

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

BUILT TO LAST, EASY TO INSTALL AND SERVICE

- One-piece, high efficiency electric cooling with a low profile, prewired, tested, and charged at the factory
- Field Convertible from vertical to horizontal airflow on all models. No special kit required on 036-150 models. Field accessory supply duct kit required for 180 size model only.
- Full perimeter base rail with built-in rigging adapters and fork truck slots
- Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection
- Fully insulated cabinet
- Single-stage or two stage cooling capacity control
- Single or dual scroll compressor with internal line-break overload protection
- All units have high and low pressure switches
- Two inch disposable fiberglass type return air filters in dedicated rack with tool-less filter access door
- Refrigerant circuits contain a liquid line filter drier to trap dirt and moisture
- Indoor and outdoor coils constructed of aluminum fins mechanically bonded to seamless copper tubes
- Newly-designed indoor refrigerant header for easier maintenance and replacement
- Exclusive non-corrosive composite condensate pan in accordance with ASHRAE 62 Standard, sloping design; side or center drain
- Belt drive evaporator-fan motor and pulley combinations available to meet any application
- Access panels with easy grip handles provide quick and easy access to the blower and blower motor, control box, and compressor.
- "No-strip" screw system has superior holding power and guides screws into position while preventing the screw from stripping the unit's metal.
- Newly designed terminal board facilitates simple safety circuit troubleshooting and simplified control box arrangement
- Outdoor temperature cooling operation range up to 115°F (46°C) and down to 25°F (-4°C) using winter start kit
- Fixed orifice metering devices on all models to precisely control refrigerant flow
- Large, laminated control wiring and power wiring drawings are affixed to unit to make troubleshooting easy
- Standard, medium and high static fan motor options available
- Capable of thru-the-base or thru-the-curb electrical routing
- Single point electrical connections

WARRANTY

- 5 Year limited warranty on compressor
- 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 | 99,000 | 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

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MODEL NOMENCLATURE

| 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) 090 = 7.5 Tons (Dual Compressor) 101 = 8.5 Tons (Single Compressor) 102 = 8.5 Tons (Dual Compressor) 121 = 10 Tons (Single 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 (See spec sheet for actual capacity) | | | | | | | | | | | | | | |
| A = Standard Motor C = Medium Static Motor B = High Static Motor (6 - 12.5 ton, 3 phase models only) E = High Static, High Efficiency Motor (15 ton only) | | | | | | | | | | | | | | |
| Motor Option | | | | | | | | | | | | | | |
| 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 P = 2-Position damper | | | | | | | | | | | | | | |
| Outdoor Air Options / Control (See spec sheet for details) | | | | | | | | | | | | | | |
| 0A = No Options 4B = Non-Fused Disconnect AT = Non-powered 115v C.O. BR = Supply Air Smoke Detector BA = Non-powered 115v C.O. + Supply Air Smoke Detector 7C = Non-Fused Disconnect + Non-Powered 115v C.O. 7K = Non-Fused Disconnect + Non-Powered 115v C.O. + SA Smoke detector 8A = Non-Fused Disconnect + SA Smoke detector | | | | | | | | | | | | | | |
| Factory Installed Options | | | | | | | | | | | | | | |
| A = Aluminum / Copper Cond & Evap Coil B = Precoat Alum/Copper Cond & Alum / Copper Evap C = E-Coated Alum/Copper Cond & Alum / Copper Evap D = E-Coated Alum / Copper Cond & Evap E = Copper/Copper Cond & Alum/Copper Evap F = Copper/Copper Cond & Evap | | | | | | | | | | | | | | |
| Condenser / Evaporator Coil Configuration | | | | | | | | | | | | | | |
| A = Sales Digit | | | | | | | | | | | | | | |

Table 1 – FACTORY INSTALLED OPTIONS AND FIELD INSTALLED ACCESSORIES

| CATEGORY | ITEM | FACTORY INSTALLED OPTION | FIELD INSTALLED ACCESSORY |
|--|---|--------------------------|---------------------------|
| Cabinet | Thru-the-base electrical connections | | X |
| | Supply Duct Cover (15 ton only) | | X |
| Coil Options | Copper/Copper indoor and/or outdoor coils | X | |
| | Pre-coated outdoor coils | X | |
| | Premium, E-coated outdoor coils | X | |
| Condenser Protection | Condenser coil hail guard (louvered design) | | X |
| Controls | Smoke detector (supply air) | X | |
| | Time Guard II compressor delay control circuit | | X |
| | Phase Monitor | | X |
| Economizers & Outdoor Air Dampers | Economizer (for electro-mechanical controlled RTUs) | X | X |
| | Motorized 2 position outdoor-air damper | X | X |
| | Manual outdoor-air damper | | X |
| | Barometric relief ¹ | X | X |
| | Power exhaust | | X |
| Economizer Sensors & IAQ Devices | Single dry bulb temperature sensors ² | X | X |
| | Single enthalpy sensors ² | X | X |
| | Differential enthalpy sensors ² | | X |
| | CO ₂ sensor (wall, duct, or unit mounted) ² | | X |
| Indoor Motor & Drive | Multiple motor and drive packages | X | |
| Electric Heat | Electric Resistance Heaters | | X |
| | Single Point Kit | | X |
| Low Ambient Control | Winter start kit ³ | | X |
| | Head pressure controller ³ | | X |
| Power Options | Convenience outlet (unpowered) | X | |
| | Non-fused disconnect ⁴ | X | |
| Roof Curbs | Roof curb 14" (356mm) | | X |
| | Roof curb 24" (610mm) | | X |

NOTES:

1. Included with economizer.
2. Sensors used to optimize economizer performance.
3. See application data for assistance.
4. Available on units with MOCP's of 80 amps or less

FACTORY OPTIONS AND/OR ACCESSORIES

Economizer (dry–bulb or enthalpy)

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

Economizers are available, installed and tested by the factory, with either enthalpy or dry–bulb temperature inputs for electromechanical controllers. Additional sensors are available as accessories to optimize the economizers.

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. CO₂ sensors are available with the economizer, installed and tested by the factory.

Smoke Detectors

Smoke detectors immediately shut down the rooftop unit when smoke is detected. Supply air smoke detectors are available, installed by the factory.

Louvered Hail Guards

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

Convenience Outlet (un–powered)

Lower service bills by including a convenience outlet in your specification. Provides a convenient, 15 amp, 115v GFCI receptacle.

Non–fused Disconnect

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

Barometric Relief

Gravity controlled, barometric relief equalizes building pressure and ambient air pressures. This can be a cost effective solution to prevent building pressurization.

Power Exhaust

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.

Motorized 2–Position Damper

A 2–position, motorized outdoor air damper is available as a field installed accessory and admits up to 100% outside air. Using reliable, gear–driven technology, the 2–position damper opens to allow ventilation air and closes when the rooftop stops, stopping unwanted infiltration.

Manual OA Damper

Accessory manual outdoor air dampers are an economical way to bring in ventilation air.

Head Pressure Controller

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

Winter Start Kit

The accessory 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.

Alternate Motors and Drives

Some applications need larger horsepower motors, some need more airflow, and some need both. Regardless of the case, your unit 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 an accessory, 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 main power lines, as well as control power.

Electric Heaters

RAS units offer a full–line of accessory heaters. The heaters are very easy to use / install and are 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

| FLAT ROOF CURBS | | |
|-----------------|--|---------------------|
| Model Number | Description | Use With Model Size |
| CRRFCURB001A01 | 14" High Roof Curb. Ductwork attaches to the roof curb. Includes thru-the-bottom capability. | 036 – 072 |
| CRRFCURB003A01 | | 090 – 150 |
| CRRFCURB074A00 | | 180 |
| CRRFCURB002A01 | 24" High Roof Curb. Ductwork attaches to the roof curb. Includes thru-the-bottom capability. | 036 – 072 |
| CRRFCURB004A01 | | 090 – 150 |
| CRRFCURB075A00 | | 180 |

| ECONOMIZERS | | |
|----------------|--|---------------------|
| Model Number | Description | Use With Model Size |
| DNECOMZR020A02 | Vertical EconoMi\$er IV with solid-state controller, gear-driven, 3-position modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air sensors, and CO2 sensor compatible. | 036 – 072 |
| DNECOMZR021A03 | Vertical EconoMi\$er IV with solid-state controller, gear-driven, 3-position modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air sensors, and CO2 sensor compatible. | 090 – 150 |
| DNECOMZR062A00 | Vertical EconoMi\$er IV with solid-state controller, gear-driven, 3-position modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air sensors, and CO2 sensor compatible. | 180 |
| DNECOMZR024A02 | Horizontal EconoMi\$er IV with solid-state controller, gear-driven, 3-position modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air sensors, and CO2 sensor compatible. | 036 – 072 |
| DNECOMZR025A02 | Horizontal EconoMi\$er IV with solid-state controller, gear-driven, 3-position modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air sensors, and CO2 sensor compatible. | 090 – 150 |
| DNECOMZR064A00 | Horizontal EconoMi\$er IV with solid-state controller, gear-driven, 3-position modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air sensors, and CO2 sensor compatible. | 180 |

| 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 |
| 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 |

| 575V TRANSFORMER | | |
|----------------------|--|---------------------|
| Model Number | Description | Use With Model Size |
| 1171494 ² | Transformer for conversion from 575v to 208/230v power exhaust applications. | ALL |

ACCESSORIES – RAS036–180 (cont.)

| MANUAL OUTDOOR AIR DAMPERS | | |
|---|---|----------------------------|
| Model Number | Description | Use With Model Size |
| CRMANDPR001A03 | 25% Open Manual Fresh Air Damper | 036 – 072 |
| CRMANDPR001A02 | 50% Open Manual Fresh Air Damper | 036 – 072 |
| CRMANDPR002A03 | 25% Open Manual Fresh Air Damper | 090 – 150 |
| CRMANDPR002A02 | 50% Open Manual Fresh Air Damper | 090 – 150 |
| CRMANDPR011A00 | 50% Open Manual Fresh Air Damper | 180 |
| MOTORIZED OUTDOOR AIR DAMPERS | | |
| Model Number | Description | Use With Model Size |
| CRTWOPOS010A00 | Motorized 2 position outdoor air damper (25–100% Outdoor Air) | 036 – 072 |
| CRTWOPOS011A00 | Motorized 2 position outdoor air damper (25–100% Outdoor Air) | 090 – 150 |
| CRTWOPOS014A00 | Motorized 2 position outdoor air damper (25–100% Outdoor Air) | 180 |
| ECONOMIZER SENSORS | | |
| Model Number | Description | Use With Model Size |
| DNTEMPSN002A00 | Outdoor or Return Dry Bulb Temperature Sensor used with Electro–Mechanical control. | ALL Economizers |
| DNCBDIOX005A00 | CO ₂ Sensor for use in return airstream. Also includes Aspirator Box required for Duct Mounting. | ALL Economizers |
| DNENTDIF004A00 | Return Air Enthalpy Sensor used with Electro–Mechanical controls, use with AXB078ENT for differential enthalpy control. | ALL Economizers |
| AXB078ENT | Differential Enthalpy Control Upgrade | ALL Economizers |
| SPECIAL – 180 SIZE SPECIFIC ASSESSORIES | | |
| Model Number | Description | Use With Model Size |
| CRDISBKT001A00 | Disconnect Switch Bracket – Provides a pre engineered and sized mounting bracket for applications requiring a unit mounted fused disconnect of greater than 100 amps. Bracket assures that no damage will occur to coils when mounting with screws and other fasteners. | 180 |
| CRDUCTCV002A00 | 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 |
| THROUGH-THE-BOTTOM/CURB POWER CONNECTION | | |
| Model Number | Description | Use With Model Size |
| CRBTMPWR001A01 | Thru–the–bottom electrical connections and thru–the–curb gas connections. Includes a 3/4–inch diameter liquid tight conduit fitting for high voltage power wires | 036 – 072 |
| CRBTMPWR002A01 | Thru–the–bottom electrical connections and thru–the–curb gas connections. Includes a 1–1/4–inch diameter liquid tight conduit fitting for high voltage power wires | 090 – 150 |
| CRBTMPWR003A01 | Thru–the–bottom power, control, and gas connections. Includes a 3/4–inch diameter liquid tight conduit fitting for high voltage power wires | 036 – 072 |
| CRBTMPWR004A01 | Thru–the–bottom power, control, and gas connections. Includes a 1–1/4–inch diameter liquid tight conduit fitting for high voltage power wires | 090 – 150 |
| CRBTMPWR005A00 | Thru–the–bottom power, control, and gas connections. Includes a 1–1/4 inch diameter liquid tight conduit fitting for high voltage power wires | 180 |
| CRBTMPWR006A00 | Thru–the–bottom power, control, and gas connections. Includes a 1–1/2 inch diameter liquid tight conduit fitting for high voltage power wires | |
| CRBTMPWR007A00 | Thru–the–bottom power, control, and gas connections. Includes a 2 inch diameter liquid tight conduit fitting for high voltage power wires | |

ACCESSORIES – RAS036–180 (cont.)

| LOW AMBIENT CONTROLS * | | |
|-----------------------------|--|--|
| Model Number | Description | Use With Model Size |
| 32LT900301 ¹ | Motormaster I Solid-State Variable Speed Motor Controller enables cooling down to -20° F by varying the speed on the condenser fan. | 036 – 121 208/230-1-60, 208/203-3-60, 575-3-60 |
| 32LT900611 ¹ | MotorMaster I Solid-State Variable Speed Motor Controller enables cooling down to -20° F by varying the speed on the condenser fan. | 036 – 121 460-3-60 |
| CPLOWAMB001A00 | Motormaster® II Low Ambient Control – Enables cooling system to operate down to 0° F by cycling condenser fan on and off. The control is activated by a temperature sensor. No motor change-out required. | 036 – 121 208/230-3-60, 460-3-60 ⁴ |
| 1171974 ² | Motormaster I Compatible Condenser Fan Motor | 036 – 121 208/230-1-60, 208/230-3-60, 575-3-60 |
| 1171975 ² | Motormaster I Compatible Condenser Fan Motor | 036 – 121 460-3-60 |
| CRLOWAMB030A00 ³ | Motormaster V Low Ambient Kit. Mechanical cooling operation down to -20° F (- 29° C) | 150 208/230-3-60 |
| CRLOWAMB031A00 ³ | Motormaster V Low Ambient Kit. Mechanical cooling operation down to -20° F (- 29° C) | 150 460-3-60 |
| CRLOWAMB032A00 ³ | Motormaster V Low Ambient Kit. Mechanical cooling operation down to -20° F (- 29° C). | 150 575-3-60 |
| CRLOWAMB039A00 | Motormaster I Low Ambient Kit. Mechanical cooling operation down to -20° F (- 29° C). Kit includes 3 motors, MotorMaster controller, wiring label, and required wire ties and connectors, DNWINSTR001A00 also required (one per refrigerant circuit) | 180 208/230-3-60 |
| CRLOWAMB040A00 | Motormaster I Low Ambient Kit. Mechanical cooling operation down to -20° F (- 29° C). Kit includes 3 motors, MotorMaster controller, wiring label, and required wire ties and connectors) 575 Volt models also require CRTRXKIT002A00 plus DNWINSTR001A00 also required (one per refrigerant circuit) | 180 460-3-60 |
| CRTRXKIT001A00 | Motormaster I Low Ambient Control – Transformer Kit. Must be used in conjunction with Low Ambient Controller if used on 575-3-60 volt models. | 180 575-3-60 |

| CONTROL UPGRADE KITS | | |
|----------------------|--|--------------------------|
| Model Number | Description | Use With Model Size |
| NRTIMEGD001A00 | Time Guard II | 036 – 180 |
| CRSDTEST001A00 | Remote keyed attenuator / test / reset station | 036 – 180 |
| DNWINSTR001A00 | Electronic phase monitor breaks “R” control signal if trouble is detected. (Allows operation down to 25°F from standard 40°F.) | 036 – 180 |
| CRPHASE3001A02 | Phase Monitor Control | 036 – 180 (3 Phase only) |
| CRPHASE3002A00 | Phase Monitor Control | 036 – 180 (575v only) |

| HAIL GUARDS | | |
|----------------|------------------------------------|---------------------|
| Model Number | Description | Use With Model Size |
| CRLVHLGD011A00 | Louvered Condenser Coil Hail Guard | 036 |
| CRLVHLGD012A00 | Louvered Condenser Coil Hail Guard | 048 – 060 |
| CRLVHLGD013A00 | Louvered Condenser Coil Hail Guard | 072 |
| CRLVHLGD014A00 | Louvered Condenser Coil Hail Guard | 090, 091 |
| CRLVHLGD015A00 | Louvered Condenser Coil Hail Guard | 101 |
| CRLVHLGD016A00 | Louvered Condenser Coil Hail Guard | 102, 120, 121, 150 |
| CRLVHLGD032A00 | Louvered Condenser Coil Hail Guard | 180 |

*See usage tables in kit instructions.

¹ Requires motor change out. Sizes 036–072 require one (1) Low Ambient Controller and one (1) compatible condenser fan motor for change-out. Sizes 090–121 require one (1) Low Ambient Controller and two (2) compatible condenser fan motors for change-out.

See Motormaster I kit instructions for capacitor replacement information.

² Available from FAST Parts.

³ No motor change is required on these specific models.

⁴ One DNWINSTR001A00 also required per refrigerant circuit.

ACCESSORIES – RAS036–180 (cont.)

| ELECTRIC HEATERS | | | |
|---------------------------------|----------------------|------------------------------|-----------------------------|
| Model Number | Voltage | Nominal Power (kW) | Used With Model Size |
| CRHEATER101A00 | 208/230 | 4.4 | 036 – 072 |
| CRHEATER102A00 | 208/230 | 6.5 | 036 – 072 |
| CRHEATER103B00 | 208/230 | 8.7 | 036 – 060 |
| CRHEATER104B00 | 208/230 | 10.5 | 036 – 072 |
| CRHEATER105A00 | 208/230 | 16 | 036 – 072 |
| CRHEATER106A00 | 460 | 6 | 036 – 072 |
| CRHEATER107A00 | 460 | 8.8 | 036 |
| CRHEATER108A00 | 460 | 11.5 | 036 – 072 |
| CRHEATER109A00 | 460 | 14 | 036 – 072 |
| CRHEATER110A00 | 208/230 | 16 | 090 – 150 |
| CRHEATER111A00 | 208/230 | 24.8 | 090 – 121 |
| CRHEATER112A00 | 208/230 | 32 | 090 – 150 |
| CRHEATER113A00 | 460 | 16.5 | 090 – 150 |
| CRHEATER114A00 | 460 | 27.8 | 090 – 150 |
| CRHEATER115A00 | 460 | 33 | 090 – 150 |
| CRHEATER116A00 | 460 | 13.9 | 090 – 150 |
| CRHEATER117A00 | 208/230 | 10.4 | 090 – 150 |
| CRHEATER118A00 | 575 | 17 | 090 – 150 |
| CRHEATER119A00 | 575 | 34 | 090 – 150 |
| CRHEATER288A00 | 208/230 | 26.5 | 180 |
| CRHEATER289A00 | 460 | 26.5 | 180 |
| CRHEATER290A00 | 575 | 26.5 | 180 |
| CRHEATER291A00 | 208/230 | 16.5 | 180 |
| CRHEATER292A00 | 460 | 16.5 | 180 |
| CRHEATER293A00 | 575 | 16.5 | 180 |
| CRHEATER294A00 | 208/230 | 33.5 | 180 |
| CRHEATER295A00 | 460 | 33.5 | 180 |
| CRHEATER296A00 | 575 | 33.5 | 180 |
| SINGLE POINT WIRING KITS | | | |
| Model Number | Voltage | Used With Model Size | |
| CRSINGLE037A00 | 208/230/460–3–60 | 072 | |
| CRSINGLE038A00 | 208/230–3–60 | 048, 60 | |
| CRSINGLE040A00 | 208/230–1–60 | 036, 048, 60 | |
| CRSINGLE042A00 | 208/230/460/575–3–60 | 090, 091 | |
| CRSINGLE043A00 | 208/230–3–60 | 090, 091 | |
| CRSINGLE044A00 | 460/575–3–60 | 090, 091 | |
| CRSINGLE045A00 | 208/230–3–60 | 090, 091 | |
| CRSINGLE047A00 | 208/230/460/575–3–60 | 101, 102, 120, 121, 150, 180 | |
| CRSINGLE049A00 | 208/230–3–60 | 101, 102, 120, 121, 150, 180 | |
| CRSINGLE050A00 | 460/575–3–60 | 101, 102, 120, 121, 150, 180 | |
| CRSINGLE051A00 | 208/230–3–60 | 101, 102, 120, 121, 150, 180 | |
| CRSINGLE053A00 | 208/230–3–60 | 180 | |

Table 2 – AHRI COOLING RATING TABLE – Single Stage Cooling

| UNIT RAS | COOLING STAGES | NOM. CAPACITY (TONS) | NET COOLING CAPACITY (MBH) | TOTAL POWER (KW) | SEER | EER | IEER |
|----------|----------------|----------------------|----------------------------|------------------|------|------|------|
| 036 | 1 | 3 | 34.6 | 3.1 | 13.0 | 11.0 | – |
| 048 | 1 | 4 | 45.0 | 4.0 | 13.0 | 11.0 | – |
| 060 | 1 | 5 | 59.0 | 5.5 | 13.0 | 10.8 | – |
| 072 | 1 | 6 | 70.0 | 6.4 | – | 11.2 | 11.4 |
| 091 | 1 | 7.5 | 88.0 | 8.0 | – | 11.2 | 11.4 |
| 101 | 1 | 8.5 | 97.0 | 8.8 | – | 11.2 | 11.4 |
| 121 | 1 | 10 | 117.0 | 10.6 | – | 11.2 | 11.4 |

Table 3 – AHRI COOLING RATING TABLE – Two Stage Cooling

| UNIT RAS | COOLING STAGES | NOM. CAPACITY (TONS) | NET COOLING CAPACITY (MBH) | TOTAL POWER (kW) | SEER | EER | IEER |
|----------|----------------|----------------------|----------------------------|------------------|------|------|------|
| 090 | 2 | 7.5 | 83.0 | 7.4 | N/A | 11.2 | 11.7 |
| 102 | 2 | 8.5 | 99.0 | 9.0 | N/A | 11.2 | 11.7 |
| 120 | 2 | 10 | 114.0 | 10.1 | N/A | 11.3 | 12.2 |
| 150 | 2 | 12.5 | 140.0 | 12.7 | N/A | 11.0 | 11.2 |
| 180 | 2 | 15 | 174.0 | 15.8 | N/A | 11.0 | 11.5 |

LEGEND

- AHRI – Air-Conditioning, Heating & 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
- IPLV – Integrated Part Load Value

NOTES:

1. Rated and certified under AHRI Standard 340/360-04, 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 (35°C) db outdoor air temp.
IPLV Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temp and 80°F (27°C) db outdoor air temp.
IEER Standard: Procedure described in AHRI Standard 340/360.
3. All RAS units comply with ASHRAE 90.1 2001, 2004 Energy Standard for minimum SEER and EER requirements.
4. RAS units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes or visit the following website: <http://bcap-energy.org>.



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

Table 4 – MINIMUM – MAXIMUM AIRFLOWS ELECTRIC HEAT

| UNIT RAS | COOLING | | ELECTRIC HEATERS | |
|----------|---------|---------|------------------|---------|
| | Minimum | Maximum | Minimum | Maximum |
| 036 | 900 | 1500 | 900 | 1500 |
| 048 | 1200 | 2000 | 1200 | 2000 |
| 060 | 1500 | 2500 | 1500 | 2500 |
| 072 | 1800 | 3000 | 1800 | 3000 |
| 090/091 | 2250 | 3750 | 2250* | 3750 |
| 101/102 | 2550 | 4250 | 2250* | 4250 |
| 120/121 | 3000 | 5000 | 3000* | 5000 |
| 150 | 3600 | 6000 | 3000* | 6000 |
| 180 | 4500 | 7500 | 4500 | 7500 |

* Minimum electric heat CFM exceptions :

| UNIT RAS | UNIT VOLTAGE | HEATER KW | UNIT CONFIGURATION | REQUIRED MINIMUM CFM |
|--------------------------------------|--------------|-----------|------------------------|----------------------|
| 120 150 | 208/230 | 42.4 | Horizontal | 3200 |
| 120 150 | 208/230 | 50.0 | Horizontal | 3200 |
| 120 150 | 460 | 50.0 | Horizontal or Vertical | 3200 |
| 090/091 101/102 120/121 150 | 575 | 17.0 | Horizontal or Vertical | 2800 |
| | | 34.0 | | 2350 |

Table 5 – SOUND PERFORMANCE TABLE

| UNIT RAS | COOLING STAGES | OUTDOOR SOUND (dB) | | | | | | | | |
|----------|----------------|--------------------|------|------|------|------|------|------|------|------|
| | | 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



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.

NOTES:

1. Outdoor sound data is measure in accordance with AHRI standard 270–95.
2. Measurements are expressed in terms of sound power. Do not compare these values to sound pressure values because sound pressure depends on specific environmental factors which normally do not match individual applications. Sound power values are independent of the environment and therefore more accurate.
3. A-weighted sound ratings filter out very high and very low frequencies, to better approximate the response of "average" human ear. A-weighted measurements are taken in accordance with AHRI standard 270–95.

Table 6 – 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 |
| Refrig. (R-410A) charge per circuit A/B (lbs-oz) | | 5-10 / - | 8-8 / - | 10-11 / - | 14-2 / - |
| Metering Device | | Fixed Metering Device | | | |
| 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 |
| Evap. Coil | | | | | |
| Material | | Cu / Al | Cu / Al | Cu / Al | Cu / Al |
| Coil type | | 3/8" RTPF | 3/8" RTPF | 3/8" RTPF | 3/8" 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" | 3/4" | 3/4" | 3/4" |
| Evap. Fan and Motor | | | | | |
| Standard Static 1 phase | Motor Qty / Drive Type | 1 / Belt | 1 / Belt | 1 / Belt | - |
| | Max BHP | 1.2 | 1.2 | 1.2 | - |
| | RPM Range | 560-854 | 560-854 | 770-1175 | - |
| | Motor Frame Size | 48 | 48 | 48 | - |
| | Fan Qty / Type | 1 / Centrifugal | 1 / Centrifugal | 1 / Centrifugal | - |
| | Fan Diameter (in) | 10 x 10 | 10 x 10 | 10 x 10 | - |
| Medium Static 1 phase | Motor Qty / Drive Type | 1 / Belt | 1 / Belt | 1 / Belt | - |
| | Max BHP | 1.2 | 1.2 | 1.5 | - |
| | RPM Range | 770-1175 | 770-1175 | 1035-1466 | - |
| | Motor Frame Size | 48 | 48 | 56 | - |
| | Fan Qty / Type | 1 / Centrifugal | 1 / Centrifugal | 1 / Centrifugal | - |
| | Fan Diameter (in) | 10 x 10 | 10 x 10 | 10 x 10 | - |
| Standard Static 3 phase | Motor Qty / Drive Type | 1 / Belt | 1 / Belt | 1 / Belt | 1 / Belt |
| | Max BHP | 1.2 | 1.2 | 1.5 | 2.4 |
| | RPM Range | 560-854 | 560-854 | 770-1175 | 1073-1457 |
| | Motor Frame Size | 48 | 48 | 48 | 56 |
| | Fan Qty / Type | 1 / Centrifugal | 1 / Centrifugal | 1 / Centrifugal | 1 / Centrifugal |
| | Fan Diameter (in) | 10 x 10 | 10 x 10 | 10 x 10 | 10 x 10 |
| Medium Static 3 phase | Motor Qty / Drive Type | 1 / Belt | 1 / Belt | 1 / Belt | 1 / Belt |
| | Max BHP | 1.2 | 1.2 | 2.4 | 2.9* |
| | RPM Range | 770-1175 | 770-1175 | 1035-1466 | 1173-1518 |
| | Motor Frame Size | 48 | 48 | 56 | 56 |
| | Fan Qty / Type | 1 / Centrifugal | 1 / Centrifugal | 1 / Centrifugal | 1 / Centrifugal |
| | Fan Diameter (in) | 10 x 10 | 10 x 10 | 10 x 10 | 10 x 10 |
| High Static 3 phase | Motor Qty / Drive Type | 1 / Belt | 1 / Belt | 1 / Belt | 1 / Belt |
| | Max BHP | 2.4 | 2.4 | 2.9 | 3.7 |
| | RPM Range | 1035-1466 | 1035-1466 | 1303-1687 | 1474-1788 |
| | Motor Frame Size | 56 | 56 | 56 | 56 |
| | Fan Qty / Type | 1 / Centrifugal | 1 / Centrifugal | 1 / Centrifugal | 1 / Centrifugal |
| | Fan Diameter (in) | 10 x 10 | 10 x 10 | 10 x 10 | 10 x 10 |
| Cond. Coil | | | | | |
| Material | | Cu / Al | Cu / Al | Cu / Al | Cu / Al |
| Coil type | | 3/8" RTPF | 3/8" RTPF | 3/8" RTPF | 3/8" RTPF |
| Rows / FPI | | 1 / 17 | 2 / 17 | 2 / 17 | 2 / 17 |
| Total Face Area (ft ²) | | 14.6 | 16.5 | 16.5 | 21.3 |
| 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 |

* RTPF – Round Tube Plate Fin Coil Design

Table 6 – (Cont.) PHYSICAL DATA (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 |
| Metering device | | Fixed Metering Device | | | |
| 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 |
| Evap. Coil | | | | | |
| Material | | Cu / Al | Cu / Al | Cu / Al | Cu / Al |
| Coil type | | 3/8" RTPF | 3/8" RTPF | 3/8" RTPF | 3/8" RTPF |
| Rows / FPI | | 3 / 15 | 3 / 15 | 3 / 15 | 3 / 15 |
| total face area (ft ²) | | 8.9 | 8.9 | 11.1 | 11.1 |
| Condensate drain conn. size | | 3/4" | 3/4" | 3/4" | 3/4" |
| Evap. fan and motor | | | | | |
| Standard Static 3 phase | Motor Qty / Drive type | 1 / Belt | 1 / Belt | 1 / Belt | 1 / Belt |
| | Max BHP | 1.7 | 1.7 | 1.7 | 1.7 |
| | RPM range | 489–747 | 489–747 | 518–733 | 518–733 |
| | motor frame size | 56 | 56 | 56 | 56 |
| | Fan Qty / Type | 1 / Centrifugal | 1 / Centrifugal | 1 / Centrifugal | 1 / Centrifugal |
| | Fan Diameter (in) | 15 x 15 | 15 x 15 | 15 x 15 | 15 x 15 |
| Medium Static 3 phase | Motor Qty / Drive type | 1 / Belt | 1 / Belt | 1 / Belt | 1 / Belt |
| | Max BHP | 2.9 | 2.9 | 2.4 | 2.4 |
| | RPM range | 733–949 | 733–949 | 690–936 | 690–936 |
| | motor frame size | 56 | 56 | 56 | 56 |
| | Fan Qty / Type | 1 / Centrifugal | 1 / Centrifugal | 1 / Centrifugal | 1 / Centrifugal |
| | Fan Diameter (in) | 15 x 15 | 15 x 15 | 15 x 15 | 15 x 15 |
| High Static 3 phase | Motor Qty / Drive type | 1 / Belt | 1 / Belt | 1 / Belt | 1 / Belt |
| | Max BHP | 4.7 | 4.7 | 3.7 | 3.7 |
| | RPM range | 909–1102 | 909–1102 | 838–1084 | 838–1084 |
| | motor frame size | 145TY | 145TY | 56 | 56 |
| | Fan Qty / Type | 1 / Centrifugal | 1 / Centrifugal | 1 / Centrifugal | 1 / Centrifugal |
| | Fan Diameter (in) | 15 x 15 | 15 x 15 | 15 x 15 | 15 x 15 |
| Cond. Coil | | | | | |
| Material | | Cu / Al | Cu / Al | Cu / Al | Cu / Al |
| Coil type | | 3/8" RTPF* | 3/8" RTPF* | 3/8" RTPF* | 3/8" 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 |

* RTPF – Round Tube Plate Fin Coil Design

Table 6 – (Cont.) PHYSICAL DATA (COOLING) 10 – 15 TONS

| Refrigeration System | | RAS121 | RAS120 | RAS150 | RAS180 |
|---|------------------------|---|------------------------------|-----------------------------------|-------------------------------------|
| | | # Circuits / # Comp. / Type RTPF models R-410a charge A/B (lbs – oz) Metering device High–press. Trip / Reset (psig) Low–press. Trip / Reset (psig) | 1 / 1 / Scroll 20 – 0 / – | 2 / 2 / Scroll 10 – 5 / 10 – 3 | 2 / 2 / Scroll 11 – 0 / 11 – 6 |
| | | Fixed Metering Device | | | |
| | | 630 / 505 | 630 / 505 | 630 / 505 | 630 / 505 |
| | | 54 / 117 | 54 / 117 | 54 / 117 | 54 / 117 |
| Evap. Coil | | | | | |
| Material | | Cu / Al | Cu / Al | Cu / Al | Cu / Al |
| Coil type | | 3/8" RTPF | 3/8" RTPF | 3/8" RTPF | 3/8" RTPF |
| Rows / FPI | | 4 / 15 | 4 / 15 | 4 / 15 | 3 / 15 |
| total face area (ft ²) | | 11.1 | 11.1 | 11.1 | 17.5 |
| Condensate drain conn. size | | 3/4" | 3/4" | 3/4" | 3/4" |
| Evap. fan and motor | | | | | |
| Standard Static 3 phase | Motor Qty / Drive type | 1 / Belt | 1 / Belt | 1 / Belt | 1 / Belt |
| | Max BHP | 2.4 | 2.4 | 2.9 | 2.9 |
| | RPM range | 591–838 | 591–838 | 652–843 | 507–676 |
| | 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 | 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 |
| | RPM range | 838–1084 | 838–1084 | 838–1084 | 627–851 |
| | 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 | 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 |
| | RPM range | 1022–1240 | 1022–1240 | 1022–1240 | 776–955 |
| | motor frame size | 14 | 14 | 14 | S184T |
| | Fan Qty / Type | 1 / Centrifugal | 1 / Centrifugal | 1 / Centrifugal | 1 / Centrifugal |
| | Fan Diameter (in) | 15 x 15 | 15 x 15 | 15 x 15 | 18 x 18 |
| High Static High Efficiency 3 phase * | Motor Qty / Drive type | – | – | – | 1 / Belt |
| | Max BHP | – | – | – | 6.1 |
| | RPM range | – | – | – | 776–955 |
| | motor frame size | – | – | – | S184T |
| | Fan Qty / Type | – | – | – | 1 / Centrifugal |
| | Fan Diameter (in) | – | – | – | 18 x 18 |
| Cond. Coil | | | | | |
| Material | | Cu / Al | Cu / Al | Cu / Al | Cu / Al |
| Coil type | | 3/8" RTPF | 3/8" RTPF | 3/8" RTPF | 3/8" RTPF |
| Rows / FPI | | 2 / 17 | 2 / 17 | 3 / 17 | 2/17 |
| total face area (ft ²) | | 25.1 | 25.1 | 25.1 | 2 @ 23.1 |
| Cond. fan / motor | | | | | |
| Qty / Motor drive type | | 2 / direct | 2 / direct | 1 / direct | 3 / direct |
| Motor HP / RPM | | 1/4 / 1100 | 1/4 / 1100 | 1 / 1175 | 1/4 / 1100 |
| Fan diameter (in) | | 22 | 22 | 30 | 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 V2 / 24 x 27 x 1 |
| OA inlet screen # / Size (in) | | 1 / 20 x 24 x 1 | 1 / 20 x 24 x 1 | 1 / 20 x 24 x 1 | H1 / 30 x 39 x 1 |

* RTPF – Round Tube Plate Fin Coil Design

Table 7 – ELECTRIC HEAT – ELECTRICAL DATA, 3 – 15 TONS

| Unit | Voltage-Ph-Hz | IFM Type | Electric Heater Part Number CRHEATERXXXXXX | Nominal Power | APP Power | Single Point Kit Part Number CRSINGLEXXXXXX | |
|----------|---------------|----------|---|---------------|-----------|--|-----------------------------|
| | | | | | | No C.O. Or Unpwr'd C.O. | |
| | | | | | | No P.E. | W/P.E. (pwr'd from/unit) |
| RAS036 | 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 | 037A00 | 037A00 |
| | | | 104B00 | 10.5 | 7.9/9.6 | 040A00 | 040A00 |
| | | | 102A00,102A00 | 13 | 9.8/11.9 | 040A00 | 040A00 |
| | | MED | 101A00 | 4.4 | 3.3/4.0 | - | - |
| | | | 102A00 | 6.5 | 4.9/6.0 | - | - |
| | | | 103B00 | 8.7 | 6.5/8.0 | 037A00 | 037A00 |
| | | | 104B00 | 10.5 | 7.9/9.6 | 040A00 | 040A00 |
| | | | 102A00,102A00 | 13 | 9.8/11.9 | 040A00 | 040A00 |
| | 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 | 12.0/14.7 | 037A00 | 037A00 |
| | | MED | 101A00 | 4.4 | 3.3/4.0 | - | - |
| | | | 102A00 | 6.5 | 4.9/6.0 | - | - |
| | | | 103B00 | 8.7 | 6.5/8.0 | - | - |
| | | | 104B00 | 10.5 | 7.9/9.6 | - | - |
| | | | 105A00 | 16 | 12.0/14.7 | 037A00 | 037A00 |
| | HIGH | 101A00 | 4.4 | 3.3/4.0 | - | - | |
| | | 102A00 | 6.5 | 4.9/6.0 | - | - | |
| | | 103B00 | 8.7 | 6.5/8.0 | - | - | |
| | | 104B00 | 10.5 | 7.9/9.6 | - | - | |
| 105A00 | | 16 | 12.0/14.7 | 037A00 | 037A00 | | |
| 460-3-60 | STD | 106A00 | 6 | 5.5 | - | - | |
| | | 107A00 | 8.8 | 8.1 | - | - | |
| | | 108A00 | 11.5 | 10.6 | - | - | |
| | | 109A00 | 14 | 12.9 | - | - | |
| | MED | 106A00 | 6 | 5.5 | - | - | |
| | | 107A00 | 8.8 | 8.1 | - | - | |
| | | 108A00 | 11.5 | 10.6 | - | - | |
| | | 109A00 | 14 | 12.9 | - | - | |
| | HIGH | 106A00 | 6 | 5.5 | - | - | |
| | | 107A00 | 8.8 | 8.1 | - | - | |
| | | 108A00 | 11.5 | 10.6 | - | - | |
| | | 109A00 | 14 | 12.9 | - | - | |

LEGEND

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

Table 7 ELECTRIC HEAT – ELECTRICAL DATA, 3 – 15 TONS

| Unit | Voltage-Ph-Hz | IFM Type | Electric Heater Part Number CRHEATERXXXXXX | Nominal Power | APP Power | Single Point Kit Part Number CRSINGLEXXXXXX | |
|---------------|---------------|---------------|---|---------------|-----------|--|----------------------------|
| | | | | | | No C.O. Or Unpwrd C.O. | |
| | | | | | | No P.E. | W/P.E. (pwrd from/unit) |
| RAS048 | 208/230-1-60 | STD | 101A00 | 4.4 | 3.3/4.0 | - | - |
| | | | 103B00 | 8.7 | 6.5/8.0 | 037A00 | 037A00 |
| | | | 102A00,102A00 | 13 | 9.8/11.9 | 040A00 | 040A00 |
| | | | 103B00,103B00 | 17.4 | 13.1/16.0 | 040A00 | 040A00 |
| | | 104B00,104B00 | 21 | 15.8/19.3 | 040A00 | 040A00 | |
| | | MED | 101A00 | 4.4 | 3.3/4.0 | - | - |
| | | | 103B00 | 8.7 | 6.5/8.0 | 037A00 | 037A00 |
| | | | 102A00,102A00 | 13 | 9.8/11.9 | 040A00 | 040A00 |
| | 103B00,103B00 | | 17.4 | 13.1/16.0 | 040A00 | 040A00 | |
| | 104B00,104B00 | 21 | 15.8/19.3 | 040A00 | 040A00 | | |
| | 208/230-3-60 | STD | 102A00 | 6.5 | 4.9/6.0 | - | - |
| | | | 103B00 | 8.7 | 6.5/8.0 | - | - |
| | | | 105A00 | 16 | 12.0/14.7 | 037A00 | 037A00 |
| | | | 104B00,104B00 | 21 | 15.8/19.3 | 038A00 | 038A00 |
| | | MED | 102A00 | 6.5 | 4.9/6.0 | - | - |
| | | | 103B00 | 8.7 | 6.5/8.0 | - | - |
| | | | 105A00 | 16 | 12.0/14.7 | 037A00 | 037A00 |
| | | | 104B00,104B00 | 21 | 15.8/19.3 | 038A00 | 038A00 |
| | | HIGH | 102A00 | 6.5 | 4.9/6.0 | - | - |
| | | | 103B00 | 8.7 | 6.5/8.0 | - | - |
| | | | 105A00 | 16 | 12.0/14.7 | 037A00 | 037A00 |
| | | | 104B00,104B00 | 21 | 15.8/19.3 | 038A00 | 038A00 |
| | 460-3-60 | STD | 106A00 | 6 | 5.5 | - | - |
| | | | 108A00 | 11.5 | 10.6 | - | - |
| 109A00 | | | 14 | 12.9 | - | - | |
| 108A00,108A00 | | | 23 | 21.1 | 037A00 | 037A00 | |
| MED | | 106A00 | 6 | 5.5 | - | - | |
| | | 108A00 | 11.5 | 10.6 | - | - | |
| | | 109A00 | 14 | 12.9 | - | - | |
| | | 108A00,108A00 | 23 | 21.1 | 037A00 | 037A00 | |
| HIGH | | 106A00 | 6 | 5.5 | - | - | |
| | | 108A00 | 11.5 | 10.6 | - | - | |
| | | 109A00 | 14 | 12.9 | - | - | |
| | | 108A00,108A00 | 23 | 21.1 | 037A00 | 037A00 | |

LEGEND

- APP PWR – 208 / 230V / 460V / 575V
- C.O. – Convenient outlet
- FLA – Full load amps
- IFM – Indoor fan motor
- NOM PWR – 240V / 480V / 600V
- PE. – Power exhaust
- UNPWDRD – Unpowered convenient outlet

Table 7 ELECTRIC HEAT – ELECTRICAL DATA, 3 – 15 TONS

| Unit | Voltage-Ph-Hz | IFM Type | Electric Heater Part Number CRHEATERXXXXXX | Nominal Power | APP Power | Single Point Kit Part Number CRSINGLEXXXXXX | |
|----------|---------------|---------------|---|---------------|-----------|--|----------------------------|
| | | | | | | No C.O. Or Unpwrd C.O. | |
| | | | | | | No P.E. | W/P.E. (pwrd from/unit) |
| RAS060 | 208/230-1-60 | STD | 102A00 | 6.5 | 4.9/6.0 | - | - |
| | | | 103B00 | 8.7 | 6.5/8.0 | 037A00 | 037A00 |
| | | | 102A00,102A00 | 13 | 9.8/11.9 | 040A00 | 040A00 |
| | | | 103B00,103B00 | 17.4 | 13.1/16.0 | 040A00 | 040A00 |
| | | | 104B00,104B00 | 21 | 15.8/19.3 | 040A00 | 040A00 |
| | | MED | 102A00 | 6.5 | 4.9/6.0 | - | - |
| | | | 103B00 | 8.7 | 6.5/8.0 | 037A00 | 037A00 |
| | | | 102A00,102A00 | 13 | 9.8/11.9 | 040A00 | 040A00 |
| | | | 103B00,103B00 | 17.4 | 13.1/16.0 | 040A00 | 040A00 |
| | | | 104B00,104B00 | 21 | 15.8/19.3 | 040A00 | 040A00 |
| | 208/230-3-60 | STD | 102A00 | 6.5 | 4.9/6.0 | - | - |
| | | | 104B00 | 10.5 | 7.9/9.6 | - | - |
| | | | 105A00 | 16 | 12.0/14.7 | 037A00 | 037A00 |
| | | | 104B00,104B00 | 21 | 15.8/19.3 | 038A00 | 038A00 |
| | | | 104B00,105A00 | 26.5 | 19.9/24.3 | 038A00 | 038A00 |
| | | MED | 102A00 | 6.5 | 4.9/6.0 | - | - |
| | | | 104B00 | 10.5 | 7.9/9.6 | - | - |
| | | | 105A00 | 16 | 12.0/14.7 | 037A00 | 037A00 |
| | | | 104B00,104B00 | 21 | 15.8/19.3 | 038A00 | 038A00 |
| | | | 104B00,105A00 | 26.5 | 19.9/24.3 | 038A00 | 038A00 |
| | | HIGH | 102A00 | 6.5 | 4.9/6.0 | - | - |
| | | | 104B00 | 10.5 | 7.9/9.6 | - | - |
| | | | 105A00 | 16 | 12.0/14.7 | 037A00 | 037A00 |
| | | | 104B00,104B00 | 21 | 15.8/19.3 | 038A00 | 038A00 |
| 460-3-60 | STD | 106A00 | 6 | 5.5 | - | - | |
| | | 108A00 | 11.5 | 10.6 | - | - | |
| | | 109A00 | 14 | 12.9 | - | - | |
| | | 108A00,108A00 | 23 | 21.1 | 037A00 | 037A00 | |
| | | 108A00,109A00 | 25.5 | 23.4 | 037A00 | 037A00 | |
| | MED | 106A00 | 6 | 5.5 | - | - | |
| | | 108A00 | 11.5 | 10.6 | - | - | |
| | | 109A00 | 14 | 12.9 | - | - | |
| | | 108A00,108A00 | 23 | 21.1 | 037A00 | 037A00 | |
| | | 108A00,109A00 | 25.5 | 23.4 | 037A00 | 037A00 | |
| | HIGH | 106A00 | 6 | 5.5 | - | - | |
| | | 108A00 | 11.5 | 10.6 | - | - | |
| | | 109A00 | 14 | 12.9 | - | - | |
| | | 108A00,108A00 | 23 | 21.1 | 037A00 | 037A00 | |
| | | | 108A00,109A00 | 25.5 | 23.4 | 037A00 | 037A00 |

