

ELECTRIC COOLING, R-410A SINGLE PACKAGE ROOFTOP 3 – 15 TONS (1 & 3-Phase)

BUILT TO LAST, EASY TO INSTALL AND SERVICE

- ASHRAE 90.1 energy compliant efficiency levels
- Single-stage cooling capacity control on all 036-072 models and the 091,101 and 121 models
- Two-stage cooling capacity control on 090,102,120,150 and 180 models
- Rated in accordance with ARI Standard 210/240 (036-060 sizes) and 340/360 (072-180 sizes)
- SEER's up to 13.0, EER's up to 11.3
- IEER's up to 12.2 with single speed indoor fan motor
- IEER's up to 13.0 with 2-speed/VFD indoor fan motor
- Designed in accordance with Underwriters' Laboratories Standard 1995
- Listed by UL and UL, Canada or ETL and ETL, Canada
- Exclusive non-corrosive composite condensate pan in accordance with ASHRAE 62 Standard, sloping design; side or center drain
- Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection
- Fixed refrigerant metering system
- Fully insulated cabinet
- Cooling operating range from 40 F up to 115 F
- Access panels with easy grip handles and no-strip screw feature
- Two-inch disposable return air filters
- Tool-less filter access door
- Standard belt drive, constant torque motor
- Advanced terminal board for simple safety circuit troubleshooting and control box arrangement
- Field Convertible from vertical to horizontal airflow configuration on all models.
No special kit required on 036-150 models. Field accessory supply duct kit required for 180 size models only.
- Provisions for thru-the-bottom power entry capability
- Single point electric connections
- Full perimeter base rail with built-in rigging adapters and fork truck slots
- Scroll compressors with internal line-break overload protection
Copper tube, aluminum fin coils

- 24-volt control circuit protected with resettable circuit breaker
- Permanently lubricated evaporator-fan motor
- Permanently lubricated, totally enclosed condenser-fan motors
- Low pressure, freeze protection, and high-pressure switches
- Liquid line filter drier standard

FACTORY OPTIONS INCLUDING BUT NOT LIMITED TO:

- Economizer and two position damper options
- Disconnect and convenience outlet options
- Multiple optional motor and pulley combinations
- Corrosion resistant options for evaporator and condenser coils
- 2 speed indoor fan motor on 2 stage cooling models
- Integrated economizer system. Standard and Ultra Low Leak versions available

WARRANTY

- 5 Year limited warranty on compressor
- 5 Year limited warranty on electric heater parts
- 1 Year limited warranty on parts



RAS036-072



RAS090-121



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.

UNIT PERFORMANCE DATA – Single Stage Cooling

UNIT	COOLING					Unit Dimensions H x W x L	Unit Weight lb. [kg]
	Nom. Tons	Net Cap. (Btuh)	SEER	EER	Total Power (kW)		
RAS036*0AA0AAA	3	34,600	13.0	11.0	3.1	33-3/8" x 46-3/4" x 74-3/8" (847 x 1187 x 1888)	438 [199]
RAS048*0AA0AAA	4	45,000	13.0	11.0	4.0	33-3/8" x 46-3/4" x 74-3/8" (847 x 1187 x 1888)	494 [224]
RAS060*0AA0AAA	5	59,000	13.0	10.8	5.5	33-3/8" x 46-3/4" x 74-3/8" (847 x 1187 x 1888)	524 [238]
RAS072*0AA0AAA	6	70,000	N/A	11.2	6.4	41-3/8" x 46-3/4" x 74-3/8" (1051 x 1187 x 1888)	607 [275]
RAS091*0AA0AAA	7-1/2	88,000	N/A	11.2	8.0	41-3/8" x 59-1/2" x 88-1/8" (1051 x 1510 x 2238)	705 [320]
RAS101*0AA0AAA	8-1/2	97,000	N/A	11.2	8.8	49-3/8" x 59-1/2" x 88-1/8" (1253 x 1510 x 2238)	845 [384]
RAS121*0AA0AAA	10	117,000	N/A	11.2	10.6	49-3/8" x 59-1/2" x 88-1/8" (1253 x 1510 x 2238)	855 [388]

UNIT PERFORMANCE DATA – Dual Stage Cooling

UNIT	COOLING					Unit Dimensions H x W x L	Unit Weight lb. [kg]
	Nom. Tons	Net Cap. (Btuh)	SEER	EER	Total Power (kW)		
RAS090*0AA0AAA	7-1/2	83,000	N/A	11.2	7.4	41-3/8" x 59-1/2" x 88-1/8" (1051 x 1510 x 2238)	760 [345]
RAS102*0AA0AAA	8-1/2	97,000	N/A	11.2	9.0	49-3/8" x 59-1/2" x 88-1/8" (1253 x 1510 x 2238)	855 [388]
RAS120*0AA0AAA	10	114,000	N/A	11.3	10.1	49-3/8" x 59-1/2" x 88-1/8" (1253 x 1510 x 2238)	865 [393]
RAS150*0AA0AAA	12-1/2	140,000	N/A	11.0	12.7	49-3/8" x 59-1/2" x 88-1/8" (1253 x 1510 x 2238)	1075 [489]
RAS180*0AA0AAA	15	174,000	N/A	11.0	15.8	57-3/8" x 63-3/8" x 115-7/8" (1456 x 1609 x 2942)	1305 [593]

* Indicates Unit voltage: K = 208/230-1-60, H = 208/230-3-60, L = 460-3-60, S = 575-3-60

NOTE: BASE MODEL NUMBERS LISTED. SEE MODEL NOMENCLATURE LISTING FOR ADDITIONAL OPTIONS

MODEL NOMENCLATURE (With Single Speed IFM)

MODEL SERIES	R	A	S	0	9	1	H	0	A	A	0	A	A	A
Position Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
R = Rooftop														
A = Air Conditioning (Cooling Only) H = Heat Pump G = Gas/Electric														
Type														
S = Standard ASHRAE 90.1–2010 Efficiency														
Efficiency														
036 = 3 Tons 048 = 4 Tons 060 = 5 Tons 072 = 6 Tons 091 = 7.5 Tons (Single Compressor) 101 = 8.5 Tons (Single Compressor) 121 = 10 Tons (Single Compressor)														
090 = 7.5 Tons (Dual Compressor) 102 = 8.5 Tons (Dual Compressor) 120 = 10 Tons (Dual Compressor) 150 = 12.5 Tons (Dual Compressor) 180 = 15 Tons (Dual Compressor)														
Nominal Cooling Capacity														
K = 208/230–1–60 H = 208/230–3–60 L = 460–3–60 S = 575–3–60														
Voltage														
0 = No Heat														
Heating Capacity														
A = Standard Motor (3 to 15 Ton– 1 speed, 7.5 to 15 ton– 2 speed) B = High Static Motor (3–12.5 ton, 1 Speed, 3 phase models only, 7.5 to 15 ton, 2 speed) C = Medium Static Motor (3 to 15 Ton) E = High Static Motor , High Efficiency Motor (15 ton only) G = High Static Motor with Hot Gas Reheat (15 ton only) H = High Static Motor with Hot Gas Re–Heat (3 to 12.5 ton, single speed motors), (7.5 to 15 ton, 2–speed motors)														
Motor Option (Indoor Fan)														
A = None B = Economizer w/Bara–relief, OA Temp sensor E = Economizer w/Bara–relief + CO2 Sensor, OA Temp sensor H = Economizer w/Bara–relief, enthalpy sensor L = Economizer w/Bara–relief + CO2 Sensor, enthalpy sensor U = Temp Ultra Low Leak Economizer w/Bara–relief W = Enthalpy Ultra Low Leak Economizer w/Bara–relief P = 2–Position damper														
Outdoor Air Options / Control ¹														
0A = No Options AT = Non–powered 115v C.O. 4B = Non–Fused Disconnect BR = Supply Air Smoke Detector AA = Easy Access Hinged Panels														
Factory Installed Options														
A = Aluminum / Copper Cond & Evap Coil B = Precoat Alum/Copper Cond with Alum / Copper Evap (3 phase only) C = E–Coated Alum/Copper Cond with Alum / Copper Evap (3 phase only) D = E–Coated Alum / Copper Cond & Evap (3 phase only) E = Copper/Copper Cond & Alum/Copper Evap (3 phase only) F = Copper/Copper Cond & Evap (3 phase only)														
Condenser / Evaporator Coil Configuration														
A = Standard Single Speed Indoor Fan Motor. For W7212 controls B = Standard Single Speed Indoor Fan Motor. For W7220 controls T = 2 Speed Indoor Motor VFD Controller (For 2–stage units only)														
Motor Type Option														

NOTE: Factory installed options are NOT available on single phase models. This includes economizers and 2 position dampers.

¹ A combinations of FIOPS are available.

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

CATEGORY	ITEM	FACTORY INSTALLED OPTION	FIELD INSTALLED ACCESSORY
Cabinet	Supply Duct Cover (180 size only)		X
	Thru-the-base electrical connections		X
	Hinged Access Panels	X	
Coil Options	Cu/Cu indoor and/or outdoor coils ^{1, 6}	X	
	Pre-coated outdoor coils ^{1, 6}	X	
	Premium, E-coated outdoor coils ^{1, 6}	X	
Humidity Control	Hot Gas Re-Heat Dehumidification System ⁶	X	
Condenser Protection	Condenser coil hail guard (louvered design) ⁶	X	X
Controls	Thermostats, temperature sensors, and subbases		X
	Smoke detector (supply and/or return air)	X	
	Time Guard II compressor delay control circuit		X
	Phase Monitor		X
Economizers & Outdoor Air Dampers	EconoMi\$er IV (for electro-mechanical controlled – Non FDD (Standard air leak damper models) ^{6,7}	X	X
	EconoMi\$er2 for DDC controls, complies with FDD (Standard and Ultra Low Leak air damper models) ^{6,8}	X	X
	Motorized 2 position outdoor-air damper ⁶	X	X
	Manual outdoor-air damper (25% and 50%)		X
	Barometric relief ²	X	X
	Power exhaust		X
	EconoMi\$er X for electro-mechanical controls, complies with FDD (Standard and Ultra Low Leak air damper models) ^{6,7}	X	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
Electric Heat	CO ₂ sensor (wall, duct, or unit mounted) ³	X	X
	Electric Resistance Heaters		X
Indoor Motor & Drive	Single Point Kit		X
	Multiple motor and drive packages	X	
	2-Speed Indoor Fan Motor system w/VFD controller (2-stage cool only with electrical mechanical controls)	X	
Low Ambient Control	Display Kit for 2-Speed Indoor Fan Motor system with VFD		X
	Winter start kit ⁴		X
Power Options	Motormaster head pressure controller ⁴		X
	Convenience outlet (unpowered)	X	
	Non-fused disconnect ⁵	X	
Roof Curbs	Disconnect Switch Bracket (16 size only)		X
	Roof curb 14-in (356mm)		X
	Roof curb 24-in (610mm)		X

NOTES:

1. Included with economizer.
2. Sensors for optimizing economizer.
3. See application data for assistance.
4. Available on units with MOCP's of 80 amps or less.
5. Not available as factory installed option on single phase (208/230/1/60) models. Use field-installed accessory where available.
6. FDD –(Fault Detection and Diagnostic) capability per California Title 24 section 120.2

FACTORY OPTIONS AND/OR ACCESSORIES

Economizer (dry–bulb or enthalpy)

Economizers save energy, money and improve comfort levels in the conditioned space. They bring in fresh, outside air for ventilation; and provide cool outside air to cool your building. This also is the preferred method of low ambient cooling. When integrated with CO₂ sensors, economizers can provide even more savings by coupling the ventilation air to only that amount required based on space occupancy. Economizers are available, installed and tested by the factory, with either enthalpy or temperature dry–bulb inputs. There are also models for electromechanical, direct digital controllers and single speed fan or 2–speed indoor fan motors. Additional sensors are available as accessories to optimize the economizer. Economizers include gravity controlled barometric relief that helps equalize building pressure and ambient air pressures. This can be a cost effective solution to prevent building pressurization. Economizers are available in Ultra Low Leak and standard low leak versions.

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. ICP 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 (un–powered)

Reduce service and/or installation costs by including a convenience outlet in your specification. ICP will install this service feature at our factory. Provides a convenient, 15 amp, 115v GFCI receptacle with “Wet in Use” cover. 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.

Disconnect Switch Bracket

Provides a pre–engineered and sized mounting bracket for applications requiring a unit mounted fused and non–fused disconnect of greater than 100 amps. Bracket assures that no damage will occur to coils

when mounting with screws and other fasteners (180 size only).

Power Exhaust with Barometric Relief

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

Time Guard II Control Circuit

This accessory protects your compressor by preventing short–cycling in the event of some other failure, prevents the compressor from restarting for 30 seconds after stopping. Not required with 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 ICP 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. Not available with 2–speed indoor fan motor models.

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. Not available with 2–speed indoor fan motor models.

Optional Hot Gas Re–Heat Dehumidification System

ICP’s Hot Gas Re–Heat dehumidification system is an all–inclusive factory–installed option that can be ordered with any RAS180 rooftop unit.

This system expands the envelope of operation of ICP’s rooftop products to provide unprecedented flexibility to meet year–round comfort conditions.

The Hot Gas Re–Heat dehumidification system has the industry’s only dual dehumidification mode setting. The Hot Gas Re–Heat system includes two new modes of operation.

The RAS180 rooftop coupled with the Hot Gas Re–Heat 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.

FACTORY OPTIONS AND/OR ACCESSORIES (cont.)

2-Speed Indoor Fan Motor Indoor Fan Speed System

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

Compared to single speed indoor fan motor systems, ICP's 2-speed indoor fan motor system can save substantial energy, 25%+, versus single speed indoor fan motor systems.

The VFD used in ICP's 2-speed indoor fan motor system has soft start capabilities to slowly ramp up the speeds, thus eliminating any high inrush air volume during initial start-up. It also has internal over-current protection for the fan motor and a field installed display kit that allows adjustment and in depth diagnostics of the VFD.

This 2-speed indoor fan motor system is available on models with 2-stage cooling operation with electromechanical Multi Protocol controls. Both space sensor and conventional thermostats/controls can be used to provide accurate control in any application.

The 2-speed indoor fan motor system is very flexible for initial fan performance set up and adjustment. The standard factory shipped VFD is pre-programmed to automatically stage the fan speed between the first and second stage of cooling. The unit fan performance static pressure and cfm can be easily adjusted using the traditional means of pulley adjustments. The other means to adjust the unit static and cfm performance is to utilize the field installed Display Kit and adjust the frequency and voltage in the VFD to performance requirements. In either case, once set up, the VFD will automatically adjust the speed between the cooling stage operations.

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.

Hinged Access Panels

Allows access to unit's major components with specifically designed hinged access panels. Panels are: filters, control box, fan motor and compressor.

Winter Start Kit

The winter start kit by ICP 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 ICP 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

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

Supply Duct Cover

This supply duct cover is required when field converting the factory standard vertical duct supply to horizontal duct supply configuration. One required per unit (180 size only).

ACCESSORIES – RAS036–180

ECONOMIZERS		
ECONOMISER IV FOR 1-SPEED INDOOR FAN MOTOR ONLY) STANDARD LEAK CONTROLLER INCLUDED		
VERTICAL		
Model Number	Description	Use With Model Size
CRECOMZR020A02	STANDARD LEAK Vertical EconoMi\$er IV with solid-state controller, gear-driven, damper, spring return actuator, up to 100% barometric relief, supply and outdoor air temperature sensors, and CO2 sensor compatible, for use in non-DDC applications.	036 – 072
CRECOMZR021A03	STANDARD LEAK Vertical EconoMi\$er IV with solid-state controller, gear-driven, modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air temperature sensors, and CO2 sensor compatible, for use in non-DDC applications.	090 – 150
CRECOMZR062A00	STANDARD LEAK Vertical EconoMi\$er IV with solid-state controller, gear-driven, modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air temperature sensors, and CO2 sensor compatible, for use in non-DDC applications.	180
HORIZONTAL		
CRECOMZR024A02	STANDARD LEAK Horizontal EconoMi\$er IV with solid-state controller, gear-driven, modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air temperature sensors, and CO2 sensor compatible, for use in non-DDC applications.	036 – 072
CRECOMZR025A02	STANDARD LEAK Horizontal EconoMi\$er IV with solid-state controller, gear-driven, modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air temperature sensors, and CO2 sensor compatible, for use in non-DDC applications.	090 – 150
CRECOMZR064A00	STANDARD LEAK Horizontal EconoMi\$er IV with solid-state controller, gear-driven, modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air temperature sensors, and CO2 sensor compatible, for use in non-DDC applications.	180
¹ EconoMi\$er IV cannot be installed with an EconoMi\$er X, Manual Damper, or Motorized Damper. ² When installed on a unit with hinged panels, hinged panel access kit is also required.		
ECONOMISER X (FOR 1 & 2-SPEED INDOOR FAN MOTOR) STANDARD LEAK, CONTROLLER INCLUDED		
VERTICAL		
CRECOMZR076A00	STANDARD LEAK - Vertical EconoMi\$er X with solid-state W7220 controller, gear-driven, modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air temperature sensors, and CO2 sensor compatible, for use in electro mechanical controls only. Controller meets California Title 24 Section 120.2 Fault Detection and Diagnostic (FDD) requirements.	036 – 172
CRECOMZR078A00	STANDARD LEAK - Vertical EconoMi\$er X with solid-state W7220 controller, gear-driven, modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air temperature sensors, and CO2 sensor compatible, for use in electro mechanical controls only. Controller meets California Title 24 Section 120.2 Fault Detection and Diagnostic (FDD) requirements.	090 – 150
CRECOMZR080A00	STANDARD LEAK - Vertical EconoMi\$er X with solid-state W7220 controller, gear-driven, modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air temperature sensors, and CO2 sensor compatible, for use in electro mechanical controls only. Controller meets California Title 24 Section 120.2 Fault Detection and Diagnostic (FDD) requirements.	180
¹ EconoMi\$er X cannot be installed with an EconoMi\$er IV, Manual Damper, or Motorized Damper. ² When installed on a unit with hinged panels, hinged panel access kit is also required.		

ACCESSORIES – RAS036–180 (cont.)

ECONOMISER X (FOR 1 & 2-SPEED INDOOR FAN MOTOR) STANDARD LEAK, CONTROLLER INCLUDED		
HORIZONTAL		
Model Number	Description	Use With Model Size
CRECOMZR077A00	STANDARD LEAK - Horizontal EconoMi\$er X with solid-state W7220 controller, gear-driven, modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air temperature sensors, and CO2 sensor compatible, for use in electro mechanical controls only. Controller meets California title 24 Section 120.2 Fault Detection and Diagnostic (FDD) requirements.	036 – 172
CRECOMZR079A00	STANDARD LEAK - Horizontal EconoMi\$er X with solid-state W7220 controller, gear-driven, modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air temperature sensors, and CO2 sensor compatible, for use in electro mechanical controls only. Controller meets California Title 24 Section 120.2 Fault Detection and Diagnostic (FDD) requirements.	090 – 150
CRECOMZR081A00	STANDARD LEAK - Horizontal EconoMi\$er X with solid-state W7220 controller, gear-driven, modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air sensors, and CO2 sensor compatible, for use in electro mechanical controls only. Controller meets California Title 24 Section 120.2 Fault Detection and Diagnostic (FDD) requirements.	180
¹ EconoMi\$er X cannot be installed with an EconoMi\$er IV, Manual Damper, or Motorized Damper. ² When installed on a unit with hinged panels, hinged panel access kit is also required.		
ECONOMISER X (FOR 1 & 2-SPEED INDOOR FAN MOTOR) ULTRA LOW LEAK, CONTROLLER INCLUDED		
VERTICAL		
CRECOMZR067A00	Ultra LOW LEAK - Vertical EconoMi\$er X with solid-state W7220 controller, gear-driven, modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air temperature sensors, and CO2 sensor compatible, for use in electro mechanical controls only. Also includes return, outside air, and relief air damper leakage that meets Title 24 section 140.4 and ASHRAE 90.1 requirements. Controller meets California Title 24 Fault Detection and Diagnostic (FDD) requirements.	036 – 072
CRECOMZR069A00	Ultra LOW LEAK - Vertical EconoMi\$er X with solid-state W7220 controller, gear-driven, modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air temperature sensors, and CO2 sensor compatible, for use in electro mechanical controls only. Also includes return, outside air, and relief air damper leakage that meets Title 24 section 140.4 and ASHRAE 90.1 requirements. Controller meets California Title 24 Fault Detection and Diagnostic (FDD) requirements	090 – 150
CRECOMZR071A00	Ultra LOW LEAK - Vertical EconoMi\$er X with solid-state W7220 controller, gear-driven, modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air sensors, and CO2 sensor compatible, for use in electro mechanical controls only. Also includes return, outside air, and relief air damper leakage that meets Title 24 section 140.4 and ASHRAE 90.1 requirements. Controller meets California Title 24 Fault Detection and Diagnostic (FDD) requirements.	180
¹ EconoMi\$er X cannot be installed with an EconoMi\$er IV, Manual Damper or Motorized Damper ² Currently only available on vertical air flow configuration models. Contact your local MicroMetl account manager 1-800-884-4662 if horizontal model is required. ³ When installed on a unit with hinged panels, hinged panel access kit is also required.		

ACCESSORIES – RAS036–180 (cont.)

ACCESSORY KITS FOR UNITS WITH HINGED ACCESS PANELS		
Model Number	Description	Use With Model Size
VERTICAL		
CRPECONV003A00	Vertical accessory kit used with installing a vertical economizer on a unit that has hinged access panels. Includes angle and seal strip	036–072
CRPECONV004A00	Vertical accessory kit used with installing a vertical economizer on a unit that has hinged access panels. Includes angle and seal strip	090–150
CRPECONV007B00	Vertical & Horizontal accessory kit used with installing a 2–position damper or vertical & horizontal economizer on a unit that has hinged access panels. Includes angle and seal strip	180
HORIZONTAL		
CRHNGPNL001A00	Horizontal accessory kit used with installing a vertical economizer on a unit that has hinged access panels. Includes angle and seal strip	036–072
CRHNGPNL002A00	Horizontal accessory kit used with installing a vertical economizer on a unit that has hinged access panels. Includes angle and seal strip	090–150
CRHNGPNL003A00	Currently in development - please contact application engineering ... Hinged filter access door kit for use with horizontal economizer accessory. Replaces door sent with economizer. Includes door panel, angle and seal strip.	180

ECONOMIZER SENSORS		
Model Number	Description	Use With Model Size
DNTEMPSN002A00	Outdoor or Return Dry Bulb Temperature Sensor used with Electro–Mechanical control.	ECONOMIZER IV
DNCBDIOX005A00	CO ₂ Sensor for use in return airstream. Also includes Aspirator Box required for Duct Mounting.	ECONOMIZER IV & X
DNENTDIF004A00	Return Air Enthalpy Sensor used with Electro–Mechanical controls, use with AXB078ENT for differential enthalpy control.	ECONOMIZER IV
AXB078ENT	Accusensor II Economizer Differential Enthalpy Control Upgrade	ECONOMIZER IV
CRTEMPSN005A00	Outdoor or return dry bulb temperature sensor used with Honeywell W7220 electro–mechanical control.	ECONOMIZER X
HH57AC081	Enthalpy control for W7220 controller only. (One required for single enthalpy, two required for differential enthalpy)	ECONOMIZER X

NOTE: Supply air temperature sensor (SAT and low ambient lockout switch) provided with Economizer IV or Economizer X.

POWER EXHAUST		
Model Number	Description	Use With Model Size
DNPWREXH030A01	Vertical Power Exhaust 208/230 volt (1 or 3 Phase)	036 – 072
DNPWREXH021A01	Vertical Power Exhaust 460 volt	036 – 072
DNPWREXH022A01	Vertical Power Exhaust 208/230 volt (1 or 3 Phase)	090 – 150
DNPWREXH023A01	Vertical Power Exhaust 460 volt	090 – 150
DNPWREXH080A00	Vertical Power Exhaust 208/230 volt	180
DNPWREXH081A00	Vertical Power Exhaust 460 volt	180
NOTES	Vertical Power Exhaust requires a vertical Economizer Vertical Power Exhaust package includes exhaust hood, screens, and propeller fan system	
DNPWREXH028A01	Horizontal Power Exhaust 208/230 & 575 volt (1 or 3 Phase)	036 – 150
DNPWREXH029A01	Horizontal Power Exhaust 460 volt	036 – 150
DNPWREXH082A00	Horizontal Power Exhaust 208/230 & 575 volt	180
DNPWREXH083A00	Horizontal Power Exhaust 460 volt	180
NOTES	Horizontal Power Exhaust should be duct-mounted in the return duct Horizontal Power Exhaust package includes exhaust hood, screens, and propeller fan system	

575V TRANSFORMER		
Model Number	Description	Use With Model Size
1171494	Transformer for conversion from 575v to 208/230v power exhaust applications.	ALL

NOTES:

- Vertical power exhaust package includes exhaust hood, screens and propeller fan system.
- 24" Roof curbs are NOT required with vertical power exhaust.
- Horizontal power exhaust should be duct-mounted in the return ductwork and is supplied with a single fan and wiring harness.
- Both vertical and horizontal power exhaust packages can be used with either EconoMi\$er IV or EconoMi\$er X. In either case, the power exhaust is controlled by the EconoMi\$er IV, X controller.
- Order --HT--01AH-859 / FAST# 1171494for 575V applications.

Table 2 – AHRI COOLING RATING TABLES

Unit	Cooling Stages	Nom. Capacity (tons)	Net Cooling Capacity (MBH)	Total Power (KW)	SEER	EER	IEER	IEER w/ 2-spd
036	1	3	34.6	3.1	13.0	11.00	N/A	N/A
048	1	4	45.0	4.0	13.0	11.00	N/A	N/A
060	1	5	59.0	5.5	13.0	10.75	N/A	N/A
072	1	6	70.0	6.4	N/A	11.20	11.4	N/A
091	1	7.5	88.0	8.0	N/A	11.20	11.4	N/A
090	2	7.5	83.0	7.4	N/A	11.20	11.7	13.0
101	1	8.5	97.0	8.8	N/A	11.20	11.4	N/A
102	2	8.5	99.0	8.8	N/A	11.20	11.7	13.0
121	1	10	117.0	10.6	N/A	11.20	11.4	N/A
120	2	10	114.0	10.1	N/A	11.30	12.2	13.0
150	2	12.5	140.0	12.7	N/A	11.00	11.2	12.0
180	2	15	174.0	15.8	N/A	11.00	11.5	12.6

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 RAS units comply with ASHRAE 90.1 Energy Standard for minimum SEER and EER requirements.
4. Where appropriate, RAS units comply with US Energy Policy Act (2005). Refer to state and local codes.



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

Table 3 – MINIMUM – MAXIMUM AIRFLOWS COOLING AND ELECTRIC HEAT

Unit	Cooling		Electric Heaters	
	Minimum	Maximum	Minimum	Maximum
RAS036	900	1500	900	1500
RAS048	1200	2000	1200	2000
RAS060	1500	2500	1500	2500
RAS072	1800	3000	1800	3000
RAS090/091	2250	3750	2250*	3750
RAS101/102	2550	4250	2550*	4250
RAS120/121	3000	5000	3000*	5000
RAS150	3600	6000	3000*	6000
RAS180	4500	7500	4500	7500

* Minimum electric heat CFM exceptions :

Unit	Unit voltage	Heater kW	Unit Configuration	Required Minimum CFM
RAS120/121 RAS150	208/230	42.4	Horizontal	3200
RAS120/121 RAS150	208/230	50.0	Horizontal	3200
RAS120/121 RAS150	460	50.0	Horizontal or Vertical	3200
RAS090/91	575	17.0	Horizontal or Vertical	2800
RAS101/102 RAS120/121 RAS150	575	34.0	Horizontal or Vertical	2350

Table 4 – SOUND PERFORMANCE TABLE

Unit	Cooling Stages	Outdoor Sound (dB) @60hz								
		A-Weighted	63	125	250	500	1000	2000	4000	8000
036	1	80	90.6	80.9	80.2	76	74.6	71.3	68.5	63.9
048	1	81	90.9	84.6	79.5	77.9	76.5	71.1	66.9	62.5
060	1	78	84.0	82.2	76.3	74.8	72.5	68.8	65.6	61.8
072	1	78	88.8	81.8	76.9	74.4	73.3	69.8	66.3	62.7
091	1	82	90.1	82.6	81.0	79.4	77.0	73.0	70.4	66.7
090	2	82	85.8	84.3	80.5	78.7	76.4	72.7	68.3	65.1
101	1	83	91.2	86.4	81.9	81.0	78.3	73.9	71.4	67.3
102	2	82	88.6	85.0	81.6	79.5	77.4	74.1	71.0	66.3
121	1	82	88.6	85.0	81.6	79.5	77.4	74.1	71.0	66.3
120	2	82	89.0	83.1	80.5	78.5	75.5	71.6	69.6	69.3
150	2	87	87.0	85.2	84.6	84.9	82.2	78.4	75.3	72.9
180	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 ICP units are taken in accordance with 270-2008.



Table 5 – PHYSICAL DATA

(COOLING)

3 – 6 TONS

		RAS036	RAS048	RAS060	RAS072
Refrigeration System					
	# Circuits / # Comp. / Type	1 / 1 / Scroll	1 / 1 / Scroll	1 / 1 / Scroll	1 / 1 / Scroll
	Puron® refrig. (R-410A) (lbs-oz)	5-10	8-8	10-11	14-2
	Hot Gas Re-Heat Puron® refrig. charge A/B (lbs-oz)	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 (ft ²)	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	1.7	1.7	1.7	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	1 / Belt
	Max BHP	1.7	1.7	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 (ft ²)	14.6	16.5	16.5	21.3
Hot Gas Re-Heat 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 (ft ²)	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

NOTE: Hot Gas Re-Heat is available with Round Tube / Plate Fin (RTPF).

* 575V motor utilizes 3.7 BHP.

Table 5 – PHYSICAL DATA (cont.)

(COOLING)

7.5 – 8.5 TONS

		RAS091	RAS090	RAS101	RAS102
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
Alternate (Hot Gas Re-Heat) R-410a charge A/B (lbs – oz)			13 – 3 / 13 – 3		16 – 13 / 16 – 13
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%	50% / 100%	100%	50% / 100%
Evap. Coil					
Material		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–in	3/4–in	3/4–in	3/4–in
Hot Gas Re-Heat Coil					
Material		–	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)		–	6.3	–	8.4
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	14	14	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
Cond. Coil					
Material		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
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: Hot Gas Re-Heat is available with Round Tube / Plate Fin (RTPF).

Table 5 – PHYSICAL DATA (cont.)

(COOLING)

10 – 15 TONS

		RAS121	RAS120	RAS150	RAS180 'E'	RAS180 'G'
Refrigeration System						
# Circuits / # Comp. / Type		1 / 1 / Scroll	2 / 2 / Scroll	2 / 2 / 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	15–14/16–12	15–14/16–12
Alternate (Hot Gas Re-Heat) R-410a charge A/B (lbs – oz)		–	16 – 10 / 16 – 0	17 – 10 / 18 – 3	–	–
Metering device		Acutrol	Acutrol	Acutrol	Acutrol	TXV
High–press. Trip / Reset (psig)		630 / 505	630 / 505	630 / 505	630 / 505	630 / 505
Low–press. Trip / Reset (psig)		54 / 117	54 / 117	54 / 117	54 / 117	27 / 44
Compressor Capacity Staging (%)		100%	50% / 100%	50% / 100%	50% / 100%	50% / 100%
Evap. Coil						
Material		Cu / Al	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	3/8–in RTPF
Rows / FPI		4 / 15	4 / 15	4 / 15	3 / 15	3 / 15
Total face area (ft ²)		11.1	11.1	11.1	17.5	17.5
Condensate drain conn. size		3/4–in	3/4–in	3/4–in	3/4–in	3/4–in
Hot Gas Re-Heat Coil						
Material		–	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	–	1 / 17
Total face area (ft ²)		–	8.4	8.4	–	13.8
Evap. fan and motor						
Standard Static 3 phase	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	2.4	2.4	2.9	2.9	2.9
	RPM range	591–838	591–838	652–843	507–676	507–676
	Motor frame size	56	56	56	56	56
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	15 x 15	15 x 15	15 x 15	18 x 18	18 x 18
	Medium Static 3 phase	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt
Max BHP		3.7	3.7	3.7	3.7	3.7
RPM range		838–1084	838–1084	838–1084	627–851	627–851
Motor frame size		56	56	56	56	56
Fan Qty / Type		1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
Fan Diameter (in)		15 x 15	15 x 15	15 x 15	18 x 18	18 x 18
High Static 3 phase		Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	4.7	4.7	4.7	6.1	6.1
	RPM range	1022–1240	1022–1240	1022–1240	776–955	776–955
	Motor frame size	14	14	14	S184T	S184T
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	15 x 15	15 x 15	15 x 15	18 x 18	18 x 18
	Cond. Coil					
Material		Cu / Al	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	3/8–in RTPF
Rows / FPI		2 / 17	2 / 17	3 / 17	2/17	2/17
Total face area (ft ²)		25.1	25.1	25.1	2 @ 23.1	2 @ 23.1
Cond. fan / motor						
Qty / Motor drive type		2 / direct	2 / direct	1 / direct	3 / direct	3 / direct
Motor HP / RPM		1/4 / 1100	1/4 / 1100	1 / 1175	1/4 / 1100	1/4 / 1100
Fan diameter (in)		22	22	30	22	22
Filters						
RA Filter # / Size (in)		4 / 20 x 20 x 2	4 / 20 x 20 x 2	4 / 20 x 20 x 2	6 / 18 x 24 x 2 2 / 24 x 27 x 1 (vert.)	6 / 18 x 24 x 2 2 / 24 x 27 x 1 (vert.)
OA inlet screen # / Size (in)		1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 30 x 39 x 1 (horiz)	1 / 30 x 39 x 1 (horiz)

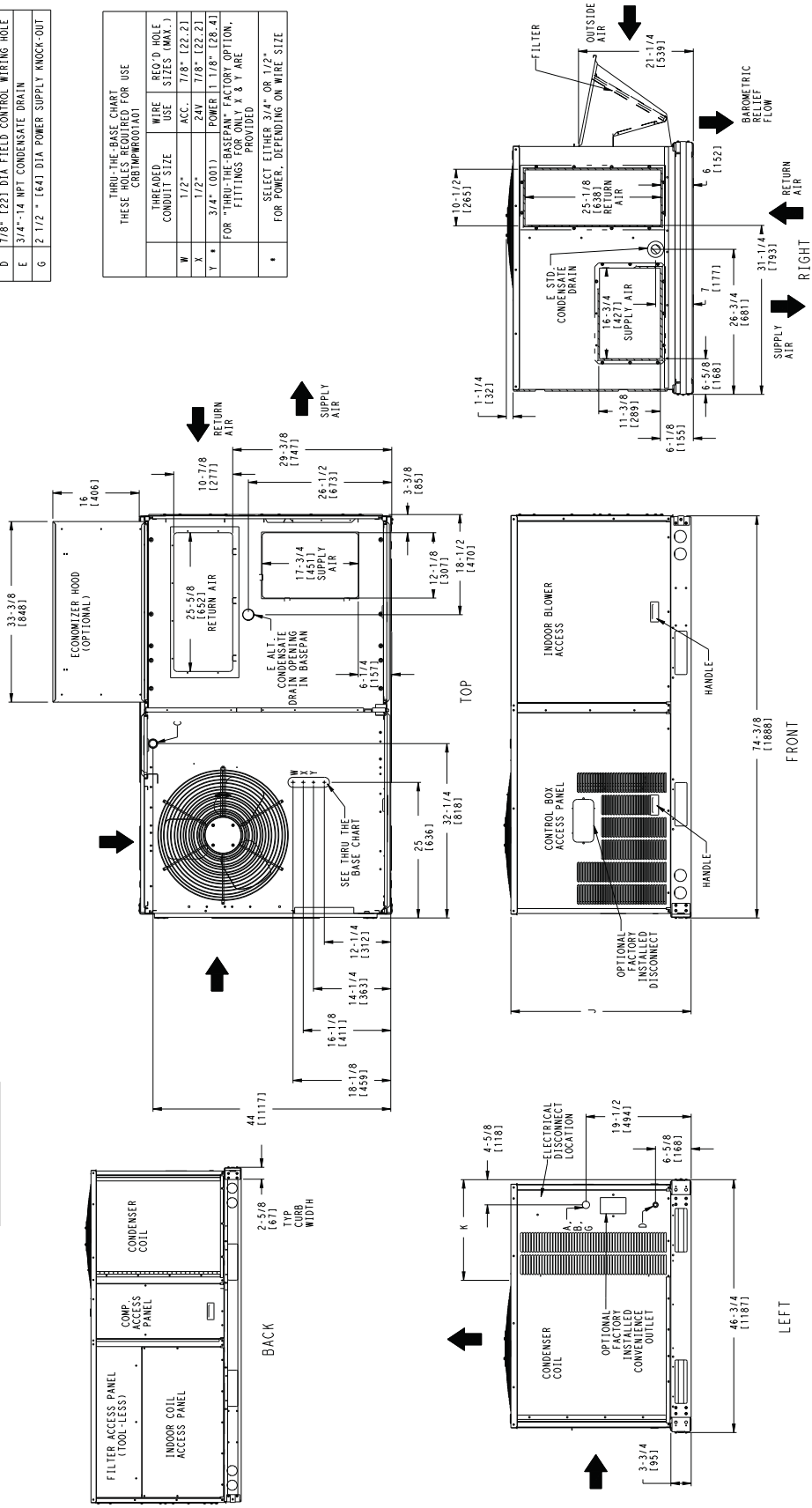
NOTE: Hot Gas Re-Heat is available with Round Tube / Plate Fin (RTPF).

