5846585-YTG-A-1119

YORK® SUN™ CORE

TECHNICAL GUIDE

ZZ Series
6 - 12.5 TON
60 HERTZ (EXPORT ONLY)

FOR DISTRIBUTION USE ONLY - NOT TO BE USED AT POINT OF RETAIL SALE

Table of Contents

Table of Contents 2
Component Location 3
Factory Installed Options 6
Field Installed Accessories 7
Nomenclature 9
Cooling Performance Rating Table 12
AHRI 270 Outdoor Sound Power Levels 12
Physical Data 13
Capacity Performance 23
Airflow Performance 37
Power Exhaust Blower Curves 42
Electrical Data 43
Typical Wiring Diagrams 55
Weights and Dimensions 68
Economizer Options 75
Guide Specifications 78

Product Highlights

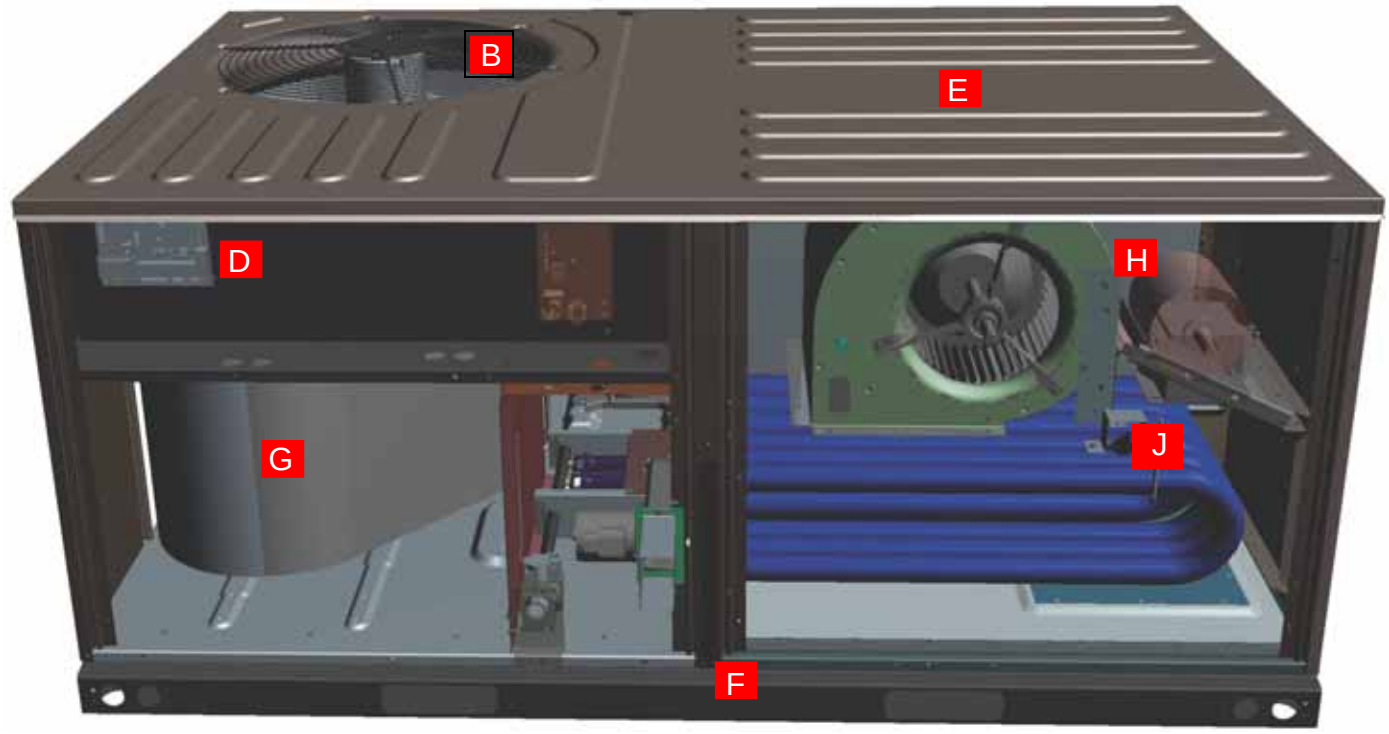
- Assembled in Norman, OK
- ASHRAE 90.1 Compliant
- R-410A Refrigerant
- Cooling Only and Gas/Electric configurations available
- Scroll Compressors
- State of the art Microprocessor Controls with specific programming for product applications
- MicroChannel Condenser Coils
- Evaporator coils utilize copper tube/aluminum fin design for proven reliability and performance.
- TXV (Thermostatic Expansion Valve) Standard on: (ASHRAE 90.1 Compliant Standard Efficiency Level 6 - 12.5 ton models)
- Single-stage Cooling (6 - 7.5 ton models)
- Two-stage Cooling (8.5 - 12.5 ton models)
- Alternate Motor and Drives

Options and Accessories

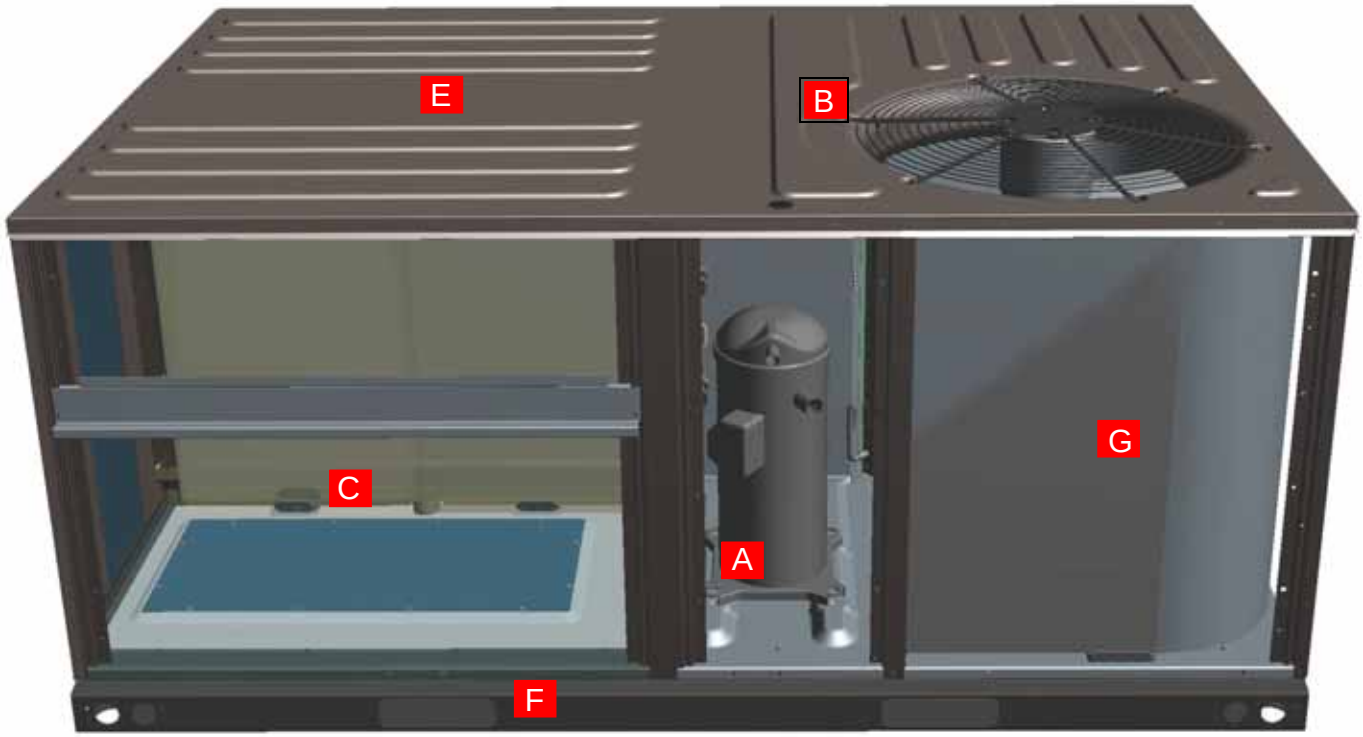
- Economizers with Barometric Relief
- Louvered Hail Guards
- Non-fused Disconnect (Verify on the unit nameplate that the disconnect is properly sized for the application. Units with field installed electric heat may exceed the factory installed disconnect amperage rating.)
- Power Exhaust
- Propane Conversion Kits
- High Altitude Heating Conversion Kits
- Flue Exhaust Extension Kit
- Flue Heat Shield
- Smoke Detectors
- Manual and Motorized Dampers
- Hinged Cabinet Doors
- Low Ambient Head Pressure Control Kit.
- Optional Stainless Steel Heat Exchanger
- Thru-The-Base Connections for power, gas and control wiring.
- Field Installed Electric Heat Kit, Installation Instructions for the Electric Heat Kits may be found in the Electric Heat Kits.

Component Location

Cooling With Gas Heat



Click on the letters to see a description of the features.



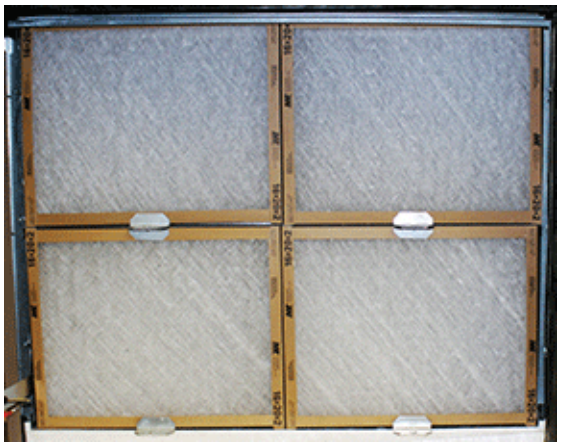
Features and Benefits

A **All models utilize a scroll compressor** that are environmentally friendly by utilizing R-410A refrigerant. Use of the scroll compressor technology means a simple internal design, fewer moving parts, equating to a quiet, reliable, easy to service and efficient system. Internal compressor protection is standard and compressors include protection to prevent liquid damage.

Total system design - A TXV is used for precise metering on the 6-12.5 Ton products. Two independent refrigerant circuits and compressors are used on the 8.5 - 12.5ton units for economical and precise control. A single circuit, single compressor design is used on the 6 - 7.5 ton units for cost effectiveness and reliability without compromising quality.

System Protection - Liquid line filter-driers, high and low pressure safeties are standard on each independent refrigerant circuit. Suction line sensors monitor temperature to prevent possible liquid flood back to the compressors and also protect against loss of charge and coil frosting.

B **Balanced outdoor fan design makes for a quieter unit -** The outdoor condenser fans are dynamically balanced for better performance and reliability. The direct drive fan design mounted to the fan grill allows for quick and easy service. Where other's components might fail at extreme temperatures Our units are tested and rated up to 125°F ambient cooling operation.



C **Convertible Filter Rack -** No tools required for easy field conversion of the filter rack to accommodate either 2” or 4” filters. Units will ship with MERV 4 throwaway filters standard; however MERV 8 and MERV 13 filters can be easily added through the tool-free filter access panel to meet LEED requirements. Refer to physical data tables for filter size details.

D **Units will come with the new state of the art Smart Equipment™ control system.** The new unit control incorporates the best of the already proven Smart Equipment™ controls and creates a more robust, intelligent control. The goal of this control is to utilize cutting edge technology making the equipment easier to install, operate, and service. All units are Factory commissioned, configured, and run tested.

Versatile - The Smart Equipment™ control can be configured to use with a standard thermostat (easy to connect screw terminals), a zone sensor, or can be setup to communicate with

multiple BAS communication protocols to integrate with building automation systems.

Reduce field installed complexity - Each unit will come equipped with factory installed supply air, return air, and outdoor air temperature sensors providing key temperature readings thus reduce field installed complexity.

On-board USB Port - The new control comes with a long list of features including data logging, current and previous system faults and software update capabilities using the on board USB port and common flash drive. Energy use monitoring capabilities allow custom tailoring to allow a system to work more efficiently at all times and occupancy levels. Self test and start-up reports also available from the board VIA the USB port.

Embedded LCD Display - The board has a easy to read, built-in LCD display and easy to use navigation joystick and buttons allowing the user to quickly navigate the menus displaying unit status, options, current function, supply, return and outdoor temperatures, fault codes and other information.

Safety Monitoring - The control monitors the outdoor, supply, and return air temperatures and the high and low pressure switch status on the independent refrigerant circuits. On units with heating the gas valve and high temperature limit switches are monitored on gas and electric heating units. The control also monitors the voltage supplied to the unit and will protect the unit if low voltage due to a brown out, or other electrical issue occurs.

Low Ambient - An integrated low-ambient control allows units to operate in the cooling mode down to 0°F outdoor ambient without additional components or intervention. Optionally, the control board can be programmed to lockout the compressors when the outdoor air temperature is low or when free cooling is available.

Anti-Short Cycle Protection - To aid compressor life, an anti-short cycle delay is incorporated into the standard control. Compressor reliability is further ensured by programmable minimum run times. For testing, the anti-short cycle delay can be temporarily overridden with the push of a button.

Fan Delays - Fan on and fan off delays are fully programmable. Furthermore, the heating and cooling fan delay times are independent of one another. All units are programmed with default values based upon their configuration of cooling and/or heating capacity.

Nuisance Trip Protection and Three Strikes - To prevent nuisance calls, the control board uses a three times, you're out philosophy. The high, low-pressure switch, anti-freeze protection, low voltage or heating high limit must trip three times within two hours before the unit control board will lock out the associated compressor. The same safety must trip three times before a hard lockout will occur.

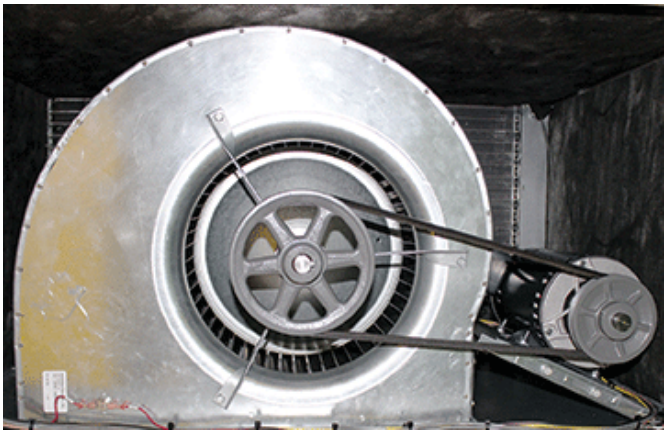
E **Robust design -** Each unit is designed with an embossed top to increase structural support and ensure rigidity. The unit has a powder paint exterior finish including a industry leading 750-hour salt spray rating. All units are painted with a long lasting, powder paint that stands up over the life of the unit.

F **Full Perimeter base rail that fits on many existing curbs -** This product was designed with the replacement market in mind which is why it will fit on many existing curbs in the field but it also takes into account the new construction market by being versatile and sturdy. This unit is equipped with heavier gauge and innovatively designed base rails to prevent damage from transporting and rigging.

G **Coils -** All units utilize Micro-Channel "all-aluminum" condenser coils that provides improved heat transfer capabilities and reduced refrigerant charge volumes. This

equates to all units meeting LEED EA Credit 4 Requirements for Enhanced Refrigerant Management. MicroChannel coils are also much easier to clean than your typical fin/tube designs.

All evaporator coils utilize copper tube with aluminum fin design for proven reliability and performance.



H **Rigid Mounted Blower Assembly -** Dynamically balanced indoor fans ensure better performance and reliability. Large access panels for easier access, service, and maintenance. The belt drive option is standard on 6-12.5 ton products. Low, Medium, and High Static drive options for airflow versatility up to 2" ESP with no field installed drive packages necessary. The blower section includes a dual density insulation for indoor air quality.

J **Balanced Heating -** The two stage gas heating offers ultimate heating comfort with a balance between 1st and 2nd stage gas heating. The first stage of a two stage gas heat option provides approximately 70% of the heating capacity in all 3-12.5 tons two stage gas heat models. Balanced heating allows the unit to better maintain desired temperatures and helps saves energy. The heat exchanger section includes foil faced insulation that is not only environmentally friendly but meets all NFPA codes.

Warranty - All models include a 1-year limited warranty on the complete unit. Compressors carry a 5-year warranty.

Aluminized steel heat exchangers carry a 10-year warranty and stainless steel heat exchangers carry a 15- year warranty.

Factory Installed Options

(Nomenclature Digit Position)

Airflow Options (6)

Alternate Indoor Blower Motor - For applications with high static restrictions, units are offered with optional indoor motors providing higher external static capability and/or higher airflow, depending upon the installer's needs.

- A=Standard Static (Belt Drive for 6-12.5 Ton)
- B=Medium Static (Belt Drive for 6-12.5 Ton)
- C=High Static (Belt Drive for 6-12.5 Ton; 3 Phase Models Only)

Coil Options (8)

E-Coat Coils – Coils are coated with an epoxy polymer coating to protect against corrosion. A 3-year warranty is added when this option is selected.

- A=Standard Indoor & Outdoor Coils (fin/tube design on indoor coil and MicroChannel design used on outdoor coil with no E-Coat coating added).
- B=Standard Indoor Coil & E-Coat Coil Outdoor Coil (fin/tube design on indoor coil and MicroChannel design used on outdoor coil. E-Coat coating added to outdoor coil)
- C= E-Coat Indoor Coil & Standard Outdoor Coil (fin/tube design on indoor coil and MicroChannel design used on outdoor coil. E-Coat coating added to indoor coil)
- D= E-Coat Indoor Coil & Outdoor Coil (fin/tube design on indoor coil and MicroChannel design used on outdoor coil. E-Coat coating added to indoor and outdoor coil)

Controls (9)

Smart Equipment™ - This is the Standard microprocessor control with capabilities to work with a sensor or thermostat only. Smart Equipment™ with BAS includes communication board with BACnet open-protocol system.

Verasys - Verasys provides a simple user experience with configurable self-recognizing controllers without the need for any additional tools. Verasys creates enhanced integration of HVACR equipment, zoning, and controls. Contractors are able to offer a complete bundled solution of equipment and controls to serve the light commercial market.

- A=Smart Equipment™
- B=Smart Equipment™ + BACnet MSTP, Mdbs, N2 COM Card
- J=Verasys Single Zone
- K=Verasys Change Over Bypass

Sensor Options (10)

- 1=None (Units come standard with factory installed supply air, return air, and outdoor air temperature sensors)
- 2=RA[1] Smoke Detector
- 3=SA Smoke Detector
- 4=RA[1] & SA Smoke Detector

1. Return Air Smoke Detector Sensor Must Be Relocated in the Field. (See Unit Installation Manual.)

Economizer/Damper (11)

Down flow Economizers (with barometric relief) - All units offer a variety of optional factory installed economizers that are shipped, installed and wired with AMCA 511 Licensed Class 1A low leak dampers designed to exceed ASHRAE 90.1 and the International Energy Conservation Code (IECC) certification requirements by achieving leakage rates of 3 cfm/sq. ft. at 1" of static pressure. Each economizer goes through a rigorous 60,000 cycle test. Dry bulb, single enthalpy, and dual enthalpy (with field installed kit) can be selected. All economizer options are fully integrated into the Smart Equipment™ controls. The economizer has spring return, fully modulating damper actuators and is capable of introducing up to 100% outdoor air. As the outdoor air intake dampers open, the return air dampers close. The changeover from mechanical refrigeration to economizer operation is regulated by the outdoor air dry bulb temperature or the outdoor air enthalpy input. The dual enthalpy kit provides a second input used to monitor the return air (field installed). The installer needs only to assemble the outdoor air hood, attach the enthalpy control the hood and mount the hood to the unit (Hood and control are provided).

Dry Bulb Economizer - Economizer operation is enabled by the outdoor air temperature being less than the setpoint of the economizer module.

Enthalpy Economizer - The added outdoor air enthalpy sensor enables economizer operation if the outdoor enthalpy is less than the setpoint of the economizer logic module.

- A=None
- B=Dry Bulb Economizer
- C=Enthalpy Economizer

Convenience Outlet (12)

Convenience Outlet - (Powered and Non-Powered) - This option locates a 120V single-phase GFCI outlet with cover, on the corner of the unit housing adjacent to the compressors. The Non-powered option requires the installer to provide the 120V single-phase power source and wiring. Factory installed option only.

- 1=None
- 2=Non-powered Convenience Outlet
- 3=Powered Convenience Outlet

Electrical Options (13)

Disconnect Switch - For units with field installed electric heat kits, two factory installed disconnect sizes are available (60A or 100A non-fused disconnect). Depending on the field installed heater kit selected, the factory installed disconnect may not be sufficient. Always refer to the unit nameplate or unit electrical data for the proper disconnect size. If the heater application requires a disconnect above 100 Amps, the factory installed disconnect should be removed and an appropriately sized external disconnect should be installed.

- 1=None
- 2=Non-fused Disconnect[1]

1. Verify on the unit nameplate that the disconnect is properly sized for the application. Units with field installed electric heat may exceed the factory installed disconnect amperage rating.

Cabinet Options (14)

Louvered Hail Guard - This kit includes a decorative louvered panel which installs over the outside condenser coil and prevents damage to the coil fins from hail strikes.

Hinged Cabinet Doors - The factory installed hinged panel option will save time, money and labor while allowing easy servicing of blower components, filters and controls. With this option there is no longer a need to remove panels to access these critical sections and running the risk of losing panels or roof damage from loose panels and materials. Extra care was taken to design a durable hinged panel with leak tight seal.

- 1=None
- 2=Louvered Panels
- 3=Hinged Cabinet Doors
- 4=Hinged Cabinet Doors And Louvered Panels

FDD (Fault Detection and Diagnostics) - Refrigerant side A Modification Shop offering for an additional installed control system for commercial equipment that constantly monitors refrigerant circuit pressures, refrigerant circuit temperatures, as well as the environmental temperatures and humidity via multiple sensor inputs.

Field Installed Accessories

- **Down flow Economizers/Horizontal Economizers (with barometric relief)** - All units offer a variety of field installed economizers that are installed and wired with AMCA 511 Licensed Class 1A low leak dampers designed to exceed ASHRAE 90.1 and the International Energy Conservation Code (IECC) certification requirements by achieving leakage rates of 3 cfm/sq. ft. at 1" of static pressure. Each economizer goes through a rigorous 60,000 cycle test. Dry bulb, single enthalpy, and dual enthalpy (with field installed kit) can be selected. All economizer options are fully integrated into the Smart Equipment™ controls. The economizer has spring return, fully modulating damper actuators and is capable of introducing up to 100% outdoor air. As the outdoor air intake dampers open, the return air dampers close. The

changeover from mechanical refrigeration to economizer operation is regulated by the outdoor air dry bulb temperature or the outdoor air enthalpy input. The dual enthalpy kit provides a second input used to monitor the return air (field installed). The installer needs only to assemble the outdoor air hood, attach the enthalpy control the hood and mount the hood to the unit (Hood and control are provided).

- **Dry Bulb Economizer -** Economizer operation is enabled by the outdoor air temperature being less than the setpoint of the economizer module.
- **Single Enthalpy Control, Accessory for Economizer -** All field installed economizers will come standard as a dry bulb economizer. This kit adds an outdoor air enthalpy sensor which enables economizer operation if the outdoor enthalpy is less than the setpoint of the economizer logic module.
- **Dual Enthalpy Control, Accessory for Economizer -** All field installed economizers will come standard as a dry bulb economizer. This kit adds an outdoor air enthalpy sensor and return air enthalpy sensor which enables economizer operation if the outdoor enthalpy is less than the setpoint of the economizer logic module.
- **Power Exhaust -** This accessory installs in the unit with a down flow economizer or in the ductwork for a horizontal application.
- **Louvered Hail Guard -** This kit includes a decorative louvered panel which installs over the outside condenser coil and prevents damage to the coil fins from hail strikes.
- **Flue Exhaust Extension Kit -** In locations where wind or weather conditions may interfere with proper exhausting of furnace combustion products, this kit can be installed to prevent the flue exhaust from entering nearby fresh air intakes.
- **Propane Conversion Kit** - This kit converts a gas heat unit to operate with propane gas at altitudes up to 2,000 feet.
- **Gas Heat High Altitude Kit -** This kit converts a gas heat unit to operate at high altitudes, 2,000 to 10,000 feet. Conversion kits are available for natural gas and propane.
- **Roof Curbs -** The roof curbs have insulated decks and are shipped disassembled The roof curbs are available in 14 and 24 heights.
- **Thermostat -** The units are designed to operate with 24-volt electronic and electro-mechanical thermostats. All 7.5 thru 12.5 ton units operate with two-stage heat/two-stage cool or two-stage cooling only thermostats, depending upon unit configuration.
- **Smoke detectors -** The smoke detectors stop operation of the unit by interrupting power and providing a fault message to the control board if smoke is detected within the air compartment. Smoke detectors are available for both the supply and/or return air configurations.
- **Hinged Filter Access Panel For Use With Horizontal Flow Economizer -** Allows hinged access to the filter section when used with a horizontal economizer.
- **Low Ambient Head Pressure Control Kit -** The Electronic Low Ambient Controller is designed to regulate condenser head pressure at low ambient temperatures by varying the amount of airflow through the condenser.
- **Manual Outdoor Air Damper -** Like the motorized outdoor air damper, each manual outdoor air damper includes a slide-in damper assembly with an outdoor air hood and filters. Customers have a choice of dampers with ranges of 0% to 100% or 0% to 35% outdoor air entry.
- **Thru The Base Connection -** Kits are available to provide a way to route wiring to the unit through the base of the unit and gas supplied to the unit through the base or through the curb. These kits provide a seal tight way to bring power and gas to the unit without additional roof penetrations.
- **Electric Heat (Field installed option Only) -** Select heater sizes for 3-12.5 ton units available. Necessary hardware and connectors are included with the heaters.

Nomenclature

Nomenclature for ZZ07-14 (6-12.5) Ton Units

ZZ	E	07	A	2	A	1	A	A	1	A	1	1	1	L	1

Product Category
ZZ = Pkg AC Constant Volume (Export Only)

Heat Type
E = No Heat, Cooling Only
G = Gas Heat

Nominal Cooling Capacity
07 = 6 Ton
08 = 7.5 Ton
09 = 8.5 Ton
12 = 10 Ton
14 = 12.5 Ton

Heat Capacity
A = Cooling only (no heat)

Gas Heat
D = Low Heat
E = Medium Heat
F = High Heat
R = Low Heat - Stainless Steel
S = Medium Heat - Stainless Steel
T = High Heat - Stainless Steel

Voltage
2 = 208/230-3-60
4 = 460-3-60

Airflow
A = Standard Static (CV)
B = Medium Static (CV)
C = High Static (CV)

Options
1 = No service options

Coil Options
A = Standard Indoor & Outdoor Coils
B = Standard Indoor Coil & Electrofin Outdoor Coils
C = E-Coat Indoor Coil & Standard Outdoor Coils
D = E-Coat Indoor & Outdoor Coils

Controls
A = Smart Equipment™
B = Smart Equipment + BACnet MSTP, Modbus, N2 COM Card
J = Verasys Single Zone
K = Verasys Change Over Bypass

Sensor Options
1 = None (units come standard with factory-installed supply air, return air, and outdoor air temperature sensors)
2 = RA[1] Smoke Detector
3 = SA Smoke Detector
4 = RA[1] & SA Smoke Detector

1) Return air smoke detector sensor must be relocated in the field. (See unit installation manaul).

Economizer / Damper
A = None
B = Dry Bulb Economizer
C = Enthalpy Economizer

Convenience Outlet
1 = None
2 = Non-powered
3 = Powered

Electrical Options
1 = None
2 = Non-Fused Disconnect
5 = Phase Monitor

Cabinet Options
1 = None
2 = Louvered Panels Installed
3 = Hinged Cabinet Doors
4 = Hinged Cabinet Doors & Louvered Panels

Special Options - Country
L = Latin America

Product Generation
1 = First Generation

Accessories

Accessory Kit Number	Description	Where Used	Voltage
2EE04706724	Econ, DB, Vertical Flow, Small Footprint	ZZ07, ZZ08	All
2EE04706824	Econ, DB, Vertical Flow, Large Footprint	ZZ09, ZZ12, ZZ14	All
2EE04707124	Econ, DB, Horizontal Flow, Small Footprint, Tall Cabinet	ZZ07, ZZ08	All
2EE04707324	Econ, DB, Horizontal Flow, Large Footprint, Tall Cabinet	ZZ09, ZZ12, ZZ14	All
1FA0415	Manual Outside Air Damper 0-35%	ZZ07, ZZ08	All
1FA0416	Manual Outside Air Damper 0-35%	ZZ09, ZZ12, ZZ14	All
1FA0417	Manual Outside Air Damper 0-100%	ZZ07, ZZ08	All
1FA0418	Manual Outside Air Damper 0-100%	ZZ0, ZZ12, ZZ14	All
2MD04704224	Motorized Outside Air Damper 0-100%	ZZ07, ZZ08	All
2MD04704324	Motorized Outside Air Damper 0-100%	ZZ09, ZZ12, ZZ14	All
2EC0401	Kit, Single Enthalpy Field Installed	All	All
2EC0402	Kit, Dual Enthalpy Field Installed	All	All
1HD0402	Hinged Filter Access Panel For Units With A Horizontal Economizer	ZZ07, ZZ08	All
1HD0404	Hinged Filter Access Panel For Units With A Horizontal Economizer	ZZ09, ZZ12, ZZ14	All
1HG0420	Hail Guard Kit Small Footprint, Tall Cabinet	ZZ07, ZZ08	All
1HG0424	Hail Guard Kit Large Footprint, Tall Cabinet	ZZ09, ZZ12, ZZ14	All
1RC0456	Curb Rigid 14" Small Footprint	ZZ07, ZZ08	All
1RC0457	Curb Rigid 14" Large Footprint	ZZ09, ZZ12, ZZ14	All
1RC0458	Curb Rigid 24" Small Footprint	ZZ07, ZZ08	All
1RC0459	Curb Rigid 24" Large Footprint	ZZ09, ZZ12, ZZ14	All
2PE04704225	Power Exhaust Vert Flow Small Footprint 208V-230V 3-ph	ZZ07, ZZ08	208/230-3-60
2PE04704246	Power Exhaust Vert Flow Small Footprint 460V 3-ph	ZZ07, ZZ08	460-3-60
2PE04704325	Power Exhaust Vert Flow Large Footprint 208V-230V 3-ph	ZZ09, ZZ12, ZZ14	208/230-3-60
2PE04704346	Power Exhaust Vert Flow Large Footprint 460V 3-ph	ZZ09, ZZ12, ZZ14	460-3-60
2PE04704425	Power Exhaust Horiz Flow Small Footprint 208V-230V 3-ph	ZZ07, ZZ08	208/230-3-60
2PE04704446	Power Exhaust Horiz Flow Small Footprint 460V 3-ph	ZZ07, ZZ08	460-3-60
2PE04704525	Power Exhaust Horiz Flow Large Footprint 208V-230V 3-ph	ZZ09, ZZ12, ZZ14	208/230-3-60
2PE04704546	Power Exhaust Horiz Flow Large Footprint 460V 3-ph	ZZ09, ZZ12, ZZ14	460-3-60
1HA0454	High Altitude Kit for Natural Gas (2,000-10,000 ft)	ZZ07, ZZ08 - Low, Med, High Heat	All
1HA0455	High Altitude Kit for Natural Gas (2,000-10,000 ft)	ZZ09, ZZ12, ZZ14	All
1NP0456	Propane Conversion Kit Note: Not for use with Low NOx	ZZ07, ZZ08 - Low, Med, High Heat	All
1NP0457	Propane Conversion Kit	ZZ09, ZZ12, ZZ14	All
1HA0458	High Altitude Kit for Propane (2,000-10,000 ft) Note: Not for use with Low NOx	ZZ07, ZZ08 - Low, Med, High Heat	All
1HA0459	High Altitude Kit for Propane (2,000-10,000 ft)	ZZ09, ZZ12, ZZ14	All
1FE0415	Flue Exhaust Kit	ZZG07, ZZG08	All
1FE0416	Flue Exhaust Kit	ZZG09, ZZG12, ZZG14	All
1HS0401	Flue Heat Shield Accessory	ZZ07, ZZ08, ZZ09, ZZ12, ZZ14	All
2EK04510625	6.5 KW Electric Heat	ZZ07, ZZ08	208/230-30-60
2EK04510646	6.0 KW Electric Heat	ZZ07, ZZ08	460-3-60
2EK04511125	10.5 KW Electric Heat	ZZ07, ZZ08	208/230-3-60
2EK04511146	11.5 KW Electric Heat	ZZ07, ZZ08	460-3-60
2EK04511446	14 KW Electric Heat	ZZ07, ZZ08	460-3-60
2EK04511625	16 KW Electric Heat	ZZ07, ZZ08	208/230-3-60
2EK04511725	16 KW Electric Heat	ZZ09, ZZ12, ZZ14	208/230-3-60
2EK04511746	16.5 KW Electric Heat	ZZ09, ZZ12, ZZ14	460-3-60