LEGEND

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

Table 7 ELECTRIC HEAT – ELECTRICAL DATA, 3 – 15 TONS

| Unit | Voltage-Ph-Hz | IFM Type | Electric Heater Part Number CRHEATERXXXXXX | Nominal Power | APP Power | Single Point Kit Part Number CRSINGLEXXXXXX | |
|--------|---------------|----------|---|---------------|-----------|--|----------------------------|
| | | | | | | No C.O. Or Unpwrd C.O. | |
| | | | | | | No P.E. | W/P.E. (pwrd from/unit) |
| RAS072 | 208/230-3-60 | STD | 102A00 | 6.5 | 4.9/6.0 | - | - |
| | | | 104B00 | 10.5 | 7.9/9.6 | - | - |
| | | | 105A00 | 16.0 | 12.0/14.7 | 037A00 | 037A00 |
| | | | 104B00,104B00 | 21.0 | 15.8/19.3 | 038A00 | 038A00 |
| | | | 104B00,105A00 | 26.5 | 19.9/24.3 | 038A00 | 038A00 |
| | | MED | 102A00 | 6.5 | 4.9/6.0 | - | - |
| | | | 104B00 | 10.5 | 7.9/9.6 | - | - |
| | | | 105A00 | 16.0 | 12.0/14.7 | 037A00 | 037A00 |
| | | | 104B00,104B00 | 21.0 | 15.8/19.3 | 038A00 | 038A00 |
| | | | 104B00,105A00 | 26.5 | 19.9/24.3 | 038A00 | 038A00 |
| | | HIGH | 102A00 | 6.5 | 4.9/6.0 | - | - |
| | | | 104B00 | 10.5 | 7.9/9.6 | - | - |
| | | | 105A00 | 16.0 | 12.0/14.7 | 037A00 | 037A00 |
| | | | 104B00,104B00 | 21.0 | 15.8/19.3 | 038A00 | 038A00 |
| | | | 104B00,105A00 | 26.5 | 19.9/24.3 | 038A00 | 038A00 |
| | 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 | 037A00 | 037A00 |
| | | | 108A00,109A00 | 25.5 | 23.4 | 037A00 | 037A00 |
| | | MED | 106A00 | 6.0 | 5.5 | - | - |
| | | | 108A00 | 11.5 | 10.6 | - | - |
| | | | 109A00 | 14.0 | 12.9 | - | - |
| | | | 108A00,108A00 | 23.0 | 21.1 | 037A00 | 037A00 |
| HIGH | 106A00 | 6.0 | 5.5 | - | - | | |
| | 108A00 | 11.5 | 10.6 | - | - | | |
| | 109A00 | 14.0 | 12.9 | - | - | | |
| | 108A00,108A00 | 23.0 | 21.1 | 037A00 | 037A00 | | |
| | | | 108A00,109A00 | 25.5 | 23.4 | 037A00 | 037A00 |

LEGEND

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

Table 7 ELECTRIC HEAT – ELECTRICAL DATA, 3 – 15 TONS

| Unit | Voltage-Ph-Hz | IFM Type | Electric Heater Part Number CRHEATERXXXXXX | Nominal Power | APP Power | Single Point Kit Part Number CRSINGLEXXXXXX | |
|---------------|---------------|----------|---|---------------|-----------|--|-----------------------------|
| | | | | | | No C.O. Or Unpwr'd C.O. | |
| | | | | | | No P.E. | W/P.E. (pwr'd from/unit) |
| RAS091 | 208/230-3-60 | STD | 117A00 | 10.4 | 7.8/9.6 | 042A00 | 042A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 042A00 | 042A00 |
| | | | 111A00 | 24.8 | 18.6/22.8 | 043A00 | 043A00 |
| | | | 112A00 | 32.0 | 24.0/29.4 | 043A00 | 043A00 |
| | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 045A00 | 045A00 |
| | | MED | 117A00 | 10.4 | 7.8/9.6 | 042A00 | 042A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 042A00 | 043A00 |
| | | | 111A00 | 24.8 | 18.6/22.8 | 043A00 | 043A00 |
| | | | 112A00 | 32.0 | 24.0/29.4 | 043A00 | 043A00 |
| | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 045A00 | 045A00 |
| | | HIGH | 117A00 | 10.4 | 7.8/9.6 | 042A00 | 042A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 043A00 | 043A00 |
| | 111A00 | | 24.8 | 18.6/22.8 | 043A00 | 043A00 | |
| | 112A00 | | 32.0 | 24.0/29.4 | 043A00 | 043A00 | |
| | 112A00,117A00 | | 42.4 | 31.8/38.9 | 045A00 | 045A00 | |
| | 460-3-60 | STD | 116A00 | 13.9 | 12.8 | 042A00 | 042A00 |
| | | | 113A00 | 16.5 | 15.2 | 042A00 | 042A00 |
| | | | 114A00 | 27.8 | 25.5 | 042A00 | 042A00 |
| | | | 115A00 | 33.0 | 30.3 | 042A00 | 042A00 |
| | | | 114A00,116A00 | 41.7 | 38.3 | 044A00 | 044A00 |
| | | MED | 116A00 | 13.9 | 12.8 | 042A00 | 042A00 |
| | | | 113A00 | 16.5 | 15.2 | 042A00 | 042A00 |
| | | | 114A00 | 27.8 | 25.5 | 042A00 | 042A00 |
| | | | 115A00 | 33.0 | 30.3 | 042A00 | 042A00 |
| 114A00,116A00 | | | 41.7 | 38.3 | 044A00 | 044A00 | |
| HIGH | | 116A00 | 13.9 | 12.8 | 042A00 | 042A00 | |
| | | 113A00 | 16.5 | 15.2 | 042A00 | 042A00 | |
| | 114A00 | 27.8 | 25.5 | 042A00 | 042A00 | | |
| | 115A00 | 33.0 | 30.3 | 042A00 | 044A00 | | |
| | 114A00,116A00 | 41.7 | 38.3 | 044A00 | 044A00 | | |
| 575-3-60 | STD | 118A00 | 17.0 | 17.0 | 042A00 | 042A00 | |
| | | 119A00 | 34.0 | 34.0 | 042A00 | 042A00 | |
| | MED | 118A00 | 17.0 | 17.0 | 042A00 | 042A00 | |
| | | 119A00 | 34.0 | 34.0 | 042A00 | 042A00 | |
| | HIGH | 118A00 | 17.0 | 17.0 | 042A00 | 042A00 | |
| | | 119A00 | 34.0 | 34.0 | 042A00 | 044A00 | |

LEGEND

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

Table 7 ELECTRIC HEAT – ELECTRICAL DATA, 3 – 15 TONS

| Unit | Voltage-Ph-Hz | IFM Type | Electric Heater Part Number CRHEATERXXXXXX | Nominal Power | APP Power | Single Point Kit Part Number CRSINGLEXXXXXX | |
|---------------|---------------|----------|---|---------------|-----------|--|-----------------------------|
| | | | | | | No C.O. Or Unpwr'd C.O. | |
| | | | | | | No P.E. | W/P.E. (pwr'd from/unit) |
| RAS090 | 208/230-3-60 | STD | 117A00 | 10.4 | 7.8/9.6 | 042A00 | 042A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 042A00 | 042A00 |
| | | | 111A00 | 24.8 | 18.6/22.8 | 043A00 | 043A00 |
| | | | 112A00 | 32.0 | 24.0/29.4 | 043A00 | 043A00 |
| | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 045A00 | 045A00 |
| | | MED | 117A00 | 10.4 | 7.8/9.6 | 042A00 | 042A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 042A00 | 043A00 |
| | | | 111A00 | 24.8 | 18.6/22.8 | 043A00 | 043A00 |
| | | | 112A00 | 32.0 | 24.0/29.4 | 043A00 | 043A00 |
| | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 045A00 | 045A00 |
| | | HIGH | 117A00 | 10.4 | 7.8/9.6 | 042A00 | 042A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 043A00 | 043A00 |
| | 111A00 | | 24.8 | 18.6/22.8 | 043A00 | 043A00 | |
| | 112A00 | | 32.0 | 24.0/29.4 | 043A00 | 043A00 | |
| | 112A00,117A00 | | 42.4 | 31.8/38.9 | 045A00 | 045A00 | |
| | 460-3-60 | STD | 116A00 | 13.9 | 12.8 | 042A00 | 042A00 |
| | | | 113A00 | 16.5 | 15.2 | 042A00 | 042A00 |
| | | | 114A00 | 27.8 | 25.5 | 042A00 | 042A00 |
| | | | 115A00 | 33.0 | 30.3 | 042A00 | 042A00 |
| | | | 114A00,116A00 | 41.7 | 38.3 | 044A00 | 044A00 |
| | | MED | 116A00 | 13.9 | 12.8 | 042A00 | 042A00 |
| | | | 113A00 | 16.5 | 15.2 | 042A00 | 042A00 |
| | | | 114A00 | 27.8 | 25.5 | 042A00 | 042A00 |
| | | | 115A00 | 33.0 | 30.3 | 042A00 | 042A00 |
| 114A00,116A00 | | | 41.7 | 38.3 | 044A00 | 044A00 | |
| HIGH | | 116A00 | 13.9 | 12.8 | 042A00 | 042A00 | |
| | | 113A00 | 16.5 | 15.2 | 042A00 | 042A00 | |
| | 114A00 | 27.8 | 25.5 | 042A00 | 042A00 | | |
| | 115A00 | 33.0 | 30.3 | 042A00 | 044A00 | | |
| | 114A00,116A00 | 41.7 | 38.3 | 044A00 | 044A00 | | |
| 575-3-60 | STD | 118A00 | 17.0 | 17.0 | 042A00 | 042A00 | |
| | | 119A00 | 34.0 | 34.0 | 042A00 | 042A00 | |
| | MED | 118A00 | 17.0 | 17.0 | 042A00 | 042A00 | |
| | | 119A00 | 34.0 | 34.0 | 042A00 | 042A00 | |
| | HIGH | 118A00 | 17.0 | 17.0 | 042A00 | 042A00 | |
| | | 119A00 | 34.0 | 34.0 | 042A00 | 044A00 | |

LEGEND

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

Table 7 ELECTRIC HEAT – ELECTRICAL DATA, 3 – 15 TONS

| Unit | Voltage-Ph-Hz | IFM Type | Electric Heater Part Number CRHEATERXXXXXX | Nominal Power | APP Power | Single Point Kit Part Number CRSINGLEXXXXXX | | |
|---------------|---------------|----------|---|---------------|-----------|--|-----------------------------|--------|
| | | | | | | No C.O. Or Unpwr'd C.O. | | |
| | | | | | | No P.E. | W/P.E. (pwr'd from/unit) | |
| RAS101 | 208/230-3-60 | STD | 117A00 | 10.4 | 7.8/9.6 | 047A00 | 047A00 | |
| | | | 110A00 | 16.0 | 12.0/14.7 | 047A00 | 047A00 | |
| | | | 111A00 | 24.8 | 18.6/22.8 | 049A00 | 049A00 | |
| | | | 112A00 | 32.0 | 24.0/29.4 | 049A00 | 049A00 | |
| | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 051A00 | 051A00 | |
| | | MED | 117A00 | 10.4 | 7.8/9.6 | 047A00 | 047A00 | |
| | | | 110A00 | 16.0 | 12.0/14.7 | 047A00 | 047A00 | |
| | | | 111A00 | 24.8 | 18.6/22.8 | 049A00 | 049A00 | |
| | | | 112A00 | 32.0 | 24.0/29.4 | 049A00 | 049A00 | |
| | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 051A00 | 051A00 | |
| | | HIGH | 117A00 | 10.4 | 7.8/9.6 | 047A00 | 049A00 | |
| | | | 110A00 | 16.0 | 12.0/14.7 | 049A00 | 049A00 | |
| | 111A00 | | 24.8 | 18.6/22.8 | 049A00 | 049A00 | | |
| | 112A00 | | 32.0 | 24.0/29.4 | 049A00 | 049A00 | | |
| | | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 051A00 | 051A00 |
| | 460-3-60 | STD | 116A00 | 13.9 | 12.8 | 047A00 | 047A00 | |
| | | | 113A00 | 16.5 | 15.2 | 047A00 | 047A00 | |
| | | | 114A00 | 27.8 | 25.5 | 047A00 | 047A00 | |
| | | | 115A00 | 33.0 | 30.3 | 047A00 | 047A00 | |
| | | | 114A00,116A00 | 41.7 | 38.3 | 050A00 | 050A00 | |
| | | MED | 116A00 | 13.9 | 12.8 | 047A00 | 047A00 | |
| | | | 113A00 | 16.5 | 15.2 | 047A00 | 047A00 | |
| | | | 114A00 | 27.8 | 25.5 | 047A00 | 047A00 | |
| | | | 115A00 | 33.0 | 30.3 | 047A00 | 047A00 | |
| 114A00,116A00 | | | 41.7 | 38.3 | 050A00 | 050A00 | | |
| HIGH | | 116A00 | 13.9 | 12.8 | 047A00 | 047A00 | | |
| | | 113A00 | 16.5 | 15.2 | 047A00 | 047A00 | | |
| | 114A00 | 27.8 | 25.5 | 047A00 | 047A00 | | | |
| | 115A00 | 33.0 | 30.3 | 047A00 | 047A00 | | | |
| | | | 114A00,116A00 | 41.7 | 38.3 | 050A00 | 050A00 | |
| 575-3-60 | STD | 118A00 | 17.0 | 17.0 | 047A00 | 047A00 | | |
| | | 119A00 | 34.0 | 34.0 | 047A00 | 047A00 | | |
| | MED | 118A00 | 17.0 | 17.0 | 047A00 | 047A00 | | |
| | | 119A00 | 34.0 | 34.0 | 047A00 | 047A00 | | |
| | HIGH | 118A00 | 17.0 | 17.0 | 047A00 | 047A00 | | |
| | | 119A00 | 34.0 | 34.0 | 047A00 | 047A00 | | |

LEGEND

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

Table 7 ELECTRIC HEAT – ELECTRICAL DATA, 3 – 15 TONS

| Unit | Voltage–Ph–Hz | IFM Type | Electric Heater Part Number CRHEATERXXXXXX | Nominal Power | APP Power | Single Point Kit Part Number CRSINGLEXXXXXX | |
|---------------|---------------|----------|---|---------------|-----------|--|-----------------------------|
| | | | | | | No C.O. Or Unpwr'd C.O. | |
| | | | | | | No P.E. | W/P.E. (pwr'd from/unit) |
| RAS102 | 208/230–3–60 | STD | 117A00 | 10.4 | 7.8/9.6 | 047A00 | 047A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 047A00 | 047A00 |
| | | | 111A00 | 24.8 | 18.6/22.8 | 049A00 | 049A00 |
| | | | 112A00 | 32.0 | 24.0/29.4 | 049A00 | 049A00 |
| | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 051A00 | 051A00 |
| | | MED | 117A00 | 10.4 | 7.8/9.6 | 047A00 | 047A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 047A00 | 047A00 |
| | | | 111A00 | 24.8 | 18.6/22.8 | 049A00 | 049A00 |
| | | | 112A00 | 32.0 | 24.0/29.4 | 049A00 | 049A00 |
| | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 051A00 | 051A00 |
| | | HIGH | 117A00 | 10.4 | 7.8/9.6 | 047A00 | 047A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 049A00 | 049A00 |
| | 111A00 | | 24.8 | 18.6/22.8 | 049A00 | 049A00 | |
| | 112A00 | | 32.0 | 24.0/29.4 | 049A00 | 049A00 | |
| | 112A00,117A00 | | 42.4 | 31.8/38.9 | 051A00 | 051A00 | |
| | 460–3–60 | STD | 116A00 | 13.9 | 12.8 | 047A00 | 047A00 |
| | | | 113A00 | 16.5 | 15.2 | 047A00 | 047A00 |
| | | | 114A00 | 27.8 | 25.5 | 047A00 | 047A00 |
| | | | 115A00 | 33.0 | 30.3 | 047A00 | 047A00 |
| | | | 114A00,116A00 | 41.7 | 38.3 | 050A00 | 050A00 |
| | | MED | 116A00 | 13.9 | 12.8 | 047A00 | 047A00 |
| | | | 113A00 | 16.5 | 15.2 | 047A00 | 047A00 |
| | | | 114A00 | 27.8 | 25.5 | 047A00 | 047A00 |
| | | | 115A00 | 33.0 | 30.3 | 047A00 | 047A00 |
| 114A00,116A00 | | | 41.7 | 38.3 | 050A00 | 050A00 | |
| HIGH | | 116A00 | 13.9 | 12.8 | 047A00 | 047A00 | |
| | | 113A00 | 16.5 | 15.2 | 047A00 | 047A00 | |
| | 114A00 | 27.8 | 25.5 | 047A00 | 047A00 | | |
| | 115A00 | 33.0 | 30.3 | 047A00 | 047A00 | | |
| | 114A00,116A00 | 41.7 | 38.3 | 050A00 | 050A00 | | |
| 575–3–60 | STD | 118A00 | 17.0 | 17.0 | 047A00 | 047A00 | |
| | | 119A00 | 34.0 | 34.0 | 047A00 | 047A00 | |
| | MED | 118A00 | 17.0 | 17.0 | 047A00 | 047A00 | |
| | | 119A00 | 34.0 | 34.0 | 047A00 | 047A00 | |
| | HIGH | 118A00 | 17.0 | 17.0 | 047A00 | 047A00 | |
| | | 119A00 | 34.0 | 34.0 | 047A00 | 047A00 | |

LEGEND

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

Table 7 ELECTRIC HEAT – ELECTRICAL DATA, 3 – 15 TONS

| Unit | Voltage-Ph-Hz | IFM Type | Electric Heater Part Number CRHEATERXXXXXX | Nominal Power | APP Power | Single Point Kit Part Number CRSINGLEXXXXXX | |
|---------------|---------------|---------------|---|---------------|-----------|--|-----------------------------|
| | | | | | | No C.O. Or Unpwr'd C.O. | |
| | | | | | | No P.E. | W/P.E. (pwr'd from/unit) |
| RAS121 | 208/230-3-60 | STD | 117A00 | 10.4 | 7.8/9.6 | 047A00 | 047A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 047A00 | 047A00 |
| | | | 112A00 | 32.0 | 24.0/29.4 | 049A00 | 049A00 |
| | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 051A00 | 051A00 |
| | | | 112A00,110A00 | 50.0 | 37.6/45.9 | 051A00 | 051A00 |
| | | MED | 117A00 | 10.4 | 7.8/9.6 | 047A00 | 049A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 049A00 | 049A00 |
| | | | 112A00 | 32.0 | 24.0/29.4 | 049A00 | 049A00 |
| | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 051A00 | 051A00 |
| | | | 112A00,110A00 | 50.0 | 37.6/45.9 | 051A00 | 051A00 |
| | | HIGH | 117A00 | 10.4 | 7.8/9.6 | 049A00 | 049A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 049A00 | 049A00 |
| | | | 112A00 | 32.0 | 24.0/29.4 | 049A00 | 049A00 |
| | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 051A00 | 051A00 |
| | | | 112A00,110A00 | 50.0 | 37.6/45.9 | 051A00 | 051A00 |
| | 460-3-60 | STD | 116A00 | 13.9 | 12.8 | 047A00 | 047A00 |
| | | | 113A00 | 16.5 | 15.2 | 047A00 | 047A00 |
| | | | 115A00 | 33.0 | 30.3 | 047A00 | 047A00 |
| | | | 114A00,116A00 | 41.7 | 38.3 | 050A00 | 050A00 |
| | | | 115A00,113A00 | 50.0 | 45.9 | 050A00 | 050A00 |
| | | MED | 116A00 | 13.9 | 12.8 | 047A00 | 047A00 |
| | | | 113A00 | 16.5 | 15.2 | 047A00 | 047A00 |
| | | | 115A00 | 33.0 | 30.3 | 047A00 | 047A00 |
| | | | 114A00,116A00 | 41.7 | 38.3 | 050A00 | 050A00 |
| | | | 115A00,113A00 | 50.0 | 45.9 | 050A00 | 050A00 |
| | | HIGH | 116A00 | 13.9 | 12.8 | 047A00 | 047A00 |
| | | | 113A00 | 16.5 | 15.2 | 047A00 | 047A00 |
| 115A00 | | | 33.0 | 30.3 | 047A00 | 050A00 | |
| 114A00,116A00 | | | 41.7 | 38.3 | 050A00 | 050A00 | |
| 115A00,113A00 | | | 50.0 | 45.9 | 050A00 | 050A00 | |
| 575-3-60 | STD | 118A00 | 17.0 | 17.0 | 047A00 | 047A00 | |
| | | 119A00 | 34.0 | 34.0 | 047A00 | 047A00 | |
| | | 118A00,119A00 | 51.0 | 51.0 | 050A00 | 050A00 | |
| | MED | 118A00 | 17.0 | 17.0 | 047A00 | 047A00 | |
| | | 119A00 | 34.0 | 34.0 | 047A00 | 047A00 | |
| | | 118A00,119A00 | 51.0 | 51.0 | 050A00 | 050A00 | |
| | HIGH | 118A00 | 17.0 | 17.0 | 047A00 | 047A00 | |
| | | 119A00 | 34.0 | 34.0 | 047A00 | 050A00 | |
| | | 118A00,119A00 | 51.0 | 51.0 | 050A00 | 050A00 | |

LEGEND

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

Table 7 ELECTRIC HEAT – ELECTRICAL DATA, 3 – 15 TONS

| Unit | Voltage-Ph-Hz | IFM Type | Electric Heater Part Number CRHEATERXXXXXX | Nominal Power | APP Power | Single Point Kit Part Number CRSINGLEXXXXXX | |
|---------------|---------------|---------------|---|---------------|-----------|--|-----------------------------|
| | | | | | | No C.O. Or Unpwr'd C.O. | |
| | | | | | | No P.E. | W/P.E. (pwr'd from/unit) |
| RAS120 | 208/230-3-60 | STD | 117A00 | 10.4 | 7.8/9.6 | 047A00 | 047A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 047A00 | 047A00 |
| | | | 112A00 | 32.0 | 24.0/29.4 | 049A00 | 049A00 |
| | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 051A00 | 051A00 |
| | | | 112A00,110A00 | 50.0 | 37.6/45.9 | 051A00 | 051A00 |
| | | MED | 117A00 | 10.4 | 7.8/9.6 | 047A00 | 047A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 049A00 | 049A00 |
| | | | 112A00 | 32.0 | 24.0/29.4 | 049A00 | 049A00 |
| | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 051A00 | 051A00 |
| | | | 112A00,110A00 | 50.0 | 37.6/45.9 | 051A00 | 051A00 |
| | | HIGH | 117A00 | 10.4 | 7.8/9.6 | 047A00 | 049A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 049A00 | 049A00 |
| | 112A00 | | 32.0 | 24.0/29.4 | 049A00 | 049A00 | |
| | 112A00,117A00 | | 42.4 | 31.8/38.9 | 051A00 | 051A00 | |
| | 112A00,110A00 | | 50.0 | 37.6/45.9 | 051A00 | 051A00 | |
| | 460-3-60 | STD | 116A00 | 13.9 | 12.8 | 047A00 | 047A00 |
| | | | 113A00 | 16.5 | 15.2 | 047A00 | 047A00 |
| | | | 115A00 | 33.0 | 30.3 | 047A00 | 047A00 |
| | | | 114A00,116A00 | 41.7 | 38.3 | 050A00 | 050A00 |
| | | | 115A00,113A00 | 50.0 | 45.9 | 050A00 | 050A00 |
| | | MED | 116A00 | 13.9 | 12.8 | 047A00 | 047A00 |
| | | | 113A00 | 16.5 | 15.2 | 047A00 | 047A00 |
| | | | 115A00 | 33.0 | 30.3 | 047A00 | 047A00 |
| | | | 114A00,116A00 | 41.7 | 38.3 | 050A00 | 050A00 |
| 115A00,113A00 | | | 50.0 | 45.9 | 050A00 | 050A00 | |
| HIGH | | 116A00 | 13.9 | 12.8 | 047A00 | 047A00 | |
| | | 113A00 | 16.5 | 15.2 | 047A00 | 047A00 | |
| | 115A00 | 33.0 | 30.3 | 047A00 | 050A00 | | |
| | 114A00,116A00 | 41.7 | 38.3 | 050A00 | 050A00 | | |
| | 115A00,113A00 | 50.0 | 45.9 | 050A00 | 050A00 | | |
| 575-3-60 | STD | 118A00 | 17.0 | 17.0 | 047A00 | 047A00 | |
| | | 119A00 | 34.0 | 34.0 | 047A00 | 047A00 | |
| | | 118A00,119A00 | 51.0 | 51.0 | 050A00 | 050A00 | |
| | MED | 118A00 | 17.0 | 17.0 | 047A00 | 047A00 | |
| | | 119A00 | 34.0 | 34.0 | 047A00 | 047A00 | |
| | | 118A00,119A00 | 51.0 | 51.0 | 050A00 | 050A00 | |
| | HIGH | 118A00 | 17.0 | 17.0 | 047A00 | 047A00 | |
| | | 119A00 | 34.0 | 34.0 | 047A00 | 050A00 | |
| | | 118A00,119A00 | 51.0 | 51.0 | 050A00 | 050A00 | |

LEGEND

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

Table 7 ELECTRIC HEAT – ELECTRICAL DATA, 3 – 15 TONS

| Unit | Voltage-Ph-Hz | IFM Type | Electric Heater Part Number CRHEATERXXXXXX | Nominal Power | APP Power | Single Point Kit Part Number CRSINGLEXXXXXX | |
|---------------|---------------|---------------|---|---------------|-----------|--|-----------------------------|
| | | | | | | No C.O. Or Unpwr'd C.O. | |
| | | | | | | No P.E. | W/P.E. (pwr'd from/unit) |
| RAS150 | 208/230-3-60 | STD | 117A00 | 10.4 | 7.8/9.6 | 049A00 | 049A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 049A00 | 049A00 |
| | | | 112A00 | 32.0 | 24.0/29.4 | 049A00 | 049A00 |
| | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 051A00 | 051A00 |
| | | | 112A00,110A00 | 50.0 | 37.6/45.9 | 051A00 | 051A00 |
| | | MED | 117A00 | 10.4 | 7.8/9.6 | 049A00 | 049A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 049A00 | 049A00 |
| | | | 112A00 | 32.0 | 24.0/29.4 | 049A00 | 049A00 |
| | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 051A00 | 051A00 |
| | | | 112A00,110A00 | 50.0 | 37.6/45.9 | 051A00 | 051A00 |
| | | HIGH | 117A00 | 10.4 | 7.8/9.6 | 049A00 | 049A00 |
| | | | 110A00 | 16.0 | 12.0/14.7 | 049A00 | 049A00 |
| | | | 112A00 | 32.0 | 24.0/29.4 | 049A00 | 049A00 |
| | | | 112A00,117A00 | 42.4 | 31.8/38.9 | 051A00 | 051A00 |
| | | | 112A00,110A00 | 50.0 | 37.6/45.9 | 051A00 | 051A00 |
| | 460-3-60 | STD | 116A00 | 13.9 | 12.8 | 047A00 | 047A00 |
| | | | 113A00 | 16.5 | 15.2 | 047A00 | 047A00 |
| | | | 115A00 | 33.0 | 30.3 | 047A00 | 047A00 |
| | | | 114A00,116A00 | 41.7 | 38.3 | 050A00 | 050A00 |
| | | | 115A00,113A00 | 50.0 | 45.9 | 050A00 | 050A00 |
| | | MED | 116A00 | 13.9 | 12.8 | 047A00 | 047A00 |
| | | | 113A00 | 16.5 | 15.2 | 047A00 | 047A00 |
| | | | 115A00 | 33.0 | 30.3 | 047A00 | 047A00 |
| | | | 114A00,116A00 | 41.7 | 38.3 | 050A00 | 050A00 |
| 115A00,113A00 | | | 50.0 | 45.9 | 050A00 | 050A00 | |
| HIGH | | 116A00 | 13.9 | 12.8 | 047A00 | 047A00 | |
| | | 113A00 | 16.5 | 15.2 | 047A00 | 047A00 | |
| | | 115A00 | 33.0 | 30.3 | 047A00 | 050A00 | |
| | | 114A00,116A00 | 41.7 | 38.3 | 050A00 | 050A00 | |
| | | 115A00,113A00 | 50.0 | 45.9 | 050A00 | 050A00 | |
| 575-3-60 | STD | 118A00 | 17.0 | 17.0 | 047A00 | 047A00 | |
| | | 119A00 | 34.0 | 34.0 | 047A00 | 047A00 | |
| | | 118A00,119A00 | 51.0 | 51.0 | 050A00 | 050A00 | |
| | MED | 118A00 | 17.0 | 17.0 | 047A00 | 047A00 | |
| | | 119A00 | 34.0 | 34.0 | 047A00 | 047A00 | |
| | | 118A00,119A00 | 51.0 | 51.0 | 050A00 | 050A00 | |
| | HIGH | 118A00 | 17.0 | 17.0 | 047A00 | 047A00 | |
| | | 119A00 | 34.0 | 34.0 | 047A00 | 050A00 | |
| | | 118A00,119A00 | 51.0 | 51.0 | 050A00 | 050A00 | |

LEGEND

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

Table 7 ELECTRIC HEAT – ELECTRICAL DATA, 3 – 15 TONS



| Unit | Nominal V-Ph-Hz | IFM TYPE | ELECTRIC HEATER PART NUMBER CRHEATERXXXXXX | NOM PWR (kW) | APP PWR (kW) | SINGLE POINT KIT PART NUMBER CR SINGLEXXXXXX | |
|----------------------|----------------------|----------------------|--|--------------|--------------|--|----------------------|
| | | | | | | NO C.O. or UNPWRD C.O. | |
| | | | | | | NO P.E. | w/P.E. (pwr fr/unit) |
| RAS180 | 208/230-3-60 | STD | 291A00 | 16.5 | 12.4/15.2 | 049A00 | 049A00 |
| | | | 294A00 | 33.5 | 25.2/30.8 | 049A00 | 049A00 |
| | | | 288A00,294A00 | 43.5 | 32.7/40.0 | 051A00 | 051A00 |
| | | | 291A00,294A00 | 50.0 | 37.6/45.9 | 051A00 | 051A00 |
| | | | 294A00,294A00 | 67.0 | 50.3/61.5 | 053A00 | 053A00 |
| | | MED | 291A00 | 16.5 | 12.4/15.2 | 049A00 | 049A00 |
| | | | 294A00 | 33.5 | 25.2/30.8 | 049A00 | 049A00 |
| | | | 288A00,294A00 | 43.5 | 32.7/40.0 | 051A00 | 051A00 |
| | | | 291A00,294A00 | 50.0 | 37.6/45.9 | 051A00 | 051A00 |
| | | | 294A00,294A00 | 67.0 | 50.3/61.5 | 053A00 | 053A00 |
| | | HIGH High Efficiency | 291A00 | 16.5 | 12.4/15.2 | 049A00 | 049A00 |
| | | | 294A00 | 33.5 | 25.2/30.8 | 049A00 | 049A00 |
| | 288A00,294A00 | | 43.5 | 32.7/40.0 | 051A00 | 051A00 | |
| | 291A00,294A00 | | 50.0 | 37.6/45.9 | 051A00 | 051A00 | |
| | 460-3-60 | STD | 292A00 | 16.5 | 15.2 | - | - |
| | | | 295A00 | 33.5 | 30.8 | 047A00 | 047A00 |
| | | | 289A00,295A00 | 43.5 | 40.0 | 050A00 | 050A00 |
| | | | 292A00,295A00 | 50.0 | 45.9 | 050A00 | 050A00 |
| | | | 295A00,295A00 | 67.0 | 61.5 | 050A00 | 050A00 |
| | | MED | 292A00 | 16.5 | 15.2 | - | - |
| | | | 295A00 | 33.5 | 30.8 | 047A00 | 047A00 |
| | | | 289A00,295A00 | 43.5 | 40.0 | 050A00 | 050A00 |
| | | | 292A00,295A00 | 50.0 | 45.9 | 050A00 | 050A00 |
| | | | 295A00,295A00 | 67.0 | 61.5 | 050A00 | 050A00 |
| HIGH High Efficiency | | 292A00 | 16.5 | 15.2 | - | - | |
| | | 295A00 | 33.5 | 30.8 | 050A00 | 050A00 | |
| | 289A00,295A00 | 43.5 | 40.0 | 050A00 | 050A00 | | |
| | 292A00,295A00 | 50.0 | 45.9 | 050A00 | 050A00 | | |
| 575-3-60 | STD | 293A00 | 16.5 | 15.2 | - | - | |
| | | 296A00 | 33.5 | 30.8 | 047A00 | 047A00 | |
| | | 290A00,296A00 | 43.5 | 40.0 | 047A00 | 050A00 | |
| | | 293A00,296A00 | 50.0 | 45.9 | 047A00 | 047A00 | |
| | | 296A00,296A00 | 67.0 | 61.5 | 050A00 | 050A00 | |
| | MED | 293A00 | 16.5 | 15.2 | - | - | |
| | | 296A00 | 33.5 | 30.8 | 047A00 | 047A00 | |
| | | 290A00,296A00 | 43.5 | 40.0 | 047A00 | 050A00 | |
| | | 293A00,296A00 | 50.0 | 45.9 | 047A00 | 047A00 | |
| | | 296A00,296A00 | 67.0 | 61.5 | 050A00 | 050A00 | |
| | HIGH High Efficiency | 293A00 | 16.5 | 15.2 | - | - | |
| | | 296A00 | 33.5 | 30.8 | 047A00 | 047A00 | |
| 290A00,296A00 | | 43.5 | 40.0 | 050A00 | 050A00 | | |
| 293A00,296A00 | | 50.0 | 45.9 | 050A00 | 050A00 | | |
| 296A00,296A00 | 296A00 | 67.0 | 61.5 | 050A00 | 050A00 | | |

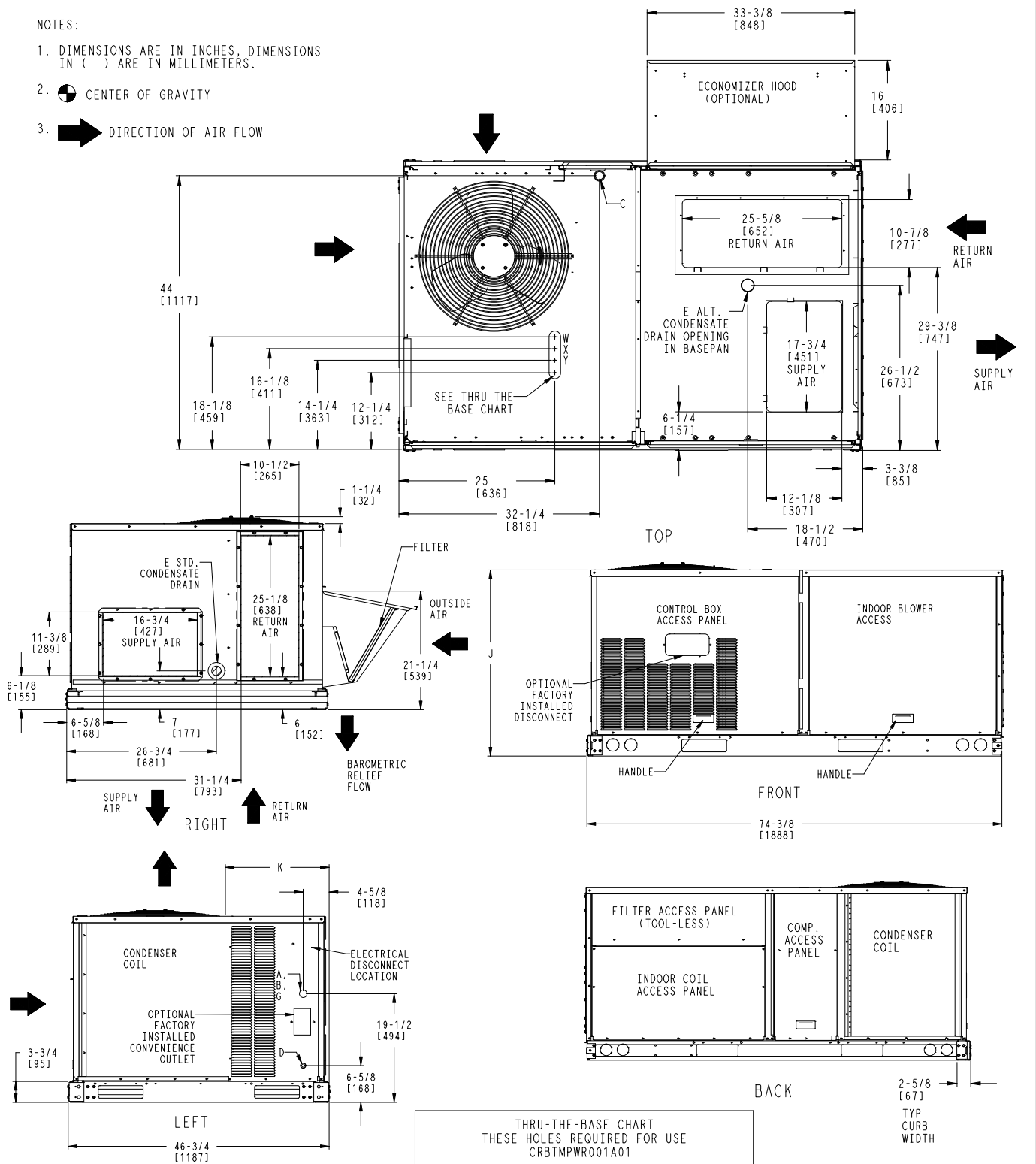
LEGEND

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

BASE UNIT DIMENSIONS – RAS036-072

NOTES:

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



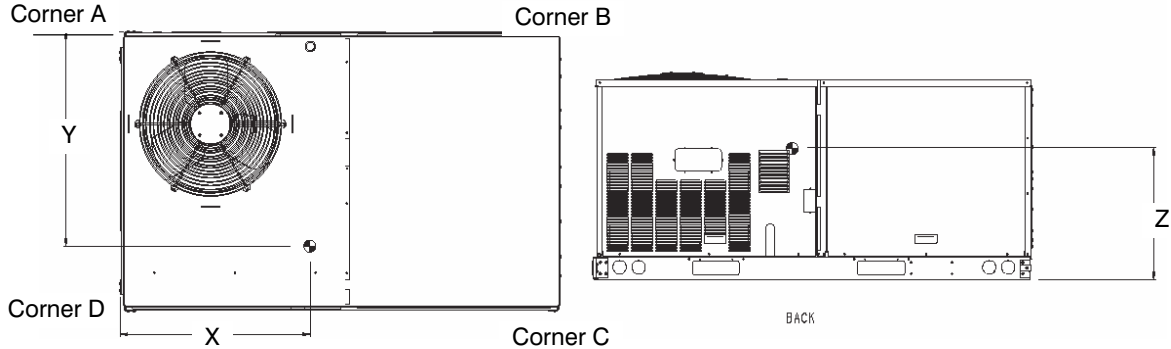
| CONNECTION SIZES | |
|------------------|---|
| A | 1 3/8" DIA [35] FIELD POWER SUPPLY HOLE |
| B | 2" DIA [51] POWER SUPPLY KNOCKOUT |
| C | 1 3/4" DIA [44] GAUGE ACCESS PLUG |
| D | 7/8" DIA [22] FIELD CONTROL WIRING HOLE |
| E | 3/4"-14 NPT CONDENSATE DRAIN |
| G | 2 1/2" DIA [64] POWER SUPPLY KNOCK-OUT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

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

| UNIT | J | K |
|------------|---------------|--------------|
| 036 | 33 3/8 [847] | 18 5/8 [472] |
| 048 | 33 3/8 [847] | 14 7/8 [377] |
| 060 | 33 3/8 [847] | 14 7/8 [377] |
| 072 | 41 3/8 [1051] | 14 7/8 [377] |

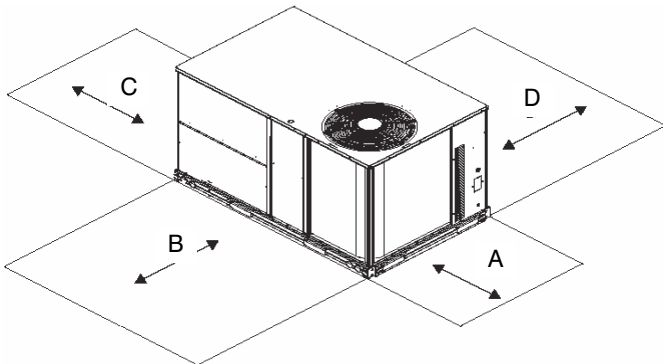
WEIGHT & CLEARANCE DIMENSIONS – RAS036–072 (cont.)

| UNIT | BASE UNIT WEIGHT | | Corner Weight A | | Corner Weight B | | Corner Weight C | | Corner Weight D | | Center of Gravity In [mm] | | |
|--------|------------------|-----|-----------------|----|-----------------|----|-----------------|----|-----------------|----|---------------------------|----------|--------------|
| | 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] |



UNIT CLEARANCES

| LOC | DIMENSION | CONDITION |
|-----|---|--|
| A | 48" (1219 mm) 18" (457 mm) 18" (457 mm) 12" (305 mm) | Unit disconnect is mounted on panel No disconnect, convenience outlet option Recommended service clearance Minimum clearance |
| B | 42" (1067 mm) 36" (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" (914 mm) 18" (457 mm) | Side condensate drain is used Minimum clearance |
| D | 48" (1219 mm) 42" (1067 mm) 36" (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 |



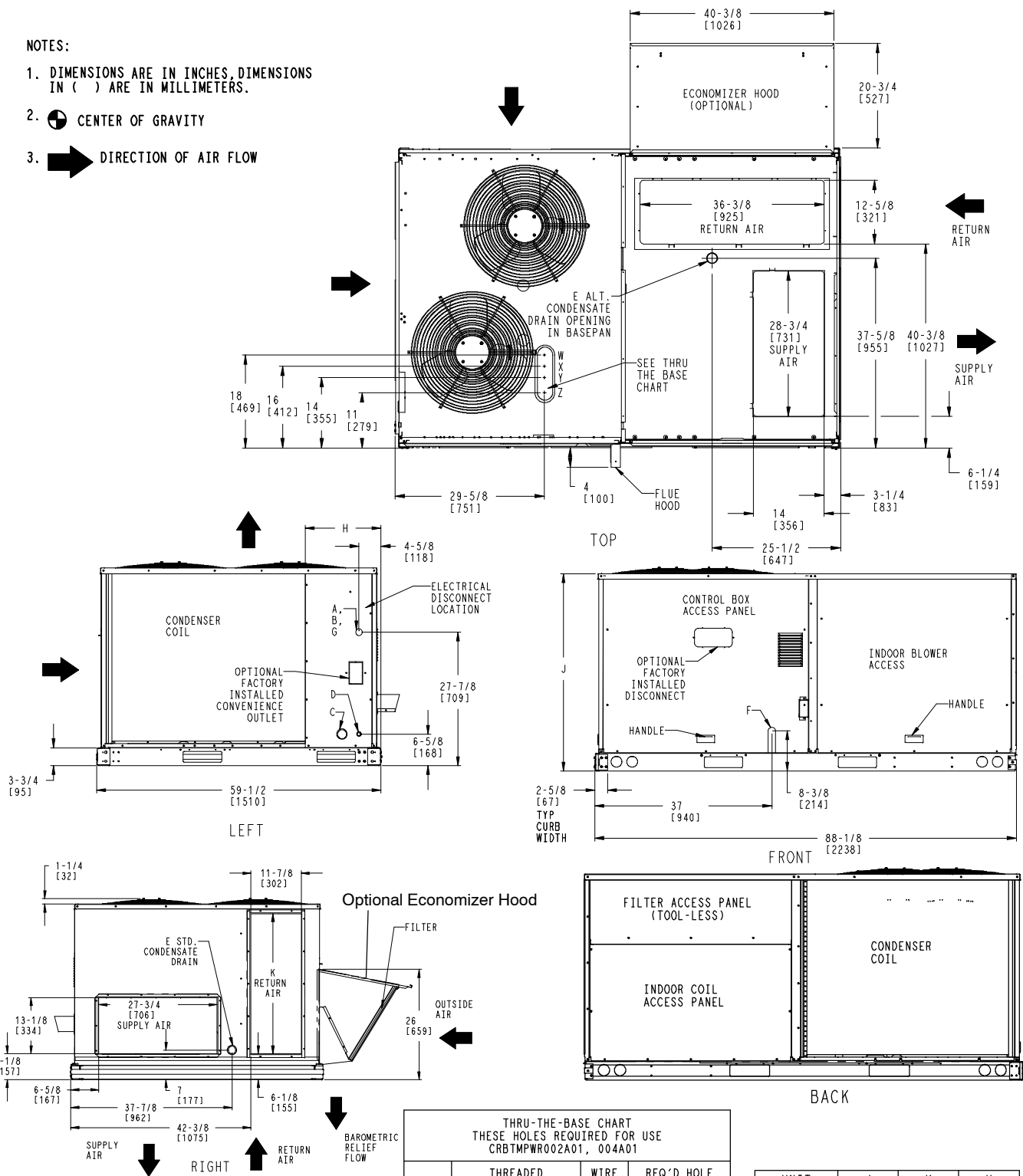
BASE UNIT DIMENSIONS – RAS090–121

NOTES:

1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN () ARE IN MILLIMETERS.