CURBS, WEIGHTS & DIMENSIONS

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

TURN THE BASE CHART THESE HOLES REQUIRED FOR USE			
THREADED CONDUIT SIZE	WIRE RECYD HOLE WIRE SIZES (AWG.)	ACC.	7/8" [22.2]
W	1/2"	ACC.	7/8" [22.2]
X	3/4" [003]	ACC.	7/8" [22.2]
Y	3/4" [003]	ACC.	7/8" [22.2]
FOR THROUGH THE BASE FACTORY POSITION, FITTINGS FOR ONLY X & Y ARE PROVIDED.			
SELECT EITHER 3/4" OR 1/2" FOR POWER, DEPENDING ON WIRE SIZE			

- NOTES:
1. DIMENSIONS ARE IN INCHES. DIMENSIONS IN [] ARE IN MILLIMETERS.
 2. CENTER OF GRAVITY
 3. DIRECTION OF AIR FLOW



UNIT	J	K
RAS036	33-3/8 [847]	18-5/8 [472]
RAS048	33-3/8 [847]	14-7/8 [377]
RAS060	41-3/8 [1053]	14-7/8 [377]
RAS072	41-3/8 [1053]	14-7/8 [377]

Fig. 1 - Dimensions RAS036-071

C14163B

CURBS, WEIGHTS & DIMENSIONS (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
RAS036	438	199	108	49	115	52	110	50	104	47	38 [965]	22 [559]	17 1/4 [438]
RAS048	494	224	122	55	130	59	125	57	117	53	38 [965]	22 [559]	17 1/2 [445]
RAS060	524	238	130	59	138	63	132	60	124	56	38 [965]	22 [559]	17 3/4 [451]
RAS072	607	275	150	68	160	73	153	69	144	65	38 [965]	22 [559]	20 3/4 [527]

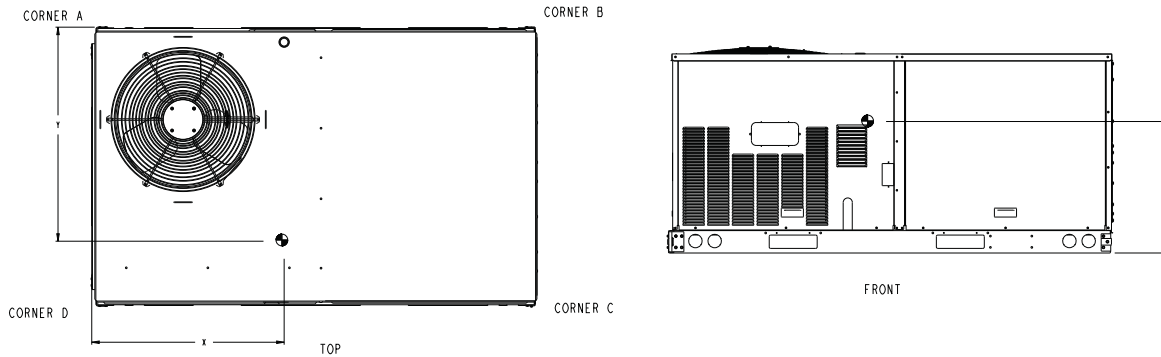


Fig. 2 – Dimensions RAS036–072

C14164B

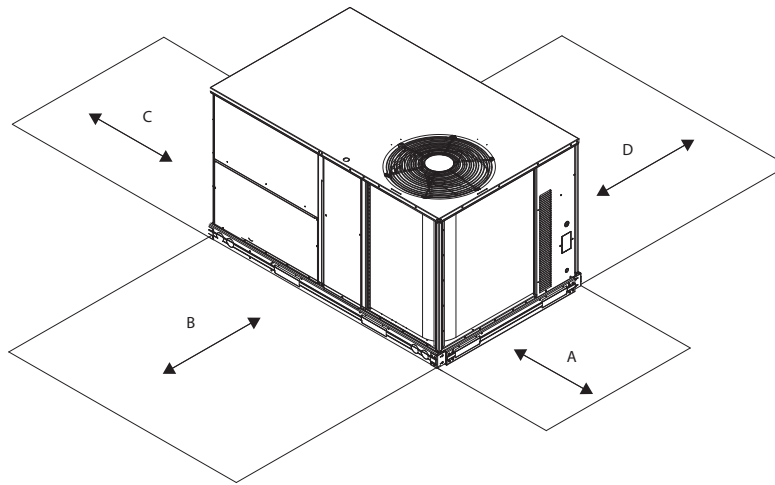


Fig. 3 – Service Clearance

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) Special	Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass) 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)

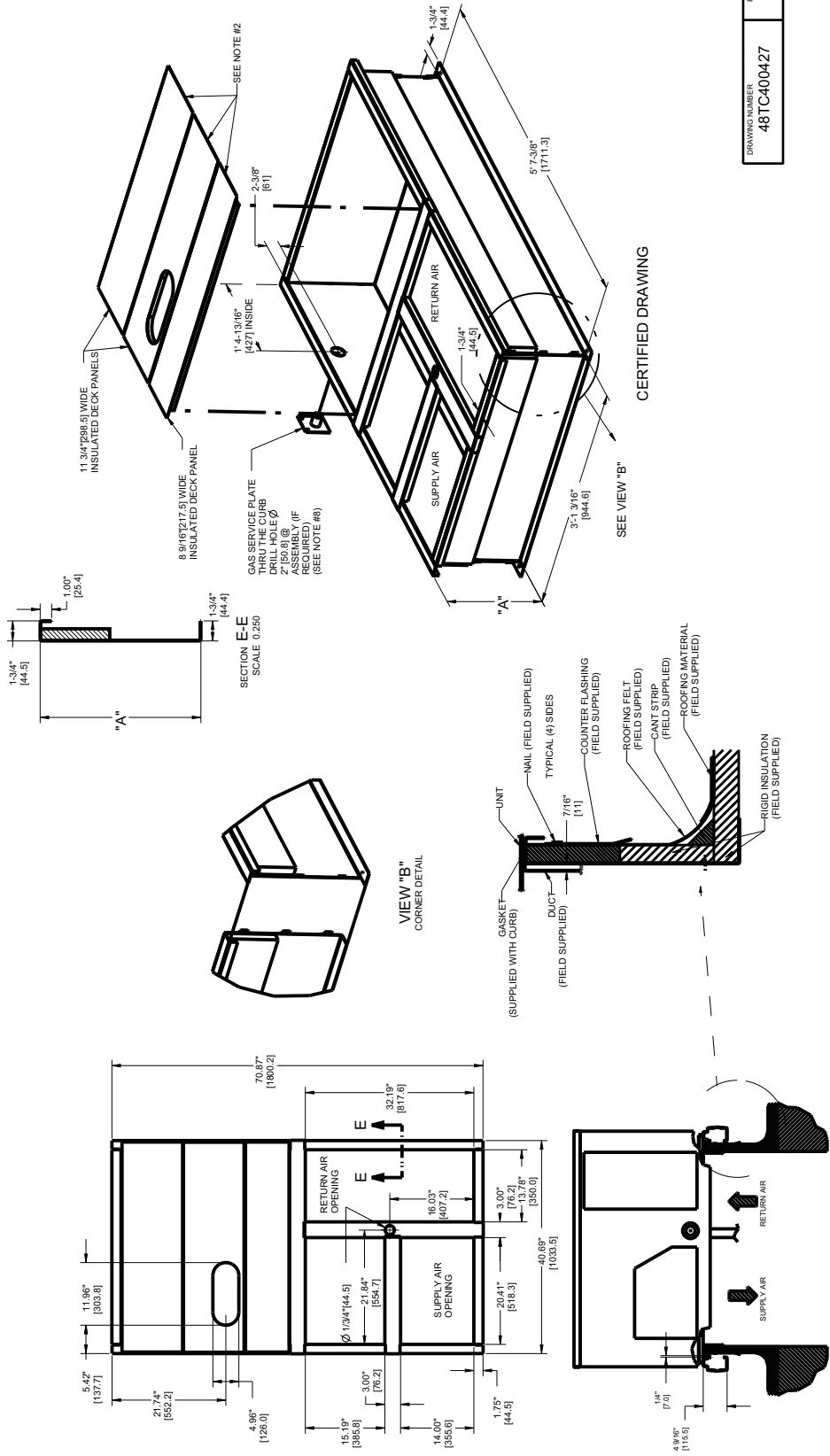
NOTE: Unit not designed to have overhead obstruction. Contact Application Engineering for guidance on any application planning overhead obstruction or vertical clearances.

CURBS, WEIGHTS & DIMENSIONS (cont.)

CONNECTOR PKG. ACC.	GAS CONNECTION TYPE	GAS FITTING	POWER WIRING FITTING	CONTROL WIRING FITTING	ACCESSORY CONVENIENCE OUTLET WIRING CONNECTOR
CRBTMPWR001A01	THRU THE CURB	3/4" [19] NPT	3/4" [19] NPT	1/2" [12.7] NPT	1/2" [12.7] NPT
CRBTMPWR003A01	THRU THE BOTTOM	1/2" [12.7] NPT			

- NOTES:
1. ROOF-CURB ACCESSORY IS SHIPPED DISASSEMBLED.
 2. INSULATED PANELS: 25.4 (1") THK. POLYURETHANE FOAM, 44.5 (1.75") # DENSITY.
 3. INSULATED PANELS: 25.4 (1") THK. POLYURETHANE FOAM, 44.5 (1.75") # DENSITY.
 4. ROOF-CURB: 18 GAGE STEEL
 5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB).
 6. SERVICE CLEARANCE 4 FEET ON EACH SIDE.
 7. DIRECTION OF AIR FLOW.
 8. CONNECTOR PACKAGE CRBTMPWR001A01 IS FOR THRU-THE-CURB GAS TYPE PACKAGE CRBTMPWR003A01 IS FOR THRU-THE-BOTTOM TYPE GAS CONNECTIONS.

ROOF CURB ACCESSORY #	A
CRRFCURB001A01	14" [356]
CRRFCURB002A01	24" [610]



DRAWING NUMBER
48TC400427
REV B

Fig. 4 - Roof Curb Details RAS036-072

C14147

CURBS, WEIGHTS & DIMENSIONS (cont.)

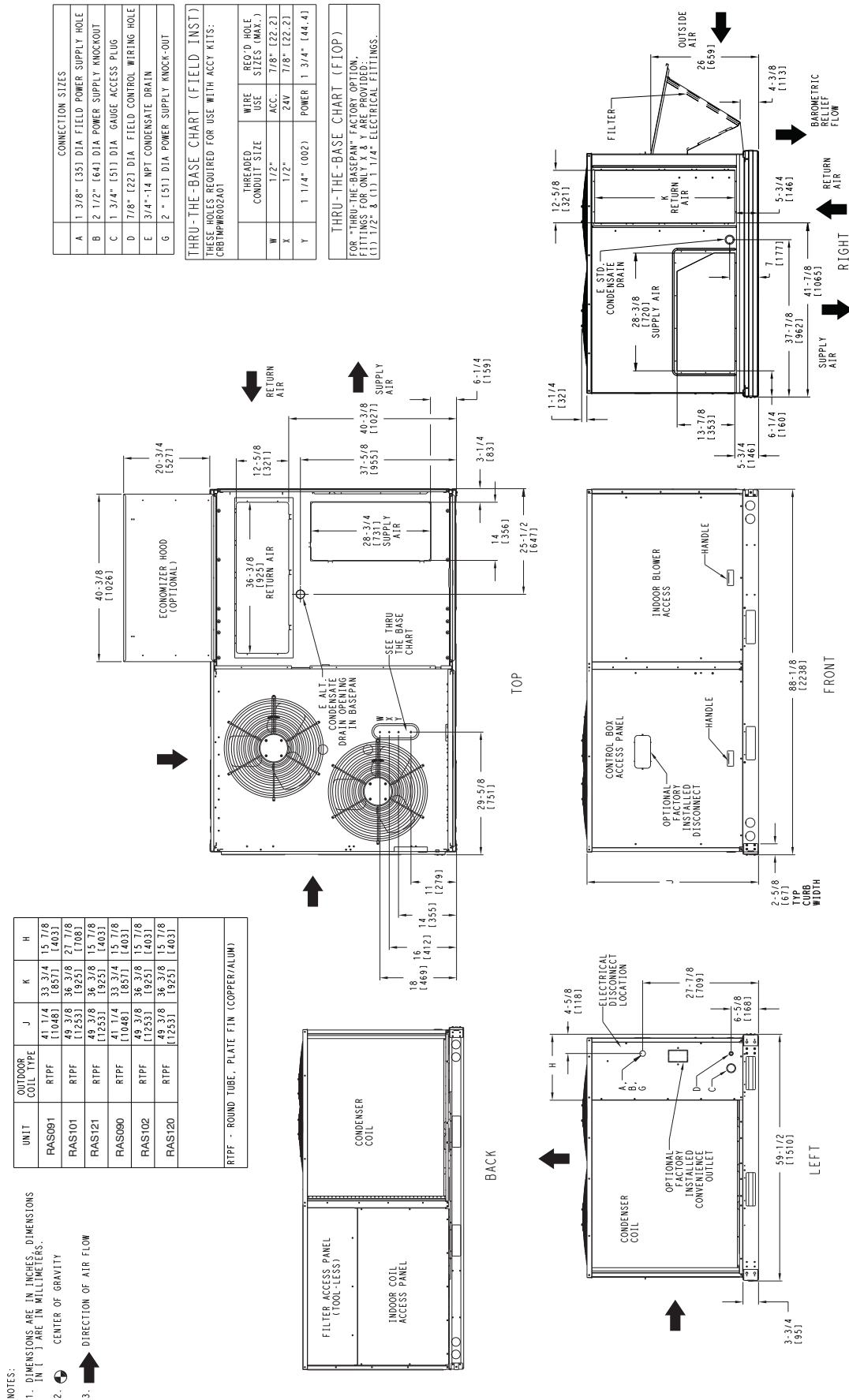


Fig. 5 - Dimensions RAS090-121

CURBS, WEIGHTS & DIMENSIONS (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
RAS091	RTPF	705	320	172	78	142	64.5	177	80.4	214	97.2	39 7/8 [1013]	33 [838]	21 1/4 [540]
RAS101	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]
RAS121	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]
RAS090	RTPF	760	345	158	71.7	155	70.4	222	100.8	225	102.2	43 3/4 [1111.3]	35 [889]	20 [508]
RAS102	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]
RAS120	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]

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

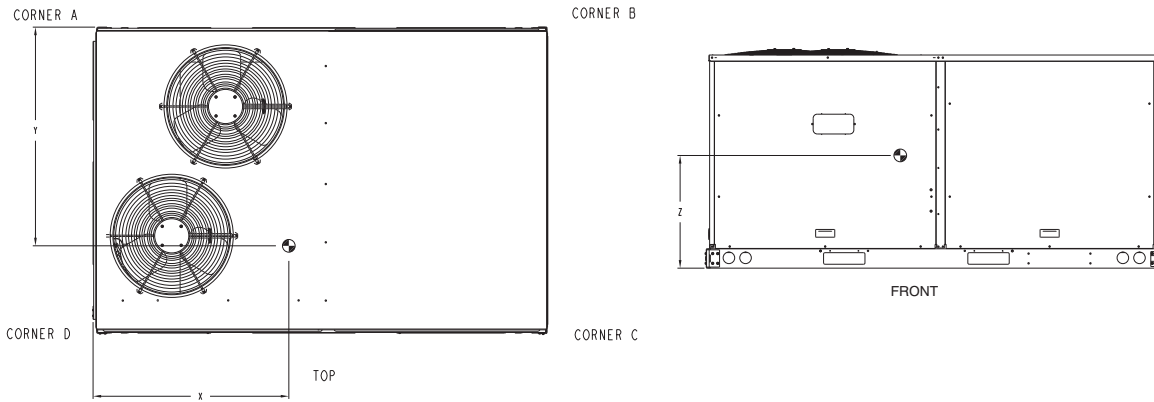


Fig. 6 – Dimensions RAS090-121

C101206B

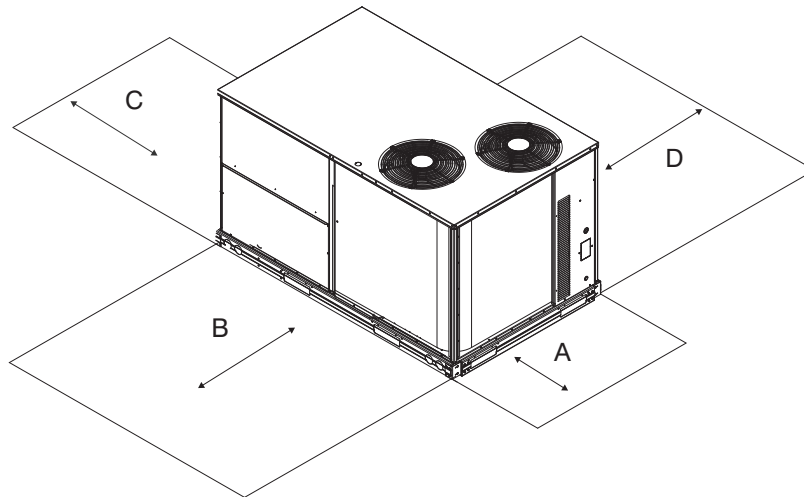


Fig. 7 – Service Clearance

C11247

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) Special	If dimension-A is 36-in (914 mm) 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)

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

CURBS, WEIGHTS & DIMENSIONS (cont.)

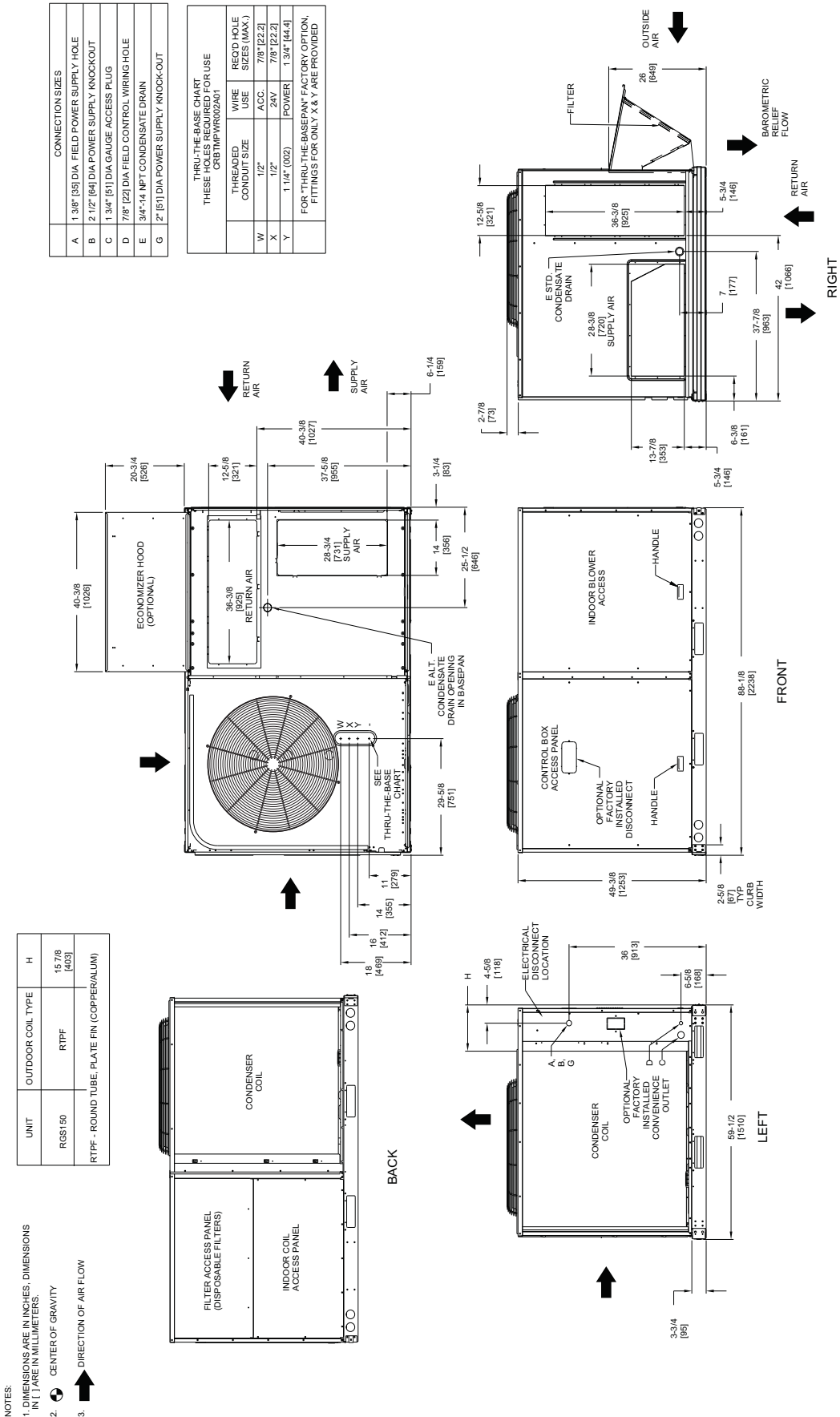


Fig. 8 - Dimensions RAS150

CURBS, WEIGHTS & DIMENSIONS (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
RAS150	RTPF	1075	489	340	155	155	70	181	82	399	181	27 1/2 [699]	32 [813]	20 1/2 [523]
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)														

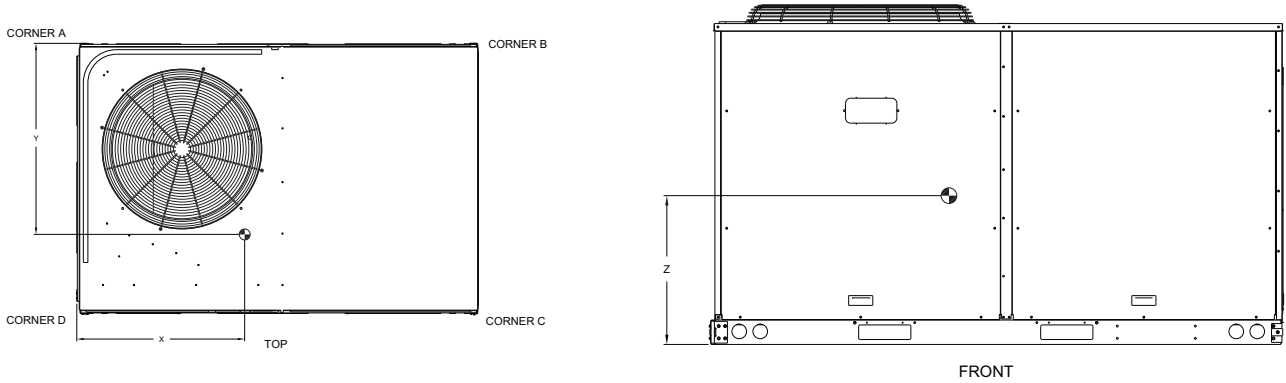


Fig. 9 – Dimensions RAS150

C101208B

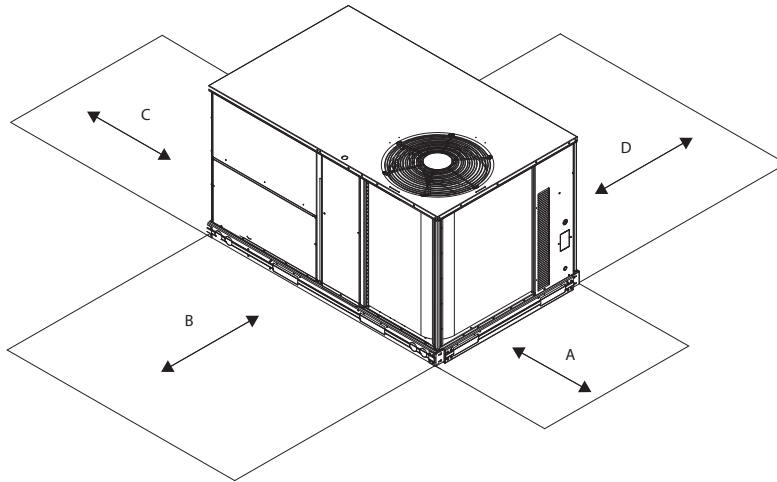


Fig. 10 – Service Clearance

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)

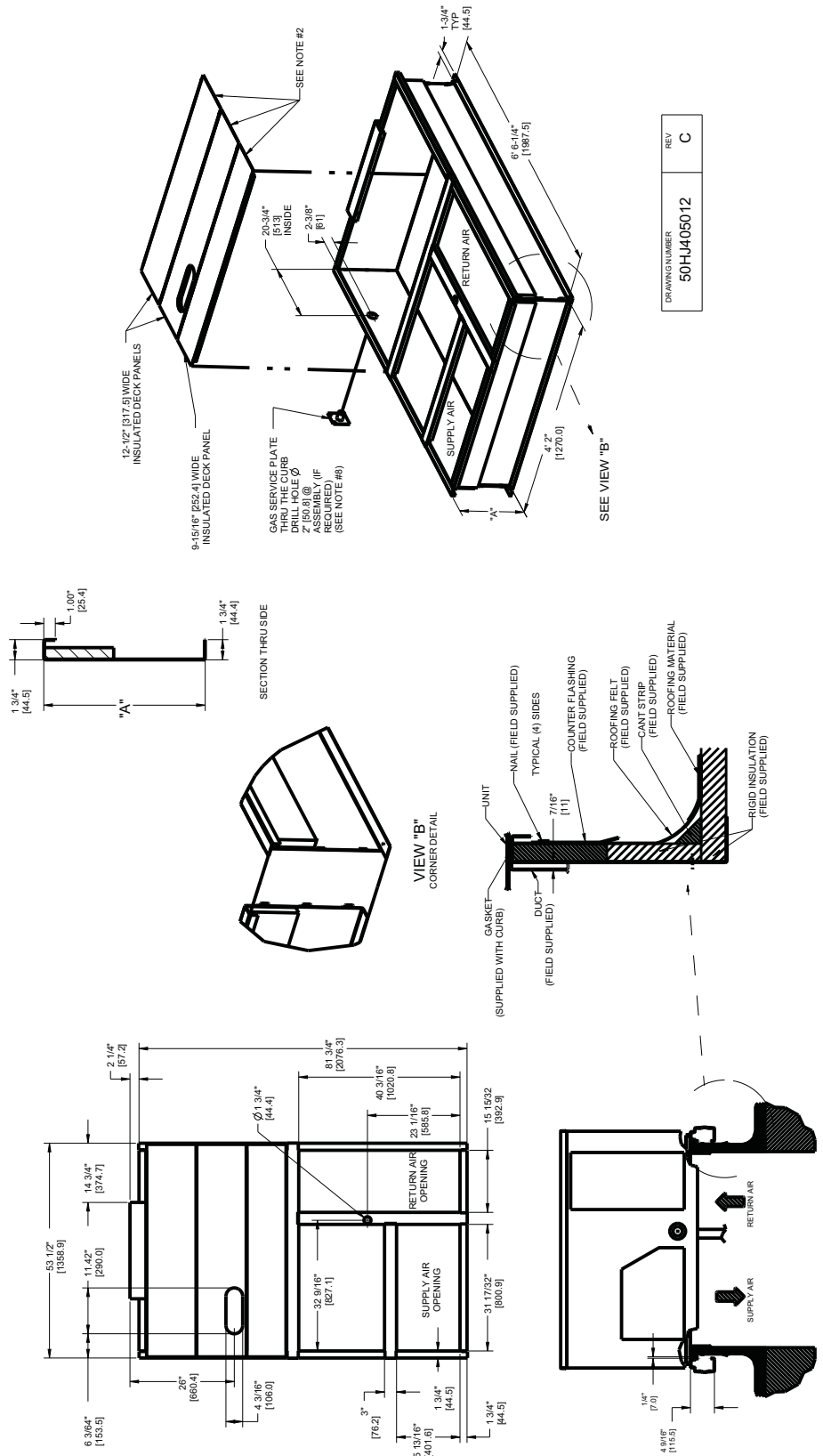
NOTE: Unit not designed to have overhead obstruction. Contact Application Engineering for guidance on any application planning overhead obstruction or vertical clearances.

CURBS, WEIGHTS & DIMENSIONS (cont.)

ROOF CURB ACCESSORY #	A
CRRFCURB003A01	14" [356]
CRRFCURB004A01	24" [610]

- NOTES:
1. ROOF CURB ACCESSORY IS SHIPPED DISASSEMBLED.
 2. INSULATED PANELS: 25.4 [1"] THK. POLYURETHANE FOAM, 44.5 [1-3/4"] # DENSITY.
 3. DIMENSIONS IN [] ARE IN MILLIMETERS.
 4. ROOF CURB: 18 GAGE STEEL.
 5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB).
 6. SERVICE CLEARANCE 4 FEET ON EACH SIDE.
 7. DIRECTION OF AIR FLOW.
 8. CONNECTOR PACKAGE CRBTMPWR002A01 IS FOR THRU-THE-CURB GAS TYPE PACKAGE CRBTMPWR004A01 IS FOR THRU-THE-BOTTOM TYPE GAS CONNECTIONS.

CONNECTOR PKG. ACC.	GAS CONNECTION TYPE	GAS FITTING	POWER WIRING FITTING	CONTROL WIRING FITTING	ACCESSORY CONVENIENCE OUTLET WIRING CONNECTOR
CRBTMPWR002A01	THRU THE CURB	3/4" [19] NPT	1 1/4" [31.7] NPT	1/2" [12.7] NPT	1/2" [12.7] NPT
CRBTMPWR004A01	THRU THE BOTTOM				



DRAWING NUMBER	REV
50HJ405012	C

Fig. 11 – Roof Curb Details RAS090-150

C14148

CURBS, WEIGHTS & DIMENSIONS (cont.)