Accessories (Continued)

Accessory Kit Number	Description	Where Used	Voltage
2EK04510625	6.5 KW Electric Heat	ZZ07, ZZ08	208/230-3-60
2EK04512525	24.8 KW Electric Heat	ZZ09, ZZ12, ZZ14	208/230-3-60
2EK04512846	27.8 KW Electric Heat	ZZ09, ZZ12, ZZ14	460-3-60
2EK04513225	32 KW Electric Heat	ZZ09,ZZ12, ZZ14	208/230-3-60
2EK04513346	33 KW Electric Heat	ZZ09, ZZ12, ZZ14	460-3-60
2EK04514225	42.4 KW Electric Heat	ZZ09, ZZ12, ZZ14	208/230-3-60
2EK04514246	41.7 KW Electric Heat	ZZ09, ZZ12, ZZ14	460-3-60
2LA04704725	Low Ambient Accessory Kit	ZZ07, ZZ08	208/230-3-60
2LA04704746	Low Ambient Accessory Kit	ZZ07, ZZ08	460V-3-60
2LA04704825	Low Ambient Accessory Kit	ZZ09, ZZ12, ZZ14	208/230-3-60
2LA04704846	Low Ambient Accessory Kit	ZZ09, ZZ12, ZZ14	460V-3-60
2LA04704925	Low Ambient Accessory Kit	ZZ14	208V/230V-3-60
2LA04704946	Low Ambient Accessory Kit	ZZ14	460V-3-60
2SD04701224	Supply Air Stream Smoke Detector	ZZ07, ZZ08, ZZ09, ZZ12, ZZ14	All
2SD04701124	Return Air Stream Smoke Detector	ZZ07, ZZ08	All
2SD04701424	Return Air Stream Smoke Detector	ZZ09, ZZ12, ZZ14	All
2SD04701324	Combination Supply & Return Air Stream Smoke Detector	ZZ07, ZZ08	All
2SD04701624	Combination Supply & Return Air Stream Smoke Detector	ZZ09, ZZ12, ZZ14	All
1TB0401	Small Footprint Thru The Base Electrical & Thru The Curb Gas	ZZ07, ZZ08	All
1TB0402	Large Footprint Thru The Base Electrical & Thru The Curb Gas	ZZ09, ZZ12, ZZ14	All
1TB0403	Small Footprint Thru The Base Electrical & Gas	ZZ07, ZZ08	All
1TB0404	Large Footprint Thru The Base Electrical & Gas	ZZ09, ZZ12, ZZ14	All

Cooling Performance Rating Table

UNIT	COOLING STAGES	NOM. COOLING CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	SEER	EER (COOLING ONLY)	EER (A/C WITH GAS HEAT)	IEER (COOLING ONLY)	IEER (A/C WITH GAS HEAT)
ZZ07	1	6.0	67.0	6.0	---	11.2	11.0	N/A	N/A
ZZ08	1	7.5	85.0	8.4	---	10.6	10.4	N/A	N/A
ZZ09	2	8.5	99.0	7.7	---	11.2	11.0	N/A	N/A
ZZ12	2	10.0	116.0	9.2	---	11.2	11.0	N/A	N/A
ZZ14	2	12.5	135.0	10.8	---	11.0	10.8	N/A	N/A

AHRI 270 Outdoor Sound Power Levels

Unit (Tons)	Sound Rating[1](dB-A)	Octave Bands (Hz)							
		63	125	250	500	1000	2000	4000	8000
ZZ07 (6)	79	85.0	85.0	77.0	75.0	74.0	70.0	66.0	62.0
ZZ08 (7.5)	78.5	84.0	82.5	79.0	74.5	73.5	69.0	66.5	59.5
ZZ09 (8.5)	83	91.0	86.0	79.0	79.5	78.0	74.0	70.5	69.0
ZZ12 (10)	84	87.5	85.0	81.0	80.0	80.0	74.5	70.5	69.0
ZZ14 (12.5)	90	87.5	88.5	85.0	86.0	85.0	81.0	78.5	73.0

1. Rated in accordance with AHRI 270 standard.

Physical Data

ZZ07 Physical Data

Component		Models			
		ZZG07			ZZE07
Nominal Tonnage		6			6
AHRI COOLING PERFORMANCE	Gross Capacity @ AHRI A point (Btu)	70000			70000
	AHRI net capacity (Btu)	67000			67000
	EER	11.0			11.2
	Nominal CFM	2200			2200
	System power (KW)	6.0			6.0
	Refrigerant type	R-410A			R-410A
	Refrigerant charge (lb-oz)				
	System 1	7-4			7-4
	System 2				
AHRI HEATING PERFORMANCE	Heating Option	D	E	F	-
	Heating model	Low	Med	High	-
	1st. Stage Heat input (K Btu)	-	-	100	-
	2nd. Stage Heat input (K Btu)	70	114	145	-
	1st. Stage Heat output (K Btu)	-	-	80	-
	2nd. Stage Heat output (K Btu)	56	91	116	-
	AFUE %				-
	Steady state efficiency (%)	80	80	80	-
	No. burners	2	3	3	-
	No. stages	1	1	2	-
	Temperature Rise Range (ºF)	17-29	28-47	36-60	-
	Gas Limit Setting (ºF)	150	140	140	-
	Gas piping connection (in.)	1/2	1/2	1/2	-
DIMENSIONS (inches)	Length	74.1			74.1
	Width	48.9			48.9
	Height	40.6			40.6
OPERATING WT. (lbs.)		668			614
COMPRESSORS	Type	Scroll			Scroll
	Quantity	1			1
	Unit Capacity Steps (%)	100			100
CONDENSER COIL DATA	Face area (Sq. Ft.)	21.1			21.1
	Rows	1			1
	Fins per inch	23			23
	Tube diameter (in./MM)	.79/20			.79/20
	Circuitry Type	2-pass Microchannel			2-pass Microchannel
EVAPORATOR COIL DATA	Face area (Sq. Ft.)	7.3			7.3
	Rows	4			4
	Fins per inch	15			15
	Tube diameter	0.375			0.375
	Circuitry Type	Intertwined			Intertwined
	Refrigerant control	TXV			TXV

ZZ07 Physical Data (Continued)

Component		Models					
		ZZG07			ZZE07		
Nominal Tonnage		6			6		
CONDENSER FAN DATA	Quantity of fans	1			1		
	Fan diameter (Inch)	22			22		
	Type	Prop			Prop		
	Drive type	Direct			Direct		
	Quantity of motors	1			1		
	Motor HP each	1/2			1/2		
	No. speeds	2			2		
	RPM	900 / 1150			900 / 1150		
	Nominal total CFM	3600 / 4600			3600 / 4600		
EVAP FAN DATA BELT DRIVE	Airflow Option	A	B	C	A	B	C
	Quantity	1	1	1	1	1	1
	Fan Size (Inch)	11 x 10	11 x 10	11 x 10	11 x 10	11 x 10	11 x 10
	Type	Centrifugal			Centrifugal		
	Motor Sheave	1VL34	1VL44	1VP50	1VL34	1VL44	1VP50
	Blower Sheave	AK51	AK51	AK51	AK51	AK51	AK51
	Belt	A39	A40	A41	A39	A40	A41
	Motor Max Bhp, 3 Phase	2.4	2.9	3.7	2.4	2.9	3.7
	RPM	1725	1725	1725	1725	1725	1725
	Frame size	56Y	56Y	56HZ	56Y	56Y	56HZ
FILTERS	Quantity - Size	4 - (16 x 16 x 2)[1]			4 - (16 x 16 x 2)[1]		

1. 2 in. Throwaway, Standard, MERV 4 (Minimum Efficiency Reporting Value).

ZZ08 Physical Data

Component		Models			
		ZZG08			ZZE08
Nominal Tonnage		7.5			7.5
AHRI COOLING PERFORMANCE	Gross Capacity @ AHRI A Point (BTU)	88420			88420
	AHRI net Capacity (Btu)	85241			85241
	EER	10.4			10.6
	Nominal CFM	2309			2309
	System Power (KW)	8.43			8.43
	Refrigerant type	R-410A			R-410A
	Refrigerant charge (lb-oz)				
	System 1	6-12			6-12
	System 2	-			-
AHRI HEATING PERFORMANCE	Heating Option	D	E	F	-
	Heating model	Low	Med	High	-
	1st. Stage Heat input (K Btu)	-	-	100	-
	2nd. Stage Heat input (K Btu)	70	114	145	-
	1st. Stage Heat output (K Btu)	-	-	80	-
	2nd. Stage Heat output (K Btu)	56	91	116	-
	AFUE %				-
	Steady State Efficiency (%)	80	80	80	-
	No. burners	2	3	3	-
	No. stages	1	1	2	-
	Temperature Rise Range (℉)	17-29	28-47	36-60	-
	Gas Limit Setting (℉)	150	140	140	-
	Gas piping connection (in.)	1/2	1/2	1/2	-
Dimensions (inches)	Length	74.1			74.1
	Width	48.9			48.9
	Height	40.6			40.6
OPERATING WT. (lbs.)		666			612
COMPRESSORS	Type	Scroll			Scroll
	Quantity	1			1
	Unit Capacity Step (%)	100			100
CONDENSER COIL DATA	Face area (Sq. Ft.)	21.1			21.1
	Rows	1			1
	Fins per inch	23			23
	Tube diameter (in./MM)	.79/20			.79/20
	Circuit Type	2-pass Microchannel			2-pass Microchannel
EVAPORATOR COIL DATA	Face area (Sq. Ft.)	7.3			7.3
	Rows	4			4
	Fins per inch	15			15
	Tube diameter	0.375			0.375
	Circuit Type	Intertwined			Intertwined
	Refrigerant control	TXV			TXV

ZZ08 Physical Data

Component		Models					
		ZZG08			ZZE08		
Nominal Tonnage		7.5			7.5		
CONDENSER FAN DATA	Quantity of fans	1			1		
	fan diameter (Inch)	22			22		
	Type	Prop			Prop		
	Drive type	Direct			Direct		
	Quantity of motors	1			1		
	Motor HP each	1/2			1/2		
	No. speeds	1			1		
	RPM	1150			1150		
	Nominal total CFM	4600			4600		
EVAPORATOR DAN DATA BELT DRIVE	Airflow Option	A	B	C	A	B	C
	Quantity	1	1	1	1	1	1
	Fan size (inch)	11 x 10	11 x 10	11 x 10	11 x 10	11 x 10	11 x 10
	Type	Centrifugal			Centrifugal		
	Motor Sheave	1VL34	1VL44	1VP50	1VL34	1VL44	1VP50
	Blower Sheave	AK51	AK51	AK51	AK51	AK51	AK51
	Belt	A39	A40	A41	A39	A40	A41
	Motor Max Bhp, 3 Phase	2.4	2.9	3.7	2.4	2.9	3.7
	RPM	1725	1725	1725	1725	1725	1725
	Frame size	56Y	56Y	56HZ	56Y	56Y	56HZ
FILTERS	Quantity-Size	4 - (16 x 16 x 12)[1]			4 - (16 x 16 x 12)[1]		

1. 2 in. Throwaway, Standard, MERV 4 (Minimum Efficiency Reporting Value).

ZZ09 Physical Data

Component		Models			
		ZZG09			ZZE09
Nominal Tonnage		8.5			8.5
AHRI COOLING PERFORMANCE	Gross Capacity @ AHRI A point (Btu)	105600			105600
	AHRI net capacity (Btu)	99000			99000
	EER	11			11.2
	Nominal CFM	3300			3300
	System power (KW)	7.70			7.70
	Refrigerant type	R-410A			R-410A
	Refrigerant charge (lb-oz)				
	System 1	5-4			5-4
	System 2	5-4			5-4
AHRI HEATING PERFORMANCE	Heating Option	D	E	F	-
	Heating model	Low	Med	High	-
	1st. Stage Heat input (K Btu)	90	125	176	-
	2nd. Stage Heat input (K Btu)	125	180	220	-
	1st. Stage Heat output (K Btu)	72	100	141	-
	2nd. Stage Heat output (K Btu)	100	144	176	-
	AFUE %				-
	Steady state efficiency (%)	80	80	80	-
	No. burners	3	4	5	-
	No. stages	2	2	2	-
	Temperature Rise Range (ºF)	22-36	31-52	38-64	-
	Gas Limit Setting (ºF)	140	150	140	-
	Gas piping connection (in.)	3/4	3/4	3/4	-
DIMENSIONS (inches)	Length	87.2			87.2
	Width	61.7			61.7
	Height	48.6			48.6
OPERATING WT. (lbs.)		954			852
COMPRESSORS	Type	Scroll			Scroll
	Quantity	2			2
	Unit Capacity Steps (%)	50/100			50/100
CONDENSER COIL DATA	Face area (Sq. Ft.)	25.5			25.5
	Rows	1			1
	Fins per inch	23			23
	Tube diameter (in./MM)	1/25			1/25
	Circuitry Type	2-pass Microchannel			2-pass Microchannel
EVAPORATOR COIL DATA	Face area (Sq. Ft.)	11.1			11.1
	Rows	3			3
	Fins per inch	15			15
	Tube diameter	0.375			0.375
	Circuitry Type	Intertwined			Intertwined
	Refrigerant control	Orifice			Orifice

ZZ09 Physical Data (Continued)

Component		Models					
		ZZG09			ZZE09		
Nominal Tonnage		8.5			8.5		
CONDENSER FAN DATA	Quantity of fans	2			2		
	Fan diameter (Inch)	22			22		
	Type	Prop			Prop		
	Drive type	Direct			Direct		
	Quantity of motors	2			2		
	Motor HP each	1/2			1/2		
	No. speeds	1			1		
	RPM	1085			1085		
	Nominal total CFM	8600			8600		
EVAP FAN DATA BELT DRIVE	Airflow Option	A	B	C	A	B	C
	Quantity	1	1	1	1	1	1
	Fan Size (Inch)	15 x 15	15 x 15	15 x 15	15 x 15	15 x 15	15 x 15
	Type	Centrifugal			Centrifugal		
	Motor Sheave	1VL34	1VL44	1VP50	1VL34	1VL44	1VP50
	Blower Sheave	AK74	AK74	AK74	AK74	AK74	AK74
	Belt	A47	A48	A50	A47	A48	A50
	Motor Max Bhp, 3 Phase	2.4	2.4	3.7	2.4	2.4	3.7
	RPM	1725	1725	1725	1725	1725	1725
	Frame size	56Y	56Y	56HZ	56Y	56Y	56HZ
FILTERS	Quantity - Size	4 - (20 x 20 x 2)[1]			4 - (20 x 20 x 2)[1]		

1. 2 in. Throwaway, Standard, MERV 4 (Minimum Efficiency Reporting Value).

ZZ12 Physical Data

Component		Models			
		ZZG12			ZZE12
Nominal Tonnage		10			10
AHRI COOLING PERFORMANCE	Gross Capacity @ AHRI A point (Btu)	125600			125600
	AHRI net capacity (Btu)	116000			116000
	EER	11			11.2
	Nominal CFM	3400			3400
	System power (KW)	9.2			9.2
	Refrigerant type	R-410A			R-410A
	Refrigerant charge (lb-oz)				
	System 1	5-12			5-12
	System 2	5-12			5-12
AHRI HEATING PERFORMANCE	Heating Option	D	E	F	-
	Heating model	Low	Med	High	-
	1st. Stage Heat input (K Btu)	125	176	200	-
	2nd. Stage Heat input (K Btu)	180	220	250	-
	1st. Stage Heat output (K Btu)	100	141	160	-
	2nd. Stage Heat output (K Btu)	144	176	200	-
	AFUE %				-
	Steady state efficiency (%)	80	80	80	-
	No. burners	4	5	5	-
	No. stages	2	2	2	-
	Temperature Rise Range (ºF)	27-44	33-54	37-62	-
	Gas Limit Setting (ºF)	150	140	160	-
	Gas piping connection (in.)	3/4	3/4	3/4	-
DIMENSIONS (inches)	Length	87.2			87.2
	Width	61.7			61.7
	Height	48.6			48.6
OPERATING WT. (lbs.)		985			879
COMPRESSORS	Type	Scroll			Scroll
	Quantity	2			2
	Unit Capacity Steps (%)	50/100			50/100
CONDENSER COIL DATA	Face area (Sq. Ft.)	25.5			25.5
	Rows	1			1
	Fins per inch	23			23
	Tube diameter (in./MM)	1/25			1/25
	Circuitry Type	2-pass Microchannel			2-pass Microchannel
EVAPORATOR COIL DATA	Face area (Sq. Ft.)	11.1			11.1
	Rows	4			4
	Fins per inch	15			15
	Tube diameter	0.375			0.375
	Circuitry Type	Intertwined			Intertwined
	Refrigerant control	Orifice			Orifice

ZZ12 Physical Data (Continued)

Component		Models					
		ZZG12			ZZE12		
Nominal Tonnage		10			10		
CONDENSER FAN DATA	Quantity of fans	2			2		
	Fan diameter (Inch)	22			22		
	Type	Prop			Prop		
	Drive type	Direct			Direct		
	Quantity of motors	2			2		
	Motor HP each	1/2			1/2		
	No. speeds	1			1		
	RPM	1085			1085		
	Nominal total CFM	8600			8600		
EVAP FAN DATA BELT DRIVE	Airflow Option	A	B	C	A	B	C
	Quantity	1	1	1	1	1	1
	Fan Size (Inch)	15 x 15	15 x 15	15 x 15	15 x 15	15 x 15	15 x 15
	Type	Centrifugal			Centrifugal		
	Motor Sheave	1VL44	1VP50	1VP56	1VL44	1VP50	1VP56
	Blower Sheave	AK79	AK79	BK85	AK79	AK79	BK85
	Belt	A50	A50	BX52	A50	A50	BX52
	Motor Max Bhp, 3 Phase	2.4	3.7	5.25	2.4	3.7	5.25
	RPM	1725	1725	1725	1725	1725	1725
	Frame size	56Y	56HZ	145TY	56Y	56HZ	145TY
FILTERS	Quantity - Size	4 - (20 x 20 x 2)[1]			4 - (20 x 20 x 2)[1]		

1. 2 in. Throwaway, Standard, MERV 4 (Minimum Efficiency Reporting Value).

ZZ14 Physical Data

Component		Models			
		ZZG14			ZZE14
Nominal Tonnage		12.5			12.5
AHRI COOLING PERFORMANCE	Gross Capacity @ AHRI A point (Btu)	145000			145000
	AHRI net capacity (Btu)	135000			135000
	EER	10.8			11.0
	Nominal CFM	4000			4000
	System power (KW)	10.8			10.8
	Refrigerant type	R-410A			R-410A
	Refrigerant charge (lb-oz)				
	System 1	6-8			6-8
	System 2	6-12			6-12
AHRI HEATING PERFORMANCE	Heating Option	D	E	F	-
	Heating model	Low	Med	High	-
	1st. Stage Heat input (K Btu)	125	176	200	-
	2nd. Stage Heat input (K Btu)	180	220	250	-
	1st. Stage Heat output (K Btu)	100	141	160	-
	2nd. Stage Heat output (K Btu)	144	176	200	-
	AFUE %				-
	Steady state efficiency (%)	80	80	80	-
	No. burners	4	5	5	-
	No. stages	2	2	2	-
	Temperature Rise Range (ºF)	21-36	26-43	30-49	-
	Gas Limit Setting (ºF)	150	140	160	-
	Gas piping connection (in.)	3/4	3/4	3/4	-
DIMENSIONS (inches)	Length	87.2			87.2
	Width	61.7			61.7
	Height	55.26			55.26
OPERATING WT. (lbs.)		1047			941
COMPRESSORS	Type	Scroll			Scroll
	Quantity	2			2
	Unit Capacity Steps (%)	50/100			50/100
CONDENSER COIL DATA	Face area (Sq. Ft.)	24.9			24.9
	Rows	1			1
	Fins per inch	21			21
	Tube diameter (in./MM)	1.26/32			1.26/32
	Circuitry Type	2-pass Microchannel			2-pass Microchannel
EVAPORATOR COIL DATA	Face area (Sq. Ft.)	11.1			11.1
	Rows	4			4
	Fins per inch	15			15
	Tube diameter	0.375			0.375
	Circuitry Type	Intertwined			Intertwined
	Refrigerant control	TXV			TXV

ZZ14 Physical Data (Continued)

Component		Models					
		ZZG14			ZZE14		
Nominal Tonnage		12.5			12.5		
CONDENSER FAN DATA	Quantity of fans	1			1		
	Fan diameter (Inch)	30			30		
	Type	Prop			Prop		
	Drive type	Direct			Direct		
	Quantity of motors	1			1		
	Motor HP each	1 1/2			1 1/2		
	No. speeds	1			1		
	RPM	1140			1140		
	Nominal total CFM	10600			10600		
EVAP FAN DATA BELT DRIVE	Airflow Option	A	B	C	A	B	C
	Quantity	1	1	1	1	1	1
	Fan Size (Inch)	15 x 15	15 x 15	15 x 15	15 x 15	15 x 15	15 x 15
	Type	Centrifugal			Centrifugal		
	Motor Sheave	1VL44	1VP50	1VP56	1VL44	1VP50	1VP56
	Blower Sheave	AK79	AK79	BK85	AK79	AK79	BK85
	Belt	A50	A52	BX54	A50	A52	BX54
	Motor Max Bhp, 3 Phase	2.9	3.7	5.25	2.9	3.7	5.25
	RPM	1750	1750	1750	1750	1750	1750
	Frame size	56Z	184TZ	184TZ	56Z	184TZ	184TZ
FILTERS	Quantity - Size	4 - (20 x 20 x 2)[1]			4 - (20 x 20 x 2)[1]		

1. 2 in. Throwaway, Standard, MERV 4 (Minimum Efficiency Reporting Value).

ZZ 07-14 Unit Limitations

Model	Size (Tons)	Unit Voltage	SCCR (kVA)	Unit Limitations		
				Applied Voltage		Outdoor DB Temp
				Min	Max	Max (°F)
ZZ	07 (6)	208/230-3-60	5	187	252	125
		460-3-60	5	432	504	125
ZZ	08 (7.5)	208/230-3-60	5	187	252	125
		460-3-60	5	432	504	125
ZZ	09 (8.5)	208/230-3-60	5	187	252	125
		460-3-60	5	432	504	125
ZZ	12 (10)	208/230-3-60	5	187	252	125
		460-3-60	5	432	504	125
ZZ	14 (12.5)	208/230-3-60	5	187	252	125
		460-3-60	5	432	504	125

Capacity Performance

ZZ07-14 Cooling Capacities

ZZ07 (6 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
CFM	WB (°F)	Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F) 90	85	80	75	70	65	Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F) 90	85	80	75	70	65
		75°F								85°F							
1500	77	89.8	4.1	45.1	37.4	29.8	-	-	-	84.7	4.6	41.2	34.3	27.5	-	-	-
	72	82.1	4.0	55.6	47.1	38.5	30.0	-	-	76.7	4.5	52.7	44.4	36.1	27.9	-	-
	67	74.3	3.9	66.1	56.7	47.3	38.1	30.4	-	68.8	4.4	64.2	54.5	44.8	36.2	28.4	-
	62	74.4	3.9	72.9	63.5	56.0	45.6	39.4	31.1	70.8	4.4	68.1	60.3	53.5	44.3	37.2	29.0
1800	77	91.0	4.1	51.6	40.8	29.9	-	-	-	85.5	4.6	48.6	38.0	27.4	-	-	-
	72	84.1	4.0	59.7	50.0	40.3	30.5	-	-	78.8	4.5	57.1	47.5	37.8	28.2	-	-
	67	77.2	4.0	67.8	59.2	50.6	40.3	31.1	-	72.1	4.5	65.5	56.9	48.3	38.3	28.9	-
	62	74.7	4.0	73.8	67.4	60.9	49.4	41.3	31.5	71.2	4.5	69.9	64.3	58.7	48.0	39.1	29.3
	57	60.7	3.9	60.7	60.7	60.7	60.7	51.6	41.7	59.4	4.5	59.4	59.4	59.4	59.2	49.3	39.5
2100	77	92.2	4.1	58.1	44.1	30.1	-	-	-	86.4	4.6	56.0	41.7	27.4	-	-	-
	72	86.2	4.1	63.9	52.9	42.0	31.1	-	-	80.9	4.6	61.5	50.5	39.5	28.6	-	-
	67	80.1	4.0	69.6	61.8	54.0	42.4	31.7	-	75.4	4.5	66.9	59.3	51.7	40.3	29.3	-
	62	75.1	4.0	74.6	71.2	65.9	53.3	43.2	31.9	71.6	4.5	71.6	68.3	63.8	51.8	41.1	29.7
	57	61.4	4.0	61.4	61.4	61.4	61.4	54.7	43.2	59.6	4.5	59.6	59.6	59.6	59.6	52.8	41.2
2400	77	93.4	4.1	64.7	47.5	30.3	-	-	-	87.2	4.6	63.5	45.4	27.4	-	-	-
	72	88.2	4.1	68.0	55.9	43.8	31.7	-	-	83.0	4.6	65.9	53.5	41.2	28.9	-	-
	67	83.0	4.0	71.3	64.3	57.3	44.5	32.3	-	78.7	4.5	68.2	61.7	55.1	42.3	29.8	-
	62	75.4	4.0	75.4	75.1	70.8	57.1	45.1	32.3	72.0	4.5	72.0	72.0	69.0	55.6	43.0	30.0
	57	62.1	4.0	62.1	62.1	62.1	62.1	57.9	44.7	59.7	4.5	59.7	59.7	59.7	59.7	56.2	42.8
2700	72	90.2	4.1	72.1	58.8	45.5	32.3	-	-	85.1	4.6	70.3	56.6	42.9	29.3	-	-
	67	85.9	4.0	73.1	66.8	60.6	46.7	33.0	-	82.1	4.6	69.6	64.1	58.6	44.4	30.3	-
	62	75.8	4.0	75.8	75.8	75.7	61.0	47.0	32.7	72.3	4.6	72.3	72.3	72.3	59.4	45.0	30.4
	57	62.8	4.1	62.8	62.8	62.8	62.8	61.0	46.1	59.9	4.6	59.9	59.9	59.9	59.9	59.6	44.5
3000	72	92.3	4.1	76.2	61.8	47.3	32.8	-	-	87.2	4.6	74.7	59.6	44.6	29.6	-	-
	67	88.8	4.1	74.8	69.4	64.0	48.8	33.6	-	85.4	4.6	71.0	66.5	62.0	46.4	30.8	-
	62	76.2	4.1	76.2	76.2	76.2	64.8	48.9	33.0	72.7	4.6	72.7	72.7	72.7	63.1	46.9	30.7
	57	63.5	4.1	63.5	63.5	63.5	63.5	63.5	47.6	60.0	4.6	60.0	60.0	60.0	60.0	60.0	46.2
		95°F								105°F							
1500	77	79.5	5.1	37.2	31.2	25.1	-	-	-	76.5	5.8	35.3	29.1	23.0	-	-	-
	72	71.4	5.0	49.7	41.7	33.8	25.8	-	-	67.1	5.7	47.4	39.5	31.6	23.6	-	-
	67	63.2	4.9	62.2	52.3	42.4	34.4	26.4	-	57.7	5.7	57.7	49.9	40.2	32.1	24.1	-
	62	67.3	4.9	63.3	57.2	51.0	43.0	34.9	26.8	63.8	5.7	59.9	54.3	48.7	40.6	32.4	24.3
1800	77	80.0	5.1	45.6	35.2	24.9	-	-	-	75.3	5.8	43.6	33.2	22.7	-	-	-
	72	73.5	5.0	54.4	44.9	35.4	25.9	-	-	68.5	5.8	52.0	42.5	33.1	23.7	-	-
	67	67.0	5.0	63.2	54.6	45.9	36.3	26.7	-	61.6	5.7	60.3	51.9	43.5	33.9	24.4	-
	62	67.7	5.0	66.1	61.3	56.4	46.7	36.9	27.1	64.0	5.7	62.4	58.2	53.9	44.2	34.5	24.7
	57	58.2	5.0	58.2	58.2	58.2	57.0	47.1	37.2	59.6	5.7	59.6	59.6	59.6	54.4	44.5	34.6
2100	77	80.5	5.1	53.9	39.3	24.7	-	-	-	74.2	5.8	52.0	37.2	22.5	-	-	-
	72	75.6	5.1	59.1	48.1	37.1	26.1	-	-	69.8	5.8	56.5	45.6	34.7	23.8	-	-
	67	70.7	5.0	64.2	56.8	49.4	38.2	27.0	-	65.4	5.7	61.0	54.0	46.9	35.8	24.7	-
	62	68.1	5.0	68.1	65.4	61.8	50.4	38.9	27.4	64.3	5.7	64.3	62.0	59.1	47.8	36.5	25.1
	57	57.8	5.0	57.8	57.8	57.8	57.8	50.8	39.1	58.0	5.7	58.0	58.0	58.0	58.0	47.6	35.7
2400	77	81.1	5.1	62.3	43.4	24.4	-	-	-	73.0	5.8	60.3	41.3	22.2	-	-	-
	72	77.8	5.1	63.7	51.2	38.7	26.2	-	-	71.2	5.8	61.0	48.6	36.2	23.9	-	-
	67	74.5	5.0	65.2	59.1	53.0	40.1	27.3	-	69.3	5.8	61.7	56.0	50.3	37.6	25.0	-
	62	68.5	5.0	68.5	68.5	67.2	54.1	40.9	27.7	64.5	5.7	64.5	64.5	64.3	51.4	38.5	25.6
	57	57.4	5.0	57.4	57.4	57.4	57.4	54.5	41.0	56.4	5.7	56.4	56.4	56.4	56.4	50.6	36.7
2700	72	79.9	5.1	68.4	54.4	40.3	26.3	-	-	72.5	5.8	65.5	51.7	37.8	23.9	-	-
	67	78.2	5.1	66.1	61.3	56.5	42.0	27.6	-	73.2	5.8	62.4	58.0	53.6	39.5	25.3	-
	62	68.9	5.1	68.9	68.9	68.9	57.8	42.9	28.0	64.8	5.8	64.8	64.8	64.8	55.0	40.5	26.0
	57	57.0	5.1	57.0	57.0	57.0	57.0	57.0	42.9	54.7	5.8	54.7	54.7	54.7	54.7	53.6	37.8
3000	72	82.0	5.1	73.1	57.5	42.0	26.4	-	-	73.8	5.8	70.1	54.7	39.4	24.0	-	-
	67	81.9	5.1	67.1	63.5	60.0	43.9	27.9	-	77.0	5.8	63.1	60.1	57.0	41.3	25.6	-
	62	69.3	5.1	69.3	69.3	69.3	61.5	44.9	28.4	65.0	5.8	65.0	65.0	65.0	58.6	42.5	26.5
	57	56.6	5.1	56.6	56.6	56.6	56.6	56.6	44.9	53.1	5.8	53.1	53.1	53.1	53.1	53.1	38.8

