Compressor shall be factory mounted on rubber grommets.
 - f. Compressor motors shall have internal line break thermal, current overload and high pressure differential protection.
 - g. Crankcase heaters shall not be required for normal operating range, unless provided by compressor manufacturer due to refrigerant charge limits.

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. Belt-driven Evaporator Fan:
 - a. Belt drive shall include an adjustable pitch motor pulley.
 - b. Shall use sealed, permanently lubricated ball-bearing type.
 - c. Blower fan shall be double-inlet type with forward-curved blades.
 - d. Shall be constructed from steel with a corrosion resistant finish and dynamically balanced.

23 81 19.13.N. Condenser Fans and Motors

- 1. Condenser fan motors:
 - a. Shall be a totally enclosed 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 12 models and shaft-up design on 14 size with rain shield.
- 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. Integrated Economizers:
 - a. Integrated, gear-driven parallel modulating blade design type capable of simultaneous economizer and compressor operation.
 - b. Independent modules for vertical or horizontal return configurations shall be available. Vertical return modules shall be available as a factory installed option.
 - c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
 - d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.

- e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
 - f. Shall be equipped with low-leakage dampers, not to exceed 2% leakage at 1 in. wg pressure differential.
 - g. Shall be capable of introducing up to 100% outdoor air.
 - h. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air.
 - i. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
 - j. Dry bulb outdoor air temperature sensor shall be provided as standard. Outdoor air sensor setpoint shall be adjustable and shall range from 40 to 100°F / 4 to 38°C. Additional sensor options shall be available as accessories.
 - k. The economizer controller shall also provide control of an accessory power exhaust unit. function. Factory set at 100%, with a range of 0% to 100%.
 - l. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy. A remote potentiometer may be used to override the damper setpoint.
 - m. Dampers shall be completely closed when the unit is in the unoccupied mode.
 - n. Economizer controller shall accept a 2-10Vdc CO₂ sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.
 - o. Compressor lockout sensor shall open at 35°F (2°C) and close closes at 50°F (10°C).
 - p. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
 - q. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
2. Two-Position Damper
 - a. Damper shall be a Two-Position Damper. Damper travel shall be from the full closed position to the field adjustable %-open setpoint.
 - b. Damper shall include adjustable damper travel from 25% to 100% (full open).
 - c. Damper shall include single or dual blade, gear driven dampers and actuator motor.
 - d. Actuator shall be direct coupled to damper gear. No linkage arms or control rods shall be acceptable.
 - e. Damper will admit up to 100% outdoor air for applicable rooftop units.
 - f. Damper shall close upon indoor (evaporator) fan shutoff and/or loss of power.
 - g. The damper actuator shall plug into the rooftop unit's wiring harness plug. No hard wiring shall be required.
 - h. Outside air hood shall include aluminum water entrainment filter
 3. Manual damper
 - a. Manual damper package shall consist of damper, air inlet screen, and rain hood which can be preset to admit up to 50% outdoor air for year round ventilation.
 4. Humidi-MiZer Adaptive Dehumidification System:
 - a. The Humidi-MiZer Adaptive Dehumidification System shall be factory-installed in single stage 50TC04-07 and two stage 50TC08-14 models with RTPF (round tube plate fin) condenser coils, and shall provide greater dehumidification of the occupied space by two modes of dehumidification operations beside its normal design cooling mode:
 - (1.) Subcooling mode further subcools the hot liquid refrigerant leaving the condenser coil when both temperature and humidity in the space are not satisfied.
 - (2.) Hot gas reheat mode shall mix a portion of the hot gas from the discharge of the compressor with the hot liquid refrigerant leaving the condenser coil to create a two-phase heat transfer in the system, resulting in a neutral leaving- air temperature when only humidity in the space is not satisfied.
 - (3.) Includes Head Pressure Controller mentioned below.
 5. 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).
 6. Condenser Coil Hail Guard Assembly
 - a. Shall protect against damage from hail.
 - b. Shall be louvered design.
 7. 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.
8. Convenience Outlet:
- a. Powered convenience outlet.
 - (1.) Outlet shall be powered from main line power to the rooftop unit.
 - (2.) Outlet shall be powered from line side or load side of disconnect by installing contractor, as required by code. If outlet is powered from load side of disconnect, unit electrical ratings shall be 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.
9. 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.
10. Propeller Power Exhaust:
- a. Power exhaust shall be used in conjunction with an integrated economizer.
 - b. Independent modules for vertical or horizontal return configurations shall be available.
 - c. Horizontal power exhaust is shall be mounted in return ductwork.
 - d. Power exhaust shall be controlled by economizer controller operation. Exhaust fans shall be energized when dampers open past the 0-100% adjustable setpoint on the economizer control.
11. 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.
12. High-Static Indoor Fan Motor(s) and Drive(s) (04-14):
- a. High-static motor(s) and drive(s) shall be factory-installed to provide additional performance range.
13. Condenser Coil Grille:
- a. The grille protects the condenser coil from damage by large objects without increasing unit clearances.
14. 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.
15. 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.
16. 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.
17. Indoor Air Quality (CO₂) Sensor:
- a. Shall be able to provide demand ventilation indoor air quality (IAQ) control.
 - b. The IAQ sensor shall be available in duct mount, wall mount, or wall mount with LED display. The setpoint shall have adjustment capability.

18. Smoke detectors (factory-installed only):
- a. Shall be a Four-Wire Controller and Detector.
 - b. Shall be environmental compensated with differential sensing for reliable, stable, and drift-free sensitivity.
 - c. Shall use magnet-activated test/reset sensor switches.
 - d. Shall have tool-less connection terminal access.
 - e. Shall have a recessed momentary switch for testing and resetting the detector.
 - f. Controller shall include:
 - (1.) One set of normally open alarm initiation contacts for connection to an initiating device circuit on a fire alarm control panel.
 - (2.) Two Form-C auxiliary alarm relays for interface with rooftop unit or other equipment.
 - (3.) One Form-C supervision (trouble) relay to control the operation of the Trouble LED on a remote test/reset station.
 - (4.) Capable of direct connection to two individual detector modules.
 - (5.) Can be wired to up to 14 other duct smoke detectors for multiple fan shutdown applications.
19. 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).
20. Time Guard
- a. Shall prevent compressor short-cycling by providing a 5-minute delay (± 2 minutes) before restarting a compressor after shutdown for any reason.
 - b. One device shall be required per compressor.
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.