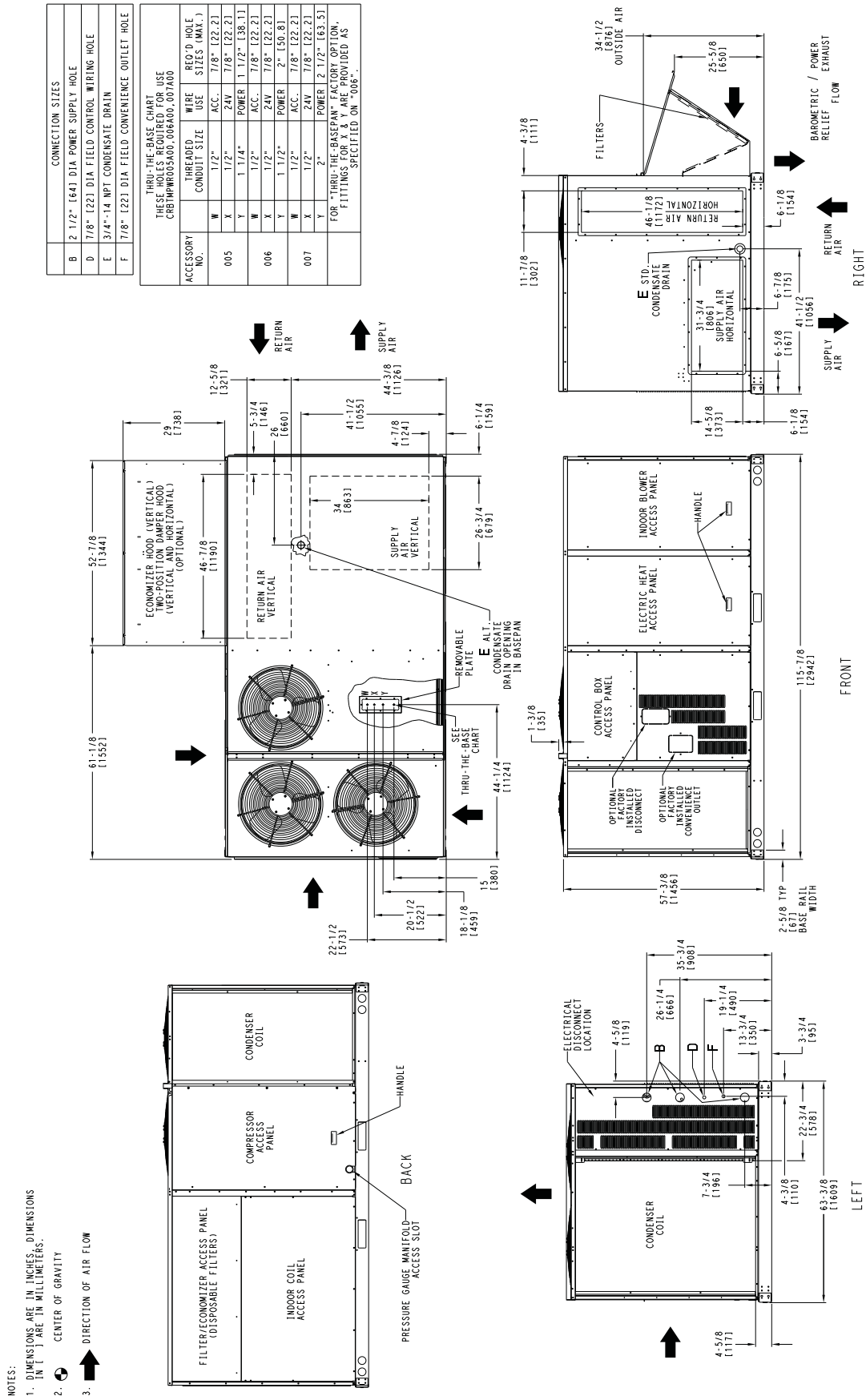
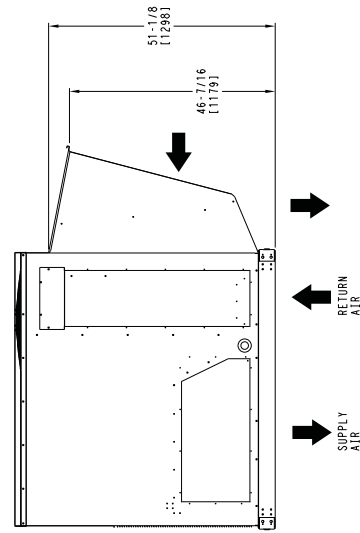
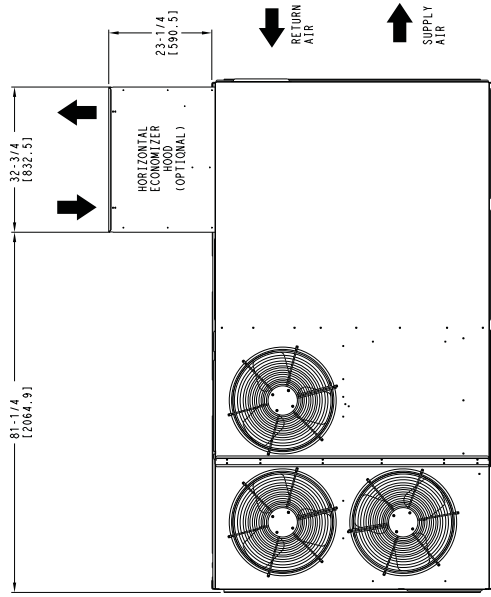


Fig. 12 – Dimensions RAS180

C14184B

CURBS, WEIGHTS & DIMENSIONS (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				
RAS180	1305	593	268	122	325	148	389	177	322	146	58	172	11486	32	813	21	533



HORIZONTAL ECONOMIZER

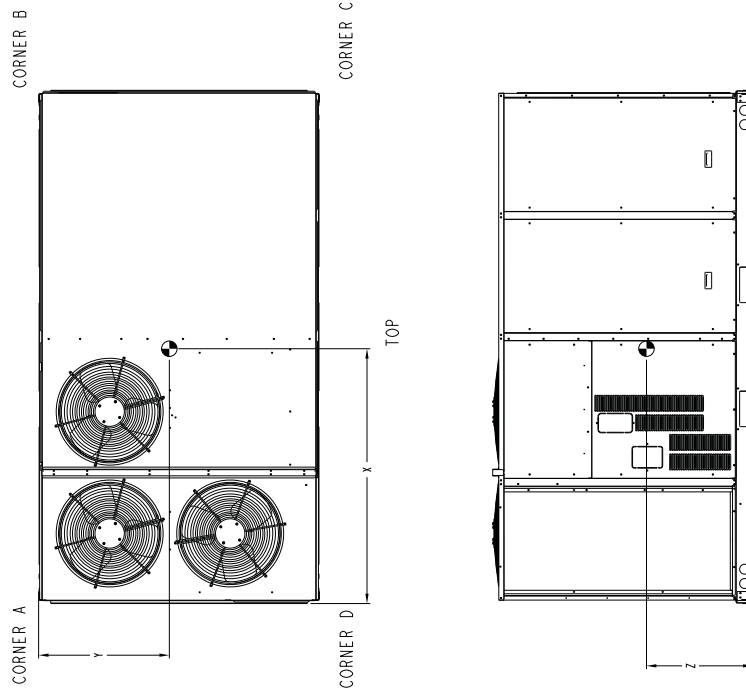
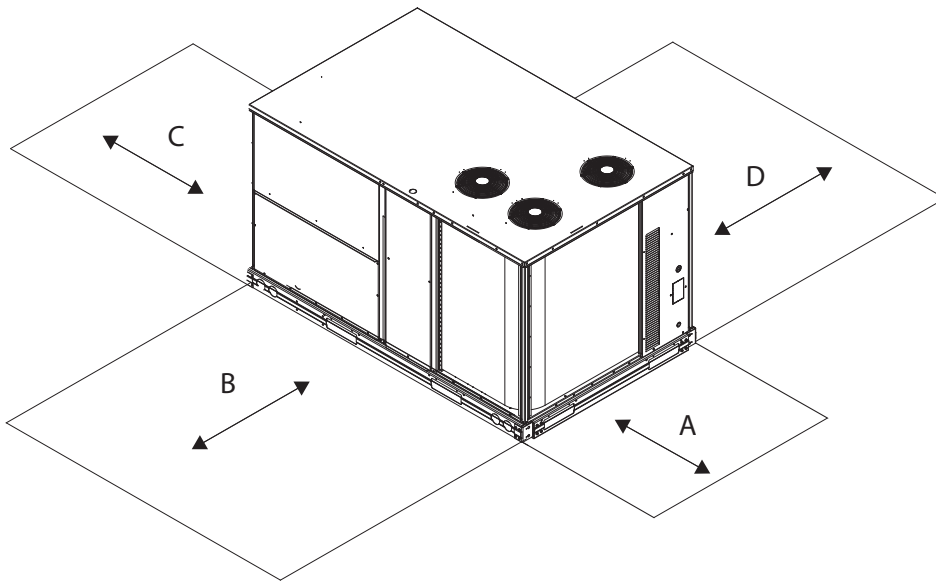


Fig. 13 – Dimensions RAS180

C14185B



C10578B

Fig. 14 – Service Clearance

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

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

CURBS, WEIGHTS & DIMENSIONS (cont.)

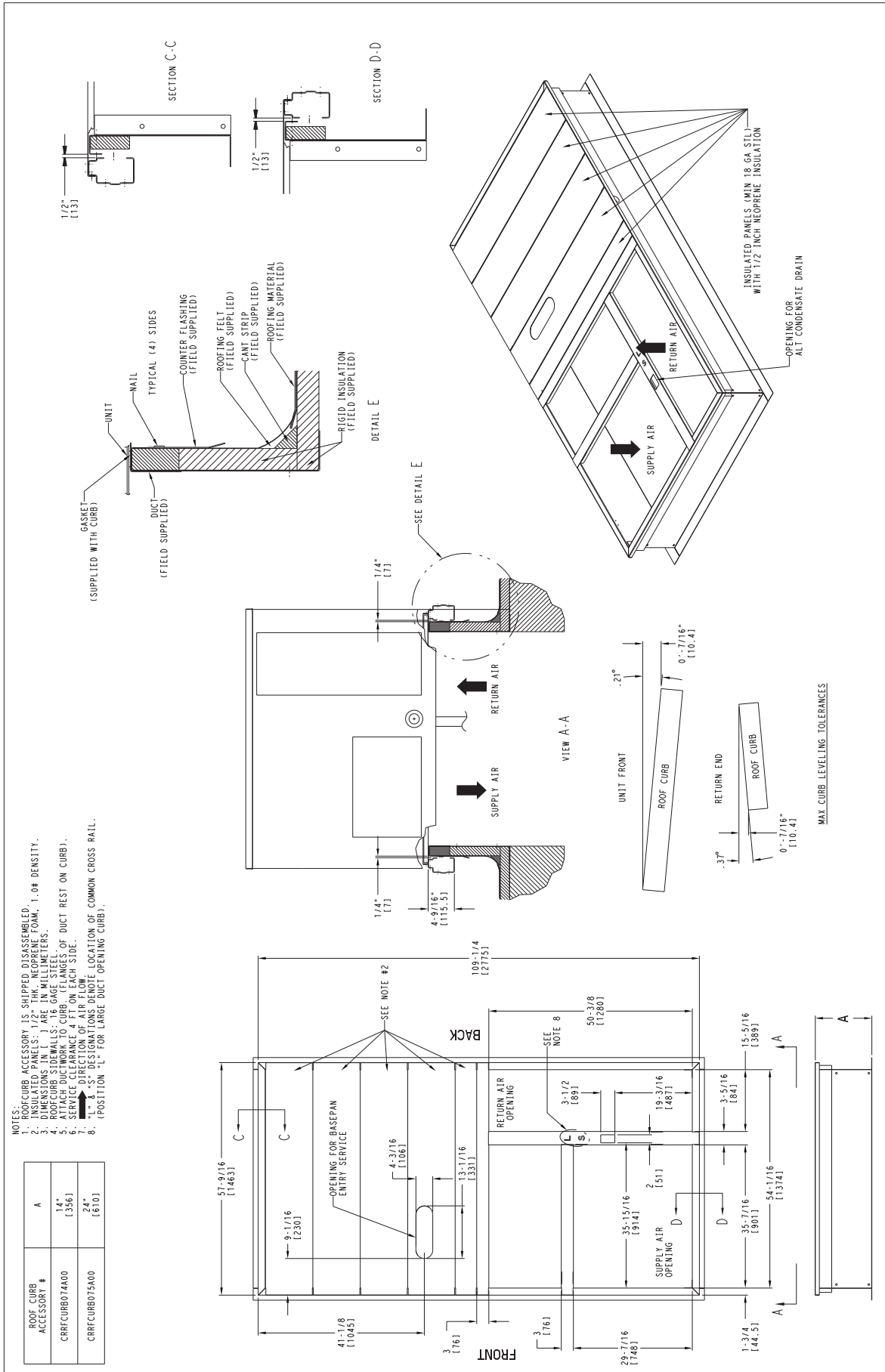


Fig. 15 - Roof Curb Details RAS180

OPTION / ACCESSORY WEIGHTS

Option / Accessory	OPTION / ACCESSORY WEIGHTS																	
	036		048		060		072		090/091		101/102		120/121		150		180	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
Hot Gas Re-Heat ¹	50	23	50	23	50	23	55	25	80	36	80	36	80	36	85	39	90	41
Power Exhaust – vertical	50	23	50	23	50	23	50	23	75	34	75	34	75	34	75	34	85	39
Power Exhaust – horizontal	30	14	30	14	30	14	30	14	30	14	30	14	30	14	30	14	75	34
EconoMi\$er (IV, X or 2)	50	23	50	23	50	23	50	23	75	34	75	34	75	34	75	34	115	52
Two Position damper	39	18	39	18	39	18	39	18	58	26	58	26	58	26	58	26	65	29
Manual Dampers	12	5	12	5	12	5	12	5	18	8	18	8	18	8	18	8	25	11
Hail Guard (louvered)	16	7	16	7	16	7	16	7	34	15	34	15	34	15	34	15	45	20
Cu/Cu Condenser Coil ²	6	3	13	6	13	6	15	7	12	5	23	10	23	10	23	10	190	86
Cu/Cu Cond. & Evaporator Coils ²	12	5	19	9	21	10	26	12	25	11	49	22	49	22	49	22	280	127
Roof Curb (14-in. curb)	115	52	115	52	115	52	115	52	143	65	143	65	143	65	143	65	180	82
Roof Curb (24-in. curb)	197	89	197	89	197	89	197	89	245	111	245	111	245	111	245	111	255	116
CO ₂ sensor	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Electric Heater	30	14	30	14	30	14	30	14	45	20	45	20	45	20	45	20	25	11
Single Point Kit	10	5	10	5	10	5	10	5	12	5	12	5	12	5	15	7	25	11
Optional Indoor Motor / Drive	10	5	10	5	10	5	10	5	15	7	15	7	15	7	15	7	45	20
Motor Master Controller	35	16	35	16	35	16	35	16	35	16	35	16	35	16	40	18	35	16
Return Smoke Detector	5	2	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	5	2
Non-Fused Disconnect	15	7	15	7	15	7	15	7	15	7	15	7	15	7	15	7	15	7
Non-Powered Convenience outlet	5	2	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	2	1
Differential Enthalpy Sensor	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1
2-speed indoor fan motor System with VFD	-	-	-	-	-	-	-	-	20	9	20	9	20	9	20	9	20	9

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

- Not Available

¹ For Hot Gas Re-Heat add MotorMaster Controller.

² Where available.

APPLICATION DATA

Min operating ambient temp (cooling):

In mechanical cooling mode, your ICP 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 ICP representative for assistance.

Motor limits, Brake horsepower (BHP):

Due to ICP's internal unit design, air path, and specially designed motors, the full horsepower (maximum continuous BHP) band, as listed in the Physical Data tables, can be used with the utmost confidence. There is no need for extra safety factors, as ICP'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 ICP 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 ICP rooftop can operate at ambient temperatures down to -20°F (-29°C) using the recommended accessory Motormaster low ambient controller.

Winter start

ICP'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.

APPLICATION DATA (cont.)

2-Speed Indoor Fan Motor with Variable Frequency Drive (VFD)

ICP's 2-speed indoor fan motor system utilizes a Variable Frequency Drive (VFD) to automatically adjust the indoor fan motor speed in sequence with the units cooling operation. Per ASHRAE 90.1 standard section 6.4.3.10.b, during the first stage of cooling operation the VFD will adjust the fan motor to provide 2/3rd of the total cfm established for the unit. When a call for the second stage of cooling is required, the VFD will allow the total cfm for the unit established (100%). During the heating mode, the VFD will allow total design cfm (100%) operation and during the ventilation mode the VFD will allow operation to 2/3rd of total cfm.

The VFD used in ICP's 2-speed indoor fan motor system has soft start capabilities to slowly ramp up the speeds, thus eliminating any high inrush air volume during initial start-up. It also has internal over current protection for the fan motor and a field installed display kit that allows adjustment and in depth diagnostics of the VFD.

This 2-speed indoor fan motor system is available on models with 2-stage cooling operation with electrical mechanical (multi Protocol) controls. Both space sensor and conventional thermostats/controls can be used to provide accurate control in any application.

The 2-speed indoor fan motor system is very flexible for initial fan performance set up and adjustment. The standard factory shipped VFD is pre programmed to automatically stage the fan speed between the first and second stage of cooling. The unit fan performance static pressure and cfm can be easily adjusted using the traditional means of pulley adjustments. The other means to adjust the unit static and cfm performance is to utilize the field installed display module and adjust the frequency and voltage in the VFD to required performance requirements. In either case, once set up the VFD will automatically adjust the speed between the cooling stage operation.

RAS – 2-Speed Indoor Fan Motor – Variable Frequency Drive (VFD) HP Rating

Unit Size	VOLTAGE	STATIC OPTION	VFD HP RATING
090	208/230, 460, 575	STD	3
	208/230, 460	MED	3
	575	MED	5
	208/230, 460, 575	HIGH	7.5
102	208/230, 460, 575	STD	3
	208/230, 460, 575	MED	3
	208/230, 460, 575	HIGH	5
120	208/230, 460, 575	STD	3
	208/230, 460, 575	MED	5
	208/230, 460, 575	HIGH	7.5
150	208/230, 460	STD	3
	575	STD	5
	208/230, 460, 575	MED	5
	208/230, 460, 575	HIGH	7.5
180	208/230, 460	STD	3
	575	STD	5
	208/230, 460, 575	MED	5
	208/230, 460, 575	HIGH	7.5

SELECTION PROCEDURE (WITH RAS072 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 RAS072.

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

Table 6 shows that, at the application's supply air CFM, mixed air and ambient temperatures, the RAS072 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 +0.14 in. wg

Total Static Pressure 0.80 in. wg

IX. Look up the Indoor Fan RPM & BHP.

Table 8 shows, at 2100 CFM & ESP= 0.8, RPM = 1268 & BHP = 1.52

X. Determine electrical requirements

The MCA and MOCP tables show a RAS072 (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 ICP saves time by performing many of the steps above. Contact your ICP 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 10. Use the decimal form in the equation eg. 80% =.8.

Table 6 – COOLING CAPACITIES

SINGLE STAGE COOLING

3 TONS

RAS036 (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	
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

Table 6 – COOLING CAPACITIES (cont.)

SINGLE STAGE COOLING

3 TONS

RAS036 (3 TONS) – UNIT WITH HOT GAS RE-HEAT SYSTEM IN SUBCOOLING MODE										
Air Entering Evaporator – CFM										
Temp (F) Air Ent Condenser (Edb)		80 dry bulb			80 dry bulb			80 dry bulb		
		72 wet bulb			67 wet 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	35.6	37.4
	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

RAS036 (3 TONS) – UNIT WITH HOT GAS RE-HEAT SYSTEM IN HOT GAS REHEAT MODE										
Air Entering Evaporator – CFM										
Temp (F) Air Ent Condenser (Edb)		75 dry bulb			75 dry bulb			75 dry bulb		
		62.5 wet bulb (50% relative)			64 wet bulb (55% relative)			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	17.7	18.4
	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 6 – COOLING CAPACITIES (cont.)

SINGLE STAGE COOLING

4 TONS

RAS048 (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
		58	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
		62	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
	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	
	72	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	
	76	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
58			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
62			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
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	
72		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	
76		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
	58		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
	62		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
	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	
	72	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	
	76	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
58			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
62			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
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	
72		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	
76		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
	58		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
	62		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
	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	
	72	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	
	76	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

Table 6 – COOLING CAPACITIES (cont.)

SINGLE STAGE COOLING

4 TONS

RAS048 (4 TONS) – UNIT WITH HOT GAS RE-HEAT 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

RAS048 (4 TONS) – UNIT WITH HOT GAS RE-HEAT 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 6 – COOLING CAPACITIES (cont.)

SINGLE STAGE COOLING

5 TONS

RAS060 (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

Table 6 – COOLING CAPACITIES (cont.)

SINGLE STAGE COOLING

5 TONS

RAS060 (5 TONS) – UNIT WITH HOT GAS RE-HEAT SYSTEM IN SUBCOOLING MODE										
Air Entering Evaporator – CFM										
Temp (F) Air Ent Condenser (Edb)		80 dry bulb			80 dry bulb			80 dry bulb		
		72 wet bulb			67 wet 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	55.1	57.1
	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

RAS060 (5 TONS) – UNIT WITH HOT GAS RE-HEAT SYSTEM IN HOT GAS REHEAT MODE										
Air Entering Evaporator – CFM										
Temp (F) Air Ent Condenser (Edb)		75 dry bulb			75 dry bulb			75 dry bulb		
		62.5 wet bulb (50% relative)			64 wet bulb (55% relative)			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	27.7	29.0
	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 6 – COOLING CAPACITIES (cont.)

SINGLE STAGE COOLING

6 TONS

RAS072 (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

Table 6 – COOLING CAPACITIES (cont.)

SINGLE STAGE COOLING

6 TONS

RAS072 (6 TONS) – UNIT WITH HOT GAS RE-HEAT 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

RAS072 (6 TONS) – UNIT WITH HOT GAS RE-HEAT 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} = 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 6 – COOLING CAPACITIES (cont.)

SINGLE STAGE COOLING

7.5 TONS

RAS091 (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
		58 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
		62 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
	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	
	72 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	
	76 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
58 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
62 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
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	
72 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	
76 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
	58 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
	62 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
	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	
	72 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	
	76 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
58 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
62 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
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	
72 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	
76 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
	58 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
	62 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
	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	
	72 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	
	76 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 6 – COOLING CAPACITIES (cont.)

2-STAGE COOLING

7.5 TONS

RAS090 (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	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		

* See Minimum–Maximum Airflow Ratings in Table 3. Do not operate outside these limits.

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 6 – COOLING CAPACITIES (cont.)

2-STAGE COOLING

7.5 TONS

RAS090/091 COOLING CAPACITIES, UNIT WITH HOT GAS RE-HEAT 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

RAS090/091 COOLING CAPACITIES, UNIT WITH HOT GAS RE-HEAT 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

Table 6 – COOLING CAPACITIES (cont.)

SINGLE STAGE COOLING

8.5 TONS

RAS101 (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
		58	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
		62	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
	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	
	72	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	
	76	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
58			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
62			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
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	
72		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	
76		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
	58		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
	62		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
	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	
	72	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	
	76	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
58			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
62			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
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	
72		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	
76		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
	58		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
	62		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
	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	
	72	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	
	76	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

Table 6 – COOLING CAPACITIES (cont.)

2-STAGE COOLING

8.5 TONS

RAS102 (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		

* See Minimum–Maximum Airflow Ratings in Table 3. Do not operate outside these limits.

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 6 – COOLING CAPACITIES (cont.)

2-STAGE COOLING

8.5 TONS

RAS0101/102 COOLING CAPACITIES, UNIT WITH HOT GAS RE-HEAT 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

RAS0101/102 COOLING CAPACITIES, UNIT WITH HOT GAS RE-HEAT 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

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 6 – COOLING CAPACITIES (cont.)

SINGLE STAGE COOLING

10 TONS

RAS121 (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 6 – COOLING CAPACITIES (cont.)

2-STAGE COOLING

10 TONS

RAS120 (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	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	-	-	-	-	-	-	

* See Minimum–Maximum Airflow Ratings in Table 3. Do not operate outside these limits.

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 6 – COOLING CAPACITIES (cont.)

2-STAGE COOLING

10 TONS

RAS120/121 COOLING CAPACITIES, UNIT WITH HOT GAS RE-HEAT 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

RAS120/121 COOLING CAPACITIES, UNIT WITH HOT GAS RE-HEAT 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

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 6 – COOLING CAPACITIES (cont.)

2-STAGE COOLING

12.5 TONS

RAS150 (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	
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	

* See Minimum–Maximum Airflow Ratings in Table 3. Do not operate outside these limits.

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 6 – COOLING CAPACITIES (cont.)

2-STAGE COOLING

12.5 TONS

RAS150 COOLING CAPACITIES, UNIT WITH HOT GAS RE-HEAT SYSTEM IN SUBCOOLING MODE										
TEMP (F) AIR ENT CONDENSER (Edb)		AIR ENTERING EVAPORATOR – CFM								
		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

RAS150 COOLING CAPACITIES, UNIT WITH HOT GAS RE-HEAT 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

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

Table 6 – COOLING CAPACITIES (cont.)

2-STAGE COOLING

15 TONS

RAS180 (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
4500 Cfm	EAT (wb)	58	THC	156.6	156.6	175.2	149.4	149.4	169.1	141.6	141.6	160.2	133.3	133.3	150.9
			SHC	134.7	154.9	175.2	129.8	149.4	169.1	123.0	141.6	160.2	115.7	133.3	150.9
		62	THC	166.7	166.7	166.9	158.0	158.0	162.6	147.6	147.6	157.2	136.8	136.8	150.3
			SHC	122.8	144.9	166.9	118.6	140.6	162.6	113.5	135.3	157.2	107.4	128.8	150.3
		67	THC	184.1	184.1	184.1	175.6	175.6	175.6	165.6	165.6	165.6	154.5	154.5	154.5
	SHC		101.6	123.7	145.7	98.1	120.2	142.3	94.0	116.1	138.2	89.4	111.5	133.6	
	72	THC	200.3	200.3	200.3	192.0	192.0	192.0	182.9	182.9	182.9	172.2	172.2	172.2	
		SHC	78.7	101.1	123.5	75.5	97.9	120.2	72.1	94.4	116.7	68.2	90.5	112.7	
	76	THC	-	211.4	211.4	-	203.1	203.1	-	193.8	193.8	-	183.9	183.9	
		SHC	-	82.2	107.0	-	79.3	103.8	-	76.0	100.2	-	72.6	96.5	
5250 Cfm	EAT (wb)	58	THC	165.2	165.2	186.9	158.2	158.2	179.0	150.0	150.0	169.7	141.3	141.3	160.0
			SHC	143.5	165.2	186.9	137.4	158.2	179.0	130.2	150.0	169.7	122.7	141.3	160.0
		62	THC	172.3	172.3	181.7	163.4	163.4	176.9	153.1	153.1	169.3	143.4	143.4	161.4
			SHC	131.6	156.6	181.7	127.1	152.0	176.9	120.5	144.9	169.3	114.1	137.8	161.4
		67	THC	189.5	189.5	189.5	180.9	180.9	180.9	170.7	170.7	170.7	159.1	159.1	159.1
	SHC		107.2	132.4	157.5	103.8	129.0	154.1	99.9	125.1	150.4	95.3	120.6	145.8	
	72	THC	205.0	205.0	205.0	196.5	196.5	196.5	187.1	187.1	187.1	176.4	176.4	176.4	
		SHC	80.9	106.1	131.3	77.7	102.9	128.1	74.4	99.5	124.7	70.6	95.8	121.0	
	76	THC	-	215.4	215.4	-	206.8	206.8	-	197.1	197.1	-	186.9	186.9	
		SHC	-	85.0	113.0	-	82.0	109.8	-	78.8	106.4	-	75.4	102.8	
6000 Cfm	EAT (wb)	58	THC	172.7	172.7	195.4	165.5	165.5	187.3	157.1	157.1	177.8	148.1	148.1	167.7
			SHC	150.0	172.7	195.4	143.8	165.5	187.3	136.4	157.1	177.8	128.6	148.1	167.7
		62	THC	176.6	176.6	195.7	168.1	168.1	187.6	158.9	158.9	180.2	148.9	148.9	172.1
			SHC	139.6	167.7	195.7	133.2	160.4	187.6	127.1	153.7	180.2	120.7	146.4	172.1
		67	THC	193.6	193.6	193.6	184.8	184.8	184.8	174.7	174.7	174.7	162.7	162.7	162.7
	SHC		112.3	140.3	168.3	108.9	137.0	165.2	105.2	133.5	161.7	100.7	129.0	157.3	
	72	THC	208.4	208.4	208.4	199.6	199.6	199.6	190.2	190.2	190.2	179.5	179.5	179.5	
		SHC	82.7	110.5	138.3	79.6	107.3	135.1	76.2	104.0	131.8	72.6	100.6	128.5	
	76	THC	-	218.2	218.2	-	209.5	209.5	-	199.5	199.5	-	189.0	189.0	
		SHC	-	87.5	118.6	-	84.5	115.2	-	81.1	111.3	-	77.5	107.3	
6750 Cfm	EAT (wb)	58	THC	178.8	178.8	202.4	171.6	171.6	194.2	163.1	163.1	184.6	153.8	153.8	174.1
			SHC	155.3	178.8	202.4	149.0	171.6	194.2	141.6	163.1	184.6	133.5	153.8	174.1
		62	THC	181.0	181.0	203.6	173.0	173.0	197.5	163.8	163.8	190.1	153.9	153.9	181.1
			SHC	144.1	173.9	203.6	139.1	168.3	197.5	133.3	161.7	190.1	126.7	153.9	181.1
		67	THC	196.8	196.8	196.8	187.9	187.9	187.9	177.7	177.7	177.7	165.5	165.5	167.9
	SHC		117.0	147.7	178.4	113.7	144.5	175.4	110.1	141.1	172.2	105.6	136.8	167.9	
	72	THC	211.0	211.0	211.0	202.2	202.2	202.2	192.5	192.5	192.5	181.8	181.8	181.8	
		SHC	84.3	114.5	144.7	81.2	111.5	141.7	77.9	108.1	138.4	74.4	104.9	135.4	
	76	THC	-	220.2	220.2	-	211.5	211.5	-	201.3	201.3	-	190.6	190.6	
		SHC	-	89.5	122.8	-	86.4	119.4	-	83.0	115.4	-	79.4	111.5	
7500 Cfm	EAT (wb)	58	THC	183.9	183.9	208.2	176.6	176.6	199.8	168.2	168.2	190.3	158.6	158.6	179.5
			SHC	159.7	183.9	208.2	153.3	176.6	199.8	146.0	168.2	190.3	137.7	158.6	179.5
		62	THC	185.1	185.1	212.5	177.1	177.1	206.2	168.3	168.3	197.9	158.7	158.7	186.7
			SHC	149.5	181.0	212.5	144.5	175.4	206.2	138.7	168.3	197.9	130.8	158.7	186.7
		67	THC	199.3	199.3	199.3	190.3	190.3	190.3	180.0	180.0	181.7	167.8	167.8	177.8
	SHC		121.3	154.6	187.9	118.1	151.6	185.1	114.4	148.1	181.7	110.1	144.0	177.8	
	72	THC	213.0	213.0	213.0	204.1	204.1	204.1	194.2	194.2	194.2	183.5	183.5	183.5	
		SHC	85.8	118.2	150.5	82.7	115.2	147.7	79.4	111.9	144.4	76.0	108.8	141.6	
	76	THC	-	221.9	221.9	-	213.0	213.0	-	202.7	202.7	-	191.8	191.8	
		SHC	-	91.2	126.5	-	88.2	123.1	-	84.7	119.2	-	81.2	115.3	

* See Minimum-Maximum Airflow Ratings in Table 3. Do not operate outside these limits.

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 6 – COOLING CAPACITIES (cont.)

2-STAGE COOLING

15 TONS

RAS180 COOLING CAPACITIES, UNIT WITH HOT GAS RE-HEAT IN SUBCOOLING MODE										
TEMP (F) AIR ENT CONDENSER (Edb)		AIR ENTERING EVAPORATOR – CFM								
		4500/0.02			6000/0.06			7500/0.05		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	204.4	186.3	168.2	218.4	199.6	180.9	229.6	210.4	191.2
	SHC	98.9	118.1	137.2	114.8	133.7	152.6	127.6	146.2	164.9
	kW	11.57	11.22	10.77	11.78	11.45	11.00	12.06	11.64	11.35
85	TC	189.2	171.7	154.1	203.0	184.8	166.7	214.1	195.5	176.9
	SHC	79.5	103.4	127.3	96.5	120.2	144.0	110.2	133.7	157.3
	kW	12.59	12.24	11.81	12.81	12.50	12.03	13.05	12.66	12.47
95	TC	174.0	157.0	140.0	187.6	170.1	152.5	198.6	180.6	162.7
	SHC	60.0	88.7	117.5	78.2	106.8	135.3	92.9	121.3	149.7
	kW	13.68	13.35	12.86	13.91	13.57	13.05	14.15	13.75	13.47
105	TC	158.8	142.3	125.8	172.2	155.3	138.3	183.1	165.7	148.4
	SHC	40.5	74.1	107.7	59.9	93.3	126.7	75.5	108.8	142.0
	kW	14.67	14.41	13.88	14.90	14.55	14.10	15.15	14.73	14.53
115	TC	143.6	127.6	111.7	156.8	140.5	124.1	167.6	150.9	134.2
	SHC	21.0	59.4	97.8	41.6	79.9	118.1	58.1	96.3	134.2
	kW	15.77	15.38	14.88	15.88	15.65	15.10	16.12	15.84	15.54

RAS180 COOLING CAPACITIES, UNIT WITH HOT GAS RE-HEAT 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								
		4500	6000	7500	4500	6000	7500	4500	6000	7500
80	TC	83.75	84.85	88.95	86.65	91.90	92.90	87.90	91.75	96.30
	SHC	37.50	42.80	55.10	30.90	40.40	44.50	24.80	29.30	34.10
	kW	10.50	11.49	11.60	10.56	10.65	11.70	11.60	11.72	11.77
75	TC	85.00	86.00	90.50	88.05	93.60	94.65	89.20	93.45	97.85
	SHC	40.00	45.00	57.30	33.20	42.30	46.90	26.90	31.50	36.30
	kW	10.16	11.15	11.25	10.21	10.31	11.33	11.26	11.35	11.42
70	TC	86.15	87.35	91.50	89.20	94.30	96.10	90.40	94.10	98.95
	SHC	42.10	47.50	59.80	35.50	45.30	49.50	29.50	33.90	38.70
	kW	9.84	10.83	10.94	10.02	10.13	11.03	10.95	11.05	11.12
60	TC	88.90	90.10	94.25	92.00	97.10	98.20	93.20	96.90	101.75
	SHC	46.80	52.30	64.60	40.20	50.10	54.10	34.10	38.60	43.40
	kW	9.37	10.36	10.44	9.42	9.52	10.55	10.45	10.57	10.64
50	TC	91.70	92.80	97.00	94.80	99.90	101.00	96.10	99.70	104.20
	SHC	51.50	57.10	69.40	44.80	54.80	58.90	38.70	43.20	49.00
	kW	9.12	10.09	10.16	9.17	9.28	10.26	10.17	10.26	10.32
40	TC	94.45	95.60	99.80	97.45	102.55	103.70	98.65	102.35	107.00
	SHC	56.30	61.40	73.70	49.70	59.20	63.30	43.60	48.10	52.90
	kW	9.05	10.02	10.10	9.10	9.21	10.18	10.11	10.20	10.26

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

Table 7 – STATIC PRESSURE ADDERS (IN. WG) (FACTORY OPTIONS AND/OR ACCESSORIES)

Electric Heaters

3-6 TONS											
CFM	600	900	1200	1400	1600	1800	2000	2200	2400	2600	
1 Electric Heater Module	0.03	0.05	0.07	0.09	0.09	0.10	0.11	0.11	0.12	0.13	
2 Electric Heater Modules	0.13	0.15	0.16	0.16	0.16	0.17	0.17	0.17	0.18	0.18	

7.5 – 12.5 TONS																
CFM	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

15 TON													
CFM	2813	3125	3438	3750	4063	4375	4688	5000	5313	5625	5938	6250	
Vertical - 1 Electric Heater Module	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04	
Vertical - 2 Electric Heater Modules	0.02	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.08	
Horizontal - 1 Electric Heater Module	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.09	
Horizontal - 2 Electric Heater Modules	0.02	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.08	

Hot Gas Re-Heat

3-6 Tons									
CFM	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	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

15 TONS															
CFM	4000	4250	4500	4750	5000	5250	5500	5750	6000	6250	6500	6750	7000	7250	
15 Tons	0.06	0.07	0.07	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.12	0.13	0.14	0.15	

ECONOMIZER, BAROMETRIC RELIEF AND PE PERFORMANCE

Vertical Application

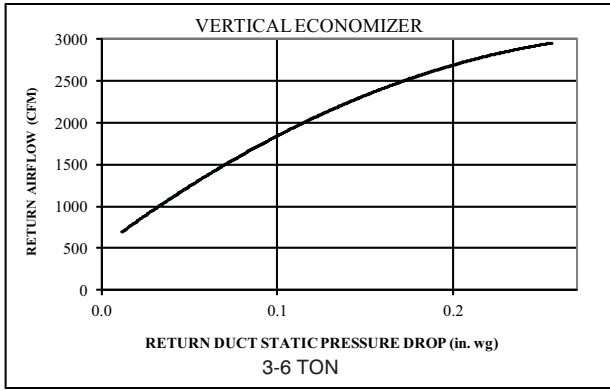


Fig. 16 – Return Air Pressure Drop

C11238

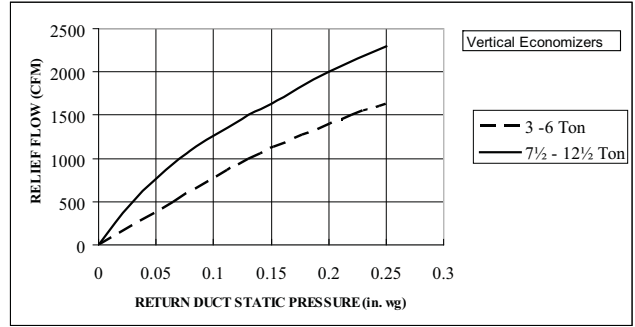


Fig. 19 – Barometric Relief Flow Capacity

C08073

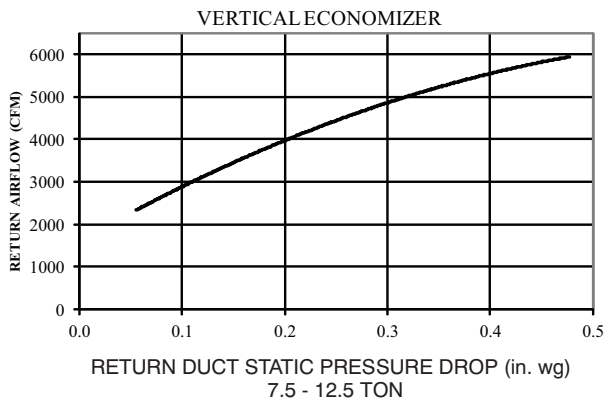


Fig. 17 – Return Air Pressure Drop

C11240

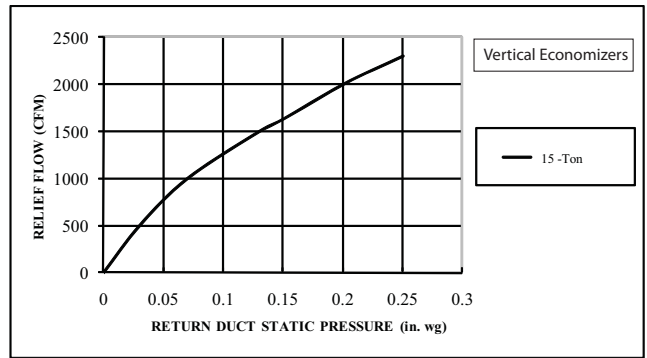


Fig. 20 – Barometric Relief Flow-Vertical 15 Ton

C101122

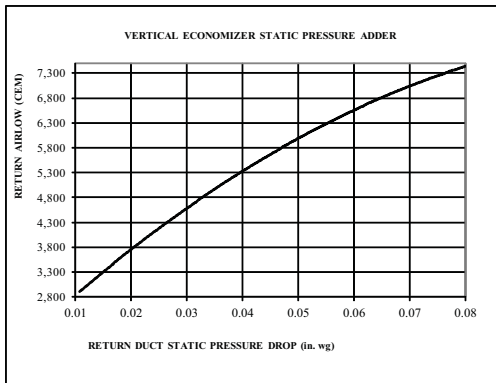


Fig. 18 – Return Air Pressure Drop-Vertical 15 Tons

C11257

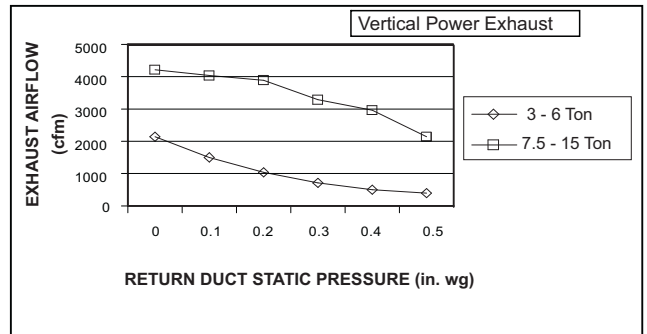


Fig. 21 – Vertical Power Exhaust Performance

C11248

ECONOMIZER, BAROMETRIC RELIEF AND PE PERFORMANCE (cont.)