2.  CENTER OF GRAVITY

3.  DIRECTION OF AIR FLOW



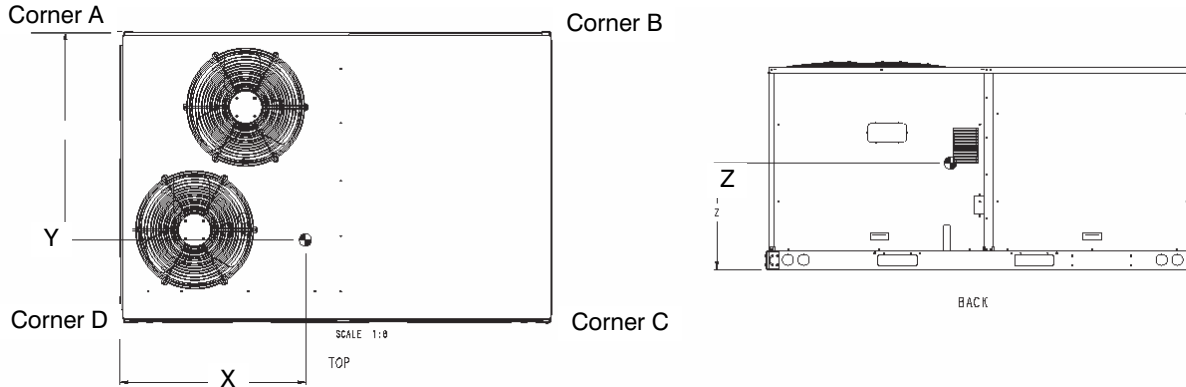
| CONNECTION SIZES | | | |
|------------------|-----------------|---------------------------|--|
| A | 1 3/8" DIA [35] | FIELD POWER SUPPLY HOLE | |
| B | 2 1/2" [64] DIA | POWER SUPPLY KNOCKOUT | |
| C | 1 3/4" DIA [51] | GAUGE ACCESS PLUG | |
| D | 7/8" DIA [22] | FIELD CONTROL WIRING HOLE | |
| E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

| THRU-THE-BASE CHART THESE HOLES REQUIRED FOR USE CRBTMPWR002A01, 004A01 | | | |
|--|---|----------|-------------------------|
| | THREADED CONDUIT SIZE | WIRE USE | REQ'D HOLE SIZES (MAX.) |
| W | 1/2" | ACC. | 7/8" (22.2) |
| X | 1/2" | 24V | 7/8" (22.2) |
| Y | 1 1/4" (002,004) | POWER | 1 3/4" (44.4) |
| Z **, * | (004) 3/4" FPT | GAS | 1 5/8" (41.3) |
| FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X, Y, & Z ARE PROVIDED | | | |
| * FOR HEAT SIZES "D" & "S" - A FIELD SUPPLIED 1/2" ADAPTER IS REQUIRED BETWEEN BASE PAN FITTING AND GAS VALVE. | | | |
| ** | (002) PROVIDES 3/4" FPT THRU CURB FLANGE & FITTING. | | |

| UNIT | J | K | H |
|------|---------------|--------------|--------------|
| 091 | 41-1/4 [1048] | 33-3/4 [857] | 15-7/8 [403] |
| 101 | 49-3/8 [1253] | 36-3/8 [925] | 27-7/8 [708] |
| 121 | 49-3/8 [1253] | 36-3/8 [925] | 15-7/8 [403] |
| 090 | 41-1/4 [1048] | 33-3/4 [857] | 15-7/8 [403] |
| 102 | 49-3/8 [1253] | 36-3/8 [925] | 15-7/8 [403] |
| 120 | 49-3/8 [1253] | 36-3/8 [925] | 15-7/8 [403] |

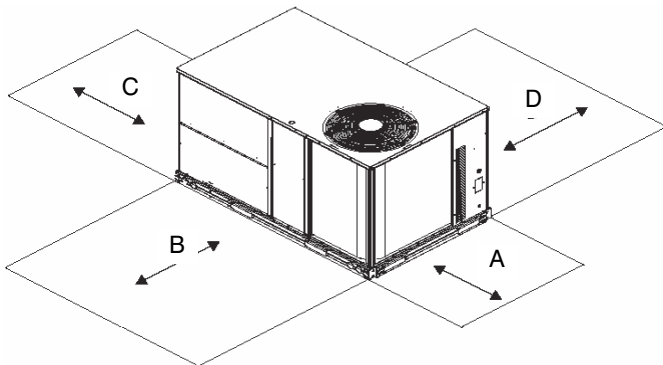
WEIGHT & CLEARANCE DIMENSIONS – RAS090–121 (cont.)

| UNIT | BASE UNIT WEIGHT | | Corner Weight A | | Corner Weight B | | Corner Weight C | | Corner Weight D | | Center of Gravity In [mm] | | |
|--------|------------------|-----|-----------------|-----|-----------------|----|-----------------|-----|-----------------|-----|---------------------------|----------|----------|
| | LBS | KG | LBS | KG | LBS | KG | LBS | KG | LBS | KG | X | Y | Z |
| RAS091 | 705 | 320 | 172 | 78 | 142 | 65 | 177 | 80 | 214 | 97 | 40 [1013] | 33 [838] | 21 [540] |
| RAS101 | 845 | 384 | 206 | 94 | 167 | 76 | 212 | 96 | 261 | 119 | 40 [1003] | 33 [845] | 24 [610] |
| RAS121 | 855 | 388 | 210 | 95 | 180 | 82 | 215 | 98 | 250 | 114 | 41 [1035] | 32 [822] | 25 [641] |
| RAS090 | 760 | 345 | 158 | 72 | 155 | 70 | 222 | 101 | 225 | 102 | 44 [1111] | 35 [889] | 20 [508] |
| RAS102 | 855 | 388 | 223 | 101 | 171 | 77 | 200 | 91 | 261 | 119 | 38 [975] | 32 [816] | 19 [486] |
| RAS120 | 865 | 393 | 225 | 102 | 173 | 79 | 203 | 92 | 264 | 120 | 38 [975] | 32 [816] | 19 [486] |



UNIT CLEARANCES

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



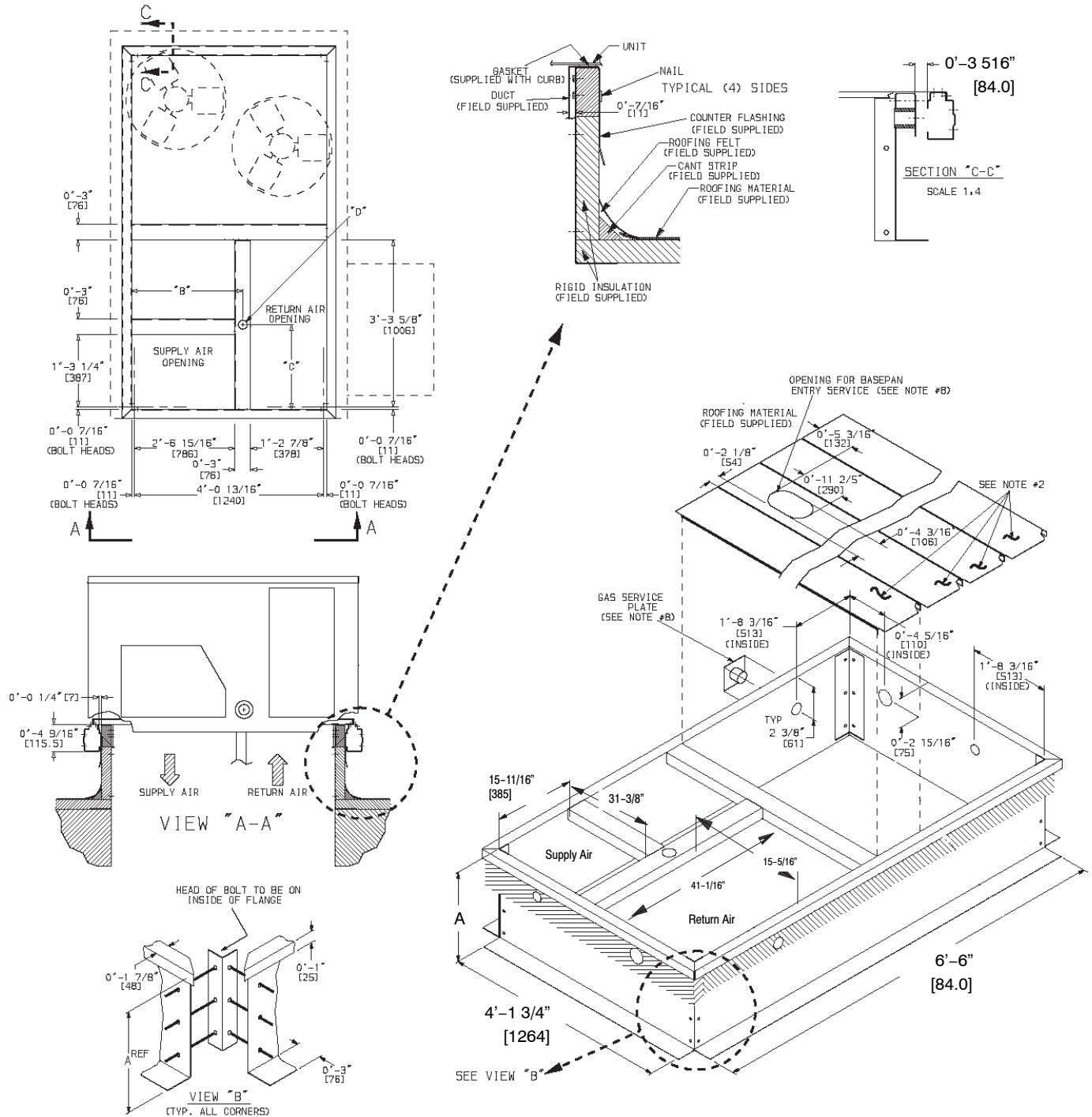
ROOF CURB DETAILS – RAS090 – 150

| Roof Curb Accessory | A | Unit Size |
|---------------------|-------------|------------|
| CRRFCURB003A01 | 1' 2" [356] | RAS090-150 |
| CRRFCURB004A01 | 2' 0" [610] | |

NOTES:



1. Roofcurb accessory is shipped disassembled.
2. Insulated panels, 1" thick polyurethane foam, 1-3/4# density.
3. Dimensions in. [] in millimeters.
4. Roofcurb 16ga steel.
5. Attach ductwork to curb (Flanges of duct rest on curb)
6. Service clearance 4' on each side.
7. ➔ Direction of airflow.
8. Connector pkg. CRBTMPWR002A01 is for thru-the-curb connections. Pkg. CRBTMPWR004A01 is for thru-the-bottom connections.

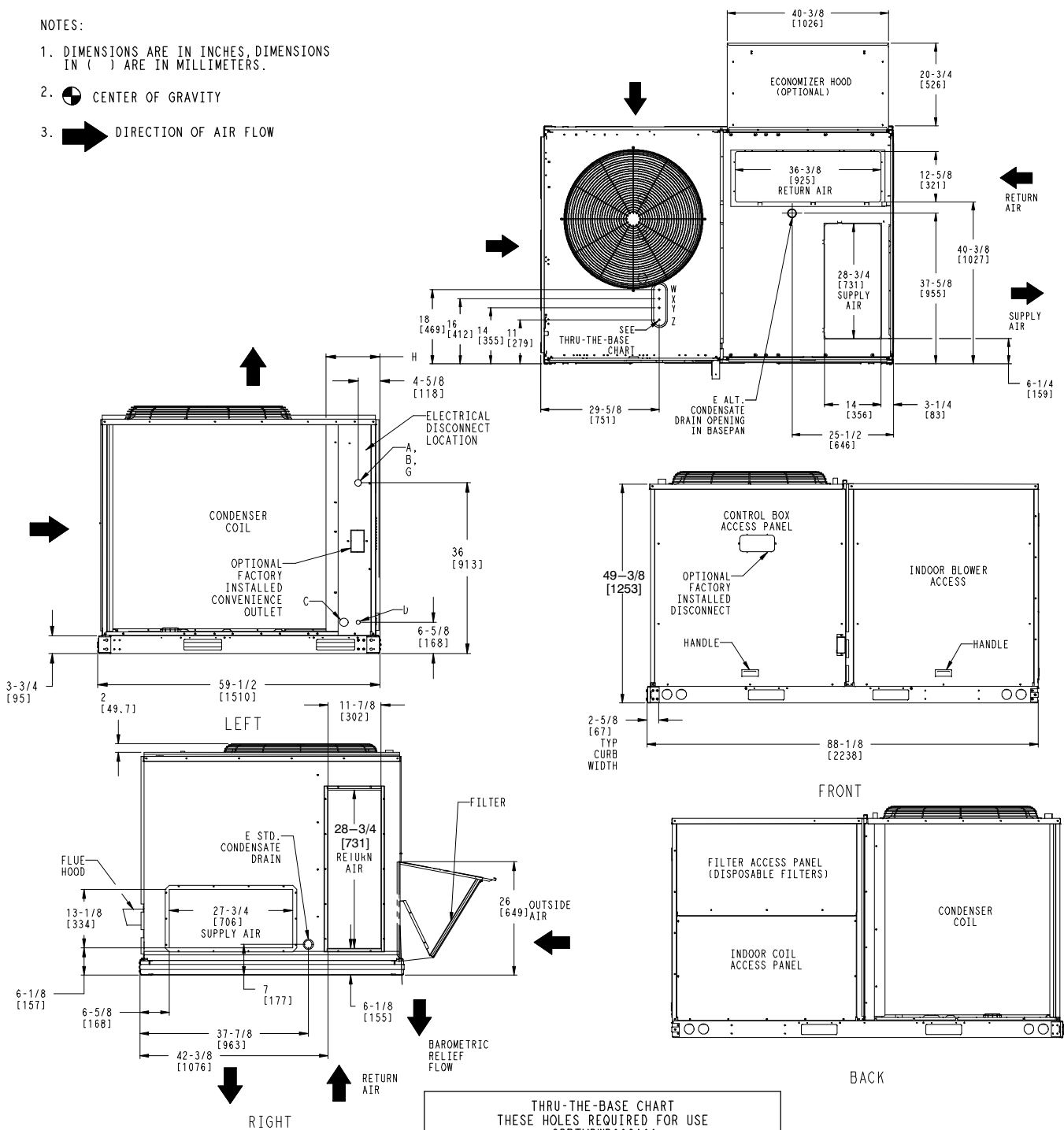
| Connector Pkg. Acc. | B | C | D Alt. Drain Hole | Gas | Power | Control | Accessory Power |
|---------------------|-------------------|---------------------|-------------------|---------------|--------------------|-----------------|-----------------|
| CRBTMPWR002A01 | 2' 8V-7/16" [827] | 1' 10I-15/16" [583] | 11-3/4" [44.5] | 3/4" [19] NPT | 11-1/4" [31.7] NPT | 1/2" [12.7] NPT | 1/2" [12.7] NPT |
| CRBTMPWR004A01 | | | | | | | |



BASE UNIT DIMENSIONS – RAS150

NOTES:

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



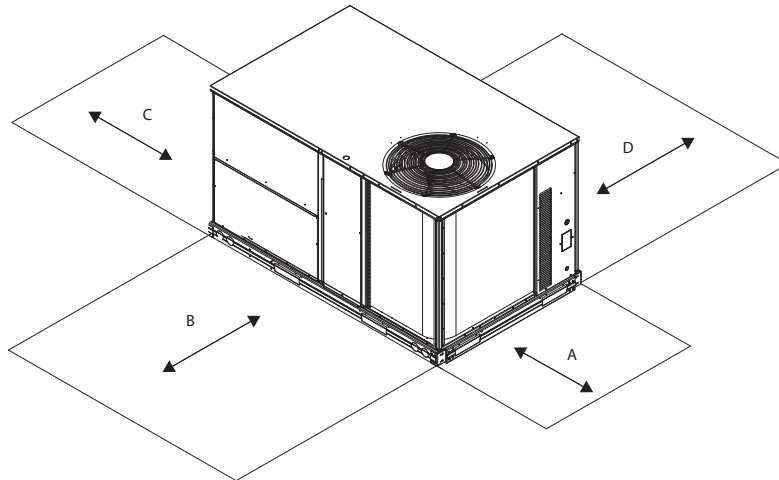
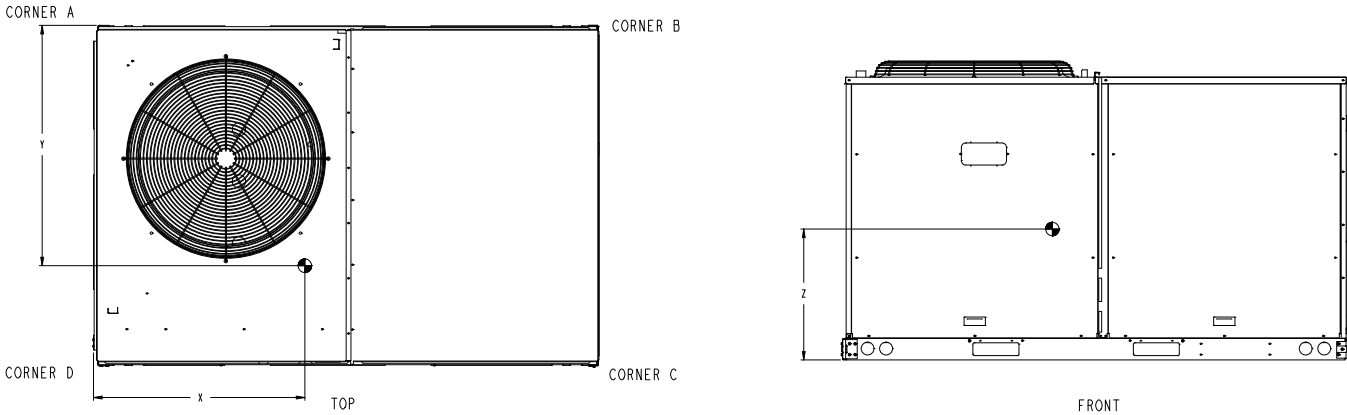
| CONNECTION SIZES | |
|------------------|---|
| A | 1 3/8" [35] DIA FIELD POWER SUPPLY HOLE |
| B | 2 1/2" [64] DIA POWER SUPPLY KNOCKOUT |
| C | 1 3/4" [51] DIA GAUGE ACCESS PLUG |
| D | 7/8" [22] DIA FIELD CONTROL WIRING HOLE |
| E | 3/4"-14 NPT CONDENSATE DRAIN |
| G | 2" [51] DIA POWER SUPPLY KNOCK-OUT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

| THRU-THE-BASE CHART THESE HOLES REQUIRED FOR USE CRBTMPWR02A01 | | | |
|--|-----------------------|----------|-------------------------|
| | THREADED CONDUIT SIZE | WIRE USE | REQ'D HOLE SIZES (MAX.) |
| W | 1/2" | ACC. | 7/8" (22.2) |
| X | 1/2" | 24V | 7/8" (22.2) |
| Y | 1 1/4" (002,004) | POWER | 1 3/4" (44.4) |
| FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X, Y ARE PROVIDED | | | |

| UNIT | H |
|------|--------------|
| 150 | 15-7/8 [403] |

BASE UNIT DIMENSIONS – RAS150

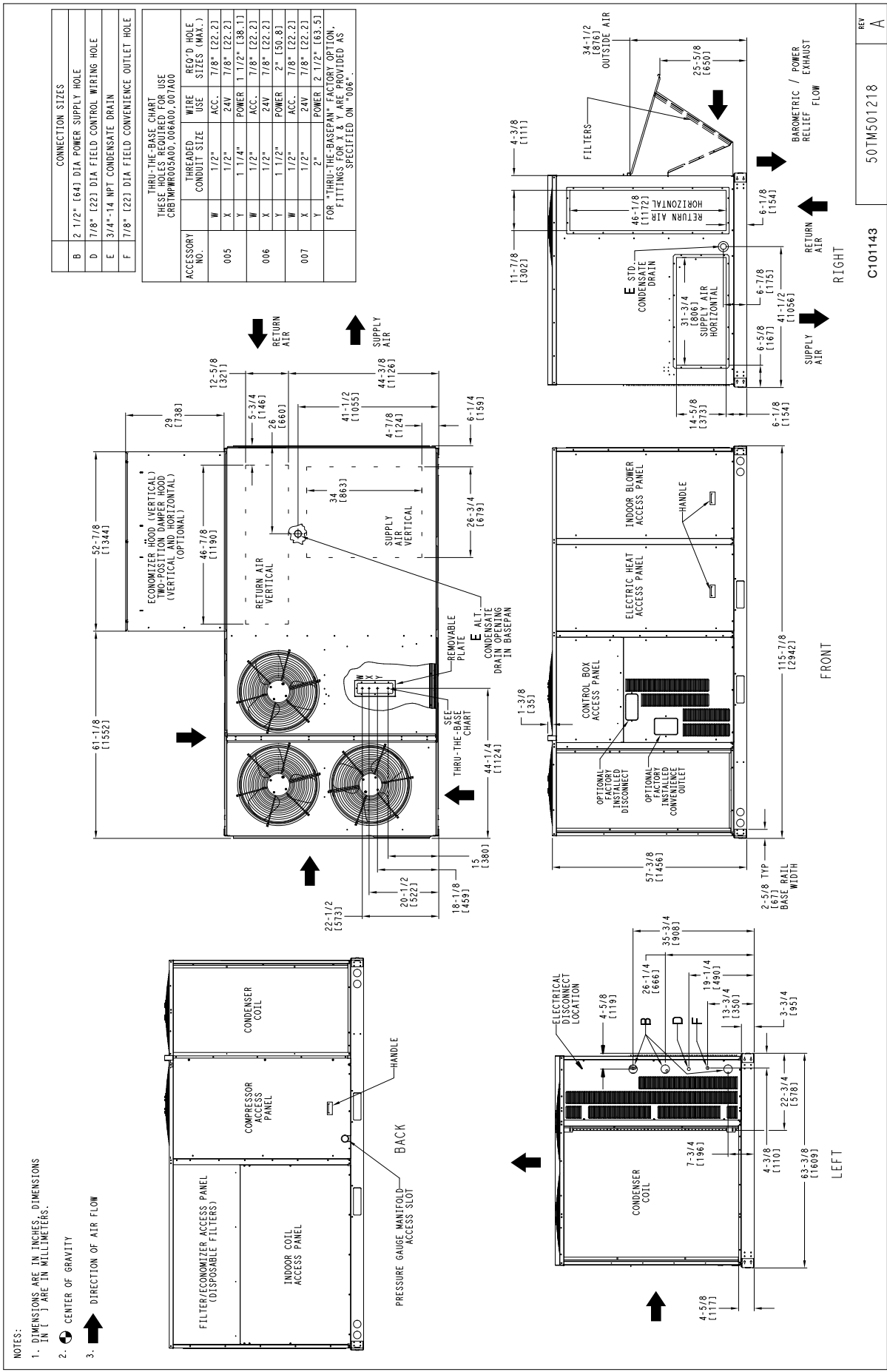
| UNIT | STD. UNIT WEIGHT | | CORNER WEIGHT (A) | | CORNER WEIGHT (B) | | CORNER WEIGHT (C) | | CORNER WEIGHT (D) | | C.G. | | |
|--------|------------------|-----|-------------------|-----|-------------------|-----|-------------------|-----|-------------------|-----|--------------|----------|--------------|
| | LBS. | KG. | LBS. | KG. | LBS. | KG. | LBS. | KG. | LBS. | KG. | X | Y | Z |
| RAS150 | 1075 | 489 | 340 | 155 | 155 | 70 | 181 | 82 | 399 | 181 | 27–1/2 [721] | 32 [813] | 20–1/2 [523] |



Service Clearance

| LOC | DIMENSION | CONDITION |
|-----|-------------------------|--|
| A | 48" (1219 mm) | Unit disconnect is mounted on panel |
| | 18" (457 mm) | No disconnect, convenience outlet option |
| | 18" (457 mm) | Recommended service clearance |
| | 12" (305 mm) | Minimum clearance |
| B | 42" (1067 mm) | Surface behind servicer is grounded (e.g., metal, masonry wall) |
| | 36" (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" (914 mm) | Side condensate drain is used |
| | 18" (457 mm) | Minimum clearance |
| D | 42" (1067 mm) | Surface behind servicer is grounded (e.g., metal, masonry wall, another unit) |
| | 36" (914 mm) | Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass) |

BASE UNIT DIMENSIONS - RAS180

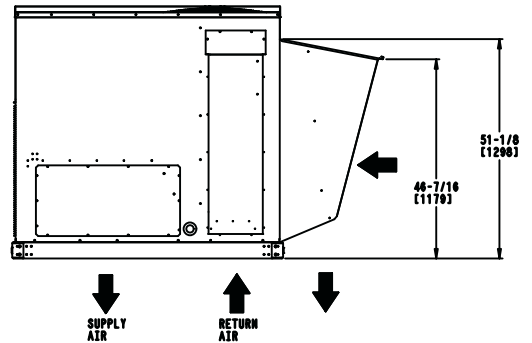
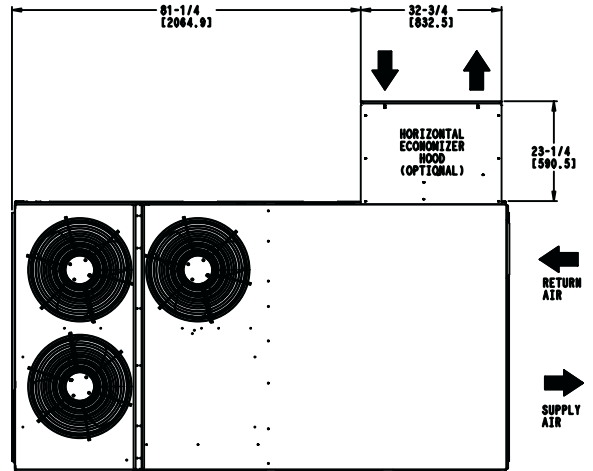
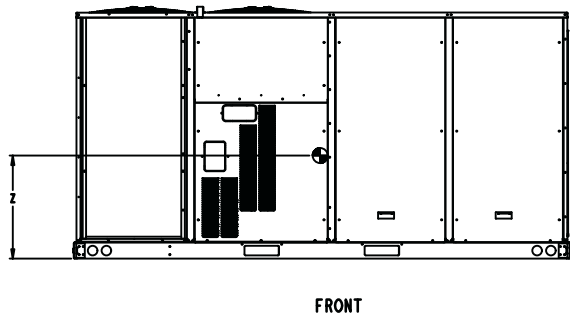
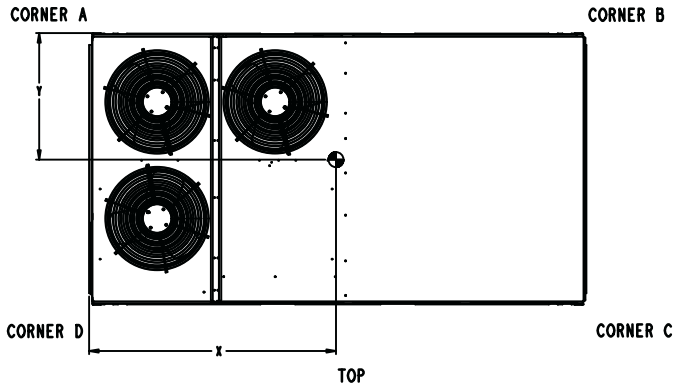


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BASE UNIT DIMENSIONS – RAS180

| 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 1/2 [1486] | 32 [813] | 21 [533] |

STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT & WITHOUT PACKAGING.



HORIZONTAL ECONOMIZER

C101116

OPTION / ACCESSORY WEIGHTS

| OPTION / ACCESSORY | OPTION / ACCESSORY WEIGHTS | | | | | | | | | | | | | | | | | |
|---|----------------------------|----|-----|----|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 04 | | 05 | | 06 | | 07 | | 08 | | 09 | | 12 | | 14 | | 16 | |
| | lb | kg | lb | kg | lb | kg | lb | kg | lb | kg | lb | kg | lb | kg | lb | kg | lb | kg |
| 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 |
| Economizer | 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 ¹ | 6 | 3 | 13 | 6 | 13 | 6 | 15 | 7 | 12 | 5 | 23 | 10 | 23 | 10 | 23 | 10 | 190 | 86 |
| Cu/Cu Cond. & Evaporator Coils ¹ | 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 |
| 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 |

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

¹ Where Available

APPLICATION DATA

Min operating ambient temp (cooling):

In mechanical cooling mode, your rooftop can safely operate down to an outdoor ambient temperature of 25°F (-4°C), with an accessory winter start kit; 40°F (4°C) standard min operating temperature. 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 (heating and cooling):

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 sales representative for assistance.

Motor limits, break horsepower (BHP):

Due to the internal unit design, air path, and specially designed motors, the full horsepower (maximum continuous BHP) band, as listed in Table 6, can be used with the utmost confidence. There is no need for extra safety factors, the 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 design loads, it doesn't need excess capacity. In fact, excess capacity typically results in very poor partload performance and humidity control.

Using higher design temperatures than ASHRAE recommends for your location, adding "safety factors" to the calculated load, are all signs of oversizing air conditioners. Oversizing the air conditioner leads to short cycling (quick on-off cycles) which results in poor humidity control, reduced efficiency, higher utility bills, larger indoor temperature swings, excessive noise, and increased wear and tear on the air conditioner.

Rather than oversizing an air conditioner, engineers should "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. Please contact your local representative for assistance.

Low ambient applications

The optional economizer can adequately 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 rooftop can operate to ambient temperatures down to -20°F (-29°C) using the recommended accessory Motormaster low ambient controller.

Winter start

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

SELECTION PROCEDURE (WITH RAS072 EXAMPLE)¹

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 |
| Heating load | 85.0 MBH |
| External static pressure | 0.66 in.wg |
| Electrical characteristics | 230–3–60 |

II. Make an initial guess at cooling tons.

$$\text{Refrig. tons} = \text{TC}_{\text{Load}} / 12 \text{ MBH per ton}$$

$$\text{Refrig. tons} = 69.0 / 12 = 5.75 \text{ tons}$$

In this case, start by looking at the RAS072.

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

Table 11 shows that, at the application's supply air CFM, mixed air and ambient temperatures, the RAS072 supplies:

$$\text{TC} = 73.7 \text{ MBH}$$

$$\text{SHC} = 54.4 \text{ MBH.}$$

IV. Calculate the building latent heat load.

$$\text{LHC}_{\text{Load}} = \text{TC}_{\text{Load}} - \text{SHC}_{\text{Load}}$$

$$\text{LHC}_{\text{Load}} = 69.0 \text{ MBH} - 51.0 \text{ MBH} = 18.0 \text{ MBH}$$

V. Calculate RTU latent heat capacity.

$$\text{LHC} = \text{TC} - \text{SHC}$$

$$\text{LHC} = 73.7 \text{ MBH} - 54.3 \text{ MBH} = 19.4 \text{ MBH}$$

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

Compare the rooftop's SHC and LHC to the building's sensible and latent heat loads.

VII. Select factory options (FIOP)

Local code requires an economizer for any unit with TC less 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 34 shows, at 2100 CFM & ESP= 0.8, RPM = 1268 & BHP = 1.52

X. Determine electrical requirements.

Table 58 shows the MCA and MOCP of a RAS072 (without convenience outlet) as:

$$\text{MCA} = 30.5 \text{ amps} \ \& \ \text{MOCP} = 45.0 \text{ amps}$$

$$\text{Min. disconnect size: FLA} = 30 \ \& \ \text{LRA} = 157.$$

LEGEND

| | |
|------|--------------------------------|
| BHP | — Break 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 saves time by performing many of the steps above. Contact your 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 Tables 46–57. Use the decimal form in the equation, eg. 80% = .8.

Table 8 – COOLING CAPACITIES

1 STAGE COOLING

3 TONS

| RAS036 | | | 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 |
| | | 58 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 |
| | | 62 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 |
| | 67 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 | |
| | 72 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 | |
| | 76 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 |
| | | 58 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 |
| | | 62 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 |
| | 67 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 | |
| | 72 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 | |
| | 76 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 |
| | | 58 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 |
| | | 62 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 |
| | 67 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 | |
| | 72 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 | |
| | 76 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 |
| | | 58 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 |
| | | 62 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 |
| | 67 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 | |
| | 72 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 | |
| | 76 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 |
| | | 58 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 |
| | | 62 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 |
| | 67 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 | |
| | 72 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 | - | - | - | |
| | 76 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 cooling capacity

Table 9 – COOLING CAPACITIES

1 STAGE COOLING

4 TONS

| RAS048 | | | AMBIENT TEMPERATURE | | | | | | | | | | | |
|--------|----------|------|---------------------|------|------|----------|------|------|----------|------|------|----------|------|------|
| | | | 85 | | | 95 | | | 105 | | | 115 | | |
| | | | EAT (db) | | | EAT (db) | | | EAT (db) | | | EAT (db) | | |
| Cfm | EAT (wb) | Type | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 |
| | | | 1200 | 58 | TC | - | - | - | - | - | - | 36.1 | 36.1 | 40.7 |
| SHC | - | - | | | - | - | - | - | 31.5 | 36.1 | 40.7 | 29.9 | 34.3 | 38.6 |
| 62 | TC | 43.1 | | 43.1 | 43.1 | 40.8 | 40.8 | 40.8 | 38.4 | 38.4 | 39.4 | 35.9 | 35.9 | 38.2 |
| | SHC | 31.2 | | 36.4 | 41.7 | 30.1 | 35.3 | 40.6 | 28.9 | 34.1 | 39.4 | 27.8 | 33.0 | 38.2 |
| 67 | TC | 47.4 | | 47.4 | 47.4 | 45.2 | 45.2 | 45.2 | 42.9 | 42.9 | 42.9 | 40.3 | 40.3 | 40.3 |
| | SHC | 25.9 | | 31.2 | 36.4 | 25.0 | 30.2 | 35.5 | 23.9 | 29.2 | 34.4 | 22.9 | 28.2 | 33.4 |
| 72 | TC | 51.1 | | 51.1 | 51.1 | 49.1 | 49.1 | 49.1 | 46.8 | 46.8 | 46.8 | 43.9 | 43.9 | 43.9 |
| | SHC | 20.1 | | 25.5 | 30.9 | 19.4 | 24.7 | 30.1 | 18.4 | 23.7 | 29.0 | 17.4 | 22.7 | 28.0 |
| 76 | TC | - | | 53.3 | 53.3 | - | 51.5 | 51.5 | - | 49.2 | 49.2 | - | 45.9 | 45.9 |
| | SHC | - | | 20.8 | 27.4 | - | 20.2 | 26.8 | - | 19.3 | 25.7 | - | 18.3 | 24.6 |
| 1400 | 58 | TC | 41.9 | 41.9 | 47.3 | 40.1 | 40.1 | 45.3 | 38.2 | 38.2 | 43.2 | 36.3 | 36.3 | 41.0 |
| | | SHC | 36.6 | 41.9 | 47.3 | 35.0 | 40.1 | 45.3 | 33.3 | 38.2 | 43.2 | 31.7 | 36.3 | 41.0 |
| | 62 | TC | 44.6 | 44.6 | 45.4 | 42.3 | 42.3 | 44.2 | 39.8 | 39.8 | 42.9 | 37.3 | 37.3 | 41.6 |
| | | SHC | 33.4 | 39.4 | 45.4 | 32.3 | 38.3 | 44.2 | 31.0 | 37.0 | 42.9 | 29.8 | 35.7 | 41.6 |
| | 67 | TC | 48.7 | 48.7 | 48.7 | 46.6 | 46.6 | 46.6 | 44.2 | 44.2 | 44.2 | 41.4 | 41.4 | 41.4 |
| | | SHC | 27.3 | 33.2 | 39.2 | 26.4 | 32.3 | 38.3 | 25.3 | 31.3 | 37.3 | 24.2 | 30.2 | 36.2 |
| | 72 | TC | 52.2 | 52.2 | 52.2 | 50.3 | 50.3 | 50.3 | 47.8 | 47.8 | 47.8 | 44.8 | 44.8 | 44.8 |
| | | SHC | 20.6 | 26.7 | 32.7 | 19.9 | 25.9 | 32.0 | 18.9 | 24.9 | 30.9 | 17.9 | 23.8 | 29.7 |
| | 76 | TC | - | 54.1 | 54.1 | - | 52.3 | 52.3 | - | 49.9 | 49.9 | - | 46.4 | 46.4 |
| | | SHC | - | 21.5 | 29.0 | - | 20.8 | 28.0 | - | 19.9 | 26.9 | - | 18.8 | 25.7 |
| 1600 | 58 | TC | 44.0 | 44.0 | 49.6 | 42.1 | 42.1 | 47.4 | 40.1 | 40.1 | 45.2 | 38.1 | 38.1 | 43.0 |
| | | SHC | 38.3 | 44.0 | 49.6 | 36.7 | 42.1 | 47.4 | 34.9 | 40.1 | 45.2 | 33.2 | 38.1 | 43.0 |
| | 62 | TC | 45.7 | 45.7 | 48.6 | 43.5 | 43.5 | 47.5 | 41.0 | 41.0 | 46.0 | 38.5 | 38.5 | 44.4 |
| | | SHC | 35.3 | 42.0 | 48.6 | 34.2 | 40.8 | 47.5 | 32.9 | 39.4 | 46.0 | 31.6 | 38.0 | 44.4 |
| | 67 | TC | 49.8 | 49.8 | 49.8 | 47.6 | 47.6 | 47.6 | 45.1 | 45.1 | 45.1 | 42.3 | 42.3 | 42.3 |
| | | SHC | 28.4 | 35.0 | 41.6 | 27.6 | 34.2 | 40.9 | 26.5 | 33.2 | 39.9 | 25.4 | 32.1 | 38.7 |
| | 72 | TC | 53.0 | 53.0 | 53.0 | 51.1 | 51.1 | 51.1 | 48.6 | 48.6 | 48.6 | 45.4 | 45.4 | 45.4 |
| | | SHC | 21.0 | 27.6 | 34.3 | 20.3 | 27.0 | 33.6 | 19.4 | 26.0 | 32.6 | 18.3 | 24.8 | 31.3 |
| | 76 | TC | - | 54.6 | 54.6 | - | 52.8 | 52.8 | - | 50.4 | 50.4 | - | 46.8 | 46.8 |
| | | SHC | - | 22.0 | 29.9 | - | 21.3 | 29.0 | - | 20.3 | 27.9 | - | 19.2 | 26.6 |
| 1800 | 58 | TC | 44.0 | 44.0 | 50.3 | 42.1 | 42.1 | 48.1 | 40.1 | 40.1 | 45.9 | 38.0 | 38.0 | 43.5 |
| | | SHC | 37.6 | 44.0 | 50.3 | 36.0 | 42.1 | 48.1 | 34.3 | 40.1 | 45.9 | 32.6 | 38.0 | 43.5 |
| | 62 | TC | 45.7 | 45.7 | 49.5 | 43.5 | 43.5 | 48.3 | 41.0 | 41.0 | 46.8 | 38.4 | 38.4 | 45.2 |
| | | SHC | 34.5 | 42.0 | 49.5 | 33.4 | 40.8 | 48.3 | 32.1 | 39.4 | 46.8 | 30.8 | 38.0 | 45.2 |
| | 67 | TC | 49.8 | 49.8 | 49.8 | 47.6 | 47.6 | 47.6 | 45.1 | 45.1 | 45.1 | 42.3 | 42.3 | 42.3 |
| | | SHC | 27.6 | 35.0 | 42.5 | 26.8 | 34.2 | 41.7 | 25.7 | 33.2 | 40.7 | 24.6 | 32.1 | 39.5 |
| | 72 | TC | 53.0 | 53.0 | 53.0 | 51.1 | 51.1 | 51.1 | 48.6 | 48.6 | 48.6 | 45.4 | 45.4 | 45.4 |
| | | SHC | 20.2 | 27.6 | 35.1 | 19.5 | 27.0 | 34.4 | 18.5 | 26.0 | 33.4 | 17.5 | 24.8 | 32.1 |
| | 76 | TC | - | 54.6 | 54.6 | - | 52.8 | 52.8 | - | 50.4 | 50.4 | - | 46.8 | 46.8 |
| | | SHC | - | 22.0 | 30.9 | - | 21.3 | 30.0 | - | 20.3 | 28.9 | - | 19.2 | 27.5 |
| 2000 | 58 | TC | 46.9 | 46.9 | 52.9 | 45.0 | 45.0 | 50.8 | 42.9 | 42.9 | 48.4 | 40.7 | 40.7 | 45.9 |
| | | SHC | 40.9 | 46.9 | 52.9 | 39.3 | 45.0 | 50.8 | 37.4 | 42.9 | 48.4 | 35.5 | 40.7 | 45.9 |
| | 62 | TC | 47.5 | 47.5 | 54.0 | 45.3 | 45.3 | 52.5 | 43.0 | 43.0 | 50.3 | 40.7 | 40.7 | 47.7 |
| | | SHC | 38.5 | 46.3 | 54.0 | 37.3 | 44.9 | 52.5 | 35.6 | 43.0 | 50.3 | 33.8 | 40.7 | 47.7 |
| | 67 | TC | 51.2 | 51.2 | 51.2 | 49.1 | 49.1 | 49.1 | 46.5 | 46.5 | 46.5 | 43.5 | 43.5 | 43.5 |
| | | SHC | 30.5 | 38.3 | 46.0 | 29.8 | 37.6 | 45.5 | 28.7 | 36.6 | 44.5 | 27.5 | 35.4 | 43.2 |
| | 72 | TC | 54.0 | 54.0 | 54.0 | 52.1 | 52.1 | 52.1 | 49.7 | 49.7 | 49.7 | 46.2 | 46.2 | 46.2 |
| | | SHC | 21.7 | 29.2 | 36.8 | 21.1 | 28.7 | 36.4 | 20.1 | 27.8 | 35.4 | 18.9 | 26.4 | 33.9 |
| | 76 | TC | - | 55.2 | 55.2 | - | 53.5 | 53.5 | - | 51.0 | 51.0 | - | 47.3 | 47.3 |
| | | SHC | - | 22.7 | 31.4 | - | 22.0 | 30.6 | - | 21.1 | 29.6 | - | 19.9 | 28.1 |

LEGEND:

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

Table 10 – COOLING CAPACITIES

1 STAGE COOLING

5 TONS

| RAS060 | | | 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 cooling capacity

Table 11 – COOLING CAPACITIES

1 STAGE COOLING

6 TONS

| RAS072 | | | 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 |
| | | 58 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 |
| | | 62 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 |
| | 67 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 | |
| | 72 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 | |
| | 76 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 |
| | | 58 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 |
| | | 62 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 |
| | 67 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 | |
| | 72 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 | |
| | 76 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 |
| | | 58 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 |
| | | 62 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 |
| | 67 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 | |
| | 72 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 | |
| | 76 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 |
| | | 58 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 |
| | | 62 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 |
| | 67 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 | |
| | 72 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 | |
| | 76 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 |
| | | 58 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 |
| | | 62 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 |
| | 67 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 | |
| | 72 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 | |
| | 76 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 cooling capacity