ZZ07 (6 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								125°F							
1500	77	73.4	6.5	33.3	27.1	20.8	-	-	-	70.4	7.2	31.4	25.0	18.6	-	-	-
	72	62.9	6.5	45.2	37.3	29.4	21.5	-	-	58.6	7.2	42.9	35.0	27.2	19.3	-	-
	67	52.3	6.4	52.3	47.4	37.9	29.8	21.8	-	46.8	7.2	46.8	45.0	35.7	27.6	19.5	-
	62	60.3	6.4	56.4	51.5	46.5	38.2	30.0	21.7	56.8	7.1	53.0	48.6	44.2	35.9	27.5	19.2
1800	77	70.6	6.5	41.7	31.1	20.6	-	-	-	65.9	7.2	39.7	29.0	18.4	-	-	-
	72	63.4	6.5	49.5	40.2	30.8	21.5	-	-	58.4	7.2	47.1	37.8	28.6	19.3	-	-
	67	56.2	6.5	56.2	49.3	41.1	31.6	22.1	-	50.9	7.2	50.9	46.6	38.7	29.3	19.8	-
	62	60.4	6.4	58.7	55.0	51.4	41.7	32.0	22.3	56.7	7.1	54.9	51.9	48.9	39.2	29.6	19.9
	57	61.1	6.4	59.9	59.9	59.9	51.8	41.9	32.0	62.6	7.1	55.3	55.3	55.3	49.2	39.3	29.5
2100	77	67.8	6.5	50.0	35.1	20.3	-	-	-	61.4	7.2	48.0	33.0	18.1	-	-	-
	72	64.0	6.5	53.9	43.1	32.3	21.5	-	-	58.2	7.2	51.3	40.6	30.0	19.3	-	-
	67	60.2	6.5	57.9	51.1	44.3	33.4	22.4	-	54.9	7.2	54.7	48.2	41.8	30.9	20.1	-
	62	60.5	6.4	60.5	58.6	56.4	45.2	34.0	22.9	56.7	7.2	56.7	55.2	53.6	42.6	31.6	20.6
	57	58.2	6.4	58.2	58.2	58.2	56.3	44.3	32.2	58.5	7.1	58.5	58.5	58.5	53.3	41.0	28.8
2400	77	64.9	6.5	58.3	39.2	20.0	-	-	-	56.9	7.2	56.3	37.0	17.8	-	-	-
	72	64.5	6.5	58.3	46.0	33.8	21.6	-	-	57.9	7.2	55.6	43.5	31.4	19.2	-	-
	67	64.1	6.5	58.3	52.9	47.6	35.1	22.7	-	59.0	7.2	54.9	49.9	44.9	32.6	20.4	-
	62	60.6	6.5	60.6	60.6	60.6	48.7	36.1	23.4	56.7	7.2	56.7	56.7	56.7	46.0	33.6	21.3
	57	55.3	6.4	55.3	55.3	55.3	55.3	46.6	32.4	54.3	7.1	54.3	54.3	54.3	54.3	42.7	28.1
2700	72	65.1	6.5	62.7	49.0	35.3	21.6	-	-	57.7	7.2	57.7	46.3	32.8	19.2	-	-
	67	68.1	6.5	58.7	54.8	50.8	36.9	23.0	-	63.1	7.2	55.1	51.5	47.9	34.3	20.7	-
	62	60.7	6.5	60.7	60.7	60.7	52.2	38.1	24.0	56.6	7.2	56.6	56.6	56.6	49.4	35.7	22.0
	57	52.5	6.5	52.5	52.5	52.5	52.5	49.0	32.6	50.2	7.2	50.2	50.2	50.2	50.2	44.4	27.4
3000	72	65.7	6.5	65.7	51.9	36.8	21.6	-	-	57.5	7.2	57.5	49.1	34.1	19.2	-	-
	67	72.1	6.5	59.2	56.6	54.0	38.6	23.3	-	67.1	7.2	55.2	53.1	51.0	36.0	21.0	-
	62	60.8	6.5	60.8	60.8	60.8	55.7	40.1	24.6	56.6	7.2	56.6	56.6	56.6	52.8	37.7	22.7
	57	49.6	6.5	49.6	49.6	49.6	49.6	49.6	32.8	46.1	7.2	46.1	46.1	46.1	46.1	46.1	26.8

1. These capacities are gross ratings. For net capacity, deduct the supply air blower motor heat (MBh = 3.415 x kW). Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZZ08 (7.5 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		75°F								85°F							
	77	116.5	6.4	60.6	53.3	46.0	-	-	-	110.6	7.2	62.1	51.7	44.0	-	-	-
	72	108.2	6.2	71.7	63.8	55.8	47.9	-	-	102.5	7.0	69.8	61.6	53.4	45.3	-	-
2250	67	99.9	6.1	82.8	74.2	65.6	57.1	40.8	-	94.4	6.8	77.5	71.6	62.9	54.2	38.2	-
	62	92.9	5.9	84.2	84.2	74.7	65.1	53.4	46.0	87.7	6.6	80.0	79.9	70.3	60.6	50.7	41.4
	57	85.9	5.7	85.6	85.6	83.7	73.2	66.0	47.4	81.0	6.5	80.8	80.8	77.7	67.1	63.1	42.3
	77	119.0	6.5	64.1	56.3	48.5	-	-	-	112.9	7.3	66.8	55.5	46.0	-	-	-
	72	110.7	6.3	76.0	67.5	59.0	50.5	-	-	104.7	7.1	74.0	64.9	56.1	47.4	-	-
2625	67	102.3	6.1	88.0	78.8	69.6	60.4	41.2	-	96.4	6.9	81.3	74.4	66.3	56.2	38.4	-
	62	96.7	6.0	89.7	89.4	79.2	68.9	56.1	48.4	90.0	6.7	83.2	82.3	73.3	63.0	53.3	40.7
	57	91.0	5.8	90.8	90.8	88.7	77.4	70.9	49.7	84.1	6.6	83.9	83.2	80.4	69.7	65.6	41.6
	77	121.6	6.6	67.5	59.2	50.9	-	-	-	115.2	7.3	71.5	59.2	48.1	-	-	-
	72	113.2	6.4	80.4	71.3	62.2	53.2	-	-	106.8	7.1	78.1	68.2	58.9	49.5	-	-
3000	67	104.7	6.2	93.2	83.4	73.6	63.7	41.6	-	98.4	6.9	85.0	77.2	69.6	58.3	38.7	-
	62	100.4	6.1	95.2	94.6	83.7	72.7	58.7	50.7	92.2	6.8	86.4	84.6	76.4	65.3	56.0	40.1
	57	96.2	6.0	96.0	96.0	93.8	81.6	75.8	52.1	87.2	6.8	87.1	85.5	83.1	72.3	68.1	41.0
	72	115.6	6.4	84.7	75.1	65.4	55.8	-	-	109.0	7.2	80.2	71.5	61.6	51.6	-	-
	67	107.2	6.3	98.4	87.9	77.5	67.1	42.0	-	100.5	7.0	87.9	80.0	73.0	60.4	38.9	-
3375	62	104.2	6.2	100.6	99.9	88.2	76.5	61.4	53.1	94.5	6.9	89.6	87.0	79.4	67.6	58.6	39.5
	57	101.3	6.1	101.3	101.3	96.2	85.9	80.7	54.4	90.3	6.9	90.3	87.9	84.4	74.8	70.7	40.4
	72	118.1	6.5	89.0	78.8	68.7	58.5	-	-	111.2	7.2	82.3	74.8	64.3	53.7	-	-
	67	109.6	6.3	103.6	92.5	81.5	70.4	42.4	-	102.5	7.0	90.9	82.9	76.4	62.5	39.1	-
3750	62	108.0	6.3	106.1	105.1	92.7	80.3	64.0	55.5	96.8	7.0	92.8	89.3	82.4	69.9	61.3	38.9
	57	106.4	6.2	106.4	106.4	103.9	90.1	85.6	56.7	93.4	7.0	93.4	90.2	88.5	77.4	73.2	39.8
		95°F								105°F							
	77	104.7	8.1	63.6	50.1	42.1	-	-	-	98.0	9.0	59.9	47.6	39.5	-	-	-
	72	96.8	7.8	67.9	59.5	51.1	42.7	-	-	90.1	8.7	65.2	56.7	48.3	39.8	-	-
2250	67	88.8	7.5	72.2	68.9	60.1	51.3	35.6	-	82.1	8.4	70.4	65.8	57.1	48.3	32.6	-
	62	82.4	7.4	75.8	75.6	65.9	56.1	47.9	36.7	77.6	8.4	72.9	72.8	63.5	54.2	45.1	35.5
	57	76.0	7.3	76.0	76.0	71.7	61.0	60.2	37.1	73.2	8.3	73.2	73.2	69.9	60.1	57.5	35.9
	77	106.8	8.1	69.5	54.7	43.6	-	-	-	98.5	9.0	64.4	51.9	40.5	-	-	-
	72	98.6	7.8	71.9	62.3	53.3	44.2	-	-	91.6	8.8	67.9	59.2	50.0	40.8	-	-
2625	67	90.5	7.6	74.5	70.0	62.9	52.1	35.6	-	83.7	8.5	71.5	66.5	59.6	49.2	32.3	-
	62	83.2	7.5	76.7	75.1	67.5	57.0	50.6	33.1	78.1	8.4	73.2	71.9	64.6	54.5	45.5	31.2
	57	77.1	7.4	77.1	75.5	72.0	61.9	60.3	33.5	73.7	8.4	73.7	72.3	69.6	59.9	55.2	31.6
	77	108.9	8.1	75.4	59.2	45.2	-	-	-	98.9	8.9	68.9	56.3	41.4	-	-	-
	72	100.5	7.9	75.9	65.1	55.5	45.8	-	-	93.2	8.8	70.7	61.7	51.7	41.8	-	-
3000	67	92.1	7.6	76.8	71.0	65.7	52.9	35.7	-	85.2	8.6	72.7	67.2	62.1	50.0	32.0	-
	62	84.0	7.6	77.6	74.6	69.0	57.9	53.2	29.5	78.5	8.5	73.5	71.0	65.7	54.9	45.8	26.9
	57	78.2	7.5	78.2	75.0	72.3	62.9	60.4	29.9	74.2	8.4	74.2	71.4	69.3	59.7	52.9	27.3
	72	102.4	7.9	75.8	68.0	57.7	47.4	-	-	94.8	8.9	70.7	64.3	53.5	42.7	-	-
	67	93.8	7.7	77.5	72.1	68.6	53.7	35.8	-	86.7	8.6	72.8	67.9	64.6	50.9	31.6	-
3375	62	84.8	7.7	78.5	74.1	70.6	58.7	55.9	25.9	79.0	8.5	73.8	70.0	66.8	55.2	46.2	22.5
	57	79.3	7.7	79.3	74.6	72.7	63.8	60.6	26.4	74.7	8.5	74.7	70.6	69.0	59.6	50.6	23.1
	72	104.2	8.0	75.6	70.8	59.9	48.9	-	-	96.3	8.9	70.7	66.8	55.2	43.7	-	-
	67	95.4	7.8	78.2	73.2	71.4	54.5	35.9	-	88.2	8.7	72.9	68.6	67.1	51.8	31.3	-
3750	62	85.6	7.8	79.4	73.6	72.2	59.6	58.6	22.3	79.4	8.6	74.1	69.1	67.9	55.6	46.5	18.2
	57	80.4	7.8	80.4	74.1	73.0	64.7	60.7	22.8	75.2	8.5	75.2	69.7	68.7	59.4	48.2	18.8

ZZ08 (7.5 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								125°F							
2250	77	91.3	10.0	56.3	45.1	36.9	-	-	-	84.6	11.0	52.6	42.6	34.3	-	-	-
	72	83.4	9.7	62.4	53.9	45.5	37.0	-	-	76.6	10.7	59.6	51.1	42.7	34.2	-	-
	67	75.4	9.4	68.5	62.7	54.0	45.3	29.7	-	68.7	10.3	66.7	59.7	51.0	42.3	26.8	-
	62	72.9	9.3	70.1	70.0	61.1	52.2	42.3	34.4	68.1	10.3	67.2	67.2	58.7	50.2	39.5	33.2
	57	70.3	9.3	70.3	70.3	68.2	59.1	54.9	34.7	67.5	10.3	67.5	67.5	66.4	58.1	52.3	33.5
2625	77	90.1	9.9	59.4	49.2	37.3	-	-	-	81.8	10.7	54.3	46.5	34.1	-	-	-
	72	84.6	9.7	63.9	56.1	46.7	37.4	-	-	77.6	10.7	59.9	53.0	43.5	33.9	-	-
	67	76.8	9.4	68.6	63.0	56.2	46.2	29.0	-	70.0	10.4	65.6	59.6	52.8	43.3	25.7	-
	62	73.0	9.4	69.7	68.7	61.7	52.0	40.4	29.3	67.9	10.3	66.3	65.4	58.8	49.6	35.3	27.4
	57	70.2	9.3	70.2	69.1	67.2	57.9	50.1	29.7	66.8	10.2	66.8	65.8	64.8	55.8	45.0	27.8
3000	77	89.0	9.7	62.5	53.3	37.7	-	-	-	79.0	10.5	56.0	50.4	33.9	-	-	-
	72	85.9	9.8	65.4	58.3	48.0	37.7	-	-	78.6	10.7	60.2	54.9	44.3	33.7	-	-
	67	78.2	9.5	68.6	63.3	58.4	47.2	28.2	-	71.3	10.4	64.5	59.5	54.7	44.3	24.5	-
	62	73.1	9.4	69.4	67.3	62.3	51.9	38.4	24.2	67.6	10.3	65.3	63.7	59.0	48.9	31.0	21.6
	57	70.1	9.3	70.1	67.8	66.3	56.6	45.3	24.7	66.1	10.1	66.1	64.2	63.2	53.5	37.8	22.1
3375	72	87.2	9.8	65.6	60.5	49.3	38.1	-	-	79.6	10.7	60.5	56.8	45.1	33.5	-	-
	67	79.6	9.5	68.1	63.6	60.6	48.1	27.5	-	72.5	10.5	63.3	59.4	56.5	45.3	23.4	-
	62	73.2	9.4	69.1	66.0	62.9	51.7	36.5	19.1	67.3	10.3	64.4	61.9	59.1	48.3	26.7	15.8
	57	70.0	9.3	70.0	66.6	65.3	55.4	40.5	19.7	65.4	10.1	65.4	62.5	61.6	51.2	30.5	16.4
3750	72	88.4	9.8	65.7	62.7	50.6	38.5	-	-	80.5	10.7	60.8	58.7	46.0	33.2	-	-
	67	81.0	9.6	67.5	63.9	62.7	49.0	26.8	-	73.8	10.5	62.2	59.3	58.4	46.3	22.2	-
	62	73.3	9.4	68.7	64.6	63.5	51.6	34.5	14.1	67.1	10.3	63.4	60.1	59.2	47.6	22.5	9.9
	57	69.9	9.3	69.9	65.3	64.3	54.2	35.7	14.8	64.7	10.0	64.7	60.9	60.0	48.9	23.3	10.7

1. These capacities are gross ratings. For net capacity, deduct the supply air blower motor heat (MBh = 3.415 x kW). Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZZ09 (8.5 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		75°F								85°F							
2125	77	126.8	6.3	67.0	53.9	40.8	-	-	-	121.9	7.0	65.6	53.5	41.3	-	-	-
	72	118.4	6.2	80.7	68.2	55.7	43.3	-	-	113.1	6.9	78.8	66.5	54.3	42.0	-	-
	67	109.9	6.1	94.4	82.5	70.7	56.6	44.6	-	104.2	6.8	91.9	79.6	67.3	54.3	42.4	-
	62	104.0	6.0	103.0	94.3	85.6	67.8	58.4	44.7	97.7	6.7	97.3	88.7	80.2	65.6	55.0	42.4
2550	77	126.8	6.4	71.8	56.6	41.4	-	-	-	121.5	7.1	70.8	55.9	41.1	-	-	-
	72	119.2	6.2	85.4	71.5	57.6	43.7	-	-	113.9	7.0	83.5	69.8	56.1	42.4	-	-
	67	111.7	6.1	98.9	86.4	73.8	58.6	45.2	-	106.4	6.9	96.3	83.7	71.2	56.8	43.3	-
	62	106.9	6.0	106.1	98.0	90.0	72.0	60.6	45.9	101.1	6.8	100.7	93.5	86.2	70.4	57.9	43.7
	57	106.2	5.9	106.2	106.2	106.2	91.1	76.0	60.9	100.8	6.7	100.8	100.8	100.8	86.9	72.4	58.0
2975	77	126.7	6.4	76.6	59.3	42.0	-	-	-	121.1	7.1	75.9	58.4	40.8	-	-	-
	72	120.1	6.3	90.0	74.7	59.4	44.1	-	-	114.8	7.0	88.3	73.1	58.0	42.8	-	-
	67	113.4	6.2	103.5	90.2	76.9	60.7	45.9	-	108.5	6.9	100.6	87.9	75.1	59.3	44.2	-
	62	109.8	6.1	109.2	101.8	94.4	76.1	62.9	47.1	104.6	6.8	104.2	98.2	92.3	75.2	60.7	44.9
	57	109.3	6.0	109.3	109.3	109.3	95.9	79.9	63.9	104.3	6.8	104.3	104.3	104.3	93.3	77.2	61.1
3400	77	126.7	6.5	81.3	61.9	42.5	-	-	-	120.6	7.2	81.1	60.8	40.6	-	-	-
	72	120.9	6.3	94.7	78.0	61.3	44.6	-	-	115.6	7.1	93.0	76.4	59.8	43.2	-	-
	67	115.1	6.2	108.0	94.0	80.0	62.8	46.5	-	110.6	7.0	104.9	92.0	79.0	61.8	45.0	-
	62	112.7	6.2	112.3	105.5	98.7	80.3	65.1	48.4	108.0	6.9	107.6	102.9	98.3	80.1	63.5	46.2
	57	112.3	6.1	112.3	112.3	112.3	100.6	83.8	66.9	107.8	6.9	107.8	107.8	107.8	99.8	82.0	64.3
3825	72	121.7	6.4	99.3	81.2	63.1	45.0	-	-	116.5	7.1	97.8	79.7	61.6	43.6	-	-
	67	116.8	6.2	112.5	97.8	83.1	64.9	47.2	-	112.8	7.0	109.3	96.1	83.0	64.3	45.9	-
	62	115.6	6.2	115.4	109.2	103.1	84.4	67.4	49.6	111.4	7.0	111.1	107.7	104.3	84.9	66.4	47.4
	57	115.4	6.2	115.4	115.4	115.4	105.4	87.6	69.9	111.3	7.0	111.3	111.3	111.3	106.2	86.8	67.4
4250	72	122.6	6.4	104.0	84.5	65.0	45.5	-	-	117.4	7.2	102.5	83.0	63.5	43.9	-	-
	67	118.5	6.3	117.0	101.6	86.2	67.0	47.8	-	114.9	7.1	113.6	100.3	86.9	66.8	46.8	-
	62	118.5	6.3	118.5	113.0	107.5	88.6	69.7	50.8	114.8	7.1	114.5	112.4	110.3	89.7	69.2	48.6
	57	118.5	6.3	118.5	118.5	118.5	110.1	91.5	72.9	114.8	7.1	114.8	114.8	114.8	112.7	91.6	70.5
		95°F								105°F							
2125	77	117.0	7.7	64.2	53.0	41.8	-	-	-	108.3	8.8	63.8	51.9	39.9	-	-	-
	72	107.8	7.7	76.8	64.8	52.8	40.8	-	-	100.1	8.7	74.7	62.6	50.5	38.3	-	-
	67	98.5	7.6	89.4	76.6	63.8	52.0	40.3	-	92.0	8.6	85.6	73.3	61.0	49.2	37.3	-
	62	91.4	7.5	91.4	83.2	74.8	63.3	51.7	40.2	87.1	8.5	87.1	79.4	71.5	60.0	48.5	36.9
2550	77	116.2	7.8	69.8	55.3	40.7	-	-	-	109.4	8.8	68.6	53.4	38.2	-	-	-
	72	108.6	7.7	81.7	68.2	54.7	41.1	-	-	102.1	8.7	78.9	65.4	51.9	38.4	-	-
	67	101.1	7.6	93.6	81.1	68.6	55.0	41.4	-	94.8	8.6	89.1	77.4	65.6	52.0	38.3	-
	62	95.4	7.5	95.4	88.9	82.5	68.8	55.1	41.4	90.9	8.5	90.6	85.0	79.4	65.6	51.7	37.9
	57	95.4	7.4	95.4	95.4	95.4	82.6	68.9	55.1	90.8	8.5	90.8	90.8	90.8	79.1	65.1	51.1
2975	77	115.4	7.8	75.3	57.5	39.6	-	-	-	110.6	8.8	73.4	54.9	36.4	-	-	-
	72	109.5	7.7	86.6	71.5	56.5	41.5	-	-	104.1	8.8	83.1	68.2	53.3	38.5	-	-
	67	103.6	7.7	97.8	85.5	73.3	57.9	42.5	-	97.6	8.7	92.7	81.5	70.3	54.8	39.3	-
	62	99.3	7.6	99.2	94.7	90.2	74.3	58.5	42.7	94.5	8.6	93.9	90.6	87.2	71.1	55.0	38.9
	57	99.3	7.5	99.3	99.3	99.3	90.8	74.6	58.4	94.3	8.6	94.3	94.3	94.3	87.5	70.7	54.0
3400	77	114.6	7.9	80.9	59.7	38.6	-	-	-	111.7	8.9	78.2	56.4	34.6	-	-	-
	72	110.4	7.8	91.4	74.9	58.3	41.8	-	-	106.1	8.8	87.2	71.0	54.8	38.6	-	-
	67	106.2	7.7	101.9	90.0	78.1	60.8	43.6	-	100.4	8.7	96.3	85.6	74.9	57.6	40.3	-
	62	103.3	7.7	103.0	100.4	97.8	79.9	61.9	44.0	98.1	8.7	97.2	96.2	95.1	76.7	58.3	39.9
	57	103.2	7.6	103.2	103.2	103.2	98.9	80.3	61.6	97.7	8.7	97.7	97.7	97.7	95.8	76.3	56.8
3825	72	111.2	7.8	96.3	78.2	60.1	42.1	-	-	108.0	8.8	91.4	73.8	56.2	38.6	-	-
	67	108.7	7.8	106.1	94.5	82.8	63.7	44.7	-	103.3	8.8	99.8	89.7	79.6	60.5	41.3	-
	62	107.2	7.7	106.7	106.1	105.5	85.4	65.3	45.2	101.7	8.8	100.5	100.5	100.5	82.3	61.6	40.9
	57	107.2	7.7	107.2	107.2	107.2	107.1	86.0	64.8	101.2	8.8	101.2	101.2	101.2	101.2	81.8	59.6
4250	72	112.1	7.9	101.1	81.6	62.0	42.4	-	-	110.0	8.9	95.6	76.6	57.7	38.7	-	-
	67	111.3	7.8	110.2	98.9	87.6	66.7	45.8	-	106.1	8.9	103.4	93.8	84.2	63.3	42.3	-
	62	111.2	7.8	110.5	110.5	110.5	90.9	68.7	46.5	105.4	8.9	103.8	103.8	103.8	87.8	64.9	41.9
	57	111.1	7.8	110.8	110.8	110.8	110.8	91.6	68.1	104.6	8.9	104.3	104.3	104.3	104.3	87.4	62.4

ZZ09 (8.5 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		115°F								125°F							
2125	77	99.6	9.8	63.4	50.7	38.0	-	-	-	91.0	10.8	63.0	49.6	36.1	-	-	-
	72	92.5	9.6	72.5	60.3	48.1	35.9	-	-	84.9	10.6	70.4	58.1	45.7	33.4	-	-
	67	85.4	9.5	81.7	69.9	58.2	46.3	34.4	-	78.9	10.5	77.8	66.6	55.3	43.4	31.5	-
	62	82.9	9.5	82.9	75.6	68.2	56.7	45.2	33.7	78.6	10.5	78.6	71.9	65.0	53.4	41.9	30.4
2550	77	102.7	9.8	67.4	51.5	35.6	-	-	-	95.9	10.8	66.3	49.6	33.0	-	-	-
	72	95.6	9.7	76.1	62.6	49.2	35.7	-	-	89.1	10.7	73.2	59.8	46.4	33.0	-	-
	67	88.5	9.6	84.7	73.7	62.7	49.0	35.3	-	82.2	10.6	80.2	70.0	59.8	46.0	32.3	-
	62	86.5	9.6	85.9	81.1	76.3	62.3	48.3	34.4	82.0	10.6	81.1	77.2	73.2	59.1	45.0	30.8
	57	86.3	9.5	86.3	86.3	86.3	75.6	61.4	47.2	81.8	10.6	81.8	81.8	81.8	72.1	57.7	43.2
2975	77	105.7	9.8	71.5	52.3	33.1	-	-	-	100.9	10.9	69.6	49.7	29.9	-	-	-
	72	98.7	9.8	79.6	64.9	50.2	35.5	-	-	93.3	10.8	76.1	61.6	47.1	32.6	-	-
	67	91.6	9.7	87.6	77.5	67.3	51.7	36.2	-	85.6	10.7	82.6	73.4	64.3	48.6	33.0	-
	62	89.7	9.7	88.7	86.5	84.3	67.9	51.5	35.1	84.9	10.7	83.5	82.4	81.4	64.7	48.0	31.3
	57	89.2	9.7	89.2	89.2	89.2	84.1	66.8	49.6	84.2	10.7	84.2	84.2	84.2	80.8	63.0	45.2
3400	77	108.8	9.9	75.5	53.1	30.7	-	-	-	105.9	10.9	72.8	49.8	26.8	-	-	-
	72	101.8	9.8	83.1	67.2	51.3	35.4	-	-	97.4	10.8	78.9	63.3	47.7	32.2	-	-
	67	94.7	9.8	90.6	81.2	71.8	54.4	37.1	-	89.0	10.8	84.9	76.8	68.7	51.3	33.8	-
	62	93.0	9.8	91.5	91.5	91.5	73.5	54.7	35.8	87.8	10.8	85.8	85.8	85.8	70.4	51.1	31.7
	57	92.2	9.8	92.2	92.2	92.2	92.2	72.3	52.0	86.7	10.8	86.6	86.6	86.6	86.6	68.3	47.1
3825	72	104.8	9.9	86.6	69.4	52.3	35.2	-	-	101.6	10.9	81.7	65.1	48.4	31.7	-	-
	67	97.8	9.8	93.6	85.0	76.4	57.2	37.9	-	92.4	10.9	87.3	80.2	73.2	53.9	34.6	-
	62	96.2	9.9	94.3	94.3	94.3	79.1	57.8	36.5	90.8	10.9	88.1	88.1	88.1	76.0	54.1	32.2
	57	95.1	9.9	95.1	95.1	95.1	95.1	77.7	54.3	89.1	11.0	89.0	89.0	89.0	89.0	73.6	49.1
4250	72	107.9	9.9	90.1	71.7	53.4	35.0	-	-	105.8	10.9	84.6	66.8	49.1	31.3	-	-
	67	100.9	9.9	96.5	88.7	80.9	59.9	38.8	-	95.8	11.0	89.7	83.7	77.6	56.5	35.4	-
	62	99.5	10.0	97.2	97.2	97.2	84.7	61.0	37.3	93.7	11.0	90.5	90.5	90.5	81.6	57.2	32.7
	57	98.1	10.0	97.8	97.8	97.8	97.8	83.2	56.7	91.6	11.1	91.3	91.3	91.3	91.3	78.9	51.1

1. These capacities are gross ratings. For net capacity, deduct the supply air blower motor heat (MBh = 3.415 x kW). Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZZ12 (10 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		75°F								85°F							
2500	77	154.9	7.6	76.9	65.4	53.8	-	-	-	145.4	8.9	73.5	62.1	50.6	-	-	-
	72	142.2	7.3	94.0	80.5	67.0	53.5	-	-	133.7	8.5	90.5	77.2	63.8	50.4	-	-
	67	129.5	7.1	111.0	95.5	80.1	66.6	53.2	-	122.1	8.1	107.5	92.2	76.9	63.5	50.1	-
	62	124.9	7.0	120.5	106.9	93.3	76.9	66.5	53.1	118.2	8.0	115.9	103.0	90.1	75.2	63.2	49.8
3000	77	156.2	7.6	84.5	68.6	52.7	-	-	-	149.4	8.5	82.5	66.3	50.2	-	-	-
	72	145.1	7.4	101.3	85.4	69.5	53.6	-	-	138.4	8.3	98.6	82.6	66.7	50.8	-	-
	67	134.1	7.2	118.1	102.2	86.3	70.1	54.1	-	127.4	8.2	114.6	98.9	83.2	67.1	51.1	-
	62	130.3	7.1	126.1	114.6	103.0	84.5	70.6	54.3	124.1	8.1	121.5	110.7	99.8	82.4	67.3	51.0
	57	126.6	7.1	126.6	126.6	119.8	103.4	87.0	70.6	121.8	8.0	121.8	121.8	116.3	99.9	83.5	67.1
3500	77	157.6	7.6	92.1	71.9	51.6	-	-	-	153.3	8.1	91.6	70.6	49.7	-	-	-
	72	148.1	7.5	108.7	90.3	72.0	53.7	-	-	143.0	8.2	106.6	88.1	69.6	51.1	-	-
	67	138.6	7.3	125.2	108.8	92.4	73.7	55.0	-	132.7	8.2	121.6	105.6	89.5	70.7	52.0	-
	62	135.8	7.2	131.8	122.3	112.8	92.0	74.7	55.6	130.0	8.1	127.2	118.3	109.5	89.5	71.4	52.3
	57	132.9	7.2	132.9	132.9	129.6	113.8	94.3	74.8	128.0	8.1	128.0	128.0	127.5	110.1	90.7	71.4
4000	77	158.9	7.7	99.7	75.1	50.5	-	-	-	157.2	7.7	100.6	74.9	49.2	-	-	-
	72	151.0	7.5	116.0	95.3	74.5	53.8	-	-	147.7	8.0	114.6	93.6	72.5	51.4	-	-
	67	143.2	7.4	132.4	115.5	98.6	77.2	55.9	-	138.1	8.3	128.7	112.2	95.8	74.3	52.9	-
	62	141.2	7.3	137.5	130.1	122.6	99.5	78.8	56.8	135.9	8.2	132.9	126.0	119.1	96.7	75.4	53.5
	57	139.3	7.3	139.3	139.3	139.3	124.1	101.6	79.1	134.2	8.2	134.2	134.2	134.2	120.2	97.9	75.7
4500	72	154.0	7.6	123.4	100.2	77.1	53.9	-	-	152.3	7.8	122.7	99.1	75.4	51.8	-	-
	67	147.7	7.4	139.5	122.1	104.7	80.8	56.8	-	143.4	8.3	135.7	118.9	102.1	77.9	53.8	-
	62	146.7	7.4	143.1	137.8	132.4	107.1	82.9	58.1	141.8	8.3	138.5	133.7	128.8	103.8	79.5	54.8
	57	145.7	7.4	145.1	145.1	145.1	134.5	108.9	83.3	140.4	8.3	140.4	140.4	140.4	130.3	105.1	79.9
5000	72	156.9	7.6	130.7	105.2	79.6	54.0	-	-	156.9	7.6	130.7	104.5	78.3	52.1	-	-
	67	152.3	7.5	146.7	128.8	110.9	84.3	57.7	-	148.7	8.4	142.8	125.6	108.4	81.6	54.7	-
	62	152.2	7.5	148.8	145.5	142.2	114.6	86.9	59.3	147.7	8.4	144.2	141.3	138.5	111.0	83.5	56.0
	57	152.0	7.5	150.9	150.9	150.9	144.9	116.2	87.5	146.6	8.5	145.6	145.6	145.6	140.4	112.3	84.2
		95°F								105°F							
2500	77	135.9	10.3	70.0	58.7	47.4	-	-	-	125.3	11.2	67.5	55.9	44.3	-	-	-
	72	125.3	9.7	87.1	73.8	60.6	47.3	-	-	117.4	10.7	84.0	70.6	57.1	43.7	-	-
	67	114.6	9.0	104.1	89.0	73.8	60.4	47.1	-	109.6	10.3	100.5	85.2	70.0	56.5	43.1	-
	62	111.5	8.9	111.3	99.1	87.0	73.5	60.0	46.5	106.6	10.1	105.3	94.1	82.8	69.4	56.0	42.5
3000	77	142.5	9.4	80.5	64.1	47.6	-	-	-	130.8	10.6	77.8	60.8	43.9	-	-	-
	72	131.6	9.3	95.8	79.8	63.9	47.9	-	-	122.7	10.5	92.0	76.1	60.1	44.1	-	-
	67	120.7	9.1	111.1	95.6	80.2	64.1	48.0	-	114.7	10.3	106.3	91.3	76.3	60.2	44.0	-
	62	117.9	9.0	116.9	106.7	96.5	80.3	64.0	47.8	112.0	10.2	110.3	101.4	92.6	76.2	59.9	43.6
	57	117.0	8.8	117.0	117.0	112.8	96.4	80.1	63.7	110.6	10.1	110.6	110.6	108.8	92.3	75.8	59.3
3500	77	149.0	8.5	91.1	69.4	47.7	-	-	-	136.3	10.0	88.0	65.7	43.5	-	-	-
	72	137.9	8.9	104.5	85.9	67.2	48.5	-	-	128.0	10.2	100.1	81.6	63.1	44.6	-	-
	67	126.9	9.2	118.0	102.3	86.6	67.8	48.9	-	119.8	10.4	112.1	97.4	82.7	63.8	45.0	-
	62	124.2	9.1	122.6	114.3	106.1	87.1	68.0	49.0	117.3	10.3	115.3	108.8	102.3	83.1	63.9	44.6
	57	123.1	9.0	123.1	123.1	123.1	106.3	87.1	68.0	115.9	10.2	115.9	115.9	115.9	102.3	82.7	63.1
4000	77	155.6	7.7	101.6	74.7	47.9	-	-	-	141.8	9.4	98.2	70.7	43.1	-	-	-
	72	144.3	8.4	113.3	91.9	70.5	49.1	-	-	133.3	10.0	108.1	87.1	66.1	45.1	-	-
	67	133.0	9.2	125.0	109.0	93.0	71.5	49.9	-	124.9	10.5	118.0	103.5	89.1	67.5	45.9	-
	62	130.5	9.2	128.3	121.9	115.6	93.8	72.1	50.3	122.7	10.4	120.2	116.1	112.0	89.9	67.8	45.7
	57	129.1	9.1	129.1	129.1	129.1	116.2	94.2	72.3	121.2	10.4	121.2	121.2	121.2	112.4	89.7	67.0
4500	72	150.6	8.0	122.0	97.9	73.8	49.7	-	-	138.6	9.7	116.1	92.6	69.1	45.5	-	-
	67	139.1	9.3	131.9	115.7	99.5	75.1	50.8	-	130.0	10.5	123.8	109.6	95.4	71.1	46.9	-
	62	136.9	9.2	133.9	129.6	125.2	100.6	76.1	51.5	128.1	10.5	125.2	123.5	121.8	96.8	71.7	46.7
	57	135.2	9.2	135.2	135.2	135.2	126.1	101.3	76.6	126.5	10.5	126.5	126.5	126.5	122.4	96.6	70.9
5000	72	156.9	7.6	130.7	103.9	77.1	50.2	-	-	143.9	9.5	124.2	98.1	72.0	46.0	-	-
	67	145.2	9.3	138.9	122.4	105.9	78.8	51.7	-	135.1	10.6	129.6	115.7	101.8	74.8	47.8	-
	62	143.2	9.3	139.6	137.2	134.7	107.4	80.1	52.8	133.4	10.6	130.2	130.2	130.2	103.6	75.7	47.8
	57	141.2	9.4	140.3	140.3	140.3	136.0	108.4	80.9	131.8	10.6	130.8	130.8	130.8	130.8	103.6	74.7