Horizontal Application

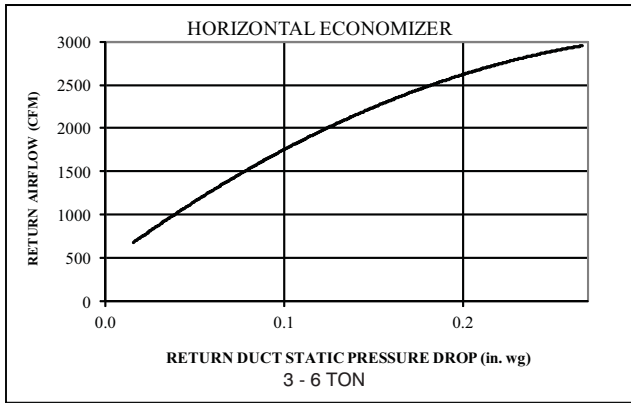


Fig. 22 - Return Air Pressure Drop

C11239

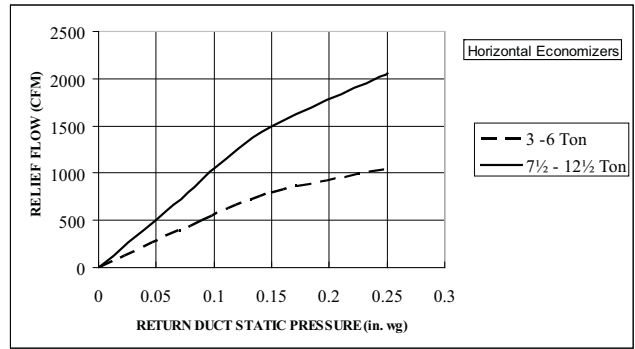


Fig. 25 - Barometric Relief Flow Capacity

C08070

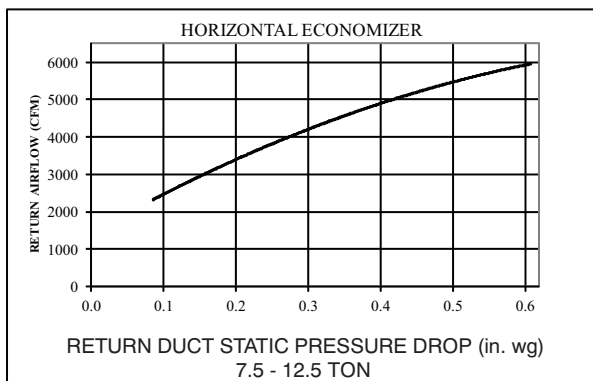


Fig. 23 - Return Air Pressure Drop

C11241

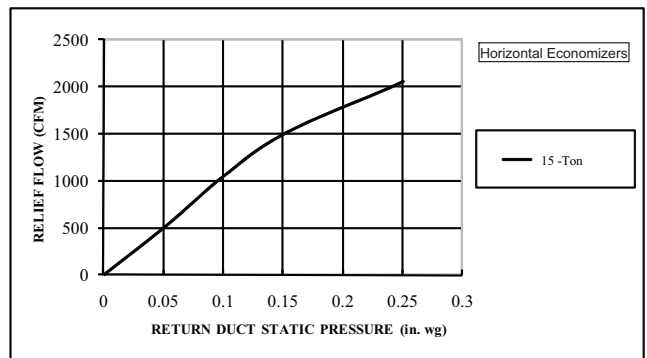


Fig. 26 - Barometric Relief Flow-Horizontal 15 Ton

C101120

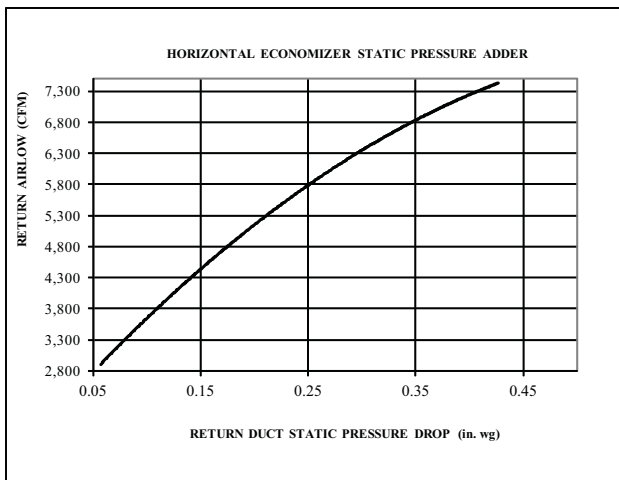


Fig. 24 - Return Air Pressure Drop-Horizontal 15 Ton

C11258

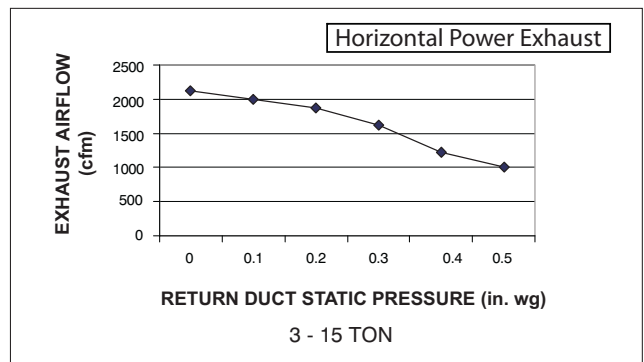


Fig. 27 - Horizontal Power Exhaust Performance

C08012

GENERAL FAN PERFORMANCE NOTES

1. Interpolation is permissible. Do not extrapolate.
2. External static pressure is the static pressure difference between the return duct and the supply duct plus the static pressure caused by any FIOPs or accessories.
3. Tabular data accounts for pressure loss due to clean filters, unit casing, and wet coils. Factory options and accessories may add static pressure losses. Selection software is available, through your salesperson, to help you select the best motor/drive combination for your application.
4. The Fan Performance tables offer motor/drive recommendations. In cases when two motor/drive combinations would work, ICP recommended the lower horsepower option.
5. For information on the electrical properties of ICP motors, please see the Electrical information section of this book.
6. For more information on the performance limits of ICP 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 ICP RAS036-180 units are exempt from these requirements.

FAN PERFORMANCE

Table 8 – RAS036

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

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.

Table 8 (cont.) RAS036

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.

FAN PERFORMANCE (cont.)

Table 8 (cont.) RAS036

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.

Table 8 (cont.) RAS036

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.

FAN PERFORMANCE (cont.)

Table 8 (cont.) RAS048

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.

Table 8 (cont.) RAS048

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	1164	1.26	–	–
2000	965	0.86	1050	1.03	1127	1.21	–	–	–	–

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (IN. WG)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
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	–	–	–	–	–	–	–	–	–	–
1700	–	–	–	–	–	–	–	–	–	–
1800	–	–	–	–	–	–	–	–	–	–
1900	–	–	–	–	–	–	–	–	–	–
2000	–	–	–	–	–	–	–	–	–	–

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

FAN PERFORMANCE (cont.)

Table 8 (cont.) RAS048

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.

Table 8 (cont.) RAS048

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
	High 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.

FAN PERFORMANCE (cont.)

Table 8 (cont.) RAS060

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 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	-	-
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.

Table 8 (cont.) RAS060

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.

FAN PERFORMANCE (cont.)

Table 8 (cont.) RAS060

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	—	—
2500	1424	2.19	1484	2.42	1543	2.65	1599	2.89	—	—

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

Table 8 (cont.) RAS060

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.

FAN PERFORMANCE (cont.)

Table 8 (cont.) RAS072

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

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.
Boldface indicates field-supplied drive is required.

Table 8 (cont.) RAS072

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.

FAN PERFORMANCE (cont.)

Table 8 (cont.) RAS090/91

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.

Table 8 (cont.) RAS090/91

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.

FAN PERFORMANCE (cont.)

Table 8 (cont.) RAS101/102

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 Drive ¹		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

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.

Table 8 (cont.) RAS101/102

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 Drive ¹		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.

FAN PERFORMANCE (cont.)

Table 8 (cont.) RAS120/121

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 Drive¹		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.

Table 8 (cont.) RAS120/121

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 Drive¹		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.

FAN PERFORMANCE (cont.)

Table 8 (cont.) RAS150

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 Drive ¹		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.

Table 8 (cont.) RAS150

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 Drive ¹		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.
Boldface indicates field-supplied drive is required.

FAN PERFORMANCE (cont.)

Table 8 (cont.) RAS180

3 PHASE

15 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
4500	425	0.76	490	1.02	550	1.30	607	1.61	664	1.96
4875	448	0.92	510	1.20	566	1.49	621	1.81	674	2.15
5250	472	1.10	531	1.40	584	1.70	636	2.03	686	2.38
5625	496	1.30	552	1.62	603	1.94	652	2.28	699	2.64
6000	520	1.52	574	1.86	623	2.20	670	2.55	715	2.92
6375	544	1.77	596	2.13	644	2.49	688	2.86	731	3.24
6750	568	2.05	618	2.43	664	2.81	707	3.19	749	3.59
7125	593	2.35	641	2.75	685	3.16	727	3.56	767	3.97
7500	617	2.69	664	3.11	707	3.53	747	3.95	786	4.38

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
4500	719	2.34	772	2.76	823	3.20	872	3.67	918	4.16
4875	725	2.54	776	2.95	825	3.40	873	3.87	919	4.37
5250	734	2.76	783	3.18	830	3.63	876	4.10	920	4.60
5625	746	3.03	791	3.44	836	3.89	880	4.36	923	4.86
6000	759	3.32	802	3.74	845	4.18	887	4.66	928	5.16
6375	773	3.64	814	4.07	855	4.52	895	4.99	935	5.49
6750	789	4.00	828	4.43	867	4.89	905	5.36	943	5.87
7125	806	4.39	844	4.84	881	5.29	917	5.78	-	-
7500	823	4.82	860	5.27	895	5.74	-	-	-	-

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

Table 8 (cont.) RAS180

3 PHASE

15 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
4500	423	0.77	487	0.99	545	1.22	601	1.47	655	1.73
4875	447	0.94	507	1.18	563	1.42	615	1.67	666	1.95
5250	471	1.13	528	1.38	581	1.64	631	1.91	679	2.19
5625	496	1.35	550	1.62	600	1.89	648	2.17	694	2.46
6000	520	1.59	572	1.88	620	2.17	666	2.46	710	2.76
6375	545	1.86	594	2.17	640	2.47	684	2.78	726	3.10
6750	571	2.17	617	2.48	661	2.81	704	3.13	744	3.46
7125	596	2.50	640	2.83	683	3.17	724	3.52	763	3.86
7500	622	2.87	663	3.22	705	3.58	744	3.93	782	4.30

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
4500	707	2.02	758	2.33	806	2.66	853	3.01	898	3.37
4875	716	2.24	764	2.55	811	2.89	856	3.24	900	3.61
5250	726	2.49	772	2.81	817	3.14	860	3.50	903	3.87
5625	738	2.77	782	3.09	825	3.43	867	3.79	908	4.17
6000	752	3.08	794	3.41	835	3.76	875	4.12	914	4.50
6375	767	3.42	807	3.76	846	4.12	885	4.49	923	4.87
6750	784	3.80	822	4.15	859	4.51	896	4.89	933	5.28
7125	801	4.22	838	4.58	874	4.95	909	5.33	944	5.73
7500	818	4.66	854	5.04	889	5.42	923	5.81	-	-

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

FAN PERFORMANCE (cont.)

Table 9 – 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
036	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
048	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
060	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
072	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
090/091	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
101/102	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
120/121	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
150	3 phase	Standard Static	843	824	805	786	767	748	728	709	690	671	652
		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
180	3 phase	Standard Static	676	659	642	625	608	592	575	558	541	524	507
		Medium Static	851	829	806	784	761	739	717	694	672	649	627
		High Static	955	937	919	901	883	866	848	830	812	794	776

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

■ – Factory settings

ELECTRICAL INFORMATION

Table 10 – RAS036 SINGLE STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR 3 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-1-60	187	253	16.6	79	325	1.5	STD	67%	4.9
					325	1.5	MED	67%	4.9
230-1-60	187	253	16.6	79	325	1.5	STD	67%	4.9
					325	1.5	MED	67%	4.9
208-3-60	187	253	10.4	73	325	1.5	STD	75%	5.2
					325	1.5	MED	75%	5.2
					325	1.5	HIGH	87%	6.9
230-3-60	187	253	10.4	73	325	1.5	STD	75%	5.2
					325	1.5	MED	75%	5.2
					325	1.5	HIGH	87%	6.7
460-3-60	414	506	5.8	38	325	0.8	STD	75%	2.6
					325	0.8	MED	75%	2.6
					325	0.8	HIGH	87%	3.4
575-3-60	518	633	3.8	37	325	0.6	STD	73%	2.4
					325	0.6	MED	73%	2.4
					325	0.6	HIGH	78%	2.0

Table 11 – RAS048 SINGLE STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR 4 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-1-60	187	253	21.8	117	325	1.5	STD	67%	4.9
					325	1.5	MED	67%	4.9
230-1-60	187	253	21.8	117	325	1.5	STD	67%	4.9
					325	1.5	MED	67%	4.9
208-3-60	187	253	13.7	83	325	1.5	STD	75%	5.2
					325	1.5	MED	75%	5.2
					325	1.5	HIGH	87%	6.9
230-3-60	187	253	13.7	83	325	1.5	STD	75%	5.2
					325	1.5	MED	75%	5.2
					325	1.5	HIGH	87%	6.7
460-3-60	414	506	6.2	41	325	0.8	STD	75%	2.6
					325	0.8	MED	75%	2.6
					325	0.8	HIGH	87%	3.4
575-3-60	518	633	4.8	33	325	0.6	STD	73%	2.4
					325	0.6	MED	73%	2.4
					325	0.6	HIGH	78%	2.0

Table 12 – RAS060 SINGLE STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR 5 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-1-60	187	253	26.2	134	325	1.5	STD	67%	4.9
					325	1.5	MED	76%	7.0
230-1-60	187	253	26.2	134	325	1.5	STD	67%	4.9
					325	1.5	MED	76%	7.0
208-3-60	187	253	15.6	110	325	1.5	STD	75%	5.2
					325	1.5	MED	87%	6.9
					325	1.5	HIGH	89%	8.4
230-3-60	187	253	15.6	110	325	1.5	STD	75%	5.2
					325	1.5	MED	87%	6.7
					325	1.5	HIGH	89%	8.3
460-3-60	414	506	7.7	52	325	0.8	STD	75%	2.6
					325	0.8	MED	87%	3.4
					325	0.8	HIGH	89%	4.2
575-3-60	518	633	5.8	39	325	0.6	STD	73%	2.4
					325	0.6	MED	78%	2.0
					325	0.6	HIGH	77%	2.8

ELECTRICAL INFORMATION

Table 13 – RAS072 SINGLE STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR 6 TONS
(Units Produced On or After 02/09/2015)

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	19.6	136	325	1.5	STD	87%	6.9
					325	1.5	MED	89%	8.4
					325	1.5	HIGH	87%	10.6
230-3-60	187	253	19.6	136	325	1.5	STD	87%	6.7
					325	1.5	MED	89%	8.3
					325	1.5	HIGH	87%	10.6
460-3-60	414	506	8.2	66	325	0.8	STD	87%	3.4
					325	0.8	MED	89%	4.2
					325	0.8	HIGH	87%	5.3
575-3-60	518	633	6.6	55	325	0.6	STD	78%	2.0
					325	0.6	MED	77%	2.8
					325	0.6	HIGH	77%	2.8

(Units Produced on or Prior to 02/08/2015)

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	19.0	123	325	1.5	STD	87%	6.9
					325	1.5	MED	89%	8.4
					325	1.5	HIGH	87%	10.6
230-3-60	187	253	19.0	123	325	1.5	STD	87%	6.7
					325	1.5	MED	89%	8.3
					325	1.5	HIGH	87%	10.6
460-3-60	414	506	9.7	62	325	0.8	STD	87%	3.4
					325	0.8	MED	89%	4.2
					325	0.8	HIGH	87%	5.3
575-3-60	518	633	7.4	50	325	0.6	STD	78%	2.0
					325	0.6	MED	77%	2.8
					325	0.6	HIGH	77%	2.8

Table 14 – RAS091 SINGLE STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR 7.5 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	25.0	164	325	1.5	STD	87%	5.2
					325	1.5	MED	89%	8.4
					325	1.5	HIGH	83%	13.6
230-3-60	187	253	25.0	164	325	1.5	STD	87%	4.9
					325	1.5	MED	89%	8.3
					325	1.5	HIGH	83%	12.7
460-3-60	414	506	12.2	100	325	0.8	STD	87%	2.5
					325	0.8	MED	89%	4.2
					325	0.8	HIGH	83%	6.4
575-3-60	518	633	9.0	78	325	0.6	STD	72%	1.6
					325	0.6	MED	77%	2.8
					325	0.6	HIGH	81%	5.6

ELECTRICAL INFORMATION cont.

Table 15 – RAS090 2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR
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	EFF at Full Load	FLA
208-3-60	187	253	13.6	83	13.6	83	325	1.5	STD	87%	5.2
							325	1.5	MED	89%	8.4
							325	1.5	HIGH	83%	13.6
230-3-60	187	253	13.6	83	13.6	83	325	1.5	STD	87%	4.9
							325	1.5	MED	89%	8.3
							325	1.5	HIGH	83%	12.7
460-3-60	414	506	6.1	41	6.1	41	325	0.8	STD	87%	2.5
							325	0.8	MED	89%	4.2
							325	0.8	HIGH	83%	6.4
575-3-60	518	633	4.2	33	4.2	33	325	0.6	STD	72%	1.6
							325	0.6	MED	77%	2.8
							325	0.6	HIGH	81%	5.6

Table 16 – RAS090 2-STAGE COOLING WITH 2 SPEED INDOOR FAN MOTOR
7.5 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	13.6	83	13.6	83	325	1.5	STD	0.84	5.8
							325	1.5	MED	0.85	8.6
							325	1.5	HIGH	0.84	13.6
230-3-60	187	253	13.6	83	13.6	83	325	1.5	STD	0.84	5.6
							325	1.5	MED	0.85	7.8
							325	1.5	HIGH	0.84	12.7
460-3-60	414	506	6.1	41	6.1	41	325	0.8	STD	0.79	2.9
							325	0.8	MED	0.85	3.8
							325	0.8	HIGH	0.84	6.4
575-3-60	518	633	4.2	33	4.2	33	325	0.6	STD	0.81	2.8
							325	0.6	MED	0.84	4.5
							325	0.6	HIGH	0.83	6.2

Table 17 – RAS101 SINGLE STAGE COOLING WITH 1 SPEED INDOOR FAN MOTOR
8.5 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	27.6	191	325	1.5	STD	87%	5.2
					325	1.5	MED	87%	6.9
					325	1.5	HIGH	87%	10.6
230-3-60	187	253	27.6	191	325	1.5	STD	87%	4.9
					325	1.5	MED	87%	6.7
					325	1.5	HIGH	87%	10.6
460-3-60	414	506	12.8	100	325	0.8	STD	87%	2.5
					325	0.8	MED	87%	3.4
					325	0.8	HIGH	87%	5.3
575-3-60	518	633	9.6	78	325	0.6	STD	72%	1.6
					325	0.6	MED	78%	2.0
					325	0.6	HIGH	77%	2.8

ELECTRICAL INFORMATION cont.

Table 18 – RAS102 2-STAGE COOLING WITH 1 SPEED INDOOR FAN MOTOR 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	EFF at Full Load	FLA
208-3-60	187	253	14.5	98	13.7	83	325	1.5	STD	87%	5.2
							325	1.5	MED	87%	6.9
							325	1.5	HIGH	87%	10.6
230-3-60	187	253	14.5	98	13.7	83	325	1.5	STD	87%	4.9
							325	1.5	MED	87%	6.7
							325	1.5	HIGH	87%	10.6
460-3-60	414	506	6.3	55	6.2	41	325	0.8	STD	87%	2.5
							325	0.8	MED	87%	3.4
							325	0.8	HIGH	87%	5.3
575-3-60	518	633	6.0	41	4.8	33	325	0.6	STD	72%	1.6
							325	0.6	MED	78%	2.0
							325	0.6	HIGH	77%	2.8

Table 19 – RAS102 2-STAGE COOLING WITH 2 SPEED INDOOR FAN MOTOR 8.5 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	14.5	98	13.7	83	325	1.5	STD	0.84	5.8
							325	1.5	MED	0.77	7.1
							325	1.5	HIGH	0.82	10.8
230-3-60	187	253	14.5	98	13.7	83	325	1.5	STD	0.84	5.6
							325	1.5	MED	0.77	6.8
							325	1.5	HIGH	0.82	9.8
460-3-60	414	506	6.3	55	6.2	41	325	0.8	STD	0.79	2.9
							325	0.8	MED	0.77	3.8
							325	0.8	HIGH	0.82	4.9
575-3-60	518	633	6.0	41	4.8	33	325	0.6	STD	0.81	2.8
							325	0.6	MED	0.80	3.5
							325	0.6	HIGH	0.84	4.5

Table 20 – RAS121 SINGLE STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR 10 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	30.1	225	325	1.5	STD	87%	6.9
					325	1.5	MED	87%	10.6
					325	1.5	HIGH	83%	13.6
230-3-60	187	253	30.1	225	325	1.5	STD	87%	6.7
					325	1.5	MED	87%	10.6
					325	1.5	HIGH	83%	12.7
460-3-60	414	506	16.7	114	325	0.8	STD	87%	3.4
					325	0.8	MED	87%	5.3
					325	0.8	HIGH	83%	6.4
575-3-60	518	633	12.2	80	325	0.6	STD	78%	2.0
					325	0.6	MED	77%	2.8
					325	0.6	HIGH	81%	5.6

ELECTRICAL INFORMATION cont.

Table 21 – RAS120 2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR
10 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	15.6	110	15.9	110	325	1.5	STD	87%	6.9
							325	1.5	MED	87%	10.6
							325	1.5	HIGH	83%	13.6
230-3-60	187	253	15.6	110	15.9	110	325	1.5	STD	87%	6.7
							325	1.5	MED	87%	10.6
							325	1.5	HIGH	83%	12.7
460-3-60	414	506	7.7	52	7.7	52	325	0.8	STD	87%	3.4
							325	0.8	MED	87%	5.3
							325	0.8	HIGH	83%	6.4
575-3-60	518	633	5.8	39	5.7	39	325	0.6	STD	78%	2.0
							325	0.6	MED	77%	2.8
							325	0.6	HIGH	81%	5.6

Table 22 – RAS120 2-STAGE COOLING WITH 2 SPEED INDOOR FAN MOTOR
10 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	15.6	110	15.9	110	325	1.5	STD	0.77	7.1
							325	1.5	MED	0.82	10.8
							325	1.5	HIGH	0.84	13.6
230-3-60	187	253	15.6	110	15.9	110	325	1.5	STD	0.77	6.8
							325	1.5	MED	0.82	9.8
							325	1.5	HIGH	0.84	12.7
460-3-60	414	506	7.7	52	7.7	52	325	0.8	STD	0.77	3.8
							325	0.8	MED	0.82	4.9
							325	0.8	HIGH	0.84	6.4
575-3-60	518	633	5.8	39	5.7	39	325	0.6	STD	0.80	3.5
							325	0.6	MED	0.84	4.5
							325	0.6	HIGH	0.83	6.2

Table 23 – RAS150 2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR
12.5 TONS
(Units Produced On or After 02/16/2015)

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	19.6	136	22.4	149	1070	6.2	STD	89%	8.4
							1070	6.2	MED	87%	10.6
							1070	6.2	HIGH	83%	13.6
230-3-60	187	253	19.6	136	22.4	149	1070	6.2	STD	89%	8.3
							1070	6.2	MED	87%	10.6
							1070	6.2	HIGH	83%	12.7
460-3-60	414	506	8.2	66	10.6	75	1070	3.1	STD	89%	4.2
							1070	3.1	MED	87%	5.3
							1070	3.1	HIGH	83%	6.4
575-3-60	518	633	6.6	55	7.7	54	1070	2.5	STD	77%	2.8
							1070	2.5	MED	77%	2.8
							1070	2.5	HIGH	81%	5.6

ELECTRICAL INFORMATION cont.

TABLE 23 (cont.) RAS150 2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR 12.5 TONS
(Units Produced on or Prior to 02/15/2015)

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	19.0	123	22.4	149	1070	6.2	STD	89%	8.4
							1070	6.2	MED	87%	10.6
							1070	6.2	HIGH	83%	13.6
230-3-60	187	253	19.0	123	22.4	149	1070	6.2	STD	89%	8.3
							1070	6.2	MED	87%	10.6
							1070	6.2	HIGH	83%	12.7
460-3-60	414	506	9.7	62	10.6	75	1070	3.1	STD	89%	4.2
							1070	3.1	MED	87%	5.3
							1070	3.1	HIGH	83%	6.4
575-3-60	518	633	7.4	50	7.7	54	1070	2.5	STD	77%	2.8
							1070	2.5	MED	77%	2.8
							1070	2.5	HIGH	81%	5.6

Table 24 – RAS150 2-STAGE COOLING WITH 2 SPEED INDOOR FAN MOTOR 12.5 TONS
(Units Produced On or After 02/16/2015)

V-Ph-Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	19.6	136	22.4	149	1070	6.2	STD	0.85	8.6
							1070	6.2	MED	0.82	10.8
							1070	6.2	HIGH	0.84	13.6
230-3-60	187	253	19.6	136	22.4	149	1070	6.2	STD	0.85	7.8
							1070	6.2	MED	0.82	9.8
							1070	6.2	HIGH	0.84	12.7
460-3-60	414	506	8.2	66	10.6	75	1070	3.1	STD	0.85	3.8
							1070	3.1	MED	0.82	4.9
							1070	3.1	HIGH	0.84	6.4
575-3-60	518	633	6.6	55	7.7	54	1070	2.5	STD	0.84	4.5
							1070	2.5	MED	0.84	4.5
							1070	2.5	HIGH	0.83	6.2

(Units Produced on or Prior to 02/15/2015)

V-Ph-Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	19.0	123	22.4	149	1070	6.2	STD	0.85	8.6
							1070	6.2	MED	0.82	10.8
							1070	6.2	HIGH	0.84	13.6
230-3-60	187	253	19.0	123	22.4	149	1070	6.2	STD	0.85	7.8
							1070	6.2	MED	0.82	9.8
							1070	6.2	HIGH	0.84	12.7
460-3-60	414	506	9.7	62	10.6	75	1070	3.1	STD	0.85	3.8
							1070	3.1	MED	0.82	4.9
							1070	3.1	HIGH	0.84	6.4
575-3-60	518	633	7.4	50	7.7	54	1070	2.5	STD	0.84	4.5
							1070	2.5	MED	0.84	4.5
							1070	2.5	HIGH	0.83	6.2

ELECTRICAL INFORMATION cont.