Table 12 – COOLING CAPACITIES

1 STAGE COOLING

7.5 TONS

| RAS091 | | | AMBIENT TEMPERATURE | | | | | | | | | | | |
|--------|----------|-----------|---------------------|-------|-------|----------|-------|-------|----------|-------|-------|---------|------|------|
| | | | 85 | | | 95 | | | 105 | | | 115 | | |
| | | | EAT (db) | | | EAT (db) | | | EAT (db) | | | EA (db) | | |
| Cfm | EAT (wb) | TC SHC | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 |
| | | | 2250 | 58 | TC | 81.2 | 81.2 | 91.8 | 77.5 | 77.5 | 87.7 | 73.6 | 73.6 | 83.3 |
| | | SHC | 70.5 | 81.2 | 91.8 | 67.3 | 77.5 | 87.7 | 63.9 | 73.6 | 83.3 | 60.4 | 69.5 | 78.7 |
| | 62 | TC | 86.9 | 86.9 | 86.9 | 82.3 | 82.3 | 84.0 | 77.2 | 77.2 | 81.5 | 71.9 | 71.9 | 78.8 |
| | | SHC | 63.6 | 74.9 | 86.2 | 61.4 | 72.7 | 84.0 | 58.9 | 70.2 | 81.5 | 56.3 | 67.6 | 78.8 |
| | 67 | TC | 95.2 | 95.2 | 95.2 | 90.7 | 90.7 | 90.7 | 85.7 | 85.7 | 85.7 | 79.9 | 79.9 | 79.9 |
| | | SHC | 52.8 | 64.2 | 75.6 | 50.9 | 62.2 | 73.6 | 48.8 | 60.1 | 71.5 | 46.3 | 57.6 | 68.9 |
| | 72 | TC | 103.5 | 103.5 | 103.5 | 98.9 | 98.9 | 98.9 | 93.8 | 93.8 | 93.8 | 87.3 | 87.3 | 87.3 |
| | | SHC | 41.5 | 53.1 | 64.6 | 39.7 | 51.2 | 62.7 | 37.7 | 49.2 | 60.6 | 35.3 | 46.6 | 57.8 |
| | 76 | TC | - | 109.6 | 109.6 | - | 104.8 | 104.8 | - | 99.1 | 99.1 | - | 91.6 | 91.6 |
| | | SHC | - | 43.7 | 56.0 | - | 42.0 | 54.3 | - | 40.0 | 52.4 | - | 37.4 | 49.8 |
| 2625 | 58 | TC | 85.9 | 85.9 | 97.2 | 82.2 | 82.2 | 93.1 | 78.1 | 78.1 | 88.4 | 73.9 | 73.9 | 83.6 |
| | | SHC | 74.6 | 85.9 | 97.2 | 71.4 | 82.2 | 93.1 | 67.9 | 78.1 | 88.4 | 64.1 | 73.9 | 83.6 |
| | 62 | TC | 89.6 | 89.6 | 94.1 | 85.1 | 85.1 | 91.7 | 80.1 | 80.1 | 89.1 | 74.6 | 74.6 | 86.0 |
| | | SHC | 68.1 | 81.1 | 94.1 | 65.9 | 78.8 | 91.7 | 63.4 | 76.3 | 89.1 | 60.6 | 73.3 | 86.0 |
| | 67 | TC | 97.9 | 97.9 | 97.9 | 93.2 | 93.2 | 93.2 | 88.1 | 88.1 | 88.1 | 82.0 | 82.0 | 82.0 |
| | | SHC | 55.7 | 68.7 | 81.7 | 53.7 | 66.7 | 79.8 | 51.6 | 64.6 | 77.6 | 49.0 | 62.0 | 74.9 |
| | 72 | TC | 106.0 | 106.0 | 106.0 | 101.3 | 101.3 | 101.3 | 95.9 | 95.9 | 95.9 | 89.0 | 89.0 | 89.0 |
| | | SHC | 42.7 | 55.8 | 68.9 | 40.9 | 53.9 | 67.0 | 38.8 | 51.8 | 64.7 | 36.2 | 48.9 | 61.7 |
| | 76 | TC | - | 111.8 | 111.8 | - | 106.9 | 106.9 | - | 100.7 | 100.7 | - | 92.7 | 92.7 |
| | | SHC | - | 45.3 | 59.8 | - | 43.6 | 58.0 | - | 41.4 | 55.6 | - | 38.7 | 52.6 |
| 3000 | 58 | TC | 89.6 | 89.6 | 101.4 | 85.9 | 85.9 | 97.2 | 81.7 | 81.7 | 92.5 | 77.0 | 77.0 | 87.1 |
| | | SHC | 77.9 | 89.6 | 101.4 | 74.6 | 85.9 | 97.2 | 71.0 | 81.7 | 92.5 | 66.9 | 77.0 | 87.1 |
| | 62 | TC | 91.8 | 91.8 | 101.1 | 87.2 | 87.2 | 98.6 | 82.3 | 82.3 | 95.5 | 77.1 | 77.1 | 90.6 |
| | | SHC | 72.2 | 86.7 | 101.1 | 69.9 | 84.3 | 98.6 | 67.2 | 81.3 | 95.5 | 63.5 | 77.1 | 90.6 |
| | 67 | TC | 99.9 | 99.9 | 99.9 | 95.2 | 95.2 | 95.2 | 89.9 | 89.9 | 89.9 | 83.6 | 83.6 | 83.6 |
| | | SHC | 58.3 | 72.9 | 87.5 | 56.4 | 71.0 | 85.5 | 54.2 | 68.8 | 83.4 | 51.6 | 66.1 | 80.5 |
| | 72 | TC | 107.9 | 107.9 | 107.9 | 103.0 | 103.0 | 103.0 | 97.3 | 97.3 | 97.3 | 90.1 | 90.1 | 90.1 |
| | | SHC | 43.7 | 58.3 | 72.8 | 41.9 | 56.4 | 70.9 | 39.7 | 54.1 | 68.4 | 37.0 | 51.0 | 65.0 |
| | 76 | TC | - | 113.8 | 113.8 | - | 108.4 | 108.4 | - | 102.0 | 102.0 | - | 93.4 | 93.4 |
| | | SHC | - | 46.7 | 62.5 | - | 44.8 | 60.4 | - | 42.6 | 57.9 | - | 39.6 | 54.7 |
| 3375 | 58 | TC | 92.7 | 92.7 | 104.9 | 88.8 | 88.8 | 100.5 | 84.6 | 84.6 | 95.7 | 79.6 | 79.6 | 90.0 |
| | | SHC | 80.5 | 92.7 | 104.9 | 77.1 | 88.8 | 100.5 | 73.4 | 84.6 | 95.7 | 69.1 | 79.6 | 90.0 |
| | 62 | TC | 93.7 | 93.7 | 107.3 | 89.1 | 89.1 | 104.7 | 84.6 | 84.6 | 99.5 | 79.6 | 79.6 | 93.6 |
| | | SHC | 75.8 | 91.6 | 107.3 | 73.5 | 89.1 | 104.7 | 69.8 | 84.6 | 99.5 | 65.6 | 79.6 | 93.6 |
| | 67 | TC | 101.5 | 101.5 | 101.5 | 96.7 | 96.7 | 96.7 | 91.3 | 91.3 | 91.3 | 84.8 | 84.8 | 85.7 |
| | | SHC | 60.8 | 76.9 | 93.0 | 58.8 | 74.9 | 91.0 | 56.7 | 72.8 | 88.9 | 53.9 | 69.8 | 85.7 |
| | 72 | TC | 109.4 | 109.4 | 109.4 | 104.3 | 104.3 | 104.3 | 98.4 | 98.4 | 98.4 | 90.9 | 90.9 | 90.9 |
| | | SHC | 44.6 | 60.5 | 76.4 | 42.8 | 58.6 | 74.4 | 40.5 | 56.2 | 71.8 | 37.7 | 52.8 | 68.0 |
| | 76 | TC | - | 115.1 | 115.1 | - | 109.5 | 109.5 | - | 102.8 | 102.8 | - | 94.0 | 94.0 |
| | | SHC | - | 47.8 | 64.9 | - | 45.9 | 62.7 | - | 43.5 | 60.1 | - | 40.4 | 56.5 |
| 3750 | 58 | TC | 95.3 | 95.3 | 107.8 | 91.3 | 91.3 | 103.3 | 86.9 | 86.9 | 98.3 | 81.7 | 81.7 | 92.4 |
| | | SHC | 82.7 | 95.3 | 107.8 | 79.3 | 91.3 | 103.3 | 75.5 | 86.9 | 98.3 | 70.9 | 81.7 | 92.4 |
| | 62 | TC | 95.5 | 95.5 | 112.2 | 91.3 | 91.3 | 107.4 | 87.0 | 87.0 | 102.2 | 81.7 | 81.7 | 96.0 |
| | | SHC | 78.7 | 95.5 | 112.2 | 75.3 | 91.3 | 107.4 | 71.7 | 87.0 | 102.2 | 67.4 | 81.7 | 96.0 |
| | 67 | TC | 102.8 | 102.8 | 102.8 | 97.9 | 97.9 | 97.9 | 92.3 | 92.3 | 94.0 | 85.7 | 85.7 | 90.5 |
| | | SHC | 63.1 | 80.6 | 98.2 | 61.2 | 78.7 | 96.3 | 59.0 | 76.5 | 94.0 | 56.0 | 73.2 | 90.5 |
| | 72 | TC | 110.6 | 110.6 | 110.6 | 105.4 | 105.4 | 105.4 | 99.2 | 99.2 | 99.2 | 91.5 | 91.5 | 91.5 |
| | | SHC | 45.5 | 62.7 | 79.9 | 43.5 | 60.7 | 77.8 | 41.3 | 58.1 | 75.0 | 38.3 | 54.5 | 70.7 |
| | 76 | TC | - | 116.1 | 116.1 | - | 110.3 | 110.3 | - | 103.5 | 103.5 | - | 94.5 | 94.5 |
| | | SHC | - | 48.9 | 67.0 | - | 46.8 | 64.8 | - | 44.4 | 62.0 | - | 41.1 | 58.1 |

LEGEND:

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

Table 13 – COOLING CAPACITIES

2 STAGE COOLING

7.5 TONS

| RAS090 | | | | AMBIENT TEMPERATURE | | | | | | | | | | | |
|----------|----------|-----|------|---------------------|-------|-------|----------|-------|-------|----------|-------|-------|---------|------|------|
| | | | | 85 | | | 95 | | | 105 | | | 115 | | |
| | | | | EAT (db) | | | EAT (db) | | | EAT (db) | | | EA (db) | | |
| | | | | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 |
| 2250 Cfm | EAT (wb) | 58 | TC | 77.4 | 77.4 | 87.8 | 73.8 | 73.8 | 83.8 | 70.1 | 70.1 | 79.5 | 66.0 | 66.0 | 74.9 |
| | | | SHC | 66.9 | 77.4 | 87.8 | 63.9 | 73.8 | 83.8 | 60.6 | 70.1 | 79.5 | 57.1 | 66.0 | 74.9 |
| | | 62 | TC | 82.2 | 82.2 | 83.9 | 77.5 | 77.5 | 81.7 | 72.6 | 72.6 | 79.2 | 67.3 | 67.3 | 76.4 |
| | | | SHC | 60.8 | 72.4 | 83.9 | 58.6 | 70.1 | 81.7 | 56.3 | 67.7 | 79.2 | 53.6 | 65.0 | 76.4 |
| | | 67 | TC | 90.1 | 90.1 | 90.1 | 86.0 | 86.0 | 86.0 | 81.4 | 81.4 | 81.4 | 75.9 | 75.9 | 75.9 |
| | | SHC | 50.2 | 61.8 | 73.3 | 48.5 | 60.1 | 71.6 | 46.5 | 58.1 | 69.7 | 44.2 | 55.8 | 67.4 | |
| | | 72 | TC | 98.0 | 98.0 | 98.0 | 94.0 | 94.0 | 94.0 | 89.5 | 89.5 | 89.5 | 84.3 | 84.3 | 84.3 |
| | | SHC | 39.1 | 50.7 | 62.4 | 37.5 | 49.2 | 60.9 | 35.8 | 47.5 | 59.2 | 33.8 | 45.5 | 57.2 | |
| | | 76 | TC | – | 104.3 | 104.3 | – | 100.4 | 100.4 | – | 95.9 | 95.9 | – | 90.7 | 90.7 |
| | | SHC | – | 41.7 | 54.0 | – | 40.3 | 52.7 | – | 38.7 | 51.0 | – | 36.8 | 49.0 | |
| 2625 Cfm | EAT (wb) | 58 | TC | 82.1 | 82.1 | 93.2 | 78.4 | 78.4 | 89.0 | 74.4 | 74.4 | 84.4 | 70.0 | 70.0 | 79.5 |
| | | | SHC | 71.0 | 82.1 | 93.2 | 67.8 | 78.4 | 89.0 | 64.3 | 74.4 | 84.4 | 60.6 | 70.0 | 79.5 |
| | | 62 | TC | 84.9 | 84.9 | 91.8 | 80.4 | 80.4 | 89.5 | 75.4 | 75.4 | 86.7 | 70.2 | 70.2 | 82.9 |
| | | | SHC | 65.4 | 78.6 | 91.8 | 63.2 | 76.3 | 89.5 | 60.6 | 73.7 | 86.7 | 57.6 | 70.2 | 82.9 |
| | | 67 | TC | 92.5 | 92.5 | 92.5 | 88.3 | 88.3 | 88.3 | 83.6 | 83.6 | 83.6 | 78.3 | 78.3 | 78.3 |
| | | SHC | 53.0 | 66.3 | 79.5 | 51.3 | 64.6 | 78.0 | 49.4 | 62.8 | 76.1 | 47.2 | 60.6 | 73.9 | |
| | | 72 | TC | 100.4 | 100.4 | 100.4 | 96.4 | 96.4 | 96.4 | 91.7 | 91.7 | 91.7 | 86.4 | 86.4 | 86.4 |
| | | SHC | 40.2 | 53.5 | 66.7 | 38.7 | 52.0 | 65.3 | 36.9 | 50.3 | 63.7 | 35.0 | 48.4 | 61.8 | |
| | | 76 | TC | – | 106.5 | 106.5 | – | 102.6 | 102.6 | – | 98.0 | 98.0 | – | 92.7 | 92.7 |
| | | SHC | – | 43.3 | 57.6 | – | 41.8 | 55.9 | – | 40.2 | 54.1 | – | 38.4 | 52.2 | |
| 3000 Cfm | EAT (wb) | 58 | TC | 85.7 | 85.7 | 97.3 | 82.2 | 82.2 | 93.3 | 78.0 | 78.0 | 88.6 | 73.5 | 73.5 | 83.4 |
| | | | SHC | 74.1 | 85.7 | 97.3 | 71.1 | 82.2 | 93.3 | 67.5 | 78.0 | 88.6 | 63.6 | 73.5 | 83.4 |
| | | 62 | TC | 86.9 | 86.9 | 98.7 | 82.8 | 82.8 | 96.4 | 78.2 | 78.2 | 92.3 | 73.6 | 73.6 | 86.9 |
| | | | SHC | 69.3 | 84.0 | 98.7 | 67.2 | 81.8 | 96.4 | 64.1 | 78.2 | 92.3 | 60.3 | 73.6 | 86.9 |
| | | 67 | TC | 94.3 | 94.3 | 94.3 | 90.1 | 90.1 | 90.1 | 85.2 | 85.2 | 85.2 | 79.8 | 79.8 | 80.1 |
| | | SHC | 55.6 | 70.5 | 85.4 | 54.0 | 68.9 | 83.9 | 52.1 | 67.1 | 82.2 | 49.9 | 65.0 | 80.1 | |
| | | 72 | TC | 102.2 | 102.2 | 102.2 | 98.1 | 98.1 | 98.1 | 93.3 | 93.3 | 93.3 | 87.9 | 87.9 | 87.9 |
| | | SHC | 41.2 | 56.0 | 70.7 | 39.7 | 54.6 | 69.5 | 38.0 | 53.0 | 68.0 | 36.0 | 51.1 | 66.2 | |
| | | 76 | TC | – | 108.1 | 108.1 | – | 104.2 | 104.2 | – | 99.5 | 99.5 | – | 94.2 | 94.2 |
| | | SHC | – | 44.5 | 60.2 | – | 43.2 | 58.7 | – | 41.6 | 57.0 | – | 39.8 | 55.2 | |
| 3375 Cfm | EAT (wb) | 58 | TC | 88.5 | 88.5 | 100.4 | 85.0 | 85.0 | 96.4 | 81.0 | 81.0 | 92 | 76.5 | 76.5 | 86.8 |
| | | | SHC | 76.5 | 88.5 | 100.4 | 73.5 | 85.0 | 96.4 | 70.1 | 81.0 | 92 | 66.1 | 76.5 | 86.8 |
| | | 62 | TC | 88.9 | 88.9 | 103.9 | 85.1 | 85.1 | 100.4 | 81.1 | 81.1 | 95.7 | 76.5 | 76.5 | 90.3 |
| | | | SHC | 72.3 | 88.1 | 103.9 | 69.7 | 85.1 | 100.4 | 66.5 | 81.1 | 95.7 | 62.7 | 76.5 | 90.3 |
| | | 67 | TC | 95.8 | 95.8 | 95.8 | 91.5 | 91.5 | 91.5 | 86.6 | 86.6 | 87.9 | 81.1 | 81.1 | 85.8 |
| | | SHC | 58.0 | 74.4 | 90.9 | 56.4 | 73.0 | 89.6 | 54.6 | 71.3 | 87.9 | 52.4 | 69.1 | 85.8 | |
| | | 72 | TC | 103.6 | 103.6 | 103.6 | 99.4 | 99.4 | 99.4 | 94.6 | 94.6 | 94.6 | 89.1 | 89.1 | 89.1 |
| | | SHC | 42.0 | 58.3 | 74.5 | 40.6 | 57.0 | 73.4 | 38.9 | 55.5 | 72.0 | 37.0 | 53.7 | 70.3 | |
| | | 76 | TC | – | 109.2 | 109.2 | – | 105.4 | 105.4 | – | 100.7 | 100.7 | – | 95.3 | 95.3 |
| | | SHC | – | 45.6 | 62.6 | – | 44.4 | 61.3 | – | 42.8 | 59.7 | – | 41.0 | 58.0 | |
| 3750 Cfm | EAT (wb) | 58 | TC | 90.8 | 90.8 | 103.0 | 87.3 | 87.3 | 99.1 | 83.3 | 83.3 | 94.5 | 78.8 | 78.8 | 89.4 |
| | | | SHC | 78.5 | 90.8 | 103.0 | 75.5 | 87.3 | 99.1 | 72.0 | 83.3 | 94.5 | 68.2 | 78.8 | 89.4 |
| | | 62 | TC | 90.9 | 90.9 | 107.2 | 87.4 | 87.4 | 103.1 | 83.3 | 83.3 | 98.4 | 78.9 | 78.9 | 93.1 |
| | | | SHC | 74.5 | 90.9 | 107.2 | 71.6 | 87.4 | 103.1 | 68.3 | 83.3 | 98.4 | 64.7 | 78.9 | 93.1 |
| | | 67 | TC | 97.0 | 97.0 | 97.0 | 92.6 | 92.6 | 95.1 | 87.6 | 87.6 | 93.4 | 82.1 | 82.1 | 91.2 |
| | | SHC | 60.3 | 78.2 | 96.2 | 58.8 | 76.9 | 95.1 | 56.9 | 75.2 | 93.4 | 54.8 | 73.0 | 91.2 | |
| | | 72 | TC | 104.7 | 104.7 | 104.7 | 100.5 | 100.5 | 100.5 | 95.6 | 95.6 | 95.6 | 90.1 | 90.1 | 90.1 |
| | | SHC | 42.9 | 60.5 | 78.1 | 41.4 | 59.3 | 77.1 | 39.8 | 57.8 | 75.9 | 37.9 | 56.1 | 74.3 | |
| | | 76 | TC | – | 110.2 | 110.2 | – | 106.2 | 106.2 | – | 101.6 | 101.6 | – | 96.1 | 96.1 |
| | | SHC | – | 46.7 | 64.8 | – | 45.4 | 63.6 | – | 44.0 | 62.3 | – | 42.2 | 60.6 | |

LEGEND:

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

Table 14 – COOLING CAPACITIES

1 STAGE COOLING

8.5 TONS

| RAS101 | | | | AMBIENT TEMPERATURE | | | | | | | | | | | |
|----------|----------|----|-----|---------------------|-------|-------|----------|-------|-------|----------|-------|-------|----------|-------|-------|
| | | | | 85 | | | 95 | | | 105 | | | 115 | | |
| | | | | EAT (db) | | | EAT (db) | | | EAT (db) | | | EAT (db) | | |
| | | | | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 |
| 2550 Cfm | EAT (wb) | 58 | TC | 88.1 | 88.1 | 99.9 | 84.1 | 84.1 | 95.3 | 79.6 | 79.6 | 90.3 | 74.9 | 74.9 | 84.9 |
| | | | SHC | 76.4 | 88.1 | 99.9 | 72.8 | 84.1 | 95.3 | 69.0 | 79.6 | 90.3 | 64.9 | 74.9 | 84.9 |
| | | 62 | TC | 93.9 | 93.9 | 95.2 | 88.6 | 88.6 | 92.6 | 82.8 | 82.8 | 89.7 | 76.6 | 76.6 | 86.5 |
| | | | SHC | 69.4 | 82.3 | 95.2 | 66.8 | 79.7 | 92.6 | 64.1 | 76.9 | 89.7 | 61.0 | 73.8 | 86.5 |
| | | 67 | TC | 103.8 | 103.8 | 103.8 | 98.7 | 98.7 | 98.7 | 93.0 | 93.0 | 93.0 | 86.7 | 86.7 | 86.7 |
| | | | SHC | 57.8 | 70.7 | 83.6 | 55.6 | 68.5 | 81.4 | 53.1 | 66.1 | 79.0 | 50.5 | 63.4 | 76.4 |
| | | 72 | TC | 113.1 | 113.1 | 113.1 | 108.0 | 108.0 | 108.0 | 102.4 | 102.4 | 102.4 | 96.1 | 96.1 | 96.1 |
| | | | SHC | 45.2 | 58.3 | 71.3 | 43.2 | 56.3 | 69.3 | 41.1 | 54.1 | 67.1 | 38.7 | 51.7 | 64.7 |
| | | 76 | TC | – | 119.9 | 119.9 | – | 114.7 | 114.7 | – | 109.0 | 109.0 | – | 102.7 | 102.7 |
| | | | SHC | – | 47.9 | 61.9 | – | 46.0 | 60.1 | – | 44.1 | 58.1 | – | 41.9 | 55.8 |
| 2975 Cfm | EAT (wb) | 58 | TC | 93.6 | 93.6 | 106.1 | 89.3 | 89.3 | 101.2 | 84.6 | 84.6 | 96.0 | 79.6 | 79.6 | 90.3 |
| | | | SHC | 81.1 | 93.6 | 106.1 | 77.4 | 89.3 | 101.2 | 73.3 | 84.6 | 96.0 | 69.0 | 79.6 | 90.3 |
| | | 62 | TC | 97.5 | 97.5 | 104.3 | 92.0 | 92.0 | 101.4 | 86.1 | 86.1 | 98.3 | 79.8 | 79.8 | 94.1 |
| | | | SHC | 74.7 | 89.5 | 104.3 | 72.0 | 86.7 | 101.4 | 69.1 | 83.7 | 98.3 | 65.6 | 79.8 | 94.1 |
| | | 67 | TC | 106.7 | 106.7 | 106.7 | 101.5 | 101.5 | 101.5 | 95.7 | 95.7 | 95.7 | 89.2 | 89.2 | 89.2 |
| | | | SHC | 61.0 | 75.8 | 90.6 | 58.8 | 73.6 | 88.5 | 56.4 | 71.3 | 86.1 | 53.8 | 68.7 | 83.6 |
| | | 72 | TC | 115.8 | 115.8 | 115.8 | 110.6 | 110.6 | 110.6 | 104.9 | 104.9 | 104.9 | 98.4 | 98.4 | 98.4 |
| | | | SHC | 46.5 | 61.3 | 76.2 | 44.5 | 59.4 | 74.2 | 42.3 | 57.2 | 72.1 | 40.0 | 54.8 | 69.7 |
| | | 76 | TC | – | 122.4 | 122.4 | – | 117.0 | 117.0 | – | 111.1 | 111.1 | – | 104.5 | 104.5 |
| | | | SHC | – | 49.8 | 66.1 | – | 47.8 | 63.9 | – | 45.7 | 61.6 | – | 43.4 | 59.0 |
| 3400 Cfm | EAT (wb) | 58 | TC | 98.1 | 98.1 | 111.3 | 93.7 | 93.7 | 106.2 | 88.9 | 88.9 | 100.8 | 83.7 | 83.7 | 94.9 |
| | | | SHC | 85.0 | 98.1 | 111.3 | 81.2 | 93.7 | 106.2 | 77.0 | 88.9 | 100.8 | 72.5 | 83.7 | 94.9 |
| | | 62 | TC | 100.0 | 100.0 | 112.3 | 94.9 | 94.9 | 108.6 | 89.1 | 89.1 | 104.9 | 83.8 | 83.8 | 98.7 |
| | | | SHC | 79.3 | 95.8 | 112.3 | 76.3 | 92.5 | 108.6 | 73.2 | 89.1 | 104.9 | 68.8 | 83.8 | 98.7 |
| | | 67 | TC | 109.0 | 109.0 | 109.0 | 103.6 | 103.6 | 103.6 | 97.6 | 97.6 | 97.6 | 91.0 | 91.0 | 91.0 |
| | | | SHC | 63.9 | 80.5 | 97.2 | 61.8 | 78.5 | 95.2 | 59.4 | 76.1 | 92.9 | 56.8 | 73.5 | 90.3 |
| | | 72 | TC | 117.9 | 117.9 | 117.9 | 112.5 | 112.5 | 112.5 | 106.6 | 106.6 | 106.6 | 100.0 | 100.0 | 100.0 |
| | | | SHC | 47.6 | 64.1 | 80.6 | 45.6 | 62.1 | 78.7 | 43.4 | 60.0 | 76.6 | 41.1 | 57.6 | 74.2 |
| | | 76 | TC | – | 124.2 | 124.2 | – | 118.6 | 118.6 | – | 112.5 | 112.5 | – | 105.7 | 105.7 |
| | | | SHC | – | 51.2 | 69.0 | – | 49.2 | 66.7 | – | 47.0 | 64.4 | – | 44.7 | 61.9 |
| 3825 Cfm | EAT (wb) | 58 | TC | 101.6 | 101.6 | 115.1 | 97.2 | 97.2 | 110.1 | 92.3 | 92.3 | 104.6 | 87.0 | 87.0 | 98.6 |
| | | | SHC | 88.0 | 101.6 | 115.1 | 84.2 | 97.2 | 110.1 | 80.0 | 92.3 | 104.6 | 75.4 | 87.0 | 98.6 |
| | | 62 | TC | 101.9 | 101.9 | 120.0 | 97.3 | 97.3 | 114.6 | 92.4 | 92.4 | 108.9 | 87.1 | 87.1 | 102.6 |
| | | | SHC | 83.7 | 101.8 | 120.0 | 79.9 | 97.3 | 114.6 | 75.9 | 92.4 | 108.9 | 71.6 | 87.1 | 102.6 |
| | | 67 | TC | 110.7 | 110.7 | 110.7 | 105.3 | 105.3 | 105.3 | 99.2 | 99.2 | 99.3 | 92.5 | 92.5 | 96.7 |
| | | | SHC | 66.7 | 85.0 | 103.4 | 64.6 | 83.0 | 101.5 | 62.2 | 80.8 | 99.3 | 59.6 | 78.2 | 96.7 |
| | | 72 | TC | 119.4 | 119.4 | 119.4 | 114.0 | 114.0 | 114.0 | 108.0 | 108.0 | 108.0 | 101.3 | 101.3 | 101.3 |
| | | | SHC | 48.5 | 66.6 | 84.6 | 46.6 | 64.7 | 82.7 | 44.4 | 62.6 | 80.7 | 42.1 | 60.2 | 78.4 |
| | | 76 | TC | – | 125.5 | 125.5 | – | 119.8 | 119.8 | – | 113.6 | 113.6 | – | 106.7 | 106.7 |
| | | | SHC | – | 52.4 | 71.5 | – | 50.4 | 69.3 | – | 48.2 | 67.0 | – | 45.9 | 64.4 |
| 4250 Cfm | EAT (wb) | 58 | TC | 104.4 | 104.4 | 118.3 | 99.9 | 99.9 | 113.2 | 95.0 | 95.0 | 107.6 | 89.5 | 89.5 | 101.5 |
| | | | SHC | 90.4 | 104.4 | 118.3 | 86.6 | 99.9 | 113.2 | 82.3 | 95.0 | 107.6 | 77.6 | 89.5 | 101.5 |
| | | 62 | TC | 104.4 | 104.4 | 123.0 | 99.9 | 99.9 | 117.8 | 95.0 | 95.0 | 112.0 | 89.6 | 89.6 | 105.6 |
| | | | SHC | 85.8 | 104.4 | 123.0 | 82.1 | 99.9 | 117.8 | 78.1 | 95.0 | 112.0 | 73.6 | 89.6 | 105.6 |
| | | 67 | TC | 112.1 | 112.1 | 112.1 | 106.6 | 106.6 | 107.5 | 100.4 | 100.4 | 105.3 | 93.6 | 93.6 | 102.7 |
| | | | SHC | 69.2 | 89.2 | 109.2 | 67.2 | 87.3 | 107.5 | 64.9 | 85.1 | 105.3 | 62.3 | 82.5 | 102.7 |
| | | 72 | TC | 120.7 | 120.7 | 120.7 | 115.1 | 115.1 | 115.1 | 109.0 | 109.0 | 109.0 | 102.2 | 102.2 | 102.2 |
| | | | SHC | 49.4 | 68.9 | 88.4 | 47.4 | 67.0 | 86.5 | 45.3 | 64.9 | 84.6 | 42.9 | 62.6 | 82.3 |
| | | 76 | TC | – | 126.6 | 126.6 | – | 120.8 | 120.8 | – | 114.5 | 114.5 | – | 107.4 | 107.4 |
| | | | SHC | – | 53.5 | 73.9 | – | 51.5 | 71.7 | – | 49.3 | 69.4 | – | 46.9 | 66.8 |

LEGEND:

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

Table 15 – COOLING CAPACITIES

2 STAGE COOLING

8.5 TONS

| RAS102 | | | | AMBIENT TEMPERATURE | | | | | | | | | | | |
|----------|----------|----|-----|---------------------|-------|-------|---------|-------|-------|---------|-------|-------|---------|-------|-------|
| | | | | 85 | | | 95 | | | 105 | | | 115 | | |
| | | | | EA (dB) | | | EA (dB) | | | EA (dB) | | | EA (dB) | | |
| | | | | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 |
| 2550 Cfm | EAT (wb) | 58 | TC | 89.7 | 89.7 | 101.6 | 85.2 | 85.2 | 96.5 | 79.6 | 79.6 | 90.1 | 73.8 | 73.8 | 83.6 |
| | | | SHC | 77.8 | 89.7 | 101.6 | 73.9 | 85.2 | 96.5 | 69.0 | 79.6 | 90.1 | 64.0 | 73.8 | 83.6 |
| | | 62 | TC | 94.3 | 94.3 | 97.9 | 88.7 | 88.7 | 95.2 | 81.3 | 81.3 | 91.5 | 74.3 | 74.3 | 86.5 |
| | | | SHC | 71.0 | 84.4 | 97.9 | 68.2 | 81.7 | 95.2 | 64.7 | 78.1 | 91.5 | 60.6 | 73.6 | 86.5 |
| | | 67 | TC | 105.0 | 105.0 | 105.0 | 99.3 | 99.3 | 99.3 | 92.2 | 92.2 | 92.2 | 84.1 | 84.1 | 84.1 |
| | | | SHC | 59.0 | 72.6 | 86.1 | 56.6 | 70.1 | 83.7 | 53.6 | 67.1 | 80.7 | 50.3 | 63.8 | 77.3 |
| | | 72 | TC | 115.9 | 115.9 | 115.9 | 110.4 | 110.4 | 110.4 | 104.2 | 104.2 | 104.2 | 96.0 | 96.0 | 96.0 |
| | | | SHC | 46.4 | 60.0 | 73.6 | 44.3 | 57.9 | 71.5 | 41.9 | 55.5 | 69.1 | 38.8 | 52.4 | 65.9 |
| | | 76 | TC | – | 123.7 | 123.7 | – | 118.3 | 118.3 | – | 112.4 | 112.4 | – | 105.7 | 105.7 |
| | | | SHC | – | 49.3 | 63.3 | – | 47.3 | 61.4 | – | 45.3 | 59.3 | – | 42.9 | 56.7 |
| 2975 Cfm | EAT (wb) | 58 | TC | 95.3 | 95.3 | 107.9 | 90.7 | 90.7 | 102.7 | 84.8 | 84.8 | 96.1 | 78.7 | 78.7 | 89.1 |
| | | | SHC | 82.6 | 95.3 | 107.9 | 78.6 | 90.7 | 102.7 | 73.5 | 84.8 | 96.1 | 68.2 | 78.7 | 89.1 |
| | | 62 | TC | 97.9 | 97.9 | 107.8 | 92.1 | 92.1 | 104.7 | 85.4 | 85.4 | 99.4 | 78.8 | 78.8 | 92.8 |
| | | | SHC | 76.7 | 92.2 | 107.8 | 73.9 | 89.3 | 104.7 | 69.6 | 84.5 | 99.4 | 64.8 | 78.8 | 92.8 |
| | | 67 | TC | 108.5 | 108.5 | 108.5 | 102.6 | 102.6 | 102.6 | 95.4 | 95.4 | 95.4 | 86.9 | 86.9 | 86.9 |
| | | | SHC | 62.8 | 78.4 | 94.1 | 60.4 | 76.0 | 91.7 | 57.4 | 73.1 | 88.8 | 54.0 | 69.7 | 85.3 |
| | | 72 | TC | 119.1 | 119.1 | 119.1 | 113.5 | 113.5 | 113.5 | 107.2 | 107.2 | 107.2 | 99.2 | 99.2 | 99.2 |
| | | | SHC | 47.9 | 63.5 | 79.2 | 45.8 | 61.5 | 77.1 | 43.5 | 59.2 | 74.9 | 40.6 | 56.3 | 72.0 |
| | | 76 | TC | – | 126.4 | 126.4 | – | 120.8 | 120.8 | – | 114.8 | 114.8 | – | 108.2 | 108.2 |
| | | | SHC | – | 51.1 | 67.4 | – | 49.2 | 65.3 | – | 47.0 | 63.0 | – | 44.8 | 60.7 |
| 3400 Cfm | EAT (wb) | 58 | TC | 100.0 | 100.0 | 113.3 | 95.2 | 95.2 | 107.9 | 89.3 | 89.3 | 101.1 | 82.9 | 82.9 | 93.9 |
| | | | SHC | 86.7 | 100.0 | 113.3 | 82.6 | 95.2 | 107.9 | 77.4 | 89.3 | 101.1 | 71.8 | 82.9 | 93.9 |
| | | 62 | TC | 101.1 | 101.1 | 115.8 | 95.7 | 95.7 | 111.7 | 89.4 | 89.4 | 105.3 | 83.0 | 83.0 | 97.7 |
| | | | SHC | 81.5 | 98.7 | 115.8 | 78.2 | 94.9 | 111.7 | 73.5 | 89.4 | 105.3 | 68.2 | 83.0 | 97.7 |
| | | 67 | TC | 111.1 | 111.1 | 111.1 | 105.1 | 105.1 | 105.1 | 97.8 | 97.8 | 97.8 | 89.1 | 89.1 | 93.0 |
| | | | SHC | 66.2 | 83.9 | 101.6 | 63.9 | 81.6 | 99.3 | 61.0 | 78.7 | 96.5 | 57.5 | 75.3 | 93.0 |
| | | 72 | TC | 121.3 | 121.3 | 121.3 | 115.6 | 115.6 | 115.6 | 109.4 | 109.4 | 109.4 | 101.5 | 101.5 | 101.5 |
| | | | SHC | 49.2 | 66.7 | 84.3 | 47.1 | 64.7 | 82.3 | 44.9 | 62.5 | 80.2 | 42.1 | 59.9 | 77.7 |
| | | 76 | TC | – | 128.3 | 128.3 | – | 122.6 | 122.6 | – | 116.3 | 116.3 | – | 109.7 | 109.7 |
| | | | SHC | – | 52.7 | 70.7 | – | 50.7 | 68.6 | – | 48.6 | 66.4 | – | 46.4 | 64.2 |
| 3825 Cfm | EAT (wb) | 58 | TC | 104.0 | 104.0 | 117.8 | 99.1 | 99.1 | 112.3 | 93.2 | 93.2 | 105.5 | 86.5 | 86.5 | 97.9 |
| | | | SHC | 90.2 | 104.0 | 117.8 | 86.0 | 99.1 | 112.3 | 80.8 | 93.2 | 105.5 | 75.0 | 86.5 | 97.9 |
| | | 62 | TC | 104.2 | 104.2 | 122.7 | 99.3 | 99.3 | 116.9 | 93.3 | 93.3 | 109.8 | 86.6 | 86.6 | 101.9 |
| | | | SHC | 85.7 | 104.2 | 122.7 | 81.7 | 99.3 | 116.9 | 76.7 | 93.3 | 109.8 | 71.2 | 86.6 | 101.9 |
| | | 67 | TC | 113.1 | 113.1 | 113.1 | 107.1 | 107.1 | 107.1 | 99.9 | 99.9 | 103.8 | 91.0 | 91.0 | 100.3 |
| | | | SHC | 69.4 | 89.1 | 108.8 | 67.1 | 86.8 | 106.5 | 64.3 | 84.1 | 103.8 | 60.9 | 80.6 | 100.3 |
| | | 72 | TC | 123.0 | 123.0 | 123.0 | 117.2 | 117.2 | 117.2 | 110.9 | 110.9 | 110.9 | 103.3 | 103.3 | 103.3 |
| | | | SHC | 50.3 | 69.7 | 89.0 | 48.3 | 67.7 | 87.1 | 46.1 | 65.6 | 85.2 | 43.5 | 63.3 | 83.0 |
| | | 76 | TC | – | 129.7 | 129.7 | – | 124.0 | 124.0 | – | 117.5 | 117.5 | – | 110.8 | 110.8 |
| | | | SHC | – | 54.0 | 73.7 | – | 52.1 | 71.7 | – | 50.0 | 69.5 | – | 47.8 | 67.4 |
| 4250 Cfm | EAT (wb) | 58 | TC | 107.4 | 107.4 | 121.7 | 102.5 | 102.5 | 116.1 | 96.5 | 96.5 | 109.3 | 89.5 | 89.5 | 101.4 |
| | | | SHC | 93.1 | 107.4 | 121.7 | 88.9 | 102.5 | 116.1 | 83.7 | 96.5 | 109.3 | 77.6 | 89.5 | 101.4 |
| | | 62 | TC | 107.5 | 107.5 | 126.6 | 102.6 | 102.6 | 120.8 | 96.6 | 96.6 | 113.7 | 89.6 | 89.6 | 105.5 |
| | | | SHC | 88.4 | 107.5 | 126.6 | 84.4 | 102.6 | 120.8 | 79.5 | 96.6 | 113.7 | 73.7 | 89.6 | 105.5 |
| | | 67 | TC | 114.7 | 114.7 | 115.6 | 108.7 | 108.7 | 113.5 | 101.7 | 101.7 | 110.8 | 92.6 | 92.6 | 107.2 |
| | | | SHC | 72.5 | 94.0 | 115.6 | 70.2 | 91.8 | 113.5 | 67.5 | 89.2 | 110.8 | 64.0 | 85.6 | 107.2 |
| | | 72 | TC | 124.3 | 124.3 | 124.3 | 118.5 | 118.5 | 118.5 | 112.1 | 112.1 | 112.1 | 104.7 | 104.7 | 104.7 |
| | | | SHC | 51.3 | 72.4 | 93.4 | 49.3 | 70.5 | 91.7 | 47.2 | 68.5 | 89.9 | 44.7 | 66.4 | 88.1 |
| | | 76 | TC | – | 130.7 | 130.7 | – | 125.0 | 125.0 | – | 118.5 | 118.5 | – | 111.6 | 111.6 |
| | | | SHC | – | 55.3 | 76.5 | – | 53.5 | 74.6 | – | 51.3 | 72.4 | – | 49.2 | 70.3 |

LEGEND:

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

Table 16 – COOLING CAPACITIES

1 STAGE COOLING

10 TONS

| RAS121 | | | | 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 17 – COOLING CAPACITIES

2 STAGE COOLING

10 TONS

| RAS120 | | | | AMBIENT TEMPERATURE | | | | | | | | | | | |
|----------|----------|-----|-------|---------------------|-------|-------|----------|-------|-------|----------|-------|-------|----------|-------|-------|
| | | | | 85 | | | 95 | | | 105 | | | 115 | | |
| | | | | EAT (db) | | | EAT (db) | | | EAT (db) | | | EAT (db) | | |
| | | | | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 |
| 3000 Cfm | EAT (wb) | 58 | TC | 107.6 | 107.6 | 121.9 | 102.5 | 102.5 | 116.2 | 96.8 | 96.8 | 109.7 | 90.5 | 90.5 | 102.6 |
| | | | SHC | 93.2 | 107.6 | 121.9 | 88.8 | 102.5 | 116.2 | 83.9 | 96.8 | 109.7 | 78.4 | 90.5 | 102.6 |
| | | 62 | TC | 113.6 | 113.6 | 116.5 | 107.1 | 107.1 | 113.4 | 99.7 | 99.7 | 109.8 | 91.8 | 91.8 | 104.9 |
| | | | SHC | 84.6 | 100.6 | 116.5 | 81.5 | 97.4 | 113.4 | 78.0 | 93.9 | 109.8 | 73.7 | 89.3 | 104.9 |
| | | 67 | TC | 124.4 | 124.4 | 124.4 | 118.4 | 118.4 | 118.4 | 111.5 | 111.5 | 111.5 | 103.3 | 103.3 | 103.3 |
| | SHC | | 69.7 | 85.7 | 101.7 | 67.1 | 83.2 | 99.2 | 64.3 | 80.3 | 96.3 | 60.8 | 76.8 | 92.8 | |
| | 72 | TC | 135.8 | 135.8 | 135.8 | 129.7 | 129.7 | 129.7 | 122.8 | 122.8 | 122.8 | 115 | 115 | 115 | |
| | | SHC | 54.3 | 70.4 | 86.6 | 52.0 | 68.1 | 84.2 | 49.3 | 65.4 | 81.6 | 46.4 | 62.5 | 78.6 | |
| | 76 | TC | – | 145.3 | 145.3 | – | 139 | 139 | – | 131.9 | 131.9 | – | 124.1 | 124.1 | |
| | | SHC | – | 57.8 | 74.3 | – | 55.6 | 72.1 | – | 53.1 | 69.6 | – | 50.4 | 66.9 | |
| 3500 Cfm | EAT (wb) | 58 | TC | 114.2 | 114.2 | 129.4 | 108.9 | 108.9 | 123.4 | 102.9 | 102.9 | 116.6 | 96.3 | 96.3 | 109.1 |
| | | | SHC | 98.9 | 114.2 | 129.4 | 94.3 | 108.9 | 123.4 | 89.1 | 102.9 | 116.6 | 83.4 | 96.3 | 109.1 |
| | | 62 | TC | 117.2 | 117.2 | 127.9 | 111.0 | 111.0 | 124.7 | 104.0 | 104.0 | 119.5 | 96.5 | 96.5 | 113.7 |
| | | | SHC | 91.1 | 109.5 | 127.9 | 88.1 | 106.4 | 124.7 | 83.9 | 101.7 | 119.5 | 79.3 | 96.5 | 113.7 |
| | | 67 | TC | 127.8 | 127.8 | 127.8 | 121.7 | 121.7 | 121.7 | 114.5 | 114.5 | 114.5 | 106.6 | 106.6 | 106.6 |
| | SHC | | 73.8 | 92.3 | 110.8 | 71.3 | 89.8 | 108.3 | 68.4 | 87.0 | 105.5 | 65.2 | 83.8 | 102.3 | |
| | 72 | TC | 139.4 | 139.4 | 139.4 | 133.0 | 133.0 | 133 | 125.8 | 125.8 | 125.8 | 117.9 | 117.9 | 117.9 | |
| | | SHC | 56.0 | 74.6 | 93.1 | 53.7 | 72.2 | 90.8 | 51.0 | 69.6 | 88.2 | 48.1 | 66.7 | 85.4 | |
| | 76 | TC | – | 148.8 | 148.8 | – | 142.2 | 142.2 | – | 134.9 | 134.9 | – | 126.8 | 126.8 | |
| | | SHC | – | 60.2 | 79.5 | – | 58.0 | 77.1 | – | 55.4 | 74.5 | – | 52.7 | 71.6 | |
| 4000 Cfm | EAT (wb) | 58 | TC | 119.0 | 119.0 | 134.9 | 114.0 | 114.0 | 129.2 | 108.0 | 108.0 | 122.4 | 101.1 | 101.1 | 114.6 |
| | | | SHC | 103.1 | 119.0 | 134.9 | 98.7 | 114.0 | 129.2 | 93.6 | 108.0 | 122.4 | 87.6 | 101.1 | 114.6 |
| | | 62 | TC | 120.3 | 120.3 | 137.1 | 114.7 | 114.7 | 132.8 | 108.2 | 108.2 | 127.5 | 101.3 | 101.3 | 119.3 |
| | | | SHC | 96.5 | 116.8 | 137.1 | 93.0 | 112.9 | 132.8 | 88.9 | 108.2 | 127.5 | 83.2 | 101.3 | 119.3 |
| | | 67 | TC | 130.5 | 130.5 | 130.5 | 124.1 | 124.1 | 124.1 | 116.8 | 116.8 | 116.8 | 108.7 | 108.7 | 111.1 |
| | SHC | | 77.7 | 98.6 | 119.5 | 75.2 | 96.2 | 117.2 | 72.3 | 93.3 | 114.4 | 69.1 | 90.1 | 111.1 | |
| | 72 | TC | 142.1 | 142.1 | 142.1 | 135.5 | 135.5 | 135.5 | 128.2 | 128.2 | 128.2 | 120.0 | 120.0 | 120.0 | |
| | | SHC | 57.6 | 78.4 | 99.3 | 55.2 | 76.1 | 97.1 | 52.5 | 73.6 | 94.6 | 49.7 | 70.7 | 91.8 | |
| | 76 | TC | – | 151.4 | 151.4 | – | 144.7 | 144.7 | – | 137.1 | 137.1 | – | – | – | |
| | | SHC | – | 62.3 | 83.8 | – | 60.0 | 81.4 | – | 57.5 | 78.8 | – | – | – | |
| 4500 Cfm | EAT (wb) | 58 | TC | 123.0 | 123.0 | 139.5 | 117.8 | 117.8 | 133.6 | 111.9 | 111.9 | 126.9 | 105.3 | 105.3 | 119.3 |
| | | | SHC | 106.6 | 123.0 | 139.5 | 102.1 | 117.8 | 133.6 | 97.0 | 111.9 | 126.9 | 91.2 | 105.3 | 119.3 |
| | | 62 | TC | 123.4 | 123.4 | 144.4 | 117.9 | 117.9 | 139.0 | 112.0 | 112.0 | 132.0 | 105.4 | 105.4 | 124.2 |
| | | | SHC | 100.9 | 122.7 | 144.4 | 96.9 | 117.9 | 139 | 92.1 | 112.0 | 132 | 86.6 | 105.4 | 124.2 |
| | | 67 | TC | 132.6 | 132.6 | 132.6 | 126.0 | 126 | 126.0 | 118.7 | 118.7 | 122.9 | 110.4 | 110.4 | 119.6 |
| | SHC | | 81.4 | 104.6 | 127.9 | 78.9 | 102.3 | 125.7 | 76.1 | 99.5 | 122.9 | 72.9 | 96.2 | 119.6 | |
| | 72 | TC | 144.2 | 144.2 | 144.2 | 137.4 | 137.4 | 137.4 | 129.9 | 129.9 | 129.9 | 121.6 | 121.6 | 121.6 | |
| | | SHC | 59.0 | 82.1 | 105.2 | 56.6 | 79.8 | 103.1 | 54.0 | 77.3 | 100.7 | 51.1 | 74.5 | 98 | |
| | 76 | TC | – | 153.4 | 153.4 | – | 146.6 | 146.6 | – | 138.9 | 138.9 | – | – | – | |
| | | SHC | – | 64.1 | 87.8 | – | 61.9 | 85.6 | – | 59.4 | 83 | – | – | – | |
| 5000 Cfm | EAT (wb) | 58 | TC | 126.5 | 126.5 | 143.3 | 121.2 | 121.2 | 137.4 | 115.1 | 115.1 | 130.5 | 108.4 | 108.4 | 122.8 |
| | | | SHC | 109.6 | 126.5 | 143.3 | 105.0 | 121.2 | 137.4 | 99.8 | 115.1 | 130.5 | 93.9 | 108.4 | 122.8 |
| | | 62 | TC | 126.5 | 126.5 | 149.1 | 121.3 | 121.3 | 142.9 | 115.2 | 115.2 | 135.8 | 108.5 | 108.5 | 127.8 |
| | | | SHC | 104.0 | 126.5 | 149.1 | 99.7 | 121.3 | 142.9 | 94.7 | 115.2 | 135.8 | 89.1 | 108.5 | 127.8 |
| | | 67 | TC | 134.2 | 134.2 | 135.9 | 127.5 | 127.5 | 133.8 | 120.1 | 120.1 | 131.0 | 111.9 | 111.9 | 127.6 |
| | SHC | | 84.9 | 110.4 | 135.9 | 82.4 | 108.1 | 133.8 | 79.6 | 105.3 | 131 | 76.4 | 102.0 | 127.6 | |
| | 72 | TC | 145.8 | 145.8 | 145.8 | 139.0 | 139.0 | 139.0 | 131.3 | 131.3 | 131.3 | 122.9 | 122.9 | 122.9 | |
| | | SHC | 60.3 | 85.6 | 110.8 | 57.9 | 83.4 | 108.9 | 55.3 | 81.0 | 106.6 | 52.5 | 78.2 | 104 | |
| | 76 | TC | – | 155.1 | 155.1 | – | 148.2 | 148.2 | – | – | – | – | – | – | |
| | | SHC | – | 65.9 | 91.5 | – | 63.7 | 89.5 | – | – | – | – | – | – | |