ZZ12 (10 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								125°F							
2500	77	114.7	12.0	65.0	53.1	41.1	-	-	-	104.1	12.9	62.6	50.3	38.0	-	-	-
	72	109.6	11.8	80.9	67.3	53.6	40.0	-	-	101.8	12.8	77.9	64.0	50.2	36.3	-	-
	67	104.5	11.5	96.8	81.5	66.2	52.7	39.1	-	99.4	12.7	93.2	77.8	62.4	48.8	35.2	-
	62	101.7	11.3	99.3	89.0	78.7	65.3	51.9	38.5	96.7	12.6	93.3	84.0	74.6	61.2	47.9	34.5
3000	77	119.1	11.8	75.0	57.6	40.2	-	-	-	107.4	12.9	72.2	54.3	36.5	-	-	-
	72	113.8	11.7	88.3	72.3	56.3	40.3	-	-	105.0	12.9	84.5	68.5	52.5	36.6	-	-
	67	108.6	11.5	101.5	87.0	72.5	56.3	40.1	-	102.5	12.8	96.8	82.7	68.6	52.4	36.1	-
	62	106.1	11.4	103.6	96.1	88.6	72.2	55.8	39.4	100.2	12.7	97.0	90.8	84.7	68.2	51.7	35.2
	57	104.2	11.3	104.2	104.2	104.2	88.2	71.5	54.9	97.8	12.6	97.2	97.2	97.2	84.0	67.2	50.5
3500	77	123.5	11.5	85.0	62.1	39.2	-	-	-	110.8	13.0	81.9	58.4	35.0	-	-	-
	72	118.1	11.6	95.6	77.3	59.0	40.7	-	-	108.2	12.9	91.1	73.0	54.9	36.8	-	-
	67	112.7	11.6	106.2	92.5	78.8	59.9	41.0	-	105.6	12.9	100.3	87.6	74.8	56.0	37.1	-
	62	110.5	11.6	107.9	103.2	98.6	79.1	59.7	40.2	103.6	12.8	100.6	97.7	94.8	75.1	55.5	35.8
	57	108.8	11.5	108.8	108.8	108.8	98.3	78.3	58.3	101.6	12.8	100.8	100.8	100.8	94.3	73.9	53.5
4000	77	127.9	11.2	94.9	66.6	38.3	-	-	-	114.1	13.0	91.6	62.5	33.5	-	-	-
	72	122.3	11.5	102.9	82.3	61.7	41.0	-	-	111.4	13.0	97.7	77.5	57.3	37.0	-	-
	67	116.8	11.7	110.9	98.0	85.1	63.5	42.0	-	108.7	12.9	103.9	92.5	81.1	59.6	38.0	-
	62	114.9	11.7	112.2	110.3	108.5	86.0	63.5	41.1	107.0	12.9	104.2	104.2	104.2	82.1	59.3	36.5
	57	113.3	11.6	113.3	113.3	113.3	108.5	85.1	61.7	105.4	12.9	104.4	104.4	104.4	104.4	80.5	56.4
4500	72	126.6	11.4	110.2	87.3	64.4	41.4	-	-	114.6	13.0	104.4	82.0	59.6	37.3	-	-
	67	120.8	11.8	115.6	103.5	91.4	67.1	42.9	-	111.7	13.0	107.5	97.4	87.3	63.2	39.0	-
	62	119.3	11.8	116.5	116.5	116.5	92.9	67.4	41.9	110.5	13.0	107.8	107.8	107.8	89.0	63.1	37.1
	57	117.9	11.8	117.4	117.4	117.4	117.4	91.9	65.1	109.2	13.0	108.1	108.1	108.1	108.1	87.2	59.4
5000	72	130.8	11.3	117.6	92.3	67.0	41.8	-	-	117.8	13.1	111.0	86.5	62.0	37.5	-	-
	67	124.9	11.9	120.3	109.0	97.7	70.8	43.9	-	114.8	13.1	111.1	102.3	93.6	66.7	39.9	-
	62	123.7	11.9	120.8	120.8	120.8	99.8	71.3	42.8	113.9	13.2	111.4	111.4	111.4	96.0	66.9	37.8
	57	122.4	11.9	121.3	121.3	121.3	121.3	98.7	68.6	113.0	13.2	111.7	111.7	111.7	111.7	93.8	62.4

1. These capacities are gross ratings. For net capacity, deduct the supply air blower motor heat (MBh = 3.415 x kW). Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZZ14 (12.5 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		75°F								85°F							
3200	77	185.1	8.9	93.2	78.5	63.9	-	-	-	176.3	9.8	92.7	76.8	60.9	-	-	-
	72	169.2	8.8	114.0	97.2	80.3	63.4	-	-	161.1	9.7	111.3	94.2	77.0	59.9	-	-
	67	153.2	8.6	134.9	115.8	96.7	79.2	63.2	-	145.8	9.7	129.9	111.5	93.1	76.0	59.6	-
	62	142.2	8.6	137.1	125.1	113.1	89.8	79.8	63.1	140.0	9.6	135.4	122.3	109.2	89.5	76.5	60.1
3750	77	185.7	9.0	103.6	82.7	61.8	-	-	-	176.6	9.9	103.1	81.0	59.0	-	-	-
	72	171.6	8.8	122.7	102.8	82.8	62.8	-	-	163.4	9.8	119.9	99.7	79.6	59.4	-	-
	67	157.6	8.7	141.8	122.8	103.7	83.0	63.4	-	150.3	9.7	136.7	118.4	100.2	79.7	59.9	-
	62	148.7	8.6	144.0	134.3	124.7	99.0	83.9	63.6	145.6	9.7	141.3	131.0	120.8	97.9	80.5	60.3
	57	147.6	8.6	146.2	145.9	145.6	125.0	104.5	83.9	144.7	9.6	144.7	143.7	141.4	121.2	101.0	80.9
4300	77	186.3	9.0	114.1	86.9	59.8	-	-	-	176.9	9.9	113.5	85.3	57.0	-	-	-
	72	174.1	8.9	131.4	108.3	85.3	62.2	-	-	165.8	9.8	128.5	105.3	82.1	59.0	-	-
	67	161.9	8.7	148.7	129.7	110.7	86.8	63.6	-	154.8	9.8	143.4	125.3	107.3	83.5	60.1	-
	62	155.2	8.7	150.9	143.5	136.2	108.1	88.1	64.0	151.2	9.7	147.2	139.8	132.4	106.4	84.4	60.4
	57	154.3	8.7	153.0	153.0	153.0	137.1	112.5	88.0	150.5	9.7	150.5	150.5	150.5	133.1	108.8	84.4
4900	77	186.9	9.1	124.5	91.2	57.8	-	-	-	177.2	10.0	124.0	89.5	55.0	-	-	-
	72	176.6	8.9	140.1	113.9	87.8	61.6	-	-	168.2	9.9	137.1	110.9	84.7	58.5	-	-
	67	166.3	8.8	155.7	136.7	117.7	90.5	63.9	-	159.2	9.8	150.2	132.3	114.3	87.2	60.3	-
	62	161.7	8.8	157.7	152.7	147.7	117.3	92.2	64.5	156.8	9.8	153.1	148.5	144.0	114.9	88.4	60.6
	57	161.0	8.7	159.8	159.8	159.8	149.1	120.6	92.1	156.2	9.8	155.9	155.9	155.9	145.0	116.5	87.9
5400	72	179.1	9.0	148.7	119.5	90.3	61.0	-	-	170.6	9.9	145.7	116.5	87.2	58.0	-	-
	67	170.6	8.8	162.6	143.7	124.7	94.3	64.1	-	163.7	9.8	157.0	139.2	121.4	90.9	60.6	-
	62	168.2	8.8	164.6	161.9	159.2	126.5	96.4	64.9	162.3	9.8	158.9	157.3	155.6	123.3	92.4	60.8
	57	167.7	8.8	166.5	166.5	166.5	161.2	128.7	96.1	161.9	9.8	160.9	160.9	160.9	157.0	124.2	91.4
6000	72	181.6	9.0	157.4	125.1	92.8	60.4	-	-	173.0	10.0	154.3	122.1	89.8	57.5	-	-
	67	175.0	8.8	169.5	150.6	131.8	98.0	64.3	-	168.2	9.9	163.8	146.2	128.5	94.7	60.8	-
	62	174.7	8.9	171.4	171.1	170.8	135.6	100.5	65.4	167.9	9.9	164.8	164.8	164.8	131.8	96.3	60.9
	57	174.5	8.9	173.3	173.3	173.3	173.2	136.7	100.2	167.7	9.9	165.9	165.9	165.9	165.9	131.9	94.8
		95°F								105°F							
3200	77	167.5	10.7	92.2	75.1	58.0	-	-	-	153.5	12.0	90.1	72.1	54.1	-	-	-
	72	153.0	10.7	108.5	91.1	73.8	56.4	-	-	141.4	12.1	104.7	87.2	69.6	52.0	-	-
	67	138.4	10.8	124.9	107.2	89.5	72.8	56.1	-	129.4	12.2	119.4	102.2	85.0	68.2	51.4	-
	62	137.8	10.7	133.7	119.4	105.2	89.2	73.2	57.2	128.7	12.1	125.5	113.0	100.5	84.4	68.3	52.2
3750	77	167.5	10.7	102.6	79.4	56.1	-	-	-	154.3	12.1	100.0	75.8	51.6	-	-	-
	72	155.2	10.8	117.1	96.7	76.4	56.0	-	-	144.1	12.2	112.6	92.2	71.8	51.4	-	-
	67	143.0	10.8	131.5	114.1	96.6	76.5	56.3	-	133.9	12.2	125.2	108.6	92.0	71.8	51.6	-
	62	142.4	10.7	138.6	127.7	116.9	96.9	77.0	57.0	133.2	12.2	130.2	121.2	112.2	92.2	72.2	52.1
	57	141.9	10.6	141.9	141.4	137.2	117.4	97.6	77.8	132.6	12.1	132.6	132.6	132.4	112.6	92.8	72.9
4300	77	167.4	10.8	113.0	83.6	54.2	-	-	-	155.1	12.2	109.9	79.4	49.0	-	-	-
	72	157.5	10.8	125.6	102.3	79.0	55.7	-	-	146.8	12.2	120.5	97.2	74.0	50.7	-	-
	67	147.6	10.8	138.2	121.0	103.8	80.2	56.6	-	138.4	12.2	131.0	115.0	98.9	75.3	51.7	-
	62	147.1	10.8	143.5	136.0	128.6	104.7	80.8	56.9	137.8	12.2	134.8	129.3	123.9	99.9	76.0	52.1
	57	146.6	10.7	146.6	146.6	146.6	129.2	105.0	80.7	137.2	12.1	137.2	137.2	137.2	124.6	100.3	76.0
4900	77	167.4	10.9	123.5	87.9	52.3	-	-	-	155.9	12.3	119.8	83.1	46.5	-	-	-
	72	159.8	10.9	134.1	107.9	81.6	55.3	-	-	149.4	12.3	128.3	102.2	76.2	50.1	-	-
	67	152.2	10.8	144.8	127.9	110.9	83.9	56.8	-	143.0	12.3	136.9	121.4	105.9	78.9	51.9	-
	62	151.8	10.8	148.4	144.3	140.3	112.4	84.6	56.7	142.4	12.2	139.4	137.5	135.6	107.7	79.9	52.0
	57	151.4	10.8	151.4	151.4	151.4	141.0	112.3	83.7	141.7	12.2	141.7	141.7	141.7	136.5	107.8	79.1
5400	72	162.1	10.9	142.7	113.4	84.2	55.0	-	-	152.1	12.3	136.2	107.3	78.3	49.4	-	-
	67	156.8	10.9	151.5	134.8	118.1	87.6	57.1	-	147.5	12.3	142.7	127.7	112.8	82.4	52.1	-
	62	156.5	10.9	153.3	152.7	152.0	120.2	88.4	56.6	146.9	12.3	144.1	144.1	144.1	115.5	83.7	51.9
	57	156.1	10.8	155.2	155.2	155.2	152.8	119.7	86.6	146.3	12.2	145.4	145.4	145.4	145.4	115.3	82.1
6000	72	164.3	11.0	151.2	119.0	86.8	54.6	-	-	154.8	12.4	144.1	112.3	80.5	48.8	-	-
	67	161.4	10.9	158.1	141.7	125.2	91.3	57.3	-	152.1	12.3	148.5	134.1	119.7	86.0	52.3	-
	62	161.1	10.9	158.2	158.2	158.2	127.9	92.2	56.4	151.5	12.3	148.7	148.7	148.7	123.2	87.6	51.9
	57	160.9	10.9	158.4	158.4	158.4	158.4	127.0	89.5	150.9	12.3	148.9	148.9	148.9	148.9	122.8	85.2

ZZ14 (12.5 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								125°F							
3200	77	139.5	13.4	88.0	69.1	50.2	-	-	-	125.5	14.8	85.9	66.1	46.2	-	-	-
	72	129.9	13.5	100.9	83.2	65.4	47.6	-	-	118.4	14.9	97.1	79.2	61.2	43.2	-	-
	67	120.3	13.6	113.9	97.2	80.6	63.6	46.6	-	111.3	15.0	108.4	92.3	76.2	59.0	41.9	-
	62	119.6	13.6	117.4	106.6	95.8	79.6	63.4	47.3	110.5	15.0	109.2	100.2	91.1	74.9	58.6	42.3
3750	77	141.1	13.5	97.4	72.2	47.0	-	-	-	128.0	14.9	94.8	68.6	42.4	-	-	-
	72	133.0	13.6	108.1	87.6	67.2	46.7	-	-	121.8	15.0	103.7	83.1	62.6	42.0	-	-
	67	124.8	13.6	118.9	103.1	87.3	67.0	46.8	-	115.7	15.1	112.6	97.6	82.7	62.3	42.0	-
	62	124.0	13.6	121.7	114.6	107.5	87.4	67.3	47.3	114.9	15.0	113.3	108.0	102.8	82.7	62.5	42.4
	57	123.3	13.5	123.3	123.3	123.3	107.8	87.9	68.1	114.0	15.0	114.0	114.0	114.0	103.0	83.1	63.2
4300	77	142.8	13.5	106.8	75.3	43.8	-	-	-	130.4	14.9	103.6	71.1	38.6	-	-	-
	72	136.0	13.6	115.3	92.1	68.9	45.7	-	-	125.3	15.0	110.2	87.1	63.9	40.8	-	-
	67	129.3	13.7	123.9	109.0	94.0	70.5	46.9	-	120.1	15.1	116.8	103.0	89.2	65.6	42.1	-
	62	128.5	13.6	126.1	122.6	119.2	95.2	71.2	47.3	119.2	15.1	117.4	115.9	114.4	90.5	66.5	42.5
	57	127.7	13.6	127.7	127.7	127.7	119.9	95.6	71.3	118.2	15.0	118.0	118.0	118.0	115.3	90.9	66.5
4875	77	144.4	13.6	116.1	78.4	40.7	-	-	-	132.9	14.9	112.5	73.7	34.8	-	-	-
	72	139.1	13.6	122.5	96.6	70.7	44.8	-	-	128.7	15.0	116.7	91.0	65.3	39.5	-	-
	67	133.8	13.7	128.9	114.8	100.8	73.9	47.0	-	124.5	15.1	121.0	108.3	95.7	68.9	42.1	-
	62	132.9	13.6	130.4	130.4	130.4	103.0	75.1	47.3	123.5	15.1	121.5	121.5	121.5	98.3	70.4	42.6
	57	132.1	13.6	132.0	132.0	132.0	132.0	103.3	74.5	122.4	15.0	121.9	121.9	121.9	121.9	98.8	69.9
5400	72	142.2	13.7	129.7	101.1	72.5	43.9	-	-	132.2	15.1	123.3	94.9	66.6	38.3	-	-
	67	138.3	13.7	134.0	120.7	107.5	77.3	47.1	-	129.0	15.2	125.2	113.7	102.2	72.2	42.2	-
	62	137.4	13.7	134.8	134.8	134.8	110.8	79.0	47.3	127.8	15.1	125.5	125.5	125.5	106.1	74.4	42.7
	57	136.5	13.6	135.6	135.6	135.6	135.6	110.9	77.7	126.6	15.0	125.9	125.9	125.9	125.9	106.6	73.2
6000	72	145.2	13.7	136.9	105.6	74.3	42.9	-	-	135.7	15.1	129.8	98.9	68.0	37.1	-	-
	67	142.7	13.8	139.0	126.6	114.2	80.7	47.3	-	133.4	15.2	129.4	119.1	108.7	75.5	42.2	-
	62	141.8	13.7	139.2	139.2	139.2	118.6	82.9	47.3	132.1	15.1	129.6	129.6	129.6	113.9	78.3	42.8
	57	140.9	13.6	139.3	139.3	139.3	139.3	118.6	80.9	130.8	15.0	129.8	129.8	129.8	129.8	114.4	76.6

1. These capacities are gross ratings. For net capacity, deduct the supply air blower motor heat (MBh = 3.415 x kW). Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

Drive Selection

1. Determine side or bottom supply duct Application.
2. Determine desired airflow.
3. Calculate or measure the amount of external static pressure.
   - Add or deduct any additional static resistance from “Additional Static Resistance Table”.
4. Using the operating point determined from steps 1, 2 & 3, locate this point on the appropriate supply air blower performance table. (Linear interpolation may be necessary.)
5. Noting the RPM and BHP from step 4, locate the appropriate motor and, or drive on the RPM selection table.
6. Review the BHP compared to the motor options available. Select the appropriate motor and, or drive.
7. Review the RPM range for the motor options available. Select the appropriate drive if multiple drives are available for the chosen motor.
8. Determine turns open to obtain the desired operation point.

Example

1. 3200 SCFM, Bottom Supply Duct application
2. 1.8 IWG
3. Using the airflow performance table below, the following data point was located: 1071 RPM & 2.52 BHP.
4. Using the RPM selection table below, Model ZY and Size 08 (7.5 Tons) is found.
5. 2.52 BHP exceeds the maximum continuous BHP rating of the 2.4 HP motor. The 3.7 HP motor is required.
6. 1071 RPM is within the range of the 3.7 HP motor.
7. Using the 3.7-HP motor and High-Static drive, 0.5 turns open will achieve the required 1071 RPM.

Airflow Performance

Example Supply Air Blower Performance
ZY08 (7.5 Ton) Bottom Duct

CFM	Available External Static, IWG																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2250	556	0.45	621	0.65	683	0.83	742	1.00	798	1.18	852	1.34	904	1.51	954	1.69	1003	1.87	1050	2.06
2400	567	0.53	632	0.73	694	0.91	753	1.09	809	1.26	863	1.43	914	1.60	964	1.77	1013	1.95	1060	2.14
2600	580	0.65	646	0.85	707	1.03	766	1.21	823	1.38	876	1.55	928	1.72	978	1.89	1027	2.07	1074	2.27
2800	595	0.79	660	0.99	722	1.17	780	1.35	837	1.52	890	1.69	942	1.86	992	2.03	1041	2.21	1088	2.40
3000	609	0.94	674	1.14	736	1.32	795	1.50	851	1.67	905	1.83	957	2.00	1007	2.18	1056	2.36	1100	2.55
3200	625	1.10	690	1.30	752	1.48	810	1.66	867	1.83	921	2.00	972	2.17	1022	2.34	1071	2.52	--	--
3400	641	1.28	706	1.47	768	1.66	827	1.83	883	2.00	937	2.17	989	2.34	1039	2.52	1087	2.70	'--	--

Standard Static Option with Motor rated at 2.4-hp
Medium Static Option with Motor rated at 2.4-hp
High Static Option with Motor rated at 3.7-hp
-- Exceeds recommended blower speed

Example RPM Selection

Model	Size (Tons)	Airflow Option	Phase	Max BHP	Blower Sheave	Motor Sheave	6 Turns Open	5 Turns Open	4 Turns Open	3 Turns Open	2 Turns Open	1 Turns Open	Fully Closed
ZY	08 (7.5)	Std.	3	2.4	AK74	1VL34	N/A	475	525	575	625	675	725
		Med.	3	2.4	AK74	1VL44	N/A	700	750	800	850	900	950
		H. Static	3	3.7	AK74	1VP50	N/A	850	900	950	1000	1050	1100

Example Additional Static Resistance

Model	Size (Tons)	CFM	Cooling Only[1]	Economizer [2 3]	4" Filters[2]	Electric Heat kW[2]							
						6/6.5	9.2/10.5/11	13.8/14/16	16/16.5/17	23	24.8/25.5/27.8	32/33/34	41.7/42.4
ZY	08 (7.5), 09 (8.5), 12 (10.0)	2200	0.04	0.11	---	---	---	---	0.07	---	0.09	0.10	0.12
		2600	0.06	0.13	---	---	---	---	0.09	---	0.11	0.12	0.15
		3000	0.10	0.17	---	---	---	---	0.12	---	0.14	0.15	0.19
		3400	0.13	0.20	---	---	---	---	0.15	---	0.18	0.19	0.23
		3800	0.16	0.25	---	---	---	---	0.19	---	0.22	0.23	0.27
		4000	0.17	0.28	---	---	---	---	0.21	---	0.24	0.25	0.30
		4400	0.20	0.33	---	---	---	---	0.25	---	0.29	0.30	0.35
		4800	0.22	0.38	---	---	---	---	0.30	---	0.34	0.35	0.41
		5200	0.24	0.43	---	---	---	---	0.35	---	0.39	0.41	0.47
		5600	0.26	0.46	---	---	---	---	0.41	---	0.45	0.47	0.54
		6000	0.28	0.50	---	---	---	---	0.48	---	0.52	0.54	0.60

Altitude and Temperature Correction for CFM, Static Pressure and Power.

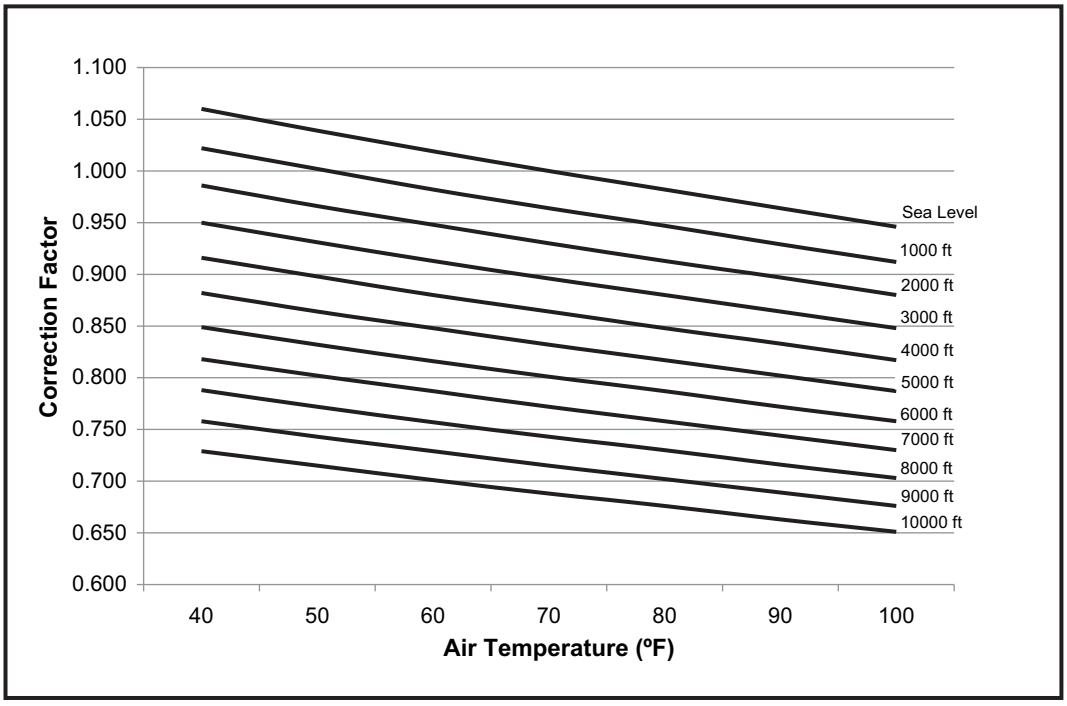
The information below should be used to assist in application of product when being applied at altitudes at or exceeding 1000 feet above sea level.

The air flow rates listed in the standard blower performance tables are based on standard air at sea level. As the altitude or temperature increases, the density of air decreases. In order to use the indoor blower tables for high altitude applications, certain corrections are necessary.

A centrifugal fan is a "constant volume" device. This means that, if the RPM remains constant, the CFM delivered is the same regardless of the density of the air. However, since the air at high altitude is less dense, less static pressure will be generated and less power will be required than a similar application at sea level. Air density correction factors are shown below.

Altitude/Temperature Correction Factors

Air Temp.	Altitude (Ft.)										
	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000
40	1.060	1.022	0.986	0.950	0.916	0.882	0.849	0.818	0.788	0.758	0.729
50	1.039	1.002	0.966	0.931	0.898	0.864	0.832	0.802	0.772	0.743	0.715
60	1.019	0.982	0.948	0.913	0.880	0.848	0.816	0.787	0.757	0.729	0.701
70	1.000	0.964	0.930	0.896	0.864	0.832	0.801	0.772	0.743	0.715	0.688
80	0.982	0.947	0.913	0.880	0.848	0.817	0.787	0.758	0.730	0.702	0.676
90	0.964	0.929	0.897	0.864	0.833	0.802	0.772	0.744	0.716	0.689	0.663
100	0.946	0.912	0.880	0.848	0.817	0.787	0.758	0.730	0.703	0.676	0.651



The examples below will assist in determining the airflow performance of the product at altitude.

Example 1: What are the corrected CFM, static pressure, and BHP at an elevation of 5,000 ft. if the airflow performance data is 3,000 CFM, 1.4 IWC and 2.0 BHP?

Solution: At an elevation of 5,000 ft. the indoor blower will still deliver 3,000 CFM if the rpm is unchanged. However, the Altitude correction must be used to determine the static pressure and BHP. Since no temperature data is given, we will assume an Air Temperature of 70°F. The Altitude/Temperature Factors show the correction factor to be 0.832.

Corrected static pressure = 1.4 x 0.832 = 1.16 IWC

Corrected BHP = 2.0 x 0.832 = 1.66

Example 2: A system, located at 5,000 feet of elevation, is to deliver 3,000 CFM at a static pressure of 1.4". Use the unit blower tables to select the blower speed and the BHP requirement.

Solution: As in the example above, no temperature information is given so 70°F is assumed.

The 1.4" static pressure given is at an elevation of 5,000 ft. The first step is to convert this static pressure to equivalent sea level conditions.

Sea level static pressure = 1.4" / .832 = 1.68"

Enter the Supply Air Blower Performance Table at 3,000 CFM and static pressure of 1.68". The rpm listed will be the same rpm needed at 5,000 ft.

Suppose that the corresponding BHP listed in the table is 2.0. This value must be corrected for elevation.

