TEMPSTAR®
Heating and Cooling Products

RAH
Product Specifications

HIGH EFFICIENCY PACKAGE ELECTRIC COOLING, R–410A SINGLE PACKAGE ROOFTOP 3 – 12.5 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 036–120 models. Field accessory supply duct kit required for 150 size model only.
- Full perimeter base rail with built-in rigging adapters and fork truck slots
- Pre–painted exterior panels & primer–coated interior panels tested to 500 hours salt spray protection
- Fully insulated cabinet
- Single-stage cooling capacity control on 036–072 models, two–stage on 090–150 models
- Single scroll compressor on 036–072 models, dual scroll compressors on 090–150 models with internal line–break overload protection
- Two inch disposable fiberglass type return air filters in dedicated rack with tool–less filter access door
- All units have a high and low pressure switches
- 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
- Direct drive high efficiency ECM blower motors on 036–060 single phase models
- Belt drive evaporator–fan motor and pulley combinations available on all 3 phase models
- 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 125°F (52°C) and down to 35°F (–2°C) using winter start kit
- TXV refrigerant 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
- Provisions for thru–the–bottom power entry capability
- Single point electrical connections


RAH036–060


RAH072–120

WARRANTY

- 5 Year compressor limited warranty
- 1 Year parts limited warranty

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ASHRAE 90.1 COMPLIANT

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ENERGY STAR

UNIT PERFORMANCE DATA – ONE STAGE COOLING

UNIT	Nom. Tons	COOLING Net Cap. (Btuh)	SEER	EER	Unit Dimensions H x W x L in [mm]	Unit Weight lb. [kg]
RAH036*0XA0AAA	3	36,000	15.0	12.5	33–3/8 x 46–3/4 x 74–3/8 (847 x 1187 x 1888)	458 (208)
RAH048*0XA0AAA	4	48,500	15.6	13.0	41–3/8 x 46–3/4 x 74–3/8 (1051 x 1187 x 1888)	545 (207)
RAH060*0XA0AAA	5	57,500	15.2	12.5	41–3/8 x 46–3/4 x 74–3/8 (1051 x 1187 x 1888)	550 (249)
RAH072*0AA0AAA	6	73,000	N/A	12.2	41–1/4 x 59–1/2 x 88–1/8 (1048 x 1510 x 2238)	715 (324)

UNIT PERFORMANCE DATA – TWO STAGE COOLING

UNIT	Nom. Tons	COOLING Net Cap. (Btuh)	Total Pwr (kW)	EER	Unit Dimensions H x W x L in [mm]	Unit Weight lb. [kg]
RAH090*0AA0AAA	7 1/2	89,000	7.3	12.2	49–3/8 x 59–1/2 x 88–1/8 (1253 x 1510 x 2238)	860 (390)
RAH102*0AA0AAA	8 1/2	97,000	8.0	12.2	49–3/8 x 59–1/2 x 88–1/8 (1253 x 1510 x 2238)	860 (390)
RAH110*0AA0AAA	10	111,00	9.3	12.0	49–3/8 x 59–1/2 x 88–1/8 (1253 x 1510 x 2238)	1025 (465)
RAH120*0AA0AAA	10	115,000	9.8	11.7	49–3/8 x 59–1/2 x 88–1/8 (1253 x 1510 x 2238)	1025 (465)
RAH150*0AA0AAA	12.5	146,000	11.8	12.4	57–3/8 x 63–3/8 x 115–7/8 (1456 x 1609 x 2942)	1360 (617)

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

MODEL NOMENCLATURE

MODEL SERIES	R	A	H	0	9	0	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) — **Type**

H = High Efficiency — **Efficiency**

036 = 3 Tons
048 = 4 Tons
060 = 5 Tons
072 = 6 Tons
090 = 7.5 Tons (Dual Compressor)
102 = 8.5 Tons (Dual Compressor)
110 = 10 Tons (Dual Compressor) 12 EER
120 = 10 Tons (Dual Compressor) 11.7 EER
150 = 12.5 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)

X = Direct drive ECM motor (3-5 Ton All voltages 1 & 3 phase)
A = Standard Static Option - (Belt Drive) 6-12.5 Ton with 1 speed IFM, 3 phase only)
C = Medium Static Option (Belt Drive) (3-12.5 Ton with 1 speed IFM, 3 phase only)
B = High Static Option (Belt Drive) (3-10 Ton with 1 speed IFM, 3 phase only)
E = High Static High Efficiency Option (Belt Drive) (12.5 Ton with 1 speed IFM)
G = High Static Motor / Drive with Hot Gas Re-heat (12.5 Ton with 1 speed IFM)
H = High Static Motor / Drive with Hot Gas Re-heat (3-10 Ton with 1 speed IFM, 7.5 to 12.5 ton with 2 speed IFM)

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 w/Baro-relief
U = Temp Ultra Low Leak Economizer w/Baro-relief
W = Enthalpy Ultra Low Leak Economizer w/Baro-relief

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
AA = Easy Access Hinged Panels

Factory Installed Options

A = Aluminum / Copper Cond & Alum/Copper Evap Coil
B = Pre-coat Alum/Copper Cond & Alum / Copper Evap
C = E-Coated Alum/Copper Cond & Alum / Copper Evap
D = E-Coated Alum / Copper Cond & E-Coated Alum/Copper Evap
E = Copper/Copper Cond & Alum/Copper Evap
F = Copper/Copper Cond & Copper/Copper Evap

Condenser / Evaporator Coil Configuration

A = Standard Motor
T = 2-Speed Indoor Fan VFD Controller (For 2-stage units only)

Motor Type Option

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

CATEGORY	ITEM	FACTORY INSTALLED OPTION	FIELD INSTALLED ACCESSORY
Cabinet	Thru–the–base electrical connections		X
	Hinged access panels	X	
	Supply duct cover – 150 size only		X
	Foil faced insulation throughout entire cabinet	X	
Coil Options	Cu/Cu indoor and/or outdoor coils[1]	X	
	Pre–coated outdoor coils[1]	X	
	Premium, E–coated outdoor coils[1]	X	
Humidity Control	Hot Gas Re–Heat Dehumidification System[1]	X	
Condenser Protection	Condenser coil hail guard (louvered design)[1]	X	X
Controls	Thermostats, temperature sensors, and subbases		X
	Smoke detector (supply and/or return air)	X	
	Time Guard II compressor delay control circuit		X
	Phase Monitor		X
Economizers & Outdoor Air Dampers	EconoMi$er IV for electro–mechanical controls – Non FDD (Standard air leak damper models)[1]	X	X
	EconoMi$er2 for DDC controls (Standard and Ultra Low Leak air damper models)[1, 10]	X	X
	Motorized 2 position outdoor–air damper[1]	X	X
	Manual outdoor–air damper (25% and 50%)	X	X
	Barometric relief[2]	X	X
	Power exhaust – prop design		X
	EconoMi$erX for electro–mechanical controls, complies with FDD. (Standard and Ultra Low Leak air damper models)[1]	X	X
Economizer Sensors & IAQ Devices	Single dry bulb temperature sensors[3]	X	X
	Differential dry bulb temperature sensors[3]		X
	Single enthalpy sensors[3]	X	X
	Differential enthalpy sensors[3]		X
	CO_2 sensor (wall, duct, or unit mounted)[3]	X	X
Electric Heat	Electric Resistance Heaters	X	X
	Single Point Kit	X	X
Indoor Motor & Drive	Multiple motor and drive packages	X	
	2–Speed Indoor Fan Motor system w/VFD controller (2–stage cool only with electrical mechanical)	X	
	Display Kit for 2–speed indoor fan motor system with VFD		X
Low Ambient Control	Winter start kit[4]		X
	Motormaster head pressure controller to –20°F (–29°C)[4]		X
	Cooling Low Ambient Controller to 0°F/–18°C (except 110 size)[4]	X	
Power Options	Convenience outlet (unpowered)	X	
	Non–fused disconnect[7,8]	X	
Roof Curbs	Roof curb 14–in (356mm)		X
	Roof curb 24–in (610mm)		X

NOTES:

1. Not available as factory installed option on single phase (208/230–1–60) models. Use field installed accessory where available.
2. Included with economizer.
3. Sensors used to optimize economizer performance.
4. See application data for assistance.
5. HACR circuit breaker cannot be used when unit MOCP electrical rating exceeds:
   036–120 sizes – 208/230–1–60 and 208/230–3–60 = 100 amps, 460–3–60 = 90 amps, 575–3–60 = 70 amps.
   150 size – 208/230–3–60 = 200 amps, 460–3–60 = 90 amps, 575–3–60 = 80 amps.
   HACR circuit breaker on 575 volt can only be used on Wye power supply. Delta power supply is prohibited.
6. Non–fused disconnect switch (036–120 sizes) cannot be used when unit electrical rating exceeds:
   Without factory installed electric heat: 208/230–1–60 and 208/230–3–60 = 80 amps (FLA), 460–3–60 and 575–3–60 = 80 amps (FLA).
   With factory installed electric heat: 208/230–1–60 and 208/230–3–60 = 100 amps (FLA), 460–3–60 and 575–3–60 = 80 amps (FLA).
   Non–fused disconnect switch (150 size) cannot be used when unit electrical rating exceeds:
   Without factory installed electric heat: 208/230–3–60 = 115 amps (MCA), 460–3–60 and 575–3–60 = 100 amps (FLA).
   With factory installed electric heat: 208/230/2/60 = 200 amps (FLA), 460–3–60 and 575–3–60 = 100 amps (FLA)
7. If field installing electric heaters, Single Point Kits are required:
   On sizes 036, 048 and 060 – Single Point Kit CRSINGLE037A00 is required.
   On size 072 – Single Point Kit CRSINGLE042A00 is required.
   On sizes 090, 102 and 120 – Single Point Kit CRSINGLE047A00 is required.
8. FDD – (Fault Detection and Diagnostic) capability per California Title 24 section 120.2.

FACTORY OPTIONS AND/OR ACCESSORIES

Economizer (dry−bulb or enthalpy)

Economizers save energy, money and improve comfort levels in the conditioned space. They bring in fresh, outside air for ventilation; and provide cool outside air to cool your building. This also is the preferred method of low ambient cooling. When integrated with CO_2 sensors, economizers can provide even more savings by coupling the ventilation air to only that amount required based on space occupancy. Economizers are available, installed and tested by the factory, with either enthalpy or temperature dry−bulb inputs. There are also models for electromechanical, direct digital controllers and single speed fan or 2−speed indoor fan motors. Additional sensors are available as accessories to optimize the economizer. Economizers include gravity controlled barometric relief that helps equalize building pressure and ambient air pressures. This can be a cost effective solution to prevent building pressurization. Economizers are available in Ultra Low Leak and standard low leak versions.

CO_2 Sensor

Improves productivity and saves money by working with the economizer to intake only the correct amount of outside air for ventilation. As occupants fill your building, the CO_2 sensor detects their presence through increasing CO_2 levels, and opens the economizer appropriately.

When the occupants leave, the CO_2 levels decrease, and the sensor appropriately closes the economizer. This intelligent control of the ventilation air, called Demand Control Ventilation (DCV) reduces the overall load on the rooftop, saving money.

Smoke Detectors

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

Louvered Hail Guards

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

Convenience Outlet (un−powered)

Reduce service and/or installation costs by including a convenience outlet in your specification. ICP will install this service feature at our factory. Provides a convenient, 15 amp, 115v GFCI receptacle with “Wet in Use” cover. The “unpowered” option is to be powered from a separate 115/120v power source. Non−fused Disconnect

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

If field installing electric heat with factory−installed non−fused disconnect switch, a Single Point Kit is required. See details on page 5, Note 8.

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

The new ICP 2−position, motorized outdoor air damper admits up to 100% outside air. Using reliable, gear−driven technology, the 2−position damper opens to allow ventilation air and closes when the rooftop stops, stopping unwanted infiltration. Not available with 2−speed indoor fan motor models.

Manual OA Damper

Manual outdoor air dampers are an economical way to bring in ventilation air. The dampers are available in 25% and 50% versions. Not available with 2−speed indoor fan motor models.

Optional Hot Gas Re−Heat Dehumidification System

ICP’s Hot Gas Re−Heat dehumidification system is an all−inclusive factory installed option that can be ordered with any RAH036−150 rooftop unit. This system expands the envelope of operation of ICP’s rooftop products to provide unprecedented flexibility to meet year round comfort conditions.

Optional Hot Gas Re−Heat Dehumidification System (cont.)

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

The RAH036−150 rooftop coupled with the Hot Gas Re−Heat system is capable of operating in normal design cooling mode, subcooling mode, and hot gas reheat mode. Normal design cooling mode is when the unit will operate under its normal sequence of operation by cycling compressors to maintain comfort conditions.

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

FACTORY OPTIONS AND/OR ACCESSORIES (cont.)

2−Speed Indoor Fan Motor Indoor Fan Speed System

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

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

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

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

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

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

Hinged Access Panels

Allows access to unit's major components with specifically designed hinged access panels. Panels are:

filter, control box, fan motor and compressor.

MotorMaster Head Pressure Controller

The Motormaster motor controller is a low ambient, head pressure controller kit that is designed to maintain the unit's condenser head pressure during periods of low ambient cooling operation. This device should be used as an alternative to economizer free cooling not when economizer usage is either not appropriate or desired. The MotorMaster will either cycle the outdoor−fan motors or operate them at reduced speed to maintain the unit operation, depending on the model. MotorMaster allows cooling operation down to −20°F (−29°C) ambient conditions.

Winter Start Kit

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

Alternate Motors and Drives

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

Thru−the−Base Connections

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

Electric Heaters

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

Time schedules are built in and the Scrolling Marquee display provides easy access to setpoints.

HACR Breaker

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

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

Foil Faced Insulated Cabinet

Cabinet is fully insulated with non−fibrous, foil faced cleanable insulation that is mechanically secured and encapsulated in unit design.

Low Ambient Controller

The low ambient controller is a 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 low ambient controller will either cycle the outdoor fan motors or operate them at reduced speed to maintain the unit operation, depending on the model. This controller allows cooling operation down to 0°F (−18°C) ambient conditions. (Not available on 110 size models as standard unit cooling operation down to 0°F (−18°C.)

ACCESSORIES – RAH036–150

ECONOMIZERS		
Model Number	**Description**	**Use With Model Size**
DNECOMZR020A02	Vertical Economizer 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 – 060
DNECOMZR021A03	Vertical Economizer 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.	072 – 120
DNECOMZR062A00	Vertical Economizer 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.	150
CRECOMZR069A00[1,2]	Ultra Low Leak Vertical[3] Economizer X with solid–state W7220 controller, gear–driven, modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air sensors, and CO2 sensor compatible, for use in electro mechanical controls only.	090 – 120
CRECOMZR071A00[1,2]	Ultra Low Leak Vertical[3] Economizer X with solid–state W7220 controller, gear–driven, modulating damper, spring return actuator, up to 100% barometric relief, supply and outdoor air sensors, and CO2 sensor compatible, for use in electro mechanical controls only.	150
DNECOMZR024A02	Horizontal Economizer 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 – 060
DNECOMZR025A02	Horizontal Economizer 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.	072 – 120
DNECOMZR064A00	Horizontal Economizer 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.	150

[1] Economizer X cannot be installed with Economizer IV, manual damper, or motorized damper.
[2] Can only be used on electrical mechanical units with 2–stage cooling and 2–speed fan control.
[3] Economizer X is currently only available on vertical air flow configuration models.

ECONOMIZER SENSORS		
Model Number	**Description**	**Use With Model Size**
DNTEMPSN002A00	Outdoor or Return Dry Bulb Temperature Sensor used with Electro–Mechanical control.	Economizer IV
DNCBDIOX005A00	CO_2 Sensor for use in return airstream. Also includes Aspirator Box required for Duct Mounting.	Economizer IV & X
DNENTDIF004A00	Return Air Enthalpy Sensor used with Electro–Mechanical controls, use with AXB078ENT for differential enthalpy control.	Economizer IV
AXB078ENT	Accusensor II Economizer Differential Enthalpy Control Upgrade	Economizer IV
CRTEMPSN005A00	Outdoor or return dry bulb temperature sensor used with Honeywell W7220 electro–mechanical control.	Economizer X
HH57AC081	Enthalpy control for W7220 controller only. (One required for single enthalpy, two required for differential enthalpy)	Economizer X

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

ACCESSORIES – RAH036–150 (cont.)

POWER EXHAUST *

Model Number	Description	Use With Model Size
DNPWREXH030A01	Vertical Power Exhaust 208/230 volt (1 or 3 Phase)	036 – 060
DNPWREXH021A01	Vertical Power Exhaust 460 volt	036 – 060
DNPWREXH022A01	Vertical Power Exhaust 208/230 volt	072 – 120
DNPWREXH023A01	Vertical Power Exhaust 460 volt	072 – 120
DNPWREXH080A00	Vertical Power Exhaust 208/230 volt	150
DNPWREXH081A00	Vertical Power Exhaust 460 volt	150
DNPWREXH028A01	Horizontal Power Exhaust 208/230 (1 or 3 Phase) & 575 volt	036 – 120
DNPWREXH029A01	Horizontal Power Exhaust 460 volt	036 – 120
DNPWREXH082A00	Horizontal Power Exhaust 208/230 & 575 volt	150
DNPWREXH083A00	Horizontal Power Exhaust 460 volt	150

* Vertical Power Exhaust requires a vertical economizer. Horizontal Power Exhaust should be duct–mounted in the return duct. Horizontal power exhaust includes exhaust hood, screens, and propeller fan system.

575V TRANSFORMER

Model Number	Description	Use With Model Size
1171494 [2]	Transformer for conversion from 575v to 208/230v power exhaust applications.	036 – 150

MANUAL OUTDOOR AIR DAMPERS

Model Number	Description	Use With Model Size
CRMANDPR001A03	25% Open Manual Fresh Air Damper	036 – 060
CRMANDPR001A02	50% Open Manual Fresh Air Damper	036 – 060
CRMANDPR002A03	25% Open Manual Fresh Air Damper	072 – 120
CRMANDPR002A02	50% Open Manual Fresh Air Damper	072 – 120
CRMANDPR011A00	50% Open Manual Fresh Air Damper	150

MOTORIZED OUTDOOR AIR DAMPERS

Model Number	Description	Use With Model Size
CRTWOPOS010A00	Motorized 2 position outdoor air damper (25–100% Outdoor Air)	036 – 060
CRTWOPOS011A00		072 – 120
CRTWOPOS014A00		150

LOUVERED HAIL GUARDS – CONDENSER COIL

Model Number	Description	Use With Model Size
CRLVHLGD012A00	Louvered Condenser Coil Hail Guard	036
CRLVHLGD013A00	Louvered Condenser Coil Hail Guard	048 – 060
CRLVHLGD014A00	Louvered Condenser Coil Hail Guard	072
CRLVHLGD016A00	Louvered Condenser Coil Hail Guard	090 – 120
CRLVHLGD032A00	Louvered Condenser Coil Hail Guard	150

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 – 060
CRRFCURB003A01		072 – 120
CRRFCURB074A00		150
CRRFCURB002A01	24” High Roof Curb. Ductwork attaches to the roof curb. Includes thru–the–bottom capability.	036 – 060
CRRFCURB004A01		072 – 120
CRRFCURB075A00		150

SPECIAL – 150 SIZE SPECIFIC ACCESSORIES

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.	150
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.	150

ACCESSORIES – RAH036–150 (cont.)

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 – 060
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	072 – 120
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 – 060
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	072 – 120
CRBTMPWR005A01	Thru–the–bottom power, control, and gas connections. Includes a 1–1/4 inch diameter liquid tight conduit fitting for high voltage power wires	150
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	

CONTROL UPGRADE KITS		
Model Number	**Description**	**Use With Model Size**
CRDISKIT001A00	2–Speed VFD display kit provides the field capability to set up points and troubleshooting codes on the VFD controller. Can be used for any associated unit with VFD.	All 2–Speed VFD Controllers
NRTIMEGD001A00	Time Guard II	036 – 150
CRSDTEST001A00	Remote keyed attenuator / test / reset station	036 – 150
DNWINSTR001A00	Electronic phase monitor breaks “R” control signal if trouble is detected. (Allows operation down to 25°F from standard 40°F.)	036 – 150
CRPHASE3001A02	Phase Monitor Control	036 – 150 (3 Phase 208/230v &460v)
CRPHASE3002A00	Phase Monitor Control	036 – 150 (575v only)
CRSTATUS001A00	Fan/Filter Status Switch – Indicator light not included	036 – 150

ACCESSORY KITS FOR UNITS WITH HINGED ACCESS PANELS		
Model Number	**Description**	**Use With Model Size**
CRPECONV003A00	Vertical accessory kit used with installing a vertical economizer on a unit that has hinged access panels. Includes angle and seal strip	036–072
CRPECONV004A00	Vertical accessory kit used with installing a vertical economizer on a unit that has hinged access panels. Includes angle and seal strip	090–150
CRPECONV007A00	Vertical & Horizontal accessory kit used with installing a 2–position damper or vertical & horizontal economizer on a unit that has hinged access panels. Includes angle and seal strip	170
CRHNGPNL001A00	Horizontal accessory kit used with installing a vertical economizer on a unit that has hinged access panels. Includes angle and seal strip	036–072
CRHNGPNL002A00	Horizontal accessory kit used with installing a vertical economizer on a unit that has hinged access panels. Includes angle and seal strip	090–150
CRHNGPNL007A00	Vertical & Horizontal accessory kit used with installing a 2–position damper or vertical & horizontal economizer on a unit that has hinged access panels. Includes angle and seal strip	150

ACCESSORIES – RAH036–150 (cont.)

LOW AMBIENT CONTROLS *		
Model Number	**Description**	**Use With Model Size**
32LT900301[1]	Motormaster I –20°F (–29°C) Low Ambient Control	036 – 102, 208/230–1–60, 208/203–3–60, 575–3–60
32LT900611[1]	Motormaster I –20°F (–29°C) Low Ambient Control	048 – 102, 460–3–60
CPLOWAMB001A00	Motormaster® II –0°F (–18°C) Low Ambient Control (One DNWINSTR00AA00 required per refrigerant circuit)	036 – 150, 208/230–1–60, 208/230–3–60, 460–3–60
1178185 [2]	Motormaster I Compatible Condenser Fan Motor	036, 208/230–3–60, 575–3–60
1171974 [2]	Motormaster I Compatible Condenser Fan Motor	048 – 102, 208/230–3–60, 575–3–60
1171975 [2]	Motormaster I Compatible Condenser Fan Motor	048 – 102, 460–3–60
CRLOWAMB030A00[3]	Motormaster®V Low Ambient Control Mechanical cooling operation down to –20°F (–29°C)	120, 208/230–3–60
CRLOWAMB031A00[3]		120, 460–3–60
CRLOWAMB032A00[3]		120, 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)	150, 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)	150, 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.	150, 575–3–60

*See usage tables in kit instructions.

[1] Requires motor change out.

[2] Available from FAST Parts.

Note: Sizes 036–060 requires (1) low ambient controller and (1) compatible condenser fan motor for change out
Sizes 072–102 requires (1) low ambient controller and (2) compatible condenser fan motors for change out

[3] No motor change is required on these specific models. Requires two DNWINSTR001A00 Winter Start kits (one per circuit).

Table 2 – AHRI COOLING RATING TABLE 1–STAGE COOLING

Unit	Cooling Stages	Nom. Capacity (tons)	Net Cooling Capacity (MBH)	Total Power (kW)	SEER	EER	IEER
036	1	3	36.0	2.9	15.00	12.50	–
048	1	4	48.5	3.7	15.60	13.00	–
060	1	5	57.5	4.6	15.20	12.50	–
072	1	6	73.0	6.0	–	12.20	13.20

Table 3 – AHRI COOLING RATING TABLE 2–STAGE COOLING

Unit	Cooling Stages	Nom. Capacity (tons)	Net Cooling Capacity (MBH)	Total Power (kW)	EER	IEER WITH SINGLE SPEED INDOOR FAN MOTOR	IEER WITH 2–SPEED INDOOR MOTOR
090	2	7.5	89.0	7.3	12.20	13.20	14.0
102	2	8.5	97.0	8.0	12.20	13.20	14.0
110	2	10.0	111.0	9.3	12.00	12.60	14.5
120	2	10.0	115.0	9.8	11.70	12.20	12.6
150	2	12.5	146.0	11.8	12.40	13.20	14.1

LEGEND

AHRI – Air Conditioning, Heating and Refrigeration Institute Test Standard

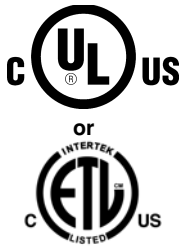
ASHRAE – American Society of Heating, Refrigerating and Air Conditioning, Inc.

EER – Energy Efficiency Ratio

IEER – Integrated Energy Efficiency Ratio

SEER – Seasonal Energy Efficiency Ratio

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. Rated in accordance with AHRI Standards 210/240 (036−060 size) and 340/360 (072−150 size).
2. Ratings are based on:
   Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temp and 95°F (35°C) db outdoor air temp.
   IEER Standard: A measure that expresses cooling part−load EER efficiency for commercial unitary air−conditioning and heat pump equipment on the basis of weighted operation at various load capacities.
3. All RAH units comply with ASHRAE 90.1 and Energy Star Energy Standard for minimum SEER and EER requirements.
4. RAH units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.

Table 4 – MINIMUM – MAXIMUM AIRFLOWS ELECTRIC HEAT

Unit	Cooling				Electric Heaters	
	Minimum Single Speed Fan Motor	**Minimum 2−speed Fan Motor (at high speed)**	**Minimum 2−speed Fan Motor (at low speed)**	Maximum	Minimum	Maximum
RAH036	900	–	–	1500	900	1500
RAH048	1200	–	–	2000	1200	2000
RAH060	1500	–	–	2500	1500	2500
RAH072	1800	–	–	3000	1800	3000
RAH090	2250	2535	1673	3750	2250	3750
RAH102	2550	2550	1683	4250	2250	4250
RAH110	3000	3380	2231	5000	3000	5000
RAH120	3000	3380	2231	5000	3000	5000
RAH150	3750	4225	2789	6250	3750	6250

– Not available

Table 5 – SOUND PERFORMANCE TABLE

Unit	Cooling Stages	Outdoor Sound (db) at 60								
		A−Weighted	63	125	250	500	1000	2000	4000	8000
RAH036	1	76	78.2	78.0	74.2	73.3	70.6	66.0	62.4	56.9
RAH048	1	78	84.7	83.6	77.1	74.6	72.3	68.3	64.7	60.9
RAH060	1	77	87.5	82.5	76.1	73.6	71.3	67.1	64.1	60.0
RAH072	1	82	90.1	82.6	81.0	79.4	77.0	73.0	70.4	66.7
RAH090	2	82	90.6	84.3	80.2	79.3	77.1	72.2	67.4	63.7
RAH102	2	82	88.6	85.0	81.6	79.5	77.4	74.1	71.0	66.3
RAH110	2	87	85.9	87.9	85.6	84.4	82.8	78.5	74.9	72.5
RAH120	2	87	85.9	87.9	85.6	84.4	82.8	78.5	74.9	72.5
RAH150	2	83	89.3	86.0	82.9	80.7	78.5	73.6	69.6	64.5

LEGEND: dB – Decibel

NOTES:

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

Table 6 – PHYSICAL DATA (COOLING) 3 – 6 TONS

		RAH036	RAH048	RAH060	RAH072
Refrigeration System					
	# Circuits / # Comp. / Type	1 / 1 / Scroll	1 / 1 / Scroll	1 / 1 / Scroll	1 / 1 / Scroll
	R–410A refrig. charge (lbs–oz)	9 – 0	12 – 8	13 – 3	14 – 0
	Hot Gas Re–Heat R–410A refrig. charge (lbs–oz)	11 – 0	19 – 12	20 – 0	22 – 8
	Metering Device	TXV	TXV	TXV	TXV
	High–press. Trip / Reset (psig)	630 / 505	630 / 505	630 / 505	630 / 505
	Low–press. Trip / Reset (psig)	54 / 117	54 / 117	54 / 117	54 / 117
	Compressor Capacity Staging (%)	100%	100%	100%	100%
Evaporator Coil					
	Material (Tube Fin)	Cu / Al	Cu / Al	Cu / Al	Cu / Al
	Coil type	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF
	Rows / FPI	3 / 15	3 / 15	4 / 15	3 / 15
	Total Face Area (ft^2)	5.5	7.3	7.3	8.9
	Condensate Drain Conn. Size	3/4–in	3/4–in	3/4–in	3/4–in
Hot Gas Re–Heat Coil					
	Material (Tube Fin)	Cu / Al	Cu / Al	Cu / Al	Cu / Al
	Coil type	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF
	Rows / FPI	1 / 17	2 / 17	2 / 17	2 / 17
	Total Face Area (ft^2)	3.9	5.2	5.2	5.2
Evaporator Fan and Motor					
Standard Static 1 phase	Motor Qty / Drive Type	1 / Direct	1 / Direct	1 / Direct	–
	Max BHP	1.0	1.0	1.0	–
	RPM Range	600–1200	600–1200	600–1200	–
	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	–
Standard Static 3 phase	Motor Qty / Drive Type	1 / Direct	1 / Direct	1 / Direct	1 / Belt
	Max BHP	1.0	1.0	1.0	1.7
	RPM Range	600–1200	600–1200	600–1200	489–747
	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	11 x 10	15 x 15
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	560–854	560–854	770–1175	489–747
	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	15 x 15

* Hot Gas Re–Heat models only

– Not applicable

Table 6 (cont.) – PHYSICAL DATA (COOLING) 3 – 6 TONS

		RAH036	RAH048	RAH060	RAH072
Evaporator Fan and Motor					
Medium Static 3 phase	Motor Qty / Drive Type	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	1.7	1.7	2.4	2.9
	RPM Range	770–1175	920–1303	1035–1466	733–949
	Motor Frame Size	48	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	15 x 15
Medium Static 3 phase*	Motor Qty / Drive Type	1 / Belt	1 / Belt	1 / Belt	–
	Max BHP	1.7	1.7	2.4	–
	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	–
High Static 3 phase	Motor Qty / Drive Type	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	2.4	2.9	2.9	4.7
	RPM Range	1035–1466	1208–1639	1303–1687	909–1102
	Motor Frame Size	56	56	56	14
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	10 x 10	10 x 10	10 x 10	15 x 15
Cond. Coil					
	Material (Tube/Fin)	Cu / Al	Cu / Al	Cu / Al	Cu / Al
	Coil type	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF
	Rows / FPI	2 / 17	2 / 17	2 / 17	2 / 17
	Total Face Area (ft^2)	12.7	21.3	21.3	20.5
Cond. fan / motor					
	Qty / Motor Drive Type	1/ Direct	1/ Direct	1/ Direct	2/ Direct
	Motor HP / RPM	1/8 / 825	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	4 / 16 x 16 x 2	4 / 16 x 16 x 2	4 / 16 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 36 x 1

* Hot Gas Re–Heat models only

– Not applicable

Table 7 – PHYSICAL DATA (COOLING) 7.5 – 12.5 TONS

	RAH090	RAH102	RAH110	RAH120	RAH150
Refrigeration System					
# Circuits / # Comp. / Type	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll
R–410A Refrig charge A/B (lbs–oz)	9 – 10 / 9 – 10	9 – 14 / 9 – 14	12 – 10 / 13 – 0	12 – 11 / 12 – 5	16 – 7 / 15 – 5
Hot Gas Re–Heat R–410A Refrig charge A/B (lbs–oz)	17–0 / 17–0	15–2 / 15–0	18–0 / 18–0	18–3 / 17–3	25–8 / 22–8
Metering device	TXV	TXV	TXV	TXV	TXV
High–press. Trip / Reset (psig)	630 / 505	630 / 505	630 / 505	630 / 505	630 / 505
Low–press. Trip / Reset (psig)	54 / 117	54 / 117	27 / 44	54 / 117	54 / 117
Compressor Capacity Staging (%)	50% / 100%	50% / 100%	50% / 100%	50% / 100%	50% / 100%
Evaporator Coil					
Material (Tube/Fin)	Cu / Al	Cu / Al	Cu / Al	Cu / Al	Cu / Al
Coil type	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF
Rows / FPI	4 / 15	4 / 15	4 / 15	4 / 15	4 / 15
total face area (ft2)	11.1	11.1	11.1	11.1	17.5
Condensate drain conn. size	3/4–in	3/4–in	3/4–in	3/4–in	3/4–in
Hot Gas Re–Heat Coil					
Material (Tube/Fin)	Cu / Al	Cu / Al	Cu / Al	Cu / Al	Cu / Al
Coil type	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF
Rows / FPI	2 / 17	2 / 17	2 / 17	2 / 17	1 / 17
total face area (ft2)	6.3	8.4	8.6	8.6	13.8
Evaporator fan and motor					
Standard Static 3 phase – Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
Max BHP	1.7	1.7	2.4	2.4	2.9
RPM range	518–733	518–733	591–838	591–838	440–609
Motor Frame Size	56	56	56	56	56Y
Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
Fan Diameter (in)	15 x 15	15 x 15	15 x 15	15 x 15	18 x 18
Medium Static 3 phase – Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
Max BHP	2.4	2.4	3.7	3.7	3.7
RPM range	690–936	690–936	838–1084	838–1084	609–778
Motor Frame Size	56	56	56HZ	56HZ	56HZ
Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
Fan Diameter (in)	15 x 15	15 x 15	15 x 15	15 x 15	18 x 18
High Static 3 phase – Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
Max BHP	3.7	3.7	4.9	4.9	6.1
RPM range	838–1084	838–1084	1022–1240	1022–1240	776–955
Motor Frame Size	56	56	145TY	145TY	S184T
Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
Fan Diameter (in)	15 x 15	15 x 15	15 x 15	15 x 15	18 x 18
Condenser Coil					
Material (Tube/Fin)	Cu / Al	Cu / Al	Cu / Al	Cu / Al	Cu / Al
Coil type	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF
Rows / FPI	2 / 17	2 / 17	3 / 17	3 / 17	2 / 17
Total Face Area (ft^2)	25.1	25.1	25.1	25.1	2 at 23.1
Condenser fan / motor					
Qty / Motor drive type	2 / direct	2 / direct	1 / direct ECM	1 / direct	3 / direct
Motor HP / RPM	1/4 / 1100	1/4 / 1100	1 / 1050	1 / 1175	1/4 / 1100
Fan diameter (in)	22	22	30	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	4 / 20 x 20 x 2	6 / 18 x 24 x 2 Vert 2/24 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	1 / 20 x 24 x 1	Horz 1/30 x 39 x1

CURBS & WEIGHTS DIMENSIONS – RAH036–060

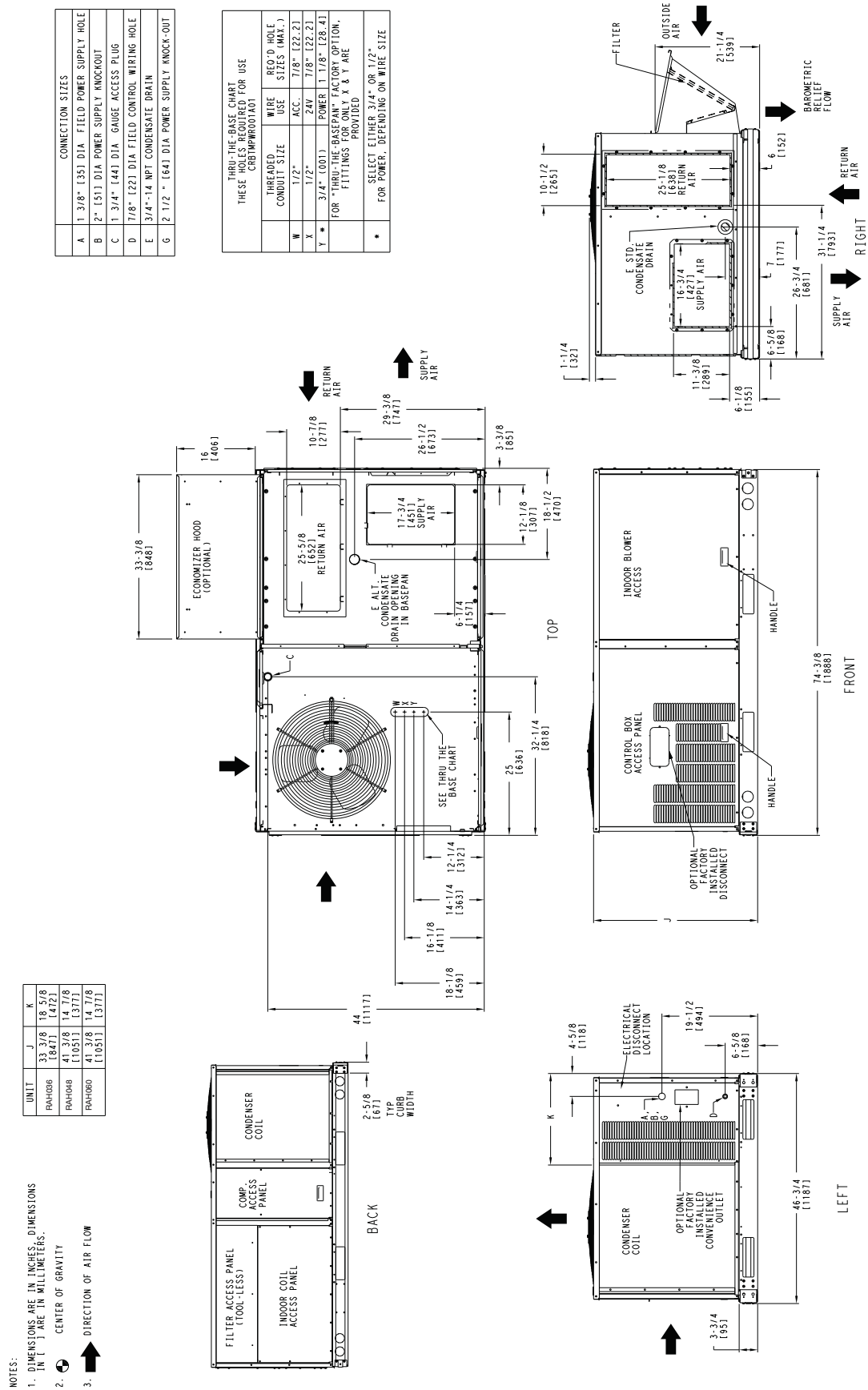


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Fig. 1 – Dimensions RAH036–060

CURBS & WEIGHTS DIMENSIONS – RAH036–060 (cont.)

UNIT	STD. UNIT WEIGHT*		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		HEIGHT
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
RAH036	458	208	128	58	109	49	101	46	120	54	34 1/8 [867]	22 1/2 [572]	19 3/4 [502]
RAH048	545	247	156	71	135	61	118	54	136	62	34 5/8 [879]	21 3/4 [552]	20 7/8 [530]
RAH060	550	249	160	73	136	62	117	53	138	63	34 1/8 [867]	21 5/8 [549]	20 1/4 [514]

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

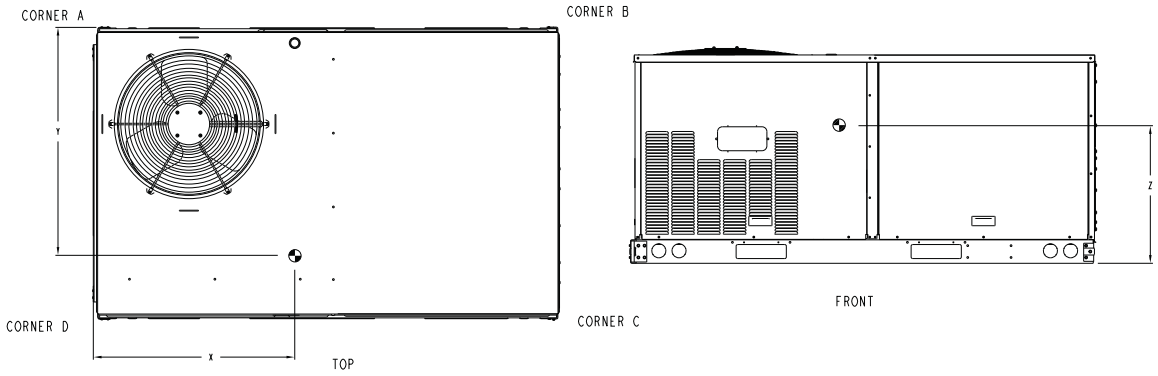

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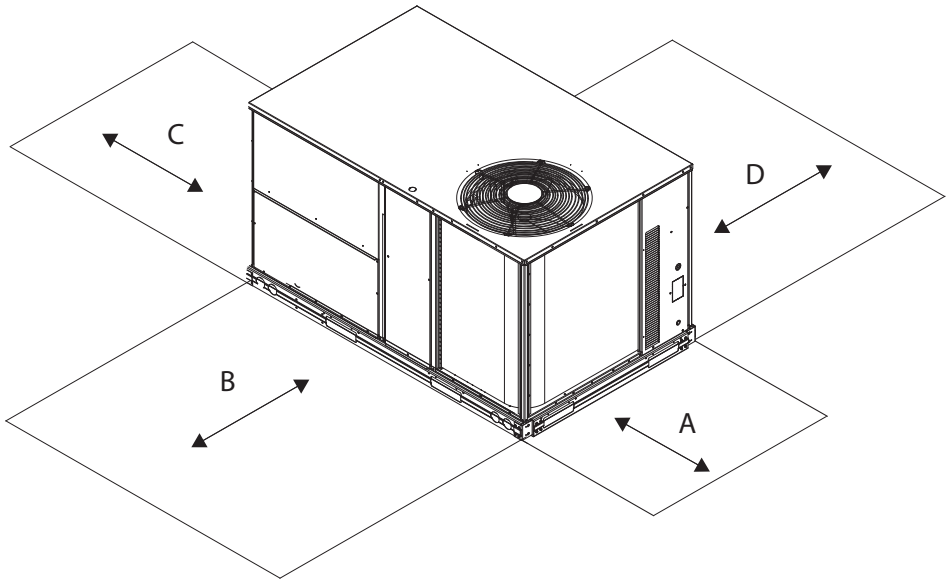
Fig. 2 – Dimensions RAH036–060

CURBS & WEIGHTS DIMENSIONS – RAH036–060 (cont.)