LEGEND:

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

Table 18 – COOLING CAPACITIES

2 STAGE COOLING

12.5 TONS

| RAS150 | | | | AMBIENT TEMPERATURE | | | | | | | | | | | |
|----------|----------|-----|-------|---------------------|-------|-------|----------|-------|-------|----------|-------|-------|----------|-------|-------|
| | | | | 85 | | | 95 | | | 105 | | | 115 | | |
| | | | | EAT (db) | | | EAT (db) | | | EAT (db) | | | EAT (db) | | |
| | | | | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 |
| 3600 Cfm | EAT (wb) | 58 | TC | 127.6 | 127.6 | 142.9 | 121.7 | 121.7 | 137.6 | 115.0 | 115.0 | 130 | 108.3 | 108.3 | 122.6 |
| | | | SHC | 110.3 | 126.6 | 142.9 | 105.8 | 121.7 | 137.6 | 99.9 | 115.0 | 130 | 94.1 | 108.3 | 122.6 |
| | | 62 | TC | 136.1 | 136.1 | 136.1 | 131.1 | 131.1 | 131.1 | 123.8 | 123.8 | 124.5 | 114.9 | 114.9 | 120.3 |
| | | | SHC | 96.6 | 112.8 | 129.0 | 94.7 | 111.2 | 127.7 | 91.4 | 108.0 | 124.5 | 87.3 | 103.8 | 120.3 |
| | | 67 | TC | 146.2 | 146.2 | 146.2 | 142.0 | 142.0 | 142.0 | 136.2 | 136.2 | 136.2 | 128.8 | 128.8 | 128.8 |
| | SHC | | 78.5 | 94.4 | 110.3 | 76.9 | 93.1 | 109.2 | 74.7 | 91.0 | 107.3 | 71.7 | 88.1 | 104.6 | |
| | 72 | TC | 155.9 | 155.9 | 155.9 | 152.4 | 152.4 | 152.4 | 147.2 | 147.2 | 147.2 | 140.1 | 140.1 | 140.1 | |
| | | SHC | 60.1 | 76.6 | 93.2 | 58.7 | 75.2 | 91.7 | 56.8 | 73.3 | 89.7 | 54.2 | 70.6 | 87.0 | |
| | 76 | TC | – | 163.0 | 163 | – | 160.0 | 160 | – | 155.1 | 155.1 | – | 148.2 | 148.2 | |
| | | SHC | – | 62.0 | 81.8 | – | 61.1 | 80.9 | – | 59.5 | 79.3 | – | 57.0 | 76.3 | |
| 4200 Cfm | EAT (wb) | 58 | TC | 132.2 | 132.2 | 149.5 | 128.2 | 128.2 | 144.9 | 121.9 | 121.9 | 137.8 | 115.0 | 115.0 | 130.1 |
| | | | SHC | 115.0 | 132.2 | 149.5 | 111.5 | 128.2 | 144.9 | 106.0 | 121.9 | 137.8 | 99.9 | 115.0 | 130.1 |
| | | 62 | TC | 139.6 | 139.6 | 139.6 | 134.7 | 134.7 | 138 | 128.0 | 128.0 | 135.6 | 119.1 | 119.1 | 131.2 |
| | | | SHC | 102.5 | 120.8 | 139 | 100.8 | 119.4 | 138 | 98.1 | 116.8 | 135.6 | 93.9 | 112.6 | 131.2 |
| | | 67 | TC | 149.5 | 149.5 | 149.5 | 145.4 | 145.4 | 145.4 | 139.6 | 139.6 | 139.6 | 132.1 | 132.1 | 132.1 |
| | SHC | | 81.8 | 99.6 | 117.4 | 80.6 | 98.7 | 116.8 | 78.5 | 96.9 | 115.2 | 75.7 | 94.3 | 112.8 | |
| | 72 | TC | 159.0 | 159.0 | 159.0 | 155.5 | 155.5 | 155.5 | 150.3 | 150.3 | 150.3 | 143.1 | 143.1 | 143.1 | |
| | | SHC | 61.4 | 79.6 | 97.8 | 60.2 | 78.5 | 96.8 | 58.3 | 76.7 | 95 | 55.8 | 74.2 | 92.5 | |
| | 76 | TC | – | 165.7 | 165.7 | – | 162.8 | 162.8 | – | 157.8 | 157.8 | – | 150.8 | 150.8 | |
| | | SHC | – | 64.6 | 87.7 | – | 63.5 | 86.3 | – | 61.5 | 83.3 | – | 58.9 | 79.9 | |
| 4800 Cfm | EAT (wb) | 58 | TC | 136.7 | 136.7 | 154.5 | 133.0 | 133.0 | 150.3 | 127.7 | 127.7 | 144.3 | 120.6 | 120.6 | 136.4 |
| | | | SHC | 118.9 | 136.7 | 154.5 | 115.7 | 133.0 | 150.3 | 111.0 | 127.7 | 144.3 | 104.9 | 120.6 | 136.4 |
| | | 62 | TC | 142.2 | 142.2 | 147.8 | 137.4 | 137.4 | 147.1 | 131.0 | 131.0 | 144.7 | 122.8 | 122.8 | 140.3 |
| | | | SHC | 107.7 | 127.8 | 147.8 | 106.2 | 126.7 | 147.1 | 103.6 | 124.2 | 144.7 | 99.3 | 119.8 | 140.3 |
| | | 67 | TC | 152.1 | 152.1 | 152.1 | 148.0 | 148 | 148 | 142.2 | 142.2 | 142.2 | 134.6 | 134.6 | 134.6 |
| | SHC | | 84.8 | 104.3 | 123.7 | 83.8 | 103.8 | 123.7 | 82.0 | 102.3 | 122.6 | 79.4 | 99.9 | 120.4 | |
| | 72 | TC | 161.3 | 161.3 | 161.3 | 157.8 | 157.8 | 157.8 | 152.5 | 152.5 | 152.5 | 145.4 | 145.4 | 145.4 | |
| | | SHC | 62.6 | 82.2 | 101.9 | 61.4 | 81.4 | 101.3 | 59.7 | 79.7 | 99.8 | 57.2 | 77.3 | 97.5 | |
| | 76 | TC | – | 167.7 | 167.7 | – | 164.9 | 164.9 | – | 159.9 | 159.9 | – | 152.8 | 152.8 | |
| | | SHC | – | 66.4 | 91.4 | – | 65 | 89.2 | – | 63.1 | 86.4 | – | 60.5 | 83.1 | |
| 5400 Cfm | EAT (wb) | 58 | TC | 140.5 | 140.5 | 158.8 | 136.9 | 136.9 | 154.7 | 131.8 | 131.8 | 149 | 125.2 | 125.2 | 141.6 |
| | | | SHC | 122.2 | 140.5 | 158.8 | 119 | 136.9 | 154.7 | 114.7 | 131.8 | 149 | 108.9 | 125.2 | 141.6 |
| | | 62 | TC | 144.3 | 144.3 | 155.7 | 139.6 | 139.6 | 155 | 133.5 | 133.5 | 152.4 | 125.8 | 125.8 | 147.8 |
| | | | SHC | 112.2 | 133.9 | 155.7 | 110.9 | 132.9 | 155 | 108.1 | 130.2 | 152.4 | 103.9 | 125.8 | 147.8 |
| | | 67 | TC | 154.2 | 154.2 | 154.2 | 150.0 | 150.0 | 150.0 | 144.2 | 144.2 | 144.2 | 136.7 | 136.7 | 136.7 |
| | SHC | | 87.6 | 108.6 | 129.6 | 86.8 | 108.5 | 130.1 | 85.2 | 107.3 | 129.4 | 82.8 | 105.1 | 127.4 | |
| | 72 | TC | 163.1 | 163.1 | 163.1 | 159.7 | 159.7 | 159.7 | 154.3 | 154.3 | 154.3 | 147.1 | 147.1 | 147.1 | |
| | | SHC | 63.6 | 84.6 | 105.6 | 62.5 | 83.9 | 105.4 | 60.8 | 82.5 | 104.2 | 58.4 | 80.2 | 102 | |
| | 76 | TC | – | 169.3 | 169.3 | – | 166.5 | 166.5 | – | 161.5 | 161.5 | – | 154.2 | 154.2 | |
| | | SHC | – | 67.6 | 93.7 | – | 66.4 | 91.7 | – | 64.5 | 89.2 | – | 61.9 | 86.1 | |
| 6000 Cfm | EAT (wb) | 58 | TC | 143.6 | 143.6 | 162.3 | 140.1 | 140.1 | 158.3 | 135.1 | 135.1 | 152.7 | 128.7 | 128.7 | 145.5 |
| | | | SHC | 124.9 | 143.6 | 162.3 | 121.8 | 140.1 | 158.3 | 117.5 | 135.1 | 152.7 | 111.9 | 128.7 | 145.5 |
| | | 62 | TC | 146.1 | 146.1 | 162.4 | 141.7 | 141.7 | 161.5 | 135.6 | 135.6 | 159.2 | 128.8 | 128.8 | 151.2 |
| | | | SHC | 116.1 | 139.3 | 162.4 | 114.7 | 138.1 | 161.5 | 112.1 | 135.6 | 159.2 | 106.4 | 128.8 | 151.2 |
| | | 67 | TC | 155.8 | 155.8 | 155.8 | 151.6 | 151.6 | 151.6 | 145.9 | 145.9 | 145.9 | 138.3 | 138.3 | 138.3 |
| | SHC | | 90.1 | 112.6 | 135 | 89.6 | 112.8 | 136 | 88.3 | 112.0 | 135.8 | 85.9 | 110.0 | 134.1 | |
| | 72 | TC | 164.5 | 164.5 | 164.5 | 161.2 | 161.2 | 161.2 | 155.8 | 155.8 | 155.8 | 148.5 | 148.5 | 148.5 | |
| | | SHC | 64.5 | 86.7 | 108.9 | 63.5 | 86.3 | 109.1 | 61.9 | 85.1 | 108.2 | 59.6 | 82.9 | 106.3 | |
| | 76 | TC | – | 170.6 | 170.6 | – | 167.8 | 167.8 | – | 162.8 | 162.8 | – | 155.5 | 155.5 | |
| | | SHC | – | 68.7 | 95.8 | – | 67.5 | 94.1 | – | 65.7 | 91.8 | – | 63.3 | 88.8 | |

LEGEND:

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

Table 19 – COOLING CAPACITIES

2 STAGE COOLING

15 TONS

| RAS180 | | | | 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 | TC | 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 | TC | 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 | TC | 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 | TC | 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 | TC | - | 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 | TC | 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 | | | TC | 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 | | | TC | 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 | | TC | 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 | | TC | - | 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 | TC | 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 | | TC | 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 | | TC | 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 | TC | 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 | TC | - | 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 | TC | 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 | | | TC | 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 | | | TC | 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 | | TC | 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 | | TC | - | 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 | TC | 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 | | TC | 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 | | TC | 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 | TC | 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 | TC | - | 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 | | |

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

Electric Heaters

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

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

| 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 | |

General fan performance notes:

1. Interpolation is permissible. Do not extrapolate.
2. External static pressure is the static pressure difference between the return duct and the supply duct plus the static pressure caused by any FIOPs or accessories.
3. Tabular data accounts for pressure loss due to clean filters, unit casing, and wet coils. Factory options and accessories may add static pressure losses, as shown in Table 20. 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, recommend the lower horsepower option.
5. For information on the electrical properties of motors, please see the Electrical information section of this book.
6. For more information on the performance limits of 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 the RAS036-180 units are exempt from these requirements.

FAN PERFORMANCE

Table 21 – 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 Drive¹ | | 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 Drive² | | | | |
| 900 | 1017 | 0.64 | 1082 | 0.76 | 1143 | 0.88 | 1200 | 1.01 | 1254 | 1.14 |
| 975 | 1035 | 0.68 | 1100 | 0.81 | 1160 | 0.93 | 1217 | 1.07 | 1271 | 1.20 |
| 1050 | 1053 | 0.73 | 1117 | 0.86 | 1177 | 0.99 | 1234 | 1.13 | – | – |
| 1125 | 1071 | 0.78 | 1135 | 0.92 | 1195 | 1.05 | 1251 | 1.19 | – | – |
| 1200 | 1089 | 0.84 | 1153 | 0.98 | 1212 | 1.12 | – | – | – | – |
| 1275 | 1107 | 0.90 | 1171 | 1.04 | 1230 | 1.19 | – | – | – | – |
| 1350 | 1126 | 0.96 | 1189 | 1.11 | – | – | – | – | – | – |
| 1425 | 1145 | 1.03 | 1208 | 1.18 | – | – | – | – | – | – |
| 1500 | 1164 | 1.10 | – | – | – | – | – | – | – | – |

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. 1178488) and belt (part no. 1177401).
2. Recommend using field-supplied motor pulley (part no. 1175832), and belt (part no. 1178128).

Table 22 – 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 Drive¹ | | 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 Drive² | | | | |
| 900 | 1029 | 0.63 | 1095 | 0.75 | 1157 | 0.86 | 1216 | 0.99 | 1272 | 1.11 |
| 975 | 1046 | 0.68 | 1112 | 0.80 | 1174 | 0.92 | 1232 | 1.05 | 1287 | 1.18 |
| 1050 | 1064 | 0.73 | 1129 | 0.86 | 1190 | 0.98 | 1248 | 1.11 | – | – |
| 1125 | 1082 | 0.79 | 1147 | 0.92 | 1208 | 1.05 | 1265 | 1.18 | – | – |
| 1200 | 1100 | 0.85 | 1165 | 0.98 | 1225 | 1.12 | – | – | – | – |
| 1275 | 1119 | 0.91 | 1183 | 1.05 | 1243 | 1.19 | – | – | – | – |
| 1350 | 1139 | 0.98 | 1202 | 1.12 | – | – | – | – | – | – |
| 1425 | 1159 | 1.05 | 1221 | 1.20 | – | – | – | – | – | – |
| 1500 | 1179 | 1.13 | – | – | – | – | – | – | – | – |

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. 1178488) and belt (part no. 1177401).
2. Recommend using field-supplied motor pulley (part no. 1175832) and belt (part no. 1178128).

FAN PERFORMANCE (cont.)

Table 23 – 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 Drive¹ | | Standard Static Option | | | | Medium Static Option | | | |
| 900 | 554 | 0.14 | 681 | 0.22 | 783 | 0.32 | 870 | 0.42 | 947 | 0.53 |
| 975 | 575 | 0.16 | 701 | 0.25 | 801 | 0.35 | 888 | 0.45 | 965 | 0.57 |
| 1050 | 597 | 0.18 | 721 | 0.28 | 821 | 0.38 | 906 | 0.49 | 983 | 0.61 |
| 1125 | 620 | 0.21 | 741 | 0.31 | 840 | 0.42 | 925 | 0.54 | 1001 | 0.66 |
| 1200 | 643 | 0.23 | 762 | 0.35 | 860 | 0.46 | 944 | 0.58 | 1020 | 0.71 |
| 1275 | 666 | 0.27 | 784 | 0.38 | 880 | 0.50 | 964 | 0.63 | 1039 | 0.76 |
| 1350 | 690 | 0.30 | 805 | 0.42 | 900 | 0.55 | 983 | 0.68 | 1058 | 0.82 |
| 1425 | 714 | 0.34 | 827 | 0.47 | 921 | 0.60 | 1003 | 0.74 | 1077 | 0.88 |
| 1500 | 738 | 0.38 | 849 | 0.52 | 942 | 0.66 | 1024 | 0.80 | 1097 | 0.95 |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (IN. WG) | | | | | | | | | |
|------|---|------|-------------|-------------|---------------------------|-------------|------|------|------|------|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Medium Static Option | | | | High Static Option | | | | | |
| 900 | 1017 | 0.64 | 1082 | 0.76 | 1143 | 0.88 | 1200 | 1.01 | 1254 | 1.14 |
| 975 | 1035 | 0.68 | 1100 | 0.81 | 1160 | 0.93 | 1217 | 1.07 | 1271 | 1.20 |
| 1050 | 1053 | 0.73 | 1117 | 0.86 | 1177 | 0.99 | 1234 | 1.13 | 1288 | 1.27 |
| 1125 | 1071 | 0.78 | 1135 | 0.92 | 1195 | 1.05 | 1251 | 1.19 | 1305 | 1.34 |
| 1200 | 1089 | 0.84 | 1153 | 0.98 | 1212 | 1.12 | 1269 | 1.26 | 1322 | 1.41 |
| 1275 | 1107 | 0.90 | 1171 | 1.04 | 1230 | 1.19 | 1286 | 1.33 | 1340 | 1.49 |
| 1350 | 1126 | 0.96 | 1189 | 1.11 | 1249 | 1.26 | 1304 | 1.41 | 1357 | 1.57 |
| 1425 | 1145 | 1.03 | 1208 | 1.18 | 1267 | 1.33 | 1323 | 1.49 | 1375 | 1.66 |
| 1500 | 1164 | 1.10 | 1227 | 1.25 | 1285 | 1.41 | 1341 | 1.58 | 1394 | 1.75 |

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. 1178448) and belt (part no. 1177401).

Table 24 – 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 Drive¹ | | Standard Static Option | | | | Medium Static Option | | | |
| 900 | 566 | 0.14 | 690 | 0.23 | 791 | 0.32 | 879 | 0.42 | 957 | 0.52 |
| 975 | 590 | 0.17 | 711 | 0.26 | 811 | 0.36 | 897 | 0.46 | 975 | 0.57 |
| 1050 | 615 | 0.19 | 733 | 0.29 | 831 | 0.39 | 916 | 0.50 | 993 | 0.62 |
| 1125 | 640 | 0.22 | 755 | 0.33 | 851 | 0.43 | 936 | 0.55 | 1012 | 0.67 |
| 1200 | 666 | 0.25 | 778 | 0.36 | 873 | 0.48 | 956 | 0.60 | 1031 | 0.72 |
| 1275 | 692 | 0.29 | 802 | 0.41 | 894 | 0.53 | 976 | 0.65 | 1051 | 0.78 |
| 1350 | 719 | 0.33 | 825 | 0.45 | 916 | 0.58 | 997 | 0.71 | 1071 | 0.84 |
| 1425 | 746 | 0.37 | 850 | 0.50 | 939 | 0.63 | 1019 | 0.77 | 1091 | 0.91 |
| 1500 | 774 | 0.42 | 875 | 0.55 | 962 | 0.69 | 1041 | 0.83 | 1112 | 0.98 |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (IN. WG) | | | | | | | | | |
|------|---|-------------|-------------|-------------|---------------------------|-------------|------|------|------|------|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Medium Static Option | | | | High Static Option | | | | | |
| 900 | 1029 | 0.63 | 1095 | 0.75 | 1157 | 0.86 | 1216 | 0.99 | 1272 | 1.11 |
| 975 | 1046 | 0.68 | 1112 | 0.80 | 1174 | 0.92 | 1232 | 1.05 | 1287 | 1.18 |
| 1050 | 1064 | 0.73 | 1129 | 0.86 | 1190 | 0.98 | 1248 | 1.11 | 1304 | 1.25 |
| 1125 | 1082 | 0.79 | 1147 | 0.92 | 1208 | 1.05 | 1265 | 1.18 | 1320 | 1.32 |
| 1200 | 1100 | 0.85 | 1165 | 0.98 | 1225 | 1.12 | 1282 | 1.26 | 1337 | 1.40 |
| 1275 | 1119 | 0.91 | 1183 | 1.05 | 1243 | 1.19 | 1300 | 1.34 | 1354 | 1.49 |
| 1350 | 1139 | 0.98 | 1202 | 1.12 | 1262 | 1.27 | 1318 | 1.42 | 1372 | 1.57 |
| 1425 | 1159 | 1.05 | 1221 | 1.20 | 1280 | 1.35 | 1336 | 1.51 | 1390 | 1.66 |
| 1500 | 1179 | 1.13 | 1241 | 1.28 | 1300 | 1.44 | 1355 | 1.60 | 1408 | 1.76 |

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. 1178448) and belt (part no. 1177401).

FAN PERFORMANCE (cont.)

Table 25 – 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 | – | – | – | – | – | – | – | – | – | – |

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied motor pulley (part no. 1175832) and belt (part no. 1178128).

Table 26 – 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 | – | – | – | – |
| 2000 | 965 | 0.86 | 1050 | 1.03 | – | – | – | – | – | – |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (IN. WG) | | | | | | | | | |
|------|---|------|------|------|-----------------------------------|------|-----|-----|-----|-----|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Medium Static Option | | | | Field Supplied Drive ¹ | | | | | |
| 1200 | 1100 | 0.85 | 1165 | 0.98 | 1225 | 1.12 | – | – | – | – |
| 1300 | 1126 | 0.94 | 1189 | 1.07 | – | – | – | – | – | – |
| 1400 | 1152 | 1.03 | 1215 | 1.17 | – | – | – | – | – | – |
| 1500 | 1179 | 1.13 | – | – | – | – | – | – | – | – |
| 1600 | 1206 | 1.24 | – | – | – | – | – | – | – | – |
| 1700 | 1235 | 1.36 | – | – | – | – | – | – | – | – |
| 1800 | 1264 | 1.48 | – | – | – | – | – | – | – | – |
| 1900 | 1293 | 1.62 | – | – | – | – | – | – | – | – |
| 2000 | 1324 | 1.77 | – | – | – | – | – | – | – | – |

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

Boldface indicates field-supplied drive is required.

FAN PERFORMANCE (cont.)

Table 27 – 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.

1. Recommend using field-supplied fan pulley (part no. 1175314), motor pulley (part no. 1170551) and belt (part no. 1178451).

Table 28 – 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 |
| | Medium Static Option | | | | | High Static Option | | | | |
| 1200 | 1100 | 0.85 | 1165 | 0.98 | 1225 | 1.12 | 1282 | 1.26 | 1337 | 1.40 |
| 1300 | 1126 | 0.94 | 1189 | 1.07 | 1249 | 1.22 | 1306 | 1.36 | 1360 | 1.51 |
| 1400 | 1152 | 1.03 | 1215 | 1.17 | 1274 | 1.32 | 1330 | 1.48 | 1384 | 1.63 |
| 1500 | 1179 | 1.13 | 1241 | 1.28 | 1300 | 1.44 | 1355 | 1.60 | 1408 | 1.76 |
| 1600 | 1206 | 1.24 | 1268 | 1.40 | 1326 | 1.56 | 1381 | 1.73 | 1433 | 1.90 |
| 1700 | 1235 | 1.36 | 1295 | 1.52 | 1352 | 1.69 | 1407 | 1.87 | 1459 | 2.04 |
| 1800 | 1264 | 1.48 | 1323 | 1.66 | 1380 | 1.84 | 1434 | 2.02 | 1485 | 2.20 |
| 1900 | 1293 | 1.62 | 1352 | 1.80 | 1408 | 1.99 | 1461 | 2.17 | 1512 | 2.37 |
| 2000 | 1324 | 1.77 | 1381 | 1.96 | 1436 | 2.15 | 1489 | 2.34 | – | – |

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. 1175314), motor pulley (part no. 1170551) and belt (part no. 1178451).

FAN PERFORMANCE (cont.)

Table 29 – 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 Drive¹ | | Standard Static Option | | | | | | | |
| 1500 | 724 | 0.33 | 837 | 0.45 | 937 | 0.59 | 1028 | 0.74 | 1111 | 0.91 |
| 1625 | 765 | 0.40 | 873 | 0.53 | 969 | 0.67 | 1056 | 0.83 | 1137 | 1.00 |
| 1750 | 806 | 0.48 | 909 | 0.61 | 1002 | 0.76 | 1087 | 0.92 | 1165 | 1.10 |
| 1875 | 849 | 0.57 | 947 | 0.71 | 1036 | 0.86 | 1118 | 1.03 | 1195 | 1.21 |
| 2000 | 892 | 0.67 | 986 | 0.82 | 1072 | 0.98 | 1151 | 1.15 | 1226 | 1.33 |
| 2125 | 935 | 0.79 | 1025 | 0.94 | 1108 | 1.11 | 1185 | 1.29 | 1258 | 1.47 |
| 2250 | 980 | 0.92 | 1066 | 1.08 | 1146 | 1.25 | 1220 | 1.43 | – | – |
| 2375 | 1024 | 1.06 | 1107 | 1.23 | 1184 | 1.41 | – | – | – | – |
| 2500 | 1069 | 1.22 | 1149 | 1.39 | – | – | – | – | – | – |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (IN. WG) | | | | | | | | | |
|------|---|------|------|------|------|------|-----|-----|-----|-----|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Medium Static Option | | | | | | | | | |
| 1500 | 1188 | 1.09 | 1261 | 1.29 | 1330 | 1.49 | – | – | – | – |
| 1625 | 1213 | 1.18 | 1284 | 1.38 | – | – | – | – | – | – |
| 1750 | 1239 | 1.28 | 1309 | 1.49 | – | – | – | – | – | – |
| 1875 | 1267 | 1.40 | – | – | – | – | – | – | – | – |
| 2000 | – | – | – | – | – | – | – | – | – | – |
| 2125 | – | – | – | – | – | – | – | – | – | – |
| 2250 | – | – | – | – | – | – | – | – | – | – |

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

1. Recommend using field-supplied fan pulley (part no. 1178034) and belt (part no. 1178127).

Table 30 – 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 31 – 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 | | | | | |
| 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.

■ – High Static Option

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. 1178034) and belt (part no. 1178127).

Table 32 – 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 33 – 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.

■ – Medium Static Option

■ – High Static Option

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. 1175830), motor pulley (part no. 1175849) and belt (part no. 1178128).

Table 34 – 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.

1. Recommend using field-supplied fan pulley (part no. 1175830), motor pulley (part no. 1175849) and belt (part no. 1178128).

FAN PERFORMANCE (cont.)

Table 35 – RAS090 / 091, 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 Drive¹ | | Standard Static Option | | | | | | Medium Static Option | |
| 2250 | 465 | 0.43 | 555 | 0.64 | 629 | 0.86 | 694 | 1.10 | 753 | 1.34 |
| 2438 | 488 | 0.51 | 575 | 0.73 | 648 | 0.97 | 712 | 1.21 | 769 | 1.47 |
| 2625 | 510 | 0.60 | 595 | 0.84 | 666 | 1.09 | 729 | 1.34 | 786 | 1.62 |
| 2813 | 533 | 0.70 | 616 | 0.95 | 686 | 1.22 | 748 | 1.49 | 804 | 1.77 |
| 3000 | 557 | 0.82 | 637 | 1.08 | 705 | 1.36 | 766 | 1.64 | 822 | 1.94 |
| 3188 | 581 | 0.94 | 659 | 1.23 | 726 | 1.51 | 785 | 1.81 | 840 | 2.12 |
| 3375 | 606 | 1.08 | 681 | 1.38 | 746 | 1.68 | 805 | 2.00 | 859 | 2.32 |
| 3563 | 630 | 1.24 | 703 | 1.55 | 767 | 1.87 | 825 | 2.20 | 878 | 2.53 |
| 3750 | 655 | 1.41 | 726 | 1.74 | 789 | 2.07 | 845 | 2.41 | 897 | 2.76 |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (IN. WG) | | | | | | | | | |
|------|---|------|-----|------|------|------|---------------------------|------|-------------|-------------------------|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Medium Static Option | | | | | | High Static Option | | | |
| 2250 | 806 | 1.60 | 856 | 1.87 | 903 | 2.15 | 947 | 2.45 | 988 | 2.75 |
| 2438 | 822 | 1.74 | 872 | 2.03 | 918 | 2.32 | 961 | 2.62 | 1003 | 2.93 |
| 2625 | 839 | 1.90 | 887 | 2.19 | 933 | 2.49 | 977 | 2.81 | 1018 | 3.13 |
| 2813 | 856 | 2.06 | 904 | 2.37 | 949 | 2.68 | 992 | 3.01 | 1033 | 3.34 |
| 3000 | 873 | 2.24 | 921 | 2.56 | 966 | 2.89 | 1008 | 3.22 | 1049 | 3.56 |
| 3188 | 891 | 2.44 | 938 | 2.77 | 982 | 3.10 | 1025 | 3.45 | 1065 | 3.81 |
| 3375 | 909 | 2.65 | 955 | 2.99 | 1000 | 3.34 | 1041 | 3.70 | 1081 | 4.06 |
| 3563 | 927 | 2.88 | 973 | 3.23 | 1017 | 3.59 | 1059 | 3.96 | 1098 | 4.34 |
| 3750 | 946 | 3.12 | 992 | 3.48 | 1035 | 3.86 | 1076 | 4.24 | 1115 | 4.63² |

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. 1178189), motor pulley (part no. 1175832) and belt (part no. 1178128).
2. Recommend using field-supplied fan pulley (part no. 1175896) and belt (part no. 1178182).

Table 36 – RAS090 / 091, 3 PHASE, 7.5 TON VERTICAL SUPPLY

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (IN. WG) | | | | | | | | | |
|------|---|------|-----|------|-----|------|-----------------------------|------|-----|------|
| | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Static Option | | | | | | Medium Static Option | | | |
| 2250 | 511 | 0.53 | 591 | 0.73 | 660 | 0.95 | 722 | 1.19 | 779 | 1.44 |
| 2438 | 540 | 0.64 | 616 | 0.85 | 683 | 1.08 | 743 | 1.33 | 799 | 1.59 |
| 2625 | 569 | 0.76 | 642 | 0.99 | 706 | 1.23 | 765 | 1.49 | 819 | 1.76 |
| 2813 | 599 | 0.90 | 669 | 1.14 | 731 | 1.39 | 788 | 1.66 | 841 | 1.94 |
| 3000 | 630 | 1.06 | 696 | 1.31 | 756 | 1.58 | 811 | 1.86 | 863 | 2.15 |
| 3188 | 661 | 1.23 | 724 | 1.50 | 782 | 1.78 | 836 | 2.07 | 886 | 2.38 |
| 3375 | 692 | 1.43 | 753 | 1.71 | 809 | 2.00 | 861 | 2.31 | 910 | 2.62 |
| 3563 | 723 | 1.65 | 782 | 1.94 | 836 | 2.25 | 887 | 2.56 | 934 | 2.89 |
| 3750 | 755 | 1.89 | 811 | 2.20 | 864 | 2.52 | 913 | 2.84 | 959 | 3.18 |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (IN. WG) | | | | | | | | | |
|------|---|------|------|------|------|------|---------------------------|-------------|-------------|-------------|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Medium Static Option | | | | | | High Static Option | | | |
| 2250 | 832 | 1.71 | 882 | 1.99 | 928 | 2.29 | 973 | 2.59 | 1015 | 2.92 |
| 2438 | 851 | 1.87 | 899 | 2.16 | 945 | 2.46 | 989 | 2.78 | 1031 | 3.11 |
| 2625 | 870 | 2.04 | 918 | 2.34 | 963 | 2.66 | 1006 | 2.98 | 1048 | 3.32 |
| 2813 | 890 | 2.24 | 937 | 2.55 | 982 | 2.87 | 1024 | 3.21 | 1065 | 3.55 |
| 3000 | 912 | 2.46 | 958 | 2.78 | 1001 | 3.11 | 1043 | 3.45 | 1083 | 3.80 |
| 3188 | 934 | 2.69 | 979 | 3.02 | 1022 | 3.36 | 1063 | 3.72 | 1102 | 4.08 |
| 3375 | 956 | 2.95 | 1000 | 3.29 | 1042 | 3.64 | 1083 | 4.00 | 1122 | 4.38 |
| 3563 | 980 | 3.23 | 1023 | 3.58 | 1064 | 3.94 | 1104 | 4.32 | 1142 | 4.70 |
| 3750 | 1004 | 3.54 | 1046 | 3.90 | 1086 | 4.27 | 1125 | 4.65 | – | – |

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. 1175896) and belt (part no. 1178182).

FAN PERFORMANCE (cont.)

Table 37 – 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 Drive¹ | | Standard Static Option | | | | | | | |
| 2550 | 438 | 0.39 | 523 | 0.50 | 595 | 0.64 | 658 | 0.78 | 716 | 0.94 |
| 2763 | 459 | 0.47 | 541 | 0.60 | 611 | 0.73 | 673 | 0.88 | 730 | 1.05 |
| 2975 | 481 | 0.56 | 560 | 0.70 | 628 | 0.84 | 689 | 1.00 | 745 | 1.16 |
| 3188 | 504 | 0.67 | 580 | 0.82 | 646 | 0.97 | 705 | 1.13 | 760 | 1.30 |
| 3400 | 526 | 0.80 | 600 | 0.95 | 664 | 1.11 | 722 | 1.27 | 776 | 1.45 |
| 3613 | 550 | 0.94 | 620 | 1.10 | 683 | 1.26 | 740 | 1.43 | 793 | 1.62 |
| 3825 | 573 | 1.09 | 641 | 1.26 | 702 | 1.43 | 758 | 1.61 | 810 | 1.80 |
| 4038 | 597 | 1.26 | 663 | 1.44 | 722 | 1.62 | 777 | 1.81 | 827 | 2.00 |
| 4250 | 621 | 1.45 | 685 | 1.64 | 743 | 1.83 | 796 | 2.02 | 845 | 2.22 |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (IN. WG) | | | | | | | | | |
|------|---|-------------|------------|-------------|------------|---------------------------|------------|-------------|------|------|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Medium Static Option | | | | | High Static Option | | | | |
| 2550 | 769 | 1.11 | 819 | 1.30 | 865 | 1.49 | 909 | 1.70 | 951 | 1.92 |
| 2763 | 782 | 1.22 | 831 | 1.41 | 877 | 1.60 | 921 | 1.81 | 963 | 2.04 |
| 2975 | 796 | 1.34 | 845 | 1.53 | 890 | 1.73 | 933 | 1.94 | 974 | 2.16 |
| 3188 | 811 | 1.48 | 858 | 1.67 | 903 | 1.88 | 946 | 2.09 | 987 | 2.31 |
| 3400 | 826 | 1.63 | 873 | 1.83 | 917 | 2.04 | 959 | 2.25 | 1000 | 2.48 |
| 3613 | 842 | 1.81 | 888 | 2.01 | 932 | 2.22 | 973 | 2.44 | 1013 | 2.67 |
| 3825 | 858 | 2.00 | 903 | 2.20 | 946 | 2.42 | 988 | 2.64 | 1027 | 2.87 |
| 4038 | 875 | 2.20 | 919 | 2.41 | 962 | 2.63 | 1002 | 2.86 | 1041 | 3.10 |
| 4250 | 892 | 2.43 | 936 | 2.65 | 978 | 2.87 | 1018 | 3.10 | 1056 | 3.34 |

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. 1178189) and belt (part no. 1179767).

Table 38 – RAS101 / 102, 3 PHASE, 8.5 TON VERTICAL SUPPLY

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (IN. WG) | | | | | | | | | |
|------|---|-------------|-------------------------------|-------------|------------|-------------|------------|-------------|-----------------------------|-------------|
| | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Field Supplied Drive¹ | | Standard Static Option | | | | | | Medium Static Option | |
| 2550 | 477 | 0.43 | 556 | 0.57 | 624 | 0.71 | 685 | 0.85 | 742 | 0.99 |
| 2763 | 503 | 0.52 | 578 | 0.67 | 644 | 0.82 | 704 | 0.97 | 759 | 1.13 |
| 2975 | 529 | 0.62 | 601 | 0.79 | 665 | 0.95 | 724 | 1.11 | 777 | 1.28 |
| 3188 | 556 | 0.74 | 625 | 0.92 | 687 | 1.09 | 744 | 1.26 | 796 | 1.44 |
| 3400 | 583 | 0.88 | 650 | 1.06 | 710 | 1.24 | 765 | 1.43 | 816 | 1.62 |
| 3613 | 611 | 1.03 | 675 | 1.22 | 733 | 1.42 | 787 | 1.61 | 836 | 1.81 |
| 3825 | 639 | 1.19 | 701 | 1.40 | 757 | 1.61 | 809 | 1.81 | 857 | 2.02 |
| 4038 | 668 | 1.38 | 727 | 1.60 | 781 | 1.81 | 832 | 2.03 | 879 | 2.25 |
| 4250 | 696 | 1.58 | 753 | 1.81 | 806 | 2.04 | 855 | 2.27 | 901 | 2.50 |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (IN. WG) | | | | | | | | | |
|------|---|-------------|------------|-------------|------------|---------------------------|------------|-------------|-------------|-------------------------|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Medium Static Option | | | | | High Static Option | | | | |
| 2550 | 794 | 1.14 | 842 | 1.29 | 888 | 1.44 | 932 | 1.59 | 973 | 1.75 |
| 2763 | 810 | 1.28 | 858 | 1.44 | 903 | 1.60 | 946 | 1.77 | 987 | 1.93 |
| 2975 | 827 | 1.44 | 874 | 1.61 | 919 | 1.78 | 961 | 1.95 | 1001 | 2.13 |
| 3188 | 845 | 1.62 | 891 | 1.79 | 935 | 1.98 | 977 | 2.16 | 1017 | 2.34 |
| 3400 | 864 | 1.80 | 909 | 1.99 | 952 | 2.18 | 993 | 2.38 | 1033 | 2.57 |
| 3613 | 883 | 2.01 | 928 | 2.21 | 970 | 2.41 | 1010 | 2.61 | 1049 | 2.82 |
| 3825 | 903 | 2.23 | 947 | 2.44 | 988 | 2.65 | 1028 | 2.87 | 1066 | 3.08 |
| 4038 | 924 | 2.47 | 967 | 2.70 | 1008 | 2.92 | 1047 | 3.14 | 1084 | 3.37 |
| 4250 | 945 | 2.73 | 987 | 2.97 | 1027 | 3.20 | 1066 | 3.43 | 1103 | 3.67² |

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. 1178189) and belt (part no. 1179767).

2. Recommend using field-supplied fan pulley (part no. 1175896), motor pulley (part no. 1178133) and belt (part no. 1178182).

FAN PERFORMANCE (cont.)

Table 39 – 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.

1. Recommend using field-supplied fan pulley (part no. 1178190) and belt (part no. 1178181).

Table 40 – RAS120 / 121, 3 PHASE, 10 TON VERTICAL SUPPLY

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (IN. WG) | | | | | | | | | |
|------|---|-------------|-------------------------------|------|-----|------|-----|------|------|------|
| | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | 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.

1. Recommend using field-supplied fan pulley (part no. 1178190) and belt (part no. 1178181).

FAN PERFORMANCE (cont.)

Table 41 – 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 Drive¹ | | Standard Static Option | | | | | | | |
| 3438 | 580 | 0.82 | 642 | 0.99 | 700 | 1.16 | 756 | 1.34 | 809 | 1.53 |
| 3750 | 621 | 1.03 | 679 | 1.21 | 734 | 1.40 | 786 | 1.59 | 837 | 1.79 |
| 4063 | 663 | 1.28 | 717 | 1.47 | 769 | 1.67 | 818 | 1.88 | 866 | 2.09 |
| 4375 | 706 | 1.56 | 757 | 1.77 | 805 | 1.98 | 852 | 2.20 | 897 | 2.43 |
| 4688 | 749 | 1.89 | 797 | 2.11 | 843 | 2.34 | 887 | 2.57 | 930 | 2.81 |
| 5000 | 793 | 2.26 | 838 | 2.50 | 881 | 2.74 | 923 | 2.98 | 965 | 3.23 |
| 5313 | 837 | 2.69 | 880 | 2.93 | 921 | 3.19 | 961 | 3.44 | 1000 | 3.71 |
| 5625 | 882 | 3.16 | 922 | 3.42 | 961 | 3.68 | 999 | 3.95 | 1037 | 4.23 |
| 5938 | 926 | 3.68 | 964 | 3.96 | 1001 | 4.23 | 1038 | 4.52 | – | – |
| 6250 | 971 | 4.26 | 1007 | 4.55 | – | – | – | – | – | – |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (IN. WG) | | | | | | | | | |
|------|---|------|------|------|------|------|------|------|------|------|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Medium Static Option | | | | | | | | | |
| 3438 | 860 | 1.72 | 910 | 1.92 | 957 | 2.12 | 1003 | 2.32 | 1048 | 2.54 |
| 3750 | 885 | 1.99 | 932 | 2.20 | 978 | 2.42 | 1022 | 2.64 | 1065 | 2.86 |
| 4063 | 912 | 2.31 | 957 | 2.53 | 1001 | 2.75 | 1043 | 2.98 | 1084 | 3.22 |
| 4375 | 941 | 2.66 | 984 | 2.89 | 1026 | 3.13 | 1066 | 3.37 | 1106 | 3.62 |
| 4688 | 972 | 3.05 | 1013 | 3.29 | 1053 | 3.54 | 1092 | 3.80 | 1130 | 4.06 |
| 5000 | 1005 | 3.49 | 1044 | 3.74 | 1082 | 4.01 | 1119 | 4.27 | 1156 | 4.55 |
| 5313 | 1038 | 3.97 | 1076 | 4.24 | 1113 | 4.52 | – | – | – | – |
| 5625 | 1073 | 4.51 | – | – | – | – | – | – | – | – |
| 5938 | – | – | – | – | – | – | – | – | – | – |
| 6250 | – | – | – | – | – | – | – | – | – | – |

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. 1178189) and belt (part no. 1179767).

2. Recommend using field-supplied fan pulley (part no. 1175896), motor pulley (part no. 1178133) and belt (part no. 1178182).

Table 42 – 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 Drive¹ | | Standard Static Option | | | | | | | |
| 3438 | 616 | 0.92 | 679 | 1.10 | 735 | 1.27 | 786 | 1.45 | 835 | 1.62 |
| 3750 | 661 | 1.16 | 719 | 1.35 | 773 | 1.54 | 822 | 1.73 | 869 | 1.93 |
| 4063 | 706 | 1.43 | 761 | 1.64 | 812 | 1.85 | 860 | 2.06 | 904 | 2.27 |
| 4375 | 752 | 1.75 | 804 | 1.98 | 852 | 2.20 | 898 | 2.43 | 941 | 2.65 |
| 4688 | 798 | 2.12 | 847 | 2.36 | 894 | 2.60 | 937 | 2.85 | 979 | 3.09 |
| 5000 | 844 | 2.54 | 891 | 2.80 | 936 | 3.06 | 978 | 3.31 | 1018 | 3.57 |
| 5313 | 891 | 3.01 | 936 | 3.28 | 978 | 3.56 | 1019 | 3.83 | 1057 | 4.11 |
| 5625 | 938 | 3.53 | 981 | 3.83 | 1022 | 4.12 | 1060 | 4.41 | 1097 | 4.70 |
| 5938 | 986 | 4.12 | 1026 | 4.43 | – | – | – | – | – | – |
| 6250 | – | – | – | – | – | – | – | – | – | – |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (IN. WG) | | | | | | | | | |
|------|---|------|------|------|------|------|------|------|------|------|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Medium Static Option | | | | | | | | | |
| 3438 | 880 | 1.80 | 922 | 1.98 | 963 | 2.15 | 1002 | 2.33 | 1039 | 2.51 |
| 3750 | 912 | 2.12 | 954 | 2.31 | 994 | 2.50 | 1031 | 2.70 | 1068 | 2.89 |
| 4063 | 947 | 2.48 | 987 | 2.68 | 1025 | 2.89 | 1062 | 3.10 | 1098 | 3.31 |
| 4375 | 982 | 2.88 | 1021 | 3.10 | 1058 | 3.32 | 1094 | 3.55 | 1129 | 3.77 |
| 4688 | 1018 | 3.33 | 1056 | 3.57 | 1093 | 3.81 | 1128 | 4.04 | 1162 | 4.29 |
| 5000 | 1056 | 3.82 | 1093 | 4.08 | 1128 | 4.34 | 1162 | 4.59 | – | – |
| 5313 | 1094 | 4.38 | 1130 | 4.65 | – | – | – | – | – | – |
| 5625 | – | – | – | – | – | – | – | – | – | – |
| 5938 | – | – | – | – | – | – | – | – | – | – |
| 6250 | – | – | – | – | – | – | – | – | – | – |

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

Boldface indicates field-supplied drive is required.

1. Recommend using field-supplied fan pulley (part no. 1178189) and belt (part no. 1179767).

2. Recommend using field-supplied fan pulley (part no. 1175896), motor pulley (part no. 1178133) and belt (part no. 1178182).

FAN PERFORMANCE (cont.)

Table 43 – 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 | 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 | --- | --- | --- | --- |

std static – 507–676 RPM, 2.9 max BHP
 med static – 627–851 RPM, 3.7 max BHP
 high static – 776–955 RPM, 6.1 max BHP

Table 44 – 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 | 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 | --- | --- |

std static – 507–676 RPM, 2.9 max BHP
 med static – 627–851 RPM, 3.7 max BHP
 high static – 776–955 RPM, 6.1 max BHP

FAN PERFORMANCE (cont.)