Table 25 – RAS180 2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR

15 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	25.0	164	25.0	164	280	1.5	STD	89%	8.4
							280	1.5	MED	87%	10.6
							280	1.5	HIGH	90%	20.4
230-3-60	187	253	25.0	164	25.0	164	280	1.5	STD	89%	8.3
							280	1.5	MED	87%	10.6
							280	1.5	HIGH	90%	20.4
460-3-60	414	506	12.2	100	12.8	100	280	0.8	STD	89%	4.2
							280	0.8	MED	87%	5.3
							280	0.8	HIGH	90%	10.2
575-3-60	518	633	9.8	78	9.6	78	280	0.6	STD	77%	2.8
							280	0.6	MED	77%	2.8
							280	0.6	HIGH	94%	9.0

Table 26 – RAS180 2-STAGE COOLING WITH 2 SPEED INDOOR FAN MOTOR

15 TONS

V-Ph-Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	25.0	164	25.0	164	280	1.5	STD	0.85	8.6
							280	1.5	MED	0.82	10.8
							280	1.5	HIGH	0.90	20.4
230-3-60	187	253	25.0	164	25.0	164	280	1.5	STD	0.85	7.8
							280	1.5	MED	0.82	9.8
							280	1.5	HIGH	0.90	20.4
460-3-60	414	506	12.2	100	12.8	100	280	0.8	STD	0.85	3.8
							280	0.8	MED	0.82	4.9
							280	0.8	HIGH	0.90	10.2
575-3-60	518	633	9.8	78	9.6	78	280	0.6	STD	0.84	4.5
							280	0.6	MED	0.84	4.5
							280	0.6	HIGH	0.94	9

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 – RAS036

SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
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	037	037
		104B00	10.5	7.9/9.6	040	040
		102A00,102A00	13.0	9.8/11.9	040	040
	MED	101A00	4.4	3.3/4.0	-	-
		102A00	6.5	4.9/6.0	-	-
		103B00	8.7	6.5/8.0	037	037
		104B00	10.5	7.9/9.6	040	040
		102A00,102A00	13.0	9.8/11.9	040	040
208/ 230-3-60	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	-	-
		105A00	16.0	12.0/14.7	037	037
	MED	101A00	4.4	3.3/4.0	-	-
		102A00	6.5	4.9/6.0	-	-
		103B00	8.7	6.5/8.0	-	-
		104B00	10.5	7.9/9.6	-	-
		105A00	16.0	12.0/14.7	037	037
	HIGH	101A00	4.4	3.3/4.0	-	-
		102A00	6.5	4.9/6.0	-	-
		103B00	8.7	6.5/8.0	-	-
		104B00	10.5	7.9/9.6	-	-
		105A00	16.0	12.0/14.7	037	037
460-3-60	STD	106A00	6.0	5.5	-	-
		107A00	8.8	8.1	-	-
		108A00	11.5	10.6	-	-
		109A00	14.0	12.9	-	-
	MED	106A00	6.0	5.5	-	-
		107A00	8.8	8.1	-	-
		108A00	11.5	10.6	-	-
		109A00	14.0	12.9	-	-
	HIGH	106A00	6.0	5.5	-	-
		107A00	8.8	8.1	-	-
		108A00	11.5	10.6	-	-
		109A00	14.0	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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS036

SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–1–60	STD	101A00	4.4	3.3/4.0	037	037
		102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		104B00	10.5	7.9/9.6	040	040
		102A00,102A00	13.0	9.8/11.9	040	040
	MED	101A00	4.4	3.3/4.0	037	037
		102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		104B00	10.5	7.9/9.6	040	040
		102A00,102A00	13.0	9.8/11.9	040	040
208/ 230–3–60	STD	101A00	4.4	3.3/4.0	037	037
		102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		104B00	10.5	7.9/9.6	037	037
		105A00	16.0	12.0/14.7	037	037
	MED	101A00	4.4	3.3/4.0	037	037
		102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		104B00	10.5	7.9/9.6	037	037
		105A00	16.0	12.0/14.7	037	037
	HIGH	101A00	4.4	3.3/4.0	037	037
		102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		104B00	10.5	7.9/9.6	037	037
		105A00	16.0	12.0/14.7	037	037
460–3–60	STD	106A00	6.0	5.5	–	–
		107A00	8.8	8.1	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
	MED	106A00	6.0	5.5	–	–
		107A00	8.8	8.1	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
	HIGH	106A00	6.0	5.5	–	–
		107A00	8.8	8.1	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS048

SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–1–60	STD	101A00	4.4	3.3/4.0	–	–
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
	MED	101A00	4.4	3.3/4.0	–	–
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
208/ 230–3–60	STD	102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	–	–
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
	MED	102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	–	–
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
	HIGH	102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	–	–
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
460–3–60	STD	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
	MED	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
	HIGH	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS048

**SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR
WITH FACTORY INSTALLED NON-FUSED DISCONNECT**

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–1–60	STD	101A00	4.4	3.3/4.0	037	037
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
	MED	101A00	4.4	3.3/4.0	037	037
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
103B00,103B00		17.4	13.1/16.0	040	040	
208/ 230–3–60	STD	102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
	MED	102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
	HIGH	102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
460–3–60	STD	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
	MED	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
	HIGH	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS060

SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–1–60	STD	102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
	MED	102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
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	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
	MED	102A00	6.5	4.9/6.0	–	–
		104B00	10.5	7.9/9.6	–	–
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
	HIGH	102A00	6.5	4.9/6.0	–	–
		104B00	10.5	7.9/9.6	–	–
		105A00	16.0	12.0/14.7	037	038
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
460–3–60	STD	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037
	MED	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037
	HIGH	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS060

**SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR
WITH FACTORY INSTALLED NON-FUSED DISCONNECT**

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–1–60	STD	102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
	MED	102A00	6.5	4.9/6.0	037	037
	103B00	8.7	6.5/8.0	037	037	
	102A00,102A00	13.0	9.8/11.9	040	040	
	103B00,103B00	17.4	13.1/16.0	040	040	
	104B00,104B00	21.0	15.8/19.3	040	040	
208/ 230–3–60	STD	102A00	6.5	4.9/6.0	037	037
		104B00	10.5	7.9/9.6	037	037
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
	MED	102A00	6.5	4.9/6.0	037	037
		104B00	10.5	7.9/9.6	037	037
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
	HIGH	102A00	6.5	4.9/6.0	037	037
		104B00	10.5	7.9/9.6	037	037
105A00		16.0	12.0/14.7	037	038	
104B00,104B00		21.0	15.8/19.3	038	038	
104B00,105A00		26.5	19.9/24.3	038	038	
460–3–60	STD	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037
	MED	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037
	HIGH	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
109A00		14.0	12.9	–	–	
108A00,108A00		23.0	21.1	037	037	
108A00,109A00		25.5	23.4	037	037	

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS072

SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
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	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
	MED	102A00	6.5	4.9/6.0	–	–
		104B00	10.5	7.9/9.6	–	–
		105A00	16.0	12.0/14.7	037	038
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
	HIGH	102A00	6.5	4.9/6.0	–	–
		104B00	10.5	7.9/9.6	–	–
		105A00	16.0	12.0/14.7	038	038
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
460–3–60	STD	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037
	MED	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037
	HIGH	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS072

**SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR
WITH FACTORY INSTALLED NON-FUSED DISCONNECT**

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	102A00	6.5	4.9/6.0	037	037
		104B00	10.5	7.9/9.6	037	037
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
	MED	102A00	6.5	4.9/6.0	037	037
		104B00	10.5	7.9/9.6	037	037
		105A00	16.0	12.0/14.7	037	038
		104B00,104B00	21.0	15.8/19.3	038	038
	HIGH	104B00,105A00	26.5	19.9/24.3	038	038
		102A00	6.5	4.9/6.0	037	037
		104B00	10.5	7.9/9.6	037	037
105A00		16.0	12.0/14.7	038	038	
460–3–60	STD	104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
		106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
	MED	108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037
		106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
	HIGH	108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037
106A00		6.0	5.5	–	–	
108A00		11.5	10.6	–	–	
109A00		14.0	12.9	–	–	
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037
		106A00	6.0	5.5	–	–

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS091

SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	042	042
		111A00	24.8	18.6/22.8	043	043
		112A00	32.0	24.0/29.4	043	043
		112A00,117A00	42.4	31.8/38.9	045	045
	MED	117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	042	043
		111A00	24.8	18.6/22.8	043	043
		112A00	32.0	24.0/29.4	043	043
	HIGH	112A00,117A00	42.4	31.8/38.9	045	045
		117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	043	043
111A00		24.8	18.6/22.8	043	043	
460–3–60	STD	112A00	32.0	24.0/29.4	043	043
		112A00	32.0	24.0/29.4	043	043
		112A00,117A00	42.4	31.8/38.9	045	045
		117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	043	043
	MED	111A00	24.8	18.6/22.8	043	043
		112A00	32.0	24.0/29.4	043	043
		112A00,116A00	41.7	38.3	044	044
		116A00	13.9	12.8	042	042
	HIGH	113A00	16.5	15.2	042	042
		114A00	27.8	25.5	042	042
		115A00	33.0	30.3	042	042
114A00,116A00		41.7	38.3	044	044	
575–3–60	STD	116A00	13.9	12.8	042	042
		113A00	16.5	15.2	042	042
	MED	114A00	27.8	25.5	042	042
		115A00	33.0	30.3	042	042
	HIGH	114A00,116A00	41.7	38.3	044	044
		118A00	17.0	17.0	042	042
575–3–60	STD	119A00	34.0	34.0	042	042
		118A00	17.0	17.0	042	042
	MED	119A00	34.0	34.0	042	042
		118A00	17.0	17.0	042	042
HIGH	119A00	34.0	34.0	042	044	
	118A00	17.0	17.0	042	042	

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS091

SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	042	042
		111A00	24.8	18.6/22.8	043	043
		112A00	32.0	24.0/29.4	043	043
		112A00,117A00	42.4	31.8/38.9	045	045
	MED	117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	042	043
		111A00	24.8	18.6/22.8	043	043
		112A00	32.0	24.0/29.4	043	043
		112A00,117A00	42.4	31.8/38.9	045	045
	HIGH	117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	043	043
111A00		24.8	18.6/22.8	043	043	
112A00		32.0	24.0/29.4	043	043	
112A00,117A00		42.4	31.8/38.9	045	045	
460–3–60	STD	116A00	13.9	12.8	042	042
		113A00	16.5	15.2	042	042
		114A00	27.8	25.5	042	042
		115A00	33.0	30.3	042	042
		114A00,116A00	41.7	38.3	044	044
	MED	116A00	13.9	12.8	042	042
		113A00	16.5	15.2	042	042
		114A00	27.8	25.5	042	042
		115A00	33.0	30.3	042	042
		114A00,116A00	41.7	38.3	044	044
	HIGH	116A00	13.9	12.8	042	042
		113A00	16.5	15.2	042	042
		114A00	27.8	25.5	042	042
		115A00	33.0	30.3	042	042
		114A00,116A00	41.7	38.3	044	044
575–3–60	STD	118A00	17.0	17.0	042	042
		119A00	34.0	34.0	042	042
	MED	118A00	17.0	17.0	042	042
		119A00	34.0	34.0	042	042
	HIGH	118A00	17.0	17.0	042	042
		119A00	34.0	34.0	042	044

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS090

2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	042	042
		111A00	24.8	18.6/22.8	043	043
		112A00	32.0	24.0/29.4	043	043
		112A00,117A00	42.4	31.8/38.9	045	045
	MED	117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	042	043
		111A00	24.8	18.6/22.8	043	043
		112A00	32.0	24.0/29.4	043	043
		112A00,117A00	42.4	31.8/38.9	045	045
	HIGH	117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	043	043
111A00		24.8	18.6/22.8	043	043	
112A00		32.0	24.0/29.4	043	043	
112A00,117A00		42.4	31.8/38.9	045	045	
460–3–60	STD	116A00	13.9	12.8	042	042
		113A00	16.5	15.2	042	042
		114A00	27.8	25.5	042	042
		115A00	33.0	30.3	042	042
		114A00,116A00	41.7	38.3	044	044
	MED	116A00	13.9	12.8	042	042
		113A00	16.5	15.2	042	042
		114A00	27.8	25.5	042	042
		115A00	33.0	30.3	042	042
		114A00,116A00	41.7	38.3	044	044
	HIGH	116A00	13.9	12.8	042	042
		113A00	16.5	15.2	042	042
		114A00	27.8	25.5	042	042
		115A00	33.0	30.3	042	042
		114A00,116A00	41.7	38.3	044	044
575–3–60	STD	118A00	17.0	17.0	042	042
		119A00	34.0	34.0	042	042
	MED	118A00	17.0	17.0	042	042
		119A00	34.0	34.0	042	042
	HIGH	118A00	17.0	17.0	042	042
		119A00	34.0	34.0	042	044

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS090

2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	042	042
		111A00	24.8	18.6/22.8	043	043
		112A00	32.0	24.0/29.4	043	043
		112A00,117A00	42.4	31.8/38.9	045	045
	MED	117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	042	043
		111A00	24.8	18.6/22.8	043	043
		112A00	32.0	24.0/29.4	043	043
		112A00,117A00	42.4	31.8/38.9	045	045
	HIGH	117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	043	043
111A00		24.8	18.6/22.8	043	043	
112A00		32.0	24.0/29.4	043	043	
112A00,117A00		42.4	31.8/38.9	045	045	
460–3–60	STD	116A00	13.9	12.8	042	042
		113A00	16.5	15.2	042	042
		114A00	27.8	25.5	042	042
		115A00	33.0	30.3	042	042
		114A00,116A00	41.7	38.3	044	044
	MED	116A00	13.9	12.8	042	042
		113A00	16.5	15.2	042	042
		114A00	27.8	25.5	042	042
		115A00	33.0	30.3	042	042
		114A00,116A00	41.7	38.3	044	044
	HIGH	116A00	13.9	12.8	042	042
		113A00	16.5	15.2	042	042
		114A00	27.8	25.5	042	042
		115A00	33.0	30.3	042	042
		114A00,116A00	41.7	38.3	044	044
575–3–60	STD	118A00	17.0	17.0	042	042
		119A00	34.0	34.0	042	042
	MED	118A00	17.0	17.0	042	042
		119A00	34.0	34.0	042	042
	HIGH	118A00	17.0	17.0	042	042
		119A00	34.0	34.0	042	044

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS090

2-STAGE COOLING 2-SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	042	042
		111A00	24.8	18.6/22.8	043	043
		112A00	32.0	24.0/29.4	043	043
		112A00,117A00	42.4	31.8/38.9	045	045
	MED	117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	042	043
		111A00	24.8	18.6/22.8	043	043
		112A00	32.0	24.0/29.4	043	043
		112A00,117A00	42.4	31.8/38.9	045	045
	HIGH	117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	043	043
111A00		24.8	18.6/22.8	043	043	
112A00		32.0	24.0/29.4	043	043	
112A00,117A00		42.4	31.8/38.9	045	045	
460–3–60	STD	116A00	13.9	12.8	042	042
		113A00	16.5	15.2	042	042
		114A00	27.8	25.5	042	042
		115A00	33.0	30.3	042	042
		114A00,116A00	41.7	38.3	044	044
	MED	116A00	13.9	12.8	042	042
		113A00	16.5	15.2	042	042
		114A00	27.8	25.5	042	042
		115A00	33.0	30.3	042	042
		114A00,116A00	41.7	38.3	044	044
	HIGH	116A00	13.9	12.8	042	042
		113A00	16.5	15.2	042	042
		114A00	27.8	25.5	042	042
		115A00	33.0	30.3	042	042
		114A00,116A00	41.7	38.3	044	044
575–3–60	STD	118A00	17.0	17.0	042	042
		119A00	34.0	34.0	042	042
	MED	118A00	17.0	17.0	042	042
		119A00	34.0	34.0	042	044
	HIGH	118A00	17.0	17.0	042	042
		119A00	34.0	34.0	042	044

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS101

SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 203–3–60	STD	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	047	047
		111A00	24.8	18.6/22.8	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
	MED	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	047	049
		111A00	24.8	18.6/22.8	049	049
		112A00	32.0	24.0/29.4	049	049
	112A00,117A00	42.4	31.8/38.9	051	051	
	HIGH	117A00	10.4	7.8/9.6	047	049
		110A00	16.0	12.0/14.7	049	049
111A00		24.8	18.6/22.8	049	049	
112A00		32.0	24.0/29.4	049	049	
112A00,117A00		42.4	31.8/38.9	051	051	
460–3–60	STD	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		114A00	27.8	25.5	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
	MED	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		114A00	27.8	25.5	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
	HIGH	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		114A00	27.8	25.5	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
575–3–60	STD	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
	MED	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
	HIGH	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS101

SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 203–3–60	STD	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	047	047
		111A00	24.8	18.6/22.8	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
	MED	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	047	049
		111A00	24.8	18.6/22.8	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
	HIGH	117A00	10.4	7.8/9.6	047	049
		110A00	16.0	12.0/14.7	049	049
111A00		24.8	18.6/22.8	049	049	
112A00		32.0	24.0/29.4	049	049	
112A00,117A00		42.4	31.8/38.9	051	051	
460–3–60	STD	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		114A00	27.8	25.5	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
	MED	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		114A00	27.8	25.5	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
	HIGH	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		114A00	27.8	25.5	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
575–3–60	STD	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
	MED	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
	HIGH	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS102

2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 203–3–60	STD	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	047	047
		111A00	24.8	18.6/22.8	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
	MED	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	047	049
		111A00	24.8	18.6/22.8	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
	HIGH	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	049	049
111A00		24.8	18.6/22.8	049	049	
112A00		32.0	24.0/29.4	049	049	
112A00,117A00		42.4	31.8/38.9	051	051	
460–3–60	STD	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		114A00	27.8	25.5	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
	MED	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		114A00	27.8	25.5	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
	HIGH	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		114A00	27.8	25.5	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
575–3–60	STD	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
	MED	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
	HIGH	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS102

2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 203–3–60	STD	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	047	047
		111A00	24.8	18.6/22.8	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
	MED	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	047	049
		111A00	24.8	18.6/22.8	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
	HIGH	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	049	049
111A00		24.8	18.6/22.8	049	049	
112A00		32.0	24.0/29.4	049	049	
112A00,117A00		42.4	31.8/38.9	051	051	
460–3–60	STD	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		114A00	27.8	25.5	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
	MED	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		114A00	27.8	25.5	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
	HIGH	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		114A00	27.8	25.5	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
575–3–60	STD	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
	MED	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
	HIGH	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS102

2-STAGE COOLING 2-SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 203–3–60	STD	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	047	047
		111A00	24.8	18.6/22.8	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
	MED	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	047	049
		111A00	24.8	18.6/22.8	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
	HIGH	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	049	049
111A00		24.8	18.6/22.8	049	049	
112A00		32.0	24.0/29.4	049	049	
112A00,117A00		42.4	31.8/38.9	051	051	
460–3–60	STD	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		114A00	27.8	25.5	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
	MED	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		114A00	27.8	25.5	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
	HIGH	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		114A00	27.8	25.5	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
575–3–60	STD	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
	MED	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	050
	HIGH	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	050

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS121

SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	047	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
	MED	117A00	10.4	7.8/9.6	047	049
		110A00	16.0	12.0/14.7	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
	HIGH	117A00	10.4	7.8/9.6	049	049
		110A00	16.0	12.0/14.7	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
460–3–60	STD	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
	MED	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
	HIGH	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
575–3–60	STD	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
		118A00,119A00	51.0	51.0	050	050
	MED	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
		118A00,119A00	51.0	51.0	050	050
	HIGH	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	050
		118A00,119A00	51.0	51.0	050	050

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS121

SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	047	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
	MED	117A00	10.4	7.8/9.6	047	049
		110A00	16.0	12.0/14.7	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
	HIGH	117A00	10.4	7.8/9.6	049	049
		110A00	16.0	12.0/14.7	049	049
112A00		32.0	24.0/29.4	049	049	
112A00,117A00		42.4	31.8/38.9	051	051	
112A00,110A00		50.0	37.6/45.9	051	051	
460–3–60	STD	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
	MED	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
	HIGH	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
575–3–60	STD	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
		118A00,119A00	51.0	51.0	050	050
	MED	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
		118A00,119A00	51.0	51.0	050	050
	HIGH	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	050
		118A00,119A00	51.0	51.0	050	050

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS120

2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	047	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
	MED	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
	HIGH	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	049	049
112A00		32.0	24.0/29.4	049	049	
112A00,117A00		42.4	31.8/38.9	051	051	
112A00,110A00		50.0	37.6/45.9	051	051	
460–3–60	STD	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
	MED	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
	HIGH	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
575–3–60	STD	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
		118A00,119A00	51.0	51.0	050	050
	MED	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
		118A00,119A00	51.0	51.0	050	050
	HIGH	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	050
		118A00,119A00	51.0	51.0	050	050

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS120

2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	047	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
	MED	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
	HIGH	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	049	049
112A00		32.0	24.0/29.4	049	049	
112A00,117A00		42.4	31.8/38.9	051	051	
112A00,110A00		50.0	37.6/45.9	051	051	
460–3–60	STD	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
	MED	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
	HIGH	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
575–3–60	STD	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
		118A00,119A00	51.0	51.0	050	050
	MED	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
		118A00,119A00	51.0	51.0	050	050
	HIGH	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	050
		118A00,119A00	51.0	51.0	050	050

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS120

2-STAGE COOLING 2-SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	047	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
	MED	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
	HIGH	117A00	10.4	7.8/9.6	047	047
		110A00	16.0	12.0/14.7	049	049
112A00		32.0	24.0/29.4	049	049	
112A00,117A00		42.4	31.8/38.9	051	051	
112A00,110A00		50.0	37.6/45.9	051	051	
460–3–60	STD	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
	MED	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
	HIGH	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
575–3–60	STD	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	050
		118A00,119A00	51.0	51.0	050	050
	MED	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	050
		118A00,119A00	51.0	51.0	050	050
	HIGH	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	050
		118A00,119A00	51.0	51.0	050	050

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS150

2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	049	049
		110A00	16.0	12.0/14.7	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
	MED	117A00	10.4	7.8/9.6	049	049
		110A00	16.0	12.0/14.7	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
	HIGH	117A00	10.4	7.8/9.6	049	049
		110A00	16.0	12.0/14.7	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
460–3–60	STD	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
	MED	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
	HIGH	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
575–3–60	STD	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
		118A00,119A00	51.0	51.0	050	050
	MED	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
		118A00,119A00	51.0	51.0	050	050
	HIGH	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	050
		118A00,119A00	51.0	51.0	050	050

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS150

2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	049	049
		110A00	16.0	12.0/14.7	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
	MED	117A00	10.4	7.8/9.6	049	049
		110A00	16.0	12.0/14.7	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
	HIGH	117A00	10.4	7.8/9.6	049	049
		110A00	16.0	12.0/14.7	049	049
112A00		32.0	24.0/29.4	049	049	
112A00,117A00		42.4	31.8/38.9	051	051	
112A00,110A00		50.0	37.6/45.9	051	051	
460–3–60	STD	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
	MED	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
		115A00,113A00	50.0	45.9	050	050
	HIGH	116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
115A00		33.0	30.3	047	047	
114A00,116A00		41.7	38.3	050	050	
115A00,113A00		50.0	45.9	050	050	
575–3–60	STD	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
		118A00,119A00	51.0	51.0	050	050
	MED	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	047
		118A00,119A00	51.0	51.0	050	050
	HIGH	118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	050
		118A00,119A00	51.0	51.0	050	050

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS150

2-STAGE COOLING 2-SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	049	049
		110A00	16.0	12.0/14.7	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
		112A00,110A00	50.0	37.6/45.9	051	051
	MED	117A00	10.4	7.8/9.6	049	049
		110A00	16.0	12.0/14.7	049	049
		112A00	32.0	24.0/29.4	049	049
		112A00,117A00	42.4	31.8/38.9	051	051
HIGH	112A00,110A00	50.0	37.6/45.9	051	051	
	117A00	10.4	7.8/9.6	–	–	
	110A00	16.0	12.0/14.7	049	049	
	112A00	32.0	24.0/29.4	049	049	
	112A00,117A00	42.4	31.8/38.9	051	051	
460–3–60	STD	112A00,110A00	50.0	37.6/45.9	051	051
		116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
	MED	115A00,113A00	50.0	45.9	050	050
		116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
	HIGH	115A00,113A00	50.0	45.9	050	050
		116A00	13.9	12.8	047	047
		113A00	16.5	15.2	047	047
		115A00	33.0	30.3	047	047
		114A00,116A00	41.7	38.3	050	050
575–3–60	STD	115A00,113A00	50.0	45.9	050	050
		118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	050
	MED	118A00,119A00	51.0	51.0	050	050
		118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	050
	HIGH	118A00,119A00	51.0	51.0	050	050
		118A00	17.0	17.0	047	047
		119A00	34.0	34.0	047	050
		118A00,119A00	51.0	51.0	050	050

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS180

2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	291A00	16.5	12.4/15.2	049	049
		294A00	33.5	25.2/30.8	049	049
		288A00,294A00	43.5	32.7/40.0	051	051
		291A00,294A00	50.0	37.6/45.9	051	051
		294A00,294A00	67.0	50.3/61.5	053	053
	MED	291A00	16.5	12.4/15.2	049	049
		294A00	33.5	25.2/30.8	049	049
		288A00,294A00	43.5	32.7/40.0	051	051
		291A00,294A00	50.0	37.6/45.9	051	051
		294A00,294A00	67.0	50.3/61.5	053	053
	HIGH	291A00	16.5	12.4/15.2	049	049
		294A00	33.5	25.2/30.8	049	049
288A00,294A00		43.5	32.7/40.0	051	051	
291A00,294A00		50.0	37.6/45.9	051	051	
294A00,294A00		67.0	50.3/61.5	053	053	
460–3–60	STD	292A00	16.5	15.2	–	–
		295A00	33.5	30.8	047	047
		289A00,295A00	43.5	40.0	050	050
		292A00,295A00	50.0	45.9	050	050
		295A00,295A00	67.0	61.5	050	050
	MED	292A00	16.5	15.2	–	–
		295A00	33.5	30.8	047	047
		289A00,295A00	43.5	40.0	050	050
		292A00,295A00	50.0	45.9	050	050
		295A00,295A00	67.0	61.5	050	050
	HIGH	292A00	16.5	15.2	–	–
		295A00	33.5	30.8	050	050
		289A00,295A00	43.5	40.0	050	050
		292A00,295A00	50.0	45.9	050	050
		295A00,295A00	67.0	61.5	050	050
575–3–60	STD	293A00	16.5	15.2	–	–
		296A00	33.5	30.8	047	047
		290A00,296A00	43.5	40.0	047	050
		293A00,296A00	50.0	45.9	047	047
		296A00,296A00	67.0	61.5	050	050
	MED	293A00	16.5	15.2	–	–
		296A00	33.5	30.8	047	047
		290A00,296A00	43.5	40.0	047	050
		293A00,296A00	50.0	45.9	047	047
		296A00,296A00	67.0	61.5	050	050
	HIGH	293A00	16.5	15.2	–	–
		296A00	33.5	30.8	047	047
		290A00,296A00	43.5	40.0	050	050
		293A00,296A00	50.0	45.9	050	050
		296A00,296A00	67.0	61.5	050	050

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS180

2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	291A00	16.5	12.4/15.2	049	049
		294A00	33.5	25.2/30.8	049	049
		288A00,294A00	43.5	32.7/40.0	051	051
		291A00,294A00	50.0	37.6/45.9	051	051
		294A00,294A00	67.0	50.3/61.5	053	053
	MED	291A00	16.5	12.4/15.2	049	049
		294A00	33.5	25.2/30.8	049	049
		288A00,294A00	43.5	32.7/40.0	051	051
		291A00,294A00	50.0	37.6/45.9	051	051
		294A00,294A00	67.0	50.3/61.5	053	053
	HIGH	291A00	16.5	12.4/15.2	049	049
		294A00	33.5	25.2/30.8	049	049
288A00,294A00		43.5	32.7/40.0	051	051	
291A00,294A00		50.0	37.6/45.9	051	051	
294A00,294A00		67.0	50.3/61.5	053	053	
460–3–60	STD	292A00	16.5	15.2	–	–
		295A00	33.5	30.8	047	047
		289A00,295A00	43.5	40.0	050	050
		292A00,295A00	50.0	45.9	050	050
		295A00,295A00	67.0	61.5	050	050
	MED	292A00	16.5	15.2	–	–
		295A00	33.5	30.8	047	047
		289A00,295A00	43.5	40.0	050	050
		292A00,295A00	50.0	45.9	050	050
		295A00,295A00	67.0	61.5	050	050
	HIGH	292A00	16.5	15.2	–	–
		295A00	33.5	30.8	050	050
		289A00,295A00	43.5	40.0	050	050
		292A00,295A00	50.0	45.9	050	050
		295A00,295A00	67.0	61.5	050	050
575–3–60	STD	293A00	16.5	15.2	–	–
		296A00	33.5	30.8	047	047
		290A00,296A00	43.5	40.0	047	050
		293A00,296A00	50.0	45.9	047	047
		296A00,296A00	67.0	61.5	050	050
	MED	293A00	16.5	15.2	–	–
		296A00	33.5	30.8	047	047
		290A00,296A00	43.5	40.0	047	050
		293A00,296A00	50.0	45.9	047	047
		296A00,296A00	67.0	61.5	050	050
	HIGH	293A00	16.5	15.2	–	–
		296A00	33.5	30.8	047	047
		290A00,296A00	43.5	40.0	050	050
		293A00,296A00	50.0	45.9	050	050
		296A00,296A00	67.0	61.5	050	050

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
- UNPWRD – Unpowered convenience outlet

ELECTRIC HEAT – ELECTRICAL INFORMATION

Table 27 (cont.) – RAS180

2-STAGE COOLING 2-SPEED INDOOR FAN MOTOR WITHOUT FACTORY INSTALLED NON-FUSED DISCONNECT

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.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	291A00	16.5	12.4/15.2	049	049
		294A00	33.5	25.2/30.8	049	049
		288A00,294A00	43.5	32.7/40.0	051	051
		291A00,294A00	50.0	37.6/45.9	051	051
		294A00,294A00	67.0	50.3/61.5	053	053
	MED	291A00	16.5	12.4/15.2	049	049
		294A00	33.5	25.2/30.8	049	049
		288A00,294A00	43.5	32.7/40.0	051	051
		291A00,294A00	50.0	37.6/45.9	051	051
		294A00,294A00	67.0	50.3/61.5	053	053
	HIGH	294A00	33.5	25.2/30.8	049	049
		288A00,294A00	43.5	32.7/40.0	051	051
291A00,294A00		50.0	37.6/45.9	051	051	
294A00,294A00		67.0	50.3/61.5	053	053	
460–3–60	STD	292A00	16.5	15.2	–	–
		295A00	33.5	30.8	047	047
		289A00,295A00	43.5	40.0	050	050
		292A00,295A00	50.0	45.9	050	050
		295A00,295A00	67.0	61.5	050	050
	MED	292A00	16.5	15.2	–	–
		295A00	33.5	30.8	047	047
		289A00,295A00	43.5	40.0	050	050
		292A00,295A00	50.0	45.9	050	050
		295A00,295A00	67.0	61.5	050	050
	HIGH	292A00	16.5	15.2	–	–
		295A00	33.5	30.8	050	050
		289A00,295A00	43.5	40.0	050	050
		292A00,295A00	50.0	45.9	050	050
		295A00,295A00	67.0	61.5	050	050
575–3–60	STD	293A00	16.5	15.2	–	–
		296A00	33.5	30.8	047	047
		290A00,296A00	43.5	40.0	047	050
		293A00,296A00	50.0	45.9	047	047
		296A00,296A00	67.0	61.5	050	050
	MED	293A00	16.5	15.2	–	–
		296A00	33.5	30.8	047	047
		290A00,296A00	43.5	40.0	047	050
		293A00,296A00	50.0	45.9	047	047
		296A00,296A00	67.0	61.5	050	050
	HIGH	293A00	16.5	15.2	–	–
		296A00	33.5	30.8	047	047
		290A00,296A00	43.5	40.0	050	050
		293A00,296A00	50.0	45.9	050	050
		296A00,296A00	67.0	61.5	050	050

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
- UNPWRD – Unpowered convenience outlet

ELECTRICAL INFORMATION

Table 28 – Unit Wire/Fuse or HACR Breaker Sizing Data with Single Speed Indoor Fan Motor

UNIT	NO M. V – Ph – HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS036	208/230-1-60	STD	NONE	-	-	28	40	26	95	30	45	29	97
			101A	3.3/4.4	15.9/18.3	28/29	40/40	26/27	95/95	30/32	45/45	29/29	97/97
			102A	4.9/6.5	23.5/27.1	36/40	40/45	33/37	95/95	38/43	45/45	35/39	97/97
			103B	6.5/8.7	31.4/36.3	46/52	50/60	42/47	95/95	48/54	50/60	44/50	97/97
			104B	7.9/10.5	37.9/43.8	54/61	60/70	49/56	95/95	56/64	60/70	51/58	97/97
			102A+102A	9.8/13.0	46.9/54.2	65/74	70/80	60/68	95/95	68/77	70/80	62/70	97/97
		MED	NONE	-	-	28	40	26	95	30	45	29	97
			101A	3.3/4.4	15.9/18.3	28/29	40/40	26/27	95/95	30/32	45/45	29/29	97/97
			102A	4.9/6.5	23.5/27.1	36/40	40/45	33/37	95/95	38/43	45/45	35/39	97/97
			103B	6.5/8.7	31.4/36.3	46/52	50/60	42/47	95/95	48/54	50/60	44/50	97/97
	104B		7.9/10.5	37.9/43.8	54/61	60/70	49/56	95/95	56/64	60/70	51/58	97/97	
	102A+102A	9.8/13.0	46.9/54.2	65/74	70/80	60/68	95/95	68/77	70/80	62/70	97/97		
	208/230-3-60	STD	NONE	-	-	20	30	20	96	22	30	22	98
			101A	3.3/4.4	9.2/10.6	20/20	30/30	20/20	96/96	22/23	30/30	22/22	98/98
			102A	4.9/6.5	13.6/15.6	24/26	30/30	22/24	96/96	26/29	30/30	24/26	98/98
			103B	6.5/8.7	18.1/20.9	30/33	30/35	27/30	96/96	32/35	35/40	29/32	98/98
			104B	7.9/10.5	21.9/25.3	34/39	35/40	31/35	96/96	37/41	40/45	33/37	98/98
			105A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	96/96	51/57	60/60	47/52	98/98
		MED	NONE	-	-	20	30	20	96	22	30	22	98
			101A	3.3/4.4	9.2/10.6	20/20	30/30	20/20	96/96	22/23	30/30	22/22	98/98
			102A	4.9/6.5	13.6/15.6	24/26	30/30	22/24	96/96	26/29	30/30	24/26	98/98
			103B	6.5/8.7	18.1/20.9	30/33	30/35	27/30	96/96	32/35	35/40	29/32	98/98
			104B	7.9/10.5	21.9/25.3	34/39	35/40	31/35	96/96	37/41	40/45	33/37	98/98
		105A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	96/96	51/57	60/60	47/52	98/98	
HIGH		NONE	-	-	22/22	30/30	22/21	134	24/24	30/30	24/24	136	
		101A	3.3/4.4	9.2/10.6	22/22	30/30	22/21	134/134	24/24	30/30	24/24	136/136	
		102A	4.9/6.5	13.6/15.6	26/28	30/30	24/26	134/134	28/31	30/35	26/28	136/136	
	103B	6.5/8.7	18.1/20.9	32/35	35/35	29/32	134/134	34/37	35/40	31/34	136/136		
	104B	7.9/10.5	21.9/25.3	36/40	40/40	33/37	134/134	39/43	40/45	35/39	136/136		
	105A	12.0/16.0	33.4/38.5	51/57	60/60	46/52	134/134	53/59	60/60	49/54	136/136		
460-3-60	STD	NONE	-	-	11	15	11	49	12	15	12	50	
		106A	6.0	7.2	13	15	11	49	14	15	12	50	
		107A	8.8	10.6	17	20	15	49	18	20	16	50	
		108A	11.5	13.8	21	25	19	49	22	25	20	50	
		109A	14.0	16.8	25	25	22	49	26	30	23	50	
	MED	NONE	-	-	11	15	11	49	12	15	12	50	
		106A	6.0	7.2	13	15	11	49	14	15	12	50	
		107A	8.8	10.6	17	20	15	49	18	20	16	50	
		108A	11.5	13.8	21	25	19	49	22	25	20	50	
		109A	14.0	16.8	25	25	22	49	26	30	23	50	
	HIGH	NONE	-	-	12	15	12	68	13	15	13	69	
		106A	6.0	7.2	14	15	12	68	15	15	13	69	
		107A	8.8	10.6	18	20	16	68	19	20	17	69	
		108A	11.5	13.8	22	25	20	68	23	25	21	69	
		109A	14.0	16.8	26	30	23	68	27	30	24	69	
575-3-60	STD	NONE	-	-	8	15	8	46	10	15	10	48	
	MED	NONE	-	-	8	15	8	46	10	15	10	48	
	HIGH	NONE	-	-	8	15	7	50	10	15	10	52	

ELECTRICAL INFORMATION

Table 28 – Unit Wire/Fuse or HACR Breaker Sizing Data with Single Speed Indoor Fan Motor (cont.)