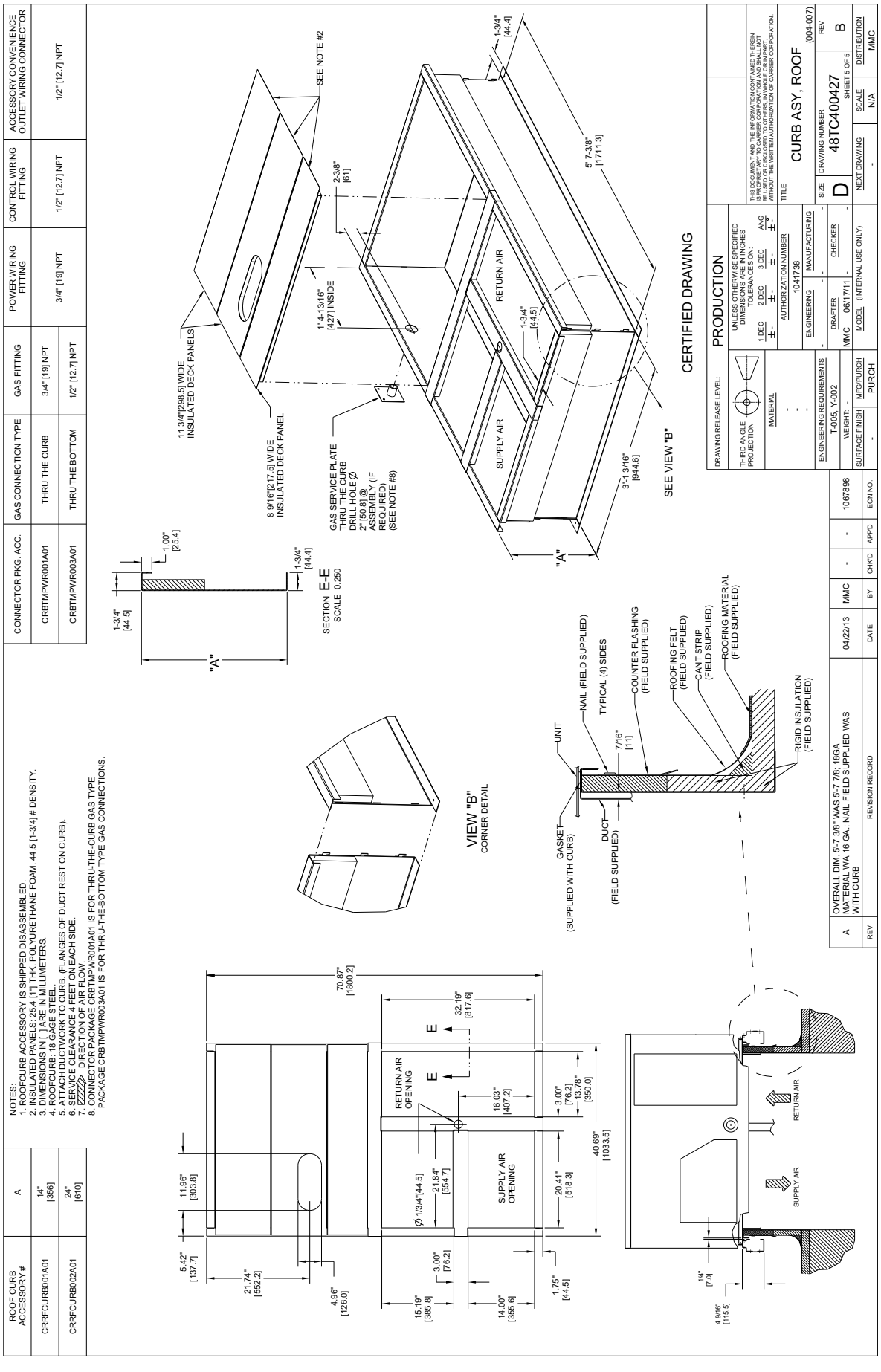
C08337

Fig. 3 – Service Clearance

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

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

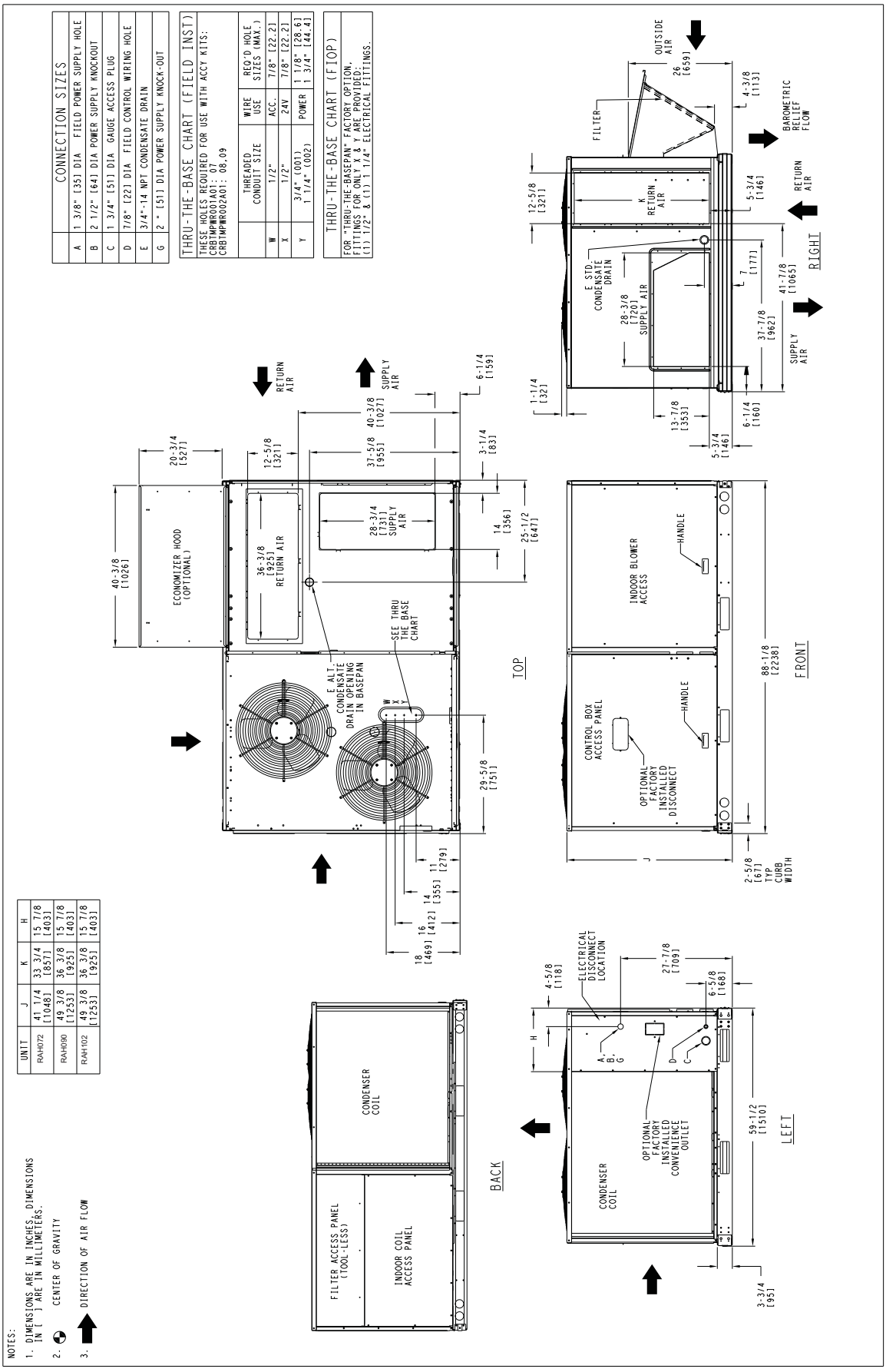
CURBS & WEIGHTS DIMENSIONS – RAH036–060 (cont.)



C13310

Fig. 4 – Roof Curb Details

CURBS & WEIGHTS DIMENSIONS – RAH072–102



C11334B

Fig. 5 – Dimensions RAH072–090

CURBS & WEIGHTS DIMENSIONS – RAH072–102 (cont.)

UNIT	STD. UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
RAH072	715	324.3	161.3	73.2	142.4	64.6	192.9	87.5	218.5	99.1	41 3/8 [1051]	34 1/4 [870]	20 1/2 [521]
RAH090	860	390	199.4	90.4	176.4	80	227.3	103	256.9	116.5	41 3/8 [1051]	33 1/2 [851]	23 3/4 [603]
RAH102	860	390	199.4	90.4	176.4	80	227.3	103	256.9	116.5	41 3/8 [1051]	33 1/2 [851]	23 3/4 [603]

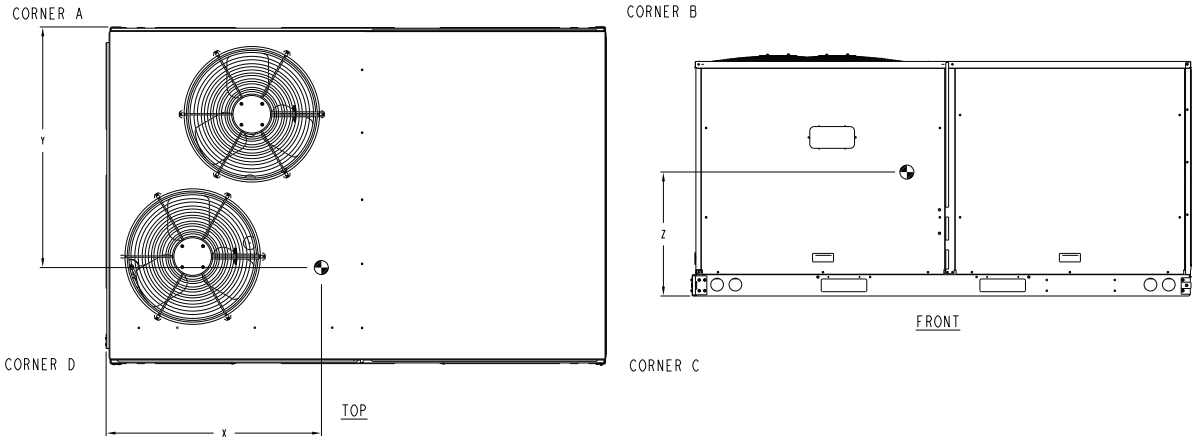


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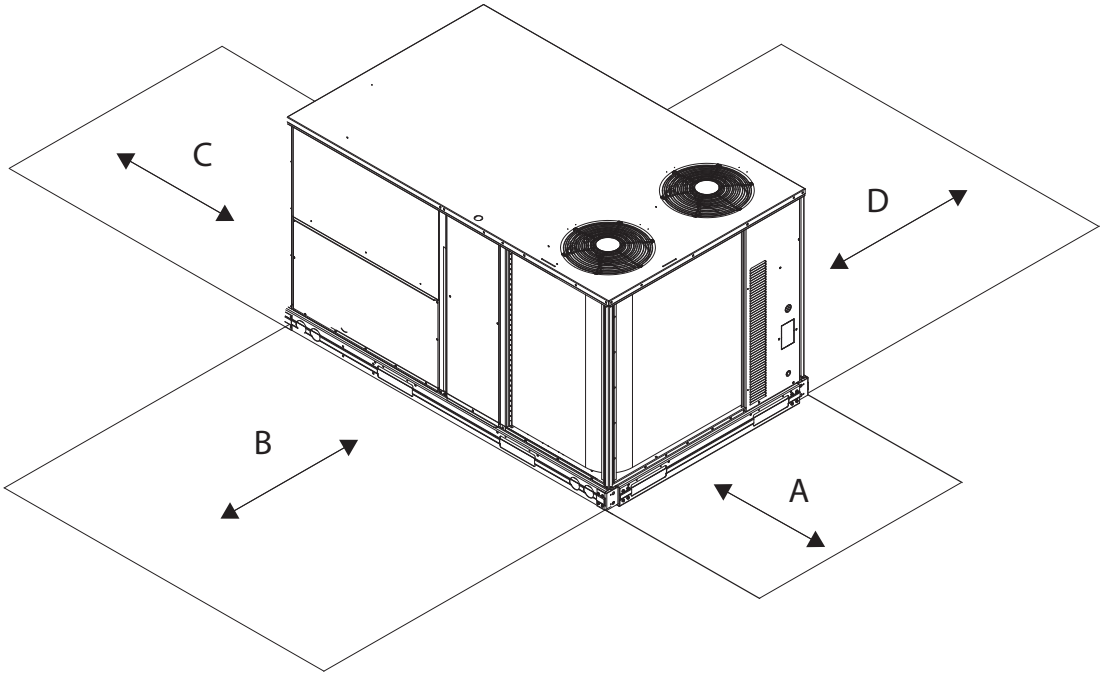
Fig. 6 – Dimensions RAH072–090

CURBS & WEIGHTS DIMENSIONS – RAH072–102 (cont.)



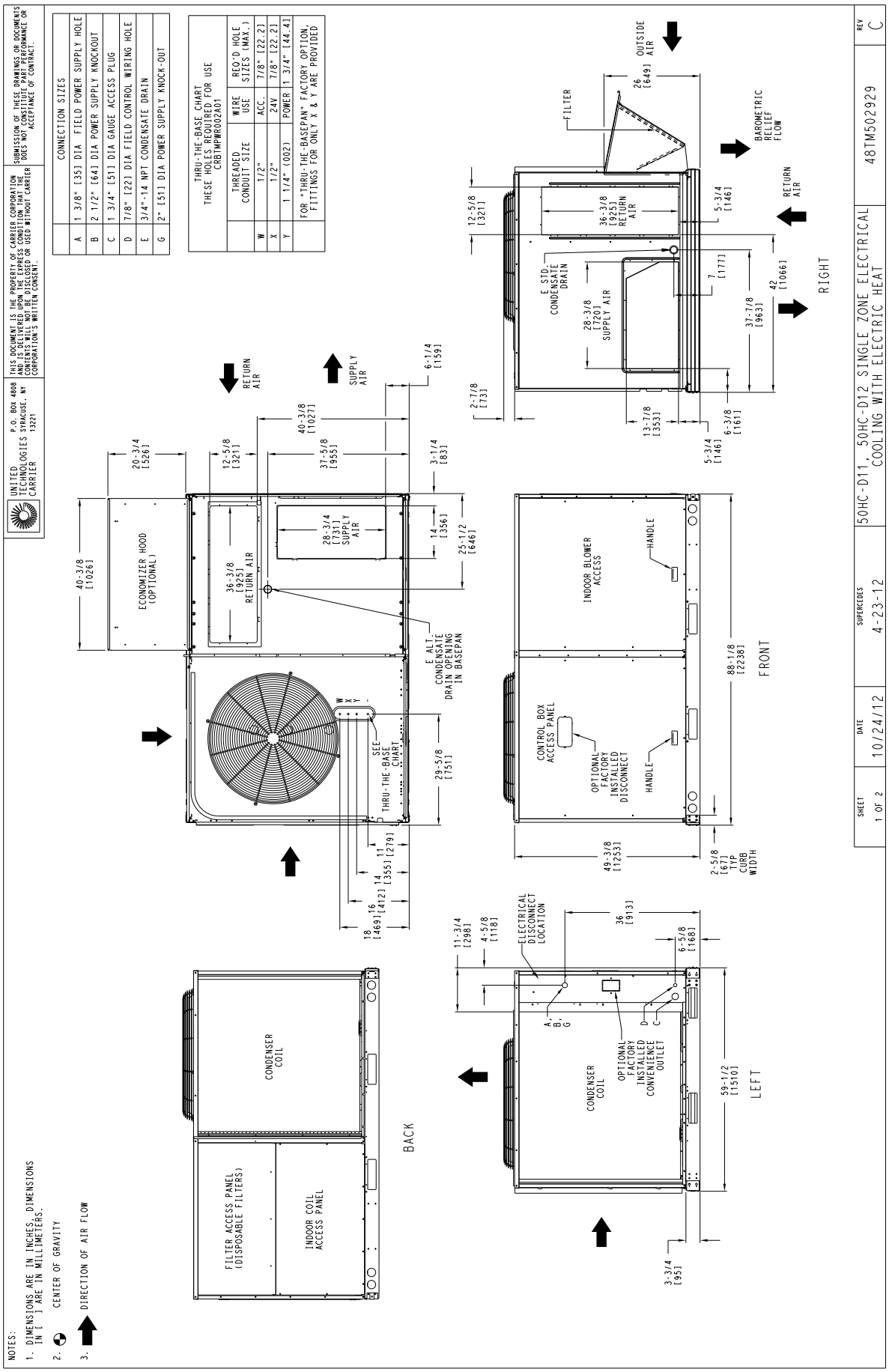
C10577B

Fig. 7 – Service Clearance

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

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

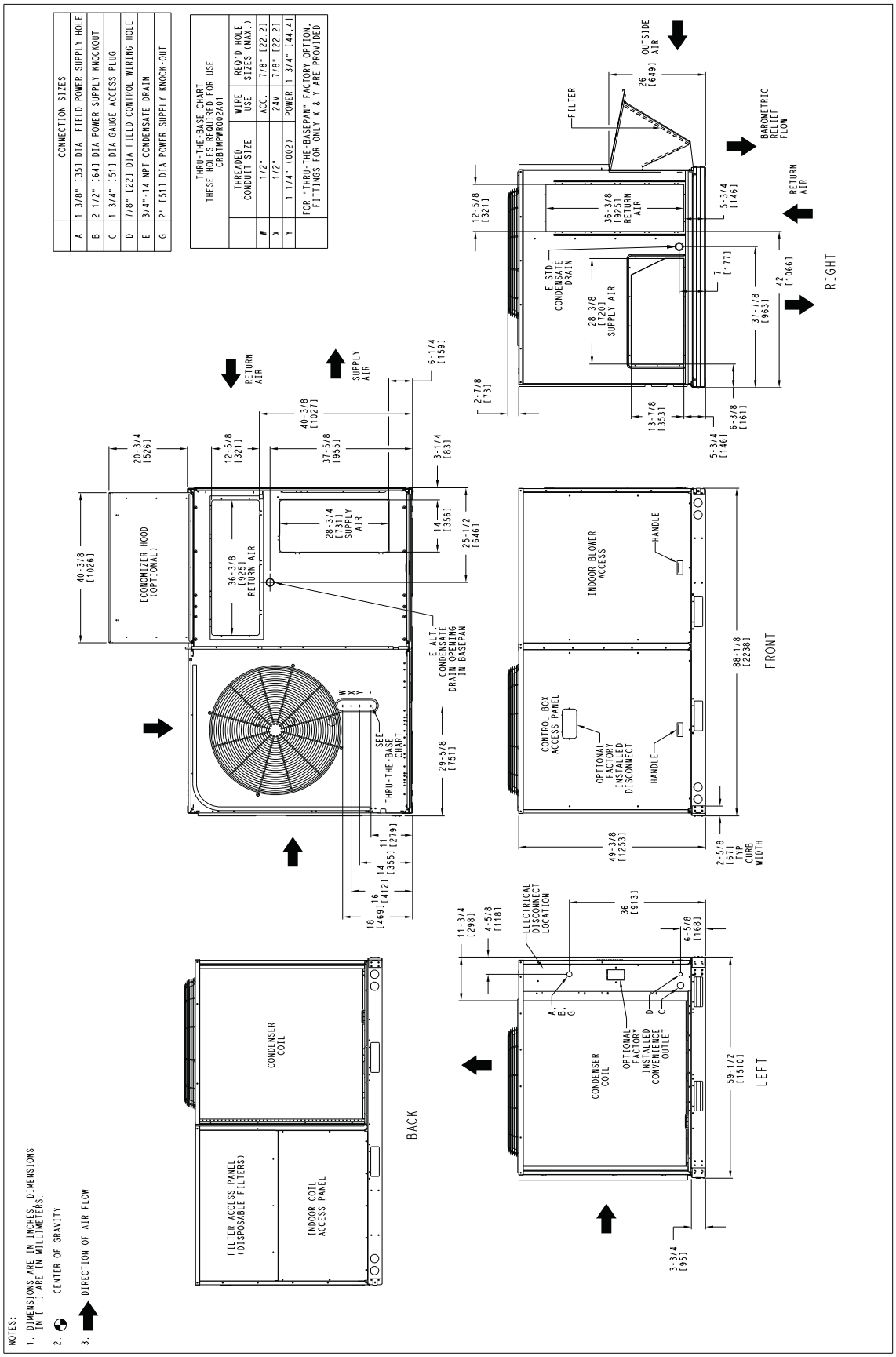
CURBS & WEIGHTS DIMENSIONS – RAH110–120



C13296

Fig. 8 – Dimensions RAH110–120

CURBS & WEIGHTS DIMENSIONS – RAH110–120 (cont.)

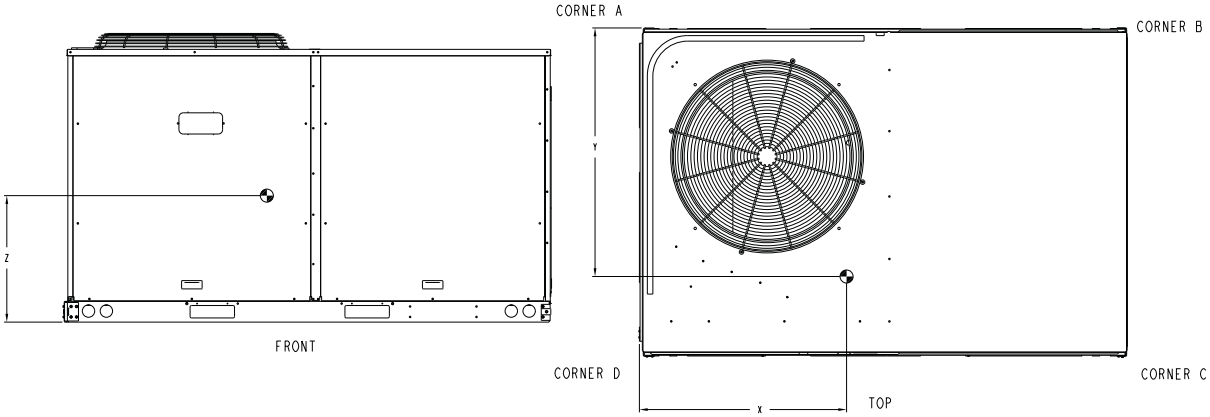


C13297B

Fig. 9 – Dimensions RAH120

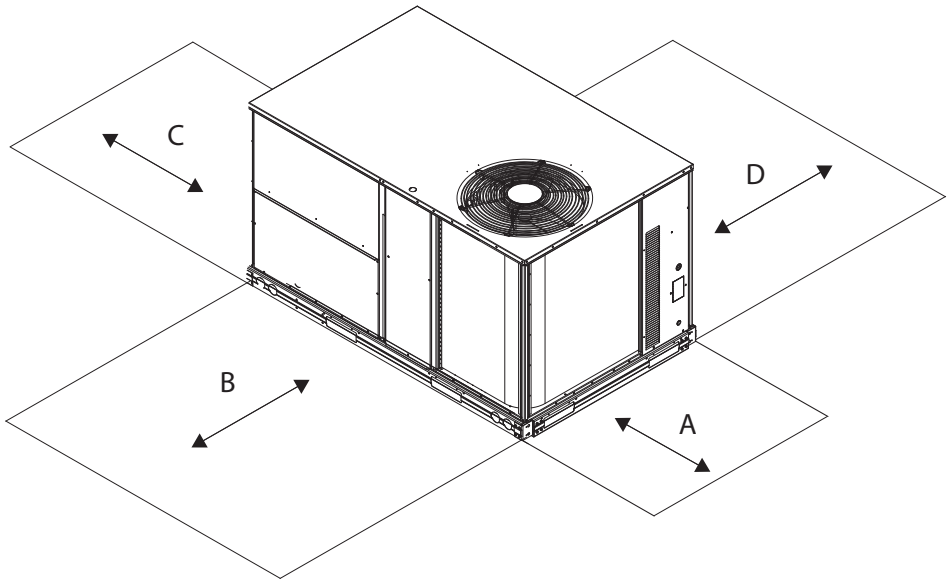
CURBS & WEIGHTS DIMENSIONS – RAH110–120 (cont.)

UNIT	STD. UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
RAH110	1025	466	308	140	146	66	184	84	387	176	28 3/8 [721]	33 1/8 [841]	21 3/8 [543]
RAH120	1025	466	308	140	146	66	184	84	387	176	28 3/8 [721]	33 1/8 [841]	21 3/8 [543]



C10107

Fig. 10 – Dimensions RAH110–120



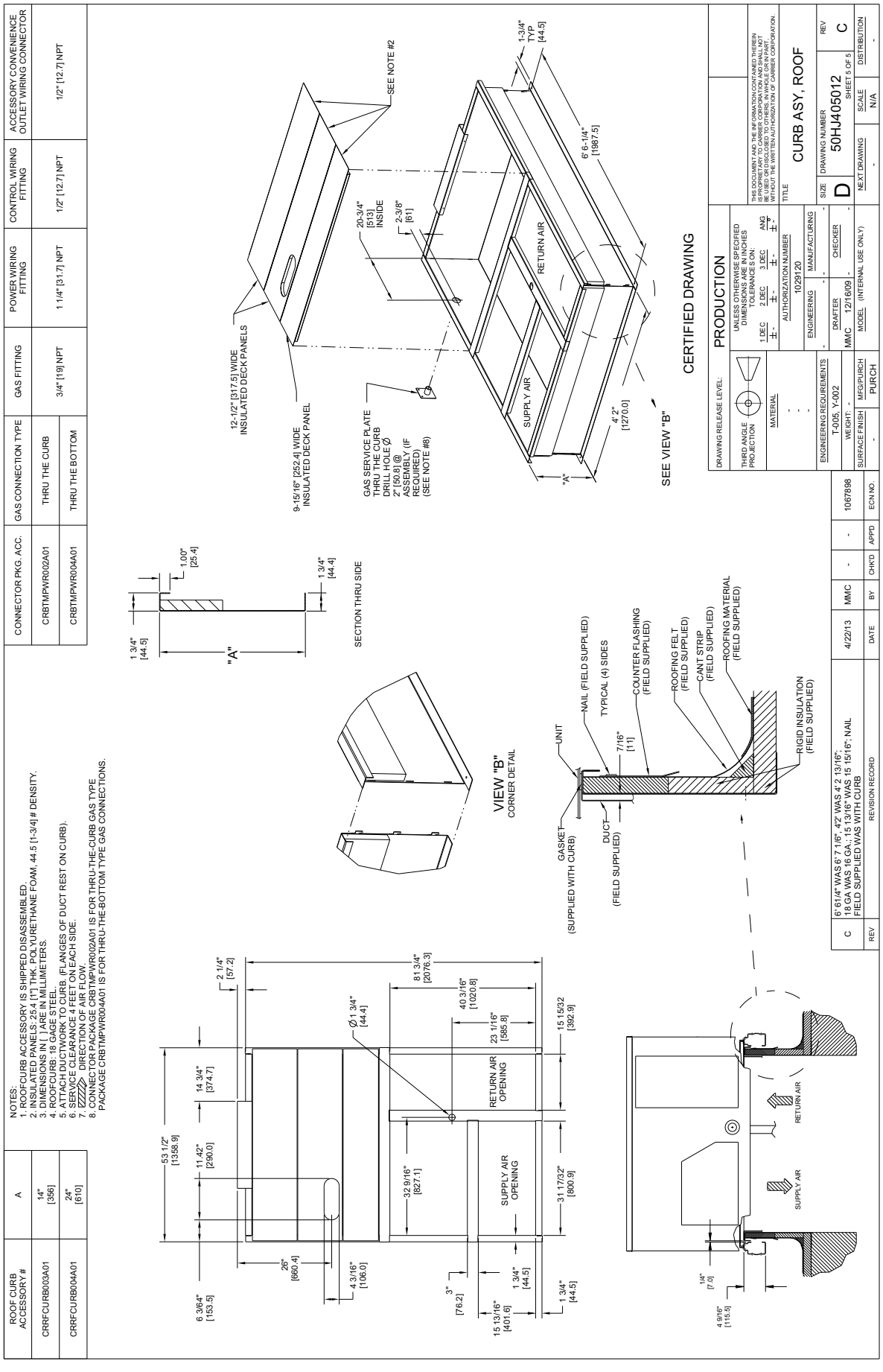
C08337B

Fig. 11 – Service Clearance

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

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

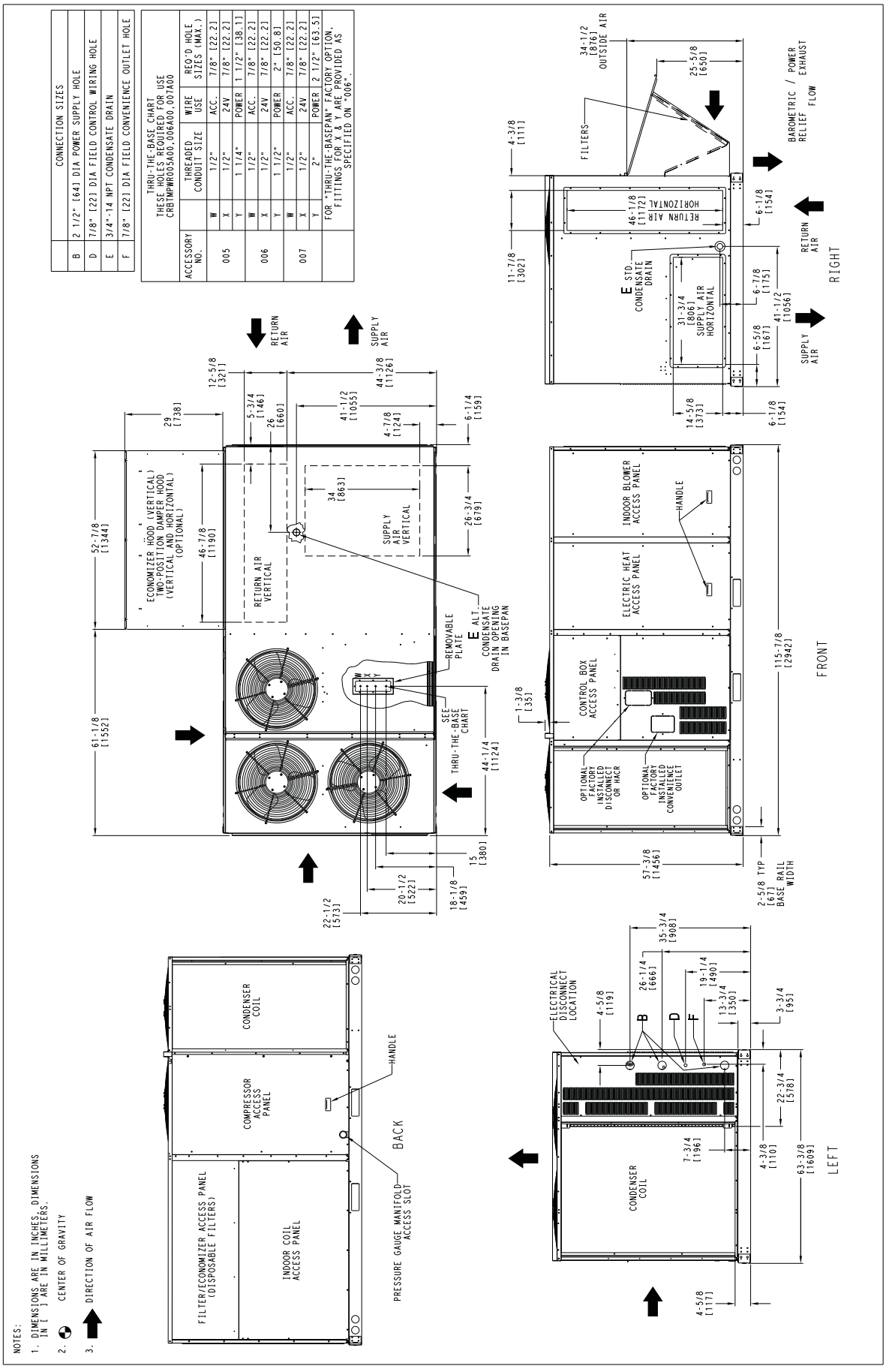
CURBS & WEIGHTS DIMENSIONS – RAH072–120 (cont.)



C13311

Fig. 12 – Roof Curb Details

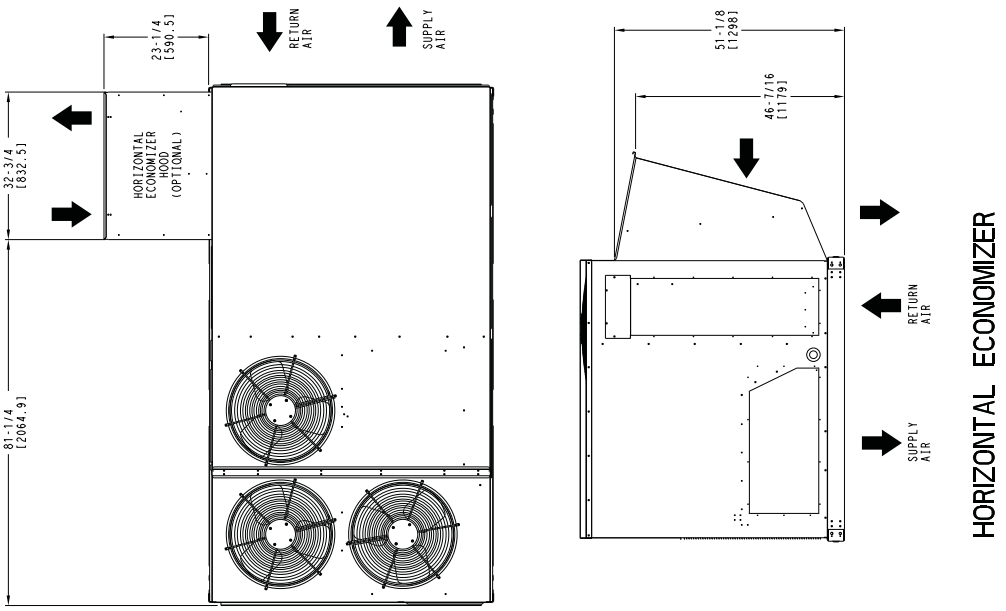
CURBS & WEIGHTS DIMENSIONS – RAH150



C13298B

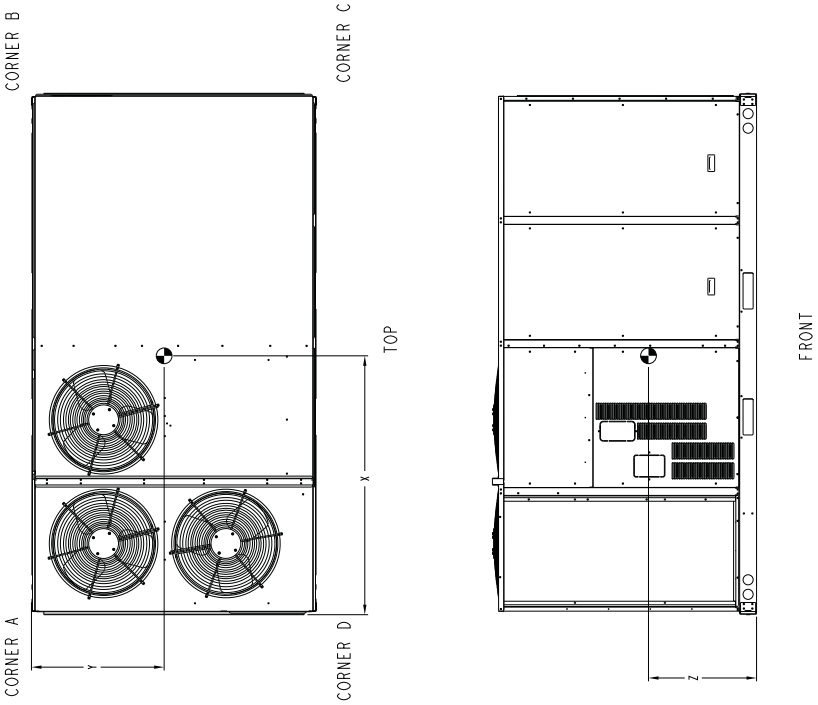
Fig. 13 – Dimensions RAH150

CURBS & WEIGHTS DIMENSIONS – RAH150 (cont.)



UNIT	STD UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
RAH150	1360	617	335	151	361	164	344	156	320	145	60 1/8 [1527]	31 [787]	21 1/8 [536]

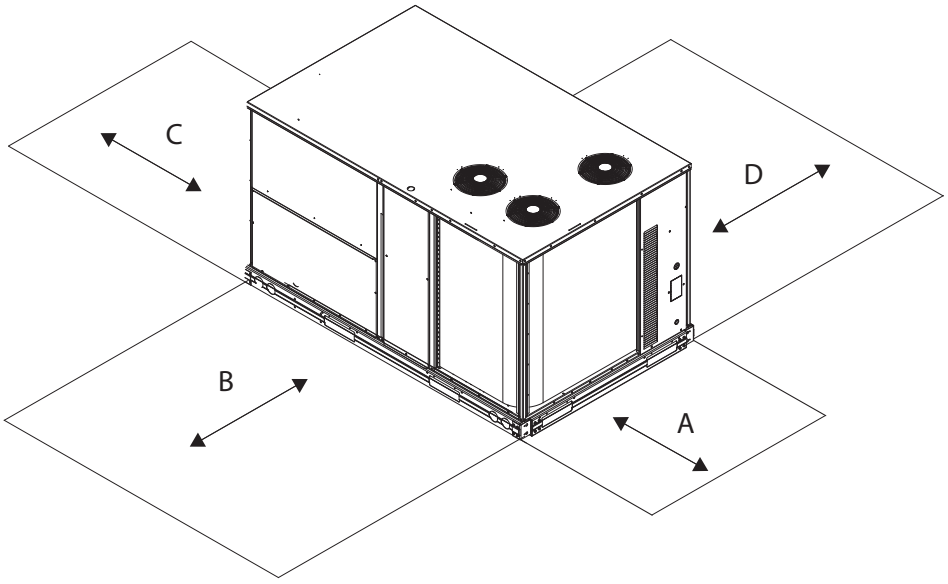
STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT & WITHOUT PACKAGING.
FOR OPTIONS & ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.



C13299B

Fig. 14 – Dimensions RAH150

CURBS & WEIGHTS DIMENSIONS – RAH150 (cont.)



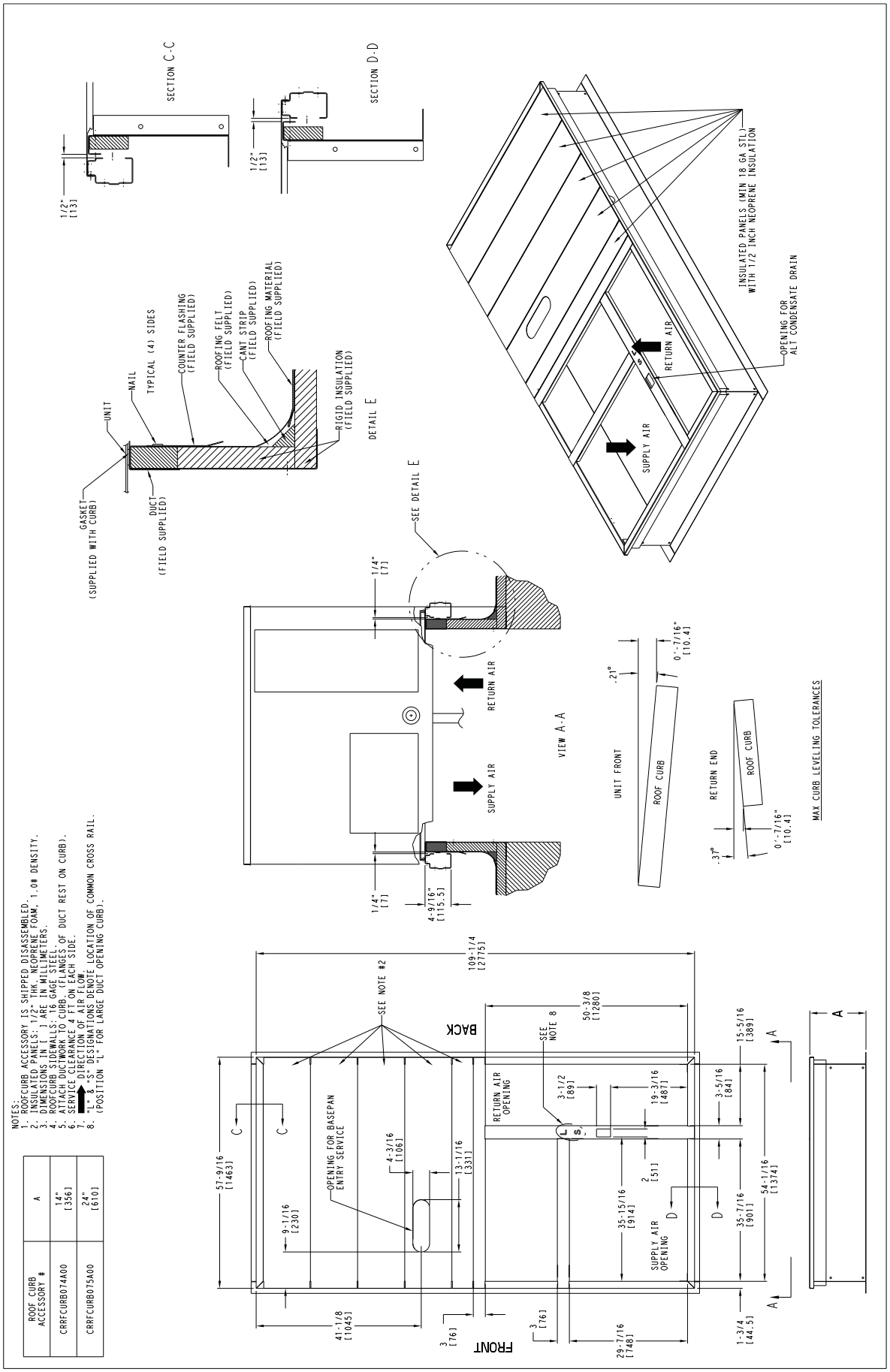
C10578B

Fig. 15 – Service Clearance

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

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

CURBS & WEIGHTS DIMENSIONS – RAH150 (cont.)



NOTES:
1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. INSULATED PANELS: 1/2" THK. NEOPRENE FOAM, 1.0# DENSITY.
3. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
4. ROOFCURB SIDEWALLS: 16 GAGE STEEL.
5. ATTACH DUCTWORK TO CURB (FLANGES OF DUCT REST ON CURB).
6. SERVICE CLEARANCE 4 FT ON FLASH SIDE.
7. ➡ DIRECTION OF AIR FLOW.
8. "L" & "S" DESIGNATIONS DENOTE LOCATION OF COMMON CROSS RAIL. (POSITION "L" FOR LARGE DUCT OPENING CURB).

ROOF CURB ACCESSORY #	A
CRRFCURB074A00	14" [356]
CRRFCURB075A00	24" [610]

C10772B

Fig. 16 – Roof Curb Detail

OPTIONS & ACCESSORY WEIGHTS

Option / Accessory	OPTION / ACCESSORY WEIGHTS																	
	04		05		06		07		08		09		11		12		14	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
Hot Gas Re–Heat[1]	50	23	55	25	55	25	80	36	80	36	80	36	85	39	85	39	90	41
Power Exhaust – vertical	50	23	50	23	50	23	75	34	75	34	75	34	75	34	75	34	85	39
Power Exhaust – horizontal	30	14	30	14	30	14	30	14	30	14	30	14	30	14	30	14	75	34
EconoMi$er (X, IV or 2)	50	23	50	23	50	23	75	34	75	34	75	34	75	34	75	34	115	52
Two Position damper	39	18	39	18	39	18	58	26	58	26	58	26	58	26	58	26	65	29
Manual Dampers	12	5	12	5	12	5	18	8	18	8	18	8	18	8	18	8	25	11
Hail Guard (louvered)	16	7	16	7	16	7	34	15	34	15	34	15	34	15	34	15	45	20
Cu/Cu Condenser Coil	35	16	35	16	35	16	95	43	95	43	95	43	170	77	170	77	160	73
Cu/Cu Cond. & Evaporator Coils	60	27	60	27	90	41	140	64	140	64	195	88	270	122	270	122	280	127
Roof Curb (14–in. curb)	115	52	115	52	115	52	143	65	143	65	143	65	143	65	143	65	180	82
Roof Curb (24–in. curb)	197	89	197	89	197	89	245	111	245	111	245	111	245	111	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	45	20	45	20	45	20	45	20	45	20	25	11
Single Point Kit	10	5	10	5	10	5	12	5	12	5	12	5	12	5	12	5	25	11
Optional Indoor Motor / Drive	10	5	10	5	10	5	15	7	15	7	15	7	15	7	15	7	45	20
MotorMaster Controller	35	16	35	16	35	16	35	16	35	16	35	16	35	16	35	16	40	18
Low Ambient Controller	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Return Smoke Detector	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Supply Smoke Detector	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Fan / Filter Status Switch	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1
Non–Fused Disconnect	15	7	15	7	15	7	15	7	15	7	15	7	15	7	15	7	10	5
HACR Circuit Breaker	15	7	15	7	15	7	15	7	15	7	15	7	15	7	15	7	10	5
Non–Powered C.O.	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	4	2
Enthalpy Sensor	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1
Differential Enthalpy Sensor	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1
2–speed indoor fan motor System with VFD	–	–	–	–	–	–	–	–	20	9	20	9	20	9	20	9	20	9

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

– Not Available

1 For Hot Gas Re–Heat add MotorMaster Controller.

APPLICATION DATA

Min operating ambient temp (cooling):

In mechanical cooling mode, your ICP rooftop can safely operate down to an outdoor ambient temperature of 35°F (–2°C) and 25°F (–4°C), with an accessory winter start kit. It is possible to provide cooling at lower outdoor ambient temperatures by using less outside air, economizers, and/or accessory low ambient kits.

Max operating ambient temp (cooling):

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

Min and max airflow (cooling mode):

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

Airflow:

All units are draw–through in cooling mode.