BHP at 5,000 ft. = 2.0 x .832 = 1.66

Indoor Blower Specifications

Model	Size (Tons)	Airflow Option	Motor						Motor Sheave			Blower Sheave			Belt
			Phase	HP	RPM	Eff.	SF	Frame	Datum Dia. (in.)	Bore (in.)	Model	Datum Dia. (in.)	Bore (in.)	Model	
ZZ	07 (6)	Std.	3	2.4	1725	0.80	1.15	56Y	1.9 - 2.9	5/8	1VL34	4.7	3/4	AK51	A39
		Med.	3	2.9	1725	0.81	1.15	56Y	2.8 - 3.8	7/8	1VL44	4.7	3/4	AK51	A40
		H. Static	3	3.7	1725	0.84	1.15	56HZ	3.4 - 4.4	7/8	1VP50	4.7	3/4	AK51	A41
ZZ	08 (7.5)	Std.	3	2.4	1725	0.80	1.15	56Y	1.9 - 2.9	5/8	1VL34	4.7	3/4	AK51	A39
		Med.	3	2.9	1725	0.81	1.15	56Y	2.8 - 3.8	7/8	1VL44	4.7	3/4	AK51	A40
		H. Static	3	3.7	1725	0.84	1.15	56HZ	3.4 - 4.4	7/8	1VP50	4.7	3/4	AK51	A41
ZZ	09 (8.5)	Std.	3	2.4	1725	0.80	1.15	56Y	1.9 - 2.9	5/8	1VL34	7.0	1	AK74	A47
		Med.	3	2.4	1725	0.80	1.15	56Y	2.8 - 3.8	5/8	1VL44	7.0	1	AK74	A48
		H. Static	3	3.7	1725	0.84	1.15	56HZ	3.4 - 4.4	7/8	1VP50	7.0	1	AK74	A50
ZZ	12 (10)	Std.	3	2.4	1725	0.80	1.15	56Y	2.8 - 3.8	5/8	1VL44	7.5	1	AK79	A50
		Med.	3	3.7	1725	0.84	1.15	56HZ	3.4 - 4.4	7/8	1VP50	7.5	1	AK79	A50
		H. Static	3	5.25	1725	0.84	1.15	145TY	4.3 - 5.3	7/8	1VP56	7.9	1	BK85	BX52
ZZ	14 (12.5)	Std.	3	2.9	1750	0.87	1.15	56Z	2.8 - 3.8	7/8	1VL44	7.5	1	AK79	A50
		Med.	3	3.7	1750	0.90	1.15	184TZ	3.4 - 4.4	7/8	1VP50	7.5	1	AK79	A52
		H. Static	3	5.25	1750	0.90	1.15	184TZ	4.3 - 5.3	7/8	1VP56	7.9	1	BK85	BX54

RPM Selection

Model	Size (Tons)	Airflow Option	Phase	MAX BHP	Blower Sheave	Motor Sheave	6Turns Open	5Turns Open	4Turns Open	3 Turns Open	2 Turns Open	1 Turns Open	Fully Closed
ZZ	07 (6)	Std.	3	2.4	AK51	1VL34	N/A	707	782	856	931	1005	1080
		Med.	3	2.9	AK51	1VL44	N/A	1043	1117	1191	1266	1340	1415
		H. Static	3	3.7	AK51	1VP50	N/A	1266	1340	1415	1489	1564	1638
ZZ	08 (7.5)	Std.	3	2.4	AK51	1VL34	N/A	707	782	856	931	1005	1080
		Med.	3	2.9	AK51	1VL44	N/A	1043	1117	1191	1266	1340	1415
		H. Static	3	3.7	AK51	1VP50	N/A	1266	1340	1415	1489	1564	1638
ZZ	09 (8.5)	Std.	3	2.4	AK74	1VL34	N/A	475	525	575	625	675	725
		Med.	3	2.4	AK74	1VL44	N/A	700	750	800	850	900	950
		H. Static	3	3.7	AK74	1VP50	N/A	850	900	950	1000	1050	1100
ZZ	12 (10)	Std.	3	2.4	AK79	1VL44	N/A	653	700	747	793	840	887
		Med.	3	3.7	AK79	1VP50	N/A	793	840	887	933	980	1027
		H. Static	3	5.25	BK85	1VP56	953	997	1041	1085	1130	1174	N/A
ZZ	14 (12)	Std.	3	2.9	AK79	1VL44	N/A	653	700	747	793	840	887
		Med.	3	3.7	AK79	1VP50	N/A	793	840	887	933	980	1027
		H. Static	3	5.25	BK85	1VP56	953	997	1041	1085	1130	1174	N/A

Additional Static Resistance - ZZ07-14

Model	Size (Tons)	CFM	Cooling Only[1]	Economizer [2 3]	4" Filter[2]	Electric Heat kW[2]							
						6/6.5	9.2/10.5/11	13.8/14/16	16/16.5/17	23	24.8/25.5/27.8	32/33/34	41.7/42.4
ZZ	07 (6)	1800	0.23	0.66	---	0.03	0.03	0.05	---	---	---	---	---
		2000	0.28	0.81	---	0.04	0.04	0.06	---	---	---	---	---
		2200	0.32	0.95	---	0.06	0.06	0.07	---	---	---	---	---
		2400	0.37	1.10	---	0.07	0.07	0.08	---	---	---	---	---
		2600	0.38	1.25	---	0.08	0.08	0.09	---	---	---	---	---
		2800	0.41	1.39	---	0.09	0.09	0.10	---	---	---	---	---
		3000	0.45	1.54	---	0.11	0.11	0.12	---	---	---	---	---
ZZ	08 (7.5), 09 (8.5), 12 (10.0), 14 (12.5)	2200	0.04	0.18	---	---	---	---	0.07	---	0.09	0.10	0.12
		2600	0.06	0.24	---	---	---	---	0.09	---	0.11	0.12	0.15
		3000	0.10	0.35	---	---	---	---	0.12	---	0.14	0.15	0.19
		3400	0.13	0.47	---	---	---	---	0.15	---	0.18	0.19	0.23
		4800	0.22	0.91	---	---	---	---	0.30	---	0.34	0.35	0.41
		5200	0.24	1.04	---	---	---	---	0.35	---	0.39	0.41	0.47
		5600	0.26	1.17	---	---	---	---	0.41	---	0.45	0.47	0.54
		6000	0.28	1.30	---	---	---	---	0.48	---	0.52	0.54	0.60

1. Add these values to the available static resistance in the respective Blower Performance Tables.
2. Deduct these values from the available external static pressure shown in the respective Blower Performance Tables.
3. The pressure drop through the economizer is greater for 100% outdoor air than for 100% return air. If the resistance of the return air duct is less than 0.25 IWG, the unit will deliver less CFM during full economizer operation.

Airflow Performance

ZZ07-14 Side Duct Application (Belt Drive)

ZZ07 (6.0 Ton) Side Duct

CFM	Available External Static																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1800	915	0.67	979	0.77	1041	0.89	1102	1.02	1162	1.16	1221	1.31	1278	1.45	1334	1.59	1389	1.72	1442	1.82
1900	939	0.78	1003	0.87	1065	0.99	1126	1.12	1186	1.27	1244	1.41	1302	1.56	1358	1.69	1412	1.82	1466	1.93
2000	964	0.89	1028	0.99	1090	1.11	1151	1.24	1211	1.38	1269	1.52	1327	1.67	1383	1.81	1437	1.93	1491	2.04
2100	990	1.01	1054	1.11	1116	1.23	1177	1.36	1237	1.50	1296	1.65	1353	1.79	1409	1.93	1464	2.05	1517	2.16
2200	1018	1.14	1081	1.24	1143	1.36	1204	1.49	1264	1.63	1323	1.78	1380	1.92	1436	2.06	1491	2.18	1544	2.29
2300	1046	1.28	1110	1.37	1172	1.49	1233	1.62	1293	1.77	1351	1.91	1409	2.05	1465	2.19	1519	2.32	1573	2.43
2400	1076	1.42	1139	1.52	1201	1.63	1262	1.76	1322	1.91	1381	2.05	1438	2.20	1494	2.33	1549	2.46	1602	2.57
2500	1106	1.56	1170	1.66	1232	1.78	1293	1.91	1353	2.05	1411	2.20	1469	2.34	1525	2.48	1579	2.60	1633	2.71
2600	1138	1.71	1201	1.81	1263	1.93	1324	2.06	1384	2.20	1443	2.35	1500	2.49	1556	2.63	1611	2.75	--	--
2700	1170	1.87	1234	1.96	1296	2.08	1357	2.21	1417	2.35	1475	2.50	1533	2.64	1589	2.78	1638	2.91	--	--
2800	1203	2.02	1267	2.12	1329	2.24	1390	2.37	1450	2.51	1509	2.66	1566	2.80	1622	2.94	--	--	--	--
2900	1238	2.18	1301	2.28	1364	2.40	1425	2.53	1484	2.67	1543	2.81	1600	2.96	--	--	--	--	--	--
3000	1273	2.34	1337	2.44	1399	2.56	1460	2.69	1520	2.83	1578	2.97	1635	3.12	--	--	--	--	--	--

Standard Static Option with Motor rated at 2.4-hp
Medium Static Option with Motor rated at 2.9-hp
High Static Option with Motor rated at 3.7-hp
-- Exceeds recommended blower speed

ZZ08 (7.5 Ton) Side Duct

CFM	AVAILABLE EXTERNAL STATIC PRESSURE - IWG																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2250	928	0.83	989	0.95	1048	1.08	1105	1.21	1160	1.34	1214	1.47	1266	1.61	1317	1.74	1368	1.88	1417	2.01
2400	967	1.04	1029	1.17	1087	1.29	1144	1.42	1200	1.56	1253	1.69	1306	1.82	1357	1.96	1407	2.09	1457	2.22
2600	1015	1.29	1076	1.42	1135	1.55	1192	1.68	1247	1.81	1301	1.94	1353	2.07	1404	2.21	1455	2.34	1504	2.48
2800	1070	1.59	1131	1.71	1190	1.84	1247	1.97	1302	2.10	1356	2.23	1408	2.37	1460	2.50	1510	2.63	1560	2.77
3000	1133	1.91	1194	2.04	1253	2.17	1310	2.30	1365	2.43	1419	2.56	1471	2.70	1523	2.83	1573	2.96	1623	3.10
3200	1204	2.28	1265	2.41	1324	2.54	1381	2.67	1436	2.80	1490	2.93	1542	3.06	1593	3.20	1644	3.33	1693	3.47
3400	1282	2.69	1343	2.82	1401	2.94	1458	3.07	1514	3.20	1567	3.34	1620	3.47	1671	3.61	--	--	--	--
3600	1366	3.14	1427	3.26	1486	3.39	1543	3.52	1598	3.65	1652	3.78	--	--	--	--	--	--	--	--
3750	1457	3.62	1519	3.74	1577	3.87	1634	4.00	1690	4.13	1743	4.26	--	--	--	--	--	--	--	--

Standard Static Option with Motor rated at 2.4-hp
Medium Static Option with Motor rated at 2.9-hp
High Static Option with Motor rated at 3.7 h-p
- Exceeds recommended Blower speed

Note: See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
kW = 0.929 x BHP

ZZ09 (8.5 Ton) Side Duct

CFM	AVAILABLE EXTERNAL STATIC PRESSURE - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2550	549	0.45	609	0.69	668	0.91	727	1.11	784	1.31	840	1.49	893	1.68	944	1.87	991	2.06	1035	2.25
2600	552	0.48	611	0.72	671	0.94	729	1.14	787	1.34	842	1.53	896	1.71	946	1.90	994	2.09	1038	2.29
2800	562	0.62	621	0.86	681	1.07	739	1.28	796	1.47	852	1.66	905	1.85	956	2.03	1004	2.22	1048	2.42
3000	573	0.77	632	1.00	692	1.22	750	1.43	807	1.62	863	1.81	917	2.00	967	2.18	1015	2.37	1059	2.57
3200	585	0.93	644	1.16	704	1.38	762	1.59	820	1.78	875	1.97	929	2.16	979	2.34	1027	2.53	1071	2.73
3400	598	1.10	658	1.34	717	1.55	776	1.76	833	1.95	889	2.14	942	2.33	993	2.51	1040	2.70	1084	2.90
3600	613	1.28	672	1.52	732	1.74	790	1.94	848	2.14	903	2.32	957	2.51	1008	2.70	1055	2.89	1099	3.08
3800	629	1.47	688	1.71	748	1.93	806	2.13	864	2.33	919	2.52	973	2.70	1024	2.89	1071	3.08	--	--
4000	646	1.68	706	1.91	765	2.13	824	2.34	881	2.53	937	2.72	990	2.90	1041	3.09	1088	3.28	--	--
4200	665	1.89	724	2.12	784	2.34	842	2.55	900	2.74	955	2.93	1009	3.11	1059	3.30	--	--	--	--
4250	670	1.94	729	2.18	789	2.40	847	2.60	904	2.80	960	2.98	1014	3.17	1064	3.35	--	--	--	--

Standard Static Option with Motor rated at 2.4-hp
Medium Static Option with Motor rated at 2.4-hp
High Static Option with Motor rated at 3.7-hp
-- Exceeds recommended Blower speed

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.

Note: See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
kW = 0.929 x BHP

ZZ12 (10 Ton) Side Duct

CFM	AVAILABLE EXTERNAL STATIC PRESSURE - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000			689	0.94	740	1.19	790	1.44	841	1.70	891	1.94	941	2.19	990	2.43	1038	2.66	1085	2.89
3200	654	0.84	702	1.09	752	1.35	803	1.60	854	1.85	904	2.10	954	2.34	1003	2.58	1051	2.82	1098	3.04
3400	665	1.00	715	1.26	766	1.51	816	1.77	867	2.02	917	2.27	967	2.51	1016	2.75	1064	2.99	1111	3.21
3600	680	1.19	730	1.44	780	1.70	831	1.95	881	2.20	932	2.45	982	2.70	1031	2.94	1079	3.17	1125	3.40
3800	695	1.39	745	1.64	796	1.90	846	2.15	897	2.40	947	2.65	997	2.90	1046	3.14	1094	3.37	1141	3.60
4000	712	1.61	762	1.86	812	2.12	863	2.37	914	2.62	964	2.87	1014	3.12	1063	3.36	1111	3.59	1158	3.82
4200	729	1.85	779	2.10	830	2.36	881	2.61	931	2.86	982	3.11	1032	3.35	1081	3.59	1129	3.83	1174	4.06
4400	748	2.10	798	2.36	849	2.61	899	2.87	950	3.12	1000	3.37	1050	3.61	1099	3.85	1147	4.09	--	--
4600	768	2.38	818	2.64	869	2.89	919	3.15	970	3.40	1020	3.65	1070	3.89	1119	4.13	1167	4.36	--	--
4800	794	2.68	839	2.93	889	3.19	940	3.44	991	3.69	1041	3.94	1091	4.19	1140	4.43	--	--	--	--
5000	811	3.00	861	3.25	912	3.51	962	3.70	1013	4.01	1063	4.26	1113	4.50	1162	4.74	--	--	--	--

Standard Static Option with Motor rated at 2.4-hp
Medium Static Option with Motor rated at 3.7-hp
High Static Option with Motor rated at 5.25-hp
-- Exceeds recommended Blower speed

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.

Note: See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
kW = 0.929 x BHP

ZZ14 (12.5 Ton) Side Duct

CFM	AVAILABLE EXTERNAL STATIC PRESSURE - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3750	684	1.33	741	1.56	792	1.81	840	2.07	884	2.33	927	2.60	971	2.85	1017	3.09	1066	3.30	1121	3.49
3800	688	1.38	745	1.61	797	1.85	844	2.12	888	2.38	932	2.65	976	2.90	1021	3.14	1071	3.35	1125	3.54
4000	706	1.58	763	1.81	814	2.06	861	2.32	906	2.59	949	2.85	993	3.11	1039	3.35	1088	3.56	1142	3.74
4200	724	1.81	781	2.04	832	2.29	879	2.55	924	2.82	967	3.08	1011	3.34	1057	3.57	1106	3.79	1160	3.97
4400	742	2.06	799	2.29	850	2.54	897	2.80	942	3.06	985	3.33	1029	3.58	1075	3.82	1124	4.03	1178	4.22
4600	760	2.32	817	2.55	869	2.80	916	3.06	960	3.33	1004	3.59	1048	3.85	1093	4.08	1143	4.30	--	--
4800	779	2.60	836	2.83	888	3.08	935	3.34	979	3.61	1023	3.88	1067	4.13	1112	4.37	1162	4.58	--	--
5000	799	2.91	856	3.14	907	3.39	954	3.65	999	3.91	1042	4.18	1086	4.43	1132	4.67	--	--	--	--
5200	819	3.23	876	3.46	927	3.71	974	3.97	1019	4.23	1062	4.50	1106	4.75	1152	4.99	--	--	--	--
5400	839	3.57	**896**	**3.80**	953	4.04	995	4.31	1039	4.57	1083	4.84	1127	5.09	--	--	--	--	--	--
5600	**860**	**3.92**	**917**	**4.15**	969	4.40	1016	4.66	1060	4.93	1104	5.19	--	--	--	--	--	--	--	--
5800	**882**	**4.30**	**939**	**4.53**	990	4.77	1037	5.04	--	--	--	--	--	--	--	--	--	--	--	--
6000	**904**	**4.69**	961	4.92	1012	5.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Standard Static Option with Motor rated at 2.9-hp
Medium Static Option with Motor rated at 3.7-hp
High Static Option with Motor rated at 5.25-hp
Bold Field-supplied BK95 x 1 fixed pulley (p/n 1074787) with Motor rated at 5.25-hp
-- Exceeds recommended Blower speed

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.

Note: See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
kW = 0.857 x BHP for Standard Static option, kW = 0.829 x BHP for Medium and High Static options

ZZ07-14 Bottom Duct Application (Belt Drive)

ZZ07 (6.0 Ton) Bottom Duct

CFM	Available External Static																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1800	933	0.64	1000	0.79	1064	0.94	1126	1.09	1185	1.24	1243	1.38	1300	1.52	1356	1.64	1411	1.76	1466	1.86
1900	961	0.74	1028	0.89	1092	1.04	1153	1.19	1213	1.34	1271	1.49	1328	1.62	1384	1.75	1439	1.86	1494	1.97
2000	989	0.85	1055	1.00	1119	1.15	1181	1.31	1241	1.45	1299	1.60	1356	1.73	1411	1.86	1467	1.98	1521	2.08
2100	1017	0.97	1083	1.12	1147	1.27	1209	1.42	1269	1.57	1327	1.72	1384	1.85	1439	1.98	1495	2.09	1549	2.20
2200	1045	1.10	1112	1.25	1176	1.40	1238	1.55	1297	1.70	1355	1.84	1412	1.98	1468	2.10	1523	2.22	1578	2.32
2300	1075	1.23	1141	1.38	1205	1.53	1267	1.68	1327	1.83	1385	1.97	1441	2.11	1497	2.24	1552	2.35	1607	2.45
2400	1105	1.37	1171	1.52	1235	1.67	1297	1.82	1357	1.97	1415	2.11	1472	2.25	1527	2.38	1583	2.49	1637	2.59
2500	1136	1.52	1202	1.67	1266	1.82	1328	1.97	1388	2.12	1446	2.26	1503	2.40	1559	2.53	1614	2.64	--	--
2600	1168	1.67	1234	1.82	1298	1.97	1360	2.13	1420	2.27	1478	2.42	1535	2.55	1591	2.68	1638	2.80	--	--
2700	1201	1.84	1268	1.99	1332	2.14	1393	2.29	1453	2.44	1511	2.58	1568	2.72	1624	2.84	--	--	--	--
2800	1235	2.01	1302	2.16	1366	2.31	1428	2.46	1488	2.61	1546	2.75	1602	2.89	--	--	--	--	--	--
2900	1271	2.18	1338	2.33	1402	2.49	1463	2.64	1523	2.79	1581	2.93	1638	3.07	--	--	--	--	--	--
3000	1308	2.37	1374	2.52	1438	2.67	1500	2.82	1560	2.97	1618	3.12	--	--	--	--	--	--	--	--

Standard Static Option with Motor rated at 2.4-hp
Medium Static Option with Motor rated at 2.9-hp
High Static Option with Motor rated at 3.7-hp
-- Exceeds recommended Blower speed

ZZ08 (8.5 Ton) Bottom Duct

CFM	AVAILABLE EXTERNAL STATIC PRESSURE - IWG																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2250	958	0.91	1014	1.08	1072	1.23	1130	1.37	1188	1.50	1246	1.62	1302	1.75	1356	1.90	1408	2.06	1456	2.25
2400	1023	1.16	1080	1.33	1138	1.48	1196	1.61	1254	1.74	1311	1.87	1368	2.00	1422	2.14	1473	2.30	1522	2.49
2600	1080	1.41	1137	1.58	1194	1.73	1253	1.87	1311	1.99	1368	2.12	1424	2.25	1479	2.39	1530	2.56	1579	2.75
2800	1137	1.70	1194	1.87	1251	2.02	1310	2.15	1368	2.28	1425	2.40	1481	2.54	1536	2.68	1587	2.84	1635	3.03
3000	1200	2.03	1257	2.20	1315	2.35	1373	2.48	1431	2.61	1488	2.74	1545	2.87	1599	3.01	1650	3.17	1699	3.36
3200	1274	2.42	1331	2.59	1388	2.74	1447	2.87	1505	3.00	1562	3.13	1618	3.26	1673	3.40	1724	3.56	1772	3.75
3400	1362	2.87	1419	3.04	1476	3.19	1535	3.33	1593	3.46	1650	3.58	1706	3.71	1760	3.86	--	--	--	--
3600	1466	3.40	1523	3.57	1580	3.72	1639	3.86	1697	3.98	1754	4.11	--	--	--	--	--	--	--	--
3750	1588	4.00	1644	4.17	1702	4.32	1760	4.46	--	--	--	--	--	--	--	--	--	--	--	--

Standard Static Option with Motor rated at 2.4-hp
Medium Static Option with Motor rated at 2.9-hp
High Static Option with Motor rated at 3.7-hp
-- Exceeds recommended Blower speed

ZZ09 (8.5 Ton) Bottom Duct

CFM	AVAILABLE EXTERNAL STATIC PRESSURE - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2550	570	0.59	630	0.77	687	0.94	744	1.13	799	1.31	852	1.49	903	1.67	953	1.85	1002	2.01	1049	2.16
2600	573	0.63	632	0.80	690	0.98	747	1.16	801	1.34	855	1.53	906	1.71	956	1.88	1005	2.04	1052	2.19
2800	585	0.77	645	0.94	703	1.12	759	1.30	814	1.49	867	1.67	918	1.85	968	2.02	1017	2.18	1064	2.33
3000	599	0.92	658	1.10	716	1.27	773	1.46	827	1.64	880	1.82	932	2.00	982	2.18	1030	2.34	1077	2.49
3200	614	1.09	673	1.27	731	1.44	787	1.63	842	1.81	895	1.99	947	2.17	997	2.35	1045	2.51	1092	2.66
3400	630	1.28	690	1.45	747	1.62	804	1.81	859	1.99	912	2.18	963	2.35	1013	2.53	1062	2.69	--	--
3600	648	1.47	708	1.64	765	1.82	822	2.00	877	2.19	930	2.37	981	2.55	1031	2.72	1080	2.88	--	--
3800	668	1.67	727	1.84	785	2.02	841	2.20	896	2.39	949	2.57	1001	2.75	1051	2.92	1099	3.09	--	--
4000	689	1.89	748	2.06	806	2.23	863	2.42	917	2.60	971	2.79	1022	2.96	1072	3.14	--	--	--	--
4200	712	2.11	771	2.28	829	2.46	886	2.64	940	2.83	994	3.01	1045	3.19	1095	3.36	--	--	--	--
4250	718	2.17	777	2.34	842	2.52	892	2.70	946	2.88	1000	3.07	1051	3.24	1100	3.42	--	--	--	--

Standard Static Option with Motor rated at 2.4-hp
Medium Static Option with Motor rated at 2.4-hp
High Static Option with Motor rated at 3.7-hp

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.

Note: See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
kW = 0.929 x BHP

ZZ12 (10 Ton) Bottom Duct

CFM	AVAILABLE EXTERNAL STATIC PRESSURE - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	653	0.79	706	1.02	758	1.25	808	1.49	858	1.72	907	1.95	955	2.18	1003	2.40	1049	2.62	1095	2.82
3200	667	0.94	720	1.17	771	1.40	822	1.64	872	1.88	921	2.11	969	2.34	1016	2.56	1063	2.77	1109	2.97
3400	682	1.11	734	1.34	786	1.57	837	1.81	887	2.04	936	2.28	984	2.50	1031	2.73	1078	2.94	1124	3.14
3600	697	1.29	750	1.52	802	1.76	853	1.99	903	2.23	952	2.46	1000	2.69	1047	2.91	1094	3.12	1140	3.32
3800	714	1.50	767	1.73	819	1.96	870	2.20	920	2.43	969	2.67	1017	2.90	1064	3.12	1111	3.33	1157	3.53
4000	733	1.73	786	1.96	837	2.19	888	2.43	938	2.66	987	2.90	1035	3.12	1083	3.34	1129	3.56	1174	3.76
4200	753	1.98	806	2.21	857	2.44	908	2.68	958	2.91	1007	3.15	1055	3.37	1102	3.60	1149	3.81	--	--
4400	774	2.25	827	2.48	879	2.72	930	2.95	979	3.19	1028	3.42	1076	3.65	1124	3.87	1170	4.08	--	--
4600	797	2.55	850	2.78	902	3.02	952	3.25	1002	3.49	1051	3.72	1099	3.95	1147	4.17	--	--	--	--
4800	822	2.88	874	3.11	926	3.34	977	3.58	1027	3.81	1076	4.05	1124	4.27	1171	4.50	--	--	--	--
5000	848	3.23	901	3.46	952	3.69	1003	3.93	1053	4.16	1102	4.40	1150	4.62	--	--	--	--	--	--

Standard Static Option with Motor rated at 2.4-hp
Medium Static Option with Motor rated at 3.7-hp
High Static Option with Motor rated at 5.25-hp

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.

Note: See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
kW = 0.929 x BHP

ZZ14 (12.5 Ton) Bottom Duct

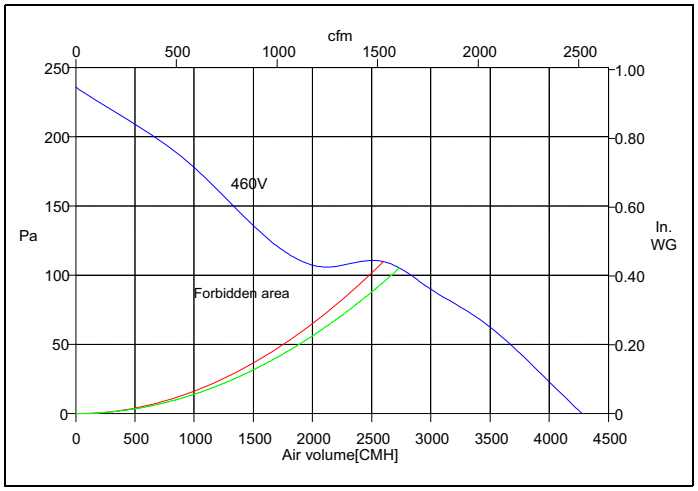
CFM	AVAILABLE EXTERNAL STATIC PRESSURE - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3750	715	1.46	762	1.68	810	1.91	858	2.13	907	2.36	957	2.58	1008	2.80	1060	3.02	1113	3.24	1167	3.46
3800	720	1.51	766	1.73	814	1.96	862	2.18	911	2.41	961	2.63	1012	2.85	1064	3.07	1117	3.29	1171	3.51
4000	737	1.72	784	1.94	832	2.17	880	2.39	929	2.62	979	2.84	1030	3.07	1082	3.29	1135	3.51	--	--
4200	756	1.95	803	2.17	851	2.40	899	2.63	948	2.85	998	3.07	1049	3.30	1101	3.52	1154	3.74	--	--
4400	777	2.20	824	2.42	871	2.65	920	2.87	969	3.10	1019	3.32	1069	3.55	1121	3.77	1174	3.98	--	--
4600	799	2.47	846	2.69	893	2.92	941	3.14	990	3.37	1040	3.59	1091	3.81	1143	4.04	--	--	--	--
4800	822	2.75	869	2.98	916	3.20	965	3.43	1014	3.65	1064	3.88	1114	4.10	1166	4.32	--	--	--	--
5000	846	3.06	893	3.28	941	3.51	989	3.73	1038	3.96	1088	4.18	1139	4.41	--	--	--	--	--	--
5200	872	3.39	919	3.61	966	3.83	1015	4.06	1064	4.28	1114	4.51	1164	4.73	--	--	--	--	--	--
5400	899	3.73	946	3.95	993	4.18	1042	4.40	1091	4.63	1141	4.85	--	--	--	--	--	--	--	--
5600	927	4.09	974	4.32	1021	4.54	1070	4.77	1119	4.99	1169	5.22	--	--	--	--	--	--	--	--
5800	956	4.47	1003	4.70	1051	4.92	1099	5.15	--	--	--	--	--	--	--	--	--	--	--	--
6000	987	4.87	1034	5.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Standard Static Option with Motor rated at 2.4-hp
Medium Static Option with Motor rated at 3.7-hp
High Static Option with Motor rated at 5.25-hp

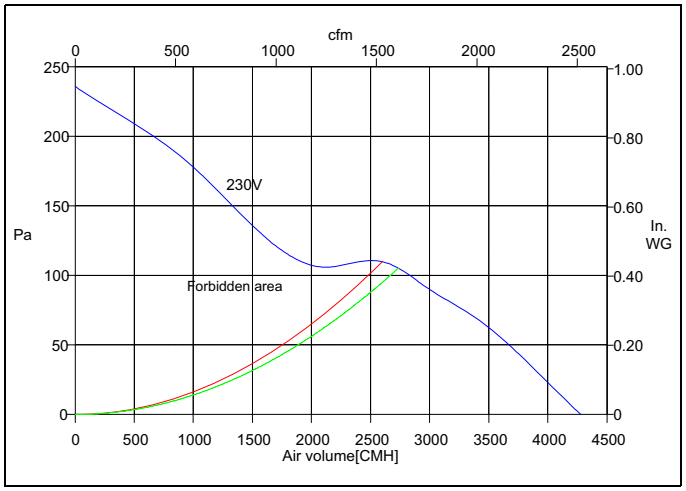
1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.

Note: See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
kW = 0.857 x BHP for Standard Static option, kW = 0.829 x BHP for Medium and High Static options

Power Exhaust Blower Curves



460-3-60 Power Exhaust Fan Curve



208/280-3-60 Power Exhaust Fan Curve

Electrical Data

ZZ07-14 Standard Static Indoor Blower - Without Powered Convenience Outlet

Size (Tons)	Nominal Unit Voltage	Compressor 1			Compressor 2			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Field Installed Kit 2EK045*				MCA[1] (Amps)	Min Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Min Discon-nect Rating[4]		MCA[1] w/Pwr Exh (Amps)	Min Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Min Discon-nect Rating[4]/ Pwr Exh	
		RLA	LRA	MCC	RLA	LRA	MCC					Model	kW	Stages	Amps				FLA	LRA				FLA	LRA
07 (6)	208-3-60	17.6	136	27				4.4	5.2	1.1		None	-	-	-	31.6	35	45	31	158	32.7	35	50	33	161
												10625	4.9	1	13.6	31.6	35	45	31	158	32.7	35	50	33	161
												11125	7.9	1	21.9	33.9	35	45	31	158	35.3	40	50	33	161
												11625	12	1	33.3	48.1	50	50	44	158	49.5	50	50	46	161
	230-3-60	17.6	136	27				4.4	5.2	1		None	-	-	-	31.6	35	45	31	161	32.6	35	50	32	163
												10625	6.5	1	15.6	31.6	35	45	31	161	32.6	35	50	32	163
												11125	10.5	1	25.3	38.1	40	45	35	161	39.4	40	50	36	163
												11625	16	1	38.5	54.6	60	60	50	161	55.9	60	60	51	163
	460-3-60	8.5	66.1	13				2.5	2.6	0.5		None	-	-	-	15.7	20	20	16	79	16.2	20	20	16	80
												10646	6	1	7.2	15.7	20	20	11	79	16.2	20	20	12	80
												11146	11.5	1	13.8	20.5	25	25	19	79	21.1	25	25	19	80
												11446	14	1	16.8	24.3	25	25	22	79	24.9	25	25	23	80
08 (7.50)	208-3-60	25.0	164	39				4.4	5.2	1.1		None	-	-	-	40.9	50	50	44	158	42.0	45	50	47	256
												10625	4.9	1	13.6	40.9	50	50	44	158	42.0	45	50	47	256
												11125	7.9	1	21.9	40.9	50	50	44	158	42.0	45	50	47	256
												11625	12	1	33.3	46.8	50	50	44	158	47.9	50	50	46	161
	230-3-60	25.0	164	39				4.4	5.2	1		None	-	-	-	40.9	50	50	44	158	41.9	45	50	47	256
												10625	6.5	1	15.6	40.9	50	50	44	158	41.9	45	50	47	256
												11125	10.5	1	25.3	36.8	40	45	35	161	37.8	40	50	36	163
												11625	16	1	38.5	53.3	60	60	50	161	54.3	60	60	51	163
	460-3-60	12.2	100	19				2.5	2.6	0.5		None	-	-	-	20.3	25	25	19	79	20.8	25	25	19	80
												10646	6	1	7.2	20.3	25	25	19	79	20.8	25	25	19	80
												11146	11.5	1	13.8	19.9	20	20	11	79	20.4	25	25	19	80
												11446	14	1	16.8	23.6	25	25	22	79	24.1	25	25	19	80
09 (8.5)	208-3-60	14.5	98	23	14.5	98	23	2.3	7	1.1		None	-	-	-	44.2	45	50	47	275	46.4	50	50	49	285
												11725	12	1	33.3	50.4	60	60	47	275	53.1	60	60	49	285
												12525	18.6	1	51.6	73.3	80	80	67	275	76	80	80	70	285
												13225	24	1	66.6	92	100	100	85	275	94.8	100	100	87	285
												14225	31.8	2	88.3	119.1	125	125	110	275	121.9	125	125	112	285
	230-3-60	14.5	98	23	14.5	98	23	2.3	7.2	1		None	-	-	-	44.4	45	50	47	278	46.4	50	60	49	272
												11725	16	1	38.5	57.1	60	60	53	278	59.6	60	60	55	272
												12525	24.8	1	59.7	83.6	90	90	77	278	86.1	90	90	79	272
												13225	32	1	77	105.3	110	110	97	278	107.8	110	110	99	272
												14225	42.4	2	102	136.5	150	150	126	278	139	150	150	128	272
	460-3-60	6.3	55	10	6.3	55	10	1.3	3.6	0.5		None	-	-	-	20.4	25	25	22	153	21.4	25	25	23	149
												11746	16.5	1	19.8	29.3	30	30	27	153	30.5	35	35	28	149
												12846	27.8	1	33.4	46.3	50	50	43	153	47.5	50	50	44	149
												13346	33	1	39.7	54.1	60	60	50	153	55.4	60	60	51	149
												14246	41.7	2	50.2	67.3	70	70	62	153	68.5	70	70	63	149
12 (10)	208-3-60	16	110	25	15.6	110	24	2.3	7	1.1		None	-	-	-	47.2	50	60	50	299	49.4	50	60	52	309
												11725	12	1	33.3	50.4	60	60	50	299	53.1	60	60	52	309
												12525	18.6	1	51.6	73.3	80	80	67	299	76	80	80	70	309
												13225	24	1	66.6	92	100	100	85	299	94.8	100	100	87	309
												14225	31.8	2	88.3	119.1	125	125	110	299	121.9	125	125	112	309
	230-3-60	16	110	25	15.6	110	24	2.3	7.2	1		None	-	-	-	47.4	50	60	50	302	49.4	50	60	52	296
												11725	16	1	38.5	57.1	60	60	53	302	59.6	60	60	55	296
												12525	24.8	1	59.7	83.6	90	90	77	302	86.1	90	90	79	296
												13225	32	1	77	105.3	110	110	97	302	107.8	110	110	99	296
												14225	42.4	2	102	136.5	150	150	126	302	139	150	150	128	296
	460-3-60	7.8	52	12	7.8	52	12	1.3	3.6	0.5		None	-	-	-	23.8	25	30	25	147	24.8	25	30	26	143
												11746	16.5	1	19.8	29.3	30	30	27	147	30.5	35	35	28	143
												12846	27.8	1	33.4	46.3	50	50	43	147	47.5	50	50	44	143
												13346	33	1	39.7	54.1	60	60	50	147	55.4	60	60	51	143
												14246	41.7	2	50.2	67.3	70	70	62	147	68.5	70	70	63	143

ZZ07-14 Standard Static Indoor Blower - Without Powered Convenience Outlet (Continued)

Size (Tons)	Nominal Unit Voltage	Compressor 1			Compressor 2			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Field Installed Kit 2EK045*				MCA[1] (Amps)	Min Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Min Discon-nect Rating[4]		MCA[1] w/Pwr Exh (Amps)	Min Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Min Discon-nect Rating[4]/ Pwr Exh	
		RLA	LRA	MCC	RLA	LRA	MCC					Model	kW	Stages	Amps				FLA	LRA				FLA	LRA
14 (12.5)	208-3-60	19.6	136	31	19.6	136	31	5.8	8.9	1.1		None	-	-	-	58.8	60	70	62	371	61	70	70	65	381
												11725	12	1	33.3	58.8	60	70	62	371	61	70	70	65	381
												12525	18.6	1	51.6	75.6	80	80	70	371	78.4	80	80	72	381
												13225	24	1	66.6	94.4	100	100	87	371	97.1	100	100	89	381
												14225	31.8	2	88.3	121.5	125	125	112	371	124.3	125	125	114	381
	230-3-60	19.6	136	31	19.6	136	31	5.2	8.2	1		None	-	-	-	57.5	60	70	60	370	59.5	60	70	63	375
												11725	16	1	38.5	58.4	60	70	60	370	60.9	70	70	63	375
												12525	24.8	1	59.7	84.9	90	90	78	370	87.4	90	90	80	375
												13225	32	1	77	106.5	110	110	98	370	109	110	110	100	375
												14225	42.4	2	102	137.8	150	150	127	370	140.3	150	150	129	375
	460-3-60	8.2	66.1	13	8.2	66.1	13	2.9	4.1	0.5		None	-	-	-	25.5	30	30	27	178	26.5	30	30	28	180
												11746	16.5	1	19.8	29.9	30	30	27	178	31.1	35	35	29	180
												12846	27.8	1	33.4	46.9	50	50	43	178	48.1	50	50	44	180
												13346	33	1	39.7	54.8	60	60	50	178	56	60	60	52	180
												14246	41.7	2	50.2	67.9	70	70	62	178	69.1	70	70	64	180

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.
4. Non-fused Disconnect, Verify on the unit nameplate that the disconnect is properly sized for the application. Units with field installed electric heat kits may exceed the factory installed disconnect amperage rating.