UNIT	NO M. V – Ph – HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS048	208/230-1-60	STD	NONE	-	-	34	50	32	133	36	50	35	135
			101A	3.3/4.4	15.9/18.3	34/34	50/50	32/32	133/133	36/36	50/50	35/35	135/135
			103B	6.5/8.7	31.4/36.3	46/52	50/60	42/47	133/133	48/54	50/60	44/50	135/135
			102A+102A	9.8/13.0	46.9/54.2	65/74	70/80	60/68	133/133	68/77	70/80	62/70	135/135
			103B+103B	13.1/17.4	62.8/72.5	85/97	90/100	78/89	133/133	87/100	90/100	80/91	135/135
		104B+104B	15.8/21.0	75.8/87.5	101/116	110/125	93/106	133/133	104/118	110/125	95/108	135/135	
		MED	NONE	-	-	34	50	32	133	36	50	35	135
			101A	3.3/4.4	15.9/18.3	34/34	50/50	32/32	133/133	36/36	50/50	35/35	135/135
			103B	6.5/8.7	31.4/36.3	46/52	50/60	42/47	133/133	48/54	50/60	44/50	135/135
			102A+102A	9.8/13.0	46.9/54.2	65/74	70/80	60/68	133/133	68/77	70/80	62/70	135/135
	103B+103B		13.1/17.4	62.8/72.5	85/97	90/100	78/89	133/133	87/100	90/100	80/91	135/135	
	104B+104B	15.8/21.0	75.8/87.5	101/116	110/125	93/106	133/133	104/118	110/125	95/108	135/135		
	208/230-3-60	STD	NONE	-	-	24	30	23	106	26	30	26	108
			102A	4.9/6.5	13.6/15.6	24/26	30/30	23/24	106/106	26/29	30/30	26/26	108/108
			103B	6.5/8.7	18.1/20.9	30/33	30/35	27/30	106/106	32/35	35/40	29/32	108/108
			105A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	106/106	51/57	60/60	47/52	108/108
			104B+104B	15.8/21.0	43.8/50.5	62/70	70/70	56/64	106/106	64/72	70/80	59/66	108/108
		MED	NONE	-	-	24	30	23	106	26	30	26	108
			102A	4.9/6.5	13.6/15.6	24/26	30/30	23/24	106/106	26/29	30/30	26/26	108/108
			103B	6.5/8.7	18.1/20.9	30/33	30/35	27/30	106/106	32/35	35/40	29/32	108/108
			105A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	106/106	51/57	60/60	47/52	108/108
			104B+104B	15.8/21.0	43.8/50.5	62/70	70/70	56/64	106/106	64/72	70/80	59/66	108/108
	HIGH	NONE	-	-	26/26	30/30	25/25	144	28/28	40/40	28/27	146	
		102A	4.9/6.5	13.6/15.6	26/28	30/30	25/26	144/144	28/31	40/40	28/28	146/146	
103B		6.5/8.7	18.1/20.9	32/35	35/35	29/32	144/144	34/37	40/40	31/34	146/146		
105A		12.0/16.0	33.4/38.5	51/57	60/60	46/52	144/144	53/59	60/60	49/54	146/146		
104B+104B		15.8/21.0	43.8/50.5	64/72	70/80	58/66	144/144	66/74	70/80	60/68	146/146		
460-3-60	STD	NONE	-	-	12	15	11	52	13	15	12	53	
		106A	6.0	7.2	13	15	11	52	14	15	12	53	
		108A	11.5	13.8	21	25	19	52	22	25	20	53	
		109A	14.0	16.8	25	25	22	52	26	30	23	53	
	108A+108A	23.0	27.7	38	40	35	52	40	40	36	53		
	MED	NONE	-	-	12	15	11	52	13	15	12	53	
		106A	6.0	7.2	13	15	11	52	14	15	12	53	
		108A	11.5	13.8	21	25	19	52	22	25	20	53	
		109A	14.0	16.8	25	25	22	52	26	30	23	53	
	108A+108A	23.0	27.7	38	40	35	52	40	40	36	53		
	HIGH	NONE	-	-	12	15	12	71	13	15	13	72	
		106A	6.0	7.2	14	15	12	71	15	15	13	72	
108A		11.5	13.8	22	25	20	71	23	25	21	72		
109A		14.0	16.8	26	30	23	71	27	30	24	72		
108A+108A	23.0	27.7	39	40	36	71	41	45	37	72			
575-3-60	STD	NONE	-	-	9	15	9	42	11	15	11	44	
	MED	NONE	-	-	9	15	9	42	11	15	11	44	
	HIGH	NONE	-	-	9	15	9	46	11	15	11	48	

ELECTRICAL INFORMATION

Table 28 – Unit Wire/Fuse or HACR Breaker Sizing Data with Single Speed Indoor Fan Motor (cont.)

UNIT	NO M. V – Ph – HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS060	208/230-1-60	STD	NONE	-	-	40	60	37	150	42	60	40	152
			102A	4.9/6.5	23.5/27.1	40/40	60/60	37/37	150/150	42/43	60/60	40/40	152/152
			103B	6.5/8.7	31.4/36.3	46/52	60/60	42/47	150/150	48/54	60/60	44/50	152/152
			102A+102A	9.8/13.0	46.9/54.2	65/74	70/80	60/68	150/150	68/77	70/80	62/70	152/152
			103B+103B	13.1/17.4	62.8/72.5	85/97	90/100	78/89	150/150	87/100	90/100	80/91	152/152
		104B+104B	15.8/21.0	75.8/87.5	101/116	110/125	93/106	150/150	104/118	110/125	95/108	152/152	
		MED	NONE	-	-	42	60	40	175	44	60	42	177
			102A	4.9/6.5	23.5/27.1	42/43	60/60	40/40	175/175	44/45	60/60	42/42	177/177
			103B	6.5/8.7	31.4/36.3	48/55	60/60	44/50	175/175	51/57	60/60	46/52	177/177
			102A+102A	9.8/13.0	46.9/54.2	68/77	70/80	62/70	175/175	70/79	70/80	64/73	177/177
	103B+103B		13.1/17.4	62.8/72.5	88/100	90/100	80/91	175/175	90/102	90/110	82/94	177/177	
	104B+104B	15.8/21.0	75.8/87.5	104/119	110/125	95/109	175/175	106/121	110/125	97/111	177/177		
	208/230-3-60	STD	NONE	-	-	27	40	26	133	29	40	28	135
			102A	4.9/6.5	13.6/15.6	27/27	40/40	26/26	133/133	29/29	40/40	28/28	135/135
			104B	7.9/10.5	21.9/25.3	34/39	40/40	31/35	133/133	37/41	40/45	33/37	135/135
			105A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	133/133	51/57	60/60	47/52	135/135
			104B+104B	15.8/21.0	43.8/50.5	62/70	70/70	56/64	133/133	64/72	70/80	59/66	135/135
		104B+105A	19.9/26.5	55.2/63.8	76/87	80/90	69/79	133/133	78/89	80/90	72/82	135/135	
		MED	NONE	-	-	28/28	40/40	28/27	171	30/30	45/45	30/30	173
			102A	4.9/6.5	13.6/15.6	28/28	40/40	28/27	171/171	30/31	45/45	30/30	173/173
			104B	7.9/10.5	21.9/25.3	36/40	40/40	33/37	171/171	39/43	45/45	35/39	173/173
			105A	12.0/16.0	33.4/38.5	51/57	60/60	46/52	171/171	53/59	60/60	49/54	173/173
	104B+104B		15.8/21.0	43.8/50.5	64/72	70/80	58/66	171/171	66/74	70/80	60/68	173/173	
	104B+105A	19.9/26.5	55.2/63.8	78/89	80/90	71/81	171/171	80/91	90/100	74/83	173/173		
HIGH	NONE	-	-	30/30	45/40	29/29	186	32/32	45/45	32/31	188		
	102A	4.9/6.5	13.6/15.6	30/30	45/40	29/29	186/186	32/33	45/45	32/31	188/188		
	104B	7.9/10.5	21.9/25.3	38/42	45/45	35/39	186/186	41/45	45/45	37/41	188/188		
	105A	12.0/16.0	33.4/38.5	53/59	60/60	48/54	186/186	55/61	60/70	50/56	188/188		
	104B+104B	15.8/21.0	43.8/50.5	66/74	70/80	60/68	186/186	68/76	70/80	62/70	188/188		
104B+105A	19.9/26.5	55.2/63.8	80/91	80/100	73/83	186/186	82/93	90/100	75/85	188/188			
460-3-60	STD	NONE	-	-	13	20	13	63	14	20	14	64	
		106A	6.0	7.2	13	20	13	63	14	20	14	64	
		108A	11.5	13.8	21	25	19	63	22	25	20	64	
		109A	14.0	16.8	25	25	22	63	26	30	23	64	
		108A+108A	23.0	27.7	38	40	35	63	40	40	36	64	
	108A+109A	25.5	30.7	42	45	38	63	43	45	39	64		
	MED	NONE	-	-	14	20	14	82	15	20	15	83	
		106A	6.0	7.2	14	20	14	82	15	20	15	83	
		108A	11.5	13.8	22	25	20	82	23	25	21	83	
		109A	14.0	16.8	26	30	23	82	27	30	24	83	
		108A+108A	23.0	27.7	39	40	36	82	41	45	37	83	
	108A+109A	25.5	30.7	43	45	39	82	44	45	40	83		
	HIGH	NONE	-	-	15	20	15	90	16	20	16	91	
		106A	6.0	7.2	15	20	15	90	16	20	16	91	
		108A	11.5	13.8	23	25	21	90	24	25	22	91	
109A		14.0	16.8	27	30	24	90	28	30	25	91		
108A+108A		23.0	27.7	40	40	37	90	42	45	38	91		
108A+109A	25.5	30.7	44	45	40	90	45	45	41	91			
575-3-60	STD	NONE	-	-	11	15	10	48	13	15	12	50	
	MED	NONE	-	-	10	15	10	52	12	15	12	54	
	HIGH	NONE	-	-	11	15	11	63	13	15	13	65	

ELECTRICAL INFORMATION

**Table 28 – Unit Wire/Fuse or HACR Breaker Sizing Data with Single Speed Indoor Fan Motor (cont.)
(Units Produced On or After 02/09/2015)**

UNIT	NO M. V – Ph – HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS072	208/230–3–60	STD	NONE	–	–	33/33	50/50	32/32	197	35/35	50/50	34/34	199
			102A	4.9/6.5	13.6/15.6	33/33	50/50	32/32	197/197	35/35	50/50	34/34	199/199
			104B	7.9/10.5	21.9/25.3	36/40	50/50	33/37	197/197	39/43	50/50	35/39	199/199
			105A	12.0/16.0	33.4/38.5	51/57	60/60	46/52	197/197	53/59	60/60	49/54	199/199
			104B+104B	15.8/21.0	43.8/50.5	64/72	70/80	58/66	197/197	66/74	70/80	60/68	199/199
			104B+105A	19.9/26.5	55.2/63.8	78/89	80/90	71/81	197/197	80/91	90/100	74/83	199/199
		MED	NONE	–	–	35/35	50/50	34/34	212	37/37	50/50	36/36	214
			102A	4.9/6.5	13.6/15.6	35/35	50/50	34/34	212/212	37/37	50/50	36/36	214/214
			104B	7.9/10.5	21.9/25.3	38/42	50/50	35/39	212/212	41/45	50/50	37/41	214/214
			105A	12.0/16.0	33.4/38.5	53/59	60/60	48/54	212/212	55/61	60/70	50/56	214/214
			104B+104B	15.8/21.0	43.8/50.5	66/74	70/80	60/68	212/212	68/76	70/80	62/70	214/214
			104B+105A	19.9/26.5	55.2/63.8	80/91	80/100	73/83	212/212	82/93	90/100	75/85	214/214
		HIGH	NONE	–	–	37	50	36	226	39	50	39	228
			102A	4.9/6.5	13.6/15.6	37/37	50/50	36/36	226/226	39/39	50/50	39/39	228/228
			104B	7.9/10.5	21.9/25.3	41/45	50/50	37/41	226/226	43/48	50/50	40/43	228/228
			105A	12.0/16.0	33.4/38.5	55/62	60/70	51/56	226/226	58/64	60/70	53/59	228/228
			104B+104B	15.8/21.0	43.8/50.5	68/77	70/80	63/70	226/226	71/79	80/80	65/72	228/228
			104B+105A	19.9/26.5	55.2/63.8	83/93	90/100	76/86	226/226	85/96	90/100	78/88	228/228
	460–3–60	STD	NONE	–	–	15	20	14	96	16	20	15	97
			106A	6.0	7.2	15	20	14	96	16	20	15	97
			108A	11.5	13.8	22	25	20	96	23	25	21	97
			109A	14.0	16.8	26	30	23	96	27	30	24	97
			108A+108A	23.0	27.7	39	40	36	96	41	45	37	97
			108A+109A	25.5	30.7	43	45	39	96	44	45	40	97
MED		NONE	–	–	16	20	15	104	17	20	16	105	
		106A	6.0	7.2	16	20	15	104	17	20	16	105	
		108A	11.5	13.8	23	25	21	104	24	25	22	105	
		109A	14.0	16.8	27	30	24	104	28	30	25	105	
		108A+108A	23.0	27.7	40	40	37	104	42	45	38	105	
		108A+109A	25.5	30.7	44	45	40	104	45	45	41	105	
HIGH		NONE	–	–	17	20	16	111	18	25	18	112	
		106A	6.0	7.2	17	20	16	111	18	25	18	112	
		108A	11.5	13.8	24	25	22	111	26	30	23	112	
		109A	14.0	16.8	28	30	25	111	29	30	27	112	
		108A+108A	23.0	27.7	42	45	38	111	43	45	39	112	
		108A+109A	25.5	30.7	45	50	41	111	47	50	43	112	
575–3–60	STD	NONE	–	–	11	15	11	68	13	15	13	70	
	MED	NONE	–	–	12	15	12	79	14	20	14	81	
	HIGH	NONE	–	–	12	15	12	79	14	20	14	81	

ELECTRICAL INFORMATION

**Table 28 – Unit Wire/Fuse or HACR Breaker Sizing Data with Single Speed Indoor Fan Motor (cont.)
(Units Produced On or Prior to 02/08/2015)**

UNIT	NO M. V. Ph-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS072	208/230-3-60	STD	NONE	-	-	33/32	50/50	32/31	184	34/34	50/50	34/33	186
			102A	4.9/6.5	13.6/15.6	33/32	50/50	32/31	184/184	35/35	50/50	34/33	186/186
			104B	7.9/10.5	21.9/25.3	36/40	50/50	33/37	184/184	39/43	50/50	35/39	186/186
			105A	12.0/16.0	33.4/38.5	51/57	60/60	46/52	184/184	53/59	60/60	49/54	186/186
			104B+104B	15.8/21.0	43.8/50.5	64/72	70/80	58/66	184/184	66/74	70/80	60/68	186/186
			104B+105A	19.9/26.5	55.2/63.8	78/89	80/90	71/81	184/184	80/91	90/100	74/83	186/186
		MED	NONE	-	-	34/34	50/50	33/33	199	36/36	50/50	35/35	201
			102A	4.9/6.5	13.6/15.6	34/34	50/50	33/33	199/199	36/36	50/50	35/35	201/201
			104B	7.9/10.5	21.9/25.3	38/42	50/50	35/39	199/199	41/45	50/50	37/41	201/201
			105A	12.0/16.0	33.4/38.5	53/59	60/60	48/54	199/199	55/61	60/70	50/56	201/201
			104B+104B	15.8/21.0	43.8/50.5	66/74	70/80	60/68	199/199	68/76	70/80	62/70	201/201
			104B+105A	19.9/26.5	55.2/63.8	80/91	80/100	73/83	199/199	82/93	90/100	75/85	201/201
		HIGH	NONE	-	-	36	50	36	213	38	50	38	215
			102A	4.9/6.5	13.6/15.6	36/36	50/50	36/36	213/213	38/38	50/50	38/38	215/215
			104B	7.9/10.5	21.9/25.3	41/45	50/50	37/41	213/213	43/48	50/50	40/43	215/215
			105A	12.0/16.0	33.4/38.5	55/62	60/70	51/56	213/213	58/64	60/70	53/59	215/215
			104B+104B	15.8/21.0	43.8/50.5	68/77	70/80	63/70	213/213	71/79	80/80	65/72	215/215
			104B+105A	19.9/26.5	55.2/63.8	83/93	90/100	76/86	213/213	85/96	90/100	78/88	215/215
RAS072	460-3-60	STD	NONE	-	-	17	25	16	92	18	25	17	93
			106A	6.0	7.2	17	25	16	92	18	25	17	93
			108A	11.5	13.8	22	25	20	92	23	25	21	93
			109A	14.0	16.8	26	30	23	92	27	30	24	93
			108A+108A	23.0	27.7	39	40	36	92	41	45	37	93
			108A+109A	25.5	30.7	43	45	39	92	44	45	40	93
		MED	NONE	-	-	18	25	17	100	19	25	18	101
			106A	6.0	7.2	18	25	17	100	19	25	18	101
			108A	11.5	13.8	23	25	21	100	24	25	22	101
			109A	14.0	16.8	27	30	24	100	28	30	25	101
			108A+108A	23.0	27.7	40	40	37	100	42	45	38	101
			108A+109A	25.5	30.7	44	45	40	100	45	45	41	101
		HIGH	NONE	-	-	19	25	18	107	20	25	19	108
			106A	6.0	7.2	19	25	18	107	20	25	19	108
			108A	11.5	13.8	24	25	22	107	26	30	23	108
			109A	14.0	16.8	28	30	25	107	29	30	27	108
			108A+108A	23.0	27.7	42	45	38	107	43	45	39	108
			108A+109A	25.5	30.7	45	50	41	107	47	50	43	108
575-3-60	STD	NONE	-	-	12	15	12	63	14	20	14	65	
	MED	NONE	-	-	13	20	12	74	15	20	15	76	
	HIGH	NONE	-	-	13	20	12	74	15	20	15	76	

ELECTRICAL INFORMATION

Table 28 – Unit Wire/Fuse or HACR Breaker Sizing Data with Single Speed Indoor Fan Motor (cont.)

UNIT	NO. M. V-Ph-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS091	208/230-3-60	STD	NONE	-	-	40/40	60/60	38/38	208	44/43	60/60	43/42	212
			117A	7.8/10.4	21.7/25.0	40/40	60/60	38/38	208/208	44/43	60/60	43/42	212/212
			110A	12.0/16.0	33.4/38.5	49/55	60/60	44/50	208/208	53/59	60/60	49/54	212/212
			111A	18.6/24.8	51.7/59.7	72/81	80/90	65/74	208/208	76/86	80/90	70/79	212/212
			112A	24.0/32.0	66.7/77.0	90/103	90/110	83/94	208/208	95/108	100/110	87/99	212/212
		112A+117A	31.8/42.4	88.4/102.0	117/134	125/150	108/123	208/208	122/139	125/150	112/127	212/212	
		MED	NONE	-	-	43/43	60/60	42/42	244	47/47	60/60	46/46	248
			117A	7.8/10.4	21.7/25.0	43/43	60/60	42/42	244/244	47/47	60/60	46/46	248/248
			110A	12.0/16.0	33.4/38.5	53/59	60/60	48/54	244/244	57/64	60/70	52/58	248/248
	111A		18.6/24.8	51.7/59.7	76/85	80/90	69/78	244/244	80/90	80/90	73/83	248/248	
	112A		24.0/32.0	66.7/77.0	94/107	100/110	86/98	244/244	99/112	100/125	91/102	248/248	
	112A+117A	31.8/42.4	88.4/102.0	121/138	125/150	111/127	244/244	126/143	150/150	116/131	248/248		
	HIGH	NONE	-	-	48/47	60/60	48/47	260	52/51	60/60	52/51	264	
		117A	7.8/10.4	21.7/25.0	48/48	60/60	48/47	260/260	52/52	60/60	52/51	264/264	
		110A	12.0/16.0	33.4/38.5	59/64	60/70	54/59	260/260	64/69	70/70	58/63	264/264	
		111A	18.6/24.8	51.7/59.7	82/91	90/100	75/83	260/260	87/96	90/100	79/88	264/264	
		112A	24.0/32.0	66.7/77.0	101/113	110/125	92/103	260/260	106/117	110/125	97/108	264/264	
	112A+117A	31.8/42.4	88.4/102.0	128/144	150/150	117/132	260/260	133/149	150/150	122/136	264/264		
	460-3-60	STD	NONE	-	-	20	30	19	122	22	30	21	124
			116A	13.9	16.7	24	30	22	122	27	30	24	124
			113A	16.5	19.8	28	30	26	122	31	35	28	124
			114A	27.8	33.4	45	45	41	122	48	50	43	124
			115A	33.0	39.7	53	60	49	122	55	60	51	124
		114A+116A	41.7	50.2	66	70	61	122	69	70	63	124	
		MED	NONE	-	-	22	30	21	140	23	30	23	142
			116A	13.9	16.7	27	30	24	140	29	30	26	142
			113A	16.5	19.8	30	30	28	140	33	35	30	142
114A	27.8		33.4	47	50	43	140	50	50	45	142		
115A	33.0		39.7	55	60	50	140	58	60	53	142		
114A+116A	41.7	50.2	68	70	63	140	71	80	65	142			
HIGH	NONE	-	-	24	30	23	148	26	30	25	150		
	116A	13.9	16.7	29	30	27	148	32	35	29	150		
	113A	16.5	19.8	33	35	30	148	35	35	32	150		
	114A	27.8	33.4	50	50	46	148	52	60	48	150		
	115A	33.0	39.7	58	60	53	148	60	60	55	150		
114A+116A	41.7	50.2	71	80	65	148	73	80	67	150			
575-3-60	STD	NONE	-	-	15	20	14	89	18	25	18	93	
		118A	17.0	20.4	28	30	25	89	33	35	30	93	
		119A	34.0	40.9	54	60	49	89	58	60	53	93	
	MED	NONE	-	-	16	20	15	104	20	25	19	108	
		118A	17.0	20.4	29	30	27	104	34	35	31	108	
		119A	34.0	40.9	55	60	50	104	60	60	55	108	
	HIGH	NONE	-	-	19	25	18	118	22	30	23	122	
		118A	17.0	20.4	33	35	30	118	38	40	34	122	
		119A	34.0	40.9	59	60	53	118	63	70	58	122	

ELECTRICAL INFORMATION

Table 28 – Unit Wire/Fuse or HACR Breaker Sizing Data with Single Speed Indoor Fan Motor (cont.)

UNIT	NO. M. V-PH-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS090	208/230-3-60	STD	NONE	-	-	39/39	50/50	41/40	210	43/43	50/50	45/45	214
			117A	7.8/10.4	21.7/25.0	39/39	50/50	41/40	210/210	43/43	50/50	45/45	214/214
			110A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	210/210	53/59	60/60	49/54	214/214
			111A	18.6/24.8	51.7/59.7	72/81	80/90	65/74	210/210	76/86	80/90	70/79	214/214
			112A	24.0/32.0	66.7/77.0	90/103	90/110	83/94	210/210	95/108	100/110	87/99	214/214
			112A+117A	31.8/42.4	88.4/102.0	117/134	125/150	108/123	210/210	122/139	125/150	112/127	214/214
		MED	NONE	-	-	42/42	50/50	44/44	246	46/46	50/50	49/49	250
			117A	7.8/10.4	21.7/25.0	42/42	50/50	44/44	246/246	46/47	50/50	49/49	250/250
			110A	12.0/16.0	33.4/38.5	53/59	60/60	48/54	246/246	57/64	60/70	52/58	250/250
			111A	18.6/24.8	51.7/59.7	76/85	80/90	69/78	246/246	80/90	80/90	73/83	250/250
			112A	24.0/32.0	66.7/77.0	94/107	100/110	86/98	246/246	99/112	100/125	91/102	250/250
			112A+117A	31.8/42.4	88.4/102.0	121/138	125/150	111/127	246/246	126/143	150/150	116/131	250/250
	HIGH	NONE	-	-	48/47	60/50	50/49	262	51/51	60/60	55/54	266	
		117A	7.8/10.4	21.7/25.0	48/48	60/50	50/49	262/262	51/52	60/60	55/54	266/266	
		110A	12.0/16.0	33.4/38.5	59/64	60/70	54/59	262/262	64/69	70/70	58/63	266/266	
		111A	18.6/24.8	51.7/59.7	82/91	90/100	75/83	262/262	87/96	90/100	79/88	266/266	
		112A	24.0/32.0	66.7/77.0	101/113	110/125	92/103	262/262	106/117	110/125	97/108	266/266	
		112A+117A	31.8/42.4	88.4/102.0	128/144	150/150	117/132	262/262	133/149	150/150	122/136	266/266	
	460-3-60	STD	NONE	-	-	18	20	19	104	20	25	21	106
			116A	13.9	16.7	24	25	22	104	27	30	24	106
			113A	16.5	19.8	28	30	26	104	31	35	28	106
			114A	27.8	33.4	45	45	41	104	48	50	43	106
			115A	33.0	39.7	53	60	49	104	55	60	51	106
			114A+116A	41.7	50.2	66	70	61	104	69	70	63	106
MED		NONE	-	-	20	25	21	122	22	25	23	124	
		116A	13.9	16.7	27	30	24	122	29	30	26	124	
		113A	16.5	19.8	30	30	28	122	33	35	30	124	
		114A	27.8	33.4	47	50	43	122	50	50	45	124	
		115A	33.0	39.7	55	60	50	122	58	60	53	124	
		114A+116A	41.7	50.2	68	70	63	122	71	80	65	124	
HIGH	NONE	-	-	22	25	23	130	24	30	25	132		
	116A	13.9	16.7	29	30	27	130	32	35	29	132		
	113A	16.5	19.8	33	35	30	130	35	35	32	132		
	114A	27.8	33.4	50	50	46	130	52	60	48	132		
	115A	33.0	39.7	58	60	53	130	60	60	55	132		
	114A+116A	41.7	50.2	71	80	65	130	73	80	67	132		
575-3-60	STD	NONE	-	-	13	15	13	77	17	20	17	81	
		118A	17.0	20.4	28	30	25	77	33	35	30	81	
		119A	34.0	40.9	54	60	49	77	58	60	53	81	
	MED	NONE	-	-	14	15	14	92	18	20	19	96	
		118A	17.0	20.4	29	30	27	92	34	35	31	96	
		119A	34.0	40.9	55	60	50	92	60	60	55	96	
	HIGH	NONE	-	-	17	20	17	106	21	25	22	110	
		118A	17.0	20.4	33	35	30	106	38	40	34	110	
		119A	34.0	40.9	59	60	53	106	63	70	58	110	

ELECTRICAL INFORMATION

Table 28 – Unit Wire/Fuse or HACR Breaker Sizing Data with Single Speed Indoor Fan Motor (cont.)

UNIT	NO M. V.—Ph—HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER**A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrdr fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS101	208/230—3—60	STD	NONE	—	—	43/43	60/60	41/41	235	47/47	60/60	46/45	239
			117A	7.8/10.4	21.7/25.0	43/43	60/60	41/41	235/235	47/47	60/60	46/45	239/239
			110A	12.0/16.0	33.4/38.5	49/55	60/60	44/50	235/235	53/59	60/60	49/54	239/239
			111A	18.6/24.8	51.7/59.7	72/81	80/90	65/74	235/235	76/86	80/90	70/79	239/239
			112A	24.0/32.0	66.7/77.0	90/103	90/110	83/94	235/235	95/108	100/110	87/99	239/239
			112A+117A	31.8/42.4	88.4/102.0	117/134	125/150	108/123	235/235	122/139	125/150	112/127	239/239
		MED	NONE	—	—	45/45	60/60	43/43	256	49/48	60/60	47/47	260
			117A	7.8/10.4	21.7/25.0	45/45	60/60	43/43	256/256	49/48	60/60	47/47	260/260
			110A	12.0/16.0	33.4/38.5	51/57	60/60	46/52	256/256	56/62	60/70	51/56	260/260
			111A	18.6/24.8	51.7/59.7	74/83	80/90	67/76	256/256	78/88	80/90	72/81	260/260
			112A	24.0/32.0	66.7/77.0	92/105	100/110	85/96	256/256	97/110	100/110	89/101	260/260
			112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	256/256	124/141	125/150	114/129	260/260
	HIGH	NONE	—	—	49	60	47	285	52	60	52	289	
		117A	7.8/10.4	21.7/25.0	49/49	60/60	47/47	285/285	52/52	60/60	52/52	289/289	
		110A	12.0/16.0	33.4/38.5	55/62	60/70	51/56	285/285	60/67	60/60	55/61	289/289	
		111A	18.6/24.8	51.7/59.7	78/88	80/90	72/81	285/285	83/93	90/100	76/85	289/289	
		112A	24.0/32.0	66.7/77.0	97/110	100/110	89/101	285/285	102/115	110/125	93/105	289/289	
		112A+117A	31.8/42.4	88.4/102.0	124/141	125/150	114/129	285/285	129/146	150/150	118/134	289/289	
	460—3—60	STD	NONE	—	—	21	30	19	122	22	30	22	124
			116A	13.9	16.7	24	30	22	122	27	30	24	124
			113A	16.5	19.8	28	30	26	122	31	35	28	124
			114A	27.8	33.4	45	45	41	122	48	50	43	124
			115A	33.0	39.7	53	60	49	122	55	60	51	124
			114A+116A	41.7	50.2	66	70	61	122	69	70	63	124
MED		NONE	—	—	21	30	20	132	23	30	23	134	
		116A	13.9	16.7	26	30	23	132	28	30	25	134	
		113A	16.5	19.8	29	30	27	132	32	35	29	134	
		114A	27.8	33.4	46	50	42	132	49	50	44	134	
		115A	33.0	39.7	54	60	50	132	57	60	52	134	
		114A+116A	41.7	50.2	67	70	62	132	70	70	64	134	
HIGH	NONE	—	—	23	30	23	147	25	30	25	149		
	116A	13.9	16.7	28	30	25	147	30	30	27	149		
	113A	16.5	19.8	32	35	29	147	34	35	31	149		
	114A	27.8	33.4	49	50	45	147	51	60	47	149		
	115A	33.0	39.7	57	60	52	147	59	60	54	149		
	114A+116A	41.7	50.2	70	70	64	147	72	80	66	149		
575—3—60	STD	NONE	—	—	15	20	14	89	19	25	19	93	
		118A	17.0	20.4	28	30	25	89	33	35	30	93	
		119A	34.0	40.9	54	60	49	89	58	60	53	93	
	MED	NONE	—	—	16	20	15	93	19	25	19	97	
		118A	17.0	20.4	28	30	26	93	33	35	30	97	
		119A	34.0	40.9	54	60	49	93	59	60	54	97	
	HIGH	NONE	—	—	16	25	16	104	20	25	20	108	
		118A	17.0	20.4	29	30	27	104	34	35	31	108	
		119A	34.0	40.9	55	60	50	104	60	60	55	108	

ELECTRICAL INFORMATION

Table 28 – Unit Wire/Fuse or HACR Breaker Sizing Data with Single Speed Indoor Fan Motor (cont.)

UNIT	NO M. V. Ph-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS102	208/230-3-60	STD	NONE	-	-	40/40	50/50	42/42	225	44/44	50/50	46/46	229
			117A	7.8/10.4	21.7/25.0	40/40	50/50	42/42	225/225	44/44	50/50	46/46	229/229
			110A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	225/225	53/59	60/60	49/54	229/229
			111A	18.6/24.8	51.7/59.7	72/81	80/90	65/74	225/225	76/86	80/90	70/79	229/229
			112A	24.0/32.0	66.7/77.0	90/103	90/110	83/94	225/225	95/108	100/110	87/99	229/229
			112A+117A	31.8/42.4	88.4/102.0	117/134	125/150	108/123	225/225	122/139	125/150	112/127	229/229
		MED	NONE	-	-	42/42	50/50	44/44	246	46/46	60/50	48/48	250
			117A	7.8/10.4	21.7/25.0	42/42	50/50	44/44	246/246	46/46	60/50	48/48	250/250
			110A	12.0/16.0	33.4/38.5	51/57	60/60	46/52	246/246	56/62	60/70	51/56	250/250
	HIGH	111A	18.6/24.8	51.7/59.7	74/83	80/90	67/76	246/246	78/88	80/90	72/81	250/250	
		112A	24.0/32.0	66.7/77.0	92/105	100/110	85/96	246/246	97/110	100/110	89/101	250/250	
		112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	246/246	124/141	125/150	114/129	250/250	
		NONE	-	-	46	50	48	275	50	60	52	279	
		117A	7.8/10.4	21.7/25.0	46/46	50/50	48/48	275/275	50/50	60/60	52/52	279/279	
		110A	12.0/16.0	33.4/38.5	55/62	60/70	51/56	275/275	60/67	60/70	55/61	279/279	
	460-3-60	STD	111A	18.6/24.8	51.7/59.7	78/88	80/90	72/81	275/275	83/93	90/100	76/85	279/279
			112A	24.0/32.0	66.7/77.0	97/110	100/110	89/101	275/275	102/115	110/125	93/105	279/279
			112A+117A	31.8/42.4	88.4/102.0	124/141	125/150	114/129	275/275	129/146	150/150	118/134	279/279
NONE			-	-	19	20	19	118	20	25	21	120	
116A			13.9	16.7	24	25	22	118	27	30	24	120	
113A			16.5	19.8	28	30	26	118	31	35	28	120	
MED		114A	27.8	33.4	45	45	41	118	48	50	43	120	
		115A	33.0	39.7	53	60	49	118	55	60	51	120	
		114A+116A	41.7	50.2	66	70	61	118	69	70	63	120	
HIGH	NONE	-	-	20	25	20	128	21	25	22	130		
	116A	13.9	16.7	26	30	23	128	28	30	25	130		
	113A	16.5	19.8	29	30	27	128	32	35	29	130		
	114A	27.8	33.4	46	50	42	128	49	50	44	130		
	115A	33.0	39.7	54	60	50	128	57	60	52	130		
	114A+116A	41.7	50.2	67	70	62	128	70	70	64	130		
575-3-60	STD	NONE	-	-	21	25	22	143	23	25	24	145	
		116A	13.9	16.7	28	30	25	143	30	30	27	145	
		113A	16.5	19.8	32	35	29	143	34	35	31	145	
		114A	27.8	33.4	49	50	45	143	51	60	47	145	
		115A	33.0	39.7	57	60	52	143	59	60	54	145	
		114A+116A	41.7	50.2	70	70	64	143	72	80	66	145	
	MED	NONE	-	-	16	20	16	85	19	25	20	89	
		118A	17.0	20.4	28	30	25	85	33	35	30	89	
		119A	34.0	40.9	54	60	49	85	58	60	53	89	
HIGH	NONE	-	-	16	20	16	89	20	25	20	93		
	118A	17.0	20.4	28	30	26	89	33	35	30	93		
	119A	34.0	40.9	54	60	49	89	59	60	54	93		
HIGH	NONE	-	-	17	20	17	100	21	25	21	104		
	118A	17.0	20.4	29	30	27	100	34	35	31	104		
	119A	34.0	40.9	55	60	50	100	60	60	55	104		

ELECTRICAL INFORMATION

Table 28 – Unit Wire/Fuse or HACR Breaker Sizing Data with Single Speed Indoor Fan Motor (cont.)