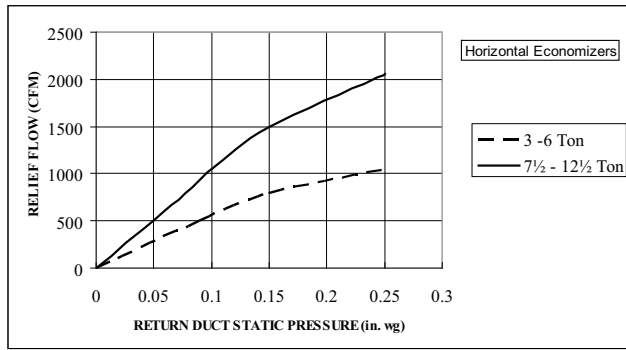
Table 45 – PULLEY ADJUSTMENT

| UNIT RAS | | 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 | 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 |
| 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.

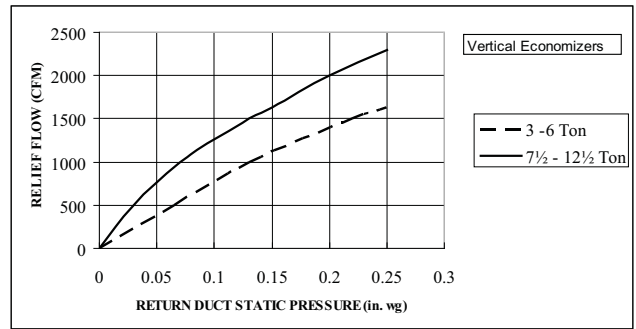
■ – Factory settings

ECONOMIZER, BAROMETRIC RELIEF, AND PERFORMANCE



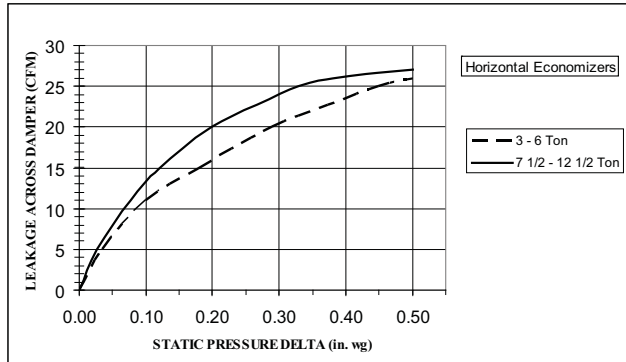
Barometric Relief Flow Capacity

C08070



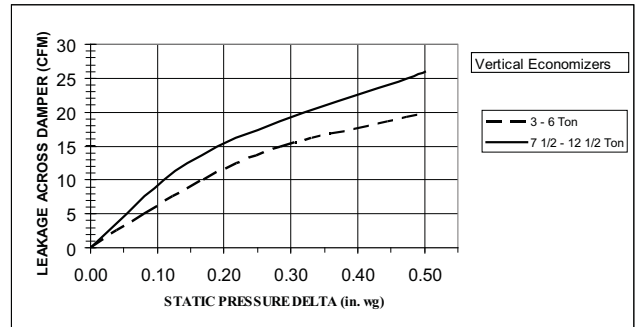
Barometric Relief Flow Capacity

C08073



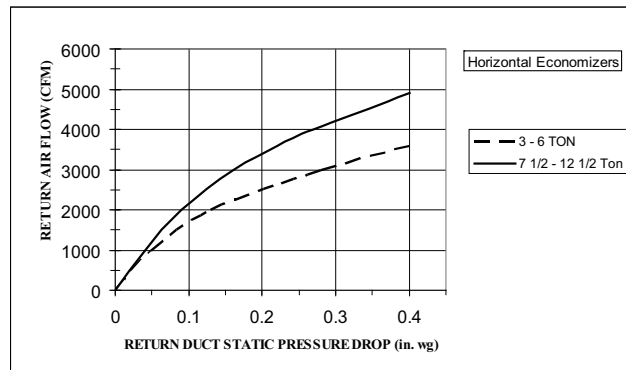
Outdoor Air Damper Leakage

C08071



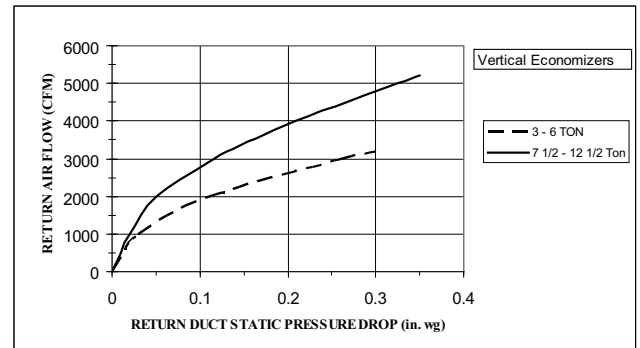
Outdoor Air Damper Leakage

C08074



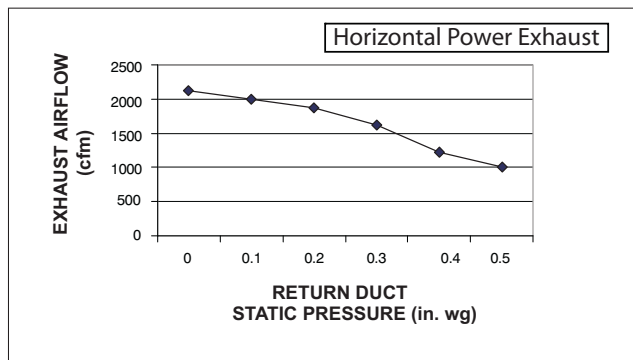
Return Air Pressure Drop

C08072



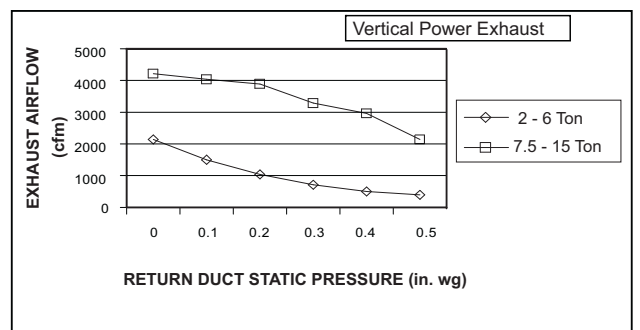
Return Air Pressure Drop

C08075



Horizontal Power Exhaust Performance

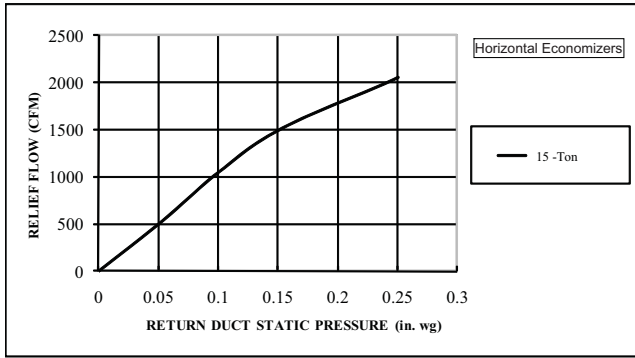
C08012



Power Exhaust Performance

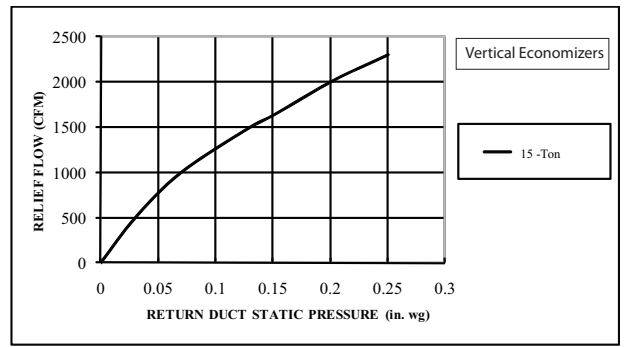
101125

ECONOMIZER, BAROMETRIC RELIEF, AND PERFORMANCE (CONT.)



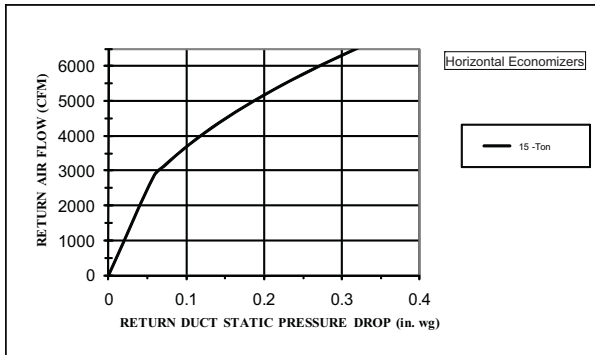
Barometric Relief Flow-Horizontal 15 Ton

C101120



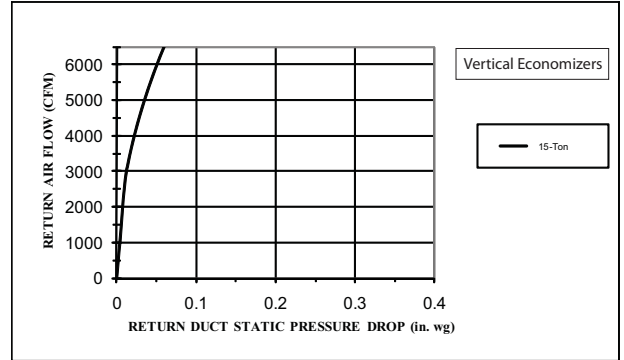
Barometric Relief Flow-Vertical 15 Ton

C101122



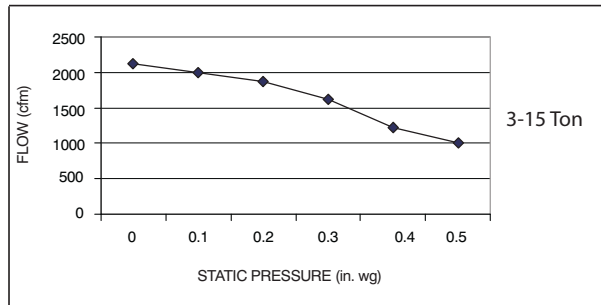
Return Air Pressure Drop-Horizontal 15 Ton

C101121



Return Air Pressure Drop-Vertical 15 Tons

C101123



Horizontal Power Exhaust Performance

C101124

ELECTRICAL INFORMATION

Table 46 – RAS036, 3 TONS

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

Table 47 – RAS048, 4 TONS

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

Table 48 – RAS060, 5 TONS

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

ELECTRICAL INFORMATION (cont.)

Table 49 – RAS072, 6 TONS

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

Table 50 – RAS091, 7.5 TONS – 1 Stage Cooling

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

Table 51 – RAS090, 7.5 TONS – 2 Stage Cooling

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

ELECTRICAL INFORMATION (cont.)

Table 52 – RAS101, 8.5 TONS – 1 Stage Cooling

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

Table 53 – RAS102, 8.5 TONS – 2 Stage Cooling

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

Table 54 – RAS121, 10 TONS – 1 Stage Cooling

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

ELECTRICAL INFORMATION (cont.)

Table 55 – RAS120, 10 TONS – 2 Stage Cooling

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

Table 56 – RAS150, 12.5 TONS – 2 Stage Cooling

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

Table 57 – RAS180, 15 TONS – 2 Stage Cooling

| 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 | 1288 | 1.5 | STD | 81% | 7.5 |
| | | | | | | | | | MED | 81% | 10.0 |
| | | | | | | | | | High-High Efficiency | 89.5% | 20.4 |
| 230-3-60 | 187 | 253 | 25.0 | 164 | 25.0 | 164 | 1288 | 1.5 | STD | 81% | 7.5 |
| | | | | | | | | | MED | 81% | 10.0 |
| | | | | | | | | | High-High Efficiency | 89.5% | 20.4 |
| 460-3-60 | 414 | 506 | 12.2 | 100 | 12.8 | 100 | 1288 | 0.8 | STD | 81% | 3.4 |
| | | | | | | | | | MED | 81% | 4.4 |
| | | | | | | | | | High-High Efficiency | 89.5% | 10.2 |
| 575-3-60 | 518 | 633 | 9.8 | 78 | 9.6 | 78 | 1288 | 0.6 | STD | 81% | 2.8 |
| | | | | | | | | | MED | 81% | 2.8 |
| | | | | | | | | | High-High Efficiency | 89.5% | 9.0 |

Table 58 – MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

| Unit | NOM. V—PH—HZ | IFM TYPE | ELECTRIC HEATER | | NO C.O. or UNPWR C.O. | | | | | | | |
|--------------|--------------|-----------|-----------------|-----------|-----------------------|-------|------------|-----------|------------------------|-------|------------|-------|
| | | | Nom* (kW) | FLA | NO P.E. | | | | w/ P.E. (pwrd fr/unit) | | | |
| | | | | | MCA | MOCP | DISC. SIZE | | MCA | MOCP | DISC. SIZE | |
| | | | | | | | FLA | LRA | | | FLA | LRA |
| RAS036 | 208/230—1—60 | STD | None | None | 27.2 | 40 | 26 | 95 | 29.1 | 45 | 29 | 97 |
| | | | 3.3/4.4 | 15.9/18.3 | 27.2/29.0 | 40/40 | 26/27 | 95/95 | 29.1/31.4 | 45/45 | 29/29 | 97/97 |
| | | | 4.9/6.5 | 23.5/27.1 | 35.5/40.0 | 40/45 | 33/37 | 95/95 | 37.9/42.4 | 45/45 | 35/39 | 97/97 |
| | | | 6.5/8.7 | 31.4/36.3 | 45.4/51.5 | 50/60 | 42/47 | 95/95 | 47.8/53.9 | 50/60 | 44/50 | 97/97 |
| | | | 7.9/10.5 | 37.9/43.8 | 53.5/60.9 | 60/70 | 49/56 | 95/95 | 55.9/63.3 | 60/70 | 51/58 | 97/97 |
| | | | 9.8/13.0 | 46.9/54.2 | 64.8/73.9 | 70/80 | 60/68 | 95/95 | 67.1/76.3 | 70/80 | 62/70 | 97/97 |
| | 208/230—3—60 | MED | None | None | 27.2 | 40 | 26 | 95 | 29.1 | 45 | 29 | 97 |
| | | | 3.3/4.4 | 15.9/18.3 | 27.2/29.0 | 40/40 | 26/27 | 95/95 | 29.1/31.4 | 45/45 | 29/29 | 97/97 |
| | | | 4.9/6.5 | 23.5/27.1 | 35.5/40.0 | 40/45 | 33/37 | 95/95 | 37.9/42.4 | 45/45 | 35/39 | 97/97 |
| | | | 6.5/8.7 | 31.4/36.3 | 45.4/51.5 | 50/60 | 42/47 | 95/95 | 47.8/53.9 | 50/60 | 44/50 | 97/97 |
| | | | 7.9/10.5 | 37.9/43.8 | 53.5/60.9 | 60/70 | 49/56 | 95/95 | 55.9/63.3 | 60/70 | 51/58 | 97/97 |
| | | | 9.8/13.0 | 46.9/54.2 | 64.8/73.9 | 70/80 | 60/68 | 95/95 | 67.1/76.3 | 70/80 | 62/70 | 97/97 |
| | 208/230—3—60 | STD | None | None | 19.4 | 25 | 19 | 89 | 21.3 | 30 | 22 | 91 |
| | | | 3.3/4.4 | 9.2/10.6 | 19.4/19.4 | 25/25 | 19/19 | 89/89 | 21.3/21.8 | 30/30 | 22/22 | 91/91 |
| | | | 4.9/6.5 | 13.6/15.6 | 23.1/25.6 | 25/30 | 21/24 | 89/89 | 25.5/28.0 | 30/30 | 23/26 | 91/91 |
| | | | 6.5/8.7 | 18.1/20.9 | 28.8/32.3 | 30/35 | 26/30 | 89/89 | 31.1/34.6 | 35/35 | 29/32 | 91/91 |
| | | | 7.9/10.5 | 21.9/25.3 | 33.5/37.8 | 35/40 | 31/35 | 89/89 | 35.9/40.1 | 40/45 | 33/37 | 91/91 |
| | | | 12.0/16.0 | 33.4/38.5 | 47.9/54.3 | 50/60 | 44/50 | 89/89 | 50.3/56.6 | 60/60 | 46/52 | 91/91 |
| | 208/230—3—60 | MED | None | None | 19.4 | 25 | 19 | 89 | 21.3 | 30 | 22 | 91 |
| | | | 3.3/4.4 | 9.2/10.6 | 19.4/19.4 | 25/25 | 19/19 | 89/89 | 21.3/21.8 | 30/30 | 22/22 | 91/91 |
| | | | 4.9/6.5 | 13.6/15.6 | 23.1/25.6 | 25/30 | 21/24 | 89/89 | 25.5/28.0 | 30/30 | 23/26 | 91/91 |
| | | | 6.5/8.7 | 18.1/20.9 | 28.8/32.3 | 30/35 | 26/30 | 89/89 | 31.1/34.6 | 35/35 | 29/32 | 91/91 |
| | | | 7.9/10.5 | 21.9/25.3 | 33.5/37.8 | 35/40 | 31/35 | 89/89 | 35.9/40.1 | 40/45 | 33/37 | 91/91 |
| | | | 12.0/16.0 | 33.4/38.5 | 47.9/54.3 | 50/60 | 44/50 | 89/89 | 50.3/56.6 | 60/60 | 46/52 | 91/91 |
| 208/230—3—60 | HIGH | None | None | 19.7 | 30 | 20 | 107 | 21.6 | 30 | 22 | 109 | |
| | | 3.3/4.4 | 9.2/10.6 | 19.7/19.8 | 30/30 | 20/20 | 107/107 | 21.6/22.1 | 30/30 | 22/22 | 109/109 | |
| | | 4.9/6.5 | 13.6/15.6 | 23.5/26.0 | 30/30 | 22/24 | 107/107 | 25.9/28.4 | 30/30 | 24/26 | 109/109 | |
| | | 6.5/8.7 | 18.1/20.9 | 29.1/32.6 | 30/35 | 27/30 | 107/107 | 31.5/35.0 | 35/40 | 29/32 | 109/109 | |
| | | 7.9/10.5 | 21.9/25.3 | 33.9/38.1 | 35/40 | 31/35 | 107/107 | 36.3/40.5 | 40/45 | 33/37 | 109/109 | |
| | | 12.0/16.0 | 33.4/38.5 | 48.3/54.6 | 50/60 | 44/50 | 107/107 | 50.6/57.0 | 60/60 | 47/52 | 109/109 | |
| 460—3—60 | STD | None | None | 10.2 | 15 | 10 | 46 | 11.2 | 15 | 11 | 47 | |
| | | 6.0 | 7.2 | 11.6 | 15 | 11 | 46 | 12.9 | 15 | 12 | 47 | |
| | | 8.8 | 10.6 | 15.9 | 20 | 15 | 46 | 17.1 | 20 | 16 | 47 | |
| | | 11.5 | 13.8 | 19.9 | 20 | 18 | 46 | 21.1 | 25 | 19 | 47 | |
| | 14.0 | 16.8 | 23.6 | 25 | 22 | 46 | 24.9 | 25 | 23 | 47 | | |
| | MED | None | None | 10.2 | 15 | 10 | 46 | 11.2 | 15 | 11 | 47 | |
| 6.0 | | 7.2 | 11.6 | 15 | 11 | 46 | 12.9 | 15 | 12 | 47 | | |
| 8.8 | | 10.6 | 15.9 | 20 | 15 | 46 | 17.1 | 20 | 16 | 47 | | |
| 11.5 | | 13.8 | 19.9 | 20 | 18 | 46 | 21.1 | 25 | 19 | 47 | | |
| 14.0 | 16.8 | 23.6 | 25 | 22 | 46 | 24.9 | 25 | 23 | 47 | | | |
| HIGH | None | None | 10.7 | 15 | 11 | 55 | 11.7 | 15 | 12 | 56 | | |
| | 6.0 | 7.2 | 12.3 | 15 | 11 | 55 | 13.5 | 15 | 12 | 56 | | |
| | 8.8 | 10.6 | 16.5 | 20 | 15 | 55 | 17.8 | 20 | 16 | 56 | | |
| | 11.5 | 13.8 | 20.5 | 25 | 19 | 55 | 21.8 | 25 | 20 | 56 | | |
| 14.0 | 16.8 | 24.3 | 25 | 22 | 55 | 25.5 | 30 | 23 | 56 | | | |
| 575—3—60 | STD | None | None | 7.3 | 15 | 7 | 44 | 9.2 | 15 | 9 | 46 | |
| | MED | None | None | 7.3 | 15 | 7 | 44 | 9.2 | 15 | 9 | 46 | |
| | HIGH | None | None | 7.4 | 15 | 7 | 50 | 9.3 | 15 | 10 | 52 | |

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 85.

Table 58 (cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

| Unit | NOM. V-PH-HZ | IFM TYPE | ELECTRIC HEATER | | NO C.O. or UNPWR C.O. | | | | | | | |
|--------------|--------------|-----------|-----------------|-----------|-----------------------|---------|------------|-----------|------------------------|---------|------------|---------|
| | | | Nom* (kW) | FLA | NO P.E. | | | | w/ P.E. (pwrd fr/unit) | | | |
| | | | | | MCA | MOCP | DISC. SIZE | | MCA | MOCP | DISC. SIZE | |
| | | | | | | | FLA | LRA | | | FLA | LRA |
| RAS048 | 208/230-1-60 | STD | None | None | 33.7 | 50 | 32 | 133 | 35.6 | 50 | 35 | 135 |
| | | | 3.3/4.4 | 15.9/18.3 | 33.7/33.7 | 50/50 | 32/32 | 133/133 | 35.6/35.6 | 50/50 | 35/35 | 135/135 |
| | | | 6.5/8.7 | 31.4/36.3 | 45.4/51.5 | 50/60 | 42/47 | 133/133 | 47.8/53.9 | 50/60 | 44/50 | 135/135 |
| | | | 9.8/13.0 | 46.9/54.2 | 64.8/73.9 | 70/80 | 60/68 | 133/133 | 67.1/76.3 | 70/80 | 62/70 | 135/135 |
| | | | 13.1/17.4 | 62.8/72.5 | 84.6/96.8 | 90/100 | 78/89 | 133/133 | 87.0/99.1 | 90/100 | 80/91 | 135/135 |
| | | | 15.8/21.0 | 75.8/87.5 | 100.9/115.5 | 110/125 | 93/106 | 133/133 | 103.3/117.9 | 110/125 | 95/108 | 135/135 |
| | 208/230-3-60 | MED | None | None | 33.7 | 50 | 32 | 133 | 35.6 | 50 | 35 | 135 |
| | | | 3.3/4.4 | 15.9/18.3 | 33.7/33.7 | 50/50 | 32/32 | 133/133 | 35.6/35.6 | 50/50 | 35/35 | 135/135 |
| | | | 6.5/8.7 | 31.4/36.3 | 45.4/51.5 | 50/60 | 42/47 | 133/133 | 47.8/53.9 | 50/60 | 44/50 | 135/135 |
| | | | 9.8/13.0 | 46.9/54.2 | 64.8/73.9 | 70/80 | 60/68 | 133/133 | 67.1/76.3 | 70/80 | 62/70 | 135/135 |
| | | | 13.1/17.4 | 62.8/72.5 | 84.6/96.8 | 90/100 | 78/89 | 133/133 | 87.0/99.1 | 90/100 | 80/91 | 135/135 |
| | | | 15.8/21.0 | 75.8/87.5 | 100.9/115.5 | 110/125 | 93/106 | 133/133 | 103.3/117.9 | 110/125 | 95/108 | 135/135 |
| | 208/230-3-60 | STD | None | None | 23.5 | 30 | 23 | 99 | 25.4 | 30 | 25 | 101 |
| | | | 4.9/6.5 | 13.6/15.6 | 23.5/25.6 | 30/30 | 23/24 | 99/99 | 25.5/28.0 | 30/30 | 25/26 | 101/101 |
| | | | 6.5/8.7 | 18.1/20.9 | 28.8/32.3 | 30/35 | 26/30 | 99/99 | 31.1/34.6 | 35/35 | 29/32 | 101/101 |
| | | | 12.0/16.0 | 33.4/38.5 | 47.9/54.3 | 50/60 | 44/50 | 99/99 | 50.3/56.6 | 60/60 | 46/52 | 101/101 |
| | | | 15.8/21.0 | 43.8/50.5 | 60.9/69.3 | 70/70 | 56/64 | 99/99 | 63.3/71.6 | 70/80 | 58/66 | 101/101 |
| | | | None | None | 23.5 | 30 | 23 | 99 | 25.4 | 30 | 25 | 101 |
| | 208/230-3-60 | MED | 4.9/6.5 | 13.6/15.6 | 23.5/25.6 | 30/30 | 23/24 | 99/99 | 25.5/28.0 | 30/30 | 25/26 | 101/101 |
| | | | 6.5/8.7 | 18.1/20.9 | 28.8/32.3 | 30/35 | 26/30 | 99/99 | 31.1/34.6 | 35/35 | 29/32 | 101/101 |
| | | | 12.0/16.0 | 33.4/38.5 | 47.9/54.3 | 50/60 | 44/50 | 99/99 | 50.3/56.6 | 60/60 | 46/52 | 101/101 |
| | | | 15.8/21.0 | 43.8/50.5 | 60.9/69.3 | 70/70 | 56/64 | 99/99 | 63.3/71.6 | 70/80 | 58/66 | 101/101 |
| | | | None | None | 23.8 | 30 | 23 | 117 | 25.7 | 30 | 26 | 119 |
| | | | 4.9/6.5 | 13.6/15.6 | 23.8/26.0 | 30/30 | 23/24 | 117/117 | 25.9/28.4 | 30/30 | 26/26 | 119/119 |
| 208/230-3-60 | HIGH | 6.5/8.7 | 18.1/20.9 | 29.1/32.6 | 30/35 | 27/30 | 117/117 | 31.5/35.0 | 35/40 | 29/32 | 119/119 | |
| | | 12.0/16.0 | 33.4/38.5 | 48.3/54.6 | 50/60 | 44/50 | 117/117 | 50.6/57.0 | 60/60 | 47/52 | 119/119 | |
| | | 15.8/21.0 | 43.8/50.5 | 61.3/69.6 | 70/70 | 56/64 | 117/117 | 63.6/72.0 | 70/80 | 59/66 | 119/119 | |
| | | None | None | 10.7 | 15 | 10 | 49 | 11.7 | 15 | 12 | 50 | |
| | | 6.0 | 7.2 | 11.6 | 15 | 11 | 49 | 12.9 | 15 | 12 | 50 | |
| | | 11.5 | 13.8 | 19.9 | 20 | 18 | 49 | 21.1 | 25 | 19 | 50 | |
| 460-3-60 | STD | 14.0 | 16.8 | 23.6 | 25 | 22 | 49 | 24.9 | 25 | 23 | 50 | |
| | | 23.0 | 27.7 | 37.3 | 40 | 34 | 49 | 38.5 | 40 | 35 | 50 | |
| | | None | None | 10.7 | 15 | 10 | 49 | 11.7 | 15 | 12 | 50 | |
| | | 6.0 | 7.2 | 11.6 | 15 | 11 | 49 | 12.9 | 15 | 12 | 50 | |
| | | 11.5 | 13.8 | 19.9 | 20 | 18 | 49 | 21.1 | 25 | 19 | 50 | |
| | | 14.0 | 16.8 | 23.6 | 25 | 22 | 49 | 24.9 | 25 | 23 | 50 | |
| 460-3-60 | MED | 23.0 | 27.7 | 37.3 | 40 | 34 | 49 | 38.5 | 40 | 35 | 50 | |
| | | None | None | 11.2 | 15 | 11 | 58 | 12.2 | 15 | 12 | 59 | |
| | | 6.0 | 7.2 | 12.3 | 15 | 11 | 58 | 13.5 | 15 | 12 | 59 | |
| | | 11.5 | 13.8 | 20.5 | 25 | 19 | 58 | 21.8 | 25 | 20 | 59 | |
| | | 14.0 | 16.8 | 24.3 | 25 | 22 | 58 | 25.5 | 30 | 23 | 59 | |
| | | 23.0 | 27.7 | 37.9 | 40 | 35 | 58 | 39.1 | 40 | 36 | 59 | |
| 575-3-60 | STD | None | None | 8.5 | 15 | 8 | 44 | 10.4 | 15 | 11 | 46 | |
| | | None | None | 8.5 | 15 | 8 | 44 | 10.4 | 15 | 11 | 46 | |
| | | None | None | 8.6 | 15 | 9 | 50 | 10.5 | 15 | 11 | 52 | |

* Nominal values, listed as 208/240V, 480V or 600V as appropriate. See Legend and calculations on page 85.

Table 58 (cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

| UNIT | NOM. V-PH-HZ | IFM TYPE | ELECTRIC HEATER | | NO C.O. or UNPWR C.O. | | | | | | | |
|----------|--------------|----------|-----------------|-----------|-----------------------|---------|------------|---------|------------------------|---------|------------|---------|
| | | | Nom* (kW) | FLA | NO P.E. | | | | w/ P.E. (pwrd fr/unit) | | | |
| | | | | | MCA | MOCP | DISC. SIZE | | MCA | MOCP | DISC. SIZE | |
| | | | | | | | FLA | LRA | | | FLA | LRA |
| RAS060 | 208/230-1-60 | STD | None | None | 39.2 | 60 | 37 | 150 | 41.1 | 60 | 40 | 152 |
| | | | 4.9/6.5 | 23.5/27.1 | 39.2/40.0 | 60/60 | 37/37 | 150/150 | 41.1/42.4 | 60/60 | 40/40 | 152/152 |
| | | | 6.5/8.7 | 31.4/36.3 | 45.4/51.5 | 60/60 | 42/47 | 150/150 | 47.8/53.9 | 60/60 | 44/50 | 152/152 |
| | | | 9.8/13.0 | 46.9/54.2 | 64.8/73.9 | 70/80 | 60/68 | 150/150 | 67.1/76.3 | 70/80 | 62/70 | 152/152 |
| | | | 13.1/17.4 | 62.8/72.5 | 84.6/96.8 | 90/100 | 78/89 | 150/150 | 87.0/99.1 | 90/100 | 80/91 | 152/152 |
| | | | 15.8/21.0 | 75.8/87.5 | 100.9/115.5 | 110/125 | 93/106 | 150/150 | 103.3/117.9 | 110/125 | 95/108 | 152/152 |
| | 208/230-3-60 | STD | None | None | 25.9 | 30 | 25 | 126 | 27.8 | 40 | 27 | 128 |
| | | | 4.9/6.5 | 13.6/15.6 | 25.9/25.9 | 30/30 | 25/25 | 126/126 | 27.8/28.0 | 40/40 | 27/27 | 128/128 |
| | | | 7.9/10.5 | 21.9/25.3 | 33.5/37.8 | 40/40 | 31/35 | 126/126 | 35.9/40.1 | 40/45 | 33/37 | 128/128 |
| | | | 12.0/16.0 | 33.4/38.5 | 47.9/54.3 | 50/60 | 44/50 | 126/126 | 50.3/56.6 | 60/60 | 46/52 | 128/128 |
| | | | 15.8/21.0 | 43.8/50.5 | 60.9/69.3 | 70/70 | 56/64 | 126/126 | 63.3/71.6 | 70/80 | 58/66 | 128/128 |
| | | | 19.9/26.5 | 55.2/63.8 | 75.1/85.9 | 80/90 | 69/79 | 126/126 | 77.5/88.3 | 80/90 | 71/81 | 128/128 |
| | 208/230-3-60 | MED | None | None | 26.2 | 40 | 26 | 144 | 28.1 | 40 | 28 | 146 |
| | | | 4.9/6.5 | 13.6/15.6 | 26.2/26.2 | 40/40 | 26/26 | 144/144 | 28.1/28.4 | 40/40 | 28/28 | 146/146 |
| | | | 7.9/10.5 | 21.9/25.3 | 33.9/38.1 | 40/40 | 31/35 | 144/144 | 36.3/40.5 | 40/45 | 33/37 | 146/146 |
| | | | 12.0/16.0 | 33.4/38.5 | 48.3/54.6 | 50/60 | 44/50 | 144/144 | 50.6/57.0 | 60/60 | 47/52 | 146/146 |
| | | | 15.8/21.0 | 43.8/50.5 | 61.3/69.6 | 70/70 | 56/64 | 144/144 | 63.6/72.0 | 70/80 | 59/66 | 146/146 |
| | | | 19.9/26.5 | 55.2/63.8 | 75.5/86.3 | 80/90 | 69/79 | 144/144 | 77.9/88.6 | 80/90 | 72/82 | 146/146 |
| | 208/230-3-60 | HIGH | None | None | 28.5 | 40 | 28 | 170 | 30.4 | 45 | 30 | 172 |
| | | | 4.9/6.5 | 13.6/15.6 | 28.5/28.9 | 40/40 | 28/28 | 170/170 | 30.4/31.3 | 45/45 | 30/30 | 172/172 |
| | | | 7.9/10.5 | 21.9/25.3 | 36.8/41.0 | 40/45 | 34/38 | 170/170 | 39.1/43.4 | 45/45 | 36/40 | 172/172 |
| | | | 12.0/16.0 | 33.4/38.5 | 51.1/57.5 | 60/60 | 47/53 | 170/170 | 53.5/59.9 | 60/60 | 49/55 | 172/172 |
| | | | 15.8/21.0 | 43.8/50.5 | 64.1/72.5 | 70/80 | 59/67 | 170/170 | 66.5/74.9 | 70/80 | 61/69 | 172/172 |
| | | | 19.9/26.5 | 55.2/63.8 | 78.4/89.1 | 80/90 | 72/82 | 170/170 | 80.8/91.5 | 90/100 | 74/84 | 172/172 |
| 460-3-60 | STD | None | None | 12.5 | 20 | 12 | 60 | 13.5 | 20 | 13 | 61 | |
| | | 6.0 | 7.2 | 12.5 | 20 | 12 | 60 | 13.5 | 20 | 13 | 61 | |
| | | 11.5 | 13.8 | 19.9 | 20 | 18 | 60 | 21.1 | 25 | 19 | 61 | |
| | | 14.0 | 16.8 | 23.6 | 25 | 22 | 60 | 24.9 | 25 | 23 | 61 | |
| | | 23.0 | 27.7 | 37.3 | 40 | 34 | 60 | 38.5 | 40 | 35 | 61 | |
| | | 25.5 | 30.7 | 41.0 | 45 | 38 | 60 | 42.3 | 45 | 39 | 61 | |
| | MED | None | None | 13 | 20 | 13 | 69 | 14 | 20 | 14 | 70 | |
| | | 6.0 | 7.2 | 13.0 | 20 | 13 | 69 | 14.0 | 20 | 14 | 70 | |
| | | 11.5 | 13.8 | 20.5 | 25 | 19 | 69 | 21.8 | 25 | 20 | 70 | |
| | | 14.0 | 16.8 | 24.3 | 25 | 22 | 69 | 25.5 | 30 | 23 | 70 | |
| | | 23.0 | 27.7 | 37.9 | 40 | 35 | 69 | 39.1 | 40 | 36 | 70 | |
| | | 25.5 | 30.7 | 41.6 | 45 | 38 | 69 | 42.9 | 45 | 39 | 70 | |
| | HIGH | None | None | 13.8 | 20 | 14 | 82 | 14.8 | 20 | 15 | 83 | |
| | | 6.0 | 7.2 | 13.8 | 20 | 14 | 82 | 14.8 | 20 | 15 | 83 | |
| | | 11.5 | 13.8 | 21.5 | 25 | 20 | 82 | 22.8 | 25 | 21 | 83 | |
| | | 14.0 | 16.8 | 25.3 | 30 | 23 | 82 | 26.5 | 30 | 24 | 83 | |
| | | 23.0 | 27.7 | 38.9 | 40 | 36 | 82 | 40.1 | 45 | 37 | 83 | |
| | | 25.5 | 30.7 | 42.6 | 45 | 39 | 82 | 43.9 | 45 | 40 | 83 | |
| 575-3-60 | STD | None | None | 9.8 | 15 | 10 | 46 | 11.7 | 15 | 12 | 48 | |
| | MED | None | None | 9.9 | 15 | 10 | 52 | 11.8 | 15 | 12 | 54 | |
| | HIGH | None | None | 10.7 | 15 | 11 | 63 | 12.6 | 15 | 13 | 65 | |

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 85.

Table 58 (cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

| UNIT | NOM. V—PH—HZ | IFM TYPE | ELECTRIC HEATER | | NO C.O. or UNPWR C.O. | | | | | | | |
|----------|--------------|-----------|-----------------|-----------|-----------------------|-------|------------|-----------|------------------------|-------|------------|---------|
| | | | Nom* (kW) | FLA | NO P.E. | | | | w/ P.E. (pwrd fr/unit) | | | |
| | | | | | MCA | MOCP | DISC. SIZE | | MCA | MOCP | DISC. SIZE | |
| | | | | | | | FLA | LRA | | | FLA | LRA |
| RAS072 | 208/230—3—60 | STD | None | None | 30.5 | 45 | 30 | 157 | 32.4 | 50 | 32 | 159 |
| | | | 4.9/6.5 | 13.6/15.6 | 30.5/30.5 | 45/45 | 30/30 | 157/157 | 32.4/32.4 | 50/50 | 32/32 | 159/159 |
| | | | 7.9/10.5 | 21.9/25.3 | 33.9/38.1 | 45/45 | 31/35 | 157/157 | 36.3/40.5 | 50/50 | 33/37 | 159/159 |
| | | | 12.0/16.0 | 33.4/38.5 | 48.3/54.6 | 50/60 | 44/50 | 157/157 | 50.6/57.0 | 60/60 | 47/52 | 159/159 |
| | | | 15.8/21.0 | 43.8/50.5 | 61.3/69.6 | 70/70 | 56/64 | 157/157 | 63.6/72.0 | 70/80 | 59/66 | 159/159 |
| | | | 19.9/26.5 | 55.2/63.8 | 75.5/86.3 | 80/90 | 69/79 | 157/157 | 77.9/88.6 | 80/90 | 72/82 | 159/159 |
| | | MED | None | None | 32.8 | 50 | 32 | 183 | 34.7 | 50 | 34 | 185 |
| | | | 4.9/6.5 | 13.6/15.6 | 32.8/32.8 | 50/50 | 32/32 | 183/183 | 34.7/34.7 | 50/50 | 34/34 | 185/185 |
| | | | 7.9/10.5 | 21.9/25.3 | 36.8/41.0 | 50/50 | 34/38 | 183/183 | 39.1/43.4 | 50/50 | 36/40 | 185/185 |
| | 12.0/16.0 | | 33.4/38.5 | 51.1/57.5 | 60/60 | 47/53 | 183/183 | 53.5/59.9 | 60/60 | 49/55 | 185/185 | |
| | 15.8/21.0 | | 43.8/50.5 | 64.1/72.5 | 70/80 | 59/67 | 183/183 | 66.5/74.9 | 70/80 | 61/69 | 185/185 | |
| | 19.9/26.5 | | 55.2/63.8 | 78.4/89.1 | 80/90 | 72/82 | 183/183 | 80.8/91.5 | 90/100 | 74/84 | 185/185 | |
| | HIGH | None | None | 32.8 | 50 | 32 | 183 | 34.7 | 50 | 34 | 185 | |
| | | 4.9/6.5 | 13.6/15.6 | 32.8/32.8 | 50/50 | 32/32 | 183/183 | 34.7/34.7 | 50/50 | 34/34 | 185/185 | |
| | | 7.9/10.5 | 21.9/25.3 | 36.8/41.0 | 50/50 | 34/38 | 183/183 | 39.1/43.4 | 50/50 | 36/40 | 185/185 | |
| | | 12.0/16.0 | 33.4/38.5 | 51.1/57.5 | 60/60 | 47/53 | 183/183 | 53.5/59.9 | 60/60 | 49/55 | 185/185 | |
| | | 15.8/21.0 | 43.8/50.5 | 64.1/72.5 | 70/80 | 59/67 | 183/183 | 66.5/74.9 | 70/80 | 61/69 | 185/185 | |
| | | 19.9/26.5 | 55.2/63.8 | 78.4/89.1 | 80/90 | 72/82 | 183/183 | 80.8/91.5 | 90/100 | 74/84 | 185/185 | |
| | 460—3—60 | STD | None | None | 15.5 | 25 | 15 | 79 | 16.5 | 25 | 16 | 80 |
| | | | 6.0 | 7.2 | 15.5 | 25 | 15 | 79 | 16.5 | 25 | 16 | 80 |
| | | | 11.5 | 13.8 | 20.5 | 25 | 19 | 79 | 21.8 | 25 | 20 | 80 |
| | | | 14.0 | 16.8 | 24.3 | 25 | 22 | 79 | 25.5 | 30 | 23 | 80 |
| | | | 23.0 | 27.7 | 37.9 | 40 | 35 | 79 | 39.1 | 40 | 36 | 80 |
| | | | 25.5 | 30.7 | 41.6 | 45 | 38 | 79 | 42.9 | 45 | 39 | 80 |
| MED | | None | None | 16.3 | 25 | 16 | 92 | 17.3 | 25 | 17 | 93 | |
| | | 6.0 | 7.2 | 16.3 | 25 | 16 | 92 | 17.3 | 25 | 17 | 93 | |
| | | 11.5 | 13.8 | 21.5 | 25 | 20 | 92 | 22.8 | 25 | 21 | 93 | |
| | | 14.0 | 16.8 | 25.3 | 30 | 23 | 92 | 26.5 | 30 | 24 | 93 | |
| | | 23.0 | 27.7 | 38.9 | 40 | 36 | 92 | 40.1 | 45 | 37 | 93 | |
| | | 25.5 | 30.7 | 42.6 | 45 | 39 | 92 | 43.9 | 45 | 40 | 93 | |
| HIGH | | None | None | 17.3 | 25 | 17 | 101 | 18.3 | 25 | 18 | 102 | |
| | | 6.0 | 7.2 | 17.3 | 25 | 17 | 101 | 18.3 | 25 | 18 | 102 | |
| | | 11.5 | 13.8 | 22.8 | 25 | 21 | 101 | 24.0 | 25 | 22 | 102 | |
| | | 14.0 | 16.8 | 26.5 | 30 | 24 | 101 | 27.8 | 30 | 26 | 102 | |
| | | 23.0 | 27.7 | 40.1 | 45 | 37 | 101 | 41.4 | 45 | 38 | 102 | |
| | | 25.5 | 30.7 | 43.9 | 45 | 40 | 101 | 45.1 | 50 | 42 | 102 | |
| 575—3—60 | STD | None | None | 11.9 | 15 | 12 | 63 | 13.8 | 20 | 14 | 65 | |
| | MED | None | None | 12.7 | 20 | 12 | 74 | 14.6 | 20 | 15 | 76 | |
| | HIGH | None | None | 12.7 | 20 | 12 | 74 | 14.6 | 20 | 15 | 76 | |

* Nominal values, listed as 208/240V, 480V or 600V as appropriate. See Legend and calculations on page 85.