ZZ07-14 Standard Static Indoor Blower - With Powered Convenience Outlet

Size (Tons)	Nominal Unit Voltage	Compressor 1			Compressor 2			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Field Installed Kit 2EK045*				MCA[1] (Amps)	Min Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Min Discon-nect Rating[4]		MCA[1] w/Pwr Exh (Amps)	Min Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Min Discon-nect Rating[4]/ Pwr Exh	
		RLA	LRA	MCC	RLA	LRA	MCC					Model	kW	Stages	Amps				FLA	LRA				FLA	LRA
07 (6)	208-3-60	17.6	136	27				4.4	5.2	1.1	8.6	None	-	-	-	35.9	40	50	36	163	37	40	50	37	165
												10625	4.9	1	13.6	35.9	40	50	36	163	37	40	50	37	165
												11125	7.9	1	21.9	39.3	40	50	36	163	40.6	45	50	37	165
												11625	12	1	33.3	53.5	60	60	49	163	54.9	60	60	50	165
	230-3-60	17.6	136	27				4.4	5.2	1	8.6	None	-	-	-	35.9	40	50	36	165	36.9	40	50	37	168
												10625	6.5	1	15.6	35.9	40	50	36	165	36.9	40	50	37	168
												11125	10.5	1	25.3	43.5	45	50	40	165	44.8	45	50	41	168
												11625	16	1	38.5	60	60	60	55	165	61.3	70	70	56	168
	460-3-60	8.5	66.1	13				2.5	2.6	0.5	8.6	None	-	-	-	17.9	20	25	18	81	18.4	20	25	19	82
												10646	6	1	7.2	17.9	20	25	14	81	18.4	20	25	14	82
												11146	11.5	1	13.8	23.2	25	25	21	81	23.8	25	25	22	82
												11446	14	1	16.8	26.9	30	30	25	81	27.6	30	30	25	82
08 (7.50)	208-3-60	25.0	164	39				4.4	5.2	1.1	8.6	None	-	-	-	43.2	45	50	39	205	44.3	45	50	47	243
												10625	4.9	1	13.6	43.2	45	50	39	205	44.3	45	50	47	243
												11125	7.9	1	21.9	43.2	45	50	39	205	44.3	45	50	47	243
												11625	12	1	33.3	55.4	60	60	53	191	56.5	60	60	55	243
	230-3-60	25.0	164	39				4.4	5.2	1	8.6	None	-	-	-	43.2	45	50	39	205	44.2	45	50	47	243
												10625	6.5	1	15.6	43.2	45	50	39	205	44.2	45	50	47	243
												11125	10.5	1	25.3	45.4	50	50	43	128	46.4	50	50	47	243
												11625	16	1	38.5	61.9	70	70	62	128	62.9	70	70	63	121
	460-3-60	12.2	100	19				2.5	2.6	0.5	8.6	None	-	-	-	25.9	30	30	27	128	26.4	30	30	27	153
												10646	6	1	7.2	25.9	30	30	27	128	26.4	30	30	27	153
												11146	11.5	1	13.8	28.5	30	30	27	128	29.0	30	30	27	153
												11446	14	1	16.8	32.2	35	50	31	158	32.7	35	50	32	163
09 (8.5)	208-3-60	14.5	98	23	14.5	98	23	2.3	7	1.1	8.6	None	-	-	-	48.5	50	60	52	280	50.7	60	60	54	290
												11725	12	1	33.3	55.8	60	60	52	280	58.5	60	60	54	290
												12525	18.6	1	51.6	78.6	80	80	72	280	81.4	90	90	75	290
												13225	24	1	66.6	97.4	100	100	90	280	100.1	110	110	92	290
												14225	31.8	2	88.3	124.5	125	125	115	280	127.3	150	150	117	290
	230-3-60	14.5	98	23	14.5	98	23	2.3	7.2	1	8.6	None	-	-	-	48.7	50	60	52	282	50.7	60	60	54	277
												11725	16	1	38.5	62.5	70	70	58	282	65	70	70	60	277
												12525	24.8	1	59.7	89	90	90	82	282	91.5	100	100	84	277
												13225	32	1	77	110.6	125	125	102	282	113.1	125	125	104	277
												14225	42.4	2	102	141.9	150	150	131	282	144.4	150	150	133	277
	460-3-60	6.3	55	10	6.3	55	10	1.3	3.6	0.5	8.6	None	-	-	-	22.6	25	25	24	155	23.6	25	25	25	151
												11746	16.5	1	19.8	31.9	35	35	29	155	33.2	35	35	31	151
												12846	27.8	1	33.4	48.9	50	50	45	155	50.2	60	60	46	151
												13346	33	1	39.7	56.8	60	60	52	155	58.1	60	60	53	151
												14246	41.7	2	50.2	69.9	70	70	64	155	71.2	80	80	65	151
12 (10)	208-3-60	16	110	25	15.6	110	24	2.3	7	1.1	8.6	None	-	-	-	51.5	60	60	55	304	53.7	60	60	57	314
												11725	12	1	33.3	55.8	60	60	55	304	58.5	60	60	57	314
												12525	18.6	1	51.6	78.6	80	80	72	304	81.4	90	90	75	314
												13225	24	1	66.6	97.4	100	100	90	304	100.1	110	110	92	314
												14225	31.8	2	88.3	124.5	125	125	115	304	127.3	150	150	117	314
	230-3-60	16	110	25	15.6	110	24	2.3	7.2	1	8.6	None	-	-	-	51.7	60	60	55	306	53.7	60	60	57	301
												11725	16	1	38.5	62.5	70	70	58	306	65	70	70	60	301
												12525	24.8	1	59.7	89	90	90	82	306	91.5	100	100	84	301
												13225	32	1	77	110.6	125	125	102	306	113.1	125	125	104	301
												14225	42.4	2	102	141.9	150	150	131	306	144.4	150	150	133	301
	460-3-60	7.8	52	12	7.8	52	12	1.3	3.6	0.5	8.6	None	-	-	-	26	30	30	28	149	27	30	30	29	145
												11746	16.5	1	19.8	31.9	35	35	29	149	33.2	35	35	31	145
												12846	27.8	1	33.4	48.9	50	50	45	149	50.2	60	60	46	145
												13346	33	1	39.7	56.8	60	60	52	149	58.1	60	60	53	145
												14246	41.7	2	50.2	69.9	70	70	64	149	71.2	80	80	65	145

ZZ07-14 Standard Static Indoor Blower - With Powered Convenience Outlet (Continued)

Size (Tons)	Nominal Unit Voltage	Compressor 1			Compressor 2			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Field Installed Kit 2EK045*				MCA[1] (Amps)	Min Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Min Discon-nect Rating[4]		MCA[1] w/Pwr Exh (Amps)	Min Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Min Discon-nect Rating[4]/ Pwr Exh	
		RLA	LRA	MCC	RLA	LRA	MCC					Model	kW	Stages	Amps				FLA	LRA				FLA	LRA
14 (12.5)	208-3-60	19.6	136	31	19.6	136	31	5.8	8.9	1.1	8.6	None	-	-	-	63.1	70	80	67	375	65.3	70	80	69	385
												11725	12	1	33.3	63.1	70	80	67	375	65.3	70	80	69	385
												12525	18.6	1	51.6	81	90	90	75	375	83.8	90	90	77	385
												13225	24	1	66.6	99.8	100	100	92	375	102.5	110	110	94	385
												14225	31.8	2	88.3	126.9	150	150	117	375	129.6	150	150	119	385
	230-3-60	19.6	136	31	19.6	136	31	5.2	8.2	1	8.6	None	-	-	-	61.8	70	80	65	374	63.8	70	80	68	379
												11725	16	1	38.5	63.8	70	80	65	374	66.3	70	80	68	379
												12525	24.8	1	59.7	90.3	100	100	83	374	92.8	100	100	85	379
												13225	32	1	77	111.9	125	125	103	374	114.4	125	125	105	379
												14225	42.4	2	102	143.1	150	150	132	374	145.6	150	150	134	379
	460-3-60	8.2	66.1	13	8.2	66.1	13	2.9	4.1	0.5	8.6	None	-	-	-	27.7	30	35	29	180	28.7	30	35	31	182
												11746	16.5	1	19.8	32.6	35	35	30	180	33.8	35	35	31	182
												12846	27.8	1	33.4	49.6	50	50	46	180	50.8	60	60	47	182
												13346	33	1	39.7	57.4	60	60	53	180	58.7	60	60	54	182
												14246	41.7	2	50.2	70.6	80	80	65	180	71.8	80	80	66	182

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.
4. Non-fused Disconnect, Verify on the unit nameplate that the disconnect is properly sized for the application. Units with field installed electric heat kits may exceed the factory installed disconnect amperage rating.

ZZ07-14 Medium Static Indoor Blower - Without Powered Convenience Outlet

Size (Tons)	Nominal Unit Voltage	Compressor 1			Compressor 2			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Field Installed Kit 2EK045*				MCA[1] (Amps)	Min Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Min Discon-nect Rating[4]		MCA[1] w/Pwr Exh (Amps)	Min Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Min Discon-nect Rating[4]/ Pwr Exh	
		RLA	LRA	MCC	RLA	LRA	MCC					Model	kW	Stages	Amps				FLA	LRA				FLA	LRA
07 (6)	208-3-60	17.6	136	27				4.4	7.5	1.1		None	-	-	-	33.9	35	50	34	185	35	35	50	35	187
												10625	4.9	1	13.6	33.9	35	50	34	185	35	35	50	35	187
												11125	7.9	1	21.9	36.8	40	50	34	185	38.1	40	50	35	187
												11625	12	1	33.3	51	60	60	47	185	52.4	60	60	48	187
	230-3-60	17.6	136	27				4.4	7.5	1		None	-	-	-	33.9	35	50	34	191	34.9	35	50	35	193
												10625	6.5	1	15.6	33.9	35	50	34	191	34.9	35	50	35	193
												11125	10.5	1	25.3	41	45	50	38	191	42.3	45	50	39	193
												11625	16	1	38.5	57.5	60	60	53	191	58.8	60	60	54	193
	460-3-60	8.5	66.1	13				2.5	3.4	0.5		None	-	-	-	16.5	20	25	17	94	17	20	25	17	95
												10646	6	1	7.2	16.5	20	25	12	94	17	20	25	13	95
												11146	11.5	1	13.8	21.5	25	25	20	94	22.1	25	25	20	95
												11446	14	1	16.8	25.3	30	30	23	94	25.9	30	30	24	95
08 (7.50)	208-3-60	25.0	164	39				4.4	7.5	1.1		None	-	-	-	43.2	45	50	38	191	44.3	45	50	39	193
												10625	4.9	1	13.6	43.2	45	50	38	191	44.3	45	50	39	193
												11125	7.9	1	21.9	43.2	45	50	38	191	44.3	45	50	39	193
												11625	12	1	33.3	49.1	50	50	49	272	50.2	60	60	55	207
	230-3-60	25.0	164	39				4.4	7.5	1		None	-	-	-	43.2	45	50	38	191	44.2	45	50	39	193
												10625	6.5	1	15.6	43.2	45	50	38	191	44.2	45	50	39	193
												11125	10.5	1	25.3	39.1	40	50	34	185	40.1	50	50	44	198
												11625	16	1	38.5	55.6	60	60	53	191	56.6	60	60	53	191
	460-3-60	12.2	100	19				2.5	3.4	0.5		None	-	-	-	21.1	25	25	20	94	21.6	25	25	23	97
												10646	6	1	7.2	21.1	25	25	20	94	21.6	25	25	23	97
												11146	11.5	1	13.8	20.7	25	25	20	94	21.2	25	25	23	97
												11446	14	1	16.8	24.4	25	25	20	94	24.9	25	25	23	97
09 (8.5)	208-3-60	14.5	98	23	14.5	98	23	2.3	7	1.1		None	-	-	-	44.2	45	50	47	275	46.4	50	50	49	285
												11725	12	1	33.3	50.4	60	60	47	275	53.1	60	60	49	285
												12525	18.6	1	51.6	73.3	80	80	67	275	76	80	80	70	285
												13225	24	1	66.6	92	100	100	85	275	94.8	100	100	87	285
												14225	31.8	2	88.3	119.1	125	125	110	275	121.9	125	125	112	285
	230-3-60	14.5	98	23	14.5	98	23	2.3	7.2	1		None	-	-	-	44.4	45	50	47	278	46.4	50	60	49	272
												11725	16	1	38.5	57.1	60	60	53	278	59.6	60	60	55	272
												12525	24.8	1	59.7	83.6	90	90	77	278	86.1	90	90	79	272
												13225	32	1	77	105.3	110	110	97	278	107.8	110	110	99	272
												14225	42.4	2	102	136.5	150	150	126	278	139	150	150	128	272
	460-3-60	6.3	55	10	6.3	55	10	1.3	3.6	0.5		None	-	-	-	20.4	25	25	22	153	21.4	25	25	23	149
												11746	16.5	1	19.8	29.3	30	30	27	153	30.5	35	35	28	149
												12846	27.8	1	33.4	46.3	50	50	43	153	47.5	50	50	44	149
												13346	33	1	39.7	54.1	60	60	50	153	55.4	60	60	51	149
												14246	41.7	2	50.2	67.3	70	70	62	153	68.5	70	70	63	149
12 (10)	208-3-60	16	110	25	15.6	110	24	2.3	9.9	1.1		None	-	-	-	50.1	60	60	53	312	52.3	60	60	56	322
												11725	12	1	33.3	54	60	60	53	312	56.8	60	60	56	322
												12525	18.6	1	51.6	76.9	80	80	71	312	79.6	80	80	73	322
												13225	24	1	66.6	95.6	100	100	88	312	98.4	100	100	91	322
												14225	31.8	2	88.3	122.8	125	125	113	312	125.5	150	150	115	322
	230-3-60	16	110	25	15.6	110	24	2.3	9.4	1		None	-	-	-	49.6	50	60	52	321	51.6	60	60	55	315
												11725	16	1	38.5	59.9	60	60	55	321	62.4	70	70	57	315
												12525	24.8	1	59.7	86.4	90	90	79	321	88.9	90	90	82	315
												13225	32	1	77	108	110	110	99	321	110.5	125	125	102	315
												14225	42.4	2	102	139.3	150	150	128	321	141.8	150	150	130	315
	460-3-60	7.8	52	12	7.8	52	12	1.3	4.7	0.5		None	-	-	-	24.9	25	30	26	156	25.9	30	30	27	152
												11746	16.5	1	19.8	30.6	35	35	28	156	31.9	35	35	29	152
												12846	27.8	1	33.4	47.6	50	50	44	156	48.9	50	50	45	152
												13346	33	1	39.7	55.5	60	60	51	156	56.8	60	60	52	152
												14246	41.7	2	50.2	68.6	70	70	63	156	69.9	70	70	64	152

ZZ07-14 Medium Static Indoor Blower - Without Powered Convenience Outlet (Continued)

Size (Tons)	Nominal Unit Voltage	Compressor 1			Compressor 2			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Field Installed Kit 2EK045*				MCA[1] (Amps)	Min Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Min Discon-nect Rating[4]		MCA[1] w/Pwr Exh (Amps)	Min Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Min Discon-nect Rating[4]/ Pwr Exh	
		RLA	LRA	MCC	RLA	LRA	MCC					Model	kW	Stages	Amps				FLA	LRA				FLA	LRA
14 (12.5)	208-3-60	19.6	136	31	19.6	136	31	5.8	9.9	1.1		None	-	-	-	59.8	60	70	63	367	62	70	80	66	377
												11725	12	1	33.3	59.8	60	70	63	367	62	70	80	66	377
												12525	18.6	1	51.6	76.9	80	80	71	367	79.6	80	80	73	377
												13225	24	1	66.6	95.6	100	100	88	367	98.4	100	100	91	377
												14225	31.8	2	88.3	122.8	125	125	113	367	125.5	150	150	115	377
	230-3-60	19.6	136	31	19.6	136	31	5.2	9.4	1		None	-	-	-	58.7	60	70	62	372	60.7	70	80	64	376
												11725	16	1	38.5	59.9	60	70	62	372	62.4	70	80	64	376
												12525	24.8	1	59.7	86.4	90	90	79	372	88.9	90	90	82	376
												13225	32	1	77	108	110	110	99	372	110.5	125	125	102	376
												14225	42.4	2	102	139.3	150	150	128	372	141.8	150	150	130	376
	460-3-60	8.2	66.1	13	8.2	66.1	13	2.9	4.7	0.5		None	-	-	-	26.1	30	30	28	184	27.1	30	30	29	186
												11746	16.5	1	19.8	30.6	35	35	28	184	31.9	35	35	29	186
												12846	27.8	1	33.4	47.6	50	50	44	184	48.9	50	50	45	186
												13346	33	1	39.7	55.5	60	60	51	184	56.8	60	60	52	186
												14246	41.7	2	50.2	68.6	70	70	63	184	69.9	70	70	64	186

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.
4. Non-fused Disconnect, Verify on the unit nameplate that the disconnect is properly sized for the application. Units with field installed electric heat kits may exceed the factory installed disconnect amperage rating.

ZZ07-14 Medium Static Indoor Blower - With Powered Convenience Outlet

Size (Tons)	Nominal Unit Voltage	Compressor 1			Compressor 2			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Field Installed Kit 2EK045*				MCA[1] (Amps)	Min Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Min Discon-nect Rating[4]		MCA[1] w/Pwr Exh (Amps)	Min Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Min Discon-nect Rating[4]/ Pwr Exh	
		RLA	LRA	MCC	RLA	LRA	MCC					Model	kW	Stages	Amps				FLA	LRA				FLA	LRA
07 (6)	208-3-60	17.6	136	27				4.4	7.5	1.1	8.6	None	-	-	-	38.2	40	50	39	189	39.3	40	50	40	191
												10625	4.9	1	13.6	38.2	40	50	39	189	39.3	40	50	40	191
												11125	7.9	1	21.9	42.1	45	50	39	189	43.5	45	50	40	191
												11625	12	1	33.3	56.4	60	60	52	189	57.8	60	60	53	191
	230-3-60	17.6	136	27				4.4	7.5	1	8.6	None	-	-	-	38.2	40	50	39	195	39.2	40	50	40	198
												10625	6.5	1	15.6	38.2	40	50	39	195	39.2	40	50	40	198
												11125	10.5	1	25.3	46.4	50	50	43	195	47.6	50	50	44	198
												11625	16	1	38.5	62.9	70	70	58	195	64.1	70	70	59	198
	460-3-60	8.5	66.1	13				2.5	3.4	0.5	8.6	None	-	-	-	18.7	20	25	19	96	19.2	20	25	20	97
												10646	6	1	7.2	18.7	20	25	15	96	19.2	20	25	15	97
												11146	11.5	1	13.8	24.2	25	25	22	96	24.8	25	25	23	97
												11446	14	1	16.8	27.9	30	30	26	96	28.6	30	30	26	97
08 (7.50)	208-3-60	25.0	164	39				4.4	7.5	1.1	8.6	None	-	-	-	45.5	50	50	43	195	46.6	50	50	44	198
												10625	4.9	1	13.6	45.5	50	50	43	195	46.6	50	50	44	198
												11125	7.9	1	21.9	45.5	50	50	43	195	46.6	50	50	44	198
												11625	12	1	33.3	57.7	60	60	52	189	58.8	60	60	53	191
	230-3-60	25.0	164	39				4.4	7.5	1	8.6	None	-	-	-	45.5	50	50	43	195	46.5	50	50	44	198
												10625	6.5	1	15.6	43.2	45	50	39	189	44.2	45	50	40	191
												11125	10.5	1	25.3	47.7	50	50	43	195	48.7	50	50	44	198
												11625	16	1	38.5	64.2	70	70	58	195	65.2	70	70	59	198
	460-3-60	12.2	100	19				2.5	3.4	0.5	8.6	None	-	-	-	26.7	30	30	26	96	27.2	30	30	26	97
												10646	6	1	7.2	26.7	30	30	26	96	27.2	30	30	26	97
												11146	11.5	1	13.8	29.3	30	30	26	96	29.8	30	30	26	97
												11446	14	1	16.8	33.0	35	35	31	127	33.5	35	35	31	127
09 (8.5)	208-3-60	14.5	98	23	14.5	98	23	2.3	7	1.1	8.6	None	-	-	-	48.5	50	60	52	280	50.7	60	60	54	290
												11725	12	1	33.3	55.8	60	60	52	280	58.5	60	60	54	290
												12525	18.6	1	51.6	78.6	80	80	72	280	81.4	90	90	75	290
												13225	24	1	66.6	97.4	100	100	90	280	100.1	110	110	92	290
												14225	31.8	2	88.3	124.5	125	125	115	280	127.3	150	150	117	290
	230-3-60	14.5	98	23	14.5	98	23	2.3	7.2	1	8.6	None	-	-	-	48.7	50	60	52	282	50.7	60	60	54	277
												11725	16	1	38.5	62.5	70	70	58	282	65	70	70	60	277
												12525	24.8	1	59.7	89	90	90	82	282	91.5	100	100	84	277
												13225	32	1	77	110.6	125	125	102	282	113.1	125	125	104	277
												14225	42.4	2	102	141.9	150	150	131	282	144.4	150	150	133	277
	460-3-60	6.3	55	10	6.3	55	10	1.3	3.6	0.5	8.6	None	-	-	-	22.6	25	25	24	155	23.6	25	25	25	151
												11746	16.5	1	19.8	31.9	35	35	29	155	33.2	35	35	31	151
												12846	27.8	1	33.4	48.9	50	50	45	155	50.2	60	60	46	151
												13346	33	1	39.7	56.8	60	60	52	155	58.1	60	60	53	151
												14246	41.7	2	50.2	69.9	70	70	64	155	71.2	80	80	65	151
12 (10)	208-3-60	16	110	25	15.6	110	24	2.3	9.9	1.1	8.6	None	-	-	-	54.4	60	70	58	316	56.6	60	70	60	326
												11725	12	1	33.3	59.4	60	70	58	316	62.1	70	70	60	326
												12525	18.6	1	51.6	82.3	90	90	76	316	85	90	90	78	326
												13225	24	1	66.6	101	110	110	93	316	103.8	110	110	95	326
												14225	31.8	2	88.3	128.1	150	150	118	316	130.9	150	150	120	326
	230-3-60	16	110	25	15.6	110	24	2.3	9.4	1	8.6	None	-	-	-	53.9	60	60	57	325	55.9	60	70	60	320
												11725	16	1	38.5	65.3	70	70	60	325	67.8	70	70	62	320
												12525	24.8	1	59.7	91.8	100	100	84	325	94.3	100	100	87	320
												13225	32	1	77	113.4	125	125	104	325	115.9	125	125	107	320
												14225	42.4	2	102	144.6	150	150	133	325	147.1	150	150	135	320
	460-3-60	7.8	52	12	7.8	52	12	1.3	4.7	0.5	8.6	None	-	-	-	27.1	30	30	29	158	28.1	30	30	30	154
												11746	16.5	1	19.8	33.3	35	35	31	158	34.6	35	35	32	154
												12846	27.8	1	33.4	50.3	60	60	46	158	51.6	60	60	47	154
												13346	33	1	39.7	58.2	60	60	54	158	59.4	60	60	55	154
												14246	41.7	2	50.2	71.3	80	80	66	158	72.6	80	80	67	154

ZZ07-14 Medium Static Indoor Blower - With Powered Convenience Outlet (Continued)

Size (Tons)	Nominal Unit Voltage	Compressor 1			Compressor 2			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Field Installed Kit 2EK045*				MCA[1] (Amps)	Min Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Min Discon-nect Rating[4]		MCA[1] w/Pwr Exh (Amps)	Min Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Min Discon-nect Rating[4]/ Pwr Exh	
		RLA	LRA	MCC	RLA	LRA	MCC					Model	kW	Stages	Amps				FLA	LRA				FLA	LRA
14 (12.5)	208-3-60	19.6	136	31	19.6	136	31	5.8	9.9	1.1	8.6	None	-	-	-	64.1	70	80	68	371	66.3	70	80	71	381
												11725	12	1	33.3	64.1	70	80	68	371	66.3	70	80	71	381
												12525	18.6	1	51.6	82.3	90	90	76	371	85	90	90	78	381
												13225	24	1	66.6	101	110	110	93	371	103.8	110	110	95	381
												14225	31.8	2	88.3	128.1	150	150	118	371	130.9	150	150	120	381
	230-3-60	19.6	136	31	19.6	136	31	5.2	9.4	1	8.6	None	-	-	-	63	70	80	67	376	65	70	80	69	381
												11725	16	1	38.5	65.3	70	80	67	376	67.8	70	80	69	381
												12525	24.8	1	59.7	91.8	100	100	84	376	94.3	100	100	87	381
												13225	32	1	77	113.4	125	125	104	376	115.9	125	125	107	381
												14225	42.4	2	102	144.6	150	150	133	376	147.1	150	150	135	381
	460-3-60	8.2	66.1	13	8.2	66.1	13	2.9	4.7	0.5	8.6	None	-	-	-	28.3	30	35	30	186	29.3	30	35	31	188
												11746	16.5	1	19.8	33.3	35	35	31	186	34.6	35	35	32	188
												12846	27.8	1	33.4	50.3	60	60	46	186	51.6	60	60	47	188
												13346	33	1	39.7	58.2	60	60	54	186	59.4	60	60	55	188
												14246	41.7	2	50.2	71.3	80	80	66	186	72.6	80	80	67	188

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.
4. Non-fused Disconnect, Verify on the unit nameplate that the disconnect is properly sized for the application. Units with field installed electric heat kits may exceed the factory installed disconnect amperage rating.