Outdoor air application strategies:

Economizers reduce operating expenses and compressor run time by providing a free source of cooling and a means of ventilation to match application changing needs. In fact, they should be considered for most applications. Also, consider the various economizer control methods and their benefits, as well as sensors required to accomplish your application goals. Please contact your local ICP representative for assistance.

Motor limits, break horsepower (BHP):

Due to ICP's internal unit design, air path, and specially designed motors, the full horsepower (maximum continuous BHP) band, as listed in Table 6 and 7, can be used with the utmost confidence. There is no need for extra safety factors, as ICP's motors are designed and rigorously tested to use the entire, listed BHP range without either nuisance tripping or premature motor failure.

Sizing a rooftop

Bigger isn't necessarily better. While an air conditioner needs to have enough capacity to meet the load, it doesn't need excess capacity. In fact, having excess capacity typically results in very poor part load performance and humidity control.

Using higher design temperatures than ASHRAE recommends for your location, adding "safety factors" to the calculated load, and rounding up to the next largest unit, are all signs of oversizing air conditioners. Oversizing can cause short–cycling, and short cycling leads to poor humidity control, reduced efficiency, higher utility bills, drastic indoor temperature swings, excessive noise, and increased wear and tear on the air conditioner.

Rather than oversizing an air conditioner, wise contractors and engineers "right–size" or even slightly undersize air conditioners. Correctly sizing an air conditioner controls humidity better; promotes efficiency; reduces utility bills; extends equipment life, and maintains even, comfortable temperatures.

Low ambient applications

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

In low ambient applications where outside air might not be desired (such as contaminated or excessively humid outdoor environments), your ICP rooftop can operate to ambient temperatures down to –20°F (–29°C) using the recommended field installed accessory MotorMaster low ambient controller or 0°F (–18°C) with the factory installed low ambient controller option.

Winter start

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

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

Unit Size	VOLTAGE	STATIC OPTION	VFD HP RATING
090	208/230, 460, 575	STD	3
	208/230, 460, 575	MED	3
	208/230, 460, 575	HIGH	7.5
102	208/230, 460, 575	STD	3
	208/230, 460, 575	MED	3
	208/230, 460, 575	HIGH	5
110	208/230, 460, 575	STD	3
	208/230, 460, 575	MED	5
	208/230, 460, 575	HIGH	7.5
120	208/230, 460, 575	STD	3
	208/230, 460, 575	MED	5
	208/230, 460, 575	HIGH	7.5
150	208/230. 460	STD	3
	575	STD	5
	208/230, 460, 575	MED	5
	208/230, 460, 575	HIGH	7.5

SELECTION PROCEDURE (WITH RAH072 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
External Static Pressure	0.66 in. w.g.
Electrical Characteristics	230–3–60

II. Make an initial guess at cooling tons.

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

In this case, start by looking at the RAH072.

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

Cooling Capacity Table shows that, at the application's supply air CFM, mixed air and ambient temperatures, the RAH072 supplies:
TC_{Load} = 73.6 MBH
SHC_{Load} = 53.3 MBH.

IV. Calculate the building Latent Heat Load.

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

V. Calculate RTU Latent Heat Capacity

LC = TC – SHC
LC = 73.6 MBH – 53.3 MBH = 20.3 MBH

VI. Compare RTU capacities to loads. [2,3]

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

VII. Select factory options (FIOP)

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

VIII. Calculate the total static pressure.

External static pressure	0.66 in. wg
Sum of FIOP/Accessory static	+0.05 in. wg
Total Static Pressure	0.71 in. wg

IX. Look up the Indoor Fan RPM & BHP.

Table 22 shows, at 2100 CFM & ESP= 0.71, RPM = 680 & BHP = 0.97

X. Convert BHP (Step IX) into fan motor heat.

Fan Motor Heat = 2.546*097/.80 efficiency.
Fan Motor Heat = 1.98 MBH
Deduct this value from the gross capacity values for net capacity.

XI. Determine electrical requirements

MCA/MOCP table shows the MCA and MOCP of a RAH072 (without convenience outlet) as:

MCA = 32 amps & Breaker size = 50 amps
Min. Disconnect Size: FLA = 31 & LRA = 148.

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

Table 8 – COOLING CAPACITIES

1–STAGE COOLING

RAH036				AMBIENT TEMPERATURE																
				85			95			105			115			125				
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)				
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85		
900 Cfm	EA (wB)	58	TC	32.1	32.1	36.3	30.8	30.8	34.9	29.4	29.4	33.4	28.0	28.0	31.7	26.3	26.3	29.8		
			SHC	27.8	32.1	36.3	26.7	30.8	34.9	25.5	29.4	33.4	24.2	28.0	31.7	22.8	26.3	29.8		
		62	TC	34.0	34.0	34.3	32.3	32.3	33.5	30.6	30.6	32.6	28.7	28.7	31.7	26.6	26.6	30.6		
			SHC	25.0	29.7	34.3	24.2	28.9	33.5	23.4	28.0	32.6	22.5	27.1	31.7	21.5	26.0	30.6		
		67	TC	37.3	37.3	37.3	35.5	35.5	35.5	33.6	33.6	33.6	31.5	31.5	31.5	29.2	29.2	29.2		
			SHC	20.7	25.4	30.0	20.0	24.6	29.3	19.2	23.8	28.4	18.3	22.9	27.6	17.4	22.0	26.6		
		72	TC	40.8	40.8	40.8	38.9	38.9	38.9	36.9	36.9	36.9	34.6	34.6	34.6	32.2	32.2	32.2		
			SHC	16.3	21.0	25.7	15.6	20.3	25.0	14.8	19.5	24.1	13.9	18.6	23.3	13.0	17.7	22.3		
		76	TC	–	43.9	43.9	–	41.8	41.8	–	39.6	39.6	–	37.2	37.2	–	34.6	34.6		
			SHC	–	17.4	22.4	–	16.7	21.7	–	15.9	20.8	–	15.1	19.9	–	14.2	19.0		
1050 Cfm	EA (wB)	58	TC	33.8	33.8	38.4	32.5	32.5	36.8	31.0	31.0	35.1	29.4	29.4	33.3	27.6	27.6	31.3		
			SHC	29.3	33.8	38.4	28.1	32.5	36.8	26.9	31.0	35.1	25.5	29.4	33.3	23.9	27.6	31.3		
		62	TC	35.1	35.1	37.5	33.3	33.3	36.6	31.5	31.5	35.7	29.6	29.6	34.5	27.7	27.7	32.6		
			SHC	26.9	32.2	37.5	26.0	31.3	36.6	25.1	30.4	35.7	24.1	29.3	34.5	22.7	27.7	32.6		
		67	TC	38.4	38.4	38.4	36.5	36.5	36.5	34.5	34.5	34.5	32.3	32.3	32.3	29.9	29.9	29.9		
			SHC	22.0	27.3	32.7	21.2	26.5	31.9	20.3	25.7	31.0	19.4	24.8	30.1	18.5	23.8	29.1		
		72	TC	42.0	42.0	42.0	40.0	40.0	40.0	37.8	37.8	37.8	35.5	35.5	35.5	32.9	32.9	32.9		
			SHC	16.9	22.3	27.6	16.1	21.5	26.9	15.3	20.7	26.0	14.4	19.8	25.1	13.5	18.8	24.2		
		76	TC	–	45.0	45.0	–	42.9	42.9	–	40.6	40.6	–	38.0	38.0	–	35.3	35.3		
			SHC	–	18.1	23.8	–	17.4	23.0	–	16.6	22.2	–	15.7	21.3	–	14.8	20.3		
1200 Cfm	EA (wB)	58	TC	35.3	35.3	40.0	33.9	33.9	38.4	32.3	32.3	36.6	30.6	30.6	34.7	28.7	28.7	32.5		
			SHC	30.6	35.3	40.0	29.4	33.9	38.4	28.0	32.3	36.6	26.5	30.6	34.7	24.9	28.7	32.5		
		62	TC	35.9	35.9	40.5	34.2	34.2	39.4	32.4	32.4	38.1	30.6	30.6	36.1	28.7	28.7	33.9		
			SHC	28.6	34.5	40.5	27.7	33.6	39.4	26.6	32.4	38.1	25.2	30.6	36.1	23.6	28.7	33.9		
		67	TC	39.3	39.3	39.3	37.3	37.3	37.3	35.2	35.2	35.2	32.9	32.9	32.9	30.5	30.5	31.6		
			SHC	23.1	29.1	35.2	22.3	28.3	34.4	21.4	27.5	33.5	20.5	26.6	32.6	19.5	25.6	31.6		
		72	TC	42.9	42.9	42.9	40.8	40.8	40.8	38.5	38.5	38.5	36.1	36.1	36.1	33.4	33.4	33.4		
			SHC	17.3	23.4	29.5	16.6	22.6	28.7	15.7	21.8	27.9	14.8	20.9	27.0	13.9	19.9	26.0		
		76	TC	–	45.9	45.9	–	43.7	43.7	–	41.3	41.3	–	38.7	38.7	–	35.9	35.9		
			SHC	–	18.8	25.1	–	18.0	24.3	–	17.2	23.4	–	16.3	22.5	–	15.4	21.5		
1350 Cfm	EA (wB)	58	TC	36.6	36.6	41.5	35.1	35.1	39.7	33.4	33.4	37.9	31.6	31.6	35.8	29.6	29.6	33.6		
			SHC	31.7	36.6	41.5	30.4	35.1	39.7	28.9	33.4	37.9	27.4	31.6	35.8	25.7	29.6	33.6		
		62	TC	36.7	36.7	43.2	35.1	35.1	41.3	33.4	33.4	39.4	31.6	31.6	37.3	29.6	29.6	34.9		
			SHC	30.2	36.7	43.2	28.8	35.1	41.3	27.5	33.4	39.4	26.0	31.6	37.3	24.4	29.6	34.9		
		67	TC	39.9	39.9	39.9	37.9	37.9	37.9	35.8	35.8	35.9	33.4	33.4	34.9	30.9	30.9	33.9		
			SHC	24.2	30.9	37.6	23.4	30.1	36.8	22.5	29.2	35.9	21.6	28.3	34.9	20.6	27.2	33.9		
		72	TC	43.6	43.6	43.6	41.4	41.4	41.4	39.1	39.1	39.1	36.6	36.6	36.6	33.9	33.9	33.9		
			SHC	17.8	24.5	31.3	17.0	23.7	30.5	16.1	22.9	29.6	15.2	22.0	28.7	14.3	21.0	27.7		
		76	TC	–	46.7	46.7	–	44.4	44.4	–	41.9	41.9	–	39.2	39.2	–	36.3	36.3		
			SHC	–	19.4	26.3	–	18.6	25.5	–	17.8	24.6	–	16.9	23.7	–	15.9	22.7		
1500 Cfm	EA (wB)	58	TC	37.7	37.7	42.7	36.1	36.1	40.9	34.3	34.3	38.9	32.5	32.5	36.8	30.4	30.4	34.4		
			SHC	32.6	37.7	42.7	31.3	36.1	40.9	29.8	34.3	38.9	28.1	32.5	36.8	26.3	30.4	34.4		
		62	TC	37.7	37.7	44.4	36.1	36.1	42.5	34.4	34.4	40.5	32.5	32.5	38.3	30.4	30.4	35.8		
			SHC	31.0	37.7	44.4	29.7	36.1	42.5	28.3	34.4	40.5	26.7	32.5	38.3	25.0	30.4	35.8		
		67	TC	40.5	40.5	40.5	38.4	38.4	39.1	36.2	36.2	38.2	33.8	33.8	37.2	31.2	31.2	36.1		
			SHC	25.2	32.6	40.0	24.4	31.7	39.1	23.5	30.8	38.2	22.5	29.9	37.2	21.5	28.8	36.1		
		72	TC	44.2	44.2	44.2	41.9	41.9	41.9	39.6	39.6	39.6	37.0	37.0	37.0	34.2	34.2	34.2		
			SHC	18.2	25.6	33.0	17.4	24.8	32.2	16.5	23.9	31.3	15.6	23.0	30.4	14.7	22.0	29.4		
		76	TC	–	47.2	47.2	–	44.9	44.9	–	42.3	42.3	–	39.6	39.6	–	36.7	36.7		
			SHC	–	19.9	27.5	–	19.1	26.7	–	18.3	25.8	–	17.4	24.9	–	16.4	23.9		

LEGEND:

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

Table 8 (cont.) – COOLING CAPACITIES 1–STAGE COOLING

RAH036 (3 TONS) – UNIT WITH HOT GAS RE–HEAT SYSTEM IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		900			1200			1500		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	44.6	40.3	36.5	47.0	43.0	39.1	48.8	44.3	40.8
	SHC	19.8	24.5	29.3	22.6	29.1	35.3	25.4	33.0	40.4
	kW	2.02	1.97	1.93	1.96	2.00	2.05	2.08	2.02	1.98
85	TC	42.1	38.1	34.4	44.6	40.5	36.9	46.1	41.9	38.6
	SHC	17.5	22.5	27.4	20.4	26.8	33.2	22.9	30.8	38.2
	kW	2.28	2.23	2.19	2.22	2.26	2.31	2.33	2.28	2.24
95	TC	39.6	35.8	32.3	41.9	38.0	34.5	43.2	39.3	36.2
	SHC	15.2	20.3	25.5	17.8	24.5	31.1	20.2	28.4	35.9
	kW	2.56	2.51	2.47	2.50	2.54	2.60	2.62	2.56	2.52
105	TC	36.8	33.2	30.0	38.9	35.3	32.0	40.2	36.5	33.6
	SHC	12.7	18.1	23.4	15.1	22.0	28.8	17.5	25.8	33.6
	kW	2.88	2.83	2.79	2.82	2.86	2.91	2.93	2.88	2.84
115	TC	33.9	30.5	27.5	35.8	32.4	29.4	37.0	33.5	30.9
	SHC	10.1	15.7	21.2	12.3	19.5	26.4	14.5	23.1	30.9
	kW	3.23	3.19	3.15	3.17	3.21	3.26	3.28	3.23	3.19
125	TC	30.8	27.7	24.9	32.5	29.3	26.5	33.5	30.3	27.9
	SHC	7.3	13.1	18.9	9.4	16.7	23.9	11.4	20.3	27.9
	kW	3.62	3.59	3.56	3.57	3.60	3.65	3.66	3.62	3.59

RAH036 (3 TONS) – UNIT WITH HOT GAS RE–HEAT SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR - Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator - Cfm								
		900	1200	1500	900	1200	1500	900	1200	1500
80	TC	16.46	17.15	17.74	16.66	17.23	17.79	16.85	17.74	18.29
	SHC	5.10	6.60	8.15	3.21	4.33	5.61	1.59	2.75	3.83
	kW	1.94	2.01	2.02	2.04	2.13	2.15	2.12	2.14	2.16
75	TC	16.61	17.52	18.09	17.18	18.09	18.67	17.69	18.61	19.19
	SHC	5.24	6.96	8.48	3.71	5.15	6.45	2.40	3.59	4.69
	kW	1.98	2.00	2.01	1.99	2.01	2.02	2.00	2.02	2.03
70	TC	17.00	18.06	18.63	17.56	18.46	19.40	18.41	19.35	20.10
	SHC	5.62	7.47	9.00	4.08	5.50	7.16	3.09	4.31	5.58
	kW	1.96	1.94	1.96	1.97	2.00	1.94	1.91	1.94	1.92
60	TC	17.63	18.49	19.37	18.17	19.38	19.95	18.66	19.52	20.46
	SHC	6.21	7.89	9.71	4.66	6.39	7.68	3.31	4.45	5.90
	kW	1.93	1.96	1.92	1.95	1.92	1.94	1.97	2.00	1.96
50	TC	17.82	18.59	19.72	18.31	19.73	20.26	18.76	20.21	20.73
	SHC	6.40	7.99	10.05	4.79	6.71	7.97	3.40	5.11	6.16
	kW	1.98	2.03	1.94	2.01	1.94	1.97	2.03	1.96	1.99
40	TC	17.70	19.38	19.85	19.10	20.30	20.34	19.53	20.76	21.26
	SHC	6.30	8.74	10.17	5.54	7.26	8.05	4.13	5.64	6.67
	kW	2.07	1.95	1.99	1.93	1.91	2.02	1.96	1.94	1.97

LEGEND

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

NOTES:

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

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

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

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

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

Table 8 (cont.) – COOLING CAPACITIES 1–STAGE COOLING

RAH048				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
1200 Cfm	EA (wB)	58	TC	43.2	43.2	49.1	41.5	41.5	47.2	39.7	39.7	45.1	37.7	37.7	42.9	35.6	35.6	40.4	
			SHC	37.3	43.2	49.1	35.9	41.5	47.2	34.3	39.7	45.1	32.6	37.7	42.9	30.7	35.6	40.4	
		62	TC	45.9	45.9	46.0	43.7	43.7	45.0	41.3	41.3	43.8	38.8	38.8	42.6	36.0	36.0	41.2	
			SHC	33.5	39.8	46.0	32.5	38.7	45.0	31.3	37.6	43.8	30.1	36.3	42.6	28.8	35.0	41.2	
		67	TC	50.5	50.5	50.5	48.0	48.0	48.0	45.4	45.4	45.4	42.6	42.6	42.6	39.6	39.6	39.6	
			SHC	27.9	34.1	40.4	26.8	33.1	39.4	25.7	32.0	38.2	24.5	30.8	37.1	23.2	29.5	35.8	
		72	TC	55.4	55.4	55.4	52.7	52.7	52.7	49.9	49.9	49.9	46.8	46.8	46.8	43.5	43.5	43.5	
			SHC	22.0	28.4	34.7	21.0	27.3	33.7	19.9	26.2	32.5	18.7	25.0	31.3	17.4	23.8	30.1	
		76	TC	–	59.7	59.7	–	56.8	56.8	–	53.7	53.7	–	50.4	50.4	–	46.8	46.8	
			SHC	–	23.6	30.2	–	22.6	29.2	–	21.5	28.1	–	20.3	26.8	–	19.1	25.5	
1400 Cfm	EA (wB)	58	TC	45.6	45.6	51.9	43.8	43.8	49.8	41.9	41.9	47.6	39.7	39.7	45.1	37.3	37.3	42.4	
			SHC	39.4	45.6	51.9	37.9	43.8	49.8	36.2	41.9	47.6	34.3	39.7	45.1	32.3	37.3	42.4	
		62	TC	47.4	47.4	50.5	45.1	45.1	49.3	42.6	42.6	48.0	40.0	40.0	46.5	37.4	37.4	44.2	
			SHC	36.0	43.2	50.5	34.9	42.1	49.3	33.7	40.9	48.0	32.4	39.5	46.5	30.6	37.4	44.2	
		67	TC	52.1	52.1	52.1	49.5	49.5	49.5	46.7	46.7	46.7	43.7	43.7	43.7	40.5	40.5	40.5	
			SHC	29.5	36.8	44.0	28.4	35.7	42.9	27.3	34.5	41.8	26.0	33.3	40.5	24.7	32.0	39.2	
		72	TC	57.1	57.1	57.1	54.3	54.3	54.3	51.2	51.2	51.2	48.0	48.0	48.0	44.5	44.5	44.5	
			SHC	22.8	30.1	37.4	21.7	29.0	36.3	20.5	27.8	35.1	19.3	26.6	33.9	18.0	25.3	32.6	
		76	TC	–	61.4	61.4	–	58.3	58.3	–	55.1	55.1	–	51.6	51.6	–	47.8	47.8	
			SHC	–	24.6	32.2	–	23.5	31.1	–	22.4	29.9	–	21.2	28.7	–	19.9	27.4	
1600 Cfm	EA (wB)	58	TC	47.7	47.7	54.2	45.8	45.8	52.0	43.7	43.7	49.6	41.3	41.3	47.0	38.8	38.8	44.1	
			SHC	41.2	47.7	54.2	39.5	45.8	52.0	37.7	43.7	49.6	35.7	41.3	47.0	33.5	38.8	44.1	
		62	TC	48.7	48.7	54.5	46.3	46.3	53.2	43.7	43.7	51.7	41.4	41.4	48.9	38.8	38.8	45.9	
			SHC	38.3	46.4	54.5	37.1	45.2	53.2	35.8	43.7	51.7	33.9	41.4	48.9	31.8	38.8	45.9	
		67	TC	53.3	53.3	53.3	50.6	50.6	50.6	47.7	47.7	47.7	44.6	44.6	44.6	41.2	41.2	42.6	
			SHC	31.0	39.2	47.5	29.9	38.1	46.3	28.7	37.0	45.2	27.5	35.7	43.9	26.2	34.4	42.6	
		72	TC	58.4	58.4	58.4	55.4	55.4	55.4	52.3	52.3	52.3	48.9	48.9	48.9	45.2	45.2	45.2	
			SHC	23.4	31.7	39.9	22.3	30.6	38.8	21.1	29.4	37.6	19.9	28.2	36.4	18.6	26.8	35.1	
		76	TC	–	62.7	62.7	–	59.5	59.5	–	56.1	56.1	–	52.5	52.5	–	48.6	48.6	
			SHC	–	25.5	34.0	–	24.4	32.9	–	23.2	31.7	–	22.0	30.4	–	20.7	29.1	
1800 Cfm	EA (wB)	58	TC	49.5	49.5	56.2	47.4	47.4	53.9	45.2	45.2	51.3	42.7	42.7	48.5	40.1	40.1	45.5	
			SHC	42.8	49.5	56.2	41.0	47.4	53.9	39.0	45.2	51.3	36.9	42.7	48.5	34.6	40.1	45.5	
		62	TC	49.8	49.8	58.1	47.5	47.5	56.1	45.2	45.2	53.4	42.8	42.8	50.5	40.1	40.1	47.4	
			SHC	40.4	49.2	58.1	38.8	47.5	56.1	37.0	45.2	53.4	35.0	42.8	50.5	32.8	40.1	47.4	
		67	TC	54.3	54.3	54.3	51.5	51.5	51.5	48.5	48.5	48.5	45.3	45.3	47.1	41.8	41.8	45.7	
			SHC	32.5	41.7	50.8	31.4	40.5	49.7	30.2	39.3	48.5	28.9	38.0	47.1	27.5	36.6	45.7	
		72	TC	59.4	59.4	59.4	56.3	56.3	56.3	53.1	53.1	53.1	49.6	49.6	49.6	45.8	45.8	45.8	
			SHC	24.0	33.2	42.4	22.9	32.1	41.3	21.7	30.9	40.1	20.4	29.6	38.8	19.1	28.3	37.5	
		76	TC	–	63.8	63.8	–	60.5	60.5	–	57.0	57.0	–	53.2	53.2	–	49.2	49.2	
			SHC	–	26.3	35.8	–	25.2	34.6	–	24.0	33.4	–	22.8	32.1	–	21.5	30.8	
2000 Cfm	EA (wB)	58	TC	51.0	51.0	58.0	48.8	48.8	55.5	46.5	46.5	52.8	43.9	43.9	49.9	41.1	41.1	46.7	
			SHC	44.1	51.0	58.0	42.2	48.8	55.5	40.2	46.5	52.8	37.9	43.9	49.9	35.5	41.1	46.7	
		62	TC	51.1	51.1	60.4	48.9	48.9	57.8	46.5	46.5	55.0	44.0	44.0	51.9	41.1	41.1	48.6	
			SHC	41.8	51.1	60.4	40.0	48.9	57.8	38.1	46.5	55.0	36.0	44.0	51.9	33.7	41.1	48.6	
		67	TC	55.1	55.1	55.1	52.1	52.1	52.9	49.1	49.1	51.6	45.8	45.8	50.2	42.3	42.3	48.7	
			SHC	33.9	44.0	54.1	32.7	42.8	52.9	31.5	41.5	51.6	30.2	40.2	50.2	28.8	38.8	48.7	
		72	TC	60.3	60.3	60.3	57.1	57.1	57.1	53.7	53.7	53.7	50.1	50.1	50.1	46.3	46.3	46.3	
			SHC	24.5	34.7	44.8	23.4	33.5	43.6	22.2	32.3	42.4	21.0	31.1	41.2	19.6	29.7	39.8	
		76	TC	–	64.6	64.6	–	61.2	61.2	–	57.6	57.6	–	53.8	53.8	–	49.7	49.7	
			SHC	–	27.1	37.5	–	26.0	36.3	–	24.8	35.1	–	23.5	33.8	–	22.2	32.4	

LEGEND:

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

Table 8 (cont.) – COOLING CAPACITIES 1–STAGE COOLING

RAH048 (4 TONS) – UNIT WITH HOT GAS RE–HEAT IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		1200			1600			2000		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	57.8	52.3	47.2	61.5	55.6	50.6	63.7	57.9	0.0
	SHC	24.2	30.5	36.8	27.9	35.9	44.0	31.2	40.9	0.0
	kW	2.50	2.47	2.44	2.46	2.48	2.51	2.53	2.50	0.00
85	TC	54.1	48.9	44.1	57.1	52.0	47.3	59.6	54.0	49.5
	SHC	20.7	27.3	33.9	23.9	32.6	41.0	27.3	37.3	47.1
	kW	2.81	2.78	2.76	2.78	2.80	2.82	2.84	2.81	2.79
95	TC	50.1	45.3	40.8	53.3	48.2	43.7	55.2	50.1	45.8
	SHC	17.0	24.0	30.9	20.4	29.1	37.7	23.3	33.6	43.6
	kW	3.16	3.14	3.12	3.13	3.15	3.18	3.19	3.16	3.14
105	TC	45.7	41.1	37.2	48.6	43.8	39.8	50.5	45.5	41.8
	SHC	12.9	20.1	27.6	16.0	25.0	34.1	19.0	29.4	39.9
	kW	3.56	3.54	3.52	3.54	3.55	3.58	3.59	3.56	3.55
115	TC	41.1	37.0	33.2	43.5	39.2	35.5	45.4	41.1	37.5
	SHC	8.7	16.4	23.9	11.3	20.7	30.1	14.3	25.4	35.8
	kW	4.02	4.01	4.00	4.00	4.01	4.03	4.04	4.03	4.01
125	TC	36.3	32.5	29.0	38.6	34.7	31.2	40.2	36.1	32.9
	SHC	4.3	12.2	20.1	6.8	16.6	26.2	9.4	20.8	31.5
	kW	4.54	4.53	4.53	4.53	4.54	4.54	4.55	4.54	4.54

RAH048 (4 TONS) – UNIT WITH HOT GAS RE–HEAT SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator – Cfm								
		1200	1600	2000	1200	1600	2000	1200	1600	2000
80	TC	18.64	19.95	20.78	19.35	20.71	21.51	20.00	21.37	22.33
	SHC	0.78	4.36	8.24	–1.95	1.01	4.29	–4.33	–1.91	0.99
	kW	2.66	2.68	2.69	2.67	2.69	2.69	2.68	2.69	2.68
75	TC	19.37	21.21	22.15	20.47	21.97	22.92	21.15	22.78	23.65
	SHC	1.48	5.52	9.49	–0.91	2.18	5.57	–3.26	–0.61	2.20
	kW	2.62	2.54	2.54	2.56	2.55	2.55	2.56	2.55	2.56
70	TC	19.92	21.63	22.64	20.77	22.52	23.61	21.70	23.39	24.26
	SHC	2.01	5.94	9.98	–0.61	2.70	6.23	–2.72	–0.02	2.78
	kW	2.60	2.56	2.54	2.58	2.54	2.53	2.54	2.52	2.54
60	TC	20.11	21.27	22.23	20.75	23.15	23.43	22.49	23.78	24.55
	SHC	2.24	5.70	9.70	–0.57	3.35	6.15	–1.95	0.40	3.13
	kW	2.69	2.74	2.73	2.72	2.58	2.68	2.56	2.60	2.63
50	TC	21.56	22.70	23.37	22.18	23.33	24.01	22.75	23.90	25.40
	SHC	3.61	7.03	10.76	0.78	3.57	6.73	–1.67	0.57	3.96
	kW	2.57	2.63	2.66	2.60	2.66	2.69	2.63	2.69	2.62
40	TC	21.67	23.23	24.04	22.76	23.82	25.57	23.28	24.34	26.13
	SHC	3.74	7.56	9.89	1.35	4.06	8.17	–1.15	1.01	4.67
	kW	2.64	2.64	2.69	2.61	2.67	2.58	2.64	2.70	2.61

LEGEND

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

NOTES:

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

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

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

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

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

Table 8 (cont.) – COOLING CAPACITIES 1–STAGE COOLING

RAH060				AMBIENT TEMPERATURE													
				85			95			105			115			125		
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1500 Cfm	EA (wB)	58	TC	53.4	53.4	60.6	51.3	51.3	58.2	49.0	49.0	55.6	46.5	46.5	52.7	43.7	43.7	49.5
			SHC	46.3	53.4	60.6	44.5	51.3	58.2	42.5	49.0	55.6	40.3	46.5	52.7	37.9	43.7	49.5
		62	TC	55.6	55.6	58.2	52.9	52.9	56.9	50.0	50.0	55.5	46.9	46.9	53.9	43.8	43.8	51.6
			SHC	42.0	50.1	58.2	40.7	48.8	56.9	39.4	47.4	55.5	37.9	45.9	53.9	36.0	43.8	51.6
		67	TC	60.8	60.8	60.8	57.8	57.8	57.8	54.6	54.6	54.6	51.1	51.1	51.1	47.4	47.4	47.4
			SHC	34.4	42.6	50.7	33.2	41.3	49.4	31.8	39.9	48.1	30.4	38.5	46.6	28.9	37.0	45.1
		72	TC	66.6	66.6	66.6	63.2	63.2	63.2	59.7	59.7	59.7	55.9	55.9	55.9	51.8	51.8	51.8
			SHC	26.7	34.8	43.0	25.4	33.6	41.7	24.1	32.2	40.4	22.6	30.8	38.9	21.1	29.3	37.4
		76	TC	–	71.4	71.4	–	67.9	67.9	–	64.0	64.0	–	59.9	59.9	–	55.5	55.5
			SHC	–	28.5	36.7	–	27.2	35.5	–	25.9	34.2	–	24.5	32.7	–	23.0	31.3
1750 Cfm	EA (wB)	58	TC	56.3	56.3	63.8	54.0	54.0	61.2	51.5	51.5	58.3	48.7	48.7	55.2	45.7	45.7	51.8
			SHC	48.8	56.3	63.8	46.8	54.0	61.2	44.6	51.5	58.3	42.2	48.7	55.2	39.6	45.7	51.8
		62	TC	57.3	57.3	64.0	54.5	54.5	62.5	51.6	51.6	60.7	48.8	48.8	57.5	45.8	45.8	53.9
			SHC	45.3	54.7	64.0	44.0	53.3	62.5	42.4	51.6	60.7	40.1	48.8	57.5	37.6	45.8	53.9
		67	TC	62.5	62.5	62.5	59.3	59.3	59.3	55.9	55.9	55.9	52.3	52.3	52.3	48.3	48.3	49.7
			SHC	36.6	46.0	55.4	35.3	44.7	54.1	33.9	43.3	52.7	32.4	41.8	51.3	30.9	40.3	49.7
		72	TC	68.3	68.3	68.3	64.8	64.8	64.8	61.0	61.0	61.0	57.0	57.0	57.0	52.7	52.7	52.7
			SHC	27.5	37.0	46.5	26.2	35.7	45.2	24.9	34.4	43.8	23.4	32.9	42.4	21.9	31.4	40.8
		76	TC	–	73.2	73.2	–	69.4	69.4	–	65.4	65.4	–	61.1	61.1	–	56.5	56.5
			SHC	–	29.7	39.3	–	28.4	38.0	–	27.1	36.7	–	25.6	35.2	–	24.1	33.7
2000 Cfm	EA (wB)	58	TC	58.7	58.7	66.5	56.2	56.2	63.7	53.5	53.5	60.6	50.6	50.6	57.3	47.3	47.3	53.7
			SHC	50.9	58.7	66.5	48.7	56.2	63.7	46.4	53.5	60.6	43.8	50.6	57.3	41.0	47.3	53.7
		62	TC	58.8	58.8	69.2	56.3	56.3	66.3	53.6	53.6	63.1	50.6	50.6	59.6	47.4	47.4	55.8
			SHC	48.3	58.8	69.2	46.3	56.3	66.3	44.0	53.6	63.1	41.6	50.6	59.6	39.0	47.4	55.8
		67	TC	63.8	63.8	63.8	60.4	60.4	60.4	56.9	56.9	57.3	53.1	53.1	55.8	49.1	49.1	54.1
			SHC	38.6	49.3	60.1	37.3	48.0	58.7	35.9	46.6	57.3	34.4	45.1	55.8	32.8	43.4	54.1
		72	TC	69.6	69.6	69.6	65.9	65.9	65.9	62.1	62.1	62.1	57.9	57.9	57.9	53.5	53.5	53.5
			SHC	28.4	39.1	49.9	27.0	37.8	48.6	25.7	36.4	47.2	24.2	35.0	45.7	22.6	33.4	44.2
		76	TC	–	74.5	74.5	–	70.6	70.6	–	66.5	66.5	–	62.0	62.0	–	–	–
			SHC	–	30.8	41.8	–	29.5	40.4	–	28.2	39.0	–	26.7	37.6	–	–	–
2250 Cfm	EA (wB)	58	TC	60.7	60.7	68.8	58.1	58.1	65.8	55.2	55.2	62.6	52.1	52.1	59.1	48.7	48.7	55.2
			SHC	52.6	60.7	68.8	50.3	58.1	65.8	47.9	55.2	62.6	45.2	52.1	59.1	42.2	48.7	55.2
		62	TC	60.8	60.8	71.6	58.1	58.1	68.5	55.3	55.3	65.1	52.2	52.2	61.4	48.7	48.7	57.4
			SHC	50.0	60.8	71.6	47.8	58.1	68.5	45.4	55.3	65.1	42.9	52.2	61.4	40.1	48.7	57.4
		67	TC	64.7	64.7	64.7	61.3	61.3	63.2	57.7	57.7	61.7	53.8	53.8	60.1	49.7	49.7	58.3
			SHC	40.6	52.6	64.5	39.2	51.2	63.2	37.8	49.7	61.7	36.2	48.2	60.1	34.6	46.5	58.3
		72	TC	70.6	70.6	70.6	66.8	66.8	66.8	62.8	62.8	62.8	58.6	58.6	58.6	54.0	54.0	54.0
			SHC	29.1	41.2	53.3	27.8	39.9	51.9	26.4	38.4	50.5	24.9	37.0	49.0	23.3	35.4	47.4
		76	TC	–	75.6	75.6	–	71.6	71.6	–	67.3	67.3	–	–	–	–	–	–
			SHC	–	31.9	44.1	–	30.6	42.8	–	29.2	41.4	–	–	–	–	–	–
2500 Cfm	EA (wB)	58	TC	62.5	62.5	70.8	59.7	59.7	67.6	56.7	56.7	64.2	53.4	53.4	60.5	49.9	49.9	56.5
			SHC	54.1	62.5	70.8	51.7	59.7	67.6	49.1	56.7	64.2	46.3	53.4	60.5	43.2	49.9	56.5
		62	TC	62.5	62.5	73.6	59.7	59.7	70.3	56.7	56.7	66.8	53.5	53.5	63.0	49.9	49.9	58.8
			SHC	51.4	62.5	73.6	49.1	59.7	70.3	46.6	56.7	66.8	43.9	53.5	63.0	41.0	49.9	58.8
		67	TC	65.5	65.5	68.9	62.0	62.0	67.4	58.3	58.3	65.9	54.4	54.4	64.2	50.2	50.2	62.2
			SHC	42.5	55.7	68.9	41.1	54.3	67.4	39.6	52.7	65.9	38.0	51.1	64.2	36.3	49.2	62.2
		72	TC	71.4	71.4	71.4	67.5	67.5	67.5	63.4	63.4	63.4	59.1	59.1	59.1	54.4	54.4	54.4
			SHC	29.9	43.2	56.5	28.5	41.8	55.2	27.1	40.4	53.7	25.6	38.9	52.2	24.0	37.3	50.6
		76	TC	–	76.4	76.4	–	72.3	72.3	–	–	–	–	–	–	–	–	–
			SHC	–	33.0	46.4	–	31.6	45.1	–	–	–	–	–	–	–	–	–

LEGEND:

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

Table 8 (cont.) – COOLING CAPACITIES 1–STAGE COOLING

RAH060 (5 TONS) – UNIT WITH HOT GAS RE–HEAT IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		1500			2000			2500		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	66.9	60.3	54.8	71.0	64.4	58.6	73.5	66.9	61.6
	SHC	25.8	34.1	43.0	30.5	41.7	52.6	35.0	48.6	61.2
	kW	3.11	3.06	3.03	3.05	3.09	3.16	3.16	3.11	3.07
85	TC	62.4	56.5	51.2	66.3	60.1	54.7	68.2	62.3	57.5
	SHC	21.5	30.6	39.6	26.1	37.6	49.0	29.9	44.2	57.2
	kW	3.47	3.43	3.39	3.42	3.46	3.51	3.52	3.48	3.44
95	TC	57.8	52.3	47.3	61.3	55.6	50.6	63.5	57.7	53.2
	SHC	17.2	26.6	35.9	21.4	33.3	45.1	25.6	39.9	53.2
	kW	3.89	3.85	3.80	3.83	3.88	3.93	3.95	3.90	3.86
105	TC	52.8	47.5	42.9	55.4	50.0	45.3	58.0	52.2	47.9
	SHC	12.5	22.1	31.7	15.8	28.1	40.1	20.4	34.7	47.9
	kW	4.36	4.31	4.26	4.29	4.33	4.38	4.42	4.36	4.32
115	TC	47.4	42.8	38.6	50.1	45.2	41.1	51.8	47.1	43.4
	SHC	7.4	17.7	27.8	11.0	23.6	36.1	14.7	30.0	43.4
	kW	4.88	4.83	4.78	4.81	4.86	4.91	4.93	4.88	4.84
125	TC	41.6	37.5	33.8	44.0	39.7	35.8	45.8	41.3	38.0
	SHC	2.1	12.8	23.3	5.3	18.6	31.2	9.1	24.7	38.0
	kW	5.44	5.39	5.35	5.37	5.42	5.47	5.49	5.44	5.40

RAH060 (5 TONS) – UNIT WITH HOT GAS RE–HEAT SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator – Cfm								
		1500	2000	2500	1500	2000	2500	1500	2000	2500
80	TC	25.29	27.61	28.72	26.81	28.62	29.71	27.68	29.53	30.63
	SHC	5.06	10.68	15.86	2.37	6.73	11.22	–0.40	3.30	7.17
	kW	3.23	3.12	3.13	3.12	3.13	3.14	3.12	3.14	3.15
75	TC	26.69	28.45	29.73	27.65	29.64	30.73	28.53	30.55	31.65
	SHC	6.39	11.52	16.85	3.20	7.72	12.20	0.43	4.29	8.16
	kW	3.08	3.11	3.09	3.10	3.09	3.11	3.11	3.10	3.12
70	TC	27.04	29.08	30.15	28.29	30.04	31.09	29.13	30.91	31.97
	SHC	6.76	12.14	17.28	3.82	8.14	12.60	1.02	4.67	8.51
	kW	3.15	3.12	3.15	3.11	3.14	3.17	3.13	3.16	3.18
60	TC	27.99	29.57	31.33	28.86	30.46	32.25	29.63	32.44	33.81
	SHC	7.70	12.66	18.45	4.41	8.60	13.74	1.54	6.16	10.28
	kW	3.17	3.23	3.15	3.21	3.26	3.18	3.23	3.12	3.10
50	TC	30.09	31.66	32.64	30.93	32.57	33.53	31.73	33.38	34.35
	SHC	9.72	14.66	19.72	6.40	10.61	14.99	3.56	7.10	10.85
	kW	3.01	3.07	3.11	3.04	3.10	3.15	3.07	3.14	3.18
40	TC	28.39	30.78	32.67	31.13	32.60	34.40	31.86	33.33	36.07
	SHC	8.17	13.89	19.80	6.63	10.69	15.85	3.72	7.10	12.51
	kW	3.39	3.32	3.24	3.14	3.23	3.15	3.18	3.27	3.08

LEGEND

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

NOTES:

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

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

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

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

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

Table 8 (cont.) – COOLING CAPACITIES 1–STAGE COOLING

RAH072				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
1800 Cfm	EA (wB)	58	TC	64.1	64.1	72.5	61.8	61.8	69.9	59.2	59.2	67	56.3	56.3	63.7	53.2	53.2	60.2	
			SHC	55.7	64.1	72.5	53.7	61.8	69.9	51.4	59.2	67	48.9	56.3	63.7	46.2	53.2	60.2	
		62	TC	67.9	67.9	68.5	64.9	64.9	67	61.5	61.5	65.3	57.9	57.9	63.5	54	54	61.4	
			SHC	50.2	59.4	68.5	48.8	57.9	67	47.1	56.2	65.3	45.4	54.4	63.5	43.4	52.4	61.4	
		67	TC	74.8	74.8	74.8	71.5	71.5	71.5	67.8	67.8	67.8	63.8	63.8	63.8	59.5	59.5	59.5	
			SHC	41.8	50.9	60.1	40.3	49.5	58.7	38.8	47.9	57.1	37.1	46.2	55.4	35.3	44.4	53.6	
		72	TC	82.2	82.2	82.2	78.7	78.7	78.7	74.7	74.7	74.7	70.4	70.4	70.4	65.6	65.6	65.6	
			SHC	33	42.3	51.6	31.6	40.9	50.2	30.1	39.3	48.6	28.4	37.7	46.9	26.7	35.9	45.1	
		76	TC	–	88.7	88.7	–	84.8	84.8	–	80.6	80.6	–	76	76	–	70.9	70.9	
			SHC	–	35.3	45.2	–	33.9	43.7	–	32.4	42	–	30.7	40.3	–	28.9	38.5	
2100 Cfm	EA (wB)	58	TC	67.6	67.6	76.5	65.1	65.1	73.7	62.3	62.3	70.5	59.3	59.3	67.1	55.9	55.9	63.2	
			SHC	58.7	67.6	76.5	56.6	65.1	73.7	54.1	62.3	70.5	51.5	59.3	67.1	48.5	55.9	63.2	
		62	TC	70.1	70.1	74.9	67	67	73.2	63.5	63.5	71.3	59.7	59.7	69.1	56	56	65.8	
			SHC	53.9	64.4	74.9	52.4	62.8	73.2	50.6	61	71.3	48.7	58.9	69.1	46.2	56	65.8	
		67	TC	77.1	77.1	77.1	73.6	73.6	73.6	69.7	69.7	69.7	65.5	65.5	65.5	60.9	60.9	60.9	
			SHC	44.2	54.8	65.3	42.7	53.3	63.9	41.2	51.7	62.3	39.4	50	60.5	37.6	48.1	58.6	
		72	TC	84.7	84.7	84.7	80.9	80.9	80.9	76.8	76.8	76.8	72.2	72.2	72.2	67.2	67.2	67.2	
			SHC	34.2	44.8	55.5	32.7	43.4	54	31.1	41.8	52.4	29.5	40.1	50.7	27.6	38.2	48.8	
		76	TC	–	91.3	91.3	–	87.2	87.2	–	82.7	82.7	–	77.8	77.8	–	72.5	72.5	
			SHC	–	36.7	47.8	–	35.3	46.3	–	33.7	44.7	–	32	43	–	30.2	41.1	
2400 Cfm	EA (wB)	58	TC	70.6	70.6	79.9	68	68	76.9	65	65	73.5	61.7	61.7	69.8	58.1	58.1	65.8	
			SHC	61.3	70.6	79.9	59	68	76.9	56.4	65	73.5	53.6	61.7	69.8	50.5	58.1	65.8	
		62	TC	72	72	80.6	68.7	68.7	78.7	65.2	65.2	76.6	61.8	61.8	72.6	58.2	58.2	68.4	
			SHC	57.3	69	80.6	55.6	67.2	78.7	53.7	65.2	76.6	50.9	61.8	72.6	48	58.2	68.4	
		67	TC	78.9	78.9	78.9	75.2	75.2	75.2	71.2	71.2	71.2	66.8	66.8	66.8	62	62	63.4	
			SHC	46.5	58.4	70.3	45	56.9	68.8	43.4	55.3	67.2	41.6	53.5	65.4	39.7	51.6	63.4	
		72	TC	86.6	86.6	86.6	82.7	82.7	82.7	78.3	78.3	78.3	73.6	73.6	73.6	68.4	68.4	68.4	
			SHC	35.2	47.2	59.2	33.7	45.7	57.7	32.1	44.1	56	30.4	42.3	54.3	28.5	40.5	52.4	
		76	TC	–	93.3	93.3	–	89	89	–	84.4	84.4	–	79.3	79.3	–	73.7	73.7	
			SHC	–	38	50.4	–	36.6	48.9	–	35	47.3	–	33.3	45.5	–	31.4	43.6	
2700 Cfm	EA (wB)	58	TC	73.2	73.2	82.8	70.4	70.4	79.6	67.3	67.3	76.1	63.8	63.8	72.2	60	60	67.9	
			SHC	63.6	73.2	82.8	61.1	70.4	79.6	58.4	67.3	76.1	55.4	63.8	72.2	52.1	60	67.9	
		62	TC	73.7	73.7	85.5	70.5	70.5	82.8	67.3	67.3	79.1	63.9	63.9	75.1	60.1	60.1	70.6	
			SHC	60.2	72.9	85.5	58.1	70.5	82.8	55.5	67.3	79.1	52.7	63.9	75.1	49.5	60.1	70.6	
		67	TC	80.3	80.3	80.3	76.5	76.5	76.5	72.4	72.4	72.4	67.8	67.8	70	62.9	62.9	67.9	
			SHC	48.7	61.9	75.1	47.1	60.4	73.6	45.5	58.7	71.9	43.7	56.8	70	41.7	54.8	67.9	
		72	TC	88.2	88.2	88.2	84	84	84	79.6	79.6	79.6	74.6	74.6	74.6	69.3	69.3	69.3	
			SHC	36.1	49.4	62.7	34.6	47.9	61.2	33	46.2	59.5	31.2	44.5	57.7	29.3	42.6	55.8	
		76	TC	–	94.9	94.9	–	90.4	90.4	–	85.6	85.6	–	80.4	80.4	–	74.7	74.7	
			SHC	–	39.2	52.9	–	37.7	51.4	–	36.1	49.7	–	34.4	47.9	–	32.5	46	
3000 Cfm	EA (wB)	58	TC	75.4	75.4	85.3	72.5	72.5	82	69.2	69.2	78.3	65.6	65.6	74.2	61.7	61.7	69.8	
			SHC	65.5	75.4	85.3	62.9	72.5	82	60.1	69.2	78.3	57	65.6	74.2	53.5	61.7	69.8	
		62	TC	75.5	75.5	88.7	72.5	72.5	85.3	69.3	69.3	81.4	65.7	65.7	77.2	61.7	61.7	72.5	
			SHC	62.2	75.5	88.7	59.8	72.5	85.3	57.1	69.3	81.4	54.1	65.7	77.2	50.9	61.7	72.5	
		67	TC	81.4	81.4	81.4	77.5	77.5	78.1	73.3	73.3	76.4	68.7	68.7	74.4	63.7	63.7	72.2	
			SHC	50.7	65.2	79.7	49.2	63.7	78.1	47.5	61.9	76.4	45.6	60	74.4	43.6	57.9	72.2	
		72	TC	89.4	89.4	89.4	85.2	85.2	85.2	80.5	80.5	80.5	75.5	75.5	75.5	70.1	70.1	70.1	
			SHC	36.9	51.5	66.1	35.4	50	64.6	33.8	48.3	62.9	32	46.5	61.1	30.1	44.6	59.1	
		76	TC	–	96.1	96.1	–	91.6	91.6	–	86.7	86.7	–	81.3	81.3	–	75.5	75.5	
			SHC	–	40.4	55.3	–	38.9	53.8	–	37.2	52.1	–	35.5	50.3	–	33.6	48.3	