Table 58 (cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

| UNIT | NOM. V—PH—HZ | IFM TYPE | ELECTRIC HEATER | | NO C.O. or UNPWR C.O. | | | | | | | |
|----------|--------------|------------|-----------------|-------------|-----------------------|---------|-------------|-------------|------------------------|---------|------------|---------|
| | | | Nom* (kW) | FLA | NO P.E. | | | | w/ P.E. (pwrd fr/unit) | | | |
| | | | | | MCA | MOCP | DISC. SIZE | | MCA | MOCP | DISC. SIZE | |
| | | | | | | | FLA | LRA | | | FLA | LRA |
| RAS091 | 208/230—3—60 | STD | None | None | 39.5 | 60 | 38 | 191 | 43.3 | 60 | 43 | 195 |
| | | | 7.8/10.4 | 21.7/25.0 | 39.5/39.5 | 60/60 | 38/38 | 191/191 | 43.3/43.3 | 60/60 | 43/43 | 195/195 |
| | | | 12.0/16.0 | 33.4/38.5 | 48.3/54.6 | 60/60 | 44/50 | 191/191 | 53.0/59.4 | 60/60 | 49/55 | 195/195 |
| | | | 18.6/24.8 | 51.7/59.7 | 71.1/81.1 | 80/90 | 65/75 | 191/191 | 75.9/85.9 | 80/90 | 70/79 | 195/195 |
| | | | 24.0/32.0 | 66.7/77.0 | 89.9/102.8 | 90/110 | 83/95 | 191/191 | 94.6/107.5 | 100/110 | 87/99 | 195/195 |
| | | 31.8/42.4 | 88.4/102.0 | 117.0/134.0 | 125/150 | 108/123 | 191/191 | 121.8/138.8 | 125/150 | 112/128 | 195/195 | |
| | | MED | None | None | 41.8 | 60 | 41 | 228 | 45.6 | 60 | 45 | 232 |
| | | | 7.8/10.4 | 21.7/25.0 | 41.8/41.8 | 60/60 | 41/41 | 228/228 | 45.6/45.6 | 60/60 | 45/45 | 232/232 |
| | | | 12.0/16.0 | 33.4/38.5 | 51.1/57.5 | 60/60 | 47/53 | 228/228 | 55.9/62.3 | 60/70 | 51/57 | 232/232 |
| | 18.6/24.8 | | 51.7/59.7 | 74.0/84.0 | 80/90 | 68/77 | 228/228 | 78.8/88.8 | 80/90 | 72/82 | 232/232 | |
| | 24.0/32.0 | | 66.7/77.0 | 92.8/105.6 | 100/110 | 85/97 | 228/228 | 97.5/110.4 | 100/125 | 90/102 | 232/232 | |
| | 31.8/42.4 | 88.4/102.0 | 119.9/136.9 | 125/150 | 110/126 | 228/228 | 124.6/141.6 | 125/150 | 115/130 | 232/232 | | |
| | HIGH | None | None | 49.3 | 60 | 49 | 254 | 53.1 | 60 | 54 | 258 | |
| | | 7.8/10.4 | 21.7/25.0 | 49.3/50.0 | 60/60 | 49/49 | 254/254 | 53.1/54.8 | 60/60 | 54/54 | 258/258 | |
| | | 12.0/16.0 | 33.4/38.5 | 60.5/66.9 | 70/70 | 56/62 | 254/254 | 65.3/71.6 | 70/80 | 60/66 | 258/258 | |
| | | 18.6/24.8 | 51.7/59.7 | 83.4/93.4 | 90/100 | 77/86 | 254/254 | 88.1/98.1 | 90/100 | 81/90 | 258/258 | |
| | | 24.0/32.0 | 66.7/77.0 | 102.1/115.0 | 110/125 | 94/106 | 254/254 | 106.9/119.8 | 110/125 | 98/110 | 258/258 | |
| | 31.8/42.4 | 88.4/102.0 | 129.3/146.3 | 150/150 | 119/135 | 254/254 | 134.0/151.0 | 150/175 | 123/139 | 258/258 | | |
| | 460—3—60 | STD | None | None | 19.5 | 30 | 19 | 113 | 21.3 | 30 | 21 | 115 |
| | | | 13.9 | 16.7 | 24.1 | 30 | 22 | 113 | 26.4 | 30 | 24 | 115 |
| | | | 16.5 | 19.8 | 28.0 | 30 | 26 | 113 | 30.3 | 35 | 28 | 115 |
| | | | 27.8 | 33.4 | 45.0 | 50 | 41 | 113 | 47.3 | 50 | 43 | 115 |
| | | | 33.0 | 39.7 | 52.9 | 60 | 49 | 113 | 55.1 | 60 | 51 | 115 |
| | | 41.7 | 50.2 | 66.0 | 70 | 61 | 113 | 68.3 | 70 | 63 | 115 | |
| MED | | None | None | 20.3 | 30 | 20 | 132 | 22.1 | 30 | 22 | 134 | |
| | | 13.9 | 16.7 | 25.1 | 30 | 23 | 132 | 27.4 | 30 | 25 | 134 | |
| | | 16.5 | 19.8 | 29.0 | 30 | 27 | 132 | 31.3 | 35 | 29 | 134 | |
| | | 27.8 | 33.4 | 46.0 | 50 | 42 | 132 | 48.3 | 50 | 44 | 134 | |
| | | 33.0 | 39.7 | 53.9 | 60 | 50 | 132 | 56.1 | 60 | 52 | 134 | |
| 41.7 | | 50.2 | 67.0 | 70 | 62 | 132 | 69.3 | 70 | 64 | 134 | | |
| HIGH | | None | None | 24.3 | 30 | 24 | 145 | 26.1 | 30 | 26 | 147 | |
| | | 13.9 | 16.7 | 30.1 | 35 | 28 | 145 | 32.4 | 35 | 30 | 147 | |
| | | 16.5 | 19.8 | 34.0 | 35 | 31 | 145 | 36.3 | 40 | 33 | 147 | |
| | 27.8 | 33.4 | 51.0 | 60 | 47 | 145 | 53.3 | 60 | 49 | 147 | | |
| | 33.0 | 39.7 | 58.9 | 60 | 54 | 145 | 61.1 | 70 | 56 | 147 | | |
| 41.7 | 50.2 | 72.0 | 80 | 66 | 145 | 74.3 | 80 | 68 | 147 | | | |
| 575—3—60 | STD | None | None | 14.9 | 20 | 14 | 89 | 18.7 | 25 | 19 | 93 | |
| | | 17.0 | 20.4 | 28.5 | 30 | 26 | 89 | 33.3 | 35 | 31 | 93 | |
| | | 34.0 | 40.9 | 54.1 | 60 | 50 | 89 | 58.9 | 60 | 54 | 93 | |
| | MED | None | None | 15.3 | 20 | 15 | 104 | 19.1 | 25 | 19 | 108 | |
| | | 17.0 | 20.4 | 29.0 | 30 | 27 | 104 | 33.8 | 35 | 31 | 108 | |
| | | 34.0 | 40.9 | 54.6 | 60 | 50 | 104 | 59.4 | 60 | 55 | 108 | |
| | HIGH | None | None | 18.1 | 25 | 18 | 118 | 21.9 | 30 | 23 | 122 | |
| | | 17.0 | 20.4 | 32.5 | 35 | 30 | 118 | 37.3 | 40 | 34 | 122 | |
| | | 34.0 | 40.9 | 58.1 | 60 | 53 | 118 | 62.9 | 70 | 58 | 122 | |

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 85.

Table 58 (cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

| UNIT | NOM. V—PH—HZ | IFM TYPE | ELECTRIC HEATER | | NO C.O. or UNPWR C.O. | | | | | | | |
|----------|--------------|------------|-----------------|-------------|-----------------------|---------|------------------------|-------------|------------|---------|------------|---------|
| | | | Nom* (kW) | FLA | NO P.E. | | w/ P.E. (pwrd fr/unit) | | | | | |
| | | | | | MCA | MOCP | DISC. SIZE | | MCA | MOCP | DISC. SIZE | |
| | | | | | | | FLA | LRA | | | FLA | LRA |
| RAS090 | 208/230—3—60 | STD | — | — | 38.8 | 50 | 41 | 193 | 42.6 | 50 | 45 | 197 |
| | | | 7.8/10.4 | 21.7/25.0 | 38.8/38.8 | 50/50 | 41/41 | 193/193 | 42.6/42.6 | 50/50 | 45/45 | 197/197 |
| | | | 12.0/16.0 | 33.4/38.5 | 48.3/54.6 | 50/60 | 44/50 | 193/193 | 53.0/59.4 | 60/60 | 49/55 | 197/197 |
| | | | 18.6/24.8 | 51.7/59.7 | 71.1/81.1 | 80/90 | 65/75 | 193/193 | 75.9/85.9 | 80/90 | 70/79 | 197/197 |
| | | | 24.0/32.0 | 66.7/77.0 | 89.9/102.8 | 90/110 | 83/95 | 193/193 | 94.6/107.5 | 100/110 | 87/99 | 197/197 |
| | | 31.8/42.4 | 88.4/102.0 | 117.0/134.0 | 125/150 | 108/123 | 193/193 | 121.8/138.8 | 125/150 | 112/128 | 197/197 | |
| | | MED | — | — | 41.1 | 50 | 43 | 230 | 44.9 | 50 | 48 | 234 |
| | | | 7.8/10.4 | 21.7/25.0 | 41.1/41.1 | 50/50 | 43/43 | 230/230 | 44.9/45.4 | 50/50 | 48/48 | 234/234 |
| | | | 12.0/16.0 | 33.4/38.5 | 51.1/57.5 | 60/60 | 47/53 | 230/230 | 55.9/62.3 | 60/70 | 51/57 | 234/234 |
| | 18.6/24.8 | | 51.7/59.7 | 74.0/84.0 | 80/90 | 68/77 | 230/230 | 78.8/88.8 | 80/90 | 72/82 | 234/234 | |
| | 24.0/32.0 | | 66.7/77.0 | 92.8/105.6 | 100/110 | 85/97 | 230/230 | 97.5/110.4 | 100/125 | 90/102 | 234/234 | |
| | 31.8/42.4 | 88.4/102.0 | 119.9/136.9 | 125/150 | 110/126 | 230/230 | 124.6/141.6 | 125/150 | 115/130 | 234/234 | | |
| | HIGH | — | — | 49.0 | 60 | 52 | 256 | 52.8 | 60 | 56 | 260 | |
| | | 7.8/10.4 | 21.7/25.0 | 49.0/50.0 | 60/60 | 52/52 | 256/256 | 52.8/54.8 | 60/60 | 56/56 | 260/260 | |
| | | 12.0/16.0 | 33.4/38.5 | 60.5/66.9 | 70/70 | 56/62 | 256/256 | 65.3/71.6 | 70/80 | 60/66 | 260/260 | |
| | | 18.6/24.8 | 51.7/59.7 | 83.4/93.4 | 90/100 | 77/86 | 256/256 | 88.1/98.1 | 90/100 | 81/90 | 260/260 | |
| | | 24.0/32.0 | 66.7/77.0 | 102.1/115.0 | 110/125 | 94/106 | 256/256 | 106.9/119.8 | 110/125 | 98/110 | 260/260 | |
| | 31.8/42.4 | 88.4/102.0 | 129.3/146.3 | 150/150 | 119/135 | 256/256 | 134.0/151.0 | 150/175 | 123/139 | 260/260 | | |
| | 460—3—60 | STD | — | — | 17.9 | 20 | 19 | 95 | 19.7 | 25 | 21 | 97 |
| | | | 13.9 | 16.7 | 24.1 | 25 | 22 | 95 | 26.4 | 30 | 24 | 97 |
| | | | 16.5 | 19.8 | 28.0 | 30 | 26 | 95 | 30.3 | 35 | 28 | 97 |
| | | | 27.8 | 33.4 | 45.0 | 50 | 41 | 95 | 47.3 | 50 | 43 | 97 |
| | | | 33.0 | 39.7 | 52.9 | 60 | 49 | 95 | 55.1 | 60 | 51 | 97 |
| | | 41.7 | 50.2 | 66.0 | 70 | 61 | 95 | 68.3 | 70 | 63 | 97 | |
| | | MED | — | — | 18.7 | 25 | 20 | 114 | 20.5 | 25 | 22 | 116 |
| | | | 13.9 | 16.7 | 25.1 | 30 | 23 | 114 | 27.4 | 30 | 25 | 116 |
| | | | 16.5 | 19.8 | 29.0 | 30 | 27 | 114 | 31.3 | 35 | 29 | 116 |
| 27.8 | | | 33.4 | 46.0 | 50 | 42 | 114 | 48.3 | 50 | 44 | 116 | |
| 33.0 | | | 39.7 | 53.9 | 60 | 50 | 114 | 56.1 | 60 | 52 | 116 | |
| 41.7 | | 50.2 | 67.0 | 70 | 62 | 114 | 69.3 | 70 | 64 | 116 | | |
| HIGH | | — | — | 23.1 | 30 | 24 | 127 | 24.9 | 30 | 26 | 129 | |
| | | 13.9 | 16.7 | 30.1 | 35 | 28 | 127 | 32.4 | 35 | 30 | 129 | |
| | | 16.5 | 19.8 | 34.0 | 35 | 31 | 127 | 36.3 | 40 | 33 | 129 | |
| | 27.8 | 33.4 | 51.0 | 60 | 47 | 127 | 53.3 | 60 | 49 | 129 | | |
| | 33.0 | 39.7 | 58.9 | 60 | 54 | 127 | 61.1 | 70 | 56 | 129 | | |
| 41.7 | 50.2 | 72.0 | 80 | 66 | 127 | 74.3 | 80 | 68 | 129 | | | |
| 575—3—60 | STD | — | — | 13.1 | 15 | 14 | 77 | 16.9 | 20 | 18 | 81 | |
| | | 17.0 | 20.4 | 28.5 | 30 | 26 | 77 | 33.3 | 35 | 31 | 81 | |
| | | 34.0 | 40.9 | 54.1 | 60 | 50 | 77 | 58.9 | 60 | 54 | 81 | |
| | MED | — | — | 13.5 | 15 | 14 | 92 | 17.3 | 20 | 19 | 96 | |
| | | 17.0 | 20.4 | 29.0 | 30 | 27 | 92 | 33.8 | 35 | 31 | 96 | |
| | | 34.0 | 40.9 | 54.6 | 60 | 50 | 92 | 59.4 | 60 | 55 | 96 | |
| | HIGH | — | — | 16.6 | 20 | 17 | 106 | 20.4 | 25 | 22 | 110 | |
| | | 17.0 | 20.4 | 32.5 | 35 | 30 | 106 | 37.3 | 40 | 34 | 110 | |
| | | 34.0 | 40.9 | 58.1 | 60 | 53 | 106 | 62.9 | 70 | 58 | 110 | |

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 85.

Table 58 (cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

| UNIT | NOM. V-PH-HZ | IFM TYPE | ELECTRIC HEATER | | NO C.O. or UNPWR C.O. | | | | | | | |
|----------|--------------|-----------|-----------------|-------------|-----------------------|---------|------------|-------------|------------------------|---------|------------|---------|
| | | | Nom* (kW) | FLA | NO P.E. | | | | w/ P.E. (pwrd fr/unit) | | | |
| | | | | | MCA | MOCP | DISC. SIZE | | MCA | MOCP | DISC. SIZE | |
| | | | | | | | FLA | LRA | | | FLA | LRA |
| RAS101 | 208/230-3-60 | STD | None | None | 45.1 | 60 | 43 | 222 | 48.9 | 60 | 48 | 226 |
| | | | 7.8/10.4 | 21.7/25.0 | 45.1/45.1 | 60/60 | 43/43 | 222/222 | 48.9/48.9 | 60/60 | 48/48 | 226/226 |
| | | | 12.0/16.0 | 33.4/38.5 | 48.3/54.6 | 60/60 | 44/50 | 222/222 | 53.0/59.4 | 60/60 | 49/55 | 226/226 |
| | | | 18.6/24.8 | 51.7/59.7 | 71.1/81.1 | 80/90 | 65/75 | 222/222 | 75.9/85.9 | 80/90 | 70/79 | 226/226 |
| | | | 24.0/32.0 | 66.7/77.0 | 89.9/102.8 | 90/110 | 83/95 | 222/222 | 94.6/107.5 | 100/110 | 87/99 | 226/226 |
| | | | 31.8/42.4 | 88.4/102.0 | 117.0/134.0 | 125/150 | 108/123 | 222/222 | 121.8/138.8 | 125/150 | 112/128 | 226/226 |
| | | MED | None | None | 45.1 | 60 | 43 | 233 | 48.9 | 60 | 48 | 237 |
| | | | 7.8/10.4 | 21.7/25.0 | 45.1/45.1 | 60/60 | 43/43 | 233/233 | 48.9/48.9 | 60/60 | 48/48 | 237/237 |
| | | | 12.0/16.0 | 33.4/38.5 | 48.3/54.6 | 60/60 | 44/50 | 233/233 | 53.0/59.4 | 60/60 | 49/55 | 237/237 |
| | 18.6/24.8 | | 51.7/59.7 | 71.1/81.1 | 80/90 | 65/75 | 233/233 | 75.9/85.9 | 80/90 | 70/79 | 237/237 | |
| | 24.0/32.0 | | 66.7/77.0 | 89.9/102.8 | 90/110 | 83/95 | 233/233 | 94.6/107.5 | 100/110 | 87/99 | 237/237 | |
| | 31.8/42.4 | | 88.4/102.0 | 117.0/134.0 | 125/150 | 108/123 | 233/233 | 121.8/138.8 | 125/150 | 112/128 | 237/237 | |
| | HIGH | None | None | 49.9 | 60 | 49 | 276 | 53.7 | 80 | 53 | 280 | |
| | | 7.8/10.4 | 21.7/25.0 | 49.9/49.9 | 60/60 | 49/49 | 276/276 | 53.7/53.7 | 80/80 | 53/53 | 280/280 | |
| | | 12.0/16.0 | 33.4/38.5 | 54.3/60.6 | 60/70 | 50/56 | 276/276 | 59.0/65.4 | 80/80 | 54/60 | 280/280 | |
| | | 18.6/24.8 | 51.7/59.7 | 77.1/87.1 | 80/90 | 71/80 | 276/276 | 81.9/91.9 | 90/100 | 75/85 | 280/280 | |
| | | 24.0/32.0 | 66.7/77.0 | 95.9/108.8 | 100/110 | 88/100 | 276/276 | 100.6/113.5 | 110/125 | 93/104 | 280/280 | |
| | | 31.8/42.4 | 88.4/102.0 | 123.0/140.0 | 125/150 | 113/129 | 276/276 | 127.8/144.8 | 150/150 | 118/133 | 280/280 | |
| | 460-3-60 | STD | None | None | 22.6 | 30 | 22 | 108 | 24.4 | 30 | 24 | 110 |
| | | | 13.9 | 16.7 | 24.1 | 30 | 22 | 108 | 26.4 | 30 | 24 | 110 |
| | | | 16.5 | 19.8 | 28.0 | 30 | 26 | 108 | 30.3 | 35 | 28 | 110 |
| | | | 27.8 | 33.4 | 45.0 | 50 | 41 | 108 | 47.3 | 50 | 43 | 110 |
| | | | 33.0 | 39.7 | 52.9 | 60 | 49 | 108 | 55.1 | 60 | 51 | 110 |
| | | | 41.7 | 50.2 | 66.0 | 70 | 61 | 108 | 68.3 | 70 | 63 | 110 |
| MED | | None | None | 22.6 | 30 | 22 | 114 | 24.4 | 30 | 24 | 116 | |
| | | 13.9 | 16.7 | 24.1 | 30 | 22 | 114 | 26.4 | 30 | 24 | 116 | |
| | | 16.5 | 19.8 | 28.0 | 30 | 26 | 114 | 30.3 | 35 | 28 | 116 | |
| | | 27.8 | 33.4 | 45.0 | 50 | 41 | 114 | 47.3 | 50 | 43 | 116 | |
| | | 33.0 | 39.7 | 52.9 | 60 | 49 | 114 | 55.1 | 60 | 51 | 116 | |
| | | 41.7 | 50.2 | 66.0 | 70 | 61 | 114 | 68.3 | 70 | 63 | 116 | |
| HIGH | | None | None | 24.4 | 30 | 24 | 136 | 26.2 | 30 | 26 | 138 | |
| | | 13.9 | 16.7 | 26.4 | 30 | 24 | 136 | 28.6 | 30 | 26 | 138 | |
| | | 16.5 | 19.8 | 30.3 | 35 | 28 | 136 | 32.5 | 40 | 30 | 138 | |
| | | 27.8 | 33.4 | 47.3 | 50 | 43 | 136 | 49.5 | 50 | 46 | 138 | |
| | | 33.0 | 39.7 | 55.1 | 60 | 51 | 136 | 57.4 | 60 | 53 | 138 | |
| | | 41.7 | 50.2 | 68.3 | 70 | 63 | 136 | 70.5 | 80 | 65 | 138 | |
| 575-3-60 | STD | None | None | 18.9 | 30 | 18 | 91 | 22.7 | 30 | 23 | 95 | |
| | | 17.0 | 20.4 | 28.5 | 30 | 26 | 91 | 33.3 | 35 | 31 | 95 | |
| | | 34.0 | 40.9 | 54.1 | 60 | 50 | 91 | 58.9 | 60 | 54 | 95 | |
| | MED | None | None | 18.5 | 30 | 18 | 95 | 22.3 | 30 | 22 | 99 | |
| | | 17.0 | 20.4 | 28.0 | 30 | 26 | 95 | 32.8 | 35 | 30 | 99 | |
| | | 34.0 | 40.9 | 53.6 | 60 | 49 | 95 | 58.4 | 60 | 54 | 99 | |
| | HIGH | None | None | 19.3 | 30 | 19 | 106 | 23.1 | 30 | 23 | 110 | |
| | | 17.0 | 20.4 | 29.0 | 30 | 27 | 106 | 33.8 | 35 | 31 | 110 | |
| | | 34.0 | 40.9 | 54.6 | 60 | 50 | 106 | 59.4 | 60 | 55 | 110 | |

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 85.

Table 58 (cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

| UNIT | NOM. V—PH—HZ | IFM TYPE | ELECTRIC HEATER | | NO C.O. or UNPWR C.O. | | | | | | | |
|----------|--------------|------------|-----------------|-------------|-----------------------|---------|-------------|-------------|------------------------|---------|------------|---------|
| | | | Nom (kW) | FLA | NO P.E. | | | | w/ P.E. (pwrd fr/unit) | | | |
| | | | | | MCA | MOCP | DISC. SIZE | | MCA | MOCP | DISC. SIZE | |
| | | | | | | | FLA | LRA | | | FLA | LRA |
| RAS102 | 208/230—3—60 | STD | — | — | 40.0 | 50 | 42 | 208 | 43.8 | 50 | 46 | 212 |
| | | | 7.8/10.4 | 21.7/25.0 | 40.0/40.0 | 50/50 | 42/42 | 208/208 | 43.8/43.8 | 50/50 | 46/46 | 212/212 |
| | | | 12.0/16.0 | 33.4/38.5 | 48.3/54.6 | 50/60 | 44/50 | 208/208 | 53.0/59.4 | 60/60 | 49/55 | 212/212 |
| | | | 18.6/24.8 | 51.7/59.7 | 71.1/81.1 | 80/90 | 65/75 | 208/208 | 75.9/85.9 | 80/90 | 70/79 | 212/212 |
| | | | 24.0/32.0 | 66.7/77.0 | 89.9/102.8 | 90/110 | 83/95 | 208/208 | 94.6/107.5 | 100/110 | 87/99 | 212/212 |
| | | 31.8/42.4 | 88.4/102.0 | 117.0/134.0 | 125/150 | 108/123 | 208/208 | 121.8/138.8 | 125/150 | 112/128 | 212/212 | |
| | | MED | — | — | 40.0 | 50 | 42 | 219 | 43.8 | 50 | 46 | 223 |
| | | | 7.8/10.4 | 21.7/25.0 | 40.0/40.0 | 50/50 | 42/42 | 219/219 | 43.8/43.8 | 50/50 | 46/46 | 223/223 |
| | | | 12.0/16.0 | 33.4/38.5 | 48.3/54.6 | 50/60 | 44/50 | 219/219 | 53.0/59.4 | 60/60 | 49/55 | 223/223 |
| | 18.6/24.8 | | 51.7/59.7 | 71.1/81.1 | 80/90 | 65/75 | 219/219 | 75.9/85.9 | 80/90 | 70/79 | 223/223 | |
| | 24.0/32.0 | | 66.7/77.0 | 89.9/102.8 | 90/110 | 83/95 | 219/219 | 94.6/107.5 | 100/110 | 87/99 | 223/223 | |
| | 31.8/42.4 | 88.4/102.0 | 117.0/134.0 | 125/150 | 108/123 | 219/219 | 121.8/138.8 | 125/150 | 112/128 | 223/223 | | |
| | HIGH | — | — | 44.8 | 50 | 47 | 262 | 48.6 | 60 | 52 | 266 | |
| | | 7.8/10.4 | 21.7/25.0 | 44.8/44.8 | 50/50 | 47/47 | 262/262 | 48.6/48.6 | 60/60 | 52/52 | 266/266 | |
| | | 12.0/16.0 | 33.4/38.5 | 54.3/60.6 | 60/70 | 50/56 | 262/262 | 59.0/65.4 | 60/70 | 54/60 | 266/266 | |
| | | 18.6/24.8 | 51.7/59.7 | 77.1/87.1 | 80/90 | 71/80 | 262/262 | 81.9/91.9 | 90/100 | 75/85 | 266/266 | |
| | | 24.0/32.0 | 66.7/77.0 | 95.9/108.8 | 100/110 | 88/100 | 262/262 | 100.6/113.5 | 110/125 | 93/104 | 266/266 | |
| | 31.8/42.4 | 88.4/102.0 | 123.0/140.0 | 125/150 | 113/129 | 262/262 | 127.8/144.8 | 150/150 | 118/133 | 266/266 | | |
| | 460—3—60 | STD | — | — | 18.3 | 20 | 19 | 109 | 20.1 | 25 | 21 | 111 |
| | | | 13.9 | 16.7 | 24.1 | 25 | 22 | 109 | 26.4 | 30 | 24 | 111 |
| | | | 16.5 | 19.8 | 28.0 | 30 | 26 | 109 | 30.3 | 35 | 28 | 111 |
| | | | 27.8 | 33.4 | 45.0 | 50 | 41 | 109 | 47.3 | 50 | 43 | 111 |
| | | | 33.0 | 39.7 | 52.9 | 60 | 49 | 109 | 55.1 | 60 | 51 | 111 |
| | | 41.7 | 50.2 | 66.0 | 70 | 61 | 109 | 68.3 | 70 | 63 | 111 | |
| MED | | — | — | 18.3 | 20 | 19 | 115 | 20.1 | 25 | 21 | 117 | |
| | | 13.9 | 16.7 | 24.1 | 25 | 22 | 115 | 26.4 | 30 | 24 | 117 | |
| | | 16.5 | 19.8 | 28.0 | 30 | 26 | 115 | 30.3 | 35 | 28 | 117 | |
| | | 27.8 | 33.4 | 45.0 | 50 | 41 | 115 | 47.3 | 50 | 43 | 117 | |
| | | 33.0 | 39.7 | 52.9 | 60 | 49 | 115 | 55.1 | 60 | 51 | 117 | |
| 41.7 | | 50.2 | 66.0 | 70 | 61 | 115 | 68.3 | 70 | 63 | 117 | | |
| HIGH | | — | — | 20.1 | 25 | 21 | 137 | 21.9 | 25 | 23 | 139 | |
| | | 13.9 | 16.7 | 26.4 | 30 | 24 | 137 | 28.6 | 30 | 26 | 139 | |
| | | 16.5 | 19.8 | 30.3 | 35 | 28 | 137 | 32.5 | 35 | 30 | 139 | |
| | 27.8 | 33.4 | 47.3 | 50 | 43 | 137 | 49.5 | 50 | 46 | 139 | | |
| | 33.0 | 39.7 | 55.1 | 60 | 51 | 137 | 57.4 | 60 | 53 | 139 | | |
| 41.7 | 50.2 | 68.3 | 70 | 63 | 137 | 70.5 | 80 | 65 | 139 | | | |
| 575—3—60 | STD | — | — | 15.9 | 20 | 17 | 85 | 19.7 | 25 | 21 | 89 | |
| | | 17.0 | 20.4 | 28.5 | 30 | 26 | 85 | 33.3 | 35 | 31 | 89 | |
| | | 34.0 | 40.9 | 54.1 | 60 | 50 | 85 | 58.9 | 60 | 54 | 89 | |
| | MED | — | — | 15.5 | 20 | 16 | 89 | 19.3 | 25 | 20 | 93 | |
| | | 17.0 | 20.4 | 28.0 | 30 | 26 | 89 | 32.8 | 35 | 30 | 93 | |
| | | 34.0 | 40.9 | 53.6 | 60 | 49 | 89 | 58.4 | 60 | 54 | 93 | |
| | HIGH | — | — | 16.3 | 20 | 17 | 100 | 20.1 | 25 | 21 | 104 | |
| | | 17.0 | 20.4 | 29.0 | 30 | 27 | 100 | 33.8 | 35 | 31 | 104 | |
| | | 34.0 | 40.9 | 54.6 | 60 | 50 | 100 | 59.4 | 60 | 55 | 104 | |

* Nominal values, listed as 208/240V, 480V or 600V as appropriate.
See Legend and calculations on page 85.

Table 58 (cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

| UNIT | NOM. V-PH-HZ | IFM TYPE | ELECTRIC HEATER | | NO C.O. or UNPWR C.O. | | | | | | | |
|----------|--------------|-------------|-----------------|-------------|-----------------------|---------|-------------|-------------|------------------------|---------|------------|---------|
| | | | Nom* (kW) | FLA | NO P.E. | | | | w/ P.E. (pwrd fr/unit) | | | |
| | | | | | MCA | MOCP | DISC. SIZE | | MCA | MOCP | DISC. SIZE | |
| | | | | | | | FLA | LRA | | | FLA | LRA |
| RAS121 | 208/230-3-60 | STD | None | None | 45.8 | 60 | 44 | 263 | 49.6 | 60 | 48 | 267 |
| | | | 7.8/10.4 | 21.7/25.0 | 45.8/45.8 | 60/60 | 44/44 | 263/263 | 49.6/49.6 | 60/60 | 48/48 | 267/267 |
| | | | 12.0/16.0 | 33.4/38.5 | 48.3/54.6 | 60/60 | 44/50 | 263/263 | 53.0/59.4 | 60/60 | 49/55 | 267/267 |
| | | | 24.0/32.0 | 66.7/77.0 | 89.9/102.8 | 90/110 | 83/95 | 263/263 | 94.6/107.5 | 100/110 | 87/99 | 267/267 |
| | | | 31.8/42.4 | 88.4/102.0 | 117.0/134.0 | 125/150 | 108/123 | 263/263 | 121.8/138.8 | 125/150 | 112/128 | 267/267 |
| | | 37.6/50.0 | 104.2/120.3 | 136.8/126.8 | 150/150 | 126/144 | 263/263 | 141.5/131.6 | 150/150 | 130/149 | 267/267 | |
| | | MED | None | None | 50.6 | 60 | 50 | 306 | 54.4 | 80 | 54 | 310 |
| | | | 7.8/10.4 | 21.7/25.0 | 50.6/50.6 | 60/60 | 50/50 | 306/306 | 54.4/54.4 | 80/80 | 54/54 | 310/310 |
| | | | 12.0/16.0 | 33.4/38.5 | 54.3/60.6 | 60/80 | 50/56 | 306/306 | 59.0/65.4 | 80/80 | 54/60 | 310/310 |
| | 24.0/32.0 | | 66.7/77.0 | 95.9/108.8 | 100/110 | 88/100 | 306/306 | 100.6/113.5 | 110/125 | 93/104 | 310/310 | |
| | 31.8/42.4 | | 88.4/102.0 | 123.0/140.0 | 125/150 | 113/129 | 306/306 | 127.8/144.8 | 150/150 | 118/133 | 310/310 | |
| | 37.6/50.0 | 104.2/120.3 | 142.8/132.8 | 150/150 | 131/150 | 306/306 | 147.5/137.6 | 150/150 | 136/154 | 310/310 | | |
| | HIGH | None | None | 55.6 | 80 | 55 | 315 | 59.4 | 80 | 60 | 319 | |
| | | 7.8/10.4 | 21.7/25.0 | 55.6/55.6 | 80/80 | 55/55 | 315/315 | 59.4/59.4 | 80/80 | 60/60 | 319/319 | |
| | | 12.0/16.0 | 33.4/38.5 | 60.5/66.9 | 80/80 | 56/62 | 315/315 | 65.3/71.6 | 80/80 | 60/66 | 319/319 | |
| | | 24.0/32.0 | 66.7/77.0 | 102.1/115.0 | 110/125 | 94/106 | 315/315 | 106.9/119.8 | 110/125 | 98/110 | 319/319 | |
| | | 31.8/42.4 | 88.4/102.0 | 129.3/146.3 | 150/150 | 119/135 | 315/315 | 134.0/151.0 | 150/175 | 123/139 | 319/319 | |
| | 37.6/50.0 | 104.2/120.3 | 149.0/139.1 | 150/175 | 137/156 | 315/315 | 153.8/143.8 | 175/175 | 141/160 | 319/319 | | |
| | 460-3-60 | STD | None | None | 25.1 | 30 | 24 | 133 | 26.9 | 40 | 26 | 135 |
| | | | 13.9 | 16.7 | 25.1 | 30 | 24 | 133 | 26.9 | 40 | 26 | 135 |
| | | | 16.5 | 19.8 | 28.0 | 30 | 26 | 133 | 30.3 | 40 | 28 | 135 |
| | | | 33.0 | 39.7 | 52.9 | 60 | 49 | 133 | 55.1 | 60 | 51 | 135 |
| | | | 41.7 | 50.2 | 66.0 | 70 | 61 | 133 | 68.3 | 70 | 63 | 135 |
| | | 50.0 | 60.1 | 63.4 | 70 | 72 | 133 | 65.6 | 70 | 74 | 135 | |
| MED | | None | None | 26.9 | 40 | 26 | 155 | 28.7 | 45 | 28 | 157 | |
| | | 13.9 | 16.7 | 26.9 | 40 | 26 | 155 | 28.7 | 45 | 28 | 157 | |
| | | 16.5 | 19.8 | 30.3 | 40 | 28 | 155 | 32.5 | 45 | 30 | 157 | |
| | | 33.0 | 39.7 | 55.1 | 60 | 51 | 155 | 57.4 | 60 | 53 | 157 | |
| | | 41.7 | 50.2 | 68.3 | 70 | 63 | 155 | 70.5 | 80 | 65 | 157 | |
| 50.0 | | 60.1 | 65.6 | 80 | 74 | 155 | 67.9 | 80 | 76 | 157 | | |
| HIGH | | None | None | 29.9 | 45 | 30 | 159 | 31.7 | 45 | 32 | 161 | |
| | | 13.9 | 16.7 | 30.1 | 45 | 30 | 159 | 32.4 | 45 | 32 | 161 | |
| | | 16.5 | 19.8 | 34.0 | 45 | 31 | 159 | 36.3 | 45 | 33 | 161 | |
| | 33.0 | 39.7 | 58.9 | 60 | 54 | 159 | 61.1 | 70 | 56 | 161 | | |
| | 41.7 | 50.2 | 72.0 | 80 | 66 | 159 | 74.3 | 80 | 68 | 161 | | |
| 50.0 | 60.1 | 69.4 | 80 | 78 | 159 | 71.6 | 80 | 80 | 161 | | | |
| 575-3-60 | STD | None | None | 18.5 | 30 | 18 | 95 | 22.3 | 30 | 22 | 99 | |
| | | 17.0 | 20.4 | 28.0 | 30 | 26 | 95 | 32.8 | 35 | 30 | 99 | |
| | | 34.0 | 40.9 | 53.6 | 60 | 49 | 95 | 58.4 | 60 | 54 | 99 | |
| | MED | None | None | 19.3 | 30 | 19 | 106 | 23.1 | 30 | 23 | 110 | |
| | | 17.0 | 20.4 | 29.0 | 30 | 27 | 106 | 33.8 | 35 | 31 | 110 | |
| | | 34.0 | 40.9 | 54.6 | 60 | 50 | 106 | 59.4 | 60 | 55 | 110 | |
| | HIGH | None | None | 22.1 | 30 | 22 | 120 | 25.9 | 30 | 26 | 124 | |
| | | 17.0 | 20.4 | 32.5 | 35 | 30 | 120 | 37.3 | 40 | 34 | 124 | |
| | | 34.0 | 40.9 | 58.1 | 60 | 53 | 120 | 62.9 | 70 | 58 | 124 | |
| 51.0 | 61.3 | 68.3 | 80 | 77 | 120 | 73.1 | 80 | 81 | 124 | | | |

* Nominal values, listed as 208/240V, 480V or 600V as appropriate. See Legend and calculations on page 85.

Table 58 (cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

| UNIT | NOM. V-PH-HZ | IFM TYPE | ELECTRIC HEATER | | NO C.O. or UNPWR C.O. | | | | | | | |
|----------|--------------|-------------|-----------------|-------------|-----------------------|---------|------------------------|-------------|-------------|---------|------------|---------|
| | | | Nom* (kW) | FLA | NO P.E. | | w/ P.E. (pwrd fr/unit) | | | | | |
| | | | | | MCA | MOCP | DISC. SIZE | | MCA | MOCP | DISC. SIZE | |
| | | | | | | | FLA | LRA | | | FLA | LRA |
| RAS120 | 208/230-3-60 | STD | - | - | 43.7 | 50 | 46 | 258 | 47.5 | 60 | 50 | 262 |
| | | | 7.8/10.4 | 21.7/25.0 | 43.7/43.7 | 50/50 | 46/46 | 258/258 | 47.5/47.5 | 60/60 | 50/50 | 262/262 |
| | | | 12.0/16.0 | 33.4/38.5 | 48.3/54.6 | 50/60 | 46/50 | 258/258 | 53.0/59.4 | 60/60 | 50/55 | 262/262 |
| | | | 24.0/32.0 | 66.7/77.0 | 89.9/102.8 | 90/110 | 83/95 | 258/258 | 94.6/107.5 | 100/110 | 87/99 | 262/262 |
| | | | 31.8/42.4 | 88.4/102.0 | 117.0/134.0 | 125/150 | 108/123 | 258/258 | 121.8/138.8 | 125/150 | 112/128 | 262/262 |
| | | 37.6/50.0 | 104.2/120.3 | 136.8/126.8 | 150/150 | 126/144 | 258/258 | 141.5/131.6 | 150/150 | 130/149 | 262/262 | |
| | | MED | - | - | 48.5 | 60 | 51 | 301 | 52.3 | 60 | 56 | 305 |
| | | | 7.8/10.4 | 21.7/25.0 | 48.5/48.5 | 60/60 | 51/51 | 301/301 | 52.3/52.3 | 60/60 | 56/56 | 305/305 |
| | | | 12.0/16.0 | 33.4/38.5 | 54.3/60.6 | 60/70 | 51/56 | 301/301 | 59.0/65.4 | 60/70 | 56/60 | 305/305 |
| | 24.0/32.0 | | 66.7/77.0 | 95.9/108.8 | 100/110 | 88/100 | 301/301 | 100.6/113.5 | 110/125 | 93/104 | 305/305 | |
| | 31.8/42.4 | | 88.4/102.0 | 123.0/140.0 | 125/150 | 113/129 | 301/301 | 127.8/144.8 | 150/150 | 118/133 | 305/305 | |
| | 37.6/50.0 | 104.2/120.3 | 142.8/132.8 | 150/150 | 131/150 | 301/301 | 147.5/137.6 | 150/150 | 136/154 | 305/305 | | |
| | HIGH | - | - | 53.5 | 60 | 57 | 310 | 57.3 | 70 | 61 | 314 | |
| | | 7.8/10.4 | 21.7/25.0 | 53.5/53.5 | 60/60 | 57/57 | 310/310 | 57.3/57.3 | 70/70 | 61/61 | 314/314 | |
| | | 12.0/16.0 | 33.4/38.5 | 60.5/66.9 | 70/70 | 57/62 | 310/310 | 65.3/71.6 | 70/80 | 61/66 | 314/314 | |
| | | 24.0/32.0 | 66.7/77.0 | 102.1/115.0 | 110/125 | 94/106 | 310/310 | 106.9/119.8 | 110/125 | 98/110 | 314/314 | |
| | | 31.8/42.4 | 88.4/102.0 | 129.3/146.3 | 150/150 | 119/135 | 310/310 | 134.0/151.0 | 150/175 | 123/139 | 314/314 | |
| | 37.6/50.0 | 104.2/120.3 | 149.0/139.1 | 150/175 | 137/156 | 310/310 | 153.8/143.8 | 175/175 | 141/160 | 314/314 | | |
| | 460-3-60 | STD | - | - | 21.5 | 25 | 23 | 123 | 23.3 | 30 | 25 | 125 |
| | | | 13.9 | 16.7 | 24.1 | 25 | 23 | 123 | 26.4 | 30 | 25 | 125 |
| | | | 16.5 | 19.8 | 28.0 | 30 | 26 | 123 | 30.3 | 35 | 28 | 125 |
| | | | 33.0 | 39.7 | 52.9 | 60 | 49 | 123 | 55.1 | 60 | 51 | 125 |
| | | | 41.7 | 50.2 | 66.0 | 70 | 61 | 123 | 68.3 | 70 | 63 | 125 |
| | | 50.0 | 60.1 | 63.4 | 70 | 72 | 123 | 65.6 | 70 | 74 | 125 | |
| MED | | - | - | 23.3 | 30 | 25 | 145 | 25.1 | 30 | 27 | 147 | |
| | | 13.9 | 16.7 | 26.4 | 30 | 25 | 145 | 28.6 | 30 | 27 | 147 | |
| | | 16.5 | 19.8 | 30.3 | 35 | 28 | 145 | 32.5 | 35 | 30 | 147 | |
| | | 33.0 | 39.7 | 55.1 | 60 | 51 | 145 | 57.4 | 60 | 53 | 147 | |
| | | 41.7 | 50.2 | 68.3 | 70 | 63 | 145 | 70.5 | 80 | 65 | 147 | |
| 50.0 | | 60.1 | 65.6 | 80 | 74 | 145 | 67.9 | 80 | 76 | 147 | | |
| HIGH | | - | - | 26.3 | 30 | 28 | 149 | 28.1 | 35 | 30 | 151 | |
| | | 13.9 | 16.7 | 30.1 | 35 | 28 | 149 | 32.4 | 35 | 30 | 151 | |
| | | 16.5 | 19.8 | 34.0 | 35 | 31 | 149 | 36.3 | 40 | 33 | 151 | |
| | 33.0 | 39.7 | 58.9 | 60 | 54 | 149 | 61.1 | 70 | 56 | 151 | | |
| | 41.7 | 50.2 | 72.0 | 80 | 66 | 149 | 74.3 | 80 | 68 | 151 | | |
| 50.0 | 60.1 | 69.4 | 80 | 78 | 149 | 71.6 | 80 | 80 | 151 | | | |
| 575-3-60 | STD | - | - | 16.2 | 20 | 17 | 93 | 20.0 | 25 | 21 | 97 | |
| | | 17.0 | 20.4 | 28.0 | 30 | 26 | 93 | 32.8 | 35 | 30 | 97 | |
| | | 34.0 | 40.9 | 53.6 | 60 | 49 | 93 | 58.4 | 60 | 54 | 97 | |
| | 51.0 | 61.3 | 63.8 | 70 | 73 | 93 | 68.6 | 80 | 77 | 97 | | |
| | MED | - | - | 17.0 | 20 | 18 | 104 | 20.8 | 25 | 22 | 108 | |
| | | 17.0 | 20.4 | 29.0 | 30 | 27 | 104 | 33.8 | 35 | 31 | 108 | |
| | | 34.0 | 40.9 | 54.6 | 60 | 50 | 104 | 59.4 | 60 | 55 | 108 | |
| | 51.0 | 61.3 | 64.8 | 70 | 74 | 104 | 69.6 | 80 | 78 | 108 | | |
| | HIGH | - | - | 19.8 | 25 | 21 | 118 | 23.6 | 30 | 25 | 122 | |
| 17.0 | | 20.4 | 32.5 | 35 | 30 | 118 | 37.3 | 40 | 34 | 122 | | |
| 34.0 | | 40.9 | 58.1 | 60 | 53 | 118 | 62.9 | 70 | 58 | 122 | | |
| 51.0 | 61.3 | 68.3 | 80 | 77 | 118 | 73.1 | 80 | 81 | 122 | | | |

* Nominal values, listed as 208/240V, 480V or 600V as appropriate. See Legend and calculations on page 85.

Table 58 (cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

| UNIT | NOM. V-PH-HZ | IFM TYPE | ELECTRIC HEATER | | NO C.O. or UNPWR C.O. | | | | | | | |
|----------|--------------|-------------|-----------------|-------------|-----------------------|---------|------------------------|-------------|-------------|---------|------------|---------|
| | | | Nom* (kW) | FLA | NO P.E. | | w/ P.E. (pwrd fr/unit) | | | | | |
| | | | | | MCA | MOCP | DISC. SIZE | | MCA | MOCP | DISC. SIZE | |
| | | | | | | | FLA | LRA | | | FLA | LRA |
| RAS150 | 208/230-3-60 | STD | - | - | 60.7 | 80 | 63 | 360 | 64.5 | 80 | 68 | 364 |
| | | | 7.8/10.4 | 21.7/25.0 | 60.7/60.7 | 80/80 | 63/63 | 360/360 | 64.5/64.5 | 80/80 | 68/68 | 364/364 |
| | | | 12.0/16.0 | 33.4/38.5 | 60.7/60.7 | 80/80 | 63/63 | 360/360 | 64.5/64.5 | 80/80 | 68/68 | 364/364 |
| | | | 24.0/32.0 | 66.7/77.0 | 92.8/105.6 | 100/110 | 85/97 | 360/360 | 97.5/110.4 | 100/125 | 90/102 | 364/364 |
| | | | 31.8/42.4 | 88.4/102.0 | 119.9/136.9 | 125/150 | 110/126 | 360/360 | 124.6/141.6 | 125/150 | 115/130 | 364/364 |
| | | 37.6/50.0 | 104.2/120.3 | 139.6/129.7 | 150/150 | 128/147 | 360/360 | 144.4/134.4 | 150/150 | 133/151 | 364/364 | |
| | | MED | - | - | 63.2 | 80 | 66 | 377 | 67.0 | 80 | 71 | 381 |
| | | | 7.8/10.4 | 21.7/25.0 | 63.2/63.2 | 80/80 | 66/66 | 377/377 | 67.0/67.0 | 80/80 | 71/71 | 381/381 |
| | | | 12.0/16.0 | 33.4/38.5 | 63.2/63.2 | 80/80 | 66/66 | 377/377 | 67.0/67.0 | 80/80 | 71/71 | 381/381 |
| | 24.0/32.0 | | 66.7/77.0 | 95.9/108.8 | 100/110 | 88/100 | 377/377 | 100.6/113.5 | 110/125 | 93/104 | 381/381 | |
| | 31.8/42.4 | | 88.4/102.0 | 123.0/140.0 | 125/150 | 113/129 | 377/377 | 127.8/144.8 | 150/150 | 118/133 | 381/381 | |
| | 37.6/50.0 | 104.2/120.3 | 142.8/132.8 | 150/150 | 131/150 | 377/377 | 147.5/137.6 | 150/150 | 136/154 | 381/381 | | |
| | HIGH | - | - | 68.2 | 80 | 72 | 386 | 72.0 | 80 | 76 | 390 | |
| | | 7.8/10.4 | 21.7/25.0 | 68.2/68.2 | 80/80 | 72/72 | 386/386 | 72.0/72.0 | 80/80 | 76/76 | 390/390 | |
| | | 12.0/16.0 | 33.4/38.5 | 68.2/68.2 | 80/80 | 72/72 | 386/386 | 72.0/72.0 | 80/80 | 76/76 | 390/390 | |
| | | 24.0/32.0 | 66.7/77.0 | 102.1/115.0 | 110/125 | 94/106 | 386/386 | 106.9/119.8 | 110/125 | 98/110 | 390/390 | |
| | | 31.8/42.4 | 88.4/102.0 | 129.3/146.3 | 150/150 | 119/135 | 386/386 | 134.0/151.0 | 150/175 | 123/139 | 390/390 | |
| | 37.6/50.0 | 104.2/120.3 | 149.0/139.1 | 150/175 | 137/156 | 386/386 | 153.8/143.8 | 175/175 | 141/160 | 390/390 | | |
| | 460-3-60 | STD | - | - | 29.5 | 40 | 31 | 181 | 31.3 | 40 | 33 | 183 |
| | | | 13.9 | 16.7 | 29.5 | 40 | 31 | 181 | 31.3 | 40 | 33 | 183 |
| | | | 16.5 | 19.8 | 29.5 | 40 | 31 | 181 | 31.3 | 40 | 33 | 183 |
| | | | 33.0 | 39.7 | 53.9 | 60 | 50 | 181 | 56.1 | 60 | 52 | 183 |
| | | | 41.7 | 50.2 | 67.0 | 70 | 62 | 181 | 69.3 | 70 | 64 | 183 |
| | | 50.0 | 60.1 | 64.4 | 70 | 73 | 181 | 66.6 | 70 | 75 | 183 | |
| MED | | - | - | 30.5 | 40 | 32 | 190 | 32.3 | 40 | 34 | 192 | |
| | | 13.9 | 16.7 | 30.5 | 40 | 32 | 190 | 32.3 | 40 | 34 | 192 | |
| | | 16.5 | 19.8 | 30.5 | 40 | 32 | 190 | 32.5 | 40 | 34 | 192 | |
| | | 33.0 | 39.7 | 55.1 | 60 | 51 | 190 | 57.4 | 60 | 53 | 192 | |
| | | 41.7 | 50.2 | 68.3 | 70 | 63 | 190 | 70.5 | 80 | 65 | 192 | |
| 50.0 | | 60.1 | 65.6 | 80 | 74 | 190 | 67.9 | 80 | 76 | 192 | | |
| HIGH | | - | - | 33.5 | 40 | 35 | 194 | 35.3 | 45 | 37 | 196 | |
| | | 13.9 | 16.7 | 33.5 | 40 | 35 | 194 | 35.3 | 45 | 37 | 196 | |
| | | 16.5 | 19.8 | 34.0 | 40 | 35 | 194 | 36.3 | 45 | 37 | 196 | |
| | 33.0 | 39.7 | 58.9 | 60 | 54 | 194 | 61.1 | 70 | 56 | 196 | | |
| | 41.7 | 50.2 | 72.0 | 80 | 66 | 194 | 74.3 | 80 | 68 | 196 | | |
| 50.0 | 60.1 | 69.4 | 80 | 78 | 194 | 71.6 | 80 | 80 | 196 | | | |
| 575-3-60 | STD | - | - | 22.3 | 30 | 23 | 142 | 26.1 | 30 | 28 | 146 | |
| | | 17.0 | 20.4 | 29.0 | 30 | 27 | 142 | 33.8 | 35 | 31 | 146 | |
| | | 34.0 | 40.9 | 54.6 | 60 | 50 | 142 | 59.4 | 60 | 55 | 146 | |
| | 51.0 | 61.3 | 64.8 | 70 | 74 | 142 | 69.6 | 80 | 78 | 146 | | |
| | MED | - | - | 22.3 | 30 | 23 | 142 | 26.1 | 30 | 28 | 146 | |
| | | 17.0 | 20.4 | 29.0 | 30 | 27 | 142 | 33.8 | 35 | 31 | 146 | |
| | | 34.0 | 40.9 | 54.6 | 60 | 50 | 142 | 59.4 | 60 | 55 | 146 | |
| | 51.0 | 61.3 | 64.8 | 70 | 74 | 142 | 69.6 | 80 | 78 | 146 | | |
| | HIGH | - | - | 25.1 | 30 | 27 | 156 | 28.9 | 35 | 31 | 160 | |
| 17.0 | | 20.4 | 32.5 | 35 | 30 | 156 | 37.3 | 40 | 34 | 160 | | |
| 34.0 | | 40.9 | 58.1 | 60 | 53 | 156 | 62.9 | 70 | 58 | 160 | | |
| 51.0 | 61.3 | 68.3 | 80 | 77 | 156 | 73.1 | 80 | 81 | 160 | | | |

* Nominal values, listed as 208/240V, 480V or 600V as appropriate. See Legend and calculations on page 85.