ZZ07-14 Hi Static Indoor Blower - Without Powered Convenience Outlet

Size (Tons)	Nominal Unit Voltage	Compressor 1			Compressor 2			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Field Installed Kit 2EK045*				MCA[1] (Amps)	Min Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Min Discon-nect Rating[4]		MCA[1] w/Pwr Exh (Amps)	Min Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Min Discon-nect Rating[4]/ Pwr Exh	
		RLA	LRA	MCC	RLA	LRA	MCC					Model	kW	Stages	Amps				FLA	LRA				FLA	LRA
07 (6)	208-3-60	17.6	136	27				4.4	10.2	1.1		None	-	-	-	36.6	40	50	37	199	37.7	40	50	38	202
												10625	4.9	1	13.6	36.6	40	50	37	199	37.7	40	50	38	202
												11125	7.9	1	21.9	40.1	45	50	37	199	41.5	45	50	38	202
												11625	12	1	33.3	54.4	60	60	50	199	55.8	60	60	51	202
	230-3-60	17.6	136	27				4.4	10.2	1		None	-	-	-	36.6	40	50	37	205	37.6	40	50	38	207
												10625	6.5	1	15.6	36.6	40	50	37	205	37.6	40	50	38	207
												11125	10.5	1	25.3	44.4	45	50	41	205	45.6	50	50	42	207
												11625	16	1	38.5	60.9	70	70	56	205	62.1	70	70	57	207
	460-3-60	8.5	66.1	13				2.5	4.8	0.5		None	-	-	-	17.9	20	25	18	101	18.4	20	25	19	102
												10646	6	1	7.2	17.9	20	25	14	101	18.4	20	25	14	102
												11146	11.5	1	13.8	23.3	25	25	21	101	23.9	25	25	22	102
												11446	14	1	16.8	27	30	30	25	101	27.6	30	30	25	102
08 (7.50)	208-3-60	25.0	164	39				4.4	10.2	1.1		None	-	-	-	45.9	50	50	42	207	47.0	50	50	42	207
												10625	4.9	1	13.6	45.9	50	50	42	207	47.0	50	50	42	207
												11125	7.9	1	21.9	45.9	50	50	42	207	47.0	50	50	42	207
												11625	12	1	33.3	51.8	60	60	50	199	52.9	60	60	51	202
	230-3-60	25.0	164	39				4.4	10.2	1		None	-	-	-	45.9	50	50	42	207	46.9	50	50	42	207
												10625	6.5	1	15.6	45.9	50	50	42	207	46.9	50	50	42	207
												11125	10.5	1	25.3	41.8	45	50	41	205	42.8	50	50	42	507
												11625	16	1	38.5	58.3	60	60	50	199	59.3	60	60	51	202
	460-3-60	12.2	100	19				2.5	4.8	0.5		None	-	-	-	22.5	25	25	21	101	23.0	25	25	22	102
												10646	6	1	7.2	22.5	25	25	21	101	23.0	25	25	22	102
												11146	11.5	1	13.8	22.1	25	25	21	101	22.6	25	25	22	102
												11446	14	1	16.8	25.8	30	30	25	101	26.3	30	30	25	102
09 (8.5)	208-3-60	14.5	98	23	14.5	98	23	2.3	9.9	1.1		None	-	-	-	47.1	50	60	50	288	49.3	50	60	53	298
												11725	12	1	33.3	54	60	60	50	288	56.8	60	60	53	298
												12525	18.6	1	51.6	76.9	80	80	71	288	79.6	80	80	73	298
												13225	24	1	66.6	95.6	100	100	88	288	98.4	100	100	91	298
												14225	31.8	2	88.3	122.8	125	125	113	288	125.5	150	150	115	298
	230-3-60	14.5	98	23	14.5	98	23	2.3	9.4	1		None	-	-	-	46.6	50	60	49	297	48.6	50	60	52	291
												11725	16	1	38.5	59.9	60	60	55	297	62.4	70	70	57	291
												12525	24.8	1	59.7	86.4	90	90	79	297	88.9	90	90	82	291
												13225	32	1	77	108	110	110	99	297	110.5	125	125	102	291
												14225	42.4	2	102	139.3	150	150	128	297	141.8	150	150	130	291
	460-3-60	6.3	55	10	6.3	55	10	1.3	4.7	0.5		None	-	-	-	21.5	25	25	23	162	22.5	25	25	24	158
												11746	16.5	1	19.8	30.6	35	35	28	162	31.9	35	35	29	158
												12846	27.8	1	33.4	47.6	50	50	44	162	48.9	50	50	45	158
												13346	33	1	39.7	55.5	60	60	51	162	56.8	60	60	52	158
												14246	41.7	2	50.2	68.6	70	70	63	162	69.9	70	70	64	158
12 (10)	208-3-60	16	110	25	15.6	110	24	2.3	13.5	1.1		None	-	-	-	53.7	60	60	57	342	55.9	60	70	60	352
												11725	12	1	33.3	58.5	60	60	57	342	61.3	70	70	60	352
												12525	18.6	1	51.6	81.4	90	90	75	342	84.1	90	90	77	352
												13225	24	1	66.6	100.1	110	110	92	342	102.9	110	110	95	352
												14225	31.8	2	88.3	127.3	150	150	117	342	130	150	150	120	352
	230-3-60	16	110	25	15.6	110	24	2.3	13.4	1		None	-	-	-	53.6	60	60	57	342	55.6	60	70	59	337
												11725	16	1	38.5	64.9	70	70	60	342	67.4	70	70	62	337
												12525	24.8	1	59.7	91.4	100	100	84	342	93.9	100	100	86	337
												13225	32	1	77	113	125	125	104	342	115.5	125	125	106	337
												14225	42.4	2	102	144.3	150	150	133	342	146.8	150	150	135	337
	460-3-60	7.8	52	12	7.8	52	12	1.3	6.7	0.5		None	-	-	-	26.9	30	30	29	167	27.9	30	30	30	163
												11746	16.5	1	19.8	33.1	35	35	30	167	34.4	35	35	32	163
												12846	27.8	1	33.4	50.1	60	60	46	167	51.4	60	60	47	163
												13346	33	1	39.7	58	60	60	53	167	59.3	60	60	55	163
												14246	41.7	2	50.2	71.1	80	80	65	167	72.4	80	80	67	163

ZZ07-14 Hi Static Indoor Blower - Without Powered Convenience Outlet (Continued)

Size (Tons)	Nominal Unit Voltage	Compressor 1			Compressor 2			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Field Installed Kit 2EK045*				MCA[1] (Amps)	Min Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Min Discon-nect Rating[4]		MCA[1] w/Pwr Exh (Amps)	Min Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Min Discon-nect Rating[4]/ Pwr Exh	
		RLA	LRA	MCC	RLA	LRA	MCC					Model	kW	Stages	Amps				FLA	LRA				FLA	LRA
14 (12.5)	208-3-60	19.6	136	31	19.6	136	31	5.8	13.5	1.1		None	-	-	-	63.4	70	80	67	397	65.6	70	80	70	407
												11725	12	1	33.3	63.4	70	80	67	397	65.6	70	80	70	407
												12525	18.6	1	51.6	81.4	90	90	75	397	84.1	90	90	77	407
												13225	24	1	66.6	100.1	110	110	92	397	102.9	110	110	95	407
												14225	31.8	2	88.3	127.3	150	150	117	397	130	150	150	120	407
	230-3-60	19.6	136	31	19.6	136	31	5.2	13.4	1		None	-	-	-	62.7	70	80	66	393	64.7	70	80	69	398
												11725	16	1	38.5	64.9	70	80	66	393	67.4	70	80	69	398
												12525	24.8	1	59.7	91.4	100	100	84	393	93.9	100	100	86	398
												13225	32	1	77	113	125	125	104	393	115.5	125	125	106	398
												14225	42.4	2	102	144.3	150	150	133	393	146.8	150	150	135	398
	460-3-60	8.2	66.1	13	8.2	66.1	13	2.9	6.7	0.5		None	-	-	-	28.1	30	35	30	194	29.1	30	35	31	196
												11746	16.5	1	19.8	33.1	35	35	30	194	34.4	35	35	32	196
												12846	27.8	1	33.4	50.1	60	60	46	194	51.4	60	60	47	196
												13346	33	1	39.7	58	60	60	53	194	59.3	60	60	55	196
												14246	41.7	2	50.2	71.1	80	80	65	194	72.4	80	80	67	196

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.
4. Non-fused Disconnect, Verify on the unit nameplate that the disconnect is properly sized for the application. Units with field installed electric heat kits may exceed the factory installed disconnect amperage rating.

ZZ07-14 Hi Static Indoor Blower - With Powered Convenience Outlet

Size (Tons)	Nominal Unit Voltage	Compressor 1			Compressor 2			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Field Installed Kit 2EK045*				MCA[1] (Amps)	Min Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Min Discon-nect Rating[4]		MCA[1] w/Pwr Exh (Amps)	Min Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Min Discon-nect Rating[4]/ Pwr Exh	
		RLA	LRA	MCC	RLA	LRA	MCC					Model	kW	Stages	Amps				FLA	LRA				FLA	LRA
07 (6)	208-3-60	17.6	136	27				4.4	10.2	1.1	8.6	None	-	-	-	40.9	45	50	42	204	42	45	50	43	206
												10625	4.9	1	13.6	40.9	45	50	42	204	42	45	50	43	206
												11125	7.9	1	21.9	45.5	50	50	42	204	46.9	50	50	43	206
												11625	12	1	33.3	59.8	60	60	55	204	61.1	70	70	56	206
	230-3-60	17.6	136	27				4.4	10.2	1	8.6	None	-	-	-	40.9	45	50	42	209	41.9	45	50	43	212
												10625	6.5	1	15.6	40.9	45	50	42	209	41.9	45	50	43	212
												11125	10.5	1	25.3	49.8	50	50	46	209	51	60	60	47	212
												11625	16	1	38.5	66.3	70	70	61	209	67.5	70	70	62	212
	460-3-60	8.5	66.1	13				2.5	4.8	0.5	8.6	None	-	-	-	20.1	25	25	21	103	20.6	25	25	21	104
												10646	6	1	7.2	20.1	25	25	16	103	20.6	25	25	17	104
												11146	11.5	1	13.8	25.9	30	30	24	103	26.6	30	30	24	104
												11446	14	1	16.8	29.7	30	30	27	103	30.3	35	35	28	104
08 (7.50)	208-3-60	25.0	164	39				4.4	10.2	1.1	8.6	None	-	-	-	48.2	50	50	42	204	49.3	50	50	43	206
												10625	4.9	1	13.6	48.2	50	50	42	204	49.3	50	50	43	206
												11125	7.9	1	21.9	48.2	50	50	42	204	49.3	50	50	43	206
												11625	12	1	33.3	60.4	70	70	61	209	61.5	70	70	56	206
	230-3-60	25.0	164	39				4.4	10.2	1	8.6	None	-	-	-	48.2	50	50	42	204	49.2	50	50	43	206
												10625	6.5	1	15.6	43.2	50	50	42	204	44.2	45	50	43	212
												11125	10.5	1	25.3	50.4	60	60	55	204	51.4	60	60	47	212
												11625	16	1	38.5	66.9	70	70	61	209	67.9	70	70	62	212
	460-3-60	12.2	100	19				2.5	4.8	0.5	8.6	None	-	-	-	28.1	30	30	24	103	28.6	30	30	24	104
												10646	6	1	7.2	28.1	30	30	27	103	28.6	30	30	24	104
												11146	11.5	1	13.8	30.7	35	35	28	104	31.2	35	35	28	104
												11446	14	1	16.8	34.4	35	35	28	104	34.9	35	35	28	104
09 (8.5)	208-3-60	14.5	98	23	14.5	98	23	2.3	9.9	1.1	8.6	None	-	-	-	51.4	60	60	55	292	53.6	60	60	58	302
												11725	12	1	33.3	59.4	60	60	55	292	62.1	70	70	58	302
												12525	18.6	1	51.6	82.3	90	90	76	292	85	90	90	78	302
												13225	24	1	66.6	101	110	110	93	292	103.8	110	110	95	302
												14225	31.8	2	88.3	128.1	150	150	118	292	130.9	150	150	120	302
	230-3-60	14.5	98	23	14.5	98	23	2.3	9.4	1	8.6	None	-	-	-	50.9	60	60	54	301	52.9	60	60	57	296
												11725	16	1	38.5	65.3	70	70	60	301	67.8	70	70	62	296
												12525	24.8	1	59.7	91.8	100	100	84	301	94.3	100	100	87	296
												13225	32	1	77	113.4	125	125	104	301	115.9	125	125	107	296
												14225	42.4	2	102	144.6	150	150	133	301	147.1	150	150	135	296
	460-3-60	6.3	55	10	6.3	55	10	1.3	4.7	0.5	8.6	None	-	-	-	23.7	25	25	25	164	24.7	25	25	27	160
												11746	16.5	1	19.8	33.3	35	35	31	164	34.6	35	35	32	160
												12846	27.8	1	33.4	50.3	60	60	46	164	51.6	60	60	47	160
												13346	33	1	39.7	58.2	60	60	54	164	59.4	60	60	55	160
												14246	41.7	2	50.2	71.3	80	80	66	164	72.6	80	80	67	160
12 (10)	208-3-60	16	110	25	15.6	110	24	2.3	13.5	1.1	8.6	None	-	-	-	58	60	70	62	346	60.2	70	70	65	356
												11725	12	1	33.3	63.9	70	70	62	346	66.6	70	70	65	356
												12525	18.6	1	51.6	86.8	90	90	80	346	89.5	90	90	82	356
												13225	24	1	66.6	105.5	110	110	97	346	108.3	110	110	100	356
												14225	31.8	2	88.3	132.6	150	150	122	346	135.4	150	150	125	356
	230-3-60	16	110	25	15.6	110	24	2.3	13.4	1	8.6	None	-	-	-	57.9	60	70	62	346	59.9	60	70	64	341
												11725	16	1	38.5	70.3	80	80	65	346	72.8	80	80	67	341
												12525	24.8	1	59.7	96.8	100	100	89	346	99.3	100	100	91	341
												13225	32	1	77	118.4	125	125	109	346	120.9	125	125	111	341
												14225	42.4	2	102	149.6	150	150	138	346	152.1	175	175	140	341
	460-3-60	7.8	52	12	7.8	52	12	1.3	6.7	0.5	8.6	None	-	-	-	29.1	30	35	31	169	30.1	35	35	32	165
												11746	16.5	1	19.8	35.8	40	40	33	169	37.1	40	40	34	165
												12846	27.8	1	33.4	52.8	60	60	49	169	54.1	60	60	50	165
												13346	33	1	39.7	60.7	70	70	56	169	61.9	70	70	57	165
												14246	41.7	2	50.2	73.8	80	80	68	169	75.1	80	80	69	165

ZZ07-14 Hi Static Indoor Blower - With Powered Convenience Outlet (Continued)

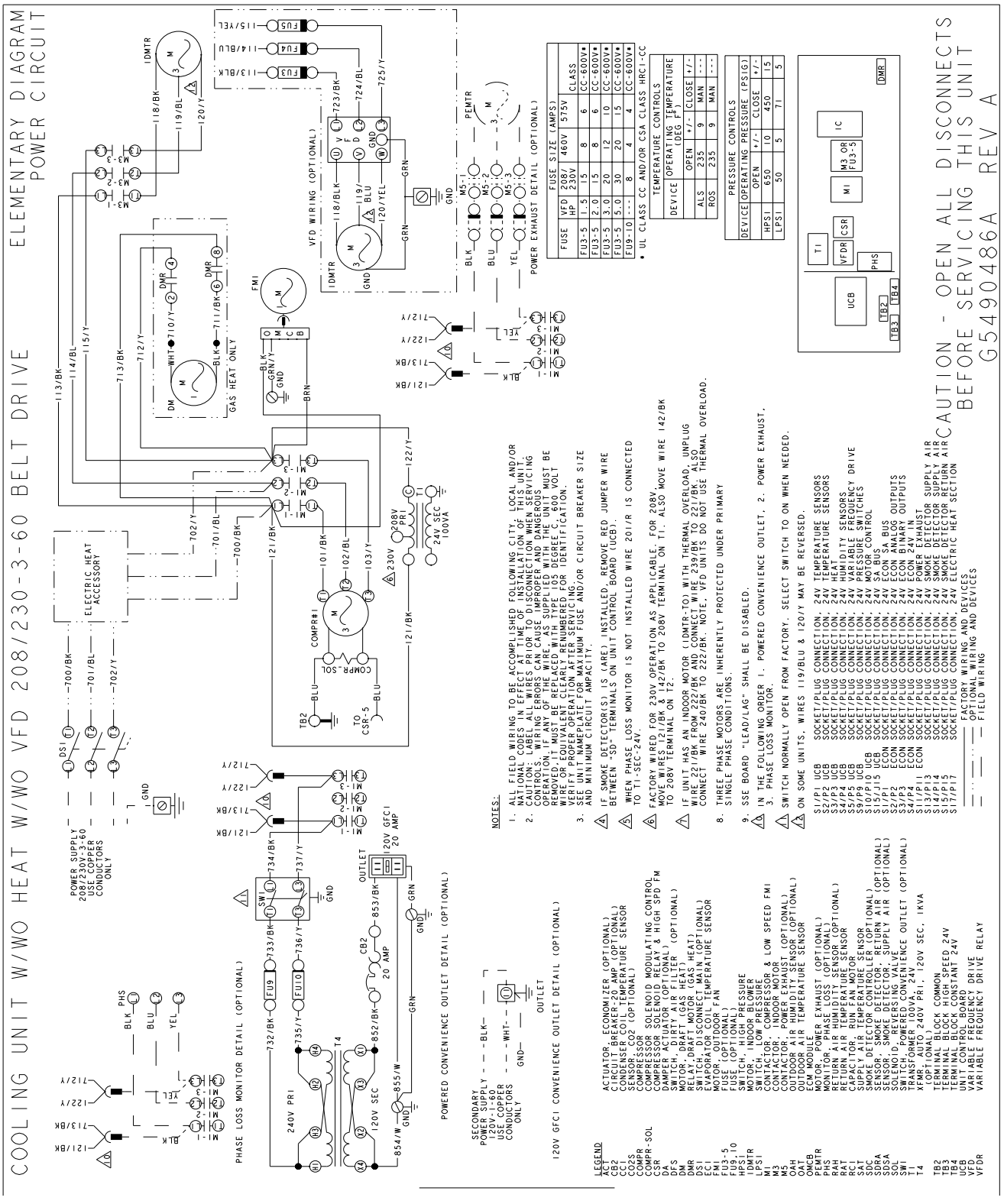
Size (Tons)	Nominal Unit Voltage	Compressor 1			Compressor 2			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Field Installed Kit 2EK045*				MCA[1] (Amps)	Min Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Min Discon-nect Rating[4]		MCA[1] w/Pwr Exh (Amps)	Min Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)	Min Discon-nect Rating[4]/ Pwr Exh	
		RLA	LRA	MCC	RLA	LRA	MCC					Model	kW	Stages	Amps				FLA	LRA				FLA	LRA
14 (12.5)	208-3-60	19.6	136	31	19.6	136	31	5.8	13.5	1.1	8.6	None	-	-	-	67.7	70	80	72	401	69.9	70	80	75	411
												11725	12	1	33.3	67.7	70	80	72	401	69.9	70	80	75	411
												12525	18.6	1	51.6	86.8	90	90	80	401	89.5	90	90	82	411
												13225	24	1	66.6	105.5	110	110	97	401	108.3	110	110	100	411
												14225	31.8	2	88.3	132.6	150	150	122	401	135.4	150	150	125	411
	230-3-60	19.6	136	31	19.6	136	31	5.2	13.4	1	8.6	None	-	-	-	67	70	80	71	397	69	70	80	74	402
												11725	16	1	38.5	70.3	80	80	71	397	72.8	80	80	74	402
												12525	24.8	1	59.7	96.8	100	100	89	397	99.3	100	100	91	402
												13225	32	1	77	118.4	125	125	109	397	120.9	125	125	111	402
												14225	42.4	2	102	149.6	150	150	138	397	152.1	175	175	140	402
	460-3-60	8.2	66.1	13	8.2	66.1	13	2.9	6.7	0.5	8.6	None	-	-	-	30.3	35	35	32	196	31.3	35	35	34	199
												11746	16.5	1	19.8	35.8	40	40	33	196	37.1	40	40	34	199
												12846	27.8	1	33.4	52.8	60	60	49	196	54.1	60	60	50	199
												13346	33	1	39.7	60.7	70	70	56	196	61.9	70	70	57	199
												14246	41.7	2	50.2	73.8	80	80	68	196	75.1	80	80	69	199

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.
4. Non-fused Disconnect, Verify on the unit nameplate that the disconnect is properly sized for the application. Units with field installed electric heat kits may exceed the factory installed disconnect amperage rating.

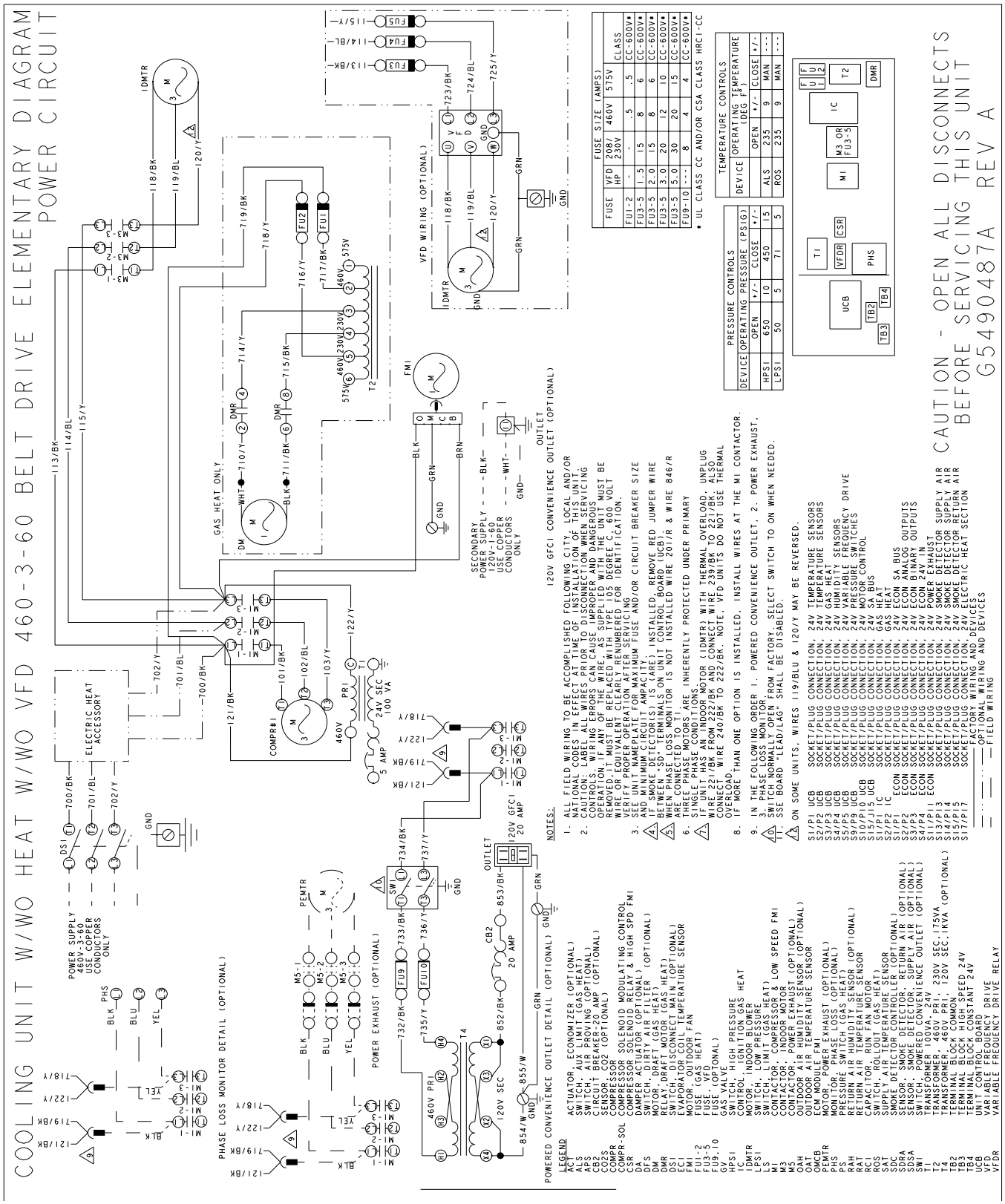
Typical Wiring Diagrams

ZZ07-14 Typical Wiring Diagrams

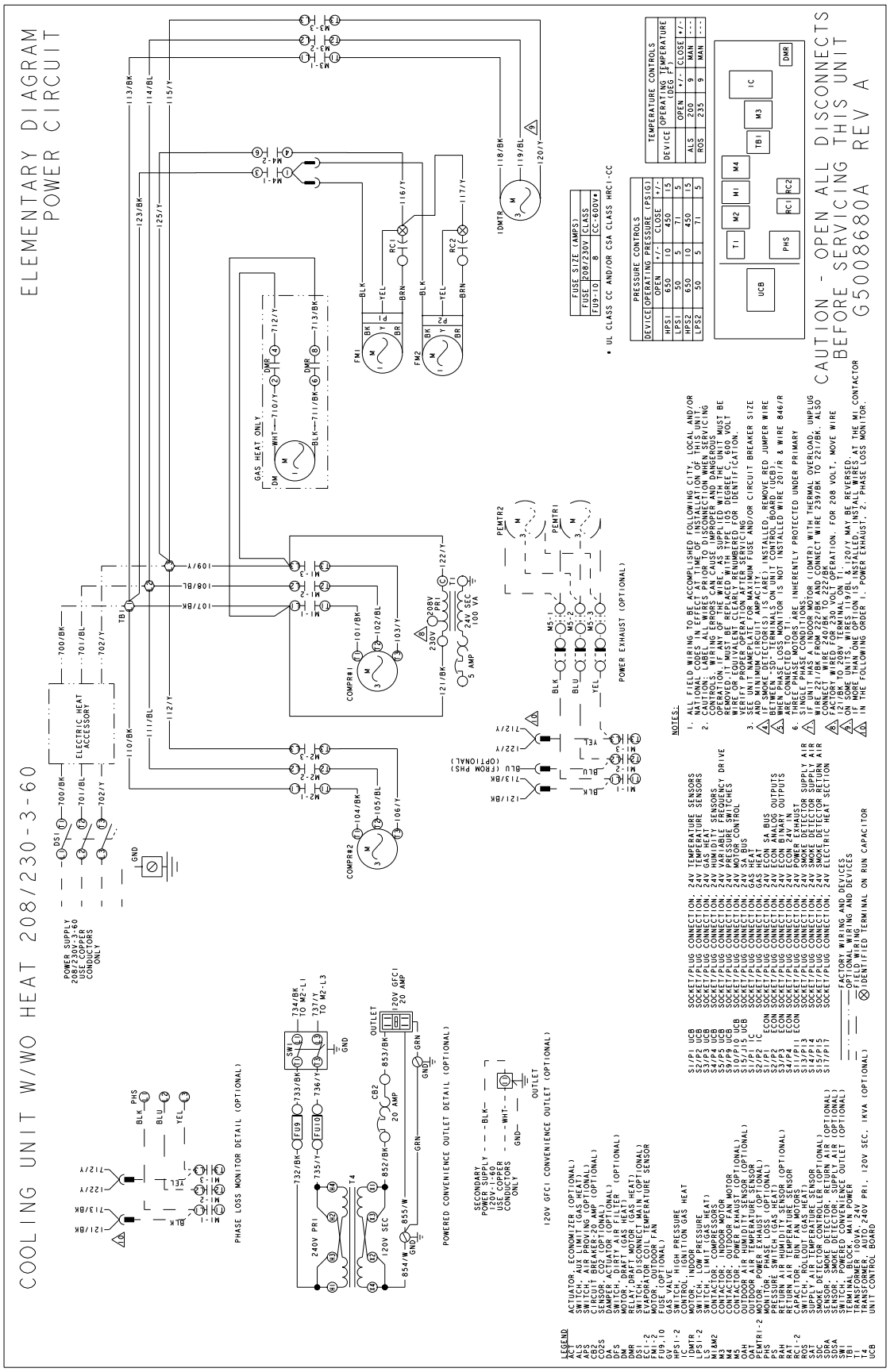
Typical ZZ07/08 Cooling Unit w/wo Electric Heat 208/230-3-60 Belt Drive - Elementary Diagram Power Circuit



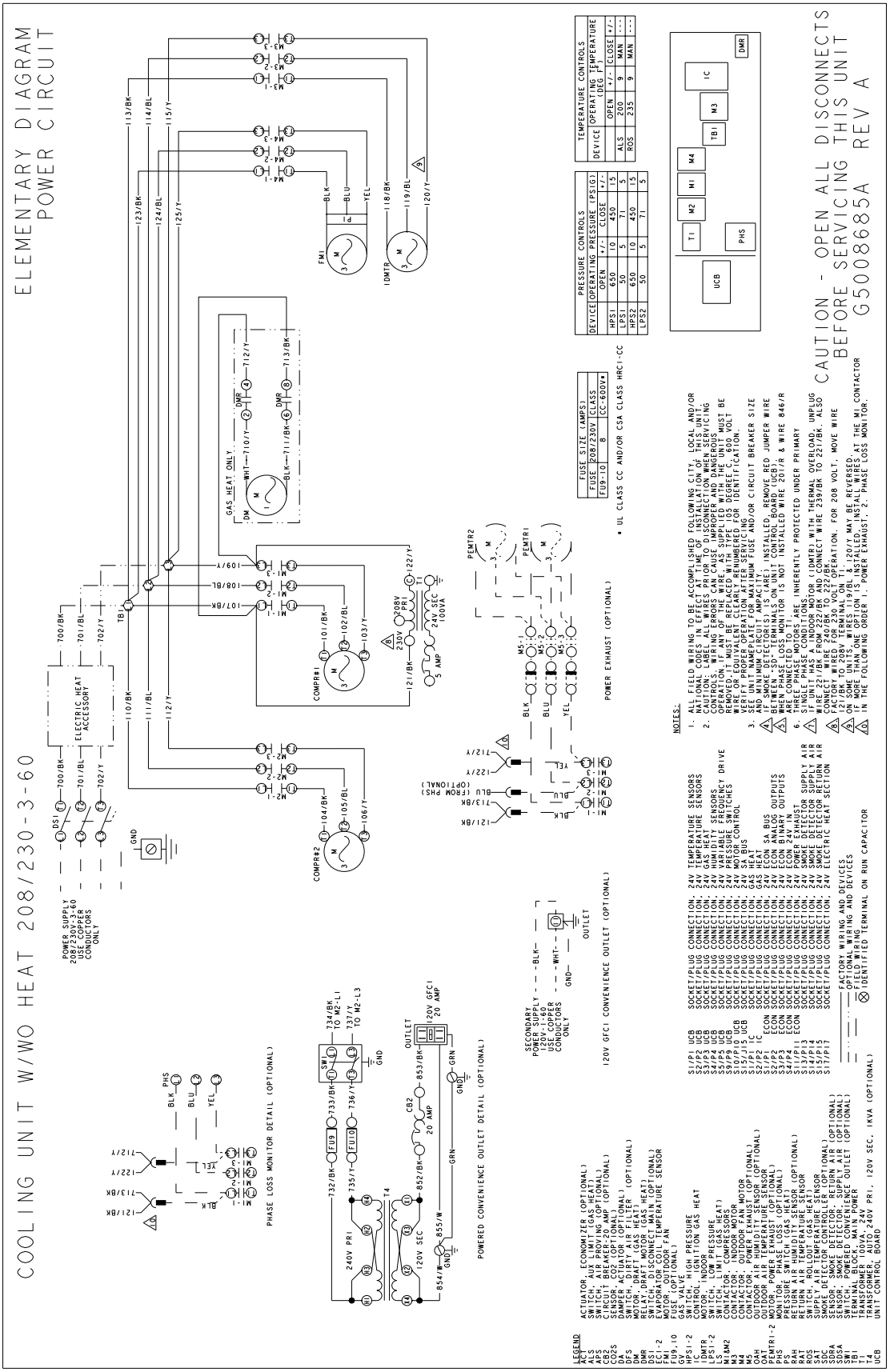
Typical ZZ07/08 Cooling Unit w/wo Electric Heat 460-3-60 Belt Drive - Elementary Diagram Power Circuit



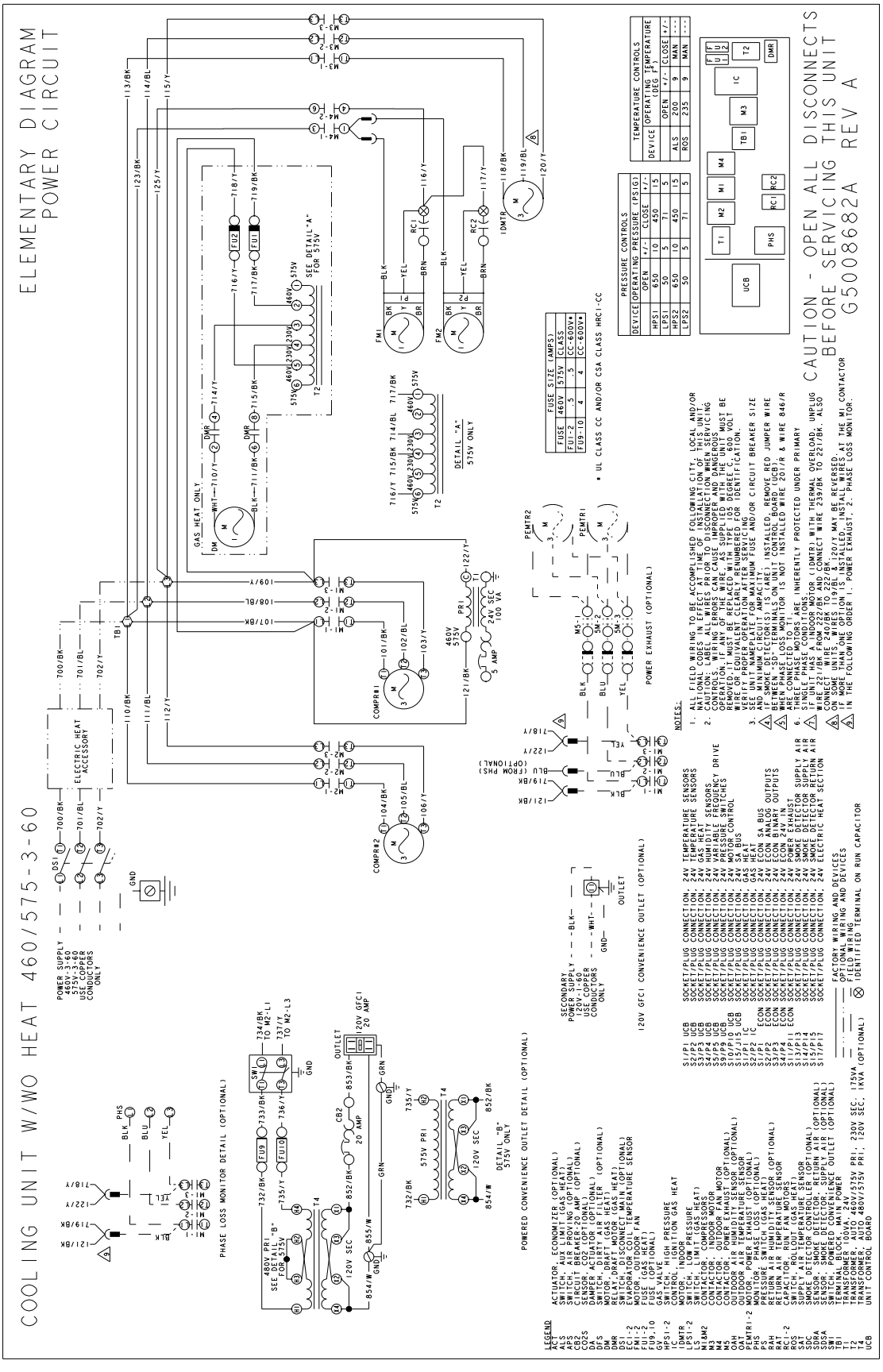
Typical ZZ09, ZZ12 Cooling Unit w/wo Gas Heat 208/230-3-60 Belt Drive Elementary Diagram Power Circuit