LEGEND:

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

Table 8 (cont.) – COOLING CAPACITIES 1–STAGE COOLING

RAH072 (6 TONS) – UNIT WITH HOT GAS RE–HEAT SYSTEM IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		1800			2400			3000		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	85.7	77.4	70.0	91.1	82.6	74.9	94.5	85.7	78.4
	SHC	38.2	47.1	56.1	43.9	55.6	67.1	49.0	63.1	76.4
	kW	4.05	4.01	3.97	4.00	4.04	4.08	4.09	4.05	4.02
85	TC	80.9	73.1	66.0	85.9	77.9	70.6	89.2	80.9	73.9
	SHC	33.5	42.9	52.3	38.8	51.1	63.0	43.9	58.6	72.1
	kW	4.46	4.43	4.39	4.42	4.45	4.48	4.51	4.47	4.43
95	TC	75.7	68.4	61.7	80.6	72.9	66.0	83.6	75.7	69.1
	SHC	28.7	38.5	48.3	33.8	46.4	58.7	38.6	53.7	67.6
	kW	4.92	4.89	4.86	4.88	4.91	4.95	4.96	4.92	4.90
105	TC	70.2	63.3	57.0	74.7	67.5	61.1	77.5	70.1	64.0
	SHC	23.6	33.9	44.1	28.4	41.4	54.2	32.9	48.6	62.7
	kW	5.43	5.40	5.37	5.39	5.42	5.45	5.47	5.43	5.41
115	TC	64.3	57.8	52.0	68.4	61.7	55.7	71.0	64.1	58.3
	SHC	18.2	28.9	39.6	22.7	36.2	49.4	27.0	43.1	58.2
	kW	5.99	5.96	5.93	5.95	5.98	6.01	6.02	5.99	5.97
125	TC	57.9	52.0	46.6	61.6	55.4	49.9	64.0	57.5	52.4
	SHC	12.4	23.8	34.9	16.6	30.7	44.3	20.7	37.3	52.4
	kW	6.59	6.57	6.55	6.56	6.59	6.61	6.62	6.60	6.58

RAH072 (6 TONS) – UNIT WITH HOT GAS RE–HEAT SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator – Cfm								
		1800	2400	3000	1800	2400	3000	1800	2400	3000
80	TC	24.17	25.88	26.92	25.35	27.08	28.15	26.39	28.18	29.25
	SHC	–1.44	2.99	7.86	–5.08	–1.55	2.50	–8.25	–5.47	–2.14
	kW	4.15	4.16	4.17	4.17	4.18	4.18	4.18	4.19	4.20
75	TC	26.03	27.87	28.95	27.27	29.11	30.21	28.36	30.24	31.35
	SHC	0.43	4.97	9.86	–3.12	0.49	4.56	–6.19	–3.36	–0.03
	kW	3.96	3.97	3.98	3.98	3.99	4.00	4.00	4.01	4.01
70	TC	26.50	28.76	30.07	27.92	29.99	31.34	29.45	31.67	33.23
	SHC	0.87	5.84	10.97	–2.49	1.35	5.68	–5.06	–1.85	1.94
	kW	3.97	3.93	3.91	3.96	3.95	3.93	3.92	3.89	3.87
60	TC	27.59	29.22	30.17	28.70	30.33	31.30	31.50	31.32	32.91
	SHC	1.91	6.25	11.02	–1.79	1.63	5.57	–3.31	–2.39	1.45
	kW	3.95	3.99	4.01	3.99	4.02	4.04	4.09	4.05	4.01
50	TC	27.77	29.18	30.03	28.75	30.18	32.02	29.63	32.07	32.96
	SHC	2.03	6.18	10.85	–1.80	1.43	6.25	–5.14	–1.69	1.45
	kW	4.03	4.08	4.11	4.07	4.12	4.05	4.12	4.06	4.09
40	TC	29.02	30.38	31.46	29.96	31.32	32.09	30.79	33.49	34.34
	SHC	3.26	7.34	10.07	–0.63	2.54	6.29	–4.01	–0.30	2.80
	kW	3.96	4.02	4.08	4.01	4.08	4.11	4.06	4.00	4.03

LEGEND

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

NOTES:

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

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

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

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

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

Table 8 (cont.) – COOLING CAPACITIES 2–STAGE COOLING

RAH090				AMBIENT TEMPERATURE													
				85			95			105			115			125		
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
2250 Cfm	EA (wB)	58	TC	81	81	91.8	77.9	77.9	88.4	74.7	74.7	84.6	71.1	71.1	80.6	67.3	67.3	76.3
			SHC	70.2	81	91.8	67.5	77.9	88.4	64.7	74.7	84.6	61.6	71.1	80.6	58.3	67.3	76.3
		62	TC	85.1	85.1	87.2	81.1	81.1	85.3	76.9	76.9	83.2	72.5	72.5	81	67.8	67.8	78.5
			SHC	63.3	75.3	87.2	61.4	73.4	85.3	59.5	71.3	83.2	57.3	69.2	81	55	66.7	78.5
		67	TC	93.3	93.3	93.3	89	89	89	84.3	84.3	84.3	79.4	79.4	79.4	74.1	74.1	74.1
			SHC	52.3	64.2	76.2	50.4	62.4	74.4	48.4	60.4	72.4	46.4	58.3	70.3	44.2	56.2	68.1
		72	TC	102.3	102.3	102.3	97.5	97.5	97.5	92.5	92.5	92.5	87.1	87.1	87.1	81.3	81.3	81.3
			SHC	40.9	53	65	39	51.1	63.1	37.1	49.2	61.2	35.1	47.1	59.1	32.9	44.9	57
		76	TC	–	110	110	–	104.8	104.8	–	99.4	99.4	–	93.5	93.5	–	87.3	87.3
			SHC	–	43.7	56.1	–	41.9	54.2	–	39.9	52.2	–	37.9	50.2	–	35.8	48
2625 Cfm	EA (wB)	58	TC	85.4	85.4	96.9	82.1	82.1	93.1	78.6	78.6	89.1	74.7	74.7	84.7	70.5	70.5	80
			SHC	74	85.4	96.9	71.2	82.1	93.1	68.1	78.6	89.1	64.7	74.7	84.7	61.1	70.5	80
		62	TC	87.8	87.8	95.7	83.7	83.7	93.6	79.3	79.3	91.3	75	75	87.8	70.6	70.6	83.2
			SHC	68.2	82	95.7	66.2	79.9	93.6	64.1	77.7	91.3	61.3	74.6	87.8	58	70.6	83.2
		67	TC	96	96	96	91.4	91.4	91.4	86.5	86.5	86.5	81.3	81.3	81.3	75.8	75.8	75.8
			SHC	55.4	69.3	83.2	53.5	67.4	81.2	51.5	65.4	79.2	49.4	63.2	77.1	47.2	61	74.8
		72	TC	105.2	105.2	105.2	100.1	100.1	100.1	94.8	94.8	94.8	89.1	89.1	89.1	83	83	83
			SHC	42.3	56.2	70.2	40.4	54.3	68.2	38.4	52.3	66.2	36.3	50.2	64.1	34.1	48	61.9
		76	TC	–	112.9	112.9	–	107.5	107.5	–	101.7	101.7	–	95.6	95.6	–	89.1	89.1
			SHC	–	45.5	59.8	–	43.6	57.8	–	41.7	55.8	–	39.6	53.7	–	37.4	51.5
3000 Cfm	EA (wB)	58	TC	89.2	89.2	101.1	85.6	85.6	97.1	81.8	81.8	92.8	77.7	77.7	88.1	73.2	73.2	83
			SHC	77.3	89.2	101.1	74.2	85.6	97.1	70.9	81.8	92.8	67.3	77.7	88.1	63.5	73.2	83
		62	TC	90.1	90.1	103.5	86.1	86.1	100.3	81.9	81.9	96.5	77.8	77.8	91.6	73.3	73.3	86.4
			SHC	72.7	88.1	103.5	70.1	85.2	100.3	67.3	81.9	96.5	63.9	77.8	91.6	60.2	73.3	86.4
		67	TC	98.1	98.1	98.1	93.3	93.3	93.3	88.2	88.2	88.2	82.8	82.8	83.6	77	77	81.3
			SHC	58.4	74.1	89.9	56.5	72.2	87.9	54.4	70.1	85.8	52.3	67.9	83.6	50	65.6	81.3
		72	TC	107.3	107.3	107.3	102.1	102.1	102.1	96.5	96.5	96.5	90.6	90.6	90.6	84.3	84.3	84.3
			SHC	43.5	59.3	75.1	41.6	57.3	73.1	39.5	55.3	71.1	37.4	53.2	69	35.2	50.9	66.7
		76	TC	–	115.2	115.2	–	109.5	109.5	–	103.5	103.5	–	97.2	97.2	–	90.4	90.4
			SHC	–	47.2	63.2	–	45.3	61.3	–	43.3	59.3	–	41.2	57.1	–	38.9	54.8
3375 Cfm	EA (wB)	58	TC	92.4	92.4	104.7	88.6	88.6	100.4	84.6	84.6	95.9	80.2	80.2	90.9	75.5	75.5	85.6
			SHC	80	92.4	104.7	76.8	88.6	100.4	73.3	84.6	95.9	69.5	80.2	90.9	65.4	75.5	85.6
		62	TC	92.5	92.5	109	88.7	88.7	104.5	84.6	84.6	99.7	80.3	80.3	94.6	75.6	75.6	89
			SHC	76	92.5	109	72.9	88.7	104.5	69.6	84.6	99.7	66	80.3	94.6	62.1	75.6	89
		67	TC	99.7	99.7	99.7	94.8	94.8	94.8	89.5	89.5	92.2	84	84	89.9	78	78	87.4
			SHC	61.3	78.8	96.4	59.3	76.8	94.3	57.2	74.7	92.2	55	72.4	89.9	52.6	70	87.4
		72	TC	109	109	109	103.6	103.6	103.6	97.8	97.8	97.8	91.8	91.8	91.8	85.3	85.3	85.3
			SHC	44.6	62.2	79.9	42.7	60.3	77.9	40.6	58.2	75.8	38.5	56.1	73.6	36.2	53.8	71.3
		76	TC	–	116.9	116.9	–	111.1	111.1	–	104.9	104.9	–	98.4	98.4	–	91.5	91.5
			SHC	–	48.8	66.6	–	46.8	64.6	–	44.8	62.6	–	42.7	60.4	–	40.4	58.1
3750 Cfm	EA (wB)	58	TC	95.1	95.1	107.8	91.2	91.2	103.3	86.9	86.9	98.5	82.3	82.3	93.3	77.4	77.4	87.8
			SHC	82.4	95.1	107.8	79	91.2	103.3	75.3	86.9	98.5	71.3	82.3	93.3	67.1	77.4	87.8
		62	TC	95.2	95.2	112.2	91.2	91.2	107.5	87	87	102.5	82.4	82.4	97.1	77.5	77.5	91.3
			SHC	78.2	95.2	112.2	75	91.2	107.5	71.5	87	102.5	67.7	82.4	97.1	63.7	77.5	91.3
		67	TC	101.1	101.1	102.6	96	96	100.5	90.6	90.6	98.3	84.9	84.9	95.9	78.9	78.9	93.2
			SHC	64	83.3	102.6	62	81.2	100.5	59.8	79.1	98.3	57.6	76.7	95.9	55.1	74.2	93.2
		72	TC	110.4	110.4	110.4	104.8	104.8	104.8	98.9	98.9	98.9	92.7	92.7	92.7	86.1	86.1	86.1
			SHC	45.7	65.1	84.5	43.7	63.1	82.5	41.7	61	80.4	39.5	58.8	78.2	37.2	56.5	75.9
		76	TC	–	118.3	118.3	–	112.4	112.4	–	106	106	–	99.4	99.4	–	92.3	92.3
			SHC	–	50.3	69.9	–	48.3	67.9	–	46.2	65.8	–	44.1	63.6	–	41.8	61.3

* See Minimum–Maximum Airflow Ratings in Table 4. Do not operate outside these limits.

LEGEND:

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

Table 8 (cont.) – COOLING CAPACITIES 2–STAGE COOLING

RAH090 (7.5 TONS) – UNIT WITH HOT GAS RE–HEAT SYSTEM IS SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		2250			3000			3750		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	101.9	92.9	84.0	109.6	96.3	89.9	113.6	103.0	94.5
	SHC	43.9	54.6	66.7	50.2	62.7	80.9	56.8	75.8	93.0
	kW	4.60	4.54	4.48	4.65	4.50	4.52	4.68	4.60	4.55
85	TC	96.6	87.3	78.9	102.8	92.9	84.5	106.5	96.7	88.7
	SHC	36.8	49.3	61.9	43.8	59.7	75.9	50.2	69.8	87.4
	kW	5.15	5.09	5.04	5.20	5.13	5.08	5.22	5.16	5.11
95	TC	90.2	81.4	73.5	95.7	86.8	78.8	99.4	90.1	82.7
	SHC	30.8	43.9	56.9	37.2	54.1	70.5	43.6	63.8	81.6
	kW	5.78	5.72	5.67	5.82	5.76	5.71	5.85	5.79	5.74
105	TC	83.5	75.2	67.8	88.8	80.2	72.7	92.0	83.2	76.4
	SHC	24.6	38.2	51.7	30.8	48.0	64.9	36.7	57.4	75.5
	kW	6.50	6.45	6.40	6.54	6.48	6.43	6.57	6.50	6.46
115	TC	76.3	68.7	61.8	81.1	73.2	66.3	84.1	76.0	69.7
	SHC	17.9	32.1	46.2	23.7	41.5	59.0	29.4	50.7	69.0
	kW	7.32	7.28	7.24	7.35	7.31	7.27	7.38	7.32	7.29
125	TC	68.6	61.6	55.4	73.0	65.7	59.3	75.8	68.2	62.6
	SHC	10.9	25.6	40.3	16.2	34.7	52.6	21.7	43.6	62.1
	kW	8.24	8.22	8.20	8.27	8.23	8.21	8.29	8.25	8.22

RAH090 (7.5 TONS) – UNIT WITH HOT GAS RE–HEAT SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator – Cfm								
		2250	3000	3750	2250	3000	3750	2250	3000	3750
80	TC	24.06	26.14	27.48	25.50	27.56	28.78	26.59	28.71	29.96
	SHC	–5.55	1.16	8.38	–10.20	–4.69	1.40	–14.39	–9.85	–4.68
	kW	4.43	4.42	4.41	4.40	4.41	4.42	4.42	4.43	4.44
75	TC	24.87	27.26	28.47	26.06	28.53	30.02	27.67	29.77	31.02
	SHC	–4.77	2.23	9.32	–9.65	–3.76	2.59	–13.35	–8.83	–3.66
	kW	4.42	4.36	4.38	4.45	4.38	4.36	4.36	4.39	4.40
70	TC	25.16	27.88	28.56	26.72	29.10	30.26	28.17	30.20	31.83
	SHC	–4.48	2.84	9.45	–9.02	–3.19	2.85	–12.88	–8.40	–2.87
	kW	4.49	4.38	4.48	4.44	4.41	4.44	4.40	4.44	4.40
60	TC	26.43	28.14	29.14	27.49	29.24	30.27	28.50	30.24	32.33
	SHC	–3.25	3.14	10.05	–8.26	–2.99	2.94	–12.54	–8.29	–2.32
	kW	4.48	4.55	4.59	4.53	4.60	4.65	4.58	4.65	4.54
50	TC	27.19	29.55	31.26	28.94	30.59	32.36	30.54	31.54	32.52
	SHC	–2.50	4.50	12.05	–6.87	–1.69	4.92	–10.60	–7.02	–2.07
	kW	4.53	4.51	4.46	4.48	4.57	4.52	4.43	4.63	4.70
40	TC	27.92	31.58	32.82	28.81	32.60	33.54	31.82	33.50	34.44
	SHC	–1.79	6.42	10.84	–6.94	0.23	6.05	–9.36	–5.15	–0.25
	kW	4.57	4.37	4.46	4.65	4.45	4.51	4.40	4.51	4.58

LEGEND

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

NOTES:

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

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

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

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

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

Table 8 (cont.) – COOLING CAPACITIES 2–STAGE COOLING

RAH102				AMBIENT TEMPERATURE													
				85			95			105			115			125		
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
2550 Cfm	EA (wB)	58	TC	90.5	90.5	102.4	87	87	98.5	83.2	83.2	94.2	79.1	79.1	89.6	74.7	74.7	84.6
			SHC	78.6	90.5	102.4	75.5	87	98.5	72.2	83.2	94.2	68.7	79.1	89.6	64.8	74.7	84.6
		62	TC	94.8	94.8	98.1	90.2	90.2	95.8	85.4	85.4	93.4	80.3	80.3	90.8	74.9	74.9	87.8
			SHC	71.2	84.6	98.1	69.1	82.4	95.8	66.8	80.1	93.4	64.3	77.5	90.8	61.6	74.7	87.8
		67	TC	104	104	104	99	99	99	93.7	93.7	93.7	88	88	88	81.9	81.9	81.9
			SHC	58.7	72.2	85.7	56.6	70	83.5	54.3	67.8	81.3	52	65.4	78.9	49.5	62.9	76.4
		72	TC	114	114	114	108.5	108.5	108.5	102.7	102.7	102.7	96.5	96.5	96.5	89.8	89.8	89.8
			SHC	45.8	59.3	72.9	43.7	57.2	70.8	41.4	55	68.5	39.1	52.7	66.2	36.7	50.2	63.7
		76	TC	–	122.4	122.4	–	116.5	116.5	–	110.3	110.3	–	103.7	103.7	–	96.5	96.5
			SHC	–	48.8	62.8	–	46.7	60.6	–	44.5	58.4	–	42.2	56	–	39.8	53.5
2975 Cfm	EA (wB)	58	TC	95.4	95.4	108	91.6	91.6	103.7	87.5	87.5	99	83.1	83.1	94	78.3	78.3	88.6
			SHC	82.8	95.4	108	79.5	91.6	103.7	75.9	87.5	99	72.1	83.1	94	68	78.3	88.6
		62	TC	97.7	97.7	107.4	93	93	104.9	88.1	88.1	102.1	83.2	83.2	97.9	78.4	78.4	92.2
			SHC	76.7	92	107.4	74.3	89.6	104.9	71.8	86.9	102.1	68.6	83.2	97.9	64.6	78.4	92.2
		67	TC	106.9	106.9	106.9	101.6	101.6	101.6	96	96	96	90.1	90.1	90.1	83.7	83.7	83.9
			SHC	62.3	77.8	93.4	60.1	75.6	91.2	57.8	73.3	88.9	55.4	70.9	86.5	52.8	68.3	83.9
		72	TC	117	117	117	111.2	111.2	111.2	105.1	105.1	105.1	98.6	98.6	98.6	91.7	91.7	91.7
			SHC	47.3	62.9	78.6	45.1	60.8	76.4	42.9	58.5	74.1	40.5	56.1	71.7	38	53.6	69.2
		76	TC	–	125.6	125.6	–	119.4	119.4	–	112.8	112.8	–	105.9	105.9	–	98.4	98.4
			SHC	–	50.8	66.8	–	48.7	64.6	–	46.4	62.3	–	44.1	59.9	–	41.6	57.4
3400 Cfm	EA (wB)	58	TC	99.5	99.5	112.7	95.4	95.4	108	91	91	103	86.3	86.3	97.7	81.2	81.2	91.9
			SHC	86.4	99.5	112.7	82.8	95.4	108	79	91	103	74.9	86.3	97.7	70.5	81.2	91.9
		62	TC	100.3	100.3	115.8	95.6	95.6	112.4	91.2	91.2	107.2	86.4	86.4	101.6	81.3	81.3	95.6
			SHC	81.5	98.6	115.8	78.7	95.6	112.4	75.1	91.2	107.2	71.2	86.4	101.6	67	81.3	95.6
		67	TC	109.1	109.1	109.1	103.6	103.6	103.6	97.8	97.8	97.8	91.6	91.6	93.7	85	85	90.9
			SHC	65.6	83.2	100.8	63.4	81	98.6	61	78.6	96.2	58.6	76.1	93.7	55.9	73.4	90.9
		72	TC	119.3	119.3	119.3	113.3	113.3	113.3	107	107	107	100.3	100.3	100.3	93	93	93
			SHC	48.7	66.4	84.1	46.5	64.2	81.8	44.2	61.8	79.5	41.8	59.4	77.1	39.2	56.9	74.5
		76	TC	–	128	128	–	121.5	121.5	–	114.7	114.7	–	107.5	107.5	–	99.8	99.8
			SHC	–	52.6	70.6	–	50.5	68.4	–	48.2	66.1	–	45.8	63.6	–	43.3	61.1
3825 Cfm	EA (wB)	58	TC	103	103	116.6	98.7	98.7	111.7	94	94	106.4	89	89	100.8	83.6	83.6	94.7
			SHC	89.4	103	116.6	85.6	98.7	111.7	81.6	94	106.4	77.3	89	100.8	72.6	83.6	94.7
		62	TC	103.1	103.1	121.3	98.8	98.8	116.1	94.1	94.1	110.7	89.1	89.1	104.8	83.7	83.7	98.4
			SHC	85	103.1	121.3	81.4	98.8	116.1	77.5	94.1	110.7	73.4	89.1	104.8	69	83.7	98.4
		67	TC	110.9	110.9	110.9	105.2	105.2	105.7	99.2	99.2	103.2	92.9	92.9	100.5	86.1	86.1	97.6
			SHC	68.8	88.4	108	66.5	86.1	105.7	64.1	83.7	103.2	61.6	81.1	100.5	58.9	78.3	97.6
		72	TC	121.2	121.2	121.2	114.9	114.9	114.9	108.4	108.4	108.4	101.5	101.5	101.5	94.1	94.1	94.1
			SHC	50	69.7	89.4	47.7	67.4	87.1	45.4	65.1	84.7	43	62.6	82.3	40.4	60	79.6
		76	TC	–	129.8	129.8	–	123.2	123.2	–	116.2	116.2	–	108.8	108.8	–	100.9	100.9
			SHC	–	54.4	74.3	–	52.2	72.1	–	49.9	69.7	–	47.5	67.3	–	44.9	64.7
4250 Cfm	EA (wB)	58	TC	106	106	119.9	101.4	101.4	114.8	96.6	96.6	109.3	91.3	91.3	103.4	85.7	85.7	97
			SHC	92	106	119.9	88	101.4	114.8	83.8	96.6	109.3	79.3	91.3	103.4	74.4	85.7	97
		62	TC	106.1	106.1	124.7	101.5	101.5	119.4	96.6	96.6	113.6	91.4	91.4	107.5	85.7	85.7	100.8
			SHC	87.4	106.1	124.7	83.6	101.5	119.4	79.6	96.6	113.6	75.3	91.4	107.5	70.6	85.7	100.8
		67	TC	112.3	112.3	114.9	106.5	106.5	112.5	100.4	100.4	109.9	93.9	93.9	107	87.1	87.1	103.8
			SHC	71.8	93.4	114.9	69.5	91	112.5	67	88.5	109.9	64.4	85.7	107	61.6	82.7	103.8
		72	TC	122.6	122.6	122.6	116.2	116.2	116.2	109.5	109.5	109.5	102.5	102.5	102.5	94.9	94.9	94.9
			SHC	51.2	72.8	94.5	48.9	70.5	92.2	46.6	68.2	89.8	44.1	65.7	87.3	41.5	63.1	84.6
		76	TC	–	131.3	131.3	–	124.5	124.5	–	117.4	117.4	–	109.8	109.8	–	101.8	101.8
			SHC	–	56	77.9	–	53.8	75.6	–	51.5	73.3	–	49.1	70.8	–	46.5	68.1

* See Minimum–Maximum Airflow Ratings in Table 4. Do not operate outside these limits.

LEGEND:

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

Table 8 (cont.) – COOLING CAPACITIES 2–STAGE COOLING

RAH102 (8.5 TONS) – UNIT WITH HOT GAS RE–HEAT SYSTEM IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		2550			3400			4250		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	114.7	103.9	93.9	104.3	110.6	100.5	122.9	114.6	105.5
	SHC	48.7	62.2	75.7	84.7	74.2	91.4	60.6	85.1	103.9
	kW	5.17	5.09	5.01	5.10	5.14	5.07	5.20	5.18	5.11
85	TC	107.8	97.4	88.0	114.2	102.9	94.2	116.2	107.6	98.7
	SHC	42.3	56.3	70.3	49.7	67.0	85.6	61.1	78.7	97.3
	kW	5.79	5.71	5.63	5.85	5.75	5.69	5.88	5.80	5.72
95	TC	100.5	90.8	82.0	106.6	96.2	87.7	110.2	100.1	92.2
	SHC	35.6	50.2	64.8	42.8	61.0	79.6	49.2	71.9	91.0
	kW	6.50	6.42	6.34	6.56	6.46	6.40	6.59	6.50	6.44
105	TC	92.7	83.8	75.7	98.5	89.0	80.9	102.1	92.4	85.1
	SHC	28.5	43.9	59.1	35.4	54.6	73.4	41.9	64.9	84.2
	kW	7.30	7.23	7.16	7.36	7.28	7.21	7.40	7.31	7.25
115	TC	85.0	76.5	69.0	90.0	81.3	73.8	93.3	84.4	77.7
	SHC	21.5	37.4	53.1	27.7	47.6	66.9	34.0	57.7	77.0
	kW	8.23	8.16	8.10	8.27	8.20	8.14	8.31	8.23	8.18
125	TC	76.5	68.8	61.8	81.1	72.9	66.2	84.1	75.8	69.8
	SHC	13.8	30.4	46.7	19.7	40.0	60.1	25.6	50.0	69.8
	kW	9.25	9.20	9.16	9.28	9.22	9.19	9.31	9.25	9.21

RAH102 (8.5 TONS) – UNIT WITH HOT GAS RE–HEAT SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator – Cfm								
		2550	3400	4250	2550	3400	4250	2550	3400	4250
80	TC	27.53	29.56	30.72	28.95	31.03	32.22	30.26	32.33	33.58
	SHC	–3.84	3.82	11.92	–9.25	–2.92	4.09	–13.93	–8.77	–2.82
	kW	5.09	5.11	5.13	5.11	5.14	5.15	5.14	5.15	5.17
75	TC	29.09	31.60	32.81	30.77	33.10	34.33	32.30	34.45	35.73
	SHC	–2.34	5.72	13.84	–7.51	–0.98	6.04	–11.95	–6.78	–0.82
	kW	4.97	4.91	4.93	4.95	4.94	4.95	4.94	4.96	4.97
70	TC	29.58	32.45	33.63	31.48	34.12	35.55	33.12	35.65	37.38
	SHC	–1.88	6.54	14.63	–6.83	0.00	7.20	–11.16	–5.63	0.75
	kW	4.99	4.90	4.92	4.96	4.90	4.89	4.93	4.90	4.86
60	TC	30.71	33.44	34.52	32.90	34.79	35.86	34.07	36.02	37.09
	SHC	–0.78	7.52	15.54	–5.47	0.68	7.57	–10.28	–5.24	0.55
	kW	5.03	4.95	5.00	4.94	5.01	5.05	4.99	5.06	5.09
50	TC	32.63	34.31	35.26	33.81	35.53	36.51	34.90	36.66	37.65
	SHC	1.05	8.38	16.29	–4.60	1.42	8.24	–9.49	–4.59	1.14
	kW	4.92	5.01	5.06	4.99	5.07	5.13	5.05	5.14	5.19
40	TC	31.94	33.26	35.77	32.96	35.70	37.86	35.17	38.01	38.92
	SHC	0.45	7.47	13.75	–5.35	1.63	9.52	–9.20	–3.29	2.36
	kW	5.16	5.27	5.20	5.25	5.19	5.10	5.16	5.11	5.17

LEGEND

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

NOTES:

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

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

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

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

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

Table 8 (cont.) – COOLING CAPACITIES 2–STAGE COOLING

RAH110				AMBIENT TEMPERATURE															
				85			95			105			115			125			
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
3000 Cfm	EA (wB)	58	THC	105.6	105.6	118.0	101.7	101.7	114.1	97.5	97.5	109.9	97.5	97.5	109.9	87.8	87.8	100.2	
			SHC	93.3	105.6	118.0	89.4	101.7	114.1	85.1	97.5	109.9	85.1	97.5	109.9	75.4	87.8	100.2	
		62	THC	110.6	110.6	110.6	105.5	105.5	108.0	100.1	100.1	105.5	100.1	100.1	105.5	88.5	88.5	98.5	
			SHC	85.6	98.0	110.3	83.3	95.7	108.0	80.7	93.1	105.5	80.7	93.1	105.5	73.8	86.1	98.5	
		67	THC	120.5	120.5	120.5	115.0	115.0	115.0	109.0	109.0	109.0	109.0	109.0	109.0	95.7	95.7	95.7	
			SHC	70.0	82.3	94.7	67.7	80.1	92.5	65.4	77.8	90.1	65.4	77.8	90.1	60.0	72.4	84.8	
		72	THC	131.4	131.4	131.4	125.4	125.4	125.4	118.8	118.8	118.8	118.8	118.8	118.8	104.2	104.2	104.2	
			SHC	53.9	66.3	78.7	51.8	64.2	76.6	49.5	61.9	74.3	49.5	61.9	74.3	44.3	56.7	69.1	
		76	THC	–	140.8	140.8	–	134.2	134.2	–	127.0	127.0	–	127.0	127.0	–	111.5	111.5	
			SHC	–	52.5	64.9	–	50.8	63.2	–	48.7	61.1	–	48.7	61.1	–	44.0	56.4	
3500 Cfm	EA (wB)	58	THC	110.9	110.9	125.3	106.7	106.7	121.1	102.1	102.1	116.5	102.1	102.1	116.5	91.6	91.6	106.0	
			SHC	96.4	110.9	125.3	92.2	106.7	121.1	87.6	102.1	116.5	87.6	102.1	116.5	77.1	91.6	106.0	
		62	THC	113.6	113.6	120.7	108.4	108.4	118.1	103.1	103.1	114.5	103.1	103.1	114.5	92.0	92.0	105.3	
			SHC	91.9	106.3	120.7	89.3	103.7	118.1	85.7	100.1	114.5	85.7	100.1	114.5	76.4	90.8	105.3	
		67	THC	123.5	123.5	123.5	117.8	117.8	117.8	111.5	111.5	111.5	111.5	111.5	111.5	97.6	97.6	97.6	
			SHC	74.2	88.6	103.1	72.2	86.6	101.0	69.8	84.3	98.7	69.8	84.3	98.7	64.3	78.8	93.2	
		72	THC	134.6	134.6	134.6	128.2	128.2	128.2	121.3	121.3	121.3	121.3	121.3	121.3	106.1	106.1	106.1	
			SHC	55.9	70.3	84.8	53.7	68.1	82.6	51.4	65.8	80.2	51.4	65.8	80.2	46.1	60.6	75.0	
		76	THC	–	144.0	144.0	–	137.1	137.1	–	129.7	129.7	–	129.7	129.7	–	113.5	113.5	
			SHC	–	55.3	69.7	–	53.1	67.6	–	50.9	65.4	–	50.9	65.4	–	46.0	60.5	
4000 Cfm	EA (wB)	58	THC	115.3	115.3	131.8	110.7	110.7	127.2	105.8	105.8	122.3	105.8	105.8	122.3	94.6	94.6	111.1	
			SHC	98.8	115.3	131.8	94.2	110.7	127.2	89.3	105.8	122.3	89.3	105.8	122.3	78.1	94.6	111.1	
		62	THC	116.5	116.5	129.1	112.0	112.0	124.0	106.5	106.5	120.9	106.5	106.5	120.9	94.7	94.7	111.2	
			SHC	96.1	112.6	129.1	91.0	107.5	124.0	87.9	104.4	120.9	87.9	104.4	120.9	78.2	94.7	111.2	
		67	THC	125.9	125.9	125.9	119.8	119.8	119.8	113.3	113.3	113.3	113.3	113.3	113.3	99.1	99.1	101.1	
			SHC	78.2	94.7	111.2	76.0	92.5	109.0	73.5	90.0	106.5	73.5	90.0	106.5	68.1	84.6	101.1	
		72	THC	137.0	137.0	137.0	130.3	130.3	130.3	123.2	123.2	123.2	123.2	123.2	123.2	107.5	107.5	107.5	
			SHC	57.7	74.2	90.7	55.4	71.9	88.4	53.0	69.5	86.0	53.0	69.5	86.0	47.7	64.2	80.7	
		76	THC	–	146.5	146.5	–	139.3	139.3	–	131.6	131.6	–	131.6	131.6	–	115.0	115.0	
			SHC	–	57.4	73.9	–	55.3	71.8	–	53.0	69.5	–	53.0	69.5	–	48.0	64.5	
4500 Cfm	EA (wB)	58	THC	118.9	118.9	137.5	114.1	114.1	132.7	108.9	108.9	127.5	108.9	108.9	127.5	97.2	97.2	115.8	
			SHC	100.3	118.9	137.5	95.5	114.1	132.7	90.3	108.9	127.5	90.3	108.9	127.5	78.6	97.2	115.8	
		62	THC	119.9	119.9	135.3	115.0	115.0	130.8	109.2	109.2	126.7	109.2	109.2	126.7	97.2	97.2	115.8	
			SHC	98.2	116.8	135.3	93.7	112.3	130.8	89.6	108.2	126.7	89.6	108.2	126.7	78.7	97.2	115.8	
		67	THC	127.7	127.7	127.7	121.4	121.4	121.4	114.8	114.8	114.8	114.8	114.8	114.8	100.1	100.1	108.5	
			SHC	82.1	100.7	119.3	79.8	98.3	116.9	77.2	95.8	114.4	77.2	95.8	114.4	71.4	89.9	108.5	
		72	THC	138.9	138.9	138.9	132.1	132.1	132.1	124.7	124.7	124.7	124.7	124.7	124.7	108.6	108.6	108.6	
			SHC	59.3	77.9	96.5	57.2	75.7	94.3	54.8	73.3	91.9	54.8	73.3	91.9	49.3	67.9	86.5	
		76	THC	–	148.4	148.4	–	141.1	141.1	–	133.2	133.2	–	133.2	133.2	–	116.1	116.1	
			SHC	–	59.4	78.0	–	57.2	75.8	–	54.9	73.5	–	54.9	73.5	–	49.9	68.4	
5000 Cfm	EA (wB)	58	THC	122.0	122.0	142.6	117.0	117.0	137.6	111.6	111.6	132.2	111.6	111.6	132.2	99.3	99.3	119.9	
			SHC	101.4	122.0	142.6	96.4	117.0	137.6	90.9	111.6	132.2	90.9	111.6	132.2	78.7	99.3	119.9	
		62	THC	122.7	122.7	141.4	117.1	117.1	137.7	111.6	111.6	132.2	111.6	111.6	132.2	99.4	99.4	120.0	
			SHC	100.2	120.8	141.4	96.4	117.1	137.7	91.0	111.6	132.2	91.0	111.6	132.2	78.8	99.4	120.0	
		67	THC	129.2	129.2	129.2	122.8	122.8	124.6	115.9	115.9	121.9	115.9	115.9	121.9	101.1	101.1	115.7	
			SHC	85.7	106.4	127.0	83.3	104.0	124.6	80.7	101.3	121.9	80.7	101.3	121.9	74.4	95.1	115.7	
		72	THC	140.5	140.5	140.5	133.4	133.4	133.4	125.9	125.9	125.9	125.9	125.9	125.9	109.6	109.6	109.6	
			SHC	61.0	81.6	102.3	58.7	79.3	99.9	56.3	76.9	97.5	56.3	76.9	97.5	50.9	71.5	92.1	
		76	THC	–	150.1	150.1	–	142.6	142.6	–	134.5	134.5	–	134.5	134.5	–	117.1	117.1	
			SHC	–	61.4	82.0	–	59.2	79.8	–	56.8	77.4	–	56.8	77.4	–	51.7	72.3	

***** See Minimum–Maximum Airflow Ratings in Table 4. Do not operate outside these limits.

LEGEND:

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

NOTES:

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

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

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

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

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

Table 8 (cont.) – COOLING CAPACITIES 2–STAGE COOLING

RAH110 (10 TONS) – UNIT WITH HOT GAS RE–HEAT SYSTEM IN SUBCOOLING MODE										
Temp (F) Air Entering Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		3000			4000			5000		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	121.34	110.46	99.60	139.20	125.18	111.17	157.20	140.10	110.50
	SHC	58.86	72.03	85.20	67.31	80.25	93.18	74.00	86.80	72.00
	kW	6.61	6.54	6.45	6.65	6.58	6.50	6.67	6.62	6.53
85	TC	115.30	105.01	94.73	128.03	114.90	101.77	140.90	124.90	105.00
	SHC	45.81	62.19	78.57	55.02	71.16	87.29	62.30	78.30	62.20
	kW	6.76	6.88	6.78	6.80	6.73	6.83	6.82	6.77	6.87
95	TC	109.26	99.57	89.89	116.87	104.62	92.38	124.60	109.70	99.60
	SHC	32.76	52.35	71.93	42.70	62.07	81.40	50.60	69.80	52.30
	kW	7.55	7.49	7.39	7.58	7.51	7.45	7.60	7.56	7.49
105	TC	103.21	94.13	85.04	105.71	94.34	82.98	108.20	94.60	94.10
	SHC	19.71	42.51	65.30	30.45	52.98	75.51	39.00	61.30	42.50
	kW	8.47	8.42	8.32	8.51	8.44	8.37	8.53	8.49	8.41
115	TC	97.17	88.68	80.20	94.54	84.06	73.58	91.90	79.40	88.70
	SHC	6.67	32.66	58.66	18.16	43.89	69.62	27.30	52.80	32.60
	kW	9.42	9.37	9.27	9.46	9.39	9.32	9.48	9.44	9.36
125	TC	91.12	83.24	75.36	83.38	73.78	64.19	75.60	64.20	83.20
	SHC	–6.40	22.82	52.03	5.87	34.80	63.73	15.60	44.30	22.80
	kW	10.35	10.30	10.20	10.39	10.32	10.25	10.41	10.37	10.29

RAH110 (10 TONS) – UNIT WITH HOT GAS RE–HEAT SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Entering Condenser (Edb)		AIR ENTERING EVAPORATOR – Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator – Cfm								
		3000	4000	5000	3000	4000	5000	3000	4000	5000
75	TC	46.00	49.70	52.50	50.20	52.60	55.00	51.40	55.60	57.90
	SHC	8.50	18.40	26.50	3.60	11.90	18.50	–1.10	5.20	11.70
	kW	6.56	6.50	6.42	6.55	6.48	6.40	6.53	6.49	6.40
85	TC	47.80	51.30	54.10	51.70	54.20	56.80	53.30	57.50	59.70
	SHC	10.20	20.00	28.20	5.30	13.40	20.10	0.50	6.80	13.20
	kW	6.51	6.45	6.36	6.50	6.44	6.35	6.47	6.44	6.35
95	TC	50.00	53.60	56.20	54.00	56.30	58.80	55.30	59.60	61.80
	SHC	12.00	21.60	29.80	6.90	15.00	21.70	2.20	8.50	14.70
	kW	6.45	6.40	6.29	6.45	6.39	6.28	6.42	6.39	6.28
105	TC	54.00	57.50	60.10	57.90	60.20	62.70	59.30	63.50	65.70
	SHC	15.20	24.70	31.90	10.20	18.30	24.90	5.40	11.80	18.00
	kW	6.33	6.28	6.19	6.33	6.27	6.17	6.30	6.27	6.17
115	TC	58.00	61.40	64.20	61.80	64.40	66.50	63.30	67.20	69.50
	SHC	18.50	28.00	36.20	13.50	21.50	28.20	8.70	15.10	21.30
	kW	6.22	6.17	6.10	6.22	6.16	6.08	6.19	6.16	6.08
125	TC	61.90	65.30	68.00	65.70	68.10	70.50	67.20	71.30	73.50
	SHC	21.70	31.10	39.30	16.70	24.90	31.20	12.00	18.30	24.60
	kW	6.10	6.05	5.98	6.10	6.04	5.96	6.07	6.04	5.96

LEGEND

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

NOTES:

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

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

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

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

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

Table 8 (cont.) – COOLING CAPACITIES 2–STAGE COOLING

RAH120				AMBIENT TEMPERATURE															
				85			95			105			115			125		
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
3000 Cfm	EA (wb)	58	TC	104.3	104.3	118.5	99.5	99.5	113	93.4	93.4	106.1	86.7	86.7	98.6	79.7	79.7	90.6
			SHC	90.2	104.3	118.5	86	99.5	113	80.6	93.4	106.1	74.9	86.7	98.6	68.8	79.7	90.6
		62	TC	109.7	109.7	112.4	103.6	103.6	109.5	95.9	95.9	105.9	87.6	87.6	101.2	79.8	79.8	94.4
			SHC	80.8	96.6	112.4	78	93.8	109.5	74.5	90.2	105.9	70.3	85.7	101.2	65.2	79.8	94.4
		67	TC	121.5	121.5	121.5	115.4	115.4	115.4	107.8	107.8	107.8	98.7	98.7	98.7	89.1	89.1	89.1
			SHC	65.2	81	96.9	62.7	78.6	94.5	59.7	75.6	91.5	56.2	72	87.9	52.5	68.3	84.2
		72	TC	133	133	133	127.1	127.1	127.1	120.5	120.5	120.5	112	112	112	102.1	102.1	102.1
			SHC	48.7	64.5	80.4	46.5	62.4	78.3	44.1	60	75.9	41.2	57.1	73	37.8	53.7	69.6
		76	TC	–	140.9	140.9	–	135.1	135.1	–	128.4	128.4	–	121.3	121.3	–	112.5	112.5
			SHC	–	50.6	67.1	–	48.7	65.2	–	46.6	63.1	–	44.3	60.7	–	41.4	57.7
3500 Cfm	EA (wb)	58	TC	109.9	109.9	124.9	104.9	104.9	119.3	98.7	98.7	112.2	91.6	91.6	104.2	84.2	84.2	95.8
			SHC	94.9	109.9	124.9	90.6	104.9	119.3	85.2	98.7	112.2	79	91.6	104.2	72.6	84.2	95.8
		62	TC	112.8	112.8	123.1	106.7	106.7	120	99.5	99.5	115.3	91.7	91.7	108.5	84.3	84.3	99.8
			SHC	86.8	104.9	123.1	83.9	102	120	80	97.6	115.3	74.9	91.7	108.5	68.8	84.3	99.8
		67	TC	124.2	124.2	124.2	118	118	118	110.3	110.3	110.3	101	101	101	91	91	92.5
			SHC	68.4	86.7	104.9	66.1	84.3	102.6	63.2	81.5	99.8	59.6	78	96.3	55.9	74.2	92.5
		72	TC	135.2	135.2	135.2	129.1	129.1	129.1	122.4	122.4	122.4	114.2	114.2	114.2	104.2	104.2	104.2
			SHC	49.2	67.3	85.4	47.1	65.3	83.4	44.8	63	81.2	42	60.4	78.7	38.7	57.1	75.5
		76	TC	–	142.4	142.4	–	136.5	136.5	–	129.6	129.6	–	122.4	122.4	–	114	114
			SHC	–	51.7	70.9	–	49.7	68.7	–	47.5	66.3	–	45.2	63.8	–	42.6	61.2
4000 Cfm	EA (wb)	58	TC	114.3	114.3	130	109.2	109.2	124.2	102.9	102.9	117	95.4	95.4	108.7	87.7	87.7	99.9
			SHC	98.6	114.3	130	94.2	109.2	124.2	88.7	102.9	117	82.2	95.4	108.7	75.5	87.7	99.9
		62	TC	115.3	115.3	132.4	109.6	109.6	128.3	102.9	102.9	121.9	95.5	95.5	113.2	87.8	87.8	104.1
			SHC	91.9	112.2	132.4	88.7	108.5	128.3	84	102.9	121.9	77.9	95.5	113.2	71.5	87.8	104.1
		67	TC	125.8	125.8	125.8	119.5	119.5	119.5	111.9	111.9	111.9	102.4	102.4	104.2	92.2	92.2	100.4
			SHC	71.3	91.8	112.3	69	89.6	110.2	66.2	86.9	107.6	62.8	83.5	104.2	59.1	79.7	100.4
		72	TC	136.3	136.3	136.3	130.2	130.2	130.2	123.4	123.4	123.4	115.4	115.4	115.4	105.3	105.3	105.3
			SHC	49.5	69.7	89.8	47.4	67.7	87.9	45.1	65.5	85.9	42.5	63.1	83.7	39.3	60.1	80.9
		76	TC	–	143.1	143.1	–	137.1	137.1	–	130.1	130.1	–	122.6	122.6	–	114.5	114.5
			SHC	–	52.2	73.2	–	50.2	71.1	–	48	68.7	–	45.7	66.4	–	43.3	64.1
4500 Cfm	EA (wb)	58	TC	117.5	117.5	133.8	112.4	112.4	127.9	106	106	120.7	98.4	98.4	112.1	90.3	90.3	103
			SHC	101.3	117.5	133.8	96.8	112.4	127.9	91.2	106	120.7	84.6	98.4	112.1	77.7	90.3	103
		62	TC	117.6	117.6	139.4	112.5	112.5	133.3	106.1	106.1	125.8	98.5	98.5	116.8	90.4	90.4	107.4
			SHC	95.9	117.6	139.4	91.6	112.5	133.3	86.4	106.1	125.8	80.1	98.5	116.8	73.5	90.4	107.4
		67	TC	126.6	126.6	126.6	120.2	120.2	120.2	112.8	112.8	114.8	103.2	103.2	111.6	93	93	107.6
			SHC	73.7	96.4	119.2	71.5	94.3	117.2	68.9	91.8	114.8	65.6	88.6	111.6	61.8	84.7	107.6
		72	TC	136.7	136.7	136.7	130.5	130.5	130.5	123.6	123.6	123.6	115.7	115.7	115.7	105.7	105.7	105.7
			SHC	49.4	71.6	93.7	47.4	69.7	91.9	45.1	67.5	89.9	42.7	65.4	88.2	39.5	62.6	85.8
		76	TC	–	143.1	143.1	–	137	137	–	129.9	129.9	–	122.4	122.4	–	114.3	114.3
			SHC	–	52.4	75.1	–	50.5	73.1	–	48.2	70.8	–	46	68.5	–	43.7	66.5
5000 Cfm	EA (wb)	58	TC	119.9	119.9	136.7	114.7	114.7	130.7	108.4	108.4	123.6	100.6	100.6	114.8	92.3	92.3	105.4
			SHC	103.2	119.9	136.7	98.6	114.7	130.7	93.2	108.4	123.6	86.4	100.6	114.8	79.2	92.3	105.4
		62	TC	120	120	142.4	114.7	114.7	136.2	108.5	108.5	128.8	100.7	100.7	119.7	92.4	92.4	109.9
			SHC	97.6	120	142.4	93.3	114.7	136.2	88.1	108.5	128.8	81.7	100.7	119.7	74.9	92.4	109.9
		67	TC	126.8	126.8	126.8	120.4	120.4	123.6	113.2	113.2	121.3	103.8	103.8	118.4	93.6	93.6	114
			SHC	75.7	100.6	125.4	73.6	98.6	123.6	71.2	96.2	121.3	68	93.2	118.4	64.2	89.1	114
		72	TC	136.5	136.5	136.5	130.2	130.2	130.2	123.2	123.2	123.2	115.5	115.5	115.5	105.6	105.6	105.6
			SHC	49.1	73.1	97	47.1	71.3	95.4	44.9	69.2	93.5	42.5	67.3	92	39.5	64.9	90.2
		76	TC	–	142.7	142.7	–	136.5	136.5	–	129.4	129.4	–	121.6	121.6	–	113.6	113.6
			SHC	–	52.2	76.7	–	50.4	74.7	–	48.2	72.4	–	45.9	70.1	–	43.7	68.3

* See Minimum–Maximum Airflow Ratings in Table 4. Do not operate outside these limits.

LEGEND:

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

Table 8 (cont.) – COOLING CAPACITIES 2–STAGE COOLING

RAH120 (10 TONS) – UNIT WITH HOT GAS RE–HEAT SYSTEM IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		3000			4000			5000		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	135.8	123.1	111.6	144.0	130.9	119.2	148.7	135.7	122.9
	SHC	56.7	72.8	88.9	66.1	86.9	107.4	74.4	100.1	121.0
	kW	6.42	6.26	6.13	6.54	6.37	6.22	6.61	6.43	6.26
85	TC	127.3	115.4	104.5	134.9	120.1	111.7	139.3	126.9	116.8
	SHC	48.6	65.4	82.1	57.5	76.6	100.2	65.4	91.8	115.0
	kW	7.20	7.04	6.90	7.31	7.11	7.00	7.38	7.21	7.07
95	TC	118.1	106.5	96.9	125.2	113.6	103.6	129.5	117.8	108.4
	SHC	39.9	57.0	74.9	48.3	70.5	92.4	56.2	83.1	106.8
	kW	8.06	7.89	7.76	8.17	8.00	7.86	8.24	8.07	7.93
105	TC	107.3	97.8	87.8	114.5	103.8	94.5	117.6	107.3	99.0
	SHC	29.6	48.7	66.2	38.1	61.3	83.8	44.9	73.1	97.5
	kW	8.99	8.85	8.72	9.11	8.95	8.82	9.16	9.01	8.88
115	TC	95.7	86.3	78.2	102.1	91.3	83.4	105.7	95.8	88.2
	SHC	18.6	37.8	57.1	26.4	49.4	73.2	33.6	62.3	87.0
	kW	10.03	9.89	9.79	10.14	9.97	9.86	10.20	10.05	9.94
125	TC	83.7	75.2	67.7	87.5	80.1	72.5	92.1	83.1	75.2
	SHC	7.3	27.4	47.2	12.5	38.8	62.9	20.6	50.3	74.2
	kW	11.17	11.06	10.98	11.23	11.13	11.03	11.30	11.17	11.07

RAH120 (10 TONS) – UNIT WITH HOT GAS RE–HEAT SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator – Cfm								
		3000	4000	5000	3000	4000	5000	3000	4000	5000
80	TC	45.83	49.08	50.90	47.62	50.84	52.72	49.16	52.45	54.33
	SHC	4.82	14.45	24.36	–1.60	6.39	14.99	–7.27	–0.59	6.73
	kW	7.33	7.46	7.55	7.40	7.53	7.62	7.46	7.60	7.68
75	TC	48.52	51.89	53.81	50.31	53.74	55.73	51.92	55.47	57.43
	SHC	7.37	17.08	27.08	0.95	9.11	17.81	–4.65	2.25	9.63
	kW	6.93	7.07	7.15	7.00	7.14	7.23	7.06	7.21	7.29
70	TC	51.15	54.66	56.69	52.96	56.60	58.66	54.65	58.34	60.43
	SHC	9.87	19.70	29.80	3.47	11.82	20.57	–2.05	4.98	12.45
	kW	6.56	6.69	6.78	6.62	6.76	6.85	6.68	6.83	6.91
60	TC	52.89	56.41	59.04	55.63	59.10	62.68	58.00	62.31	64.50
	SHC	11.58	21.44	32.07	6.06	14.26	24.41	1.21	8.78	16.36
	kW	6.60	6.80	6.72	6.53	6.71	6.51	6.46	6.48	6.58
50	TC	55.13	59.53	62.75	58.04	62.61	64.69	59.64	64.34	66.41
	SHC	13.77	24.43	35.63	8.41	17.62	26.38	2.80	10.77	18.23
	kW	6.57	6.53	6.44	6.43	6.41	6.54	6.52	6.50	6.64
40	TC	57.08	60.11	64.35	58.75	63.63	65.58	60.16	65.23	69.04
	SHC	15.67	25.05	33.55	9.13	18.64	27.28	3.34	11.67	20.76
	kW	6.51	6.77	6.62	6.64	6.54	6.70	6.75	6.65	6.50

LEGEND

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

NOTES:

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

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

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

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

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

Table 8 (cont.) – COOLING CAPACITIES 2–STAGE COOLING

RAH150				Ambient Temperature													
				85			95			105			115			125		
				EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
3750 Cfm	EA (wB)	58	TC	131.9	131.9	149.8	127.0	127.0	144.1	121.5	121.5	137.9	115.4	115.4	131.0	108.7	108.7	123.4
			SHC	114.1	131.9	149.8	109.8	127.0	144.1	105.0	121.5	137.9	99.8	115.4	131.0	94.0	108.7	123.4
		62	TC	138.0	138.0	143.4	131.7	131.7	140.4	124.7	124.7	136.9	117.1	117.1	133.1	109.4	109.4	127.4
			SHC	103.4	123.4	143.4	100.4	120.4	140.4	97.1	117.0	136.9	93.4	113.2	133.1	88.8	108.1	127.4
		67	TC	151.5	151.5	151.5	144.5	144.5	144.5	136.9	136.9	136.9	128.5	128.5	128.5	119.4	119.4	119.4
			SHC	85.1	105.2	125.3	82.1	102.2	122.3	78.9	99.0	119.0	75.4	95.5	115.5	71.7	91.8	111.8
		72	TC	166.1	166.1	166.1	158.5	158.5	158.5	150.2	150.2	150.2	141.1	141.1	141.1	131.3	131.3	131.3
			SHC	66.2	86.5	106.7	63.3	83.6	103.8	60.2	80.4	100.6	56.8	76.9	97.1	53.1	73.3	93.4
		76	TC	–	178.6	178.6	–	170.5	170.5	–	161.6	161.6	–	151.8	151.8	–	141.3	141.3
			SHC	–	71.1	91.8	–	68.3	88.9	–	65.2	85.8	–	61.8	82.5	–	58.2	78.7
4375 Cfm	EA (wB)	58	TC	139.2	139.2	158.0	133.8	133.8	151.9	127.9	127.9	145.2	121.3	121.3	137.7	114.1	114.1	129.5
			SHC	120.4	139.2	158.0	115.7	133.8	151.9	110.6	127.9	145.2	104.9	121.3	137.7	98.7	114.1	129.5
		62	TC	142.4	142.4	157.6	135.8	135.8	154.1	128.9	128.9	149.2	121.7	121.7	142.9	114.2	114.2	134.8
			SHC	111.5	134.5	157.6	108.2	131.2	154.1	104.2	126.7	149.2	99.4	121.1	142.9	93.6	114.2	134.8
		67	TC	155.8	155.8	155.8	148.5	148.5	148.5	140.4	140.4	140.4	131.6	131.6	131.6	122.1	122.1	123.0
			SHC	90.3	113.6	136.8	87.3	110.5	133.8	84.0	107.2	130.5	80.4	103.6	126.8	76.6	99.8	123.0
		72	TC	170.6	170.6	170.6	162.7	162.7	162.7	154.0	154.0	154.0	144.4	144.4	144.4	134.1	134.1	134.1
			SHC	68.5	91.9	115.3	65.5	88.9	112.3	62.3	85.6	109.0	58.8	82.1	105.4	55.1	78.4	101.7
		76	TC	–	183.3	183.3	–	174.8	174.8	–	165.4	165.4	–	155.2	155.2	–	144.3	144.3
			SHC	–	74.3	98.3	–	71.3	95.2	–	68.0	91.9	–	64.6	88.3	–	60.9	84.5
5000 Cfm	EA (wB)	58	TC	145.3	145.3	164.9	139.5	139.5	158.4	133.2	133.2	151.2	126.2	126.2	143.2	118.5	118.5	134.5
			SHC	125.6	145.3	164.9	120.7	139.5	158.4	115.2	133.2	151.2	109.1	126.2	143.2	102.5	118.5	134.5
		62	TC	146.5	146.5	169.3	140.2	140.2	163.9	133.3	133.3	157.4	126.3	126.3	149.1	118.6	118.6	140.0
			SHC	118.3	143.8	169.3	114.1	139.0	163.9	109.3	133.3	157.4	103.5	126.3	149.1	97.2	118.6	140.0
		67	TC	159.1	159.1	159.1	151.5	151.5	151.5	143.1	143.1	143.1	134.0	134.0	137.7	124.2	124.2	133.7
			SHC	95.2	121.6	148.0	92.2	118.5	144.9	88.8	115.1	141.5	85.1	111.4	137.7	81.3	107.5	133.7
		72	TC	174.1	174.1	174.1	165.9	165.9	165.9	156.8	156.8	156.8	146.9	146.9	146.9	136.2	136.2	136.2
			SHC	70.5	97.0	123.5	67.5	94.0	120.5	64.2	90.7	117.1	60.6	87.1	113.5	56.9	83.3	109.6
		76	TC	–	187.0	187.0	–	178.1	178.1	–	168.3	168.3	–	157.7	157.7	–	146.4	146.4
			SHC	–	77.0	104.0	–	74.0	100.9	–	70.7	97.5	–	67.2	93.9	–	63.4	90.0
5625 Cfm	EA (wB)	58	TC	150.4	150.4	170.8	144.4	144.4	163.9	137.7	137.7	156.3	130.3	130.3	147.9	122.2	122.2	138.7
			SHC	130.1	150.4	170.8	124.9	144.4	163.9	119.0	137.7	156.3	112.7	130.3	147.9	105.7	122.2	138.7
		62	TC	150.7	150.7	177.9	144.5	144.5	170.6	137.8	137.8	162.7	130.4	130.4	153.9	122.3	122.3	144.4
			SHC	123.5	150.7	177.9	118.4	144.5	170.6	112.9	137.8	162.7	106.8	130.4	153.9	100.2	122.3	144.4
		67	TC	161.7	161.7	161.7	153.9	153.9	155.6	145.3	145.3	152.1	135.9	135.9	148.2	125.9	125.9	143.9
			SHC	100.0	129.4	158.8	96.8	126.2	155.6	93.4	122.7	152.1	89.7	118.9	148.2	85.6	114.8	143.9
		72	TC	176.9	176.9	176.9	168.3	168.3	168.3	159.0	159.0	159.0	148.8	148.8	148.8	137.9	137.9	137.9
			SHC	72.3	101.9	131.5	69.3	98.8	128.4	66.0	95.5	125.0	62.4	91.8	121.3	58.6	88.0	117.4
		76	TC	–	189.8	189.8	–	180.6	180.6	–	170.6	170.6	–	159.7	159.7	–	148.1	148.1
			SHC	–	79.6	109.7	–	76.5	106.5	–	73.2	103.0	–	69.6	99.2	–	65.7	95.1
6250 Cfm	EA (wB)	58	TC	154.8	154.8	175.8	148.5	148.5	168.6	141.5	141.5	160.6	133.7	133.7	151.8	125.3	125.3	142.3
			SHC	133.9	154.8	175.8	128.4	148.5	168.6	122.3	141.5	160.6	115.6	133.7	151.8	108.4	125.3	142.3
		62	TC	155.0	155.0	183.0	148.6	148.6	175.5	141.6	141.6	167.2	133.9	133.9	158.0	125.4	125.4	148.1
			SHC	127.0	155.0	183.0	121.8	148.6	175.5	116.0	141.6	167.2	109.7	133.9	158.0	102.8	125.4	148.1
		67	TC	163.8	163.8	169.3	155.8	155.8	166.0	147.0	147.0	162.3	137.5	137.5	158.1	127.4	127.4	153.3
			SHC	104.5	136.9	169.3	101.3	133.6	166.0	97.8	130.0	162.3	93.9	126.0	158.1	89.7	121.5	153.3
		72	TC	179.1	179.1	179.1	170.3	170.3	170.3	160.8	160.8	160.8	150.3	150.3	150.3	139.2	139.2	139.2
			SHC	74.1	106.7	139.3	71.0	103.6	136.1	67.7	100.2	132.7	64.1	96.5	128.9	60.2	92.6	124.9
		76	TC	–	192.1	192.1	–	182.7	182.7	–	172.3	172.3	–	161.2	161.2	–	149.4	149.4
			SHC	–	82.1	115.1	–	79.0	111.8	–	75.6	108.2	–	71.9	104.3	–	67.9	100.0

* See Minimum–Maximum Airflow Ratings in Table 4. Do not operate outside these limits.

LEGEND:

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

Table 8 (cont.) – COOLING CAPACITIES 2–STAGE COOLING

RAH150 (12.5 TONS) – UNIT WITH HOT GAS RE–HEAT SYSTEM IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		3750			5000			6250		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	162.0	147.4	132.8	185.6	167.2	148.8	209.5	187.2	164.9
	SHC	85.0	101.4	117.4	96.9	113.0	129.0	106.5	122.4	138.4
	kW	7.70	7.60	7.30	7.90	7.70	7.40	8.10	7.80	7.50
85	TC	154.8	140.9	127.0	171.7	154.4	137.1	188.8	168.0	147.2
	SHC	70.2	90.4	110.6	83.1	103.2	123.2	93.4	113.4	133.3
	kW	8.80	8.70	8.30	8.90	8.70	8.40	9.10	8.80	8.50
95	TC	147.5	134.4	121.2	157.8	141.6	125.4	168.1	148.8	129.6
	SHC	55.5	79.7	103.9	69.3	93.4	117.5	80.4	104.3	128.3
	kW	9.80	9.70	9.30	9.90	9.70	9.50	10.10	9.80	9.60
105	TC	140.3	127.8	115.4	143.8	128.7	113.7	147.4	129.7	111.9
	SHC	40.9	69.0	97.2	55.5	83.6	111.7	67.3	95.3	111.9
	kW	10.80	10.70	10.30	10.90	10.70	10.50	11.10	10.80	10.60
115	TC	133.0	121.3	109.5	129.9	115.9	101.9	126.7	110.5	94.2
	SHC	26.2	58.3	90.4	41.8	73.8	101.9	54.2	86.2	94.2
	kW	11.80	11.70	11.40	11.90	11.70	11.60	12.10	11.80	11.70
125	TC	125.8	114.7	103.7	115.9	103.1	90.2	106.0	91.3	76.6
	SHC	11.5	47.6	83.7	28.0	64.0	90.2	41.2	77.2	76.6
	kW	12.80	12.70	12.40	12.90	12.70	12.60	13.10	12.80	12.70

RAH150 (12.5 TONS) – UNIT WITH HOT GAS RE–HEAT SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator – Cfm								
		3750	5000	6250	3750	5000	6250	3750	5000	6250
80	TC	57.70	60.00	66.40	60.20	66.80	69.50	64.30	69.10	72.30
	SHC	21.30	27.00	44.00	12.80	22.40	32.50	8.60	16.20	25.50
	kW	8.08	8.15	8.23	8.28	8.34	8.37	8.36	8.43	8.52
75	TC	59.00	61.20	67.90	61.40	68.10	71.00	65.80	70.70	73.70
	SHC	22.40	28.10	44.80	13.50	23.50	33.70	9.30	17.10	26.30
	kW	8.06	8.13	8.21	8.25	8.31	8.34	8.33	8.40	8.49
70	TC	60.40	62.90	69.20	63.10	69.40	72.50	67.00	72.00	75.00
	SHC	23.20	28.90	46.00	14.50	24.30	34.40	10.30	17.90	27.40
	kW	8.04	8.11	8.18	8.23	8.29	8.32	8.31	8.38	8.47
60	TC	63.40	65.70	72.00	65.90	72.30	75.20	70.00	74.80	77.80
	SHC	24.80	30.50	47.80	16.10	25.90	36.00	11.90	19.60	29.00
	kW	8.00	8.07	8.15	8.20	8.25	8.29	8.28	8.35	8.44
50	TC	66.20	68.60	74.30	68.80	74.60	78.20	72.80	77.80	80.70
	SHC	26.60	32.30	49.40	17.70	27.70	37.80	13.50	21.20	30.60
	kW	7.94	8.01	8.08	8.13	8.20	8.23	8.22	8.29	8.38
40	TC	69.10	71.60	77.80	71.80	78.00	81.00	75.70	80.60	83.70
	SHC	28.20	33.90	50.10	19.40	29.30	39.80	15.20	22.90	32.20
	kW	7.90	7.97	8.04	8.09	8.15	8.17	8.16	8.23	8.32

LEGEND

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

NOTES:

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

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

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

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

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

Table 9 – STATIC PRESSURE ADDERS (in. wg) – Factory Options and/or Accessories

Electric Heaters

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

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

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

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

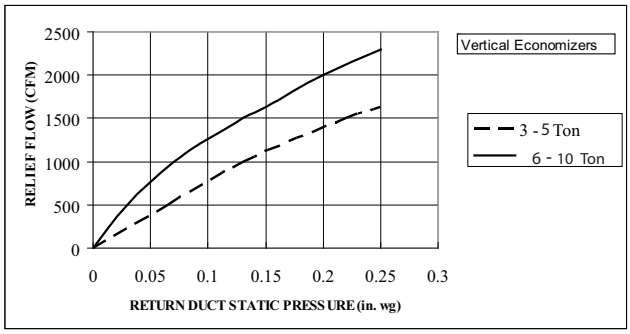
Hot Gas Re–Heat

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

7.5–12.5 Tons										
CFM (in. wg)	4000	4250	4500	4750	5000	5250	5500	5750	6000	6250
7.5 Tons	–	–	–	–	–	–	–	–	–	–
8.5 Tons	0.20	0.22	–	–	–	–	–	–	–	–
10 Tons	0.20	0.22	0.24	0.26	0.28	–	–	–	–	–
12.5 Tons	0.06	0.07	0.07	0.08	0.08	0.09	0.10	0.10	0.11	0.12

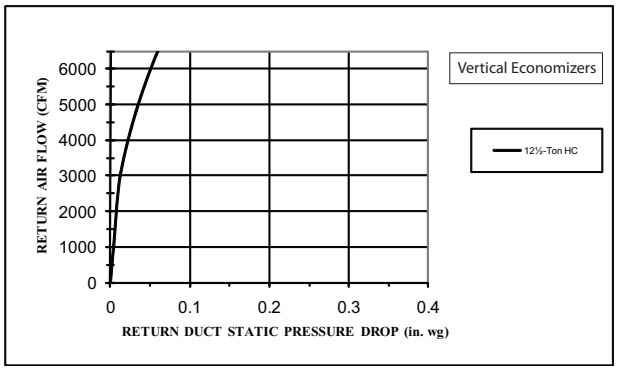
ECONOMIZER, BAROMETRIC RELIEF AND PE PERFORMANCE

Vertical Application



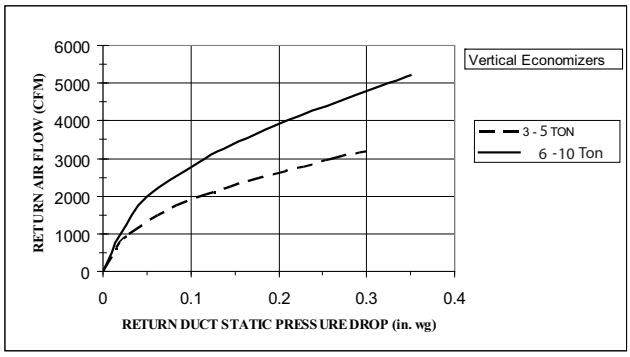
C10475

Fig. 17 – Barometric Relief Flow–Vertical 3–10 Ton



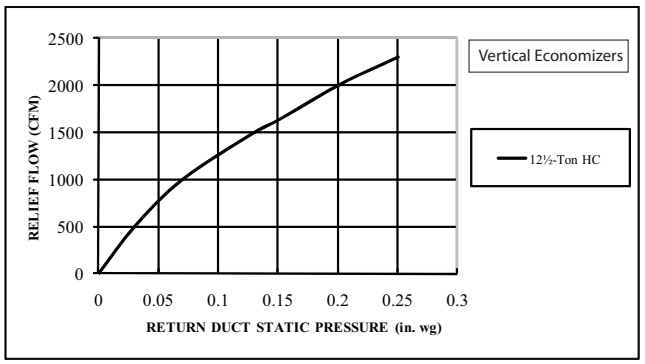
C101005

Fig. 19 – Return Air Pressure Drop–Vertical 12.5 Ton



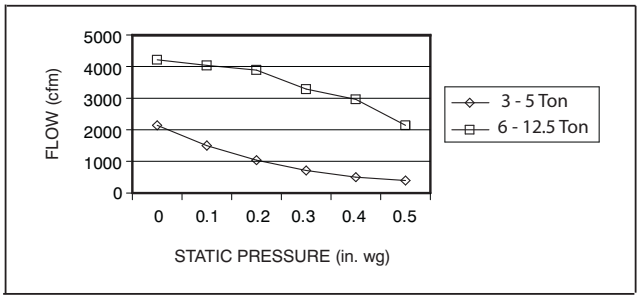
C10477

Fig. 18 – Return Air Pressure Drop–Vertical 3–10 Ton



C101004

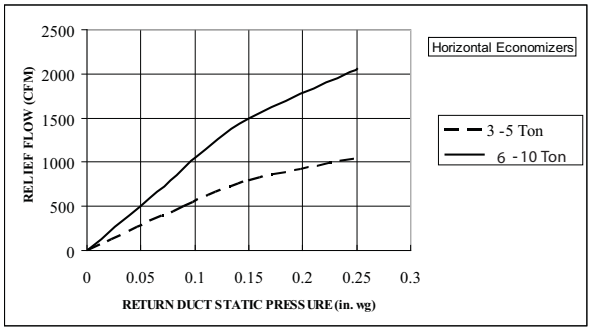
Fig. 20 – Barometric Relief Flow–Vertical 12.5 Ton



C10996

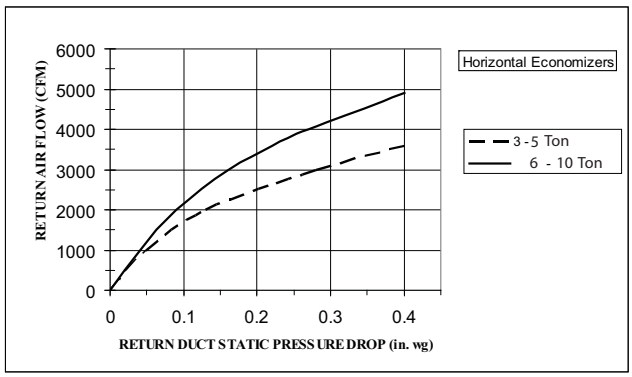
Fig. 21 – Vertical Power Exhaust Performance

Horizontal Application



C10472

Fig. 22 – Barometric Relief Flow–Horizontal 3–10 Ton

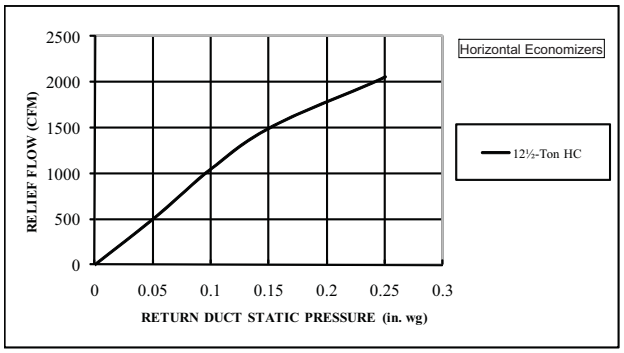


C10474

Fig. 23 – Return Air Pressure Drop–Horizontal 3–10 Ton

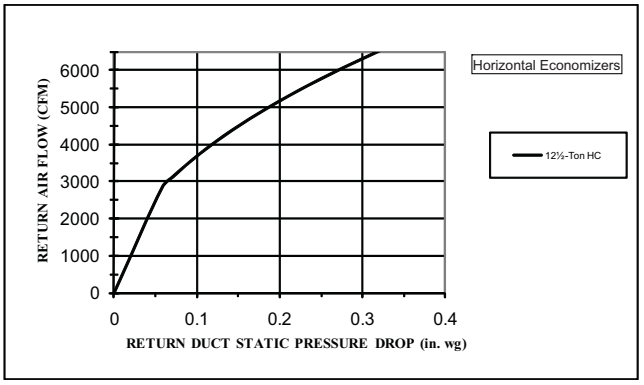
ECONOMIZER, BAROMETRIC RELIEF AND PE PERFORMANCE (cont.)

Horizontal Application (cont.)



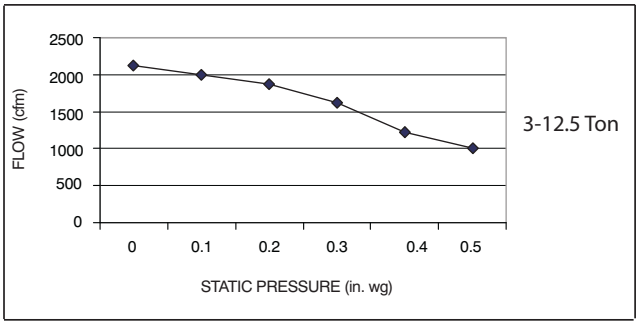
C101002

Fig. 24 – Barometric Relief Flow–Horizontal 12.5 Ton



C101003

Fig. 25 – Return Air Pressure Drop–Horizontal–12.5 Ton



C10995

Fig. 26 – Horizontal Power Exhaust Performance

GENERAL FAN PERFORMANCE NOTES:

1. Interpolation is permissible. Do not extrapolate.
2. External static pressure is the static pressure difference between the return duct and the supply duct plus the static pressure caused by any FIOPs or accessories.
3. Tabular data accounts for pressure loss due to clean filters, unit casing, and wet coils. Factory options and accessories may add static pressure losses. Selection software is available, through your salesperson, to help you select the best motor/drive combination for your application.
4. The Fan Performance tables offer motor/drive recommendations. In cases when two motor/drive combinations would work, ICP recommended the lower horsepower option.
5. For information on the electrical properties of ICP motors, please see the Electrical information section of this book.
6. For more information on the performance limits of ICP motors, see the application data section of this book.
7. The EPACT (Energy Policy Act of 1992) regulates energy requirements for specific types of indoor fan motors. Motors regulated by EPACT include any general purpose, T–frame (three–digit, 143 and larger), single–speed, foot mounted, polyphase, squirrel cage induction motors of NEMA (National Electrical Manufacturers Association) design A and B, manufactured for use in the United States. Ranging from 1 to 200 Hp, these continuous–duty motors operate on 230 and 460 volt, 60 Hz power. If a motor does not fit into these specifications, the motor does not have to be replaced by an EPACT compliant energy–efficient motor. Variable–speed motors are exempt from EPACT compliance requirements.

FAN PERFORMANCE (BELT DRIVE)

Table 10 – RAH036 **3 PHASE NON–HOT GAS RE–HEAT** **3 TON VERTICAL SUPPLY**

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

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

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

Medium static 770—1175 RPM, 1.2 BHP max
High static 1035—1466 RPM, 2.4 BHP max

Table 11 – RAH036 **3 PHASE HOT GAS RE–HEAT** **3 TON VERTICAL SUPPLY**

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

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

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

Standard static 560—854 RPM, 1.7 BHP max
Medium static 770—1175 RPM, 1.7 BHP max
High static 1035—1466 RPM, 2.4 BHP max

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 12 – RAH036 **3 PHASE NON–HOT GAS RE–HEAT** **3 TON HORIZONTAL SUPPLY**

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

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

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

Medium static 770—1175 RPM, 1.7 BHP max
High static 1035—1466 RPM, 2.4 BHP max

Table 13 – RAH036 **3 PHASE HOT GAS RE–HEAT** **3 TON HORIZONTAL SUPPLY**

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

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

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

Standard static 560—854 RPM, 1.7 BHP max
Medium static 770—1175 RPM, 1.7 BHP max
High static 1035—1466 RPM, 2.4 BHP max

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 14 – RAH048 **3 PHASE NON–HOT GAS RE–HEAT** **4 TON VERTICAL SUPPLY**

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

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

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

Medium Static 920—1303 RPM, 1.7 BHP max
High Static 1208—1639 RPM, 2.9 BHP max

Table 15 – RAH048 **3 PHASE HOT GAS RE–HEAT** **4 TON VERTICAL SUPPLY**

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

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

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

Standard Static 560—854 RPM, 1.7 BHP max
Medium Static 770—1175 RPM, 1.7 BHP max
High Static 1208—1639 RPM, 2.9 BHP max

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 16 – RAH048 **3 PHASE NON–HOT GAS RE–HEAT** **4 TON HORIZONTAL SUPPLY**

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

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

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

Table 17 – RAH048 **3 PHASE HOT GAS RE–HEAT** **4 TON HORIZONTAL SUPPLY**

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

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

NOTE: For more information, see General Fan Performance Notes.
Boldface indicates field–supplied drive is required.
Standard Static 560—854 RPM, 1.7 BHP max
Medium Static 770—1175 RPM, 1.7 BHP max
High Static 1208—1639 RPM, 2.9 BHP max

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 18 – RAH060 **3 PHASE NON–HOT GAS RE–HEAT** **5 TON VERTICAL SUPPLY**

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

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

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

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

Table 19 – RAH060 **3 PHASE HOT GAS RE–HEAT** **5 TON VERTICAL SUPPLY**

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

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

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

Standard Static 770—1175 RPM, 1.7 BHP max
Medium Static 1035—1466 RPM, 2.4 BHP max
High Static 1303—1687 RPM, 2.9 BHP max

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 20 – RAH060 **3 PHASE NON–HOT GAS RE–HEAT** **5 TON HORIZONTAL SUPPLY**

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

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

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

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

Table 21 – RAH060 **3 PHASE HOT GAS RE–HEAT** **5 TON HORIZONTAL SUPPLY**

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

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

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

Standard Static 770 — 1175 RPM 1.7 BHP max
Medium Static 1035—1466 2.4 BHP max
High Static 1303—1687 2.9 BHP max

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 22 – RAH072 **3 PHASE** **6 TON VERTICAL SUPPLY**

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

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

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

Standard static 489—747 RPM, 1.7 BHP max

Medium static 733—949 RPM, 2.9 BHP max

High static 909—1102 RPM, 4.7 BHP max

Table 23 – RAH072 **3 PHASE** **6 TON HORIZONTAL SUPPLY**

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

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

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

Standard static 489—747 RPM, 1.7 BHP max

Medium static 733—949 RPM, 2.9 BHP max

High static 909—1102 RPM, 4.7 BHP max

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 24 – RAH090 **3 PHASE** **7.5 TON VERTICAL SUPPLY**

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

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

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

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

Table 25 – RAH090 **3 PHASE** **7.5 TON HORIZONTAL SUPPLY**

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

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

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

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

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 26 – RAH102 **3 PHASE** **8.5 TON VERTICAL SUPPLY**

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

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

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

Standard static 518—733 RPM, 1.7 BHP max

Medium static 690—936 RPM, 2.4 BHP max

High static 838—1084 RPM, 3.7 BHP max

Table 27 – RAH102 **3 PHASE** **8.5 TON HORIZONTAL SUPPLY**

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

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

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

Standard static 518—733 RPM, 1.7 BHP max

Medium static 690—936 RPM, 2.4 BHP max

High static 838—1084 RPM, 3.7 BHP max

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 28 – RAH110 **3 PHASE** **10 TON VERTICAL SUPPLY**

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

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

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

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

Table 29 – RAH110 **3 PHASE** **10 TON HORIZONTAL SUPPLY**

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

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

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

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

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 30 – RAH120 **3 PHASE** **10 TON VERTICAL SUPPLY**

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

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

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

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

Table 31 – RAH120 **3 PHASE** **10 TON HORIZONTAL SUPPLY**

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

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

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

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

FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 32 – RAH150 **3 PHASE** **12.5 TON VERTICAL SUPPLY**

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

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

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

Standard static 440—609 RPM, 2.9 BHP max

Medium static 609—778 RPM, 3.7 BHP max

High static 776—955 RPM, 6.1 BHP max

Table 33 – RAH150 **3 PHASE** **12.5 TON HORIZONTAL SUPPLY**

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

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

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

Standard static 440—609 RPM, 2.9 BHP max

Medium static 609—778 RPM, 3.7 BHP max

High static 776—955 RPM, 6.1 BHP max

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

Table 34 – RAH036 Vertical Unit–Direct Drive

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

Table 35 – RAH036 Horizontal Unit–Direct Drive

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

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

Table 36 – RAH048 Vertical Unit–Direct Drive

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

Table 37 – RAH048 Horizontal Unit–Direct Drive

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

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

Table 38 – RAH060 Vertical Unit–Direct Drive

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

Table 39 – RAH060 Horizontal Unit–Direct Drive

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

Table 40 – PULLEY ADJUSTMENT

UNIT		Motor/Drive Combo	Motor Pulley turns open										
			0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
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
	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
	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
		Medium Static	1303	1265	1226	1188	1150	1112	1073	1035	997	958	920
		High Static	1639	1596	1553	1510	1467	1424	1380	1337	1294	1251	1208
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
	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	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
090	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
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
110	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
120	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	609	592	575	558	541	525	508	491	474	457	440
		Medium Static	778	761	744	727	710	694	677	660	643	626	609
		High Static	955	973	951	929	907	886	864	842	820	798	776

– Factory settings

* Hot Gas Re–Heat models only

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Table 41 – RAH036 **SINGLE STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V–Ph–Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–1–60	187	253	16.6	79	190	1.0	DD–STD	78%	7.4
					190	1.0	STD	67%	4.9
					190	1.0	MED	67%	4.9
230–1–60	187	253	16.6	79	190	1.0	DD–STD	78%	7.4
					190	1.0	STD	67%	4.9
					190	1.0	MED	67%	4.9
208–3–60	187	253	10.4	73	190	1.0	DD–STD	78%	7.4
					190	1.0	STD	75%	5.2
					190	1.0	MED	75%	5.2
					190	1.0	HIGH	87%	6.9
230–3–60	187	253	10.4	73	190	1.0	DD–STD	78%	7.4
					190	1.0	STD	75%	5.2
					190	1.0	MED	75%	5.2
					190	1.0	HIGH	87%	6.7
460–3–60	414	506	5.8	38	190	0.5	DD–STD	78%	4.0
					190	0.5	STD	75%	2.6
					190	0.5	MED	75%	2.6
					190	0.5	HIGH	87%	3.4
575–3–60	518	633	3.8	37	190	0.5	DD–STD	78%	4.0
					190	0.5	STD	73%	1.2
					190	0.5	MED	73%	1.2
					190	0.5	HIGH	78%	2.0

Table 42 – RAH048 **SINGLE STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V–Ph–Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–1–60	187	253	21.8	117	325	1.4	DD–STD	78%	7.4
					325	1.4	STD	67%	4.9
					325	1.4	MED	67%	4.9
230–1–60	187	253	21.8	117	325	1.4	DD–STD	78%	7.4
					325	1.4	STD	67%	4.9
					325	1.4	MED	67%	4.9
208–3–60	187	253	13.7	83	325	1.4	DD–STD	78%	7.4
					325	1.4	STD	75%	5.2
					325	1.4	MED	87%	5.2
					325	1.4	HIGH	89%	8.4
230–3–60	187	253	13.7	83	325	1.4	DD–STD	78%	7.4
					325	1.4	STD	75%	5.2
					325	1.4	MED	87%	4.9
					325	1.4	HIGH	89%	8.3
460–3–60	414	506	6.2	41	325	0.9	DD–STD	78%	4.0
					325	0.9	STD	75%	2.6
					325	0.9	MED	87%	2.5
					325	0.9	HIGH	89%	4.2
575–3–60	518	633	4.8	33	325	0.9	DD–STD	78%	4.0
					325	0.9	STD	73%	1.2
					325	0.9	MED	72%	1.6
					325	0.9	HIGH	77%	2.8

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Table 43 – RAH060 **SINGLE STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V–Ph–Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–1–60	187	253	25.0	134	325	1.4	DD–STD	78%	7.4
					325	1.4	STD	67%	4.9
					325	1.4	MED	76%	7.0
230–1–60	187	253	25.0	134	325	1.4	DD–STD	78%	7.4
					325	1.4	STD	67%	4.9
					325	1.4	MED	76%	7.0
208–3–60	187	253	15.9	110	325	1.4	DD–STD	78%	7.4
					325	1.4	STD	75%	5.2
					325	1.4	MED	87%	6.9
					325	1.4	HIGH	89%	8.4
230–3–60	187	253	15.9	110	325	1.4	DD–STD	78%	7.4
					325	1.4	STD	75%	5.2
					325	1.4	MED	87%	6.7
					325	1.4	HIGH	89%	8.3
460–3–60	414	506	7.0	52	325	0.9	DD–STD	78%	4.0
					325	0.9	STD	75%	2.6
					325	0.9	MED	87%	3.4
					325	0.9	HIGH	89%	4.2
575–3–60	518	633	5.1	40	325	0.9	DD–STD	78%	4.0
					325	0.9	STD	73%	1.2
					325	0.9	MED	78%	2.0
					325	0.9	HIGH	77%	2.8

Table 44 – RAH072 **SINGLE STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

(Units Produced On or After 02/16/2015)