Table 58 (cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

| Unit | NOM. V—PH—HZ | IFM TYPE | ELECTRIC HEATER | | NO C.O. or UNPWR C.O. | | | | | | | |
|----------------------|----------------------|-----------|-----------------|-------------|-----------------------|---------|------------|-------------|------------------------|---------|------------|---------|
| | | | Nom* (kW) | FLA | NO P.E. | | | | w/ P.E. (pwrd fr/unit) | | | |
| | | | | | MCA | MOCP | DISC. SIZE | | MCA | MOCP | DISC. SIZE | |
| | | | | | | | FLA | LRA | | | FLA | LRA |
| RAS180 | 208/230-3-60 | STD | - | - | 68.3 | 80 | 71 | 396 | 72.1 | 80 | 76 | 400 |
| | | | 12.4/16.5 | 34.4/39.7 | 68.3/68.3 | 80/80 | 71/71 | 396/396 | 72.1/72.1 | 80/80 | 76/76 | 400/400 |
| | | | 25.2/33.5 | 69.9/80.6 | 96.8/110.1 | 100/125 | 89/101 | 396/396 | 101.5/114.9 | 110/125 | 93/106 | 400/400 |
| | | | 32.7/43.5 | 90.7/104.7 | 122.8/140.3 | 125/150 | 113/129 | 396/396 | 127.5/145.0 | 150/150 | 117/133 | 400/400 |
| | | | 37.6/50.0 | 104.3/120.3 | 139.8/129.7 | 150/150 | 129/147 | 396/396 | 144.5/134.4 | 150/150 | 133/151 | 400/400 |
| | | | 50.3/67.0 | 139.7/161.2 | 149.1/170.6 | 175/200 | 169/194 | 396/396 | 153.8/175.3 | 175/200 | 174/198 | 400/400 |
| | | MED | - | - | 70.8 | 80 | 74 | 413 | 74.6 | 90 | 79 | 417 |
| | | | 12.4/16.5 | 34.4/39.7 | 70.8/70.8 | 80/80 | 74/74 | 413/413 | 74.6/74.6 | 90/90 | 79/79 | 417/417 |
| | | | 25.2/33.5 | 69.9/80.6 | 99.9/113.3 | 100/125 | 92/104 | 413/413 | 104.6/118.0 | 110/125 | 96/109 | 417/417 |
| | | | 32.7/43.5 | 90.7/104.7 | 125.9/143.4 | 150/150 | 116/132 | 413/413 | 130.6/148.1 | 150/150 | 120/136 | 417/417 |
| | | | 37.6/50.0 | 104.3/120.3 | 142.9/132.8 | 150/150 | 131/150 | 413/413 | 147.6/137.6 | 150/150 | 136/154 | 417/417 |
| | | | 50.3/67.0 | 139.7/161.2 | 152.2/173.7 | 175/200 | 172/197 | 413/413 | 157.0/178.5 | 175/200 | 177/201 | 417/417 |
| | HIGH High Efficiency | - | - | 81.2 | 100 | 86 | 432 | 85.0 | 100 | 91 | 436 | |
| | | 12.4/16.5 | 34.4/39.7 | 81.2/81.2 | 100/100 | 86/86 | 432/432 | 85.0/85.0 | 100/100 | 91/91 | 436/436 | |
| | | 25.2/33.5 | 69.9/80.6 | 112.9/126.3 | 125/150 | 104/116 | 432/432 | 117.6/131.0 | 125/150 | 108/121 | 436/436 | |
| | | 32.7/43.5 | 90.7/104.7 | 138.9/156.4 | 150/175 | 128/144 | 432/432 | 143.6/161.1 | 150/175 | 132/148 | 436/436 | |
| | | 37.6/50.0 | 104.3/120.3 | 155.9/145.8 | 175/175 | 143/162 | 432/432 | 160.6/150.6 | 175/175 | 148/166 | 436/436 | |
| | | 50.3/67.0 | 139.7/161.2 | 165.2/186.7 | 175/225 | 184/209 | 432/432 | 170.0/191.5 | 175/225 | 188/213 | 436/436 | |
| | 460-3-60 | STD | - | - | 34.0 | 45 | 35 | 234 | 35.8 | 45 | 37 | 236 |
| | | | 16.5 | 19.9 | 34.0 | 45 | 35 | 234 | 35.8 | 45 | 37 | 236 |
| | | | 33.5 | 40.3 | 54.6 | 60 | 50 | 234 | 56.9 | 60 | 52 | 236 |
| | | | 43.5 | 52.3 | 69.6 | 70 | 64 | 234 | 71.9 | 80 | 66 | 236 |
| | | | 50.0 | 60.2 | 64.5 | 70 | 73 | 234 | 66.7 | 70 | 75 | 236 |
| | | | 67.0 | 80.6 | 84.9 | 90 | 97 | 234 | 87.1 | 100 | 99 | 236 |
| MED | | - | - | 35.0 | 45 | 37 | 243 | 36.8 | 45 | 39 | 245 | |
| | | 16.5 | 19.9 | 35.0 | 45 | 37 | 243 | 36.8 | 45 | 39 | 245 | |
| | | 33.5 | 40.3 | 55.9 | 60 | 51 | 243 | 58.1 | 60 | 53 | 245 | |
| | | 43.5 | 52.3 | 70.9 | 80 | 65 | 243 | 73.1 | 80 | 67 | 245 | |
| | | 50.0 | 60.2 | 65.7 | 80 | 74 | 243 | 68.0 | 80 | 76 | 245 | |
| | | 67.0 | 80.6 | 86.1 | 100 | 98 | 243 | 88.4 | 100 | 100 | 245 | |
| HIGH High Efficiency | - | - | 40.8 | 50 | 43 | 252 | 42.6 | 50 | 45 | 254 | | |
| | 16.5 | 19.9 | 40.8 | 50 | 43 | 252 | 42.6 | 50 | 45 | 254 | | |
| | 33.5 | 40.3 | 63.1 | 70 | 58 | 252 | 65.4 | 70 | 60 | 254 | | |
| | 43.5 | 52.3 | 78.1 | 80 | 72 | 252 | 80.4 | 90 | 74 | 254 | | |
| | 50.0 | 60.2 | 73.0 | 80 | 81 | 252 | 75.2 | 80 | 83 | 254 | | |
| | 67.0 | 80.6 | 93.4 | 100 | 104 | 252 | 95.6 | 100 | 106 | 254 | | |
| 575-3-60 | STD | - | - | 26.5 | 30 | 28 | 184 | 30.3 | 40 | 32 | 188 | |
| | | 16.5 | 15.9 | 26.5 | 30 | 28 | 184 | 30.3 | 40 | 32 | 188 | |
| | | 33.5 | 32.2 | 43.8 | 45 | 40 | 184 | 48.5 | 50 | 45 | 188 | |
| | | 43.5 | 41.8 | 55.8 | 60 | 51 | 184 | 60.5 | 70 | 56 | 188 | |
| | | 50.0 | 48.1 | 51.6 | 60 | 59 | 184 | 56.4 | 60 | 63 | 188 | |
| | | 67.0 | 64.4 | 67.9 | 80 | 77 | 184 | 72.7 | 80 | 82 | 188 | |
| | MED | - | - | 26.5 | 30 | 28 | 184 | 30.3 | 40 | 32 | 188 | |
| | | 16.5 | 15.9 | 26.5 | 30 | 28 | 184 | 30.3 | 40 | 32 | 188 | |
| | | 33.5 | 32.2 | 43.8 | 45 | 40 | 184 | 48.5 | 50 | 45 | 188 | |
| | | 43.5 | 41.8 | 55.8 | 60 | 51 | 184 | 60.5 | 70 | 56 | 188 | |
| | | 50.0 | 48.1 | 51.6 | 60 | 59 | 184 | 56.4 | 60 | 63 | 188 | |
| | | 67.0 | 64.4 | 67.9 | 80 | 77 | 184 | 72.7 | 80 | 82 | 188 | |
| HIGH High Efficiency | - | - | 32.7 | 40 | 35 | 196 | 36.5 | 45 | 39 | 200 | | |
| | 16.5 | 15.9 | 32.7 | 40 | 35 | 196 | 36.5 | 45 | 39 | 200 | | |
| | 33.5 | 32.2 | 51.5 | 60 | 47 | 196 | 56.3 | 60 | 52 | 200 | | |
| | 43.5 | 41.8 | 63.5 | 70 | 58 | 196 | 68.3 | 70 | 63 | 200 | | |
| | 50.0 | 48.1 | 59.4 | 70 | 66 | 196 | 64.1 | 70 | 70 | 200 | | |
| | 67.0 | 64.4 | 75.7 | 80 | 84 | 196 | 80.4 | 90 | 89 | 200 | | |

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

See Legend and calculations on page 85.

Table 58 (cont.) MCA/MOCP DETERMINATION NO C.O. OR UNPWRD C.O.

LEGEND:

- CO - Convenient outlet
- DISC - Disconnect
- FLA - Full load amps
- IFM - Indoor fan motor
- LRA - Locked rotor amps
- MCA - Minimum circuit amps
- MOCP - Maximum over current protection
- PE - Power exhaust
- UNPWRD CO - Unpowered convenient outlet



Example: Supply voltage is 230-3-60



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

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

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.

$$\begin{aligned} \% \text{ Voltage Imbalance} &= 100 \times \frac{4}{227} \\ &= 1.76\% \end{aligned}$$

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.

NOTES:

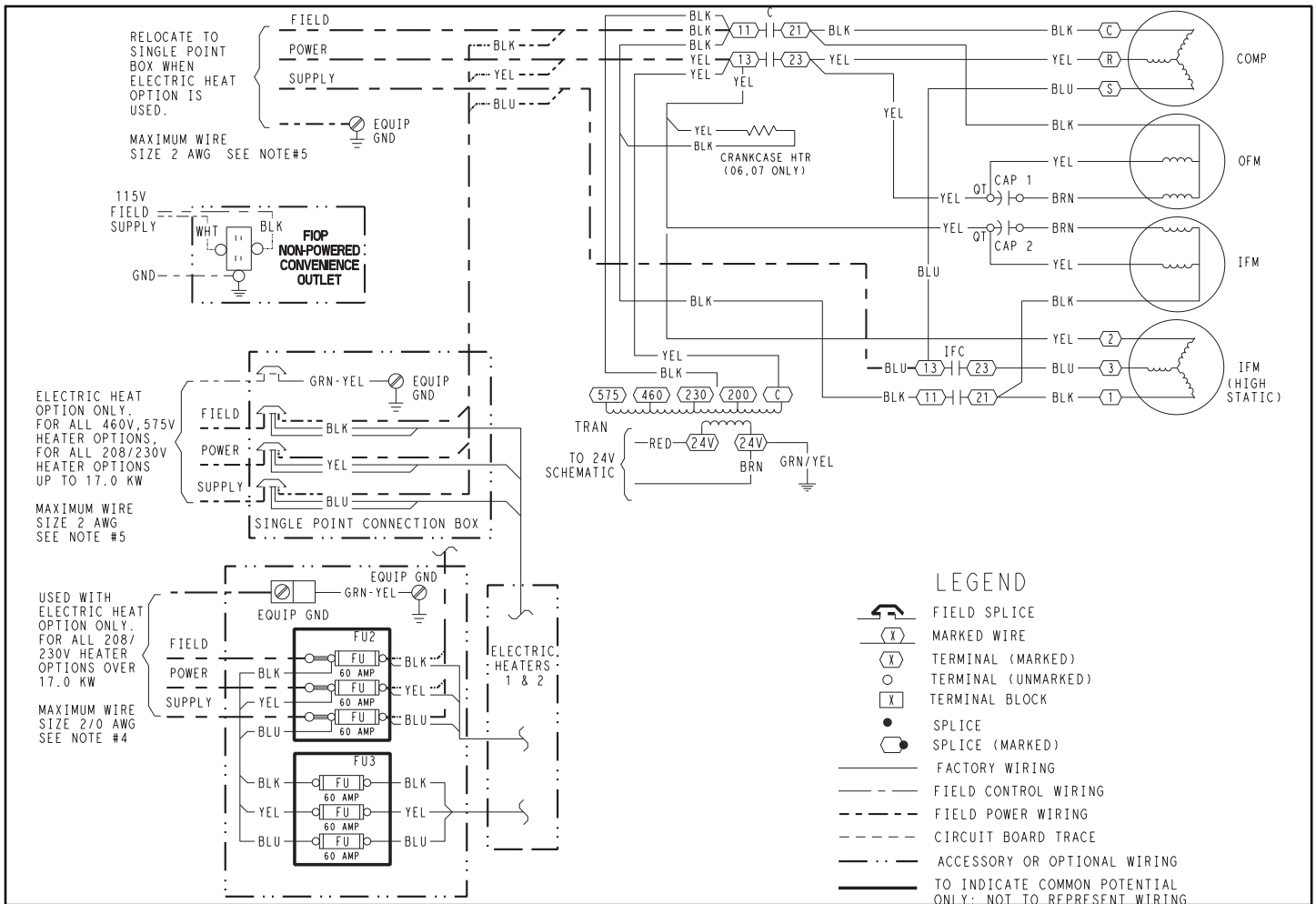
1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.

2. Unbalanced 3-Phase Supply Voltage

Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percentage of voltage imbalance.

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

Typical Power Diagram – 1 Stage Cooling



C07466

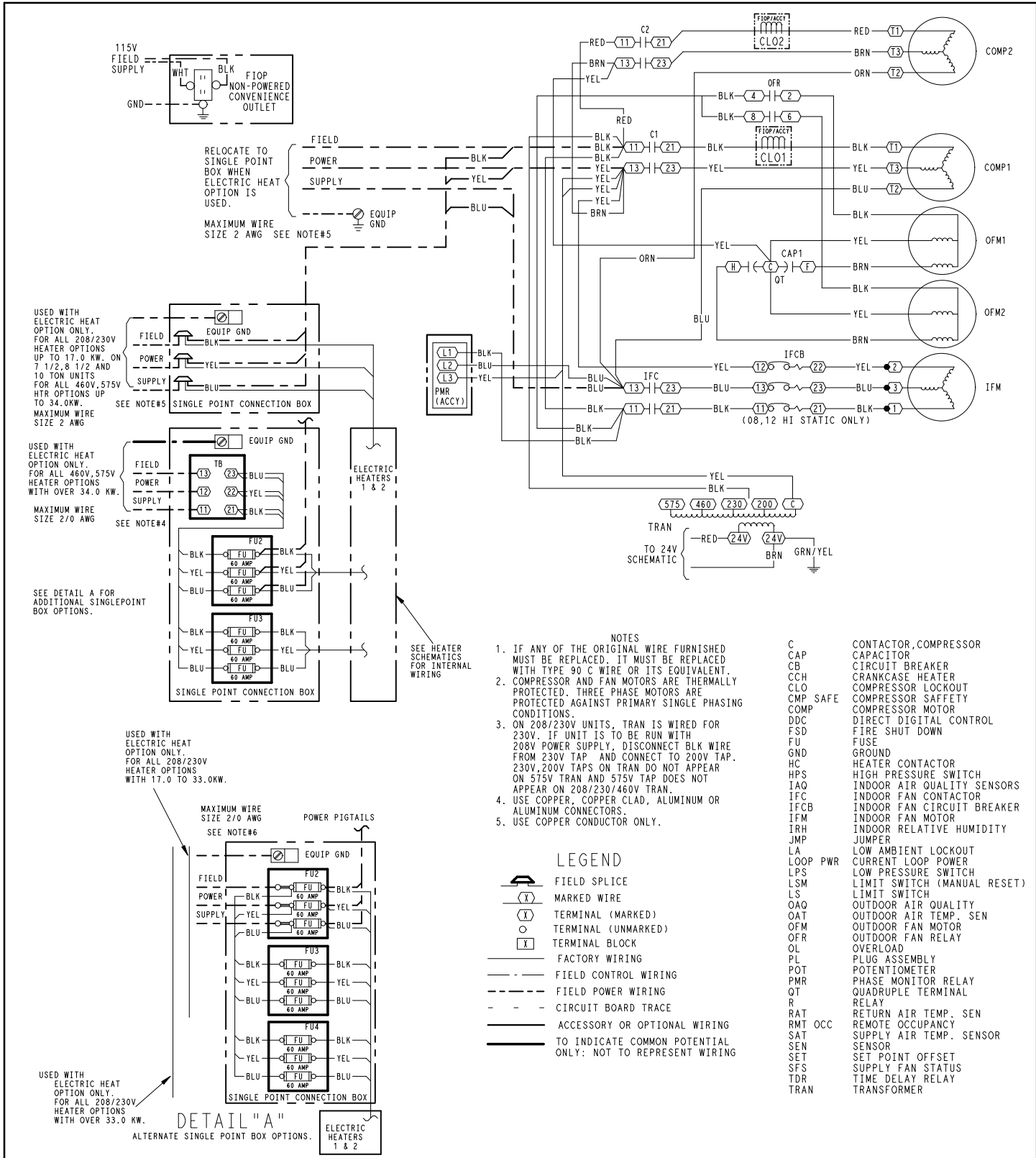
LEGEND

| | |
|--|---|
| <p>C – Contactor, compressor</p> <p>CAP – Capacitor</p> <p>CB – Circuit breaker</p> <p>COMP – Compressor motor</p> <p>DDC – Direct digital control</p> <p>FU – Fuse</p> <p>GND – Ground</p> <p>HPS – High pressure switch</p> <p>IAQ – Indoor air quality sensors</p> <p>IFC – Indoor fan contactor</p> <p>IFM – Indoor fan motor</p> <p>LA – Low ambient lockout</p> <p>LPS – Low pressure switch</p> | <p>OAT – Outdoor air temp sensor</p> <p>OFM – Outdoor fan motor</p> <p>OLR – Overload relay</p> <p>PL – Plug assembly</p> <p>POT – Potentiometer</p> <p>PMR – Phase monitor relay</p> <p>QT – Quadruple terminal</p> <p>R – Relay</p> <p>RAT – Return air temp sensor</p> <p>SAT – Supply air temp sensor</p> <p>TDR – Time delay relay</p> <p>TRAN – Transformer</p> |
|--|---|

NOTES:

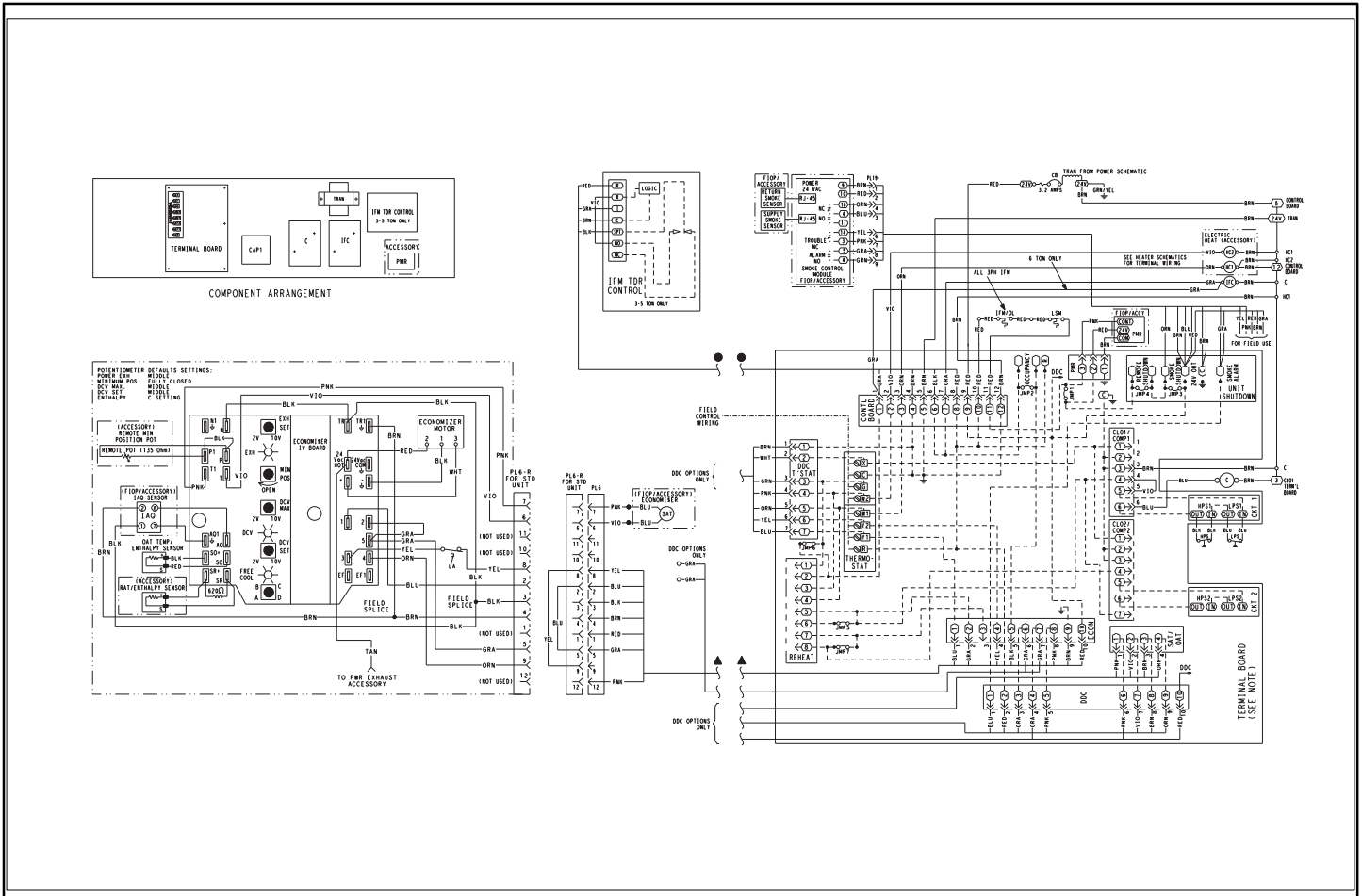
1. If any of the original wire furnished must be replaced, it must be replaced with type 90 C wire or its equivalent.
2. Compressor and fan motors are thermally protected. Three phase motors are protected against primary single phasing conditions.
3. On 208/230V units, transformer is wired for 230V.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

Typical Power Diagram – 2 Stage Cooling



C08536

Typical Wiring Diagram –1 Stage Cooling



C08002

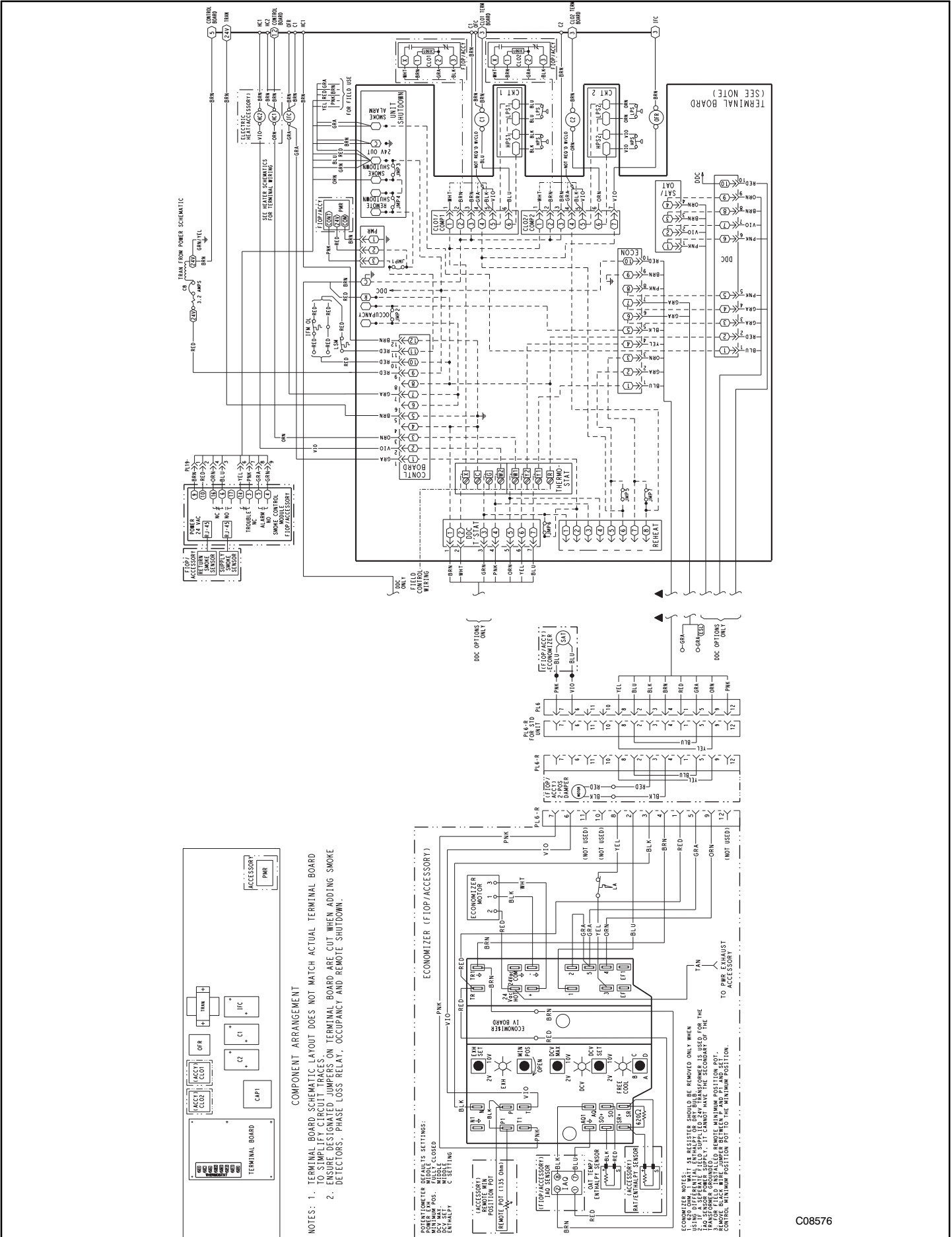
NOTES:

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

ECONOMIZER NOTES:

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

Typical Wiring Diagram - 2 Stage Cooling



C08576

SEQUENCE OF OPERATION

General

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

Electro-mechanical units with no economizer

Cooling

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

Heating

NOTE: The 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 two-stage heating, when additional heating is required, the second stage of electric heat (if equipped) will be energized when power is applied at the W2 terminal on the unit.

Electro-mechanical units with an economizer

Cooling

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

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

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

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

Heating

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

GUIDE SPECIFICATIONS – RAS036–180

Note about this specification:

COOLING ONLY/ELECTRIC HEAT PACKAGED ROOFTOP

HVAC Guide Specifications

Size Range: 3 to 15 Nominal Tons



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

| | |
|-----------------|---|
| 23 06 80 | Schedules for Decentralized HVAC Equipment |
|-----------------|---|

| | |
|-------------|---|
| 23 06 80.13 | Decentralized Unitary HVAC Equipment Schedule |
|-------------|---|

| | |
|----------------|-----------------------|
| 23 06 80.13.A. | Rooftop unit schedule |
|----------------|-----------------------|

1. Schedule is per the project specification requirements.

| | |
|-----------------|----------------------------------|
| 23 07 16 | HVAC Equipment Insulation |
|-----------------|----------------------------------|

| | |
|-------------|-------------------------------|
| 23 07 16.13 | Decentralized, Rooftop Units: |
|-------------|-------------------------------|

| | |
|----------------|-----------------------------|
| 23 07 16.13.A. | Evaporator fan compartment: |
|----------------|-----------------------------|

1. Interior cabinet surfaces shall be insulated with a minimum 1/2-in. thick, minimum 1 1/2 lb density, flexible fiberglass insulation bonded with a phenolic binder, neoprene coated on the air side.
2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

| | |
|----------------|----------------------------|
| 23 07 16.13.B. | Electric heat compartment: |
|----------------|----------------------------|

1. Aluminum foil-faced fiberglass insulation shall be used.
2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

| | |
|-----------------|---|
| 23 09 13 | Instrumentation and Control Devices for HVAC |
|-----------------|---|

| | |
|-------------|--------------------------|
| 23 09 13.23 | Sensors and Transmitters |
|-------------|--------------------------|

| | |
|----------------|-------------|
| 23 09 13.23.A. | Thermostats |
|----------------|-------------|

1. Thermostat must
 - a. energize both "W" and "G" when calling for heat.
 - b. have capability to energize 2 different stages of cooling, and 2 different stages of heating.
 - c. include capability for occupancy scheduling.

| | |
|-----------------|--|
| 23 09 33 | Electric and Electronic Control System for HVAC |
|-----------------|--|

| | |
|-------------|-------------------------------|
| 23 09 33.13 | Decentralized, Rooftop Units: |
|-------------|-------------------------------|

| | |
|----------------|----------|
| 23 09 33.13.A. | General: |
|----------------|----------|

1. Shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-v transformer side. Transformer shall have 75VA capability.
2. Shall utilize color-coded wiring.
3. Shall include a central control terminal board to conveniently and safely provide connection points for vital control functions such as: smoke detectors, phase monitor, economizer, thermostat, DDC control options, and low and high pressure switches.
4. Unit shall include a minimum of one 8-pin screw terminal connection board for connection of control wiring.

| | |
|----------------|-----------|
| 23 09 33.23.B. | Safeties: |
|----------------|-----------|

1. Compressor over-temperature, over current.
2. Low-pressure switch.
 - a. Units with 2 compressors shall have different sized connectors for the circuit 1 and circuit 2 low and high pressure switches. They shall physically prevent the cross-wiring of the safety switches between circuits 1 and 2.
 - b. Low pressure switch shall use different color wire than the high pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.
3. High-pressure switch.
 - a. Units with 2 compressors shall have different sized connectors for the circuit 1 and circuit 2 low and high pressure switches. They shall physically prevent the cross-wiring of the safety switches between circuits 1 and 2.

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

4. Automatic reset, motor thermal overload protector.

23 09 93 Sequence of Operations for HVAC Controls

23 09 93.13 Decentralized, Rooftop Units:

23 09 93.13 INSERT SEQUENCE OF OPERATION

23 40 13 Panel Air Filters

23 40 13.13 Decentralized, Rooftop Units:

23 40 13.13.A. Standard filter section

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

23 81 19 Self-Contained Air Conditioners

23 81 19.13 Small-Capacity Self-Contained Air Conditioners

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 90.1-2004 minimum efficiency requirements.
2. 3 phase units are Energy Star qualified.
3. Unit shall be rated in accordance with AHRI Standards 210/240 and 340/360.
4. Unit shall be designed to conform to ASHRAE 15, 2001.
5. Unit shall be UL-tested and certified in accordance with ANSI Z21.47 Standards and UL-listed and certified under Canadian standards as a total package for safety requirements.
6. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
7. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).
8. Unit casing shall be capable of withstanding Federal Test Method Standard No. 141 (Method 6061) 5000-hour salt spray.
9. Unit shall be designed in accordance with ISO 9001:2000, and shall be manufactured in a facility registered by ISO 9001:2000.
10. Roof curb shall be designed to conform to NRCA Standards.
11. Unit shall be subjected to a completely automated run test on the assembly line. The data for each unit will be stored at the factory, and must be available upon request.
12. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
13. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.
14. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.

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

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

23 81 19.13.D. Project Conditions

1. As specified in the contract.

23 81 19.13.E. Project Conditions

1. As specified in the contract.

23 81 19.13.F. Operating Characteristics

1. Unit shall be capable of starting and running at 115°F (46°C) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 210/240 or 340/360 at ± 10% voltage.
2. Compressor with standard controls shall be capable of operation from 40°F (4°C) , ambient outdoor temperatures. Accessory winter start kit is necessary if mechanically cooling at ambient temperatures below 25°F (-4°C).
3. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
4. Unit shall be factory configured for vertical supply & return configurations.
5. Unit shall be field convertible from vertical to horizontal configuration
6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.

23 81 19.13.G. Electrical Requirements

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

23 81 19.13.H. Unit Cabinet

1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a pre-painted baked enamel finish on all externally exposed surfaces.
2. Unit cabinet exterior paint shall be: film thickness, (dry) 0.003 inches minimum, gloss (per ASTM D523, 60°F): 60, Hardness: H-2H Pencil hardness.
3. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 210/240 or 340/360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 1/2-in. thick, 1 lb density, flexible fiberglass insulation, neoprene coated on the air side. Aluminum foil-faced fiberglass insulation shall be used in the heat compartment.
4. Base of unit shall have a minimum of four locations for thru-the-base gas and electrical connections (factory installed or field installed), standard.
5. Base Rail
 - a. Unit shall have base rails on a minimum of 2 sides.
 - b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
 - c. Holes shall be provided in the base rail for moving the rooftop by fork truck.
 - d. Base rail shall be a minimum of 16 gauge thickness.
6. Condensate pan and connections:
 - a. Shall be a sloped condensate drain pan made of a non-corrosive material.
 - b. Shall comply with ASHRAE Standard 62.
 - c. Shall use a 3/4" -14 NPT drain connection, possible either through the bottom or end of the drain pan. Connection shall be made per manufacturer's recommendations.

7. Top panel:

- a. Shall be a single piece top panel on 036 thru 121 sizes, two piece on 150 – 180 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/Copper Coils: (036 – 121 single compressor/single stage cooling models only)

- 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: (036 – 121 single compressor/single stage cooling 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 condenser coils: (036 – 121 single compressor/single stage cooling 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: (036 – 121 single compressor/single stage cooling 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. Standard Coils: (090 – 180 two compressor models/two stage cooling models only)
 - a. Standard evaporator 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. Standard condenser coils shall have all aluminum RTPF Heat Exchanger Technology design consisting of aluminum multi port flat tube design and aluminum fin. Coils shall be a furnace brazed design and contain epoxy lined shrink wrap on all aluminum to copper connections.
 - d. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 1995 burst test at 1980 psig.
 6. Optional E-coated aluminum-fin, aluminum tube condenser coils:
 - a. Shall have a flexible epoxy polymer coating uniformly applied to all coil external surface areas without material bridging between fins or louvers.
 - b. Coating process shall ensure complete coil encapsulation, including all exposed fin edges.
 - c. E-coat thickness of 0.8 to 1.2 mil with top coat having a uniform dry film thickness from 1.0 to 2.0 mil on all external coil surface areas, including fin edges, shall be provided.
 - d. Shall have superior hardness characteristics of 2H per ASTM D3363-00 and cross-hatch adhesion of 4B-5B per ASTM D3359-02.
 - e. Shall have superior impact resistance with no cracking, chipping or peeling per NSF/ANSI 51-2002 Method 10.2.

23 81 19.13.K. Refrigerant Components

1. Refrigerant circuit shall include the following control, safety, and maintenance features:
 - a. Fixed orifice metering system shall prevent mal-distribution of two-phase refrigerant by including multiple fixed orifice devices in each refrigeration circuit. Each orifice is to be optimized to the coil circuit it serves.
 - b. Refrigerant filter drier.

- c. Service gauge connections on suction and discharge lines.
 - d. Pressure gauge access through a specially designed access port in the top panel of the unit.
2. There shall be gauge line access port in the skin of the rooftop, covered by a black, removable plug.
- a. The plug shall be easy to remove and replace.
 - b. When the plug is removed, the gauge access port shall enable maintenance personnel to route their pressure gauge lines.
 - c. This gauge access port shall facilitate correct and accurate condenser pressure readings by enabling the reading with the compressor access panel on.
 - d. The plug shall be made of a leak proof, UV-resistant, composite material.

3. Compressors

- a. Unit shall use one fully hermetic, scroll compressor for each independent refrigeration circuit.
- b. Models shall be available with single compressor designs on 036 – 121 models, plus additional 2 compressor (stage) models from 090 – 180 sizes.
- c. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
- d. Compressors shall be internally protected from high discharge temperature conditions.
- e. Compressors shall be protected from an over-temperature and over-ampereage conditions by an internal, motor overload device.
- f. Compressor shall be factory mounted on rubber grommets.
- g. Compressor motors shall have internal line break thermal, current overload and high pressure differential protection.
- h. Crankcase heaters shall not be required for normal operating range, unless provided by the factory.

23 81 19.13.L. Filter Section

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

23 81 19.13.M. Evaporator Fan and Motor

- 1. Evaporator fan motor:
 - a. Shall have permanently lubricated bearings.
 - b. Shall have inherent automatic-reset thermal overload protection or circuit breaker.
 - c. Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating shall be required.
- 2. 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 036 – 121 models and shaft-up design on 150 – 180 size with rain shield.
- 2. Condenser Fans:
 - a. Shall be a direct-driven propeller type fan.
 - b. Shall have aluminum blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.

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

- 1. Integrated Economizers:
 - a. Integrated, gear-driven parallel modulating blade design type capable of simultaneous economizer and compressor operation.
 - b. Independent modules for vertical or horizontal return configurations shall be available. Vertical return modules shall be available as a factory installed option.

- c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
 - d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
 - e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
 - f. Shall be equipped with low-leakage dampers, not to exceed 2% leakage at 1 in. wg pressure differential.
 - g. Shall be capable of introducing up to 100% outdoor air.
 - h. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air.
 - i. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
 - j. Dry bulb outdoor-air temperature sensor shall be provided as standard. Outdoor air sensor setpoint shall be adjustable and shall range from 40 to 100°F / 4 to 38°C. Additional sensor options shall be available as accessories.
 - k. The economizer controller shall also provide control of an accessory power exhaust unit. function. Factory set at 100%, with a range of 0% to 100%.
 - l. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy. A remote potentiometer may be used to override the damper setpoint.
 - m. Dampers shall be completely closed when the unit is in the unoccupied mode.
 - n. Economizer controller shall accept a 2-10Vdc CO₂ sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor-air damper to provide ventilation based on the sensor input.
 - o. Compressor lockout sensor shall open at 35°F (2°C) and close closes at 50°F (10°C).
 - p. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
 - q. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
2. Two-Position Damper
- a. Damper shall be a Two-Position Damper. Damper travel shall be from the full closed position to the field adjustable %-open setpoint.
 - b. Damper shall include adjustable damper travel from 25% to 100% (full open).
 - c. Damper shall include single or dual blade, gear driven dampers and actuator motor.
 - d. Actuator shall be direct coupled to damper gear. No linkage arms or control rods shall be acceptable.
 - e. Damper will admit up to 100% outdoor air for applicable rooftop units.
 - f. Damper shall close upon indoor (evaporator) fan shutoff and/or loss of power.
 - g. The damper actuator shall plug into the rooftop unit's wiring harness plug. No hard wiring shall be required.
 - h. Outside air hood shall include aluminum water entrainment filter
3. Manual damper
- a. Manual damper package shall consist of damper, air inlet screen, and rain hood which can be preset to admit up to 50% outdoor air for year round ventilation.
4. 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).
5. Condenser Coil Hail Guard Assembly
- a. Shall protect against damage from hail.
 - b. Shall be louvered design.
6. Unit-Mounted, Non-Fused Disconnect Switch:
- a. Switch shall be factory-installed, internally mounted.
 - b. National Electric Code (NEC) and UL approved non-fused switch shall provide unit power shutoff.
 - c. Shall be accessible from outside the unit
 - d. Shall provide local shutdown and lockout capability.
7. Convenience Outlet:
- e. 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.
8. 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.
9. 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.
10. Propeller Power Exhaust:
 - a. Power exhaust shall be used in conjunction with an integrated economizer.
 - b. Independent modules for vertical or horizontal return configurations shall be available.
 - c. Horizontal power exhaust is shall be mounted in return ductwork.
 - d. Power exhaust shall be controlled by economizer controller operation. Exhaust fans shall be energized when dampers open past the 0-100% adjustable setpoint on the economizer control.
11. Roof Curbs (Vertical):
 - a. Full perimeter roof curb with exhaust capability providing separate air streams for energy recovery from the exhaust air without supply air contamination.
 - b. Formed galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
 - c. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.
12. High-Static Indoor Fan Motor(s) and Drive(s) (036-180):
 - a. High-static motor(s) and drive(s) shall be factory-installed to provide additional performance range.
13. Condenser Coil Grille:
 - a. The grille protects the condenser coil from damage by large objects without increasing unit clearances.
14. Thru-the-Bottom Utility Connectors:
 - a. Kit shall provide connectors to permit electrical connections to be brought to the unit through the basepan.
15. Outdoor Air Enthalpy Sensor:
 - a. The outdoor air enthalpy sensor shall be used to provide single enthalpy control. When used in conjunction with a return air enthalpy sensor, the unit will provide differential enthalpy control. The sensor allows the unit to determine if outside air is suitable for free cooling.
16. Return Air Enthalpy Sensor:
 - a. The return air enthalpy sensor shall be used in conjunction with an outdoor air enthalpy sensor to provide differential enthalpy control.
17. Indoor Air Quality (CO₂) Sensor:
 - a. Shall be able to provide demand ventilation indoor air quality (IAQ) control.
 - b. The IAQ sensor shall be available in duct mount, wall mount, or wall mount with LED display. The setpoint shall have adjustment capability.
18. Smoke detectors (factory-installed only):
 - a. Shall be a Four-Wire Controller and Detector.
 - b. Shall be environmental compensated with differential sensing for reliable, stable, and drift-free sensitivity.
 - c. Shall use magnet-activated test/reset sensor switches.
 - d. Shall have tool-less connection terminal access.
 - e. Shall have a recessed momentary switch for testing and resetting the detector.
 - f. Controller shall include:
 - (1.) One set of normally open alarm initiation contacts for connection to an initiating device circuit on a fire alarm control panel.
 - (2.) Two Form-C auxiliary alarm relays for interface with rooftop unit or other equipment.
 - (3.) One Form-C supervision (trouble) relay to control the operation of the Trouble LED on a remote test/reset station.
 - (4.) Capable of direct connection to two individual detector modules.
 - (5.) Can be wired to up to 14 other duct smoke detectors for multiple fan shutdown applications.
19. Winter start kit
 - a. Shall contain a bypass device around the low pressure switch.

- b. Shall be required when mechanical cooling is required down to 25°F (-4°C).
- c. Shall not be required to operate on an economizer when below an outdoor ambient of 40°F (4°C).

20. Time Guard

- a. Shall prevent compressor short cycling by providing a 5-minute delay (± 2 minutes) before restarting a compressor after shutdown for any reason.
- b. One device shall be required per compressor.

21. Electric Heat:

a. Heating Section

- (1.) Heater element open coil resistance wire, nickel-chrome alloy, 0.29 inches inside diameter, strung through ceramic insulators mounted on metal frame. Coil ends are staked and welded to terminal screw slots.
- (2.) Heater assemblies are provided with integral fusing for protection of internal heater circuits not exceeding 48 amps each. Auto reset thermo limit controls, magnetic heater contactors (24 v coil) and terminal block all mounted in electric heater control box (minimum 18 ga galvanized steel) attached to end of heater assembly.