UNIT	NO. M. V-PH-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrdr fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS121	208/230-3-60	STD	NONE	-	-	48/48	60/60	46/46	290	52/52	60/60	50/50	294
			117A	7.8/10.4	21.7/25.0	48/48	60/60	46/46	290/290	52/52	60/60	50/50	294/294
			110A	12.0/16.0	33.4/38.5	51/57	60/60	46/52	290/290	56/62	60/80	51/56	294/294
			112A	24.0/32.0	66.7/77.0	92/105	100/110	85/96	290/290	97/110	100/110	89/101	294/294
			112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	290/290	124/141	125/150	114/129	294/294
			112A+110A	37.6/50.0	104.2/120.3	139/129	150/150	128/146	290/290	144/134	150/150	132/150	294/294
		MED	NONE	-	-	52	60	50	319	55	80	55	323
			117A	7.8/10.4	21.7/25.0	52/52	60/60	50/50	319/319	55/55	80/80	55/55	323/323
			110A	12.0/16.0	33.4/38.5	55/62	60/80	51/56	319/319	60/67	80/80	55/61	323/323
	HIGH	112A	24.0/32.0	66.7/77.0	97/110	100/110	89/101	319/319	102/115	110/125	93/105	323/323	
		112A+117A	31.8/42.4	88.4/102.0	124/141	125/150	114/129	319/319	129/146	150/150	118/134	323/323	
		112A+110A	37.6/50.0	104.2/120.3	144/134	150/150	132/151	319/319	149/139	150/150	136/155	323/323	
		NONE	-	-	55/54	80/80	54/53	321	58/58	80/80	58/57	325	
		117A	7.8/10.4	21.7/25.0	55/54	80/80	54/53	321/321	58/58	80/80	58/57	325/325	
		110A	12.0/16.0	33.4/38.5	59/64	80/80	54/59	321/321	64/69	80/80	58/63	325/325	
	460-3-60	STD	NONE	-	-	26	40	25	146	28	40	27	148
			116A	13.9	16.7	26	40	25	146	28	40	27	148
			113A	16.5	19.8	29	40	27	146	32	40	29	148
115A			33.0	39.7	54	60	50	146	57	60	52	148	
114A+116A			41.7	50.2	67	70	62	146	70	70	64	148	
115A+113A			50.0	60.1	65	70	73	146	67	70	75	148	
MED		NONE	-	-	28	40	27	161	30	45	29	163	
		116A	13.9	16.7	28	40	27	161	30	45	29	163	
		113A	16.5	19.8	32	40	29	161	34	45	31	163	
HIGH	115A	33.0	39.7	57	60	52	161	59	60	54	163		
	114A+116A	41.7	50.2	70	70	64	161	72	80	66	163		
	115A+113A	50.0	60.1	67	80	75	161	69	80	77	163		
	NONE	-	-	29	45	28	162	31	45	30	164		
	116A	13.9	16.7	29	45	28	162	32	45	30	164		
	113A	16.5	19.8	33	45	30	162	35	45	32	164		
575-3-60	STD	115A	33.0	39.7	58	60	53	162	60	60	55	164	
		114A+116A	41.7	50.2	71	80	65	162	73	80	67	164	
		115A+113A	50.0	60.1	69	80	76	162	71	80	79	164	
	MED	NONE	-	-	19	30	18	95	23	30	22	99	
		118A	17.0	20.4	28	30	26	95	33	35	30	99	
		119A	34.0	40.9	54	60	49	95	59	60	54	99	
		118A+119A	51.0	61.3	64	70	73	95	69	80	77	99	
		NONE	-	-	20	30	19	106	24	30	23	110	
		118A	17.0	20.4	29	30	27	106	34	35	31	110	
HIGH	119A	34.0	40.9	55	60	50	106	60	60	55	110		
	118A+119A	51.0	61.3	65	70	74	106	70	80	78	110		
	NONE	-	-	23	30	22	120	26	30	26	124		
118A	17.0	20.4	33	35	30	120	38	40	34	124			
119A	34.0	40.9	59	60	53	120	63	70	58	124			
118A+119A	51.0	61.3	69	80	77	120	74	80	81	124			

ELECTRICAL INFORMATION

Table 28 – Unit Wire/Fuse or HACR Breaker Sizing Data with Single Speed Indoor Fan Motor (cont.)

UNIT	NO. M. V. PH-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrdr fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS120	208/230-3-60	STD	NONE	-	-	46/46	60/60	48/47	285	50/49	60/60	52/52	289
			117A	7.8/10.4	21.7/25.0	46/46	60/60	48/47	285/285	50/49	60/60	52/52	289/289
			110A	12.0/16.0	33.4/38.5	51/57	60/60	48/52	285/285	56/62	60/70	52/56	289/289
			112A	24.0/32.0	66.7/77.0	92/105	100/110	85/96	285/285	97/110	100/110	89/101	289/289
			112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	285/285	124/141	125/150	114/129	289/289
			112A+110A	37.6/50.0	104.2/120.3	139/129	150/150	128/146	285/285	144/134	150/150	132/150	289/289
		MED	NONE	-	-	50	60	52	314	53	60	56	318
			117A	7.8/10.4	21.7/25.0	50/50	60/60	52/52	314/314	53/53	60/60	56/56	318/318
			110A	12.0/16.0	33.4/38.5	55/62	60/70	52/56	314/314	60/67	60/70	56/61	318/318
			112A	24.0/32.0	66.7/77.0	97/110	100/110	89/101	314/314	102/115	110/125	93/105	318/318
			112A+117A	31.8/42.4	88.4/102.0	124/141	125/150	114/129	314/314	129/146	150/150	118/134	318/318
			112A+110A	37.6/50.0	104.2/120.3	144/134	150/150	132/151	314/314	149/139	150/150	136/155	318/318
	HIGH	NONE	-	-	53/52	60/60	55/54	316	56/55	60/60	60/59	320	
		117A	7.8/10.4	21.7/25.0	53/52	60/60	55/54	316/316	56/55	60/60	60/59	320/320	
		110A	12.0/16.0	33.4/38.5	59/64	60/70	55/59	316/316	64/69	70/70	60/63	320/320	
		112A	24.0/32.0	66.7/77.0	101/113	110/125	92/103	316/316	106/117	110/125	97/108	320/320	
		112A+117A	31.8/42.4	88.4/102.0	128/144	150/150	117/132	316/316	133/149	150/150	122/136	320/320	
		112A+110A	37.6/50.0	104.2/120.3	148/137	150/150	135/153	316/316	152/141	175/175	140/157	320/320	
	460-3-60	STD	NONE	-	-	23	30	23	136	25	30	26	138
			116A	13.9	16.7	26	30	23	136	28	30	26	138
			113A	16.5	19.8	29	30	27	136	32	35	29	138
			115A	33.0	39.7	54	60	50	136	57	60	52	138
			114A+116A	41.7	50.2	67	70	62	136	70	70	64	138
			115A+113A	50.0	60.1	65	70	73	136	67	70	75	138
MED		NONE	-	-	25	30	26	151	26	30	28	153	
		116A	13.9	16.7	28	30	26	151	30	30	28	153	
		113A	16.5	19.8	32	35	29	151	34	35	31	153	
		115A	33.0	39.7	57	60	52	151	59	60	54	153	
		114A+116A	41.7	50.2	70	70	64	151	72	80	66	153	
		115A+113A	50.0	60.1	67	80	75	151	69	80	77	153	
HIGH	NONE	-	-	26	30	27	152	28	30	29	154		
	116A	13.9	16.7	29	30	27	152	32	35	29	154		
	113A	16.5	19.8	33	35	30	152	35	35	32	154		
	115A	33.0	39.7	58	60	53	152	60	60	55	154		
	114A+116A	41.7	50.2	71	80	65	152	73	80	67	154		
	115A+113A	50.0	60.1	69	80	76	152	71	80	79	154		
575-3-60	STD	NONE	-	-	17	20	17	93	20	25	21	97	
		118A	17.0	20.4	28	30	26	93	33	35	30	97	
		119A	34.0	40.9	54	60	49	93	59	60	54	97	
		118A+119A	51.0	61.3	64	70	73	93	69	80	77	97	
	MED	NONE	-	-	17	20	18	104	21	25	22	108	
		118A	17.0	20.4	29	30	27	104	34	35	31	108	
		119A	34.0	40.9	55	60	50	104	60	60	55	108	
		118A+119A	51.0	61.3	65	70	74	104	70	80	78	108	
	HIGH	NONE	-	-	20	25	21	118	24	30	25	122	
		118A	17.0	20.4	33	35	30	118	38	40	34	122	
		119A	34.0	40.9	59	60	53	118	63	70	58	122	
		118A+119A	51.0	61.3	69	80	77	118	74	80	81	122	

ELECTRICAL INFORMATION

**Table 28 – Unit Wire/Fuse or HACR Breaker Sizing Data with Single Speed Indoor Fan Motor
(Units Produced On or After 02/16/2015)**

UNIT	NO M. V. Ph-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS150	208/230-3-60	STD	NONE	-	-	63/63	80/80	65/65	389	66/66	80/80	69/69	393
			117A	7.8/10.4	21.7/25.0	63/63	80/80	65/65	389/389	66/66	80/80	69/69	393/393
			110A	12.0/16.0	33.4/38.5	63/63	80/80	65/65	389/389	66/66	80/80	69/69	393/393
			112A	24.0/32.0	66.7/77.0	94/107	100/110	86/98	389/389	99/112	100/125	91/102	393/393
			112A+117A	31.8/42.4	88.4/102.0	121/138	125/150	111/127	389/389	126/143	150/150	116/131	393/393
		112A+110A	37.6/50.0	104.2/120.3	141/131	150/150	129/148	389/389	146/136	150/150	134/152	393/393	
		MED	NONE	-	-	65	80	68	403	69	80	72	407
			117A	7.8/10.4	21.7/25.0	65/65	80/80	68/68	403/403	69/69	80/80	72/72	407/407
			110A	12.0/16.0	33.4/38.5	65/65	80/80	68/68	403/403	69/69	80/80	72/72	407/407
			112A	24.0/32.0	66.7/77.0	97/110	100/110	89/101	403/403	102/115	110/125	93/105	407/407
			112A+117A	31.8/42.4	88.4/102.0	124/141	125/150	114/129	403/403	129/146	150/150	118/134	407/407
		112A+110A	37.6/50.0	104.2/120.3	144/134	150/150	132/151	403/403	149/139	150/150	136/155	407/407	
		HIGH	NONE	-	-	68/67	80/80	71/70	405	72/71	80/80	75/74	409
			117A	7.8/10.4	21.7/25.0	68/67	80/80	71/70	405/405	72/71	80/80	75/74	409/409
			110A	12.0/16.0	33.4/38.5	68/67	80/80	71/70	405/405	72/71	80/80	75/74	409/409
112A	24.0/32.0		66.7/77.0	101/113	110/125	92/103	405/405	106/117	110/125	97/108	409/409		
112A+117A	31.8/42.4		88.4/102.0	128/144	150/150	117/132	405/405	133/149	150/150	122/136	409/409		
112A+110A	37.6/50.0	104.2/120.3	148/137	150/150	135/153	405/405	152/141	175/175	140/157	409/409			
RAS150	460-3-60	STD	NONE	-	-	29	35	30	193	31	40	32	195
			116A	13.9	16.7	29	35	30	193	31	40	32	195
			113A	16.5	19.8	30	35	30	193	33	40	32	195
			115A	33.0	39.7	55	60	50	193	58	60	53	195
			114A+116A	41.7	50.2	68	70	63	193	71	80	65	195
		115A+113A	50.0	60.1	66	70	74	193	68	80	76	195	
		MED	NONE	-	-	30	40	31	200	32	40	33	202
			116A	13.9	16.7	30	40	31	200	32	40	33	202
			113A	16.5	19.8	32	40	31	200	34	40	33	202
			115A	33.0	39.7	57	60	52	200	59	60	54	202
			114A+116A	41.7	50.2	70	70	64	200	72	80	66	202
		115A+113A	50.0	60.1	67	80	75	200	69	80	77	202	
		HIGH	NONE	-	-	31	40	33	201	33	40	35	203
			116A	13.9	16.7	31	40	33	201	33	40	35	203
			113A	16.5	19.8	33	40	33	201	35	40	35	203
115A	33.0		39.7	58	60	53	201	60	60	55	203		
114A+116A	41.7		50.2	71	80	65	201	73	80	67	203		
115A+113A	50.0	60.1	69	80	76	201	71	80	79	203			
RAS150	575-3-60	STD	NONE	-	-	22	25	23	147	26	30	27	151
			118A	17.0	20.4	29	30	27	147	34	35	31	151
			119A	34.0	40.9	55	60	50	147	60	60	55	151
		118A+119A	51.0	61.3	65	70	74	147	70	80	78	151	
		MED	NONE	-	-	22	25	23	147	26	30	27	151
			118A	17.0	20.4	29	30	27	147	34	35	31	151
			119A	34.0	40.9	55	60	50	147	60	60	55	151
		118A+119A	51.0	61.3	65	70	74	147	70	80	78	151	
		HIGH	NONE	-	-	25	30	26	161	29	35	30	165
			118A	17.0	20.4	33	35	30	161	38	40	34	165
			119A	34.0	40.9	59	60	53	161	63	70	58	165
		118A+119A	51.0	61.3	69	80	77	161	74	80	81	165	

ELECTRICAL INFORMATION

Table 28 – Unit Wire/Fuse or HACR Breaker Sizing Data with Single Speed Indoor Fan Motor

(Units Produced On or Before 02/15/2015)

UNIT	NO M. V. Ph-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER**A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS150	208/230-3-60	STD	NONE	-	-	62/62	80/80	64/64	376	66/66	80/80	69/69	380
			117A	7.8/10.4	21.7/25.0	62/62	80/80	64/64	376/376	66/66	80/80	69/69	380/380
			110A	12.0/16.0	33.4/38.5	62/62	80/80	64/64	376/376	66/66	80/80	69/69	380/380
			112A	24.0/32.0	66.7/77.0	94/107	100/110	86/98	376/376	99/112	100/125	91/102	380/380
			112A+117A	31.8/42.4	88.4/102.0	121/138	125/150	111/127	376/376	126/143	150/150	116/131	380/380
		112A+110A	37.6/50.0	104.2/120.3	141/131	150/150	129/148	376/376	146/136	150/150	134/152	380/380	
		MED	NONE	-	-	64	80	67	390	68	80	71	394
			117A	7.8/10.4	21.7/25.0	64/64	80/80	67/67	390/390	68/68	80/80	71/71	394/394
			110A	12.0/16.0	33.4/38.5	64/64	80/80	67/67	390/390	68/68	80/80	71/71	394/394
	112A		24.0/32.0	66.7/77.0	97/110	100/110	89/101	390/390	102/115	110/125	93/105	394/394	
	112A+117A		31.8/42.4	88.4/102.0	124/141	125/150	114/129	390/390	129/146	150/150	118/134	394/394	
	112A+110A	37.6/50.0	104.2/120.3	144/134	150/150	132/151	390/390	149/139	150/150	136/155	394/394		
	HIGH	NONE	-	-	67/66	80/80	70/69	392	71/70	80/80	75/74	396	
		117A	7.8/10.4	21.7/25.0	67/66	80/80	70/69	392/392	71/70	80/80	75/74	396/396	
		110A	12.0/16.0	33.4/38.5	67/66	80/80	70/69	392/392	71/70	80/80	75/74	396/396	
		112A	24.0/32.0	66.7/77.0	101/113	110/125	92/103	392/392	106/117	110/125	97/108	396/396	
		112A+117A	31.8/42.4	88.4/102.0	128/144	150/150	117/132	392/392	133/149	150/150	122/136	396/396	
	112A+110A	37.6/50.0	104.2/120.3	148/137	150/150	135/153	392/392	152/141	175/175	140/157	396/396		
	460-3-60	STD	NONE	-	-	31	40	32	189	33	40	34	191
			116A	13.9	16.7	31	40	32	189	33	40	34	191
			113A	16.5	19.8	31	40	32	189	33	40	34	191
			115A	33.0	39.7	55	60	50	189	58	60	53	191
			114A+116A	41.7	50.2	68	70	63	189	71	80	65	191
		115A+113A	50.0	60.1	66	70	74	189	68	80	76	191	
		MED	NONE	-	-	32	40	33	196	34	40	35	198
			116A	13.9	16.7	32	40	33	196	34	40	35	198
			113A	16.5	19.8	32	40	33	196	34	40	35	198
115A	33.0		39.7	57	60	52	196	59	60	54	198		
114A+116A	41.7		50.2	70	70	64	196	72	80	66	198		
115A+113A	50.0	60.1	67	80	75	196	69	80	77	198			
HIGH	NONE	-	-	33	40	34	197	35	40	36	199		
	116A	13.9	16.7	33	40	34	197	35	40	36	199		
	113A	16.5	19.8	33	40	34	197	35	40	36	199		
	115A	33.0	39.7	58	60	53	197	60	60	55	199		
	114A+116A	41.7	50.2	71	80	65	197	73	80	67	199		
115A+113A	50.0	60.1	69	80	76	197	71	80	79	199			
575-3-60	STD	NONE	-	-	23	30	23	142	27	30	28	146	
		118A	17.0	20.4	29	30	27	142	34	35	31	146	
		119A	34.0	40.9	55	60	50	142	60	60	55	146	
	118A+119A	51.0	61.3	65	70	74	142	70	80	78	146		
	MED	NONE	-	-	23	30	23	142	27	30	28	146	
		118A	17.0	20.4	29	30	27	142	34	35	31	146	
		119A	34.0	40.9	55	60	50	142	60	60	55	146	
	118A+119A	51.0	61.3	65	70	74	142	70	80	78	146		
	HIGH	NONE	-	-	26	30	27	156	29	35	31	160	
118A		17.0	20.4	33	35	30	156	38	40	34	160		
119A		34.0	40.9	59	60	53	156	63	70	58	160		
118A+119A	51.0	61.3	69	80	77	156	74	80	81	160			

ELECTRICAL INFORMATION

Table 28 – Unit Wire/Fuse or HACR Breaker Sizing Data with Single Speed Indoor Fan Motor (cont.)

UNIT	NO M. V – Ph – HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEAT-ER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS180	208/230-3-60	STD	NONE	–	–	70/70	80/80	72/72	412	73/73	80/80	77/77	416
			291A	12.4/16.5	34.4/39.7	70/70	80/80	72/72	412/412	73/73	80/80	77/77	416/416
			294A	25.2/33.5	69.9/80.6	98/112	100/125	90/102	412/412	103/116	110/125	94/107	416/416
			288A+294A	32.7/43.5	90.7/104.7	124/142	125/150	114/130	412/412	129/146	150/150	118/134	416/416
			291A+294A	37.6/50.0	104.3/120.3	141/131	150/150	130/148	412/412	146/136	150/150	134/152	416/416
			294A+294A	50.3/67.0	139.7/161.2	151/172	175/200	170/195	412/412	155/177	175/200	175/199	416/416
		MED	NONE	–	–	72	80	75	426	76	100	79	430
			291A	12.4/16.5	34.4/39.7	72/72	80/80	75/75	426/426	76/76	100/100	79/79	430/430
			294A	25.2/33.5	69.9/80.6	101/114	110/125	93/105	426/426	106/119	110/125	97/109	430/430
	HIGH	288A+294A	32.7/43.5	90.7/104.7	127/145	150/150	116/133	426/426	132/149	150/150	121/137	430/430	
		291A+294A	37.6/50.0	104.3/120.3	144/134	150/150	132/151	426/426	149/139	150/150	137/155	430/430	
		294A+294A	50.3/67.0	139.7/161.2	153/175	175/200	173/198	426/426	158/180	175/200	177/202	430/430	
		NONE	–	–	82	100	86	432	85	100	91	436	
		291A	12.4/16.5	34.4/39.7	82/82	100/100	86/86	432/432	85/85	100/100	91/91	436/436	
		294A	25.2/33.5	69.9/80.6	113/127	125/150	104/116	432/432	118/131	125/150	108/121	436/436	
	460-3-60	STD	288A+294A	32.7/43.5	90.7/104.7	139/157	150/175	128/144	432/432	144/162	150/175	132/148	436/436
			291A+294A	37.6/50.0	104.3/120.3	156/146	175/175	143/162	432/432	161/151	175/175	148/166	436/436
			294A+294A	50.3/67.0	139.7/161.2	166/187	175/225	184/209	432/432	170/192	175/225	188/213	436/436
NONE			–	–	35	45	36	242	37	45	38	244	
292A			16.5	19.9	35	45	36	242	37	45	38	244	
295A			33.5	40.3	56	60	51	242	58	60	53	244	
MED		289A+295A	43.5	52.3	71	80	65	242	73	80	67	244	
		292A+295A	50.0	60.2	66	70	74	242	68	80	76	244	
		295A+295A	67.0	80.6	86	100	98	242	89	100	100	244	
HIGH	NONE	–	–	36	45	38	249	38	50	40	251		
	292A	16.5	19.9	36	45	38	249	38	50	40	251		
	295A	33.5	40.3	57	60	52	249	60	60	55	251		
	289A+295A	43.5	52.3	72	80	66	249	75	80	68	251		
	292A+295A	50.0	60.2	67	80	75	249	70	80	77	251		
	295A+295A	67.0	80.6	88	100	99	249	90	100	101	251		
575-3-60	STD	NONE	–	–	41	50	43	252	43	50	45	254	
		292A	16.5	19.9	41	50	43	252	43	50	45	254	
		295A	33.5	40.3	64	70	58	252	66	70	60	254	
		289A+295A	43.5	52.3	79	80	72	252	81	90	74	254	
		292A+295A	50.0	60.2	73	80	81	252	76	80	83	254	
		295A+295A	67.0	80.6	94	100	104	252	96	100	106	254	
	MED	NONE	–	–	27	30	28	184	31	40	32	188	
		293A	16.5	15.9	27	30	28	184	31	40	32	188	
		296A	33.5	32.2	44	45	40	184	49	50	45	188	
HIGH	290A+296A	43.5	41.8	56	60	51	184	61	70	56	188		
	293A+296A	50.0	48.1	52	60	59	184	57	60	63	188		
	296A+296A	67.0	64.4	68	80	77	184	73	80	82	188		
	NONE	–	–	27	30	28	184	31	40	32	188		
	293A	16.5	15.9	27	30	28	184	31	40	32	188		
	296A	33.5	32.2	44	45	40	184	49	50	45	188		
575-3-60	MED	290A+296A	43.5	41.8	56	60	51	184	61	70	56	188	
		293A+296A	50.0	48.1	52	60	59	184	57	60	63	188	
		296A+296A	67.0	64.4	68	80	77	184	73	80	82	188	
	HIGH	NONE	–	–	33	40	35	196	37	45	39	200	
		293A	16.5	15.9	33	40	35	196	37	45	39	200	
		296A	33.5	32.2	52	60	47	196	57	60	52	200	
290A+296A	43.5	41.8	64	70	58	196	69	70	63	200			
293A+296A	50.0	48.1	60	70	66	196	65	70	70	200			
296A+296A	67.0	64.4	76	80	84	196	81	90	89	200			

ELECTRICAL INFORMATION

Table 29 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH 2 SPEED INDOOR FAN MOTOR

UNIT	NO M. V. Ph-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS090	208/230-3-60	STD	NONE	-	-	40/40	50/50	41/41	197	44/43	50/50	46/46	201
			117A	7.8/10.4	21.7/25.0	40/40	50/50	41/41	197/197	44/43	50/50	46/46	201/201
			110A	12.0/16.0	33.4/38.5	49/56	50/60	45/51	197/197	54/60	60/60	49/55	201/201
			111A	18.6/24.8	51.7/59.7	72/82	80/90	66/75	197/197	77/87	80/90	70/79	201/201
			112A	24.0/32.0	66.7/77.0	91/104	100/110	83/95	197/197	96/108	100/110	88/99	201/201
			112A+117A	31.8/42.4	88.4/102.0	118/135	125/150	108/124	197/197	123/140	125/150	113/128	201/201
		MED	NONE	-	-	43/42	50/50	45/44	227	46/46	50/50	49/48	231
			117A	7.8/10.4	21.7/25.0	43/42	50/50	45/44	227/227	46/46	50/50	49/48	231/231
			110A	12.0/16.0	33.4/38.5	53/58	60/60	48/53	227/227	58/63	60/70	53/58	231/231
			111A	18.6/24.8	51.7/59.7	76/85	80/90	69/78	227/227	81/90	90/90	74/82	231/231
			112A	24.0/32.0	66.7/77.0	95/106	100/110	87/98	227/227	99/111	100/125	91/102	231/231
			112A+117A	31.8/42.4	88.4/102.0	122/138	125/150	112/126	227/227	126/142	150/150	116/131	231/231
	HIGH	NONE	-	-	48/47	60/50	50/49	262	51/51	60/60	55/54	266	
		117A	7.8/10.4	21.7/25.0	48/48	60/50	50/49	262/262	51/52	60/60	55/54	266/266	
		110A	12.0/16.0	33.4/38.5	59/64	60/70	54/59	262/262	64/69	70/70	58/63	266/266	
		111A	18.6/24.8	51.7/59.7	82/91	90/100	75/83	262/262	87/96	90/100	79/88	266/266	
		112A	24.0/32.0	66.7/77.0	101/113	110/125	92/103	262/262	106/117	110/125	97/108	266/266	
		112A+117A	31.8/42.4	88.4/102.0	128/144	150/150	117/132	262/262	133/149	150/150	122/136	266/266	
	460-3-60	STD	NONE	-	-	19	20	19	97	20	25	21	99
			116A	13.9	16.7	25	25	23	97	27	30	25	99
			113A	16.5	19.8	29	30	26	97	31	35	28	99
			114A	27.8	33.4	46	50	42	97	48	50	44	99
			115A	33.0	39.7	54	60	49	97	56	60	51	99
			114A+116A	41.7	50.2	67	70	61	97	69	70	63	99
MED		NONE	-	-	20	25	20	113	21	25	22	115	
		116A	13.9	16.7	26	30	24	113	28	30	26	115	
		113A	16.5	19.8	30	30	27	113	32	35	29	115	
		114A	27.8	33.4	47	50	43	113	49	50	45	115	
		115A	33.0	39.7	55	60	50	113	57	60	52	115	
		114A+116A	41.7	50.2	68	70	62	113	70	70	64	115	
HIGH	NONE	-	-	22	25	23	130	24	30	25	132		
	116A	13.9	16.7	29	30	27	130	32	35	29	132		
	113A	16.5	19.8	33	35	30	130	35	35	32	132		
	114A	27.8	33.4	50	50	46	130	52	60	48	132		
	115A	33.0	39.7	58	60	53	130	60	60	55	132		
	114A+116A	41.7	50.2	71	80	65	130	73	80	67	132		
575-3-60	STD	NONE	-	-	14	15	14	79	18	20	19	83	
		118A	17.0	20.4	29	30	27	79	34	35	31	83	
		119A	34.0	40.9	55	60	50	79	60	60	55	83	
	MED	NONE	-	-	16	20	16	92	19	25	21	96	
		118A	17.0	20.4	32	35	29	92	36	40	33	96	
		119A	34.0	40.9	57	60	52	92	62	70	57	96	
HIGH	NONE	-	-	18	20	18	106	22	25	23	110		
	118A	17.0	20.4	34	35	31	106	38	40	35	110		
	119A	34.0	40.9	59	60	54	106	64	70	59	110		

ELECTRICAL INFORMATION

Table 29 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH 2 SPEED INDOOR FAN MOTOR (cont.)

UNIT	NO M. V-Ph-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER**A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
FRAS102	208/230-3-60	STD	NONE	-	-	41/41	50/50	43/42	212	45/45	50/50	47/47	216
			117A	7.8/10.4	21.7/25.0	41/41	50/50	43/42	212/212	45/45	50/50	47/47	216/216
			110A	12.0/16.0	33.4/38.5	49/56	50/60	45/51	212/212	54/60	60/60	49/55	216/216
			111A	18.6/24.8	51.7/59.7	72/82	80/90	66/75	212/212	77/87	80/90	70/79	216/216
			112A	24.0/32.0	66.7/77.0	91/104	100/110	83/95	212/212	96/108	100/110	88/99	216/216
		112A+117A	31.8/42.4	88.4/102.0	118/135	125/150	108/124	212/212	123/140	125/150	113/128	216/216	
		MED	NONE	-	-	42/42	50/50	44/44	216	46/46	60/50	48/48	220
			117A	7.8/10.4	21.7/25.0	42/42	50/50	44/44	216/216	46/46	60/50	48/48	220/220
			110A	12.0/16.0	33.4/38.5	51/57	60/60	47/52	216/216	56/62	60/70	51/56	220/220
	111A		18.6/24.8	51.7/59.7	74/84	80/90	68/76	216/216	79/88	80/90	72/81	220/220	
	112A		24.0/32.0	66.7/77.0	93/105	100/110	85/96	216/216	97/110	100/110	89/101	220/220	
	112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	216/216	125/141	125/150	114/129	220/220		
	HIGH	NONE	-	-	46/45	60/50	48/47	266	50/49	60/60	53/52	270	
		117A	7.8/10.4	21.7/25.0	46/45	60/50	48/47	266/266	50/49	60/60	53/52	270/270	
		110A	12.0/16.0	33.4/38.5	56/61	60/70	51/56	266/266	60/66	60/70	55/60	270/270	
		111A	18.6/24.8	51.7/59.7	79/87	80/90	72/80	266/266	83/92	90/100	76/84	270/270	
		112A	24.0/32.0	66.7/77.0	97/109	100/110	89/100	266/266	102/114	110/125	93/104	270/270	
	112A+117A	31.8/42.4	88.4/102.0	124/140	125/150	114/129	266/266	129/145	150/150	118/133	270/270		
	460-3-60	STD	NONE	-	-	19	25	20	111	21	25	22	113
			116A	13.9	16.7	25	25	23	111	27	30	25	113
			113A	16.5	19.8	29	30	26	111	31	35	28	113
			114A	27.8	33.4	46	50	42	111	48	50	44	113
			115A	33.0	39.7	54	60	49	111	56	60	51	113
		114A+116A	41.7	50.2	67	70	61	111	69	70	63	113	
MED		NONE	-	-	20	25	21	114	22	25	23	116	
		116A	13.9	16.7	26	30	24	114	28	30	26	116	
		113A	16.5	19.8	30	30	27	114	32	35	29	116	
	114A	27.8	33.4	47	50	43	114	49	50	45	116		
115A	33.0	39.7	55	60	50	114	57	60	52	116			
114A+116A	41.7	50.2	68	70	62	114	70	70	64	116			
HIGH	NONE	-	-	21	25	22	139	23	25	24	141		
	116A	13.9	16.7	27	30	25	139	30	30	27	141		
	113A	16.5	19.8	31	35	28	139	34	35	30	141		
	114A	27.8	33.4	48	50	44	139	51	60	46	141		
	115A	33.0	39.7	56	60	51	139	58	60	53	141		
114A+116A	41.7	50.2	69	70	63	139	72	80	65	141			
575-3-60	STD	NONE	-	-	17	20	17	87	21	25	21	91	
		118A	17.0	20.4	29	30	27	87	34	35	31	91	
		119A	34.0	40.9	55	60	50	87	60	60	55	91	
	MED	NONE	-	-	17	20	18	91	21	25	22	95	
		118A	17.0	20.4	30	30	27	91	35	35	32	95	
		119A	34.0	40.9	56	60	51	91	61	70	55	95	
	HIGH	NONE	-	-	18	20	19	100	22	25	23	104	
		118A	17.0	20.4	32	35	29	100	36	40	33	104	
		119A	34.0	40.9	57	60	52	100	62	70	57	104	

ELECTRICAL INFORMATION

Table 29 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH 2 SPEED INDOOR FAN MOTOR (cont.)