V–Ph–Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–3–60	187	253	19.6	136	325	1.5	STD	87%	5.2
					325	1.5	MED	89%	8.4
					325	1.5	HIGH	83%	13.6
230–3–60	187	253	19.6	136	325	1.5	STD	87%	4.9
					325	1.5	MED	89%	8.3
					325	1.5	HIGH	83%	12.7
460–3–60	414	506	8.2	66	325	0.8	STD	87%	2.5
					325	0.8	MED	89%	4.2
					325	0.8	HIGH	83%	6.4
575–3–60	518	633	6.6	55	325	0.6	STD	72%	1.6
					325	0.6	MED	77%	2.8
					325	0.6	HIGH	81%	5.6

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

V–Ph–Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–3–60	187	253	19.0	123	325	1.5	STD	87%	5.2
					325	1.5	MED	89%	8.4
					325	1.5	HIGH	83%	13.6
230–3–60	187	253	19.0	123	325	1.5	STD	87%	4.9
					325	1.5	MED	89%	8.3
					325	1.5	HIGH	83%	12.7
460–3–60	414	506	9.7	62	325	0.8	STD	87%	2.5
					325	0.8	MED	89%	4.2
					325	0.8	HIGH	83%	6.4
575–3–60	518	633	7.4	50	325	0.6	STD	72%	1.6
					325	0.6	MED	77%	2.8
					325	0.6	HIGH	81%	5.6

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Table 45 – RAH090 **2–STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V–Ph–Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–3–60	187	253	13.6	83	13.6	83	325	1.5	STD	87%	5.2
							325	1.5	MED	87%	6.9
							325	1.5	HIGH	87%	10.6
230–3–60	187	253	13.6	83	13.6	83	325	1.5	STD	87%	4.9
							325	1.5	MED	87%	6.7
							325	1.5	HIGH	87%	10.6
460–3–60	414	506	6.1	41	6.1	41	325	0.8	STD	87%	2.5
							325	0.8	MED	87%	3.4
							325	0.8	HIGH	87%	5.3
575–3–60	518	633	4.2	33	4.2	33	325	0.6	STD	72%	1.6
							325	0.6	MED	78%	2
							325	0.6	HIGH	77%	2.8

Table 46 – RAH102 **2–STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V–Ph–Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–3–60	187	253	13.7	83	13.7	83	325	1.5	STD	87%	5.2
							325	1.5	MED	87%	6.9
							325	1.5	HIGH	87%	10.6
230–3–60	187	253	13.7	83	13.7	83	325	1.5	STD	87%	4.9
							325	1.5	MED	87%	6.7
							325	1.5	HIGH	87%	10.6
460–3–60	414	506	6.2	41	6.2	41	325	0.8	STD	87%	2.5
							325	0.8	MED	87%	3.4
							325	0.8	HIGH	87%	5.3
575–3–60	518	633	4.8	33	4.8	33	325	0.6	STD	72%	1.6
							325	0.6	MED	78%	2
							325	0.6	HIGH	77%	2.8

Table 47 – RAH110 **2–STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V–Ph–Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–3–60	187	253	15.9	110	15.9	110	610	7.4	STD	87%	6.9
							610	7.4	MED	87%	10.6
							610	7.4	HIGH	83%	13.6
230–3–60	187	253	15.9	110	15.9	110	610	7.4	STD	87%	6.7
							610	7.4	MED	87%	10.6
							610	7.4	HIGH	83%	12.7
460–3–60	414	506	7.0	52	7.0	52	610	3.6	STD	87%	3.4
							610	3.6	MED	87%	5.3
							610	3.6	HIGH	83%	6.4
575–3–60	518	633	5.1	40	5.1	40	610	3.6	STD	78%	2
							610	3.6	MED	77%	2.8
							610	3.6	HIGH	81%	5.6

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Table 48 – RAH120 **2–STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V–Ph–Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–3–60	187	253	15.9	110	15.9	110	1070	6.2	STD	87%	6.9
							1070	6.2	MED	87%	10.6
							1070	6.2	HIGH	83%	13.6
230–3–60	187	253	15.9	110	15.9	110	1070	6.2	STD	87%	6.7
							1070	6.2	MED	87%	10.6
							1070	6.2	HIGH	83%	12.7
460–3–60	414	506	7.7	52	7.7	52	1070	3.1	STD	87%	3.4
							1070	3.1	MED	87%	5.3
							1070	3.1	HIGH	83%	6.4
575–3–60	518	633	5.7	39	5.7	39	1070	2.5	STD	78%	2
							1070	2.5	MED	77%	2.8
							1070	2.5	HIGH	81%	5.6

Table 49 – RAH150 **2–STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

(Units Produced On or After 02/16/2015)

V–Ph–Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–3–60	187	253	19.6	136	19.6	136	280	1.5	STD	89%	8.4
							280	1.5	MED	87%	10.6
							280	1.5	HIGH	90%	17
230–3–60	187	253	19.6	136	19.6	136	280	1.5	STD	89%	8.3
							280	1.5	MED	87%	10.6
							280	1.5	HIGH	90%	15
460–3–60	414	506	8.2	66	8.2	66	280	0.8	STD	89%	4.2
							280	0.8	MED	87%	5.3
							280	0.8	HIGH	90%	7.6
575–3–60	518	633	6.6	55	6.6	55	280	0.7	STD	77%	2.8
							280	0.7	MED	77%	2.8
							280	0.7	HIGH	94%	6.1

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

V–Ph–Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–3–60	187	253	19.0	123	19.0	123	280	1.5	STD	89%	8.4
							280	1.5	MED	87%	10.6
							280	1.5	HIGH	90%	17
230–3–60	187	253	19.0	123	19.0	123	280	1.5	STD	89%	8.3
							280	1.5	MED	87%	10.6
							280	1.5	HIGH	90%	15
460–3–60	414	506	9.7	62	9.7	62	280	0.8	STD	89%	4.2
							280	0.8	MED	87%	5.3
							280	0.8	HIGH	90%	7.6
575–3–60	518	633	7.4	50	7.4	50	280	0.7	STD	77%	2.8
							280	0.7	MED	77%	2.8
							280	0.7	HIGH	94%	6.1

ELECTRICAL INFORMATION

Table 50 – RAH090 **2–STAGE COOLING WITH 2–SPEED INDOOR FAN MOTOR**

V–Ph–Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–3–60	187	253	13.6	83	13.6	83	325	1.5	STD	84%	5.8
							325	1.5	MED	77%	7.1
							325	1.5	HIGH	82%	10.8
230–3–60	187	253	13.6	83	13.6	83	325	1.5	STD	84%	5.6
							325	1.5	MED	77%	6.8
							325	1.5	HIGH	82%	9.8
460–3–60	414	506	6.1	41	6.1	41	325	0.8	STD	79%	2.9
							325	0.8	MED	77%	3.8
							325	0.8	HIGH	82%	4.9
575–3–60	518	633	4.2	33	4.2	33	325	0.6	STD	81%	2.8
							325	0.6	MED	80%	3.5
							325	0.6	HIGH	84%	4.5

Table 51 – RAH102 **2–STAGE COOLING WITH 2–SPEED INDOOR FAN MOTOR**

V–Ph–Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–3–60	187	253	13.7	83	13.7	83	325	1.5	STD	84%	5.8
							325	1.5	MED	77%	7.1
							325	1.5	HIGH	82%	10.8
230–3–60	187	253	13.7	83	13.7	83	325	1.5	STD	84%	5.6
							325	1.5	MED	77%	6.8
							325	1.5	HIGH	82%	9.8
460–3–60	414	506	6.2	41	6.2	41	325	0.8	STD	79%	2.9
							325	0.8	MED	77%	3.8
							325	0.8	HIGH	82%	4.9
575–3–60	518	633	4.8	33	4.8	33	325	0.6	STD	81%	2.8
							325	0.6	MED	80%	3.5
							325	0.6	HIGH	84%	4.5

Table 52 – RAH110 **2–STAGE COOLING WITH 2–SPEED INDOOR FAN MOTOR**

V–Ph–Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–3–60	187	253	15.9	110	15.9	110	610	7.4	STD	77%	7.1
							610	7.4	MED	82%	10.8
							610	7.4	HIGH	84%	13.6
230–3–60	187	253	15.9	110	15.9	110	610	7.4	STD	77%	6.8
							610	7.4	MED	82%	9.8
							610	7.4	HIGH	84%	12.7
460–3–60	414	506	7.0	52	7.0	52	610	3.6	STD	77%	3.8
							610	3.6	MED	82%	4.9
							610	3.6	HIGH	84%	6.4
575–3–60	518	633	5.1	40	5.1	40	610	3.6	STD	80%	3.5
							610	3.6	MED	84%	4.5
							610	3.6	HIGH	83%	6.2

ELECTRICAL INFORMATION

Table 53 – RAH120 **2–STAGE COOLING WITH 2–SPEED INDOOR FAN MOTOR**

V–Ph–Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–3–60	187	253	15.9	110	15.9	110	1070	6.2	STD	77%	7.1
							1070	6.2	MED	82%	10.8
							1070	6.2	HIGH	84%	13.6
230–3–60	187	253	15.9	110	15.9	110	1070	6.2	STD	77%	6.8
							1070	6.2	MED	82%	9.8
							1070	6.2	HIGH	84%	12.7
460–3–60	414	506	7.7	52	7.7	52	1070	3.1	STD	77%	3.8
							1070	3.1	MED	82%	4.9
							1070	3.1	HIGH	84%	6.4
575–3–60	518	633	5.7	39	5.7	39	1070	2.5	STD	80%	3.5
							1070	2.5	MED	84%	4.5
							1070	2.5	HIGH	83%	6.2

Table 54 – RAH150 **2–STAGE COOLING WITH 2–SPEED INDOOR FAN MOTOR**

(Units Produced On or After 02/16/2015)

V–Ph–Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–3–60	187	253	19.6	136	19.6	136	280	1.5	STD	85%	8.6
							280	1.5	MED	82%	10.8
							280	1.5	HIGH	90%	20.4
230–3–60	187	253	19.6	136	19.6	136	280	1.5	STD	85%	7.8
							280	1.5	MED	82%	9.8
							280	1.5	HIGH	90%	20.4
460–3–60	414	506	8.2	66	8.2	66	280	0.8	STD	85%	3.8
							280	0.8	MED	82%	4.9
							280	0.8	HIGH	90%	10.2
575–3–60	518	633	6.6	55	6.6	55	280	0.7	STD	84%	4.5
							280	0.7	MED	84%	4.5
							280	0.7	HIGH	94%	9

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

V–Ph–Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208–3–60	187	253	19.0	123	19.0	123	280	1.5	STD	85%	8.6
							280	1.5	MED	82%	10.8
							280	1.5	HIGH	90%	20.4
230–3–60	187	253	19.0	123	19.0	123	280	1.5	STD	85%	7.8
							280	1.5	MED	82%	9.8
							280	1.5	HIGH	90%	20.4
460–3–60	414	506	9.7	62	9.7	62	280	0.8	STD	85%	3.8
							280	0.8	MED	82%	4.9
							280	0.8	HIGH	90%	10.2
575–3–60	518	633	7.4	50	7.4	50	280	0.7	STD	84%	4.5
							280	0.7	MED	84%	4.5
							280	0.7	HIGH	94%	9

ELECTRICAL INFORMATION

Table 55 – RAH036

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

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE	
					NO C.O. or UNPWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–1–60	DD–STD	101A00	4.4	3.3/4.0	–	–
		102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	037	037
		104B00	10.5	7.9/9.6	040	040
		102A00,102A00	13.0	9.8/11.9	040	040
	STD	101A00	4.4	3.3/4.0	–	–
		102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	037	037
		104B00	10.5	7.9/9.6	040	040
		102A00,102A00	13.0	9.8/11.9	040	040
	MED	101A00	4.4	3.3/4.0	–	–
		102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	037	037
		104B00	10.5	7.9/9.6	040	040
		102A00,102A00	13.0	9.8/11.9	040	040
208/ 230–3–60	DD–STD	101A00	4.4	3.3/4.0	–	–
		102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	–	–
		104B00	10.5	7.9/9.6	–	–
		105A00	16.0	12.0/14.7	037	037
	STD	101A00	4.4	3.3/4.0	–	–
		102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	–	–
		104B00	10.5	7.9/9.6	–	–
		105A00	16.0	12.0/14.7	037	037
	MED	101A00	4.4	3.3/4.0	–	–
		102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	–	–
		104B00	10.5	7.9/9.6	–	–
		105A00	16.0	12.0/14.7	037	037
	HIGH	101A00	4.4	3.3/4.0	–	–
		102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	–	–
		104B00	10.5	7.9/9.6	–	–
		105A00	16.0	12.0/14.7	037	037
460–3–60	DD–STD	106A00	6.0	5.5	–	–
		107A00	8.8	8.1	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
	STD	106A00	6.0	5.5	–	–
		107A00	8.8	8.1	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
	MED	106A00	6.0	5.5	–	–
		107A00	8.8	8.1	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
	HIGH	106A00	6.0	5.5	–	–
		107A00	8.8	8.1	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
575–3–60	DD–STD	297A00	9.2	9.2	–	–
		298A00	13.8	13.8	–	–
	STD	297A00	9.2	9.2	–	–
		298A00	13.8	13.8	–	–
	MED	297A00	9.2	9.2	–	–
		298A00	13.8	13.8	–	–
	HIGH	297A00	9.2	9.2	–	–
		298A00	13.8	13.8	–	–

NOTE: STD and MED IFM type are belt drive for 1 phase HC w/Hot Gas Re–Heat. HC 1 phase w/o Hot Gas Re–Heat must use DD–STD IFM type only.

Table 56 – RAH048

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

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE	
					NO C.O. or UNPWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–1–60	DD–STD	101A00	4.4	3.3/4.0	–	–
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
	STD	101A00	4.4	3.3/4.0	–	–
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
	MED	101A00	4.4	3.3/4.0	–	–
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
208/ 230–3–60	DD–STD	102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	–	–
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
	STD	102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	–	–
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
	MED	102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	–	–
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
	HIGH	102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	–	–
		105A00	16.0	12.0/14.7	037	038
		104B00,104B00	21.0	15.8/19.3	038	038
460–3–60	DD–STD	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
	STD	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
	MED	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
	HIGH	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
575–3–60	DD–STD	297A00	9.2	9.2	–	–
		298A00	13.8	13.8	–	–
	STD	297A00	9.2	9.2	–	–
		298A00	13.8	13.8	–	–
	MED	297A00	9.2	9.2	–	–
		298A00	13.8	13.8	–	–
	HIGH	297A00	9.2	9.2	–	–
		298A00	13.8	13.8	–	–

NOTE: STD and MED IFM type are belt drive for 1 phase HC w/Hot Gas Re–Heat. HC 1 phase w/o Hot Gas Re–Heat must use DD–STD IFM type only.

Table 57 – RAH060

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

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE	
					NO C.O. or UNPWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–1–60	DD–STD	102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
	STD	102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
	MED	102A00	6.5	4.9/6.0	–	–
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
208/ 230–3–60	DD–STD	102A00	6.5	4.9/6.0	–	–
		104B00	10.5	7.9/9.6	–	–
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
	STD	102A00	6.5	4.9/6.0	–	–
		104B00	10.5	7.9/9.6	–	–
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
	MED	102A00	6.5	4.9/6.0	–	–
		104B00	10.5	7.9/9.6	–	–
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
	HIGH	102A00	6.5	4.9/6.0	–	–
		104B00	10.5	7.9/9.6	–	–
		105A00	16.0	12.0/14.7	037	038
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
460–3–60	DD–STD	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037
	STD	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00			037	037
	MED	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037
	HIGH	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037
575–3–60	DD–STD	298A00	13.8	13.8	–	–
		301A00	23.0	23.0	037	037
	STD	298A00	13.8	13.8	–	–
		301A00	23.0	23.0	037	037
	MED	298A00	13.8	13.8	–	–
		301A00	23.0	23.0	037	037
	HIGH	298A00	13.8	13.8	–	–
		301A00	23.0	23.0	037	037

NOTE: STD and MED IFM type are belt drive for 1 phase HC w/Hot Gas Re–Heat. HC 1 phase w/o Hot Gas Re–Heat must use DD–STD IFM type only.

ELECTRICAL INFORMATION

Table 58 – RAH072 **ELECTRIC HEAT – ELECTRICAL DATA**
SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR W/NON–FUSED DISCONNECT

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE	
					NO C.O. or UNPWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–1–60	DD–STD	101A00	4.4	3.3/4.0	037	037
		102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		104B00	10.5	7.9/9.6	040	040
		102A00,102A00	13.0	9.8/11.9	040	040
	STD	101A00	4.4	3.3/4.0	037	037
		102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		104B00	10.5	7.9/9.6	040	040
		102A00,102A00	13.0	9.8/11.9	040	040
	MED	101A00	4.4	3.3/4.0	037	037
		102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		104B00	10.5	7.9/9.6	040	040
		102A00,102A00	13.0	9.8/11.9	040	040
208/ 230–3–60	DD–STD	101A00	4.4	3.3/4.0	037	037
		102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		104B00	10.5	7.9/9.6	037	037
		105A00	16.0	12.0/14.7	037	037
	STD	101A00	4.4	3.3/4.0	037	037
		102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		104B00	10.5	7.9/9.6	037	037
		105A00	16.0	12.0/14.7	037	037
	MED	101A00	4.4	3.3/4.0	037	037
		102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		104B00	10.5	7.9/9.6	037	037
		105A00	16.0	12.0/14.7	037	037
	HIGH	101A00	4.4	3.3/4.0	037	037
		102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		104B00	10.5	7.9/9.6	037	037
		105A00	16.0	12.0/14.7	037	037
460–3–60	DD–STD	106A00	6.0	5.5	–	–
		107A00	8.8	8.1	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
	STD	106A00	6.0	5.5	–	–
		107A00	8.8	8.1	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
	MED	106A00	6.0	5.5	–	–
		107A00	8.8	8.1	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
	HIGH	106A00	6.0	5.5	–	–
		107A00	8.8	8.1	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
575–3–60	DD–STD	297A00	9.2	9.2	–	–
		298A00	13.8	13.8	–	–
	STD	297A00	9.2	9.2	–	–
		298A00	13.8	13.8	–	–
	MED	297A00	9.2	9.2	–	–
		298A00	13.8	13.8	–	–
	HIGH	297A00	9.2	9.2	–	–
		298A00	13.8	13.8	–	–

NOTE: STD and MED IFM type are belt drive for 1 phase HC w/Hot Gas Re–Heat. HC 1 phase w/o Hot Gas Re–Heat must use DD–STD IFM type only.

Table 59 – RAH090 **ELECTRIC HEAT – ELECTRICAL DATA**
SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR W/NON–FUSED DISCONNECT

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE	
					NO C.O. or UNPWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–1–60	DD–STD	101A00	4.4	3.3/4.0	037	037
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
	STD	101A00	4.4	3.3/4.0	037	037
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
	MED	101A00	4.4	3.3/4.0	037	037
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
208/ 230–3–60	DD–STD	102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
	STD	102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
	MED	102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
	HIGH	102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		105A00	16.0	12.0/14.7	037	038
		104B00,104B00	21.0	15.8/19.3	038	038
460–3–60	DD–STD	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
	STD	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
	MED	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
	HIGH	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
575–3–60	DD–STD	297A00	9.2	9.2	–	–
		298A00	13.8	13.8	–	–
	STD	297A00	9.2	9.2	–	–
		298A00	13.8	13.8	–	–
	MED	297A00	9.2	9.2	–	–
		298A00	13.8	13.8	–	–
	HIGH	297A00	9.2	9.2	–	–
		298A00	13.8	13.8	–	–

NOTE: STD and MED IFM type are belt drive for 1 phase HC w/Hot Gas Re–Heat. HC 1 phase w/o Hot Gas Re–Heat must use DD–STD IFM type only.

Table 60 – RAH060 **ELECTRIC HEAT – ELECTRICAL DATA**
SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR W/NON–FUSED DISCONNECT

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE	
					NO C.O. or UNPWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–1–60	DD–STD	102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
	STD	102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
	MED	102A00	6.5	4.9/6.0	037	037
		103B00	8.7	6.5/8.0	037	037
		102A00,102A00	13.0	9.8/11.9	040	040
		103B00,103B00	17.4	13.1/16.0	040	040
		104B00,104B00	21.0	15.8/19.3	040	040
208/ 230–3–60	DD–STD	102A00	6.5	4.9/6.0	037	037
		104B00	10.5	7.9/9.6	037	037
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
	STD	102A00	6.5	4.9/6.0	037	037
		104B00	10.5	7.9/9.6	037	037
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
	MED	102A00	6.5	4.9/6.0	037	037
		104B00	10.5	7.9/9.6	037	037
		105A00	16.0	12.0/14.7	037	037
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
	HIGH	102A00	6.5	4.9/6.0	037	037
		104B00	10.5	7.9/9.6	037	037
		105A00	16.0	12.0/14.7	037	038
		104B00,104B00	21.0	15.8/19.3	038	038
		104B00,105A00	26.5	19.9/24.3	038	038
460–3–60	DD–STD	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037
	STD	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00			037	037
	MED	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037
	HIGH	106A00	6.0	5.5	–	–
		108A00	11.5	10.6	–	–
		109A00	14.0	12.9	–	–
		108A00,108A00	23.0	21.1	037	037
		108A00,109A00	25.5	23.4	037	037
575–3–60	DD–STD	298A00	13.8	13.8	–	–
		301A00	23.0	23.0	037	037
	STD	298A00	13.8	13.8	–	–
		301A00	23.0	23.0	037	037
	MED	298A00	13.8	13.8	–	–
		301A00	23.0	23.0	037	037
	HIGH	298A00	13.8	13.8	–	–
		301A00	23.0	23.0	037	037

NOTE: STD and MED IFM type are belt drive for 1 phase HC w/Hot Gas Re–Heat. HC 1 phase w/o Hot Gas Re–Heat must use DD–STD IFM type only.

Table 61 – RAH072 **ELECTRIC HEAT – ELECTRICAL DATA**
SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR W/NON–FUSED DISCONNECT

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE	
					NO C.O. or UNPWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	264A00	6.5	4.9/6.0	042	042
		117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	042	042
		117A00,117A00	21.0	15.8/19.3	043	043
		110A00,117A00	26.5	19.9/24.3	043	043
	MED	264A00	6.5	4.9/6.0	042	042
		117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	042	043
		117A00,117A00	21.0	15.8/19.3	043	043
		110A00,117A00	26.5	19.9/24.3	043	043
	HIGH	264A00	6.5	4.9/6.0	042	042
		117A00	10.4	7.8/9.6	042	042
		110A00	16.0	12.0/14.7	043	043
		117A00,117A00	21.0	15.8/19.3	043	043
		110A00,117A00	26.5	19.9/24.3	043	043
460–3–60	STD	265A00	6.0	5.5	042	042
		266A00	11.5	10.6	042	042
		267A00	14.0	12.9	042	042
		268A00	23.0	21.1	042	042
		269A00	25.5	23.4	042	042
	MED	265A00	6.0	5.5	042	042
		266A00	11.5	10.6	042	042
		267A00	14.0	12.9	042	042
		268A00	23.0	21.1	042	042
		269A00	25.5	23.4	042	042
	HIGH	265A00	6.0	5.5	042	042
		266A00	11.5	10.6	042	042
		267A00	14.0	12.9	042	042
		268A00	23.0	21.1	042	042
		269A00	25.5	23.4	042	042
575–3–60	STD	118A00	17.0	17.0	042	042
		299A00	25.7	25.7	042	042
	MED	118A00	17.0	17.0	042	042
		299A00	25.7	25.7	042	042
	HIGH	118A00	17.0	17.0	042	042
		299A00	25.7	25.7	042	042

Table 62 – RAH090

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

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

Table 63 – RAH102

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

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

Table 64 – RAH110

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

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

Table 65 – RAH120

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

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

Table 66 – RAH150

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

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

Table 67 – RAH090

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

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

ELECTRICAL INFORMATION

Table 68 – RAH102

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

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

Table 69 – RAH110

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

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

ELECTRICAL INFORMATION

Table 70 – RAH120

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

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

Table 71 – RAH150

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

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

ELECTRICAL INFORMATION

Table 72 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH036	208/230–1–60	DD–STD	NONE	–	–	30	45	29	88	32	45	31	90
			101A	3.3/4.4	15.9/18.3	30/33	45/45	29/30	88/88	32/35	45/45	31/32	90/90
			102A	4.9/6.5	23.5/27.1	39/44	45/45	36/40	88/88	41/46	45/50	38/42	90/90
			103B	6.5/8.7	31.4/36.3	49/55	50/60	45/50	88/88	51/57	60/60	47/52	90/90
			104B	7.9/10.5	37.9/43.8	57/64	60/70	52/59	88/88	59/67	60/70	54/61	90/90
			102A+102A	9.8/13.0	46.9/54.2	68/77	70/80	62/71	88/88	71/80	80/80	65/73	90/90
		STD	NONE	–	–	27	40	26	93	29	45	28	95
			101A	3.3/4.4	15.9/18.3	27/29	40/40	26/27	93/93	29/32	45/45	28/29	95/95
			102A	4.9/6.5	23.5/27.1	36/40	40/45	33/37	93/93	38/43	45/45	35/39	95/95
			103B	6.5/8.7	31.4/36.3	46/52	50/60	42/47	93/93	48/54	50/60	44/50	95/95
			104B	7.9/10.5	37.9/43.8	54/61	60/70	49/56	93/93	56/64	60/70	51/58	95/95
			102A+102A	9.8/13.0	46.9/54.2	65/74	70/80	60/68	93/93	68/77	70/80	62/70	95/95
		MED	NONE	–	–	27	40	26	93	29	45	28	95
			101A	3.3/4.4	15.9/18.3	27/29	40/40	26/27	93/93	29/32	45/45	28/29	95/95
			102A	4.9/6.5	23.5/27.1	36/40	40/45	33/37	93/93	38/43	45/45	35/39	95/95
			103B	6.5/8.7	31.4/36.3	46/52	50/60	42/47	93/93	48/54	50/60	44/50	95/95
			104B	7.9/10.5	37.9/43.8	54/61	60/70	49/56	93/93	56/64	60/70	51/58	95/95
			102A+102A	9.8/13.0	46.9/54.2	65/74	70/80	60/68	93/93	68/77	70/80	62/70	95/95
	208/230–3–60	DD–STD	NONE	–	–	22	30	22	82	24	30	24	84
			101A	3.3/4.4	9.2/10.6	22/23	30/30	22/22	82/82	24/25	30/30	24/24	84/84
			102A	4.9/6.5	13.6/15.6	27/29	30/30	24/26	82/82	29/32	30/35	26/29	84/84
			103B	6.5/8.7	18.1/20.9	32/36	35/40	29/33	82/82	35/38	35/40	32/35	84/84
			104B	7.9/10.5	21.9/25.3	37/41	40/45	34/38	82/82	39/44	40/45	36/40	84/84
			105A	12.0/16.0	33.4/38.5	51/58	60/60	47/53	82/82	54/60	60/60	49/55	84/84
		STD	NONE	–	–	20	25	19	94	22	30	21	96
			101A	3.3/4.4	9.2/10.6	20/20	25/25	19/19	94/94	22/23	30/30	21/21	96/96
			102A	4.9/6.5	13.6/15.6	24/26	25/30	22/24	94/94	26/29	30/30	24/26	96/96
			103B	6.5/8.7	18.1/20.9	30/33	30/35	27/30	94/94	32/35	35/40	29/32	96/96
			104B	7.9/10.5	21.9/25.3	34/39	35/40	31/35	94/94	37/41	40/45	33/37	96/96
			105A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	94/94	51/57	60/60	47/52	96/96
		MED	NONE	–	–	20	25	19	94	22	30	21	96
			101A	3.3/4.4	9.2/10.6	20/20	25/25	19/19	94/94	22/23	30/30	21/21	96/96
			102A	4.9/6.5	13.6/15.6	24/26	25/30	22/24	94/94	26/29	30/30	24/26	96/96
			103B	6.5/8.7	18.1/20.9	30/33	30/35	27/30	94/94	32/35	35/40	29/32	96/96
			104B	7.9/10.5	21.9/25.3	34/39	35/40	31/35	94/94	37/41	40/45	33/37	96/96
			105A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	94/94	51/57	60/60	47/52	96/96
		HIGH	NONE	–	–	21/21	30/30	21/21	132	23/23	30/30	23/23	134
			101A	3.3/4.4	9.2/10.6	21/22	30/30	21/21	132/132	23/24	30/30	23/23	134/134
			102A	4.9/6.5	13.6/15.6	26/28	30/30	24/26	132/132	28/31	30/35	26/28	134/134
			103B	6.5/8.7	18.1/20.9	32/35	35/35	29/32	132/132	34/37	35/40	31/34	134/134
			104B	7.9/10.5	21.9/25.3	36/40	40/40	33/37	132/132	39/43	40/45	35/39	134/134
			105A	12.0/16.0	33.4/38.5	51/57	60/60	46/52	132/132	53/59	60/60	49/54	134/134

See “Legend and Notes for Tables 72 – 73 on page 112

Table 72 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH036	460–3–60	DD–STD	NONE	–	–	12	15	12	43	13	15	13	44
			106A	6.0	7.2	14	15	13	43	16	20	14	44
			107A	8.8	10.6	19	20	17	43	20	20	18	44
			108A	11.5	13.8	23	25	20	43	24	25	22	44
			109A	14.0	16.8	26	30	24	43	28	30	25	44
		STD	NONE	–	–	11	15	10	48	12	15	11	49
			106A	6.0	7.2	13	15	11	48	14	15	12	49
			107A	8.8	10.6	17	20	15	48	18	20	16	49
			108A	11.5	13.8	21	25	19	48	22	25	20	49
			109A	14.0	16.8	25	25	22	48	26	30	23	49
		MED	NONE	–	–	11	15	10	48	12	15	11	49
			106A	6.0	7.2	13	15	11	48	14	15	12	49
			107A	8.8	10.6	17	20	15	48	18	20	16	49
			108A	11.5	13.8	21	25	19	48	22	25	20	49
			109A	14.0	16.8	25	25	22	48	26	30	23	49
		HIGH	NONE	–	–	12	15	11	67	13	15	12	68
			106A	6.0	7.2	14	15	12	67	15	15	13	68
			107A	8.8	10.6	18	20	16	67	19	20	17	68
			108A	11.5	13.8	22	25	20	67	23	25	21	68
			109A	14.0	16.8	26	30	23	67	27	30	24	68
	575–3–60	DD–STD	NONE	–	–	10	15	10	42	12	15	12	44
			297A	9.2	9.2	17	20	15	42	19	20	17	44
			298A	13.8	13.8	23	25	20	42	25	25	23	44
		STD	NONE	–	–	7	15	6	45	9	15	9	47
			297A	9.2	9.2	13	15	12	45	16	20	14	47
			298A	13.8	13.8	19	20	17	45	22	25	19	47
		MED	NONE	–	–	7	15	6	45	9	15	9	47
			297A	9.2	9.2	13	15	12	45	16	20	14	47
			298A	13.8	13.8	19	20	17	45	22	25	19	47
		HIGH	NONE	–	–	8	15	7	49	10	15	9	51
			297A	9.2	9.2	14	15	13	49	17	20	15	51
			298A	13.8	13.8	20	20	18	49	23	25	20	51

See “Legend and Notes for Tables 72 – 73 on page 112

Table 72 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH048	208/230–1–60	DD–STD	NONE	–	–	37	50	35	127	38	50	37	129
			101A	3.3/4.4	15.9/18.3	37/37	50/50	35/35	127/127	38/38	50/50	37/37	129/129
			103B	6.5/8.7	31.4/36.3	49/55	50/60	45/50	127/127	51/57	60/60	47/52	129/129
			102A+102A	9.8/13.0	46.9/54.2	68/77	70/80	62/71	127/127	71/80	80/80	65/73	129/129
			103B+103B	13.1/17.4	62.8/72.5	88/100	90/100	81/92	127/127	91/103	100/110	83/94	129/129
			104B+104B	15.8/21.0	75.8/87.5	104/119	110/125	96/109	127/127	107/121	110/125	98/111	129/129
		STD	NONE	–	–	34	50	32	132	36	50	35	134
			101A	3.3/4.4	15.9/18.3	34/34	50/50	32/32	132/132	36/36	50/50	35/35	134/134
			103B	6.5/8.7	31.4/36.3	46/52	50/60	42/47	132/132	48/54	50/60	44/50	134/134
			102A+102A	9.8/13.0	46.9/54.2	65/74	70/80	60/68	132/132	68/77	70/80	62/70	134/134
			103B+103B	13.1/17.4	62.8/72.5	85/97	90/100	78/89	132/132	87/100	90/100	80/91	134/134
			104B+104B	15.8/21.0	75.8/87.5	101/116	110/125	93/106	132/132	104/118	110/125	95/108	134/134
		MED	NONE	–	–	34	50	32	132	36	50	35	134
			101A	3.3/4.4	15.9/18.3	34/34	50/50	32/32	132/132	36/36	50/50	35/35	134/134
			103B	6.5/8.7	31.4/36.3	46/52	50/60	42/47	132/132	48/54	50/60	44/50	134/134
			102A+102A	9.8/13.0	46.9/54.2	65/74	70/80	60/68	132/132	68/77	70/80	62/70	134/134
			103B+103B	13.1/17.4	62.8/72.5	85/97	90/100	78/89	132/132	87/100	90/100	80/91	134/134
			104B+104B	15.8/21.0	75.8/87.5	101/116	110/125	93/106	132/132	104/118	110/125	95/108	134/134
	208/230–3–60	DD–STD	NONE	–	–	26	30	26	93	28	40	28	95
			102A	4.9/6.5	13.6/15.6	27/29	30/30	26/26	93/93	29/32	40/40	28/29	95/95
			103B	6.5/8.7	18.1/20.9	32/36	35/40	29/33	93/93	35/38	40/40	32/35	95/95
			105A	12.0/16.0	33.4/38.5	51/58	60/60	47/53	93/93	54/60	60/60	49/55	95/95
			104B+104B	15.8/21.0	43.8/50.5	64/73	70/80	59/67	93/93	67/75	70/80	61/69	95/95
		STD	NONE	–	–	24	30	23	105	26	30	26	107
			102A	4.9/6.5	13.6/15.6	24/26	30/30	23/24	105/105	26/29	30/30	26/26	107/107
			103B	6.5/8.7	18.1/20.9	30/33	30/35	27/30	105/105	32/35	35/40	29/32	107/107
			105A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	105/105	51/57	60/60	47/52	107/107
			104B+104B	15.8/21.0	43.8/50.5	62/70	70/70	56/64	105/105	64/72	70/80	59/66	107/107
		MED	NONE	–	–	24/24	30/30	23/23	122	26/26	30/30	26/25	124
			102A	4.9/6.5	13.6/15.6	24/26	30/30	23/24	122/122	26/28	30/30	26/26	124/124
			103B	6.5/8.7	18.1/20.9	30/33	30/35	27/30	122/122	32/35	35/35	29/32	124/124
			105A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	122/122	51/57	60/60	47/52	124/124
			104B+104B	15.8/21.0	43.8/50.5	62/70	70/70	56/64	122/122	64/72	70/80	59/66	124/124
		HIGH	NONE	–	–	27/27	40/40	27/27	158	29/29	40/40	29/29	160
			102A	4.9/6.5	13.6/15.6	28/30	40/40	27/27	158/158	30/33	40/40	29/30	160/160
			103B	6.5/8.7	18.1/20.9	34/37	40/40	30/34	158/158	36/39	40/40	33/36	160/160
			105A	12.0/16.0	33.4/38.5	53/59	60/60	48/54	158/158	55/61	60/70	50/56	160/160
			104B+104B	15.8/21.0	43.8/50.5	66/74	70/80	60/68	158/158	68/76	70/80	62/70	160/160

See “Legend and Notes for Tables 72 – 73 on page 112

Table 72 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH048	460–3–60	DD–STD	NONE	–	–	13	15	13	47	14	20	14	48
			106A	6.0	7.2	14	15	13	47	16	20	14	48
			108A	11.5	13.8	23	25	20	47	24	25	22	48
			109A	14.0	16.8	26	30	24	47	28	30	25	48
			108A+108A	23.0	27.7	40	40	36	47	41	45	38	48
		STD	NONE	–	–	12	15	11	52	13	15	12	53
			106A	6.0	7.2	13	15	11	52	14	15	12	53
			108A	11.5	13.8	21	25	19	52	22	25	20	53
			109A	14.0	16.8	25	25	22	52	26	30	23	53
			108A+108A	23.0	27.7	38	40	35	52	40	40	36	53
		MED	NONE	–	–	12	15	11	61	13	15	12	62
			106A	6.0	7.2	13	15	11	61	14	15	12	62
			108A	11.5	13.8	21	25	19	61	22	25	20	62
			109A	14.0	16.8	25	25	22	61	26	30	23	62
			108A+108A	23.0	27.7	38	40	35	61	39	40	36	62
		HIGH	NONE	–	–	13	15	13	79	14	20	14	80
			106A	6.0	7.2	15	15	13	79	16	20	14	80
			108A	11.5	13.8	23	25	21	79	24	25	22	80
			109A	14.0	16.8	27	30	24	79	28	30	25	80
			108A+108A	23.0	27.7	40	40	37	79	42	45	38	80
	575–3–60	DD–STD	NONE	–	–	11	15	11	39	13	15	13	41
			297A	9.2	9.2	17	20	15	39	19	20	17	41
			298A	13.8	13.8	23	25	20	39	25	25	23	41
		STD	NONE	–	–	9	15	8	42	10	15	10	44
			297A	9.2	9.2	13	15	12	42	16	20	14	44
			298A	13.8	13.8	19	20	17	42	22	25	19	44
		MED	NONE	–	–	9	15	8	42	11	15	11	44
			297A	9.2	9.2	14	15	12	42	16	20	15	44
			298A	13.8	13.8	20	20	18	42	22	25	20	44
		HIGH	NONE	–	–	10	15	10	57	12	15	12	59
			297A	9.2	9.2	15	15	14	57	18	20	16	59
			298A	13.8	13.8	21	25	19	57	24	25	21	59

See “Legend and Notes for Tables 72 – 73 on page 112

Table 72 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH060	208/230–1–60	DD–STD	NONE	–	–	41	60	39	144	42	60	41	146
			102A	4.9/6.5	23.5/27.1	41/44	60/60	39/40	144/144	42/46	60/60	41/42	146/146
			103B	6.5/8.7	31.4/36.3	49/55	60/60	45/50	144/144	51/57	60/60	47/52	146/146
			102A+102A	9.8/13.0	46.9/54.2	68/77	70/80	62/71	144/144	71/80	80/80	65/73	146/146
			103B+103B	13.1/17.4	62.8/72.5	88/100	90/100	81/92	144/144	91/103	100/110	83/94	146/146
			104B+104B	15.8/21.0	75.8/87.5	104/119	110/125	96/109	144/144	107/121	110/125	98/111	146/146
		STD	NONE	–	–	38	60	36	149	40	60	38	151
			102A	4.9/6.5	23.5/27.1	38/40	60/60	36/37	149/149	40/43	60/60	38/39	151/151
			103B	6.5/8.7	31.4/36.3	46/52	60/60	42/47	149/149	48/54	60/60	44/50	151/151
			102A+102A	9.8/13.0	46.9/54.2	65/74	70/80	60/68	149/149	68/77	70/80	62/70	151/151
			103B+103B	13.1/17.4	62.8/72.5	85/97	90/100	78/89	149/149	87/100	90/100	80/91	151/151
			104B+104B	15.8/21.0	75.8/87.5	101/116	110/125	93/106	149/149	104/118	110/125	95/108	151/151
		MED	NONE	–	–	40	60	38	174	42	60	41	176
			102A	4.9/6.5	23.5/27.1	40/43	60/60	38/39	174/174	42/45	60/60	41/41	176/176
			103B	6.5/8.7	31.4/36.3	48/55	60/60	44/50	174/174	51/57	60/60	46/52	176/176
			102A+102A	9.8/13.0	46.9/54.2	68/77	70/80	62/70	174/174	70/79	70/80	64/73	176/176
			103B+103B	13.1/17.4	62.8/72.5	88/100	90/100	80/91	174/174	90/102	90/110	82/94	176/176
			104B+104B	15.8/21.0	75.8/87.5	104/119	110/125	95/109	174/174	106/121	110/125	97/111	176/176
	208/230–3–60	DD–STD	NONE	–	–	29	40	28	120	31	45	31	122
			102A	4.9/6.5	13.6/15.6	29/29	40/40	28/28	120/120	31/32	45/45	31/31	122/122
			104B	7.9/10.5	21.9/25.3	37/41	40/45	34/38	120/120	39/44	45/45	36/40	122/122
			105A	12.0/16.0	33.4/38.5	51/58	60/60	47/53	120/120	54/60	60/60	49/55	122/122
			104B+104B	15.8/21.0	43.8/50.5	64/73	70/80	59/67	120/120	67/75	70/80	61/69	122/122
			104B+105A	19.9/26.5	55.2/63.8	79/89	80/90	72/82	120/120	81/92	90/100	74/84	122/122
		STD	NONE	–	–	27	40	26	132	29	40	28	134
			102A	4.9/6.5	13.6/15.6	27/27	40/40	26/26	132/132	29/29	40/40	28/28	134/134
			104B	7.9/10.5	21.9/25.3	34/39	40/40	31/35	132/132	37/41	40/45	33/37	134/134
			105A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	132/132	51/57	60/60	47/52	134/134
			104B+104B	15.8/21.0	43.8/50.5	62/70	70/70	56/64	132/132	64/72	70/80	59/66	134/134
			104B+105A	19.9/26.5	55.2/63.8	76/87	80/90	69/79	132/132	78/89	80/90	72/82	134/134
		MED	NONE	–	–	29/28	40/40	28/28	170	31/30	45/45	30/30	172
			102A	4.9/6.5	13.6/15.6	29/28	40/40	28/28	170/170	31/31	45/45	30/30	172/172
			104B	7.9/10.5	21.9/25.3	36/40	40/40	33/37	170/170	39/43	45/45	35/39	172/172
			105A	12.0/16.0	33.4/38.5	51/57	60/60	46/52	170/170	53/59	60/60	49/54	172/172
			104B+104B	15.8/21.0	43.8/50.5	64/72	70/80	58/66	170/170	66/74	70/80	60/68	172/172
			104B+105A	19.9/26.5	55.2/63.8	78/89	80/90	71/81	170/170	80/91	90/100	74/83	172/172
		HIGH	NONE	–	–	30/30	45/45	30/29	185	32/32	45/45	32/32	187
			102A	4.9/6.5	13.6/15.6	30/30	45/45	30/29	185/185	32/33	45/45	32/32	187/187
			104B	7.9/10.5	21.9/25.3	38/42	45/45	35/39	185/185	41/45	45/45	37/41	187/187
			105A	12.0/16.0	33.4/38.5	53/59	60/60	48/54	185/185	55/61	60/70	50/56	187/187
			104B+104B	15.8/21.0	43.8/50.5	66/74	70/80	60/68	185/185	68/76	70/80	62/70	187/187
			104B+105A	19.9/26.5	55.2/63.8	80/91	80/100	73/83	185/185	82/93	90/100	75/85	187/187