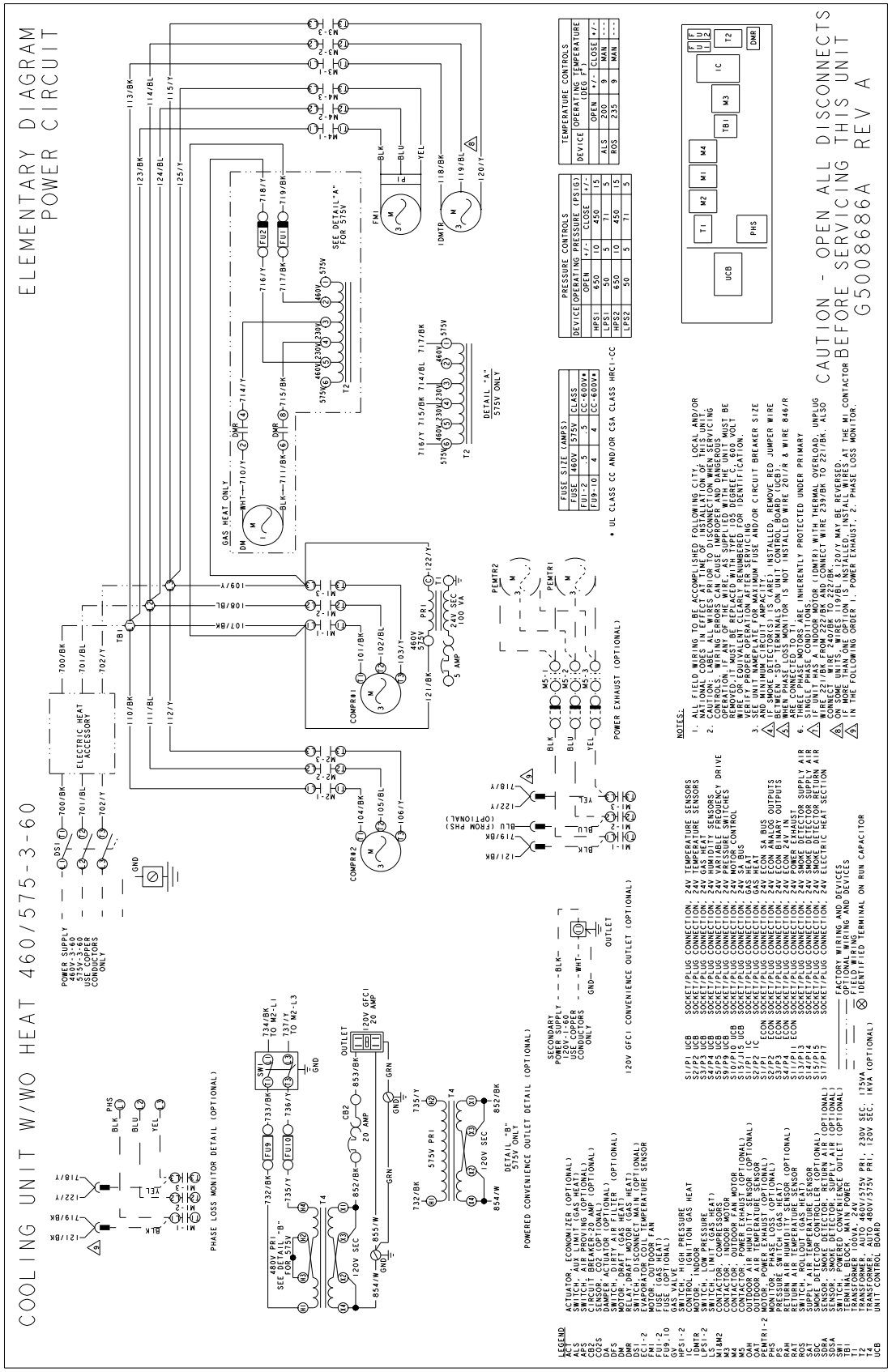
Typical ZZ14 Cooling Unit w/wo Gas Heat 208/230-3-60 Belt Drive Elementary Diagram Power Circuit



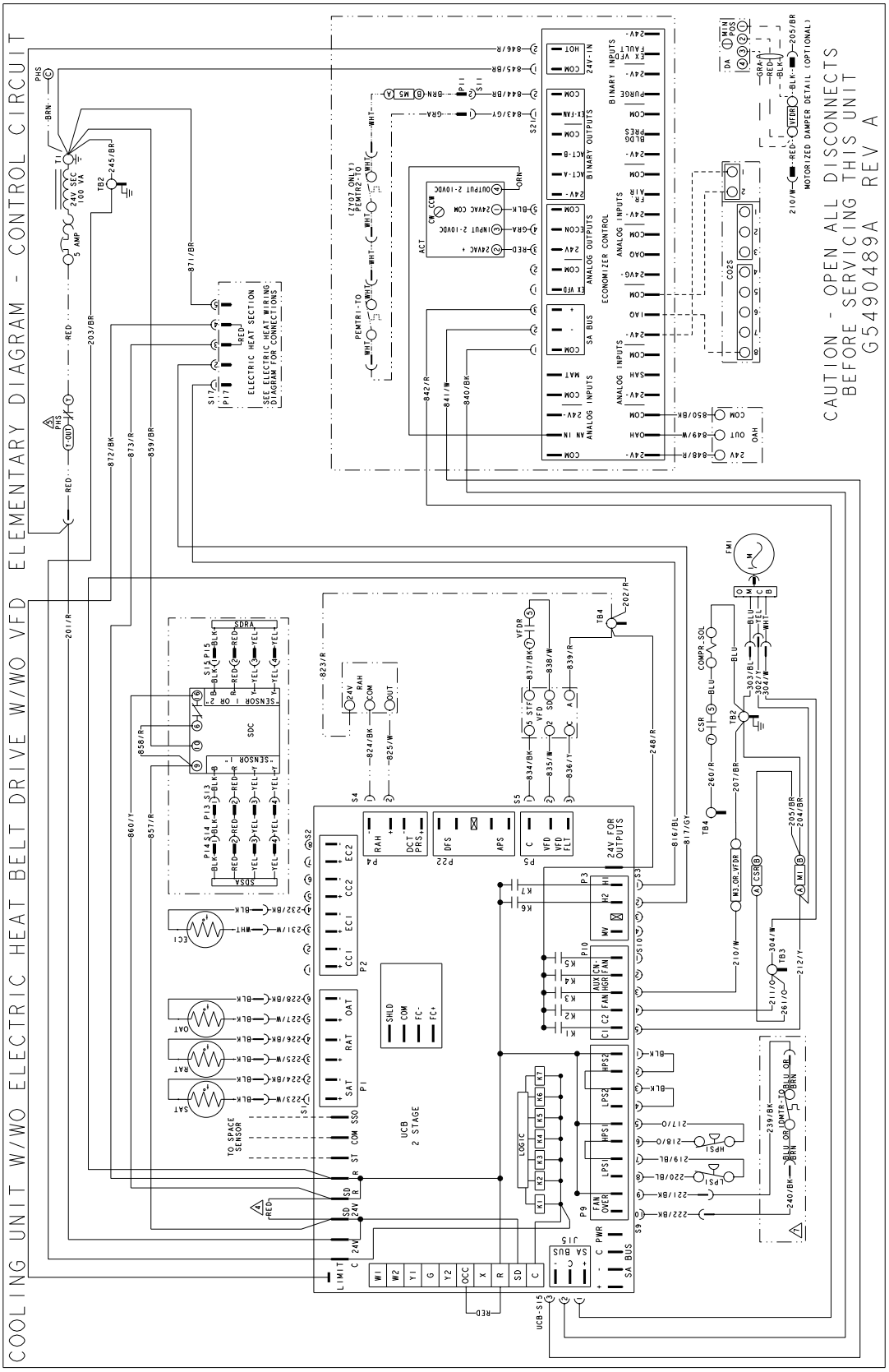
Typical ZZ09, ZZ12 Cooling Unit w/wo Gas Heat 460-3-60 Belt Drive Elementary Diagram Power Circuit



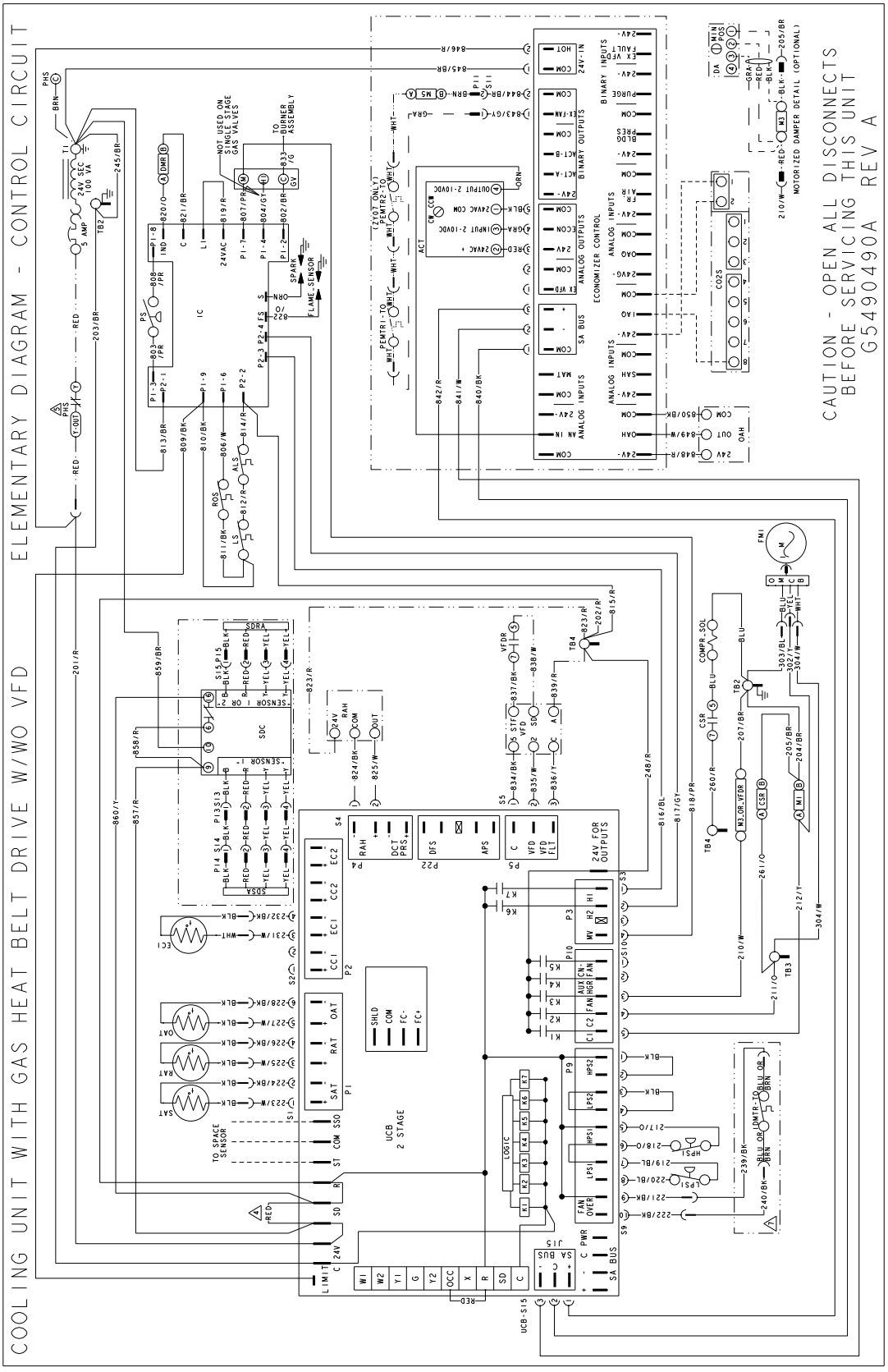
Typical ZZ14 Cooling Unit w/wo Gas Heat 460-3-60 Belt Drive Elementary Diagram Power Circuit



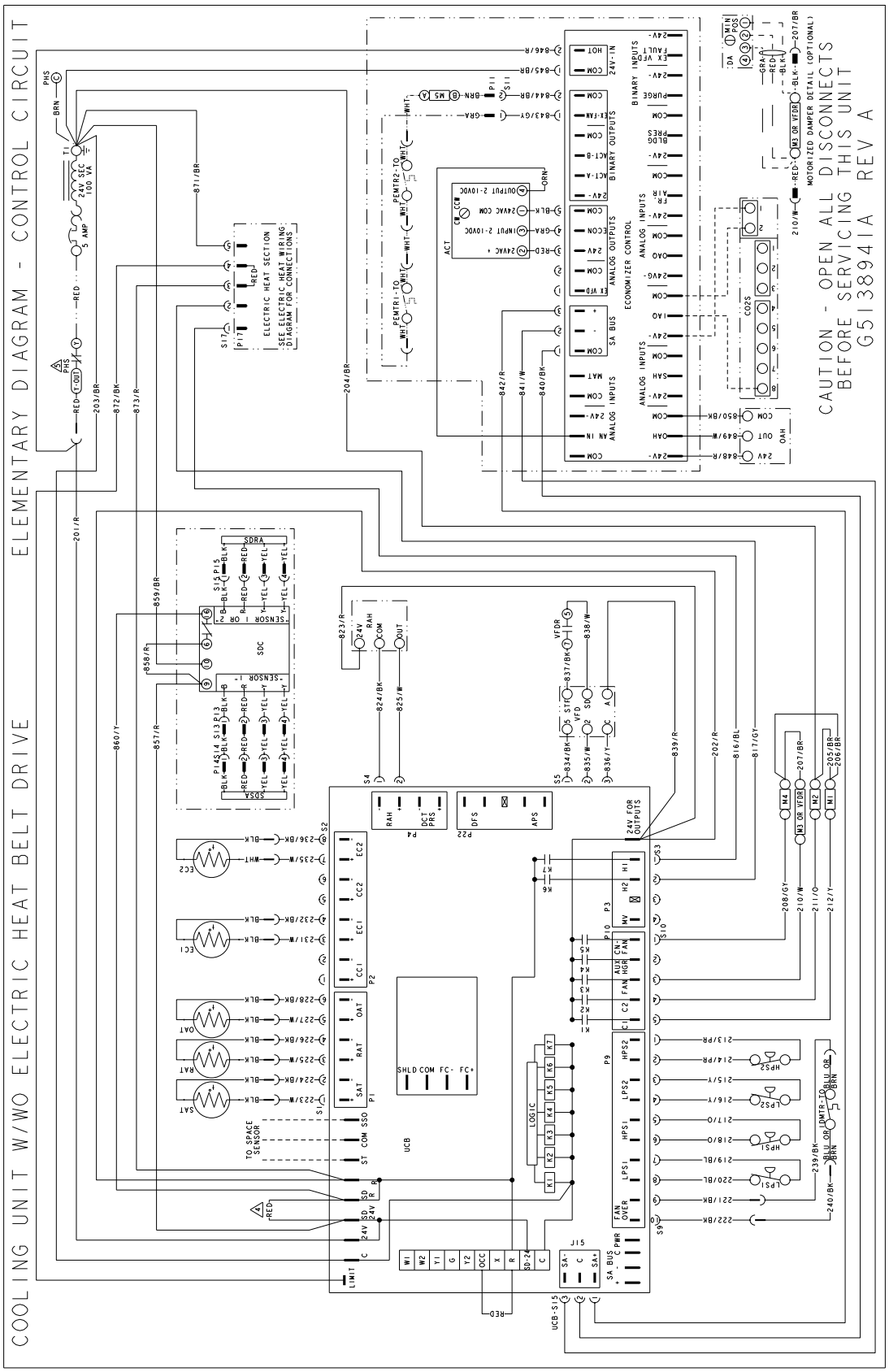
Typical ZZ07/08 Cooling Unit w/wo Electric Heat Belt Drive - Elementary Diagram Control Circuit



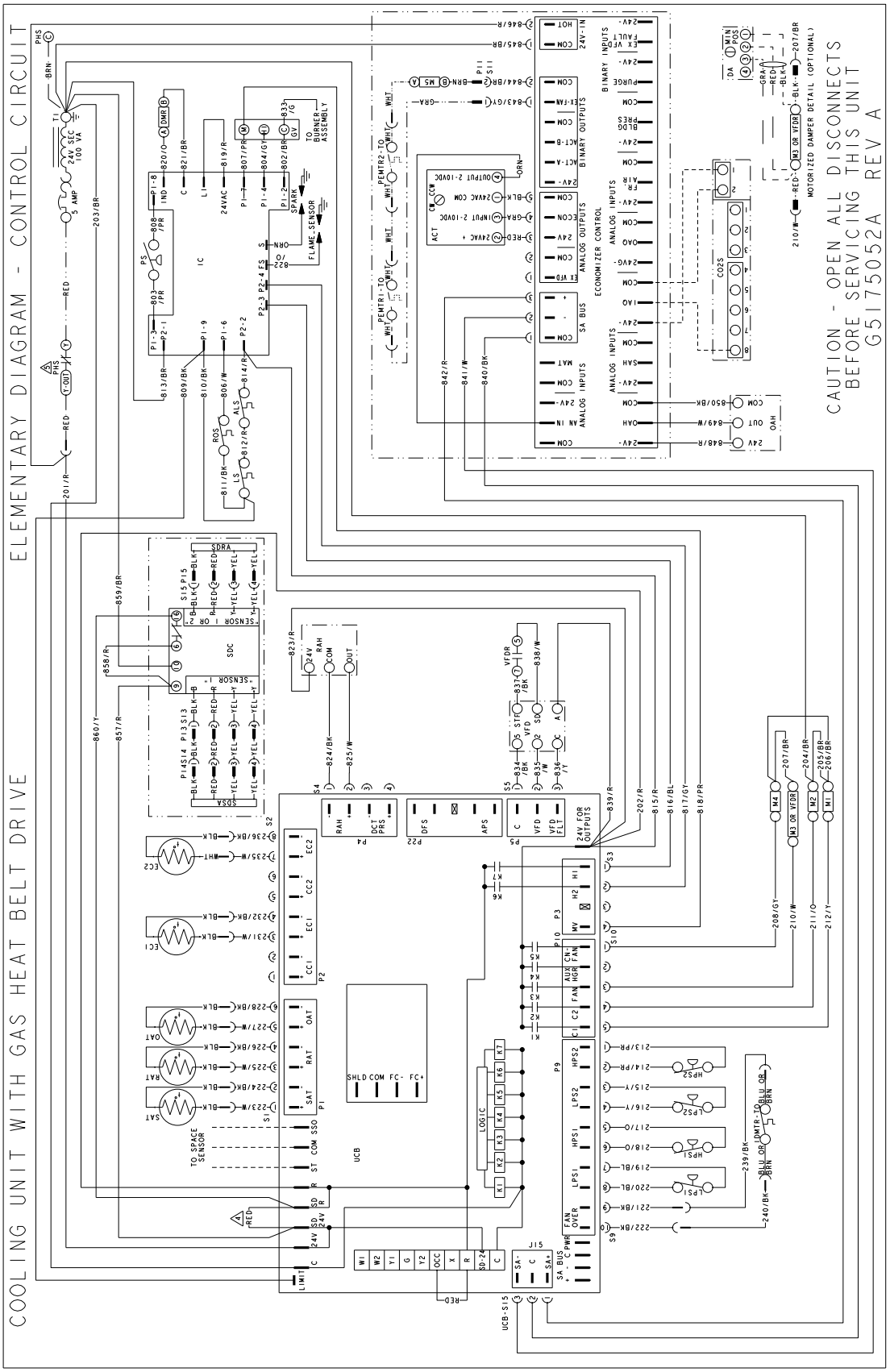
Typical ZZ07-08 Cooling Unit with Gas Heat Belt Drive - Elementary Diagram Control Circuit



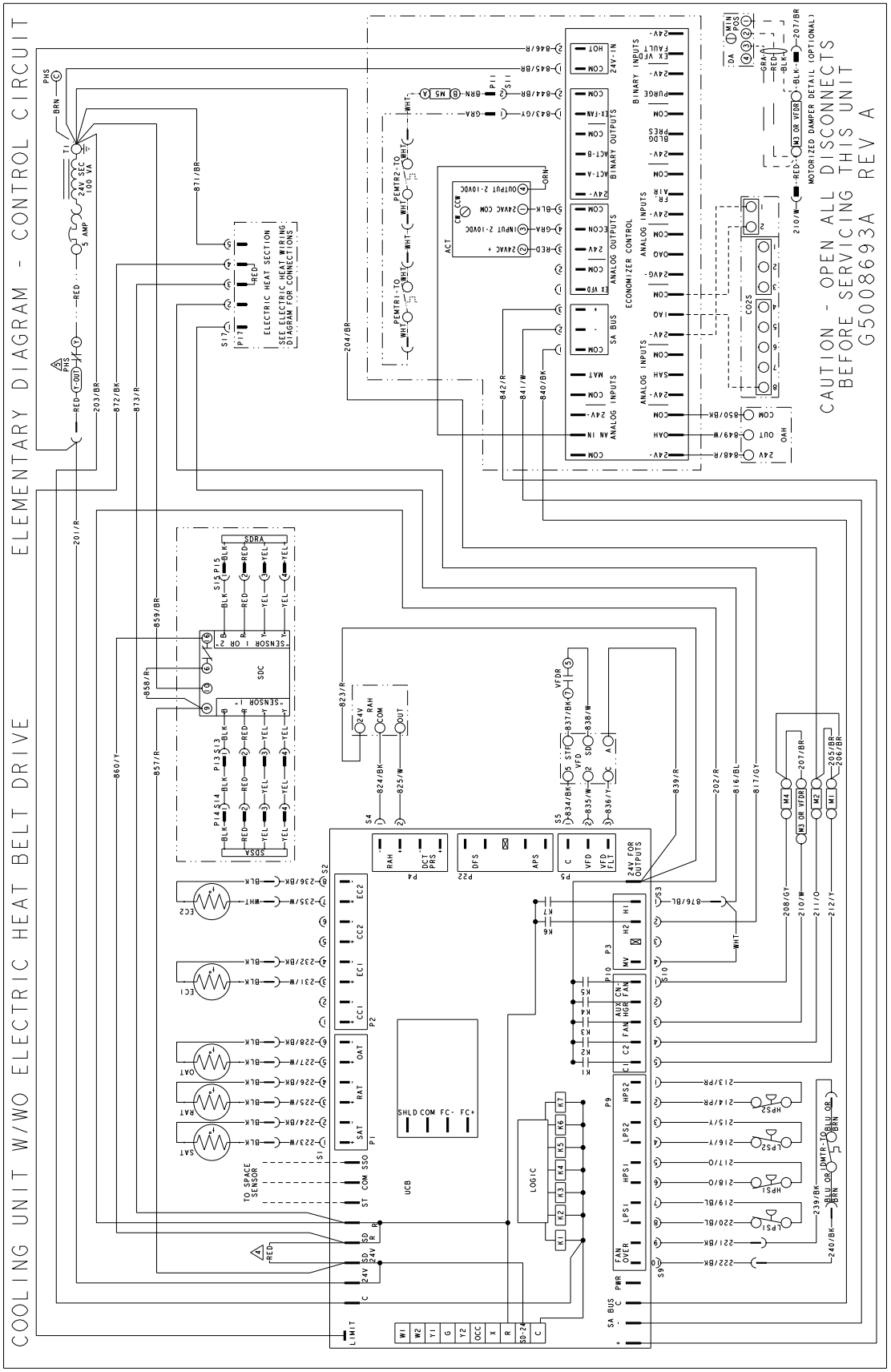
Typical ZZ09 Cooling Unit Belt Drive Elementary Diagram Control Circuit



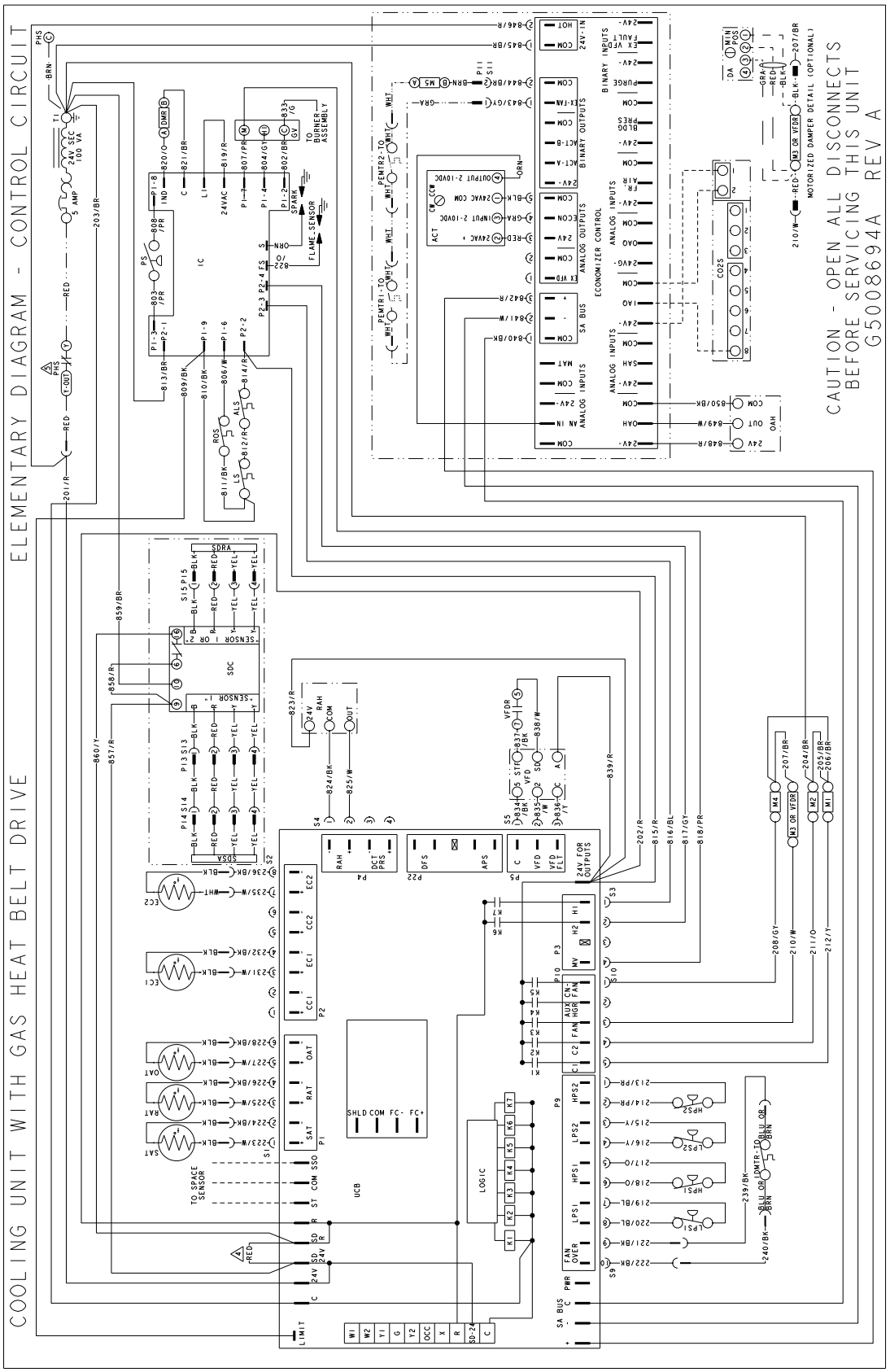
Typical ZZ09 Cooling Unit with Gas Heat Belt Drive Elementary Diagram Control Circuit



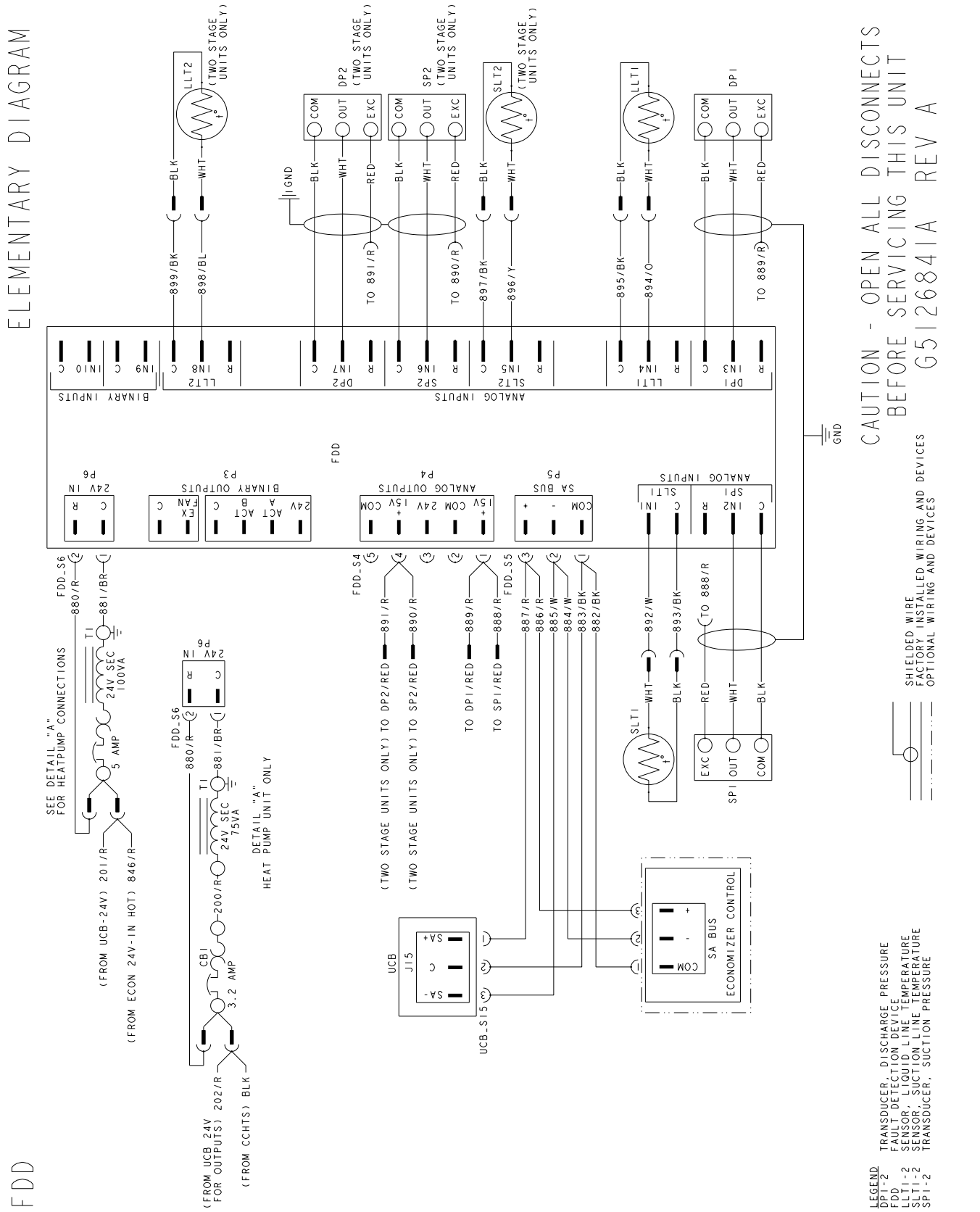
Typical ZZ12/14 Cooling Unit Belt Drive Elementary Diagram Control Circuit



Typical ZZ12/14 Cooling Unit with Gas Heat Belt Drive Elementary Diagram Control Circuit