UNIT	NO. M. V. PH-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrdr fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS120	208/230-3-60	STD	NONE	-	-	46/46	60/60	48/47	255	50/50	60/60	52/52	259
			117A	7.8/10.4	21.7/25.0	46/46	60/60	48/47	255/255	50/50	60/60	52/52	259/259
			110A	12.0/16.0	33.4/38.5	51/57	60/60	48/52	255/255	56/62	60/70	52/56	259/259
			112A	24.0/32.0	66.7/77.0	93/105	100/110	85/96	255/255	97/110	100/110	89/101	259/259
			112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	255/255	125/141	125/150	114/129	259/259
		112A+110A	37.6/50.0	104.2/120.3	140/129	150/150	128/146	255/255	144/134	150/150	132/151	259/259	
		MED	NONE	-	-	50/49	60/60	52/51	305	54/53	60/60	56/55	309
			117A	7.8/10.4	21.7/25.0	50/49	60/60	52/51	305/305	54/53	60/60	56/55	309/309
			110A	12.0/16.0	33.4/38.5	56/61	60/70	52/56	305/305	60/66	60/70	56/60	309/309
			112A	24.0/32.0	66.7/77.0	97/109	100/110	89/100	305/305	102/114	110/125	93/104	309/309
			112A+117A	31.8/42.4	88.4/102.0	124/140	125/150	114/129	305/305	129/145	150/150	118/133	309/309
		112A+110A	37.6/50.0	104.2/120.3	144/133	150/150	132/150	305/305	149/138	150/150	137/154	309/309	
	HIGH	NONE	-	-	53/52	60/60	55/54	316	56/55	60/60	60/59	320	
		117A	7.8/10.4	21.7/25.0	53/52	60/60	55/54	316/316	56/55	60/60	60/59	320/320	
		110A	12.0/16.0	33.4/38.5	59/64	60/70	55/59	316/316	64/69	70/70	60/63	320/320	
		112A	24.0/32.0	66.7/77.0	101/113	110/125	92/103	316/316	106/117	110/125	97/108	320/320	
		112A+117A	31.8/42.4	88.4/102.0	128/144	150/150	117/132	316/316	133/149	150/150	122/136	320/320	
	112A+110A	37.6/50.0	104.2/120.3	148/137	150/150	135/153	316/316	152/141	175/175	140/157	320/320		
	460-3-60	STD	NONE	-	-	23	30	24	122	25	30	26	124
			116A	13.9	16.7	26	30	24	122	28	30	26	124
			113A	16.5	19.8	30	30	27	122	32	35	29	124
			115A	33.0	39.7	55	60	50	122	57	60	52	124
			114A+116A	41.7	50.2	68	70	62	122	70	70	64	124
		115A+113A	50.0	60.1	65	70	73	122	68	80	76	124	
MED		NONE	-	-	24	30	25	147	26	30	27	149	
		116A	13.9	16.7	27	30	25	147	30	30	27	149	
		113A	16.5	19.8	31	35	28	147	34	35	30	149	
		115A	33.0	39.7	56	60	51	147	58	60	53	149	
		114A+116A	41.7	50.2	69	70	63	147	72	80	65	149	
115A+113A		50.0	60.1	67	80	75	147	69	80	77	149		
HIGH	NONE	-	-	26	30	27	152	28	30	29	154		
	116A	13.9	16.7	29	30	27	152	32	35	29	154		
	113A	16.5	19.8	33	35	30	152	35	35	32	154		
	115A	33.0	39.7	58	60	53	152	60	60	55	154		
	114A+116A	41.7	50.2	71	80	65	152	73	80	67	154		
115A+113A	50.0	60.1	69	80	76	152	71	80	79	154			
575-3-60	STD	NONE	-	-	18	20	19	95	22	25	23	99	
		118A	17.0	20.4	30	30	27	95	35	35	32	99	
		119A	34.0	40.9	56	60	51	95	61	70	55	99	
		118A+119A	51.0	61.3	66	70	75	95	71	80	79	99	
	MED	NONE	-	-	19	25	20	104	23	25	24	108	
		118A	17.0	20.4	32	35	29	104	36	40	33	108	
		119A	34.0	40.9	57	60	52	104	62	70	57	108	
	118A+119A	51.0	61.3	67	80	76	104	72	80	80	108		
	HIGH	NONE	-	-	21	25	22	118	25	30	26	122	
118A		17.0	20.4	34	35	31	118	38	40	35	122		
119A		34.0	40.9	59	60	54	118	64	70	59	122		
118A+119A	51.0	61.3	70	80	78	118	74	80	82	122			

ELECTRICAL INFORMATION

Table 29 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH 2 SPEED INDOOR FAN MOTOR (cont.)
(Units Produced On or After 02/16/2015)

UNIT	NO M. V. Ph-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS150	208/230-3-60	STD	NONE	-	-	63/62	80/80	65/64	370	67/66	80/80	70/69	374
			117A	7.8/10.4	21.7/25.0	63/62	80/80	65/64	370/370	67/66	80/80	70/69	374/374
			110A	12.0/16.0	33.4/38.5	63/62	80/80	65/64	370/370	67/66	80/80	70/69	374/374
			112A	24.0/32.0	66.7/77.0	95/106	100/110	87/98	370/370	99/111	100/125	91/102	374/374
			112A+117A	31.8/42.4	88.4/102.0	122/138	125/150	112/126	370/370	126/142	150/150	116/131	374/374
		112A+110A	37.6/50.0	104.2/120.3	141/131	150/150	130/147	370/370	146/135	150/150	134/152	374/374	
		MED	NONE	-	-	65/64	80/80	68/67	394	69/68	80/80	72/71	398
			117A	7.8/10.4	21.7/25.0	65/64	80/80	68/67	394/394	69/68	80/80	72/71	398/398
			110A	12.0/16.0	33.4/38.5	65/64	80/80	68/67	394/394	69/68	80/80	72/71	398/398
	112A		24.0/32.0	66.7/77.0	97/109	100/110	89/100	394/394	102/114	110/125	93/104	398/398	
	112A+117A		31.8/42.4	88.4/102.0	124/140	125/150	114/129	394/394	129/145	150/150	118/133	398/398	
	112A+110A	37.6/50.0	104.2/120.3	144/133	150/150	132/150	394/394	149/138	150/150	137/154	398/398		
	HIGH	NONE	-	-	68/67	80/80	71/70	405	72/71	80/80	75/74	409	
		117A	7.8/10.4	21.7/25.0	68/67	80/80	71/70	405/405	72/71	80/80	75/74	409/409	
		110A	12.0/16.0	33.4/38.5	68/67	80/80	71/70	405/405	72/71	80/80	75/74	409/409	
		112A	24.0/32.0	66.7/77.0	101/113	110/125	92/103	405/405	106/117	110/125	97/108	409/409	
		112A+117A	31.8/42.4	88.4/102.0	128/144	150/150	117/132	405/405	133/149	150/150	122/136	409/409	
	112A+110A	37.6/50.0	104.2/120.3	148/137	150/150	135/153	405/405	152/141	175/175	140/157	409/409		
460-3-60	STD	NONE	-	-	29	35	30	184	31	40	32	186	
		116A	13.9	16.7	29	35	30	184	31	40	32	186	
		113A	16.5	19.8	30	35	30	184	32	40	32	186	
		115A	33.0	39.7	55	60	50	184	57	60	52	186	
		114A+116A	41.7	50.2	68	70	62	184	70	70	64	186	
	115A+113A	50.0	60.1	65	70	73	184	68	80	76	186		
	MED	NONE	-	-	30	40	31	196	32	40	33	198	
		116A	13.9	16.7	30	40	31	196	32	40	33	198	
		113A	16.5	19.8	31	40	31	196	34	40	33	198	
115A		33.0	39.7	56	60	51	196	58	60	53	198		
114A+116A	41.7	50.2	69	70	63	196	72	80	65	198			
115A+113A	50.0	60.1	67	80	75	196	69	80	77	198			
HIGH	NONE	-	-	31	40	33	201	33	40	35	203		
	116A	13.9	16.7	31	40	33	201	33	40	35	203		
	113A	16.5	19.8	33	40	33	201	35	40	35	203		
	115A	33.0	39.7	58	60	53	201	60	60	55	203		
	114A+116A	41.7	50.2	71	80	65	201	73	80	67	203		
115A+113A	50.0	60.1	69	80	76	201	71	80	79	203			
575-3-60	STD	NONE	-	-	24	30	24	147	27	30	29	151	
		118A	17.0	20.4	32	35	29	147	36	40	33	151	
		119A	34.0	40.9	57	60	52	147	62	70	57	151	
		118A+119A	51.0	61.3	67	80	76	147	72	80	80	151	
	MED	NONE	-	-	24	30	24	147	27	30	29	151	
		118A	17.0	20.4	32	35	29	147	36	40	33	151	
		119A	34.0	40.9	57	60	52	147	62	70	57	151	
	118A+119A	51.0	61.3	67	80	76	147	72	80	80	151		
	HIGH	NONE	-	-	25	30	26	161	29	35	31	165	
118A		17.0	20.4	34	35	31	161	38	40	35	165		
119A		34.0	40.9	59	60	54	161	64	70	59	165		
118A+119A	51.0	61.3	70	80	78	161	74	80	82	165			

ELECTRICAL INFORMATION

Table 29 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH 2 SPEED INDOOR FAN MOTOR (cont.)

(Units Produced On or Prior to 02/15/2015)

UNIT	NO. M. V-Ph-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS 150	208/230-3-60	STD	NONE	-	-	62/61	80/80	65/64	357	66/65	80/80	69/68	361
			117A	7.8/10.4	21.7/25.0	62/61	80/80	65/64	357/357	66/65	80/80	69/68	361/361
			110A	12.0/16.0	33.4/38.5	62/61	80/80	65/64	357/357	66/65	80/80	69/68	361/361
			112A	24.0/32.0	66.7/77.0	95/106	100/110	87/98	357/357	99/111	100/125	91/102	361/361
			112A+117A	31.8/42.4	88.4/102.0	122/138	125/150	112/126	357/357	126/142	150/150	116/131	361/361
			112A+110A	37.6/50.0	104.2/120.3	141/131	150/150	130/147	357/357	146/135	150/150	134/152	361/361
		MED	NONE	-	-	64/63	80/80	67/66	381	68/67	80/80	72/70	385
			117A	7.8/10.4	21.7/25.0	64/63	80/80	67/66	381/381	68/67	80/80	72/70	385/385
			110A	12.0/16.0	33.4/38.5	64/63	80/80	67/66	381/381	68/67	80/80	72/70	385/385
			112A	24.0/32.0	66.7/77.0	97/109	100/110	89/100	381/381	102/114	110/125	93/104	385/385
			112A+117A	31.8/42.4	88.4/102.0	124/140	125/150	114/129	381/381	129/145	150/150	118/133	385/385
			112A+110A	37.6/50.0	104.2/120.3	144/133	150/150	132/150	381/381	149/138	150/150	137/154	385/385
	HIGH	NONE	-	-	67/66	80/80	70/69	392	71/70	80/80	75/74	396	
		117A	7.8/10.4	21.7/25.0	67/66	80/80	70/69	392/392	71/70	80/80	75/74	396/396	
		110A	12.0/16.0	33.4/38.5	67/66	80/80	70/69	392/392	71/70	80/80	75/74	396/396	
		112A	24.0/32.0	66.7/77.0	101/113	110/125	92/103	392/392	106/117	110/125	97/108	396/396	
		112A+117A	31.8/42.4	88.4/102.0	128/144	150/150	117/132	392/392	133/149	150/150	122/136	396/396	
		112A+110A	37.6/50.0	104.2/120.3	148/137	150/150	135/153	392/392	152/141	175/175	140/157	396/396	
	460-3-60	STD	NONE	-	-	30	40	31	180	32	40	33	182
			116A	13.9	16.7	30	40	31	180	32	40	33	182
			113A	16.5	19.8	30	40	31	180	32	40	33	182
			115A	33.0	39.7	55	60	50	180	57	60	52	182
			114A+116A	41.7	50.2	68	70	62	180	70	70	64	182
			115A+113A	50.0	60.1	65	70	73	180	68	80	76	182
MED		NONE	-	-	31	40	33	192	33	40	35	194	
		116A	13.9	16.7	31	40	33	192	33	40	35	194	
		113A	16.5	19.8	31	40	33	192	34	40	35	194	
		115A	33.0	39.7	56	60	51	192	58	60	53	194	
		114A+116A	41.7	50.2	69	70	63	192	72	80	65	194	
		115A+113A	50.0	60.1	67	80	75	192	69	80	77	194	
HIGH	NONE	-	-	33	40	34	197	35	40	36	199		
	116A	13.9	16.7	33	40	34	197	35	40	36	199		
	113A	16.5	19.8	33	40	34	197	35	40	36	199		
	115A	33.0	39.7	58	60	53	197	60	60	55	199		
	114A+116A	41.7	50.2	71	80	65	197	73	80	67	199		
	115A+113A	50.0	60.1	69	80	76	197	71	80	79	199		
575-3-60	STD	NONE	-	-	24	30	25	142	28	30	30	146	
		118A	17.0	20.4	32	35	29	142	36	40	33	146	
		119A	34.0	40.9	57	60	52	142	62	70	57	146	
		118A+119A	51.0	61.3	67	80	76	142	72	80	80	146	
	MED	NONE	-	-	24	30	25	142	28	30	30	146	
		118A	17.0	20.4	32	35	29	142	36	40	33	146	
		119A	34.0	40.9	57	60	52	142	62	70	57	146	
	118A+119A	51.0	61.3	67	80	76	142	72	80	80	146		
	HIGH	NONE	-	-	26	30	27	156	30	35	32	160	
118A		17.0	20.4	34	35	31	156	38	40	35	160		
119A	34.0	40.9	59	60	54	156	64	70	59	160			
118A+119A	51.0	61.3	70	80	78	156	74	80	82	160			

ELECTRICAL INFORMATION

Table 29 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH 2 SPEED INDOOR FAN MOTOR (cont.)

UNIT	NO M. V. - Ph-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
			CRHEATER**A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAS180	208/230-3-60	STD	NONE	-	-	70/69	80/80	73/72	393	74/73	80/80	77/76	397
			291A	12.4/16.5	34.4/39.7	70/69	80/80	73/72	393/393	74/73	80/80	77/76	397/397
			294A	25.2/33.5	69.9/80.6	99/111	100/125	90/102	393/393	103/116	110/125	95/106	397/397
			288A+294A	32.7/43.5	90.7/104.7	125/141	125/150	114/129	393/393	129/146	150/150	119/134	397/397
			291A+294A	37.6/50.0	104.3/120.3	142/131	150/150	130/147	393/393	146/135	150/150	134/152	397/397
			294A+294A	50.3/67.0	139.7/161.2	151/171	175/200	171/194	393/393	156/176	175/200	175/199	397/397
		MED	NONE	-	-	72/71	80/80	75/74	417	76/75	100/90	79/78	421
			291A	12.4/16.5	34.4/39.7	72/71	80/80	75/74	417/417	76/75	100/90	79/78	421/421
			294A	25.2/33.5	69.9/80.6	101/113	110/125	93/104	417/417	106/118	110/125	97/108	421/421
			288A+294A	32.7/43.5	90.7/104.7	127/144	150/150	117/132	417/417	132/148	150/150	121/136	421/421
			291A+294A	37.6/50.0	104.3/120.3	144/133	150/150	132/150	417/417	149/138	150/150	137/154	421/421
			294A+294A	50.3/67.0	139.7/161.2	154/174	175/200	173/197	417/417	158/179	175/200	177/201	421/421
	HIGH	NONE	-	-	82	100	86	432	85	100	91	436	
		291A	12.4/16.5	34.4/39.7	82/82	100/100	86/86	432/432	85/85	100/100	91/91	436/436	
		294A	25.2/33.5	69.9/80.6	113/127	125/150	104/116	432/432	118/131	125/150	108/121	436/436	
		288A+294A	32.7/43.5	90.7/104.7	139/157	150/175	128/144	432/432	144/162	150/175	132/148	436/436	
		291A+294A	37.6/50.0	104.3/120.3	156/146	175/175	143/162	432/432	161/151	175/175	148/166	436/436	
		294A+294A	50.3/67.0	139.7/161.2	166/187	175/225	184/209	432/432	170/192	175/225	188/213	436/436	
	460-3-60	STD	NONE	-	-	35	45	36	233	37	45	38	235
			292A	16.5	19.9	35	45	36	233	37	45	38	235
			295A	33.5	40.3	56	60	51	233	58	60	53	235
			289A+295A	43.5	52.3	71	80	65	233	73	80	67	235
			292A+295A	50.0	60.2	65	70	74	233	68	80	76	235
			295A+295A	67.0	80.6	86	90	97	233	88	100	99	235
MED		NONE	-	-	36	45	37	245	38	50	39	247	
		292A	16.5	19.9	36	45	37	245	38	50	39	247	
		295A	33.5	40.3	57	60	52	245	59	60	54	247	
		289A+295A	43.5	52.3	72	80	66	245	74	80	68	247	
		292A+295A	50.0	60.2	67	80	75	245	69	80	77	247	
		295A+295A	67.0	80.6	87	100	98	245	89	100	100	247	
HIGH	NONE	-	-	41	50	43	252	43	50	45	254		
	292A	16.5	19.9	41	50	43	252	43	50	45	254		
	295A	33.5	40.3	64	70	58	252	66	70	60	254		
	289A+295A	43.5	52.3	79	80	72	252	81	90	74	254		
	292A+295A	50.0	60.2	73	80	81	252	76	80	83	254		
	295A+295A	67.0	80.6	94	100	104	252	96	100	106	254		
575-3-60	STD	NONE	-	-	29	35	30	184	32	40	34	188	
		293A	16.5	15.9	29	35	30	184	32	40	34	188	
		296A	33.5	32.2	46	50	42	184	51	60	47	188	
		290A+296A	43.5	41.8	58	60	53	184	63	70	58	188	
		293A+296A	50.0	48.1	54	60	60	184	59	60	65	188	
		296A+296A	67.0	64.4	70	80	79	184	75	80	84	188	
	MED	NONE	-	-	29	35	30	184	32	40	34	188	
		293A	16.5	15.9	29	35	30	184	32	40	34	188	
		296A	33.5	32.2	46	50	42	184	51	60	47	188	
		290A+296A	43.5	41.8	58	60	53	184	63	70	58	188	
		293A+296A	50.0	48.1	54	60	60	184	59	60	65	188	
		296A+296A	67.0	64.4	70	80	79	184	75	80	84	188	
HIGH	NONE	-	-	33	40	35	196	37	45	39	200		
	293A	16.5	15.9	33	40	35	196	37	45	39	200		
	296A	33.5	32.2	52	60	47	196	57	60	52	200		
	290A+296A	43.5	41.8	64	70	58	196	69	70	63	200		
	293A+296A	50.0	48.1	60	70	66	196	65	70	70	200		
	296A+296A	67.0	64.4	76	80	84	196	81	90	89	200		

LEGEND:

- BRKR - Circuit breaker
- CO - Convenience outlet
- DISC - Disconnect
- FLA - Full load amps
- IFM - Indoor fan motor
- LRA - Locked rotor amps
- MCA - Minimum circuit amps
- MOCP - MAX FUSE or HACR Breaker
- PE - Power exhaust
- UNPWR CO - Unpowered convenient outlet



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
(BC) 231 - 227 = 4 v
(AC) 227 - 226 = 1 v
Maximum deviation is 4 v.
Determine percent of voltage imbalance.

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

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

Example: Supply voltage is 230-3-60

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.

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 and X (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 (Single speed indoor fan motor) —

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.

Cooling (2-speed indoor fan motor) —

Per ASHRAE 90.1 standard section 6.4.3.10.b, during the first stage of cooling operation the VFD will adjust the fan motor to provide 2/3rd of the total cfm established for the unit. When a call for the second stage of cooling is required, the VFD will allow the total cfm for the unit established (100%).

Heating

NOTE: The RAS 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 2-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 and X 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 and X 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 and X 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 and X 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 and X damper to the minimum position.

On the initial power to the EconoMi\$er IV and X 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 and X damper will be open at maximum position. EconoMi\$er IV and X operation is limited to a single compressor.

2-Speed Note: When operating in ventilation mode only, the indoor fan motor will automatically adjust to 2/3rd of the total cfm established.

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.

SEQUENCE OF OPERATION (cont.)

Optional Hot Gas Re-Heat Dehumidification System

Units with the factory equipped Hot Gas Re-Heat option are capable of providing multiple modes of improved dehumidification as a variation of the normal cooling cycle. The Hot Gas Re-Heat 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.

The Hot Gas Re-Heat system provides three sub-modes of operation: Cool, Reheat1, and Reheat2.

Cool mode – provides a normal ratio of Sensible and Latent Cooling effect from the evaporator coil.

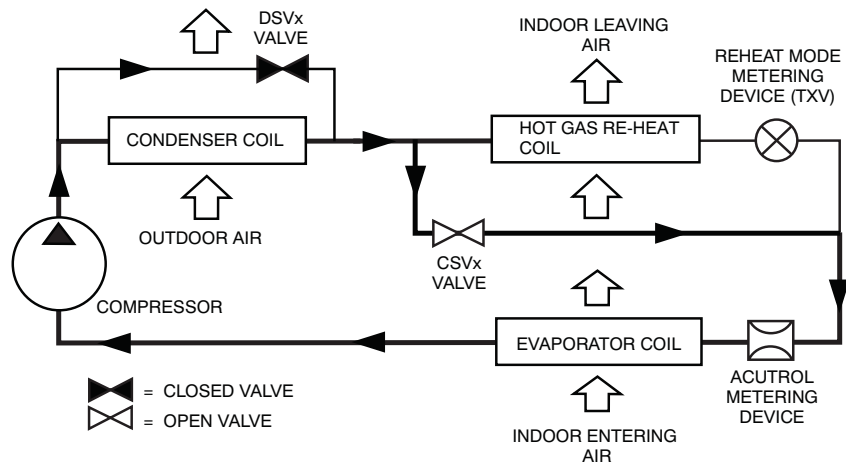
Reheat1 – provides increased Latent Cooling while slightly reducing the Sensible Cooling effect.

Reheat2 – provides normal Latent Cooling but with null or minimum Sensible Cooling effect delivered to the space.

The Reheat1 and Reheat2 modes are available when the unit is not in a Heating mode and when the Low Ambient Lockout switch is closed.

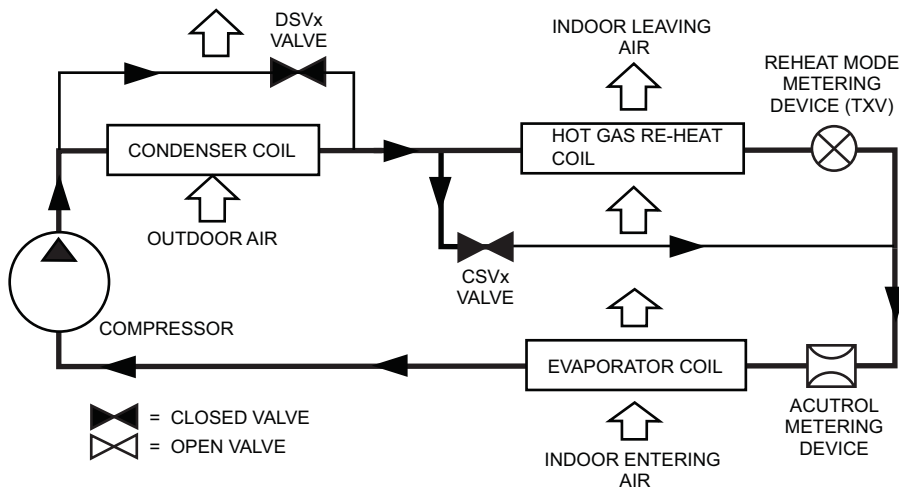
The following diagrams depict piping for Single Stage cooling units.

SEQUENCE OF OPERATION (cont.)



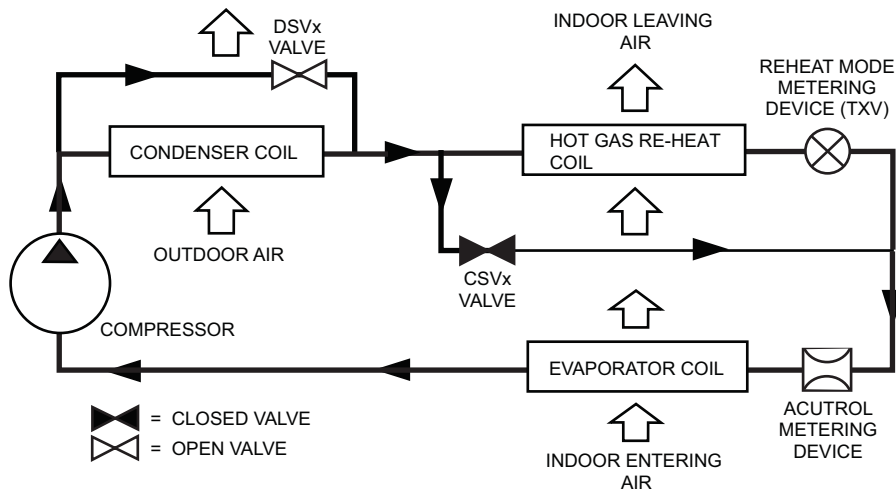
C12647B

Normal Cooling Mode – Hot Gas Re-Heat System with Single Stage Cooling



C12648B

Subcooling Mode (Reheat 1) – Hot Gas Re-Heat System with Single Stage Cooling



C12649B

Hot Gas Reheat Mode (Reheat 2) – Hot Gas Re-Heat System with Single Stage Cooling

Cooling Only/Electric Heat Packaged Rooftop

HVAC Guide Specifications

Size Range: 3 to 15 Nominal Tons

Section	Description
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23 06 80	Schedules for Decentralized HVAC Equipment
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23 06 80.13	Decentralized Unitary HVAC Equipment Schedule
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23 06 80.13.A.	Rooftop unit schedule
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1. Schedule is per the project specification requirements.

23 07 16	HVAC Equipment Insulation
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23 07 16.13	Decentralized, Rooftop Units:
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23 07 16.13.A.	Evaporator fan compartment:
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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:
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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
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23 09 13.23	Sensors and Transmitters
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23 09 13.23.A.	Thermostats
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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 33	Electric and Electronic Control System for HVAC
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23 09 33.13	Decentralized, Rooftop Units:
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23 09 33.13.A.	General:
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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:
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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
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23 09 93.13	Decentralized, Rooftop Units:
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23 09 93.13	INSERT SEQUENCE OF OPERATION
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23 40 13	Panel Air Filters
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23 40 13.13	Decentralized, Rooftop Units:
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23 40 13.13.A.	Standard filter section
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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 (RAS036-180)

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, R-410A 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. Unit shall be rated in accordance with AHRI Standards 210/240 and 340/360.
3. Unit shall be designed to conform to ASHRAE 15.
4. 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.
5. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
6. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).
7. Unit shall be designed in accordance with ISO 9001:2000, and shall be manufactured in a facility registered by ISO 9001:2000.
8. Roof curb shall be designed to conform to NRCA Standards.
9. 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.
10. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
11. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.
12. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.
13. High Efficient Motors listed shall meet section 313 of the Energy Independence and Security Act of 2007 (EISA 2007).

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

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

23 81 19.13.D. Project Conditions

1. As specified in the contract.

23 81 19.13.E. Project Conditions

1. As specified in the contract.

23 81 19.13.F. Operating Characteristics

1. Unit shall be capable of starting and running at 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 airflow on all models. No special kit required on 04-14 models. Supply duct kit required for 16 size model only.
6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.

23 81 19.13.G. Electrical Requirements

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

23 81 19.13.H. Unit Cabinet

1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a pre-painted baked enamel finish on all externally exposed surfaces.

2. Unit cabinet exterior paint shall be: film thickness, (dry) 0.003 inches minimum, gloss (per ASTM D523, 60°F): 60, Hardness: H-2H Pencil hardness.
3. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 210/240 or 340/360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 1/2-in. thick, 1 lb density, flexible fiberglass insulation, neoprene coated on the air side. Aluminum foil-faced fiberglass insulation shall be used in the heat compartment.
4. Base of unit shall have a minimum of four locations for thru-the-base gas and electrical connections (factory installed or field installed), standard.
5. Base Rail
 - a. Unit shall have base rails on a minimum of 2 sides.
 - b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
 - c. Holes shall be provided in the base rail for moving the rooftop by fork truck.
 - d. Base rail shall be a minimum of 16 gauge thickness.
6. Condensate pan and connections:
 - a. Shall be 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 and 16 size.
8. Electrical Connections
 - a. All unit power wiring shall enter unit cabinet at a single, factory-prepared, knockout location.
 - b. Thru-the-base capability
 - (1.) Standard unit shall have a thru-the-base electrical location(s) using a raised, embossed portion of the unit basepan.
 - (2.) Optional, factory-approved, water-tight connection method must be used for thru-the-base electrical connections.
 - (3.) No basepan penetration, other than those authorized by the manufacturer, is permitted.
9. Component access panels (standard)
 - a. Cabinet panels shall be easily removable for servicing.
 - b. Unit shall have one factory installed, tool-less, removable, filter access panel.
 - c. Panels covering control box, indoor fan, indoor fan motor, gas components (where applicable), and compressors shall have molded composite handles.
 - d. Handles shall be UV modified, composite. permanently attached, and recessed into the panel.
 - e. Screws on the vertical portion of all removable access panel shall engage into heat resistant, molded composite collars.
 - f. Collars shall be removable and easily replaceable using manufacturer recommended parts.

23 81 19.13.I. N/A

23 81 19.13.J. Coils

1. Standard Aluminum fin – Copper Tube Coils:
 - a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.
 - b. Evaporator coils shall be leak tested to 150 psig, pressure tested to 450 psig, and qualified to UL 1995 burst test at 1775 psig.
 - c. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 1995 burst test at 1980 psig.
2. Optional Pre-coated aluminum-fin condenser coils (3 Phase Models Only):
 - a. Shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments.
 - b. Coating shall be applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube.
 - c. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.
3. Optional Copper-fin evaporator and condenser coils (3 Phase Models Only):
 - a. Shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets.
 - b. Galvanized steel tube sheets shall not be acceptable.
 - c. A polymer strip shall prevent coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan.
4. Optional E-coated aluminum-fin evaporator and condenser coils (3 Phase Models Only):

- a. Shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins.
 - b. Coating process shall ensure complete coil encapsulation of tubes, fins and headers.
 - c. Color shall be high gloss black with gloss per ASTM D523–89.
 - d. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges.
 - e. Superior hardness characteristics of 2H per ASTM D3363–92A and cross-hatch adhesion of 4B–5B per ASTM D3359–93.
 - f. Impact resistance shall be up to 160 in.-lb (ASTM D2794–93).
 - g. Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247–92 and ASTM D870–92).
 - h. Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117–90.
5. Optional E-coated aluminum-fin, aluminum tube condenser coils:
- a. Shall have a flexible epoxy polymer coating uniformly applied to all coil external surface areas without material bridging between fins or louvers.
 - b. Coating process shall ensure complete coil encapsulation, including all exposed fin edges.
 - c. E-coat thickness of 0.8 to 1.2 mil with top coat having a uniform dry film thickness from 1.0 to 2.0 mil on all external coil surface areas, including fin edges, shall be provided.
 - d. Shall have superior hardness characteristics of 2H per ASTM D3363–00 and cross-hatch adhesion of 4B–5B per ASTM D3359–02.
 - e. Shall have superior impact resistance with no cracking, chipping or peeling per NSF/ANSI 51–2002 Method 10.2.

23 81 19.13.K. Refrigerant Components

- 1. Refrigerant circuit shall include the following control, safety, and maintenance features:
 - a. 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 and 16 size 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 galvalum blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.
- 23 81 19.13.O. Special Features, Options and Accessories
1. 2-Speed Indoor Fan Motor System for 2-stage cooling models only.
 - a. Evaporator fan motor:
 - (1.) Shall have permanently lubricated bearings.
 - (2.) Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating.
 - (3.) Shall be Variable Frequency duty and 2-speed control.
 - (4.) Shall contain motor shaft grounding ring to prevent electrical bearing fluting damage by safely diverting harmful shaft voltages and bearing currents to ground.
 2. Variable Frequency Drive (VFD). Only available on 2-speed indoor fan motor option:
 - a. Shall be installed inside the unit cabinet, mounted, wired and tested.
 - b. Shall contain Electromagnetic Interference (EMI) frequency protection.
 - c. Insulated Gate Bi-Polar Transistors (IGBT) used to produce the output pulse width modulated (PWM) waveform, allowing for quiet motor operation.
 - d. Self diagnostics with fault and power code LED indicator. Field accessory Display Kit available for further diagnostics and special setup applications.
 - e. RS485 capability standard.
 - f. Electronic thermal overload protection.
 - g. 5% swinging chokes for harmonic reduction and improved power factor.
 - h. All printed circuit boards shall be conformal coated.
 3. Integrated EconoMi\$er IV, EconoMi\$er2, and EconoMi\$er X **standard leak rate models**. (Factory installed on 3 phase models only. Field installed on all 3 and 1 phase models)
 - a. Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
 - b. Independent modules for vertical or horizontal return configuration 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. Standard leak rate shall be equipped with dampers not to exceed 2% leakage at 1 in. wg pressure differential.
 - g. Economizer controller on EconoMi\$er IV models shall be Honeywell W7212 that provides:
 - (1.) Combined minimum and DCV maximum damper position potentiometers with compressor staging relay.
 - (2.) Functions with solid state analog enthalpy or dry bulb changeover control sensing.
 - (3.) Contain LED indicates for:
 - when free cooling is available, when module is in DCV mode, when exhaust fan contact is closed.
 - h. Economizer controller on EconoMi\$er X models shall be the Honeywell W7220 that provides:
 - (1.) 2-line LCD interface screen for setup, configuration and troubleshooting.

- (2.) On-board Fault Detection and Diagnostics (FDD) that senses and alerts when the economizer is not operating properly, per California Title 24.
- (3.) Sensor failure loss of communication identification
- (4.) Automatic sensor detection
- (5.) Capabilities for use with multiple-speed indoor fan systems
- (6.) Utilize digital sensors: Dry bulb and Enthalpy
- i. Economizer controller on EconoMi\$er 2 models with PremierLink shall be 4–20mA design and controlled by the PremierLink controller. PremierLink does not comply with California Title 24 Fault Detection & Diagnostic (FDD) requirements.
- j. Economizer controller on EconoMi\$er 2 models with RTU Open models shall be a 4–20mA design controlled directly by the RTU Open controller. RTU Open meets California Title 24 Fault Detection & Diagnostic (FDD) requirements.
- k. Shall be capable of introducing up to 100% outdoor air.
- l. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air and contain seals that meet ASHRAE 90.1 requirements.
- m. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
- n. Dry bulb outdoor air temperature sensor shall be provided as standard. Enthalpy sensor is also available on factory installed only. Outdoor air sensor setpoint shall be adjustable and shall range from 40 to 100F /4 to 38C. Additional sensor options shall be available as accessories.
- o. 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%.
- p. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy.
- q. Dampers shall be completely closed when the unit is in the unoccupied mode.
- r. Economizer controller shall accept a 2–10 Vdc CO2 sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.
- s. Compressor lockout temperature on W7220 is adjustable from –45°F to 80°F, set at a factory default of 32°F. Others shall open at 35°F (2°C) and closes at 50°F (10°C).
- t. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
- u. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
- 4. Integrated EconoMi\$er2, and EconoMi\$er X **Ultra Low Leak rate models.**(Factory installed on 3 phase models only. Field installed on all 3 and 1 phase models)
 - a. Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
 - b. Independent modules for vertical or horizontal return configuration 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. Ultra Low Leak design meets California Title 24 section 140.4 and ASHRAE 90.1 requirements for 4 cfm per sq.ft. on the outside air dampers and 10 cfm per sq. ft. on the return dampers.
 - g. Economizer controller on EconoMi\$er X models shall be the Honeywell W7220 that provides:
 - (1.) 2–line LCD interface screen for setup, configuration and troubleshooting
 - (2.) On-board Fault Detection and Diagnostics (FDD) that senses and alerts when the economizer is not operating properly, per California Title 24.
 - (3.) Sensor failure loss of communication identification
 - (4.) Automatic sensor detection
 - (5.) Capabilities for use with multiple-speed indoor fan systems
 - (6.) Utilize digital sensors: Dry bulb and Enthalpy
 - h. Economizer controller on EconoMi\$er 2 models with RTU Open models shall be a 4–20mA design controlled directly by the RTU Open controller. RTU Open meets California Title 24 Fault Detection & Diagnostic (FDD) requirements.
 - i. Shall be capable of introducing up to 100% outdoor air.
 - j. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air and contain seals that meet ASHRAE 90.1 requirements.

- k. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
 - l. Dry bulb outdoor air temperature sensor shall be provided as standard. Enthalpy sensor is also available on factory installed only. 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.
 - m. 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%.
 - n. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy.
 - o. Dampers shall be completely closed when the unit is in the unoccupied mode.
 - p. Economizer controller shall accept a 2–10 Vdc CO₂ sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.
 - q. Compressor lockout temperature on W7220 is adjustable from –45° F to 80° F, set at a factory default of 32° F. Others shall open at 35°F (2°C) and closes at 50°F (10°C).
 - r. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
 - s. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
5. Two–Position Damper (Factory installed on 3 Phase Models Only. Field installed on all 3 and 1 Phase Models)
- 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
 - i. Not available with 2–Speed Indoor Fan Motor models.
6. 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.
 - b. Not available with 2–Speed Indoor Fan Motor models.
7. Hot Gas Re–Heat Dehumidification System (3 Phase Models Only).
- a. The Hot Gas Re–Heat Dehumidification System shall be factory–installed in single stage RAS03–150 and 2–stage RAS180 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.
8. 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).
9. Condenser Coil Hail Guard Assembly (Factory installed on 3 Phase Models Only. Field installed on all 3 and 1 Phase Models)
- a. Shall protect against damage from hail.
 - b. Shall be louvered design.
10. Unit–Mounted, Non–Fused Disconnect Switch (Available on units with MOCP’s of 80 amps or less):
- 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.
- 11. Convenience Outlet
 - a. 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.
- 12. 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.
- 13. Supply Duct Cover (180 size only):
 - a. Required when field converting the factory standard vertical duct supply to horizontal duct supply configuration. One required per unit.
- 14. 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.
- 15. 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.
- 16. 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.
- 17. 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.
- 18. 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.
- 19. 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.
- 20. 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.
- 21. 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).

- 22. 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.
- 23. 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.
- 24. Disconnect Switch Bracket (180 size only)
 - a. Provides a pre-engineered and sized mounting bracket for applications requiring a unit mounted fused and non-fused disconnect of greater than 100 amps. Bracket assures that no damage will occur to coils when mounting with screws and other fasteners.
- 25. Hinged Access Panels
 - a. Shall provide easy access through integrated quarter turn latches.
 - b. Shall be on major panels of: filters, control box, fan motor and compressor.
- 26. Display Kit for Variable Frequency Drive
 - a. Kit allows the ability to access the VFD controller programs to provide special setup capabilities and diagnostics.
 - b. Kit contains display module and communication cable.
 - c. Display Kit can be permanently installed in the unit or used on any 2-Speed Indoor Fan Motor system VFD controller as needed.