See “Legend and Notes for Tables 72 – 73 on page 112

Table 72 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH060	460–3–60	DD–STD	NONE	–	–	14	20	14	58	15	20	15	59
			106A	6.0	7.2	14	20	14	58	16	20	15	59
			108A	11.5	13.8	23	25	20	58	24	25	22	59
			109A	14.0	16.8	26	30	24	58	28	30	25	59
			108A+108A	23.0	27.7	40	40	36	58	41	45	38	59
			108A+109A	25.5	30.7	44	45	40	58	45	45	41	59
		STD	NONE	–	–	13	15	12	63	14	20	13	64
			106A	6.0	7.2	13	15	12	63	14	20	13	64
			108A	11.5	13.8	21	25	19	63	22	25	20	64
			109A	14.0	16.8	25	25	22	63	26	30	23	64
			108A+108A	23.0	27.7	38	40	35	63	40	40	36	64
			108A+109A	25.5	30.7	42	45	38	63	43	45	39	64
		MED	NONE	–	–	14	20	13	82	15	20	14	83
			106A	6.0	7.2	14	20	13	82	15	20	14	83
			108A	11.5	13.8	22	25	20	82	23	25	21	83
			109A	14.0	16.8	26	30	23	82	27	30	24	83
			108A+108A	23.0	27.7	39	40	36	82	41	45	37	83
			108A+109A	25.5	30.7	43	45	39	82	44	45	40	83
		HIGH	NONE	–	–	14	20	14	90	15	20	15	91
			106A	6.0	7.2	15	20	14	90	16	20	15	91
			108A	11.5	13.8	23	25	21	90	24	25	22	91
			109A	14.0	16.8	27	30	24	90	28	30	25	91
			108A+108A	23.0	27.7	40	40	37	90	42	45	38	91
			108A+109A	25.5	30.7	44	45	40	90	45	45	41	91
	575–3–60	DD–STD	NONE	–	–	12	15	12	46	14	15	14	48
			298A	13.8	13.8	23	25	20	46	25	25	23	48
			301A	23.0	23.1	34	35	31	46	37	40	33	48
		STD	NONE	–	–	9	15	8	49	11	15	10	51
			298A	13.8	13.8	19	20	17	49	22	25	19	51
			301A	23.0	23.1	31	35	28	49	33	35	30	51
		MED	NONE	–	–	10	15	9	53	12	15	11	55
			298A	13.8	13.8	20	20	18	53	23	25	20	55
			301A	23.0	23.1	32	35	29	53	34	35	31	55
		HIGH	NONE	–	–	11	15	10	64	12	15	12	66
			298A	13.8	13.8	21	25	19	64	24	25	21	66
			301A	23.0	23.1	33	35	30	64	35	35	32	66

See “Legend and Notes for Tables 72 – 73 on page 112

ELECTRICAL INFORMATION

Table 72 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont)

(UNITS PRODUCED ON OR AFTER 02/16/2015)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH072	208/230–3–60	STD	NONE	–	–	33/33	50/50	32/32	178	37/37	50/50	36/36	182
			264A	4.9/6.5	13.6/15.6	33/33	50/50	32/32	178/178	37/37	50/50	36/36	182/182
			117A	7.8/10.4	21.7/25.0	38/38	50/50	32/34	178/178	43/43	50/50	36/39	182/182
			110A	12.0/16.0	33.4/38.5	55/55	60/60	44/50	178/178	59/59	60/60	49/54	182/182
			117A+117A	15.8/21.0	43.8/50.5	70/70	70/70	56/64	178/178	74/74	80/80	61/68	182/182
			110A+117A	19.9/26.5	55.2/63.8	86/86	90/90	69/79	178/178	91/91	100/100	74/83	182/182
		MED	NONE	–	–	36/36	50/50	36/36	214	40/40	50/50	40/40	218
			264A	4.9/6.5	13.6/15.6	36/36	50/50	36/36	214/214	40/40	50/50	40/40	218/218
			117A	7.8/10.4	21.7/25.0	42/42	50/50	36/38	214/214	47/47	50/50	40/43	218/218
			110A	12.0/16.0	33.4/38.5	59/59	60/60	48/54	214/214	64/64	70/70	52/58	218/218
			117A+117A	15.8/21.0	43.8/50.5	74/74	70/80	60/68	214/214	79/79	80/80	64/72	218/218
			110A+117A	19.9/26.5	55.2/63.8	91/91	80/100	73/83	214/214	95/95	100/100	78/87	218/218
		HIGH	NONE	–	–	42/42	50/50	42/41	230	45/45	60/60	46/45	234
			264A	4.9/6.5	13.6/15.6	42/42	50/50	42/41	230/230	45/45	60/60	46/45	234/234
			117A	7.8/10.4	21.7/25.0	48/48	50/50	42/43	230/230	52/52	60/60	46/48	234/234
			110A	12.0/16.0	33.4/38.5	64/64	60/70	54/59	230/230	69/69	70/70	58/63	234/234
			117A+117A	15.8/21.0	43.8/50.5	79/79	80/80	66/73	230/230	84/84	90/90	70/77	234/234
			110A+117A	19.9/26.5	55.2/63.8	96/96	100/100	79/88	230/230	101/101	110/110	83/92	234/234
	460–3–60	STD	NONE	–	–	15	20	14	88	17	20	16	90
			265A	6.0	7.2	15	20	14	88	17	20	16	90
			266A	11.5	13.8	21	25	19	88	23	25	21	90
			267A	14.0	16.8	25	25	22	88	27	30	24	90
			268A	23.0	27.7	38	40	35	88	40	45	37	90
			269A	25.5	30.7	42	45	38	88	44	45	40	90
		MED	NONE	–	–	17	20	16	106	18	25	18	108
			265A	6.0	7.2	17	20	16	106	18	25	18	108
			266A	11.5	13.8	23	25	21	106	25	25	23	108
			267A	14.0	16.8	27	30	24	106	29	30	26	108
			268A	23.0	27.7	40	40	37	106	43	45	39	108
			269A	25.5	30.7	44	45	40	106	46	50	42	108
		HIGH	NONE	–	–	19	25	19	114	21	25	21	116
			265A	6.0	7.2	19	25	19	114	21	25	21	116
			266A	11.5	13.8	26	30	23	114	28	30	25	116
			267A	14.0	16.8	29	30	27	114	32	35	29	116
			268A	23.0	27.7	43	45	39	114	45	45	41	116
			269A	25.5	30.7	47	50	43	114	49	50	45	116
	575–3–60	STD	NONE	–	–	12	15	11	66	15	20	15	70
			118A	17.0	20.4	28	30	25	66	33	35	30	70
			299A	25.7	25.8	35	35	32	66	39	40	36	70
		MED	NONE	–	–	13	15	12	81	17	20	17	85
			118A	17.0	20.4	29	30	27	81	34	35	31	85
			299A	25.7	25.8	36	40	33	81	41	45	37	85
		HIGH	NONE	–	–	16	20	15	95	19	25	20	99
			118A	17.0	20.4	33	35	30	95	38	40	34	99
			299A	25.7	25.8	40	40	36	95	44	45	40	99

See “Legend and Notes for Tables 72 – 73 on page 112

ELECTRICAL INFORMATION

Table 72 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont)

(UNITS PRODUCED ON OR PRIOR TO 02/15/2015)

UNIT	NO M. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH072 (1–stage cool)	208/230–3–60	STD	NONE	–	–	32/32	50/50	31/31	165	36/36	50/50	36/35	169
			264A	4.9/6.5	13.6/15.6	32/32	50/50	31/31	165/165	36/36	50/50	36/35	169/169
			117A	7.8/10.4	21.7/25.0	34/38	50/50	31/34	165/165	39/43	50/50	36/39	169/169
			110A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	165/165	53/59	60/60	49/54	169/169
			117A+117A	15.8/21.0	43.8/50.5	62/70	70/70	56/64	165/165	66/74	70/80	61/68	169/169
			110A+117A	19.9/26.5	55.2/63.8	76/86	80/90	69/79	165/165	81/91	90/100	74/83	169/169
		MED	NONE	–	–	36/36	50/50	35/35	201	39/39	50/50	39/39	205
			264A	4.9/6.5	13.6/15.6	36/36	50/50	35/35	201/201	39/39	50/50	39/39	205/205
			117A	7.8/10.4	21.7/25.0	38/42	50/50	35/38	201/201	43/47	50/50	39/43	205/205
			110A	12.0/16.0	33.4/38.5	53/59	60/60	48/54	201/201	57/64	60/70	52/58	205/205
			117A+117A	15.8/21.0	43.8/50.5	66/74	70/80	60/68	201/201	70/79	80/80	64/72	205/205
			110A+117A	19.9/26.5	55.2/63.8	80/91	80/100	73/83	201/201	85/95	90/100	78/87	205/205
		HIGH	NONE	–	–	41/40	50/50	41/40	217	45/44	60/60	45/44	221
			264A	4.9/6.5	13.6/15.6	41/40	50/50	41/40	217/217	45/44	60/60	45/44	221/221
			117A	7.8/10.4	21.7/25.0	45/48	50/50	41/43	217/217	49/52	60/60	45/48	221/221
			110A	12.0/16.0	33.4/38.5	59/64	60/70	54/59	217/217	64/69	70/70	58/63	221/221
			117A+117A	15.8/21.0	43.8/50.5	72/79	80/80	66/73	217/217	77/84	80/90	70/77	221/221
			110A+117A	19.9/26.5	55.2/63.8	86/96	90/100	79/88	217/217	91/101	100/110	83/92	221/221
	460–3–60	STD	NONE	–	–	17	25	16	84	18	25	18	86
			265A	6.0	7.2	17	25	16	84	18	25	18	86
			266A	11.5	13.8	21	25	19	84	23	25	21	86
			267A	14.0	16.8	25	25	22	84	27	30	24	86
			268A	23.0	27.7	38	40	35	84	40	45	37	86
			269A	25.5	30.7	42	45	38	84	44	45	40	86
		MED	NONE	–	–	18	25	18	102	20	25	20	104
			265A	6.0	7.2	18	25	18	102	20	25	20	104
			266A	11.5	13.8	23	25	21	102	25	25	23	104
			267A	14.0	16.8	27	30	24	102	29	30	26	104
			268A	23.0	27.7	40	40	37	102	43	45	39	104
			269A	25.5	30.7	44	45	40	102	46	50	42	104
		HIGH	NONE	–	–	21	25	20	110	22	30	22	112
			265A	6.0	7.2	21	25	20	110	22	30	22	112
			266A	11.5	13.8	26	30	23	110	28	30	25	112
			267A	14.0	16.8	29	30	27	110	32	35	29	112
			268A	23.0	27.7	43	45	39	110	45	45	41	112
			269A	25.5	30.7	47	50	43	110	49	50	45	112
	575–3–60	STD	NONE	–	–	13	15	12	61	16	20	16	65
			118A	17.0	20.4	28	30	25	61	33	35	30	65
			299A	25.7	25.8	35	35	32	61	39	40	36	65
		MED	NONE	–	–	14	20	13	76	18	20	17	80
			118A	17.0	20.4	29	30	27	76	34	35	31	80
			299A	25.7	25.8	36	40	33	76	41	45	37	80
		HIGH	NONE	–	–	17	20	16	90	20	25	21	94
			118A	17.0	20.4	33	35	30	90	38	40	34	94
			299A	25.7	25.8	40	40	36	90	44	45	40	94

See “Legend and Notes for Tables 72 – 73 on page 112

Table 72 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH090	208/230–3–60	STD	NONE	–	–	39/39	50/50	41/40	208	43/43	50/50	45/45	212
			117A	7.8/10.4	21.7/25.0	39/39	50/50	41/40	208/208	43/43	50/50	45/45	212/212
			110A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	208/208	53/59	60/60	49/54	212/212
			111A	18.6/24.8	51.7/59.7	72/81	80/90	65/74	208/208	76/86	80/90	70/79	212/212
			112A	24.0/32.0	66.7/77.0	90/103	90/110	83/94	208/208	95/108	100/110	87/99	212/212
			112A+117A	31.8/42.4	88.4/102.0	117/134	125/150	108/123	208/208	122/139	125/150	112/127	212/212
		MED	NONE	–	–	41/41	50/50	43/42	229	45/45	50/50	47/47	233
			117A	7.8/10.4	21.7/25.0	41/41	50/50	43/42	229/229	45/45	50/50	47/47	233/233
			110A	12.0/16.0	33.4/38.5	51/57	60/60	46/52	229/229	56/62	60/70	51/56	233/233
			111A	18.6/24.8	51.7/59.7	74/83	80/90	67/76	229/229	78/88	80/90	72/81	233/233
			112A	24.0/32.0	66.7/77.0	92/105	100/110	85/96	229/229	97/110	100/110	89/101	233/233
			112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	229/229	124/141	125/150	114/129	233/233
		HIGH	NONE	–	–	45	50	47	258	48	60	51	262
			117A	7.8/10.4	21.7/25.0	45/45	50/50	47/47	258/258	48/50	60/60	51/51	262/262
			110A	12.0/16.0	33.4/38.5	55/62	60/70	51/56	258/258	60/67	60/70	55/61	262/262
			111A	18.6/24.8	51.7/59.7	78/88	80/90	72/81	258/258	83/93	90/100	76/85	262/262
			112A	24.0/32.0	66.7/77.0	97/110	100/110	89/101	258/258	102/115	110/125	93/105	262/262
			112A+117A	31.8/42.4	88.4/102.0	124/141	125/150	114/129	258/258	129/146	150/150	118/134	262/262
	460–3–60	STD	NONE	–	–	18	20	19	104	20	25	21	106
			116A	13.9	16.7	24	25	22	104	27	30	24	106
			113A	16.5	19.8	28	30	26	104	31	35	28	106
			114A	27.8	33.4	45	45	41	104	48	50	43	106
			115A	33.0	39.7	53	60	49	104	55	60	51	106
			114A+116A	41.7	50.2	66	70	61	104	69	70	63	106
		MED	NONE	–	–	19	25	20	114	21	25	22	116
			116A	13.9	16.7	26	30	23	114	28	30	25	116
			113A	16.5	19.8	29	30	27	114	32	35	29	116
			114A	27.8	33.4	46	50	42	114	49	50	44	116
			115A	33.0	39.7	54	60	50	114	57	60	52	116
			114A+116A	41.7	50.2	67	70	62	114	70	70	64	116
		HIGH	NONE	–	–	21	25	22	129	23	25	24	131
			116A	13.9	16.7	28	30	25	129	30	30	27	131
			113A	16.5	19.8	32	35	29	129	34	35	31	131
			114A	27.8	33.4	49	50	45	129	51	60	47	131
			115A	33.0	39.7	57	60	52	129	59	60	54	131
			114A+116A	41.7	50.2	70	70	64	129	72	80	66	131
	575–3–60	STD	NONE	–	–	13	15	13	77	17	20	17	81
			118A	17.0	20.4	28	30	25	77	33	35	30	81
			119A	34.0	40.9	54	60	49	77	58	60	53	81
		MED	NONE	–	–	13	15	13	81	17	20	18	85
			118A	17.0	20.4	28	30	26	81	33	35	30	85
			119A	34.0	40.9	54	60	49	81	59	60	54	85
		HIGH	NONE	–	–	14	15	14	92	18	20	19	96
			118A	17.0	20.4	29	30	27	92	34	35	31	96
			119A	34.0	40.9	55	60	50	92	60	60	55	96

See “Legend and Notes for Tables 72 – 73 on page 112

ELECTRICAL INFORMATION

Table 72 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH102	208/230–3–60	STD	NONE	–	–	39/39	50/50	41/41	208	43/43	50/50	45/45	212
			117A	7.8/10.4	21.7/25.0	39/39	50/50	41/41	208/208	43/43	50/50	45/45	212/212
			110A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	208/208	53/59	60/60	49/54	212/212
			111A	18.6/24.8	51.7/59.7	72/81	80/90	65/74	208/208	76/86	80/90	70/79	212/212
			112A	24.0/32.0	66.7/77.0	90/103	90/110	83/94	208/208	95/108	100/110	87/99	212/212
			112A+117A	31.8/42.4	88.4/102.0	117/134	125/150	108/123	208/208	122/139	125/150	112/127	212/212
		MED	NONE	–	–	41/41	50/50	43/43	229	45/45	50/50	47/47	233
			117A	7.8/10.4	21.7/25.0	41/41	50/50	43/43	229/229	45/45	50/50	47/47	233/233
			110A	12.0/16.0	33.4/38.5	51/57	60/60	46/52	229/229	56/62	60/70	51/56	233/233
			111A	18.6/24.8	51.7/59.7	74/83	80/90	67/76	229/229	78/88	80/90	72/81	233/233
			112A	24.0/32.0	66.7/77.0	92/105	100/110	85/96	229/229	97/110	100/110	89/101	233/233
			112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	229/229	124/141	125/150	114/129	233/233
		HIGH	NONE	–	–	45	50	47	258	49	60	52	262
			117A	7.8/10.4	21.7/25.0	45/45	50/50	47/47	258/258	49/50	60/60	52/52	262/262
			110A	12.0/16.0	33.4/38.5	55/62	60/70	51/56	258/258	60/67	60/70	55/61	262/262
			111A	18.6/24.8	51.7/59.7	78/88	80/90	72/81	258/258	83/93	90/100	76/85	262/262
			112A	24.0/32.0	66.7/77.0	97/110	100/110	89/101	258/258	102/115	110/125	93/105	262/262
			112A+117A	31.8/42.4	88.4/102.0	124/141	125/150	114/129	258/258	129/146	150/150	118/134	262/262
	460–3–60	STD	NONE	–	–	19	20	19	104	20	25	21	106
			116A	13.9	16.7	24	25	22	104	27	30	24	106
			113A	16.5	19.8	28	30	26	104	31	35	28	106
			114A	27.8	33.4	45	45	41	104	48	50	43	106
			115A	33.0	39.7	53	60	49	104	55	60	51	106
			114A+116A	41.7	50.2	66	70	61	104	69	70	63	106
		MED	NONE	–	–	19	25	20	114	21	25	22	116
			116A	13.9	16.7	26	30	23	114	28	30	25	116
			113A	16.5	19.8	29	30	27	114	32	35	29	116
			114A	27.8	33.4	46	50	42	114	49	50	44	116
			115A	33.0	39.7	54	60	50	114	57	60	52	116
			114A+116A	41.7	50.2	67	70	62	114	70	70	64	116
		HIGH	NONE	–	–	21	25	22	129	23	25	24	131
			116A	13.9	16.7	28	30	25	129	30	30	27	131
			113A	16.5	19.8	32	35	29	129	34	35	31	131
			114A	27.8	33.4	49	50	45	129	51	60	47	131
			115A	33.0	39.7	57	60	52	129	59	60	54	131
			114A+116A	41.7	50.2	70	70	64	129	72	80	66	131
	575–3–60	STD	NONE	–	–	14	15	14	77	18	20	19	81
			118A	17.0	20.4	28	30	25	77	33	35	30	81
			119A	34.0	40.9	54	60	49	77	58	60	53	81
		MED	NONE	–	–	14	20	15	81	18	20	19	85
			118A	17.0	20.4	28	30	26	81	33	35	30	85
			119A	34.0	40.9	54	60	49	81	59	60	54	85
		HIGH	NONE	–	–	15	20	16	92	19	20	20	96
			118A	17.0	20.4	29	30	27	92	34	35	31	96
			119A	34.0	40.9	55	60	50	92	60	60	55	96

See “Legend and Notes for Tables 72 – 73 on page 112

ELECTRICAL INFORMATION

Table 72 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH110	208/230–3–60	STD	NONE	–	–	51/50	60/60	53/53	284	54/54	60/60	57/57	288
			117A	7.8/10.4	21.7/25.0	51/50	60/60	53/53	284/284	54/54	60/60	57/57	288/288
			110A	12.0/16.0	33.4/38.5	51/57	60/60	53/53	284/284	56/62	60/70	57/57	288/288
			112A	24.0/32.0	66.7/77.0	92/105	100/110	85/96	284/284	97/110	100/110	89/101	288/288
			112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	284/284	124/141	125/150	114/129	288/288
			112A+110A	37.6/50.0	104.2/120.3	139/129	150/150	128/146	284/284	144/134	150/150	132/150	288/288
		MED	NONE	–	–	54	60	57	313	58	70	62	317
			117A	7.8/10.4	21.7/25.0	54/54	60/60	57/57	313/313	58/58	70/70	62/62	317/317
			110A	12.0/16.0	33.4/38.5	55/62	60/70	57/57	313/313	60/67	70/70	62/62	317/317
			112A	24.0/32.0	66.7/77.0	97/110	100/110	89/101	313/313	102/115	110/125	93/105	317/317
			112A+117A	31.8/42.4	88.4/102.0	124/141	125/150	114/129	313/313	129/146	150/150	118/134	317/317
			112A+110A	37.6/50.0	104.2/120.3	144/134	150/150	132/151	313/313	149/139	150/150	136/155	317/317
		HIGH	NONE	–	–	57/56	70/60	61/60	315	61/60	70/70	65/64	319
			117A	7.8/10.4	21.7/25.0	57/56	70/60	61/60	315/315	61/60	70/70	65/64	319/319
			110A	12.0/16.0	33.4/38.5	59/64	70/70	61/60	315/315	64/69	70/70	65/64	319/319
			112A	24.0/32.0	66.7/77.0	101/113	110/125	92/103	315/315	106/117	110/125	97/108	319/319
			112A+117A	31.8/42.4	88.4/102.0	128/144	150/150	117/132	315/315	133/149	150/150	122/136	319/319
			112A+110A	37.6/50.0	104.2/120.3	148/137	150/150	135/153	315/315	152/141	175/175	140/157	319/319
	460–3–60	STD	NONE	–	–	23	25	24	136	25	30	26	138
			116A	13.9	16.7	26	30	24	136	28	30	26	138
			113A	16.5	19.8	29	30	27	136	32	35	29	138
			115A	33.0	39.7	54	60	50	136	57	60	52	138
			114A+116A	41.7	50.2	67	70	62	136	70	70	64	138
			115A+113A	50.0	60.1	65	70	73	136	67	70	75	138
		MED	NONE	–	–	25	30	26	151	27	30	28	153
			116A	13.9	16.7	28	30	26	151	30	30	28	153
			113A	16.5	19.8	32	35	29	151	34	35	31	153
			115A	33.0	39.7	57	60	52	151	59	60	54	153
			114A+116A	41.7	50.2	70	70	64	151	72	80	66	153
			115A+113A	50.0	60.1	67	80	75	151	69	80	77	153
		HIGH	NONE	–	–	26	30	28	152	28	30	30	154
			116A	13.9	16.7	29	30	28	152	32	35	30	154
			113A	16.5	19.8	33	35	30	152	35	35	32	154
			115A	33.0	39.7	58	60	53	152	60	60	55	154
			114A+116A	41.7	50.2	71	80	65	152	73	80	67	154
			115A+113A	50.0	60.1	69	80	76	152	71	80	79	154
	575–3–60	STD	NONE	–	–	18	20	18	95	21	25	23	99
			118A	17.0	20.4	28	30	26	95	33	35	30	99
			119A	34.0	40.9	54	60	49	95	59	60	54	99
			118A+119A	51.0	61.3	64	70	73	95	69	80	77	99
		MED	NONE	–	–	18	20	19	106	22	25	23	110
			118A	17.0	20.4	29	30	27	106	34	35	31	110
			119A	34.0	40.9	55	60	50	106	60	60	55	110
			118A+119A	51.0	61.3	65	70	74	106	70	80	78	110
		HIGH	NONE	–	–	21	25	22	120	25	30	27	124
			118A	17.0	20.4	33	35	30	120	38	40	34	124
			119A	34.0	40.9	59	60	53	120	63	70	58	124
			118A+119A	51.0	61.3	69	80	77	120	74	80	81	124

See “Legend and Notes for Tables 72 – 73 on page 112

ELECTRICAL INFORMATION

Table 72 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH120	208/230–3–60	STD	NONE	–	–	49/49	60/60	52/51	309	53/53	60/60	56/56	313
			117A	7.8/10.4	21.7/25.0	49/49	60/60	52/51	309/309	53/53	60/60	56/56	313/313
			110A	12.0/16.0	33.4/38.5	51/57	60/60	52/52	309/309	56/62	60/70	56/56	313/313
			112A	24.0/32.0	66.7/77.0	92/105	100/110	85/96	309/309	97/110	100/110	89/101	313/313
			112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	309/309	124/141	125/150	114/129	313/313
			112A+110A	37.6/50.0	104.2/120.3	139/129	150/150	128/146	309/309	144/134	150/150	132/150	313/313
		MED	NONE	–	–	53	60	56	338	57	70	60	342
			117A	7.8/10.4	21.7/25.0	53/53	60/60	56/56	338/338	57/57	70/70	60/60	342/342
			110A	12.0/16.0	33.4/38.5	55/62	60/70	56/56	338/338	60/67	70/70	60/61	342/342
			112A	24.0/32.0	66.7/77.0	97/110	100/110	89/101	338/338	102/115	110/125	93/105	342/342
			112A+117A	31.8/42.4	88.4/102.0	124/141	125/150	114/129	338/338	129/146	150/150	118/134	342/342
			112A+110A	37.6/50.0	104.2/120.3	144/134	150/150	132/151	338/338	149/139	150/150	136/155	342/342
		HIGH	NONE	–	–	56/55	60/60	59/58	340	60/59	70/70	64/63	344
			117A	7.8/10.4	21.7/25.0	56/55	60/60	59/58	340/340	60/59	70/70	64/63	344/344
			110A	12.0/16.0	33.4/38.5	59/64	60/70	59/59	340/340	64/69	70/70	64/63	344/344
			112A	24.0/32.0	66.7/77.0	101/113	110/125	92/103	340/340	106/117	110/125	97/108	344/344
			112A+117A	31.8/42.4	88.4/102.0	128/144	150/150	117/132	340/340	133/149	150/150	122/136	344/344
			112A+110A	37.6/50.0	104.2/120.3	148/137	150/150	135/153	340/340	152/141	175/175	140/157	344/344
	460–3–60	STD	NONE	–	–	24	30	25	148	26	30	27	150
			116A	13.9	16.7	26	30	25	148	28	30	27	150
			113A	16.5	19.8	29	30	27	148	32	35	29	150
			115A	33.0	39.7	54	60	50	148	57	60	52	150
			114A+116A	41.7	50.2	67	70	62	148	70	70	64	150
			115A+113A	50.0	60.1	65	70	73	148	67	70	75	150
		MED	NONE	–	–	26	30	27	163	28	30	29	165
			116A	13.9	16.7	28	30	27	163	30	30	29	165
			113A	16.5	19.8	32	35	29	163	34	35	31	165
			115A	33.0	39.7	57	60	52	163	59	60	54	165
			114A+116A	41.7	50.2	70	70	64	163	72	80	66	165
			115A+113A	50.0	60.1	67	80	75	163	69	80	77	165
		HIGH	NONE	–	–	27	30	29	164	29	35	31	166
			116A	13.9	16.7	29	30	29	164	32	35	31	166
			113A	16.5	19.8	33	35	30	164	35	35	32	166
			115A	33.0	39.7	58	60	53	164	60	60	55	166
			114A+116A	41.7	50.2	71	80	65	164	73	80	67	166
			115A+113A	50.0	60.1	69	80	76	164	71	80	79	166
	575–3–60	STD	NONE	–	–	18	20	18	105	22	25	23	109
			118A	17.0	20.4	28	30	26	105	33	35	30	109
			119A	34.0	40.9	54	60	49	105	59	60	54	109
			118A+119A	51.0	61.3	64	70	73	105	69	80	77	109
		MED	NONE	–	–	19	20	19	116	22	25	24	120
			118A	17.0	20.4	29	30	27	116	34	35	31	120
			119A	34.0	40.9	55	60	50	116	60	60	55	120
			118A+119A	51.0	61.3	65	70	74	116	70	80	78	120
		HIGH	NONE	–	–	21	25	22	130	25	30	27	134
			118A	17.0	20.4	33	35	30	130	38	40	34	134
			119A	34.0	40.9	59	60	53	130	63	70	58	134
			118A+119A	51.0	61.3	69	80	77	130	74	80	81	134

See “Legend and Notes for Tables 72 – 73 on page 112

ELECTRICAL INFORMATION

Table 72 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont)

(UNITS PRODUCED ON OR AFTER 02/16/2015)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH150	208/230–3–60	STD	NONE	–	–	57/57	70/70	60/60	356	61/61	80/80	64/64	360
			291A	12.4/16.5	34.4/39.7	60/60	70/70	60/60	356/356	65/65	80/80	64/64	360/360
			288A+291A	19.9/26.5	55.3/63.8	91/91	100/100	73/83	356/356	95/95	100/100	78/87	360/360
			294A	25.2/33.5	69.9/80.6	112/112	125/125	90/102	356/356	116/116	125/125	94/107	360/360
			288A+294A	32.7/43.5	90.7/104.7	142/142	150/150	114/130	356/356	146/146	150/150	118/134	360/360
			291A+294A	37.6/50.0	104.3/120.3	141/131	150/150	130/148	356/356	146/146	150/150	134/152	360/360
		MED	NONE	–	–	60	70	62	370	63	80	67	374
			291A	12.4/16.5	34.4/39.7	63/63	70/70	62/62	370/370	68/68	80/80	67/67	374/374
			288A+291A	19.9/26.5	55.3/63.8	93/93	100/100	76/86	370/370	98/98	100/100	80/90	374/374
			294A	25.2/33.5	69.9/80.6	114/114	125/125	93/105	370/370	119/119	125/125	97/109	374/374
			288A+294A	32.7/43.5	90.7/104.7	145/145	150/150	116/133	370/370	149/149	150/150	121/137	374/374
			291A+294A	37.6/50.0	104.3/120.3	144/144	150/150	132/151	370/370	149/139	150/150	137/155	374/374
		HIGH	NONE	–	–	66/66	80	70/68	368	70/70	80/80	74/72	372
			291A	12.4/16.5	34.4/39.7	69/69	80/80	70/68	368/368	74/74	80/80	74/72	372/372
			288A+291A	19.9/26.5	55.3/63.8	99/99	100/100	83/91	368/368	104/104	110/110	85/95	372/372
			294A	25.2/33.5	69.9/80.6	120/120	125/125	100/110	368/368	125/125	125/125	104/114	372/372
			288A+294A	32.7/43.5	90.7/104.7	150/150	150/150	124/138	368/368	155/155	175/175	128/142	372/372
			291A+294A	37.6/50.0	104.3/120.3	152/152	175/175	139/156	368/368	157/157	175/175	144/166	372/372
	460–3–60	STD	NONE	–	–	26	30	26	174	27	30	29	176
			292A	16.5	19.9	31	35	28	174	33	35	30	176
			289A+292A	26.5	31.9	46	50	42	174	48	50	44	176
			295A	33.5	40.3	56	60	51	174	58	60	53	176
			289A+295A	43.5	52.3	71	80	65	174	73	80	67	176
			292A+295A	50.0	60.2	66	70	74	174	68	80	76	176
		MED	NONE	–	–	27	30	28	181	28	35	30	183
			292A	16.5	19.9	32	35	29	181	34	435	31	183
			289A+292A	26.5	31.9	47	50	43	181	49	50	45	183
			295A	33.5	40.3	57	60	52	181	60	60	55	183
			289A+295A	43.5	52.3	72	80	66	181	75	80	68	183
			292A+295A	50.0	60.2	67	80	75	181	70	80	77	183
		HIGH	NONE	–	–	29	35	30	180	31	35	32	182
			292A	16.5	19.9	35	35	32	180	37	40	34	182
			289A+292A	26.5	31.9	50	50	45	180	52	60	47	182
			295A	33.5	40.3	60	60	55	180	63	70	57	182
			289A+295A	43.5	52.3	75	80	69	180	78	80	71	182
			292A+295A	50.0	60.2	70	80	78	180	76	80	80	182

See “Legend and Notes for Tables 72 – 73 on page 112

Table 72 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH150	575–3–60	STD	NONE	–	–	20	25	21	138	24	30	25	142
			293A	16.5	15.9	24	25	22	138	29	30	26	142
			290A+293A	26.5	25.5	36	40	33	138	41	45	37	142
			296A	33.5	32.2	44	45	40	138	49	50	45	142
			290A+296A	43.5	41.8	56	60	51	138	61	70	56	142
			293A+296A	50.0	48.1	52	60	59	138	57	60	63	142
		MED	NONE	–	–	20	25	21	138	24	30	25	142
			293A	16.5	15.9	24	25	22	138	29	30	26	142
			290A+293A	26.5	25.5	36	40	33	138	41	45	37	142
			296A	33.5	32.2	44	45	40	138	49	50	45	142
			290A+296A	43.5	41.8	56	60	51	138	61	70	56	142
			293A+296A	50.0	48.1	52	60	59	138	57	60	63	142
		HIGH	NONE	–	–	24	25	25	141	27	30	29	145
			293A	16.5	15.9	28	30	25	141	33	35	30	145
			290A+293A	26.5	25.5	40	40	36	141	45	45	41	145
			296A	33.5	32.2	48	50	44	141	53	60	48	145
			290A+296A	43.5	41.8	60	60	55	141	65	70	59	145
			293A+296A	50.0	48.1	56	60	62	141	61	70	67	145

See “Legend and Notes for Tables 72 – 73 on page 112

ELECTRICAL INFORMATION

Table 72 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont)

(UNITS PRODUCED ON OR PRIOR TO 02/15/2015)

UNIT	NO M. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH150 (2–stage cool) – Units produced on or prior to 02/15/2015	208/230–3–60	STD	NONE	–	–	56/56	70/70	59/58	330	60/60	70/70	63/63	334
			291A	12.4/16.5	34.4/39.7	56/60	70/70	59/58	330/330	60/65	70/70	63/63	334/334
			288A+291A	19.9/26.5	55.3/63.8	80/91	80/100	73/83	330/330	85/95	90/100	78/87	334/334
			294A	25.2/33.5	69.9/80.6	98/112	100/125	90/102	330/330	103/116	110/125	94/107	334/334
			288A+294A	32.7/43.5	90.7/104.7	124/142	125/150	114/130	330/330	129/146	150/150	118/134	334/334
			291A+294A	37.6/50.0	104.3/120.3	141/131	150/150	130/148	330/330	146/136	150/150	134/152	334/334
		MED	NONE	–	–	58	70	61	344	62	80	65	348
			291A	12.4/16.5	34.4/39.7	58/63	70/70	61/61	344/344	62/68	80/80	65/65	348/348
			288A+291A	19.9/26.5	55.3/63.8	83/93	90/100	76/86	344/344	88/98	90/100	80/90	348/348
			294A	25.2/33.5	69.9/80.6	101/114	110/125	93/105	344/344	106/119	110/125	97/109	348/348
			288A+294A	32.7/43.5	90.7/104.7	127/145	150/150	116/133	344/344	132/149	150/150	121/137	348/348
			291A+294A	37.6/50.0	104.3/120.3	144/134	150/150	132/151	344/344	149/139	150/150	137/155	348/348
		HIGH	NONE	–	–	68	80	72	350	72	80	77	354
			291A	12.4/16.5	34.4/39.7	69/76	80/80	72/72	350/350	74/80	80/80	77/77	354/354
			288A+291A	19.9/26.5	55.3/63.8	95/106	100/110	87/97	350/350	100/110	100/125	91/101	354/354
			294A	25.2/33.5	69.9/80.6	113/127	125/150	104/116	350/350	118/131	125/150	108/121	354/354
			288A+294A	32.7/43.5	90.7/104.7	139/157	150/175	128/144	350/350	144/162	150/175	132/148	354/354
			291A+294A	37.6/50.0	104.3/120.3	156/146	175/175	143/162	350/350	161/151	175/175	148/166	354/354
	460–3–60	STD	NONE	–	–	29	35	30	166	31	35	32	168
			292A	16.5	19.9	31	35	30	166	33	35	32	168
			289A+292A	26.5	31.9	46	50	42	166	48	50	44	168
			295A	33.5	40.3	56	60	51	166	58	60	53	168
			289A+295A	43.5	52.3	71	80	65	166	73	80	67	168
			292A+295A	50.0	60.2	66	70	74	166	68	80	76	168
		MED	NONE	–	–	30	35	31	173	32	40	33	175
			292A	16.5	19.9	32	35	31	173	34	40	33	175
			289A+292A	26.5	31.9	47	50	43	173	49	50	45	175
			295A	33.5	40.3	57	60	52	173	60	60	55	175
			289A+295A	43.5	52.3	72	80	66	173	75	80	68	175
			292A+295A	50.0	60.2	67	80	75	173	70	80	77	175
		HIGH	NONE	–	–	35	40	37	176	37	45	39	178
			292A	16.5	19.9	38	40	37	176	40	45	39	178
			289A+292A	26.5	31.9	53	60	48	176	55	60	50	178
			295A	33.5	40.3	64	70	58	176	66	70	60	178
			289A+295A	43.5	52.3	79	80	72	176	81	90	74	178
			292A+295A	50.0	60.2	73	80	81	176	76	80	83	178

See “Legend and Notes for Tables 72 – 73 on page 112

Table 72 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont)

UNIT	NO M. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH150 — Units produced on or prior to 02/15/2015	575–3–60	STD	NONE	–	–	22	25	23	128	26	30	27	132
			293A	16.5	15.9	24	25	23	128	29	30	27	132
			290A+293A	26.5	25.5	36	40	33	128	41	45	37	132
			296A	33.5	32.2	44	45	40	128	49	50	45	132
			290A+296A	43.5	41.8	56	60	51	128	61	70	56	132
			293A+296A	50.0	48.1	52	60	59	128	57	60	63	132
		MED	NONE	–	–	22	25	23	128	26	30	27	132
			293A	16.5	15.9	24	25	23	128	29	30	27	132
			290A+293A	26.5	25.5	36	40	33	128	41	45	37	132
			296A	33.5	32.2	44	45	40	128	49	50	45	132
			290A+296A	43.5	41.8	56	60	51	128	61	70	56	132
			293A+296A	50.0	48.1	52	60	59	128	57	60	63	132
		HIGH	NONE	–	–	29	35	30	140	32	40	34	144
			293A	16.5	15.9	32	35	30	140	36	40	34	144
			290A+293A	26.5	25.5	44	45	40	140	48	50	44	144
			296A	33.5	32.2	52	60	47	140	57	60	52	144
			290A+296A	43.5	41.8	64	70	58	140	69	70	63	144
			293A+296A	50.0	48.1	60	70	66	140	65	70	70	144

See “Legend and Notes for Tables 72 – 73 on page 112

ELECTRICAL INFORMATION

Table 73 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 2 SPEED INDOOR FAN OPTION

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH090	208/230–3–60	STD	NONE	–	–	40/40	50/50	41/41	195	44/43	50/50	46/46	199
			117A	7.8/10.4	21.7/25.0	40/40	50/50	41/41	195/195	44/43	50/50	46/46	199/199
			110A	12.0/16.0	33.4/38.5	49/56	50/60	45/51	195/195	54/60	60/60	49/55	199/199
			111A	18.6/24.8	51.7/59.7	72/82	80/90	66/75	195/195	77/87	80/90	70/79	199/199
			112A	24.0/32.0	66.7/77.0	91/104	100/110	83/95	195/195	96/108	100/110	88/99	199/199
			112A+117A	31.8/42.4	88.4/102.0	118/135	125/150	108/124	195/195	123/140	125/150	113/128	199/199
		MED	NONE	–	–	41/41	50/50	43/43	199	45/45	50/50	47/47	203
			117A	7.8/10.4	21.7/25.0	41/41	50/50	43/43	199/199	45/45	50/50	47/47	203/203
			110A	12.0/16.0	33.4/38.5	51/57	60/60	47/52	199/199	56/62	60/70	51/56	203/203
			111A	18.6/24.8	51.7/59.7	74/84	80/90	68/76	199/199	79/88	80/90	72/81	203/203
			112A	24.0/32.0	66.7/77.0	93/105	100/110	85/96	199/199	97/110	100/110	89/101	203/203
			112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	199/199	125/141	125/150	114/129	203/203
		HIGH	NONE	–	–	45/44	50/50	47/46	249	49/48	60/60	52/50	253
			117A	7.8/10.4	21.7/25.0	45/44	50/50	47/46	249/249	49/49	60/60	52/50	253/253
			110A	12.0/16.0	33.4/38.5	56/61	60/70	51/56	249/249	60/66	60/70	55/60	253/253
			111A	18.6/24.8	51.7/59.7	79/87	80/90	72/80	249/249	83/92	90/100	76/84	253/253
			112A	24.0/32.0	66.7/77.0	97/109	100/110	89/100	249/249	102/114	110/125	93/104	253/253
			112A+117A	31.8/42.4	88.4/102.0	124/140	125/150	114/129	249/249	129/145	150/150	118/133	253/253
	460–3–60	STD	NONE	–	–	19	20	19	97	20	25	21	99
			116A	13.9	16.7	25	25	23	97	27	30	25	99
			113A	16.5	19.8	29	30	26	97	31	35	28	99
			114A	27.8	33.4	46	50	42	97	48	50	44	99
			115A	33.0	39.7	54	60	49	97	56	60	51	99
			114A+116A	41.7	50.2	67	70	61	97	69	70	63	99
		MED	NONE	–	–	20	25	20	100	21	25	22	102
			116A	13.9	16.7	26	30	24	100	28	30	26	102
			113A	16.5	19.8	30	30	27	100	32	35	29	102
			114A	27.8	33.4	47	50	43	100	49	50	45	102
			115A	33.0	39.7	55	60	50	100	57	60	52	102
			114A+116A	41.7	50.2	68	70	62	100	70	70	64	102
		HIGH	NONE	–	–	21	25	22	125	22	25	24	127
			116A	13.9	16.7	27	30	25	125	30	30	27	127
			113A	16.5	19.8	31	35	28	125	34	35	30	127
			114A	27.8	33.4	48	50	44	125	51	60	46	127
			115A	33.0	39.7	56	60	51	125	58	60	53	127
			114A+116A	41.7	50.2	69	70	63	125	72	80	65	127
	575–3–60	STD	NONE	–	–	14	15	14	79	18	20	19	83
			118A	17.0	20.4	29	30	27	79	34	35	31	83
			119A	34.0	40.9	55	60	50	79	60	60	55	83
		MED	NONE	–	–	15	20	15	83	18	20	19	87
			118A	17.0	20.4	30	30	27	83	35	35	32	87
			119A	34.0	40.9	56	60	51	83	61	70	55	87
		HIGH	NONE	–	–	16	20	16	92	19	25	21	96
			118A	17.0	20.4	32	35	29	92	36	40	33	96
			119A	34.0	40.9	57	60	52	92	62	70	57	96

See “Legend and Notes for Tables 72 – 73 on page 112

Table 73 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 2 SPEED INDOOR FAN OPTION (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH102	208/230–3–60	STD	NONE	–	–	40/40	50/50	42/41	195	44/44	50/50	46/46	199
			117A	7.8/10.4	21.7/25.0	40/40	50/50	42/41	195/195	44/44	50/50	46/46	199/199
			110A	12.0/16.0	33.4/38.5	49/56	50/60	45/51	195/195	54/60	60/60	49/55	199/199
			111A	18.6/24.8	51.7/59.7	72/82	80/90	66/75	195/195	77/87	80/90	70/79	199/199
			112A	24.0/32.0	66.7/77.0	91/104	100/110	83/95	195/195	96/108	100/110	88/99	199/199
			112A+117A	31.8/42.4	88.4/102.0	118/135	125/150	108/124	195/195	123/140	125/150	113/128	199/199
		MED	NONE	–	–	41/41	50/50	43/43	199	45/45	50/50	47/47	203
			117A	7.8/10.4	21.7/25.0	41/41	50/50	43/43	199/199	45/45	50/50	47/47	203/203
			110A	12.0/16.0	33.4/38.5	51/57	60/60	47/52	199/199	56/62	60/70	51/56	203/203
			111A	18.6/24.8	51.7/59.7	74/84	80/90	68/76	199/199	79/88	80/90	72/81	203/203
			112A	24.0/32.0	66.7/77.0	93/105	100/110	85/96	199/199	97/110	100/110	89/101	203/203
			112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	199/199	125/141	125/150	114/129	203/203
		HIGH	NONE	–	–	45/44	50/50	47/46	249	49/48	60/60	52/51	253
			117A	7.8/10.4	21.7/25.0	45/44	50/50	47/46	249/249	49/49	60/60	52/51	253/253
			110A	12.0/16.0	33.4/38.5	56/61	60/70	51/56	249/249	60/66	60/70	55/60	253/253
			111A	18.6/24.8	51.7/59.7	79/87	80/90	72/80	249/249	83/92	90/100	76/84	253/253
			112A	24.0/32.0	66.7/77.0	97/109	100/110	89/100	249/249	102/114	110/125	93/104	253/253
			112A+117A	31.8/42.4	88.4/102.0	124/140	125/150	114/129	249/249	129/145	150/150	118/133	253/253
	460–3–60	STD	NONE	–	–	19	25	19	97	21	25	22	99
			116A	13.9	16.7	25	25	23	97	27	30	25	99
			113A	16.5	19.8	29	30	26	97	31	35	28	99
			114A	27.8	33.4	46	50	42	97	48	50	44	99
			115A	33.0	39.7	54	60	49	97	56	60	51	99
			114A+116A	41.7	50.2	67	70	61	97	69	70	63	99
		MED	NONE	–	–	20	25	20	100	22	25	23	102
			116A	13.9	16.7	26	30	24	100	28	30	26	102
			113A	16.5	19.8	30	30	27	100	32	35	29	102
			114A	27.8	33.4	47	50	43	100	49	50	45	102
			115A	33.0	39.7	55	60	50	100	57	60	52	102
			114A+116A	41.7	50.2	68	70	62	100	70	70	64	102
		HIGH	NONE	–	–	21	25	22	125	23	25	24	127
			116A	13.9	16.7	27	30	25	125	30	30	27	127
			113A	16.5	19.8	31	35	28	125	34	35	30	127
			114A	27.8	33.4	48	50	44	125	51	60	46	127
			115A	33.0	39.7	56	60	51	125	58	60	53	127
			114A+116A	41.7	50.2	69	70	63	125	72	80	65	127
	575–3–60	STD	NONE	–	–	15	20	16	79	19	20	20	83
			118A	17.0	20.4	29	30	27	79	34	35	31	83
			119A	34.0	40.9	55	60	50	79	60	60	55	83
		MED	NONE	–	–	16	20	16	83	20	25	21	87
			118A	17.0	20.4	30	30	27	83	35	35	32	87
			119A	34.0	40.9	56	60	51	83	61	70	55	87
		HIGH	NONE	–	–	17	20	18	92	21	25	22	96
			118A	17.0	20.4	32	35	29	92	36	40	33	96
			119A	34.0	40.9	57	60	52	92	62	70	57	96

See “Legend and Notes for Tables 72 – 73 on page 112

ELECTRICAL INFORMATION

Table 73 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 2 SPEED INDOOR FAN OPTION (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH110	208/230–3–60	STD	NONE	–	–	51/50	60/60	53/53	254	55/54	60/60	58/57	258
			117A	7.8/10.4	21.7/25.0	51/50	60/60	53/53	254/254	55/54	60/60	58/57	258/258
			110A	12.0/16.0	33.4/38.5	51/57	60/60	53/53	254/254	56/62	60/70	58/57	258/258
			112A	24.0/32.0	66.7/77.0	93/105	100/110	85/96	254/254	97/110	100/110	89/101	258/258
			112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	254/254	125/141	125/150	114/129	258/258
			112A+110A	37.6/50.0	104.2/120.3	140/129	150/150	128/146	254/254	144/134	150/150	132/151	258/258
		MED	NONE	–	–	54/53	60/60	58/56	304	58/57	70/70	62/61	308
			117A	7.8/10.4	21.7/25.0	54/53	60/60	58/56	304/304	58/57	70/70	62/61	308/308
			110A	12.0/16.0	33.4/38.5	56/61	60/70	58/56	304/304	60/66	70/70	62/61	308/308
			112A	24.0/32.0	66.7/77.0	97/109	100/110	89/100	304/304	102/114	110/125	93/104	308/308
			112A+117A	31.8/42.4	88.4/102.0	124/140	125/150	114/129	304/304	129/145	150/150	118/133	308/308
			112A+110A	37.6/50.0	104.2/120.3	144/133	150/150	132/150	304/304	149/138	150/150	137/154	308/308
		HIGH	NONE	–	–	57/56	70/60	61/60	315	61/60	70/70	65/64	319
			117A	7.8/10.4	21.7/25.0	57/56	70/60	61/60	315/315	61/60	70/70	65/64	319/319
			110A	12.0/16.0	33.4/38.5	59/64	70/70	61/60	315/315	64/69	70/70	65/64	319/319
			112A	24.0/32.0	66.7/77.0	101/113	110/125	92/103	315/315	106/117	110/125	97/108	319/319
			112A+117A	31.8/42.4	88.4/102.0	128/144	150/150	117/132	315/315	133/149	150/150	122/136	319/319
			112A+110A	37.6/50.0	104.2/120.3	148/137	150/150	135/153	315/315	152/141	175/175	140/157	319/319
	460–3–60	STD	NONE	–	–	24	30	25	122	25	30	27	124
			116A	13.9	16.7	26	30	25	122	28	30	27	124
			113A	16.5	19.8	30	30	27	122	32	35	29	124
			115A	33.0	39.7	55	60	50	122	57	60	52	124
			114A+116A	41.7	50.2	68	70	62	122	70	70	64	124
			115A+113A	50.0	60.1	65	70	73	122	68	80	76	124
		MED	NONE	–	–	25	30	26	147	27	30	28	149
			116A	13.9	16.7	27	30	26	147	30	30	28	149
			113A	16.5	19.8	31	35	28	147	34	35	30	149
			115A	33.0	39.7	56	60	51	147	58	60	53	149
			114A+116A	41.7	50.2	69	70	63	147	72	80	65	149
			115A+113A	50.0	60.1	67	80	75	147	69	80	77	149
		HIGH	NONE	–	–	26	30	28	152	28	30	30	154
			116A	13.9	16.7	29	30	28	152	32	35	30	154
			113A	16.5	19.8	33	35	30	152	35	35	32	154
			115A	33.0	39.7	58	60	53	152	60	60	55	154
			114A+116A	41.7	50.2	71	80	65	152	73	80	67	154
			115A+113A	50.0	60.1	69	80	76	152	71	80	79	154
	575–3–60	STD	NONE	–	–	19	20	20	97	23	25	24	101
			118A	17.0	20.4	30	30	27	97	35	35	32	101
			119A	34.0	40.9	56	60	51	97	61	70	55	101
			118A+119A	51.0	61.3	66	70	75	97	71	80	79	101
		MED	NONE	–	–	20	25	21	106	24	25	25	110
			118A	17.0	20.4	32	35	29	106	36	40	33	110
			119A	34.0	40.9	57	60	52	106	62	70	57	110
			118A+119A	51.0	61.3	67	80	76	106	72	80	80	110
		HIGH	NONE	–	–	22	25	23	120	26	30	27	124
			118A	17.0	20.4	34	35	31	120	38	40	35	124
			119A	34.0	40.9	59	60	54	120	64	70	59	124
			118A+119A	51.0	61.3	70	80	78	120	74	80	82	124

See “Legend and Notes for Tables 72 – 73 on page 112

Table 73 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 2 SPEED INDOOR FAN OPTION (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH120	208/230–3–60	STD	NONE	–	–	50/49	60/60	52/52	279	53/53	60/60	56/56	283
			117A	7.8/10.4	21.7/25.0	50/49	60/60	52/52	279/279	53/53	60/60	56/56	283/283
			110A	12.0/16.0	33.4/38.5	51/57	60/60	52/52	279/279	56/62	60/70	56/56	283/283
			112A	24.0/32.0	66.7/77.0	93/105	100/110	85/96	279/279	97/110	100/110	89/101	283/283
			112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	279/279	125/141	125/150	114/129	283/283
			112A+110A	37.6/50.0	104.2/120.3	140/129	150/150	128/146	279/279	144/134	150/150	132/151	283/283
		MED	NONE	–	–	53/52	60/60	56/55	329	57/56	70/60	60/59	333
			117A	7.8/10.4	21.7/25.0	53/52	60/60	56/55	329/329	57/56	70/60	60/59	333/333
			110A	12.0/16.0	33.4/38.5	56/61	60/70	56/56	329/329	60/66	70/70	60/60	333/333
			112A	24.0/32.0	66.7/77.0	97/109	100/110	89/100	329/329	102/114	110/125	93/104	333/333
			112A+117A	31.8/42.4	88.4/102.0	124/140	125/150	114/129	329/329	129/145	150/150	118/133	333/333
			112A+110A	37.6/50.0	104.2/120.3	144/133	150/150	132/150	329/329	149/138	150/150	137/154	333/333
		HIGH	NONE	–	–	56/55	60/60	59/58	340	60/59	70/70	64/63	344
			117A	7.8/10.4	21.7/25.0	56/55	60/60	59/58	340/340	60/59	70/70	64/63	344/344
			110A	12.0/16.0	33.4/38.5	59/64	60/70	59/59	340/340	64/69	70/70	64/63	344/344
			112A	24.0/32.0	66.7/77.0	101/113	110/125	92/103	340/340	106/117	110/125	97/108	344/344
			112A+117A	31.8/42.4	88.4/102.0	128/144	150/150	117/132	340/340	133/149	150/150	122/136	344/344
			112A+110A	37.6/50.0	104.2/120.3	148/137	150/150	135/153	340/340	152/141	175/175	140/157	344/344
	460–3–60	STD	NONE	–	–	25	30	26	134	26	30	28	136
			116A	13.9	16.7	26	30	26	134	28	30	28	136
			113A	16.5	19.8	30	30	27	134	32	35	29	136
			115A	33.0	39.7	55	60	50	134	57	60	52	136
			114A+116A	41.7	50.2	68	70	62	134	70	70	64	136
			115A+113A	50.0	60.1	65	70	73	134	68	80	76	136
		MED	NONE	–	–	26	30	27	159	28	30	29	161
			116A	13.9	16.7	27	30	27	159	30	30	29	161
			113A	16.5	19.8	31	35	28	159	34	35	30	161
			115A	33.0	39.7	56	60	51	159	58	60	53	161
			114A+116A	41.7	50.2	69	70	63	159	72	80	65	161
			115A+113A	50.0	60.1	67	80	75	159	69	80	77	161
		HIGH	NONE	–	–	27	30	29	164	29	35	31	166
			116A	13.9	16.7	29	30	29	164	32	35	31	166
			113A	16.5	19.8	33	35	30	164	35	35	32	166
			115A	33.0	39.7	58	60	53	164	60	60	55	166
			114A+116A	41.7	50.2	71	80	65	164	73	80	67	166
			115A+113A	50.0	60.1	69	80	76	164	71	80	79	166
	575–3–60	STD	NONE	–	–	19	25	20	107	23	25	24	111
			118A	17.0	20.4	30	30	27	107	35	35	32	111
			119A	34.0	40.9	56	60	51	107	61	70	55	111
			118A+119A	51.0	61.3	66	70	75	107	71	80	79	111
		MED	NONE	–	–	20	25	21	116	24	30	26	120
			118A	17.0	20.4	32	35	29	116	36	40	33	120
			119A	34.0	40.9	57	60	52	116	62	70	57	120
			118A+119A	51.0	61.3	67	80	76	116	72	80	80	120
		HIGH	NONE	–	–	22	25	23	130	26	30	27	134
			118A	17.0	20.4	34	35	31	130	38	40	35	134
			119A	34.0	40.9	59	60	54	130	64	70	59	134
			118A+119A	51.0	61.3	70	80	78	130	74	80	82	134

See “Legend and Notes for Tables 72 – 73 on page 112

ELECTRICAL INFORMATION

Table 73 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 2 SPEED INDOOR FAN OPTION (cont)

(UNITS PRODUCED ON OR AFTER 02/16/2015)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH150	208/230–3–60	STD	NONE	–	–	58/57	70/70	60/59	337	61/61	80/70	65/64	341
			291A	12.4/16.5	34.4/39.7	58/60	70/70	60/59	337/337	61/65	70/70	65/64	341/341
			288A+291A	19.9/26.5	55.3/63.8	80/90	80/90	73/82	337/337	85/95	90/100	78/87	341/341
			294A	25.2/33.5	69.9/80.6	99/111	100/125	90/102	337/337	103/116	110/125	95/106	341/341
			288A+294A	32.7/43.5	90.7/104.7	125/141	125/150	114/129	337/337	129/146	150/150	119/134	341/341
			291A+294A	37.6/50.0	104.3/120.3	142/131	150/150	130/147	337/337	146/135	150/150	134/152	341/341
		MED	NONE	–	–	60/59	70/70	63/62	361	64/63	80/80	67/66	365
			291A	12.4/16.5	34.4/39.7	60/62	70/70	63/62	361/361	64/67	80/80	67/66	365/365
			288A+291A	19.9/26.5	55.3/63.8	83/92	90/100	76/85	361/361	88/97	90/100	80/89	365/365
			294A	25.2/33.5	69.9/80.6	101/113	110/125	93/104	361/361	106/118	110/125	97/108	365/365
			288A+294A	32.7/43.5	90.7/104.7	127/144	150/150	117/132	361/361	132/148	150/150	121/136	365/365
			291A+294A	37.6/50.0	104.3/120.3	144/133	150/150	132/150	361/361	149/138	150/150	137/154	365/365
		HIGH	NONE	–	–	70	80	74	376	73	80	78	380
			291A	12.4/16.5	34.4/39.7	70/76	80/80	74/74	376/376	74/80	80/80	78/78	380/380
			288A+291A	19.9/26.5	55.3/63.8	95/106	100/110	87/97	376/376	100/110	100/125	91/101	380/380
			294A	25.2/33.5	69.9/80.6	113/127	125/150	104/116	376/376	118/131	125/150	108/121	380/380
			288A+294A	32.7/43.5	90.7/104.7	139/157	150/175	128/144	376/376	144/162	150/175	132/148	380/380
			291A+294A	37.6/50.0	104.3/120.3	156/146	175/175	143/162	376/376	161/151	175/175	148/166	380/380
	460–3–60	STD	NONE	–	–	25	30	26	165	27	30	28	167
			292A	16.5	19.9	30	30	27	165	32	35	29	167
			289A+292A	26.5	31.9	45	45	41	165	47	50	43	167
			295A	33.5	40.3	56	60	51	165	58	60	53	167
			289A+295A	43.5	52.3	71	80	65	165	73	80	67	167
			292A+295A	50.0	60.2	65	70	74	165	68	80	76	167
		MED	NONE	–	–	26	30	27	177	28	30	29	179
			292A	16.5	19.9	31	35	329	177	34	35	31	179
			289A+292A	26.5	31.9	46	50	42	177	49	50	44	179
			295A	33.5	40.3	57	60	52	177	59	60	54	179
			289A+295A	43.5	52.3	72	80	66	177	74	80	68	179
			292A+295A	50.0	60.2	67	80	75	177	69	80	77	179
		HIGH	NONE	–	–	32	40	33	184	34	40	35	186
			292A	16.5	19.9	38	40	35	184	40	40	37	186
			289A+292A	26.5	31.9	53	60	48	184	55	60	50	186
			295A	33.5	40.3	64	70	58	184	66	70	60	186
			289A+295A	43.5	52.3	79	80	72	184	81	90	74	186
			292A+295A	50.0	60.2	73	80	81	184	76	80	83	186

See “Legend and Notes for Tables 72 – 73 on page 112

Table 73 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 2 SPEED INDOOR FAN OPTION (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH150	575–3–60	STD	NONE	–	–	22	25	23	138	26	30	27	142
			293A	16.5	15.9	26	30	23	138	31	35	28	142
			290A+293A	26.5	25.5	38	40	35	138	43	45	39	142
			296A	33.5	32.2	46	50	42	138	51	60	47	142
			290A+296A	43.5	41.8	58	60	53	138	63	70	58	142
			293A+296A	50.0	48.1	54	60	60	138	59	60	65	142
		MED	NONE	–	–	22	25	23	138	26	30	27	142
			293A	16.5	15.9	26	30	23	138	31	35	28	142
			290A+293A	26.5	25.5	38	40	35	138	43	45	39	142
			296A	33.5	32.2	46	50	42	138	51	60	47	142
			290A+296A	43.5	41.8	58	60	53	138	63	70	58	142
			293A+296A	50.0	48.1	54	60	60	138	59	60	65	142
		HIGH	NONE	–	–	27	30	28	150	31	35	32	154
			293A	16.5	15.9	32	35	29	150	36	40	33	154
			290A+293A	26.5	25.5	44	45	40	150	48	50	44	154
			296A	33.5	32.2	52	60	47	150	57	60	52	154
			290A+296A	43.5	41.8	64	70	58	150	69	70	63	154
			293A+296A	50.0	48.1	60	70	66	150	65	70	70	154

See “Legend and Notes for Tables 72 – 73” on page 112

Table 73 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 2 SPEED INDOOR FAN OPTION (cont)

(UNITS PRODUCED ON OR PRIOR TO 02/15/2015)

UNIT	NO M. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH150 (2–stage cool)	208/230–3–60	STD	NONE	–	–	56/56	70/60	59/58	311	60/59	70/70	63/62	315
			291A	12.4/16.5	34.4/39.7	56/60	70/60	59/58	311/311	60/65	70/70	63/62	315/315
			288A+291A	19.9/26.5	55.3/63.8	80/90	80/90	73/82	311/311	85/95	90/100	78/87	315/315
			294A	25.2/33.5	69.9/80.6	99/111	100/125	90/102	311/311	103/116	110/125	95/106	315/315
			288A+294A	32.7/43.5	90.7/104.7	125/141	125/150	114/129	311/311	129/146	150/150	119/134	315/315
			291A+294A	37.6/50.0	104.3/120.3	142/131	150/150	130/147	311/311	146/135	150/150	134/152	315/315
		MED	NONE	–	–	59/58	70/70	61/60	335	62/61	80/70	66/65	339
			291A	12.4/16.5	34.4/39.7	59/62	70/70	61/60	335/335	62/67	80/70	66/65	339/339
			288A+291A	19.9/26.5	55.3/63.8	83/92	90/100	76/85	335/335	88/97	90/100	80/89	339/339
			294A	25.2/33.5	69.9/80.6	101/113	110/125	93/104	335/335	106/118	110/125	97/108	339/339
			288A+294A	32.7/43.5	90.7/104.7	127/144	150/150	117/132	335/335	132/148	150/150	121/136	339/339
			291A+294A	37.6/50.0	104.3/120.3	144/133	150/150	132/150	335/335	149/138	150/150	137/154	339/339
		HIGH	NONE	–	–	68	80	72	350	72	80	77	354
			291A	12.4/16.5	34.4/39.7	69/76	80/80	72/72	350/350	74/80	80/80	77/77	354/354
			288A+291A	19.9/26.5	55.3/63.8	95/106	100/110	87/97	350/350	100/110	100/125	91/101	354/354
			294A	25.2/33.5	69.9/80.6	113/127	125/150	104/116	350/350	118/131	125/150	108/121	354/354
			288A+294A	32.7/43.5	90.7/104.7	139/157	150/175	128/144	350/350	144/162	150/175	132/148	354/354
			291A+294A	37.6/50.0	104.3/120.3	156/146	175/175	143/162	350/350	161/151	175/175	148/166	354/354
	460–3–60	STD	NONE	–	–	28	35	29	157	30	35	32	159
			292A	16.5	19.9	30	35	29	157	32	35	32	159
			289A+292A	26.5	31.9	45	45	41	157	47	50	43	159
			295A	33.5	40.3	56	60	51	157	58	60	53	159
			289A+295A	43.5	52.3	71	80	65	157	73	80	67	159
			292A+295A	50.0	60.2	65	70	74	157	68	80	76	159
		MED	NONE	–	–	30	35	31	169	31	40	33	171
			292A	16.5	19.9	31	35	31	169	34	40	33	171
			289A+292A	26.5	31.9	46	50	42	169	49	50	44	171
			295A	33.5	40.3	57	60	52	169	59	60	54	171
			289A+295A	43.5	52.3	72	80	66	169	74	80	68	171
			292A+295A	50.0	60.2	67	80	75	169	69	80	77	171
		HIGH	NONE	–	–	35	40	37	176	37	45	39	178
			292A	16.5	19.9	38	40	37	176	40	45	39	178
			289A+292A	26.5	31.9	53	60	48	176	55	60	50	178
			295A	33.5	40.3	64	70	58	176	66	70	60	178
			289A+295A	43.5	52.3	79	80	72	176	81	90	74	178
			292A+295A	50.0	60.2	73	80	81	176	76	80	83	178

See “Legend and Notes for Tables 72 – 73 on page 112

Table 73 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 2 SPEED INDOOR FAN OPTION (cont)

UNIT	NO M. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							
						NO P.E.				w/ P.E. (pwrd fr/unit)			
			CRHEATER ***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA
RAH150 (2–stage cool)	575–3–60	STD	NONE	–	–	24	30	25	128	28	30	29	132
			293A	16.5	15.9	26	30	25	128	31	35	29	132
			290A+293A	26.5	25.5	38	40	35	128	43	45	39	132
			296A	33.5	32.2	46	50	42	128	51	60	47	132
			290A+296A	43.5	41.8	58	60	53	128	63	70	58	132
			293A+296A	50.0	48.1	54	60	60	128	59	60	65	132
		MED	NONE	–	–	24	30	25	128	28	30	29	132
			293A	16.5	15.9	26	30	25	128	31	35	29	132
			290A+293A	26.5	25.5	38	40	35	128	43	45	39	132
			296A	33.5	32.2	46	50	42	128	51	60	47	132
			290A+296A	43.5	41.8	58	60	53	128	63	70	58	132
			293A+296A	50.0	48.1	54	60	60	128	59	60	65	132
		HIGH	NONE	–	–	29	35	30	140	32	40	34	144
			293A	16.5	15.9	32	35	30	140	36	40	34	144
			290A+293A	26.5	25.5	44	45	40	140	48	50	44	144
			296A	33.5	32.2	52	60	47	140	57	60	52	144
			290A+296A	43.5	41.8	64	70	58	140	69	70	63	144
			293A+296A	50.0	48.1	60	70	66	140	65	70	70	144

Legend and Notes for Tables 72 — 73

LEGEND:

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

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.

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

Example: Supply voltage is 230-3-60

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

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

$$= 227$$

Determine maximum deviation from average voltage.
(AB) 227 – 224 = 3 v
(BC) 231 – 227 = 4 v
(AC) 227 – 226 = 1 v
Maximum deviation is 4 v.
Determine percent of voltage imbalance.

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

$$= 1.76\%$$

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

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

SEQUENCE OF OPERATION

General

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

Electro−mechanical units with no economizer

Cooling (Single speed indoor fan motor) —

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

Cooling (2−speed indoor fan motor) —

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

Heating

NOTE: The RAH 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 and X control to provide a 50°F (10°C) to 55°F (13°C) mixed−air temperature into the zone. As the mixed air temperature fluctuates above 55°F (13°C) or below 50°F (10°C) dampers will be modulated (open or close) to bring the mixed−air temperature back within control. If mechanical cooling is utilized with free cooling, the outdoor−air damper will maintain its current position at the time the compressor is started. If the increase in cooling capacity causes the mixed−air temperature to drop below 45°F (9°C), then the outdoor−air damper position will be decreased to the minimum position. If the mixed−air temperature continues to fall, the outdoor−air damper will close. Control returns to normal once the mixed−air temperature rises above 48°F (9°C). The power exhaust fans will be energized and de−energized, if installed, as the outdoor−air damper opens and closes.

If field−installed accessory CO_2 sensors are connected to the EconoMi$er IV and X control, a demand controlled ventilation strategy will begin to operate. As the CO_2 level in the zone increases above the CO_2 setpoint, the minimum position of the damper will be increased proportionally. As the CO_2 level decreases because of the increase in fresh air, the outdoor−air damper will be proportionally closed. For EconoMi$er IV and X operation, there must be a thermostat call for the fan (G). If the unit is occupied and the fan is on, the damper will operate at minimum position. Otherwise, the damper will be closed.

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

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

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

Heating

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

SEQUENCE OF OPERATION (cont.)

Optional Hot Gas Re−Heat Dehumidification System

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

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

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

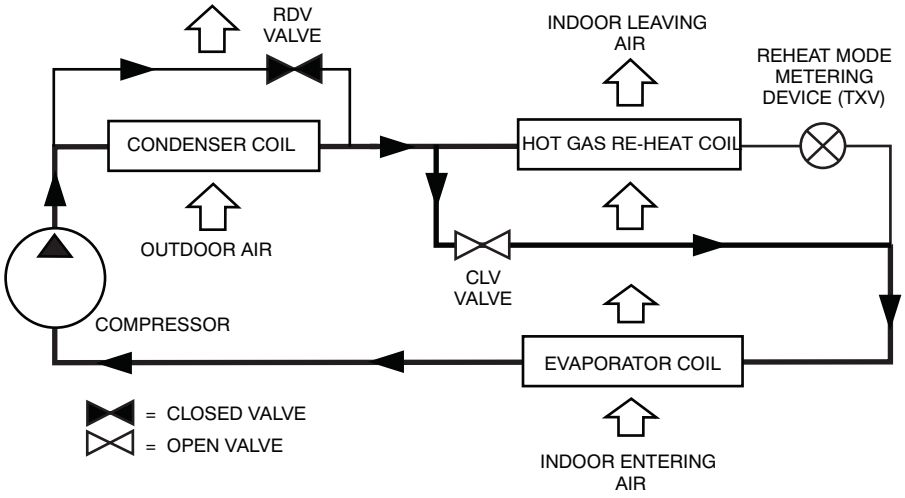
Reheat1 − provides increased Latent Cooling while slightly reducing the Sensible Cooling effect.

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

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

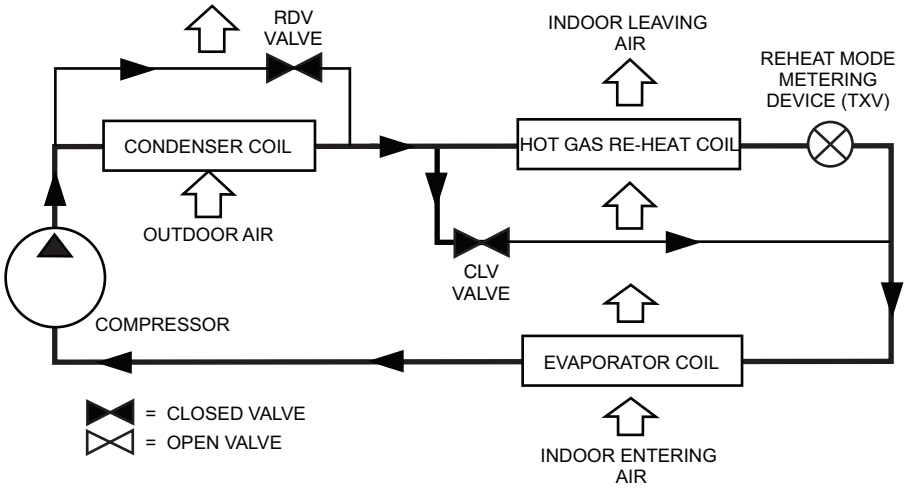
The following diagrams depict piping for Single Stage cooling units.

SEQUENCE OF OPERATION (cont.)



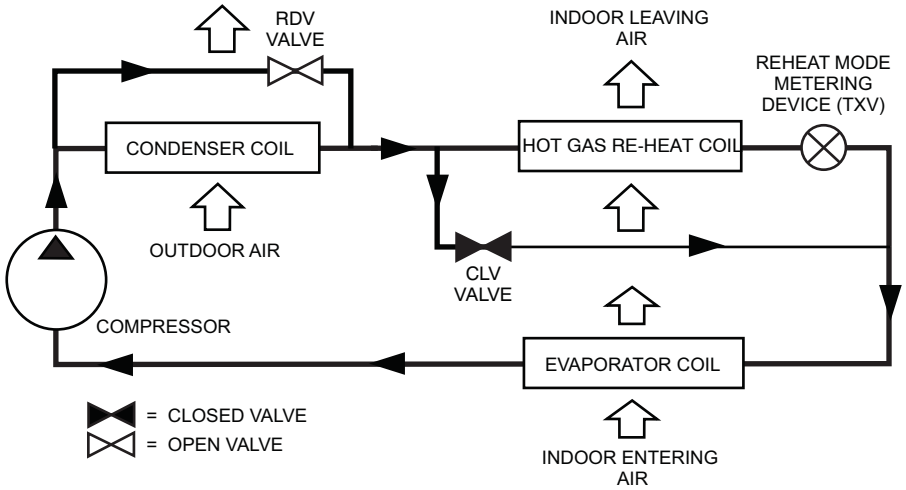
C12702B

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



C12703B

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



C12704B

Hot Gas Reheat Mode (Reheat2) – Hot Gas Re–Heat System with Single Stage Cooling

GUIDE SPECIFICATIONS – RAH036–150

Note about this specification:

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

Cooling Only/Electric Heat Packaged Rooftop

HVAC Guide Specifications

Size Range: 3 to 12.5
Nominal Tons

Section Description

23 06 80 Schedules for Decentralized HVAC Equipment

23 06 80.13 Decentralized Unitary HVAC Equipment Schedule

23 06 80.13.A. Rooftop unit schedule

1. Schedule is per the project specification requirements.

23 07 16 HVAC Equipment Insulation

23 07 16.13 Decentralized, Rooftop Units:

23 07 16.13.A. Evaporator fan compartment:

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

23 07 16.13.B. Electric heat compartment:

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

23 09 13 Instrumentation and Control Devices for HVAC

23 09 13.23 Sensors and Transmitters

23 09 13.23.A. Thermostats

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

23 09 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.G).

23 81 19 Self−Contained Air Conditioners

23 81 19.13 Small−Capacity Self−Contained Air Conditioners (RAH036−150)

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 R−410A refrigerant.
4. Unit shall be installed in accordance with the manufacturer’s instructions.
5. Unit must be selected and installed in compliance with local, state, and federal codes.

23 81 19.13.B. Quality Assurance

1. Unit meets ASHRAE 90.1 minimum efficiency requirements.
2. 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.
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 shall be designed in accordance with ISO 9001, and shall be manufactured in a facility registered by ISO 9001.
9. Roof curb shall be designed to conform to NRCA Standards.
10. 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.
11. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
12. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.
13. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.
14. High Efficient Motors listed shall meet section 313 of the Energy Independence and Security Act of 2007 (EISA 2007).

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

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

23 81 19.13.D. Project Conditions

1. As specified in the contract.

23 81 19.13.E. Operating Characteristics

1. Unit shall be capable of starting and running at 125°F (52°C) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 210/240 or 340/360 at ± 10% voltage.

2. Compressor with standard controls shall be capable of operation down to 35°F (2°C), ambient outdoor temperatures. Accessory low ambient kits shall be available if operation below 35°F (2°C), is required. See below for head pressure control package or winter start kit.
3. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
4. Unit shall be factory configured for vertical supply & return configurations.
5. Unit shall be field convertible from vertical to horizontal airflow on all models. No special kit required on 04–12 models. Supply duct kit required for 150 size model only.
6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.

23 81 19.13.F. Electrical Requirements

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

23 81 19.13.G. 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 3 sides.
   b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
   c. Holes shall be provided in the base rail for moving the rooftop by fork truck.
   d. Base rail shall be a minimum of 16 gauge thickness.
6. Condensate pan and connections:
   a. Shall be an internally sloped condensate drain pan made of a non–corrosive material.
   b. Shall comply with ASHRAE Standard 62.
   c. Shall use a 3/4" –14 NPT drain connection, possible either through the bottom or end of the drain pan. Connection shall be made per manufacturer's recommendations.
7. Top panel:
   a. Shall be a single piece top panel on 036 thru 120 sizes, two piece on 150 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.H. Coils

1. Standard Aluminum Fin/Copper Tube Coils:
   a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.
   b. Evaporator coils shall be leak tested to 150 psig, pressure tested to 450 psig, and qualified to UL 1995 burst test at 1775 psig.

c. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 1995 burst test at 1980 psig.

2. Optional Pre−coated aluminum−fin condenser coils (3 phase models only):
   a. Shall have a durable epoxy−phenolic coating to provide protection in mildly corrosive coastal environments.
   b. Coating shall be applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube.
   c. Epoxy−phenolic barrier shall minimize galvanic action between dissimilar metals.
3. Optional Copper−fin evaporator and condenser coils (3 phase models only):
   a. Shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets.
   b. Galvanized steel tube sheets shall not be acceptable.
   c. A polymer strip shall prevent coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan.
4. Optional E−coated aluminum−fin evaporator and condenser coils (3 phase models only):
   a. Shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins.
   b. Coating process shall ensure complete coil encapsulation of tubes, fins and headers.
   c. Color shall be high gloss black with gloss per ASTM D523−89.
   d. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges.
   e. Superior hardness characteristics of 2H per ASTM D3363−92A and cross−hatch adhesion of 4B−5B per ASTM D3359−93.
   f. Impact resistance shall be up to 160 in.−lb (ASTM D2794−93).
   g. Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247−92 and ASTM D870−92).
   h. Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117−90.

23 81 19.13.I. Refrigerant Components

1. Refrigerant circuit shall include the following control, safety, and maintenance features:
   a. Thermostatic Expansion Valve (TXV) shall help provide optimum performance across the entire operating range. Shall contain removable power element to allow change out of power element and bulb without removing the valve body.
   b. Refrigerant filter drier.
   c. Service gauge connections on suction and discharge lines.
   d. Pressure gauge access through a specially designed access port in the top panel of the unit.
2. There shall be gauge line access port in the skin of the rooftop, covered by a black, removable plug.
   a. The plug shall be easy to remove and replace.
   b. When the plug is removed, the gauge access port shall enable maintenance personnel to route their pressure gauge lines.
   c. This gauge access port shall facilitate correct and accurate condenser pressure readings by enabling the reading with the compressor access panel on.
   d. The plug shall be made of a leak proof, UV−resistant, composite material.
3. Compressors
   a. Unit shall use one fully hermetic, scroll compressor for each independent refrigeration circuit.
   b. Models shall be available with single compressor/single stage cooling designs on 036−072 sizes and 2 compressor/2−stage cooling models on 090−150 sizes.
   c. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
   d. Compressors shall be internally protected from high discharge temperature conditions.
   e. Compressors shall be protected from an over−temperature and over−amperage conditions by an internal, motor overload device.
   f. Compressor shall be factory mounted on rubber grommets.
   g. Compressor motors shall have internal line break thermal, current overload and high pressure differential protection.
   h. Crankcase heaters shall not be required for normal operating range, unless provided by the factory.

23 81 19.13.J. 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.K. Evaporator Fan and Motor

1. Evaporator fan motor:
   a. Shall have permanently lubricated bearings.
   b. Shall have inherent automatic−reset thermal overload protection or circuit breaker.
   c. Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating shall be required.
2. Electric Drive (Direct Drive) X13 − 5 Speed/Torque Evaporator Fan:
   a. Multi speed motor with easy quick adjustment settings.
   b. Blower fan shall be double−inlet type with forward−curved blades.
   c. Shall be constructed from steel with a corrosion resistant finish and dynamically balanced.
   d. Standard on all 036−060 models with 208/230−1−60 operation without Hot Gas Re−Heat.
   e. Standard on all 036−060 3−phase models without Hot Gas Re−Heat, with optional belt drive.
3. Belt−driven Evaporator Fan:
   a. Belt drive shall include an adjustable−pitch motor pulley.
   b. Shall use sealed, permanently lubricated ball−bearing type.
   c. Blower fan shall be double−inlet type with forward−curved blades.
   d. Shall be constructed from steel with a corrosion resistant finish and dynamically balanced.
   e. Standard on all 036−072 size and 036−060 size models with Hot Gas Re−Heat. Optional on all 036−060 3−phase models.

23 81 19.13.L. 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 036−150 models.
2. Condenser Fans:
   a. Shall be a direct−driven propeller type fan.
   b. Shall have galvalum blades riveted to corrosion−resistant steel spiders and shall be dynamically balanced.

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

1. 2−speed indoor fan motor for 2−stage cooling models only:
   a. Evaporator fan motor:
      (1.) Shall have permanently lubricated bearings.
      (2.) Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating.
      (3.) Shall be Variable Frequency duty and 2−speed control.
      (4.) Shall contain motor shaft grounding ring to prevent electrical bearing fluting damage by safely diverting harmful shaft voltages and bearing currents to ground.
2. Variable Frequency Drive (VFD). Only available on 2−speed indoor fan motor option:
   a. Shall be installed inside the unit cabinet, mounted, wired and tested.
   b. Shall contain Electromagnetic Interference (EMI) frequency protection.
   c. Insulated Gate Bi−Polar Transistors (IGBT) used to produce the output pulse width modulated (PWM) waveform, allowing for quiet motor operation.
   d. Self diagnostics with fault and power code LED indicator. Field accessory Display Kit available for further diagnostics and special setup applications.
   e. RS485 capability standard.
   f. Electronic thermal overload protection.
   g. 5% swinging chokes for harmonic reduction and improved power factor.
   h. All printed circuit boards shall be conformal coated.
3. Integrated EconoMi$er IV, EconoMi$er2, and EconoMi$er X standard leak rate models. (Factory installed on 3 phase models only. Field installed on all 3 and 1 phase models)
   a. Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
   b. Independent modules for vertical or horizontal return configuration shall be available. Vertical return modules shall be available as a factory installed option.

c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
f. Standard leak rate shall be equipped with dampers not to exceed 2% leakage at 1 in. wg pressure differential.
g. Economizer controller on EconoMi$er IV models shall be the Honeywell W7212 that provides:
   (1.) Combined minimum and DCV maximum damper position potentiometers with compressor staging relay.
   (2.) Functions with solid state analog enthalpy or dry bulb changeover control sensing.
   (3.) Contain LED indicates for: when free cooling is available, when module is in DCV mode, when exhaust fan contact is closed.
h. Economizer controller on EconoMi$er X models shall be the Honeywell W7220 that provides:
   (1.) 2−line LCD interface screen for setup, configuration and troubleshooting
   (2.) On−board Fault Detection and Diagnostics (FDD) that senses and alerts when the economizer is not operating properly, per California Title 24.
   (3.) Sensor failure loss of communication identification
   (4.) Automatic sensor detection
   (5.) Capabilities for use with multiple−speed indoor fan systems
   (6.) Utilize digital sensors: Dry bulb and Enthalpy
i. Shall be capable of introducing up to 100% outdoor air.
j. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air and contain seals that meet ASHRAE 90.1 requirements.
k. Shall be designed to close damper(s) during loss−of−power situations with spring return built into motor.
l. Dry bulb outdoor air temperature sensor shall be provided as standard. Enthalpy sensor is also available on factory installed only. Outdoor air sensor setpoint shall be adjustable and shall range from 40 to 100° F / 4 to 38° C. Additional sensor options shall be available as accessories.
m. The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 100%, with a range of 0% to 100%.
n. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy.
o. Dampers shall be completely closed when the unit is in the unoccupied mode.
p. Economizer controller shall accept a 2−10 Vdc CO_2 sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.
q. Compressor lockout temperature on W7220 is adjustable from −45° F to 80° F, set at a factory default of 32° F. Others shall open at 35° F (2°C) and closes at 50° F (10° C)
r. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
s. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.

4. Integrated EconoMi$er 2, and EconoMi$er X Ultra Low Leak rate models. (Factory installed on 3 phase models only. Field installed on all 3 and 1 phase models)
   a. Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
   b. Independent modules for vertical or horizontal return configuration shall be available. Vertical return modules shall be available as a factory installed option.
   c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
   d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
   e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
   f. Ultra Low Leak design meets California Title 24 section 140.4 and ASHRAE 90.1 requirements of 4 cfm per sq. ft. on the outside air dampers and 10 cfm per sq. ft. on the return dampers.
   g. Economizer controller on EconoMi$er X models shall be the Honeywell W7220 that provides:
      (1.) 2−line LCD interface screen for setup, configuration and troubleshooting

(2.) On−board Fault Detection and Diagnostics (FDD) that senses and alerts when the economizer is not operating properly, per California Title 24.
(3.) Sensor failure loss of communication identification
(4.) Automatic sensor detection
(5.) Capabilities for use with multiple−speed indoor fan systems
(6.) Utilize digital sensors: Dry bulb and Enthalpy

h. Shall be capable of introducing up to 100% outdoor air.
i. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air and contain seals that meet ASHRAE 90.1 requirements.
j. Shall be designed to close damper(s) during loss−of−power situations with spring return built into motor.
k. Dry bulb outdoor air temperature sensor shall be provided as standard. Enthalpy sensor is also available on factory installed only. Outdoor air sensor setpoint shall be adjustable and shall range from 40 to 100° F / 4 to 38° C. Additional sensor options shall be available as accessories.
l. 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%.
m. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy.
n. Dampers shall be completely closed when the unit is in the unoccupied mode.
o. Economizer controller shall accept a 2−10 Vdc CO_2 sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.
p. Compressor lockout temperature on W7220 is adjustable from −45 F to 80 F, set at a factory default of 32° F. Others shall open at 35° F (2°C) and closes at 50° F (10° C)
q. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
r. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.

5. Two−Position Damper (Factory installed on 3 Phase Models Only. Field installed on all 3 and 1 Phase Models)
   a. Damper shall be a Two−Position Damper. Damper travel shall be from the full closed position to the field adjustable %−open setpoint.
   b. Damper shall include adjustable damper travel from 25% to 100% (full open).
   c. Damper shall include single or dual blade, gear driven dampers and actuator motor.
   d. Actuator shall be direct coupled to damper gear. No linkage arms or control rods shall be acceptable.
   e. Damper will admit up to 100% outdoor air for applicable rooftop units.
   f. Damper shall close upon indoor (evaporator) fan shutoff and/or loss of power.
   g. The damper actuator shall plug into the rooftop unit's wiring harness plug. No hard wiring shall be required.
   h. Outside air hood shall include aluminum water entrainment filter.
   i. Not available with 2−speed indoor fan motor models.
6. Manual damper
   a. Manual damper package shall consist of damper, air inlet screen, and rain hood which can be preset to admit up to 50% outdoor air for year round ventilation.
   b. Not available with 2−speed indoor fan motor models.
7. Hot Gas Re−Heat Dehumidification System (3 phase models only):
   a. The Hot Gas Re−Heat Dehumidification System shall be factory−installed and shall provide greater dehumidification of the occupied space by two modes of dehumidification operations beside its normal design cooling mode:
      (1.) Subcooling mode further subcools the hot liquid refrigerant leaving the condenser coil when both temperature and humidity in the space are not satisfied.
      (2.) Hot gas reheat mode shall mix a portion of the hot gas from the discharge of the compressor with the hot liquid refrigerant leaving the condenser coil to create a two−phase heat transfer in the system, resulting in a neutral leaving− air temperature when only humidity in the space is not satisfied.
      (3.) Includes Head Pressure Controller.
8. Head Pressure Control Package (MotorMaster)
   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 at outdoor ambient temperatures down to −20°F (−29°C).

9. Condenser Coil Hail Guard Assembly (Factory installed option on 3 phase models. Field installed on all 3 and 1 phase models)
   a. Shall protect against damage from hail.
   b. Shall be louvered design.
10. Unit−Mounted, Non−Fused Disconnect Switch:
   a. Switch shall be factory−installed, internally mounted.
   b. National Electric Code (NEC) and UL or ETL approved non−fused switch shall provide unit power shutoff.
   c. Shall be accessible from outside the unit
   d. Shall provide local shutdown and lockout capability.
11. Convenience Outlet:
   a. Non−Powered convenience outlet.
      (1.) Outlet shall be powered from a separate 115/120v power source.
      (2.) A transformer shall not be included.
      (3.) Outlet shall be factory−installed and internally mounted with easily accessible 115−v female receptacle.
      (4.) Outlet shall include 15 amp GFI receptacles with independent fuse protection.
      (5.) Outlet shall be accessible from outside the unit.
      (6.) Outlet shall include a field−installed “Wet in Use” cover.
12. Thru−the−Base Connectors:
   a. Kits shall provide connectors to permit electrical connections to be brought to the unit through the unit basepan.
   b. Minimum of four connection locations per unit.
13. 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.
14. 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.
15. High−Static Indoor Fan Motor(s) and Drive(s):
   a. High−static motor(s) and drive(s) shall be factory−installed to provide additional performance range.
16. Condenser Coil Grille:
   a. Shall protect against damage from hail.
   b. Shall be of louvered style.
17. Thru−the−Bottom Utility Connectors:
   a. Kit shall provide connectors to permit gas and electrical connections to be brought to the unit through the basepan.
18. 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.
19. 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.
20. Indoor Air Quality (CO_2) Sensor:
   a. Shall be able to provide demand ventilation indoor air quality (IAQ) control.
   b. The IAQ sensor shall be available in duct mount, wall mount, or wall mount with LED display. The setpoint shall have adjustment capability.
21. 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.

22. 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).

23. 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.

24. 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.

25. Hinged access panels:
a. Shall provide easy access through integrated quarter turn latches.
b. Shall be on major panels of; filter, control box, fan motor and compressor.

26. Display Kit for Variable Frequency Drive
a. Kit allows the ability to access the VFD controller programs to provide special setup capabilities and diagnostics.
b. Kit contains display module and communication cable.
c. Display Kit can be permanently installed in the unit or used on any 2−speed indoor fan motor system VFD controller as needed.

27. Foil faced insulation
a. Throughout unit cabinet air stream, non−fibrous and cleanable foil faced insulation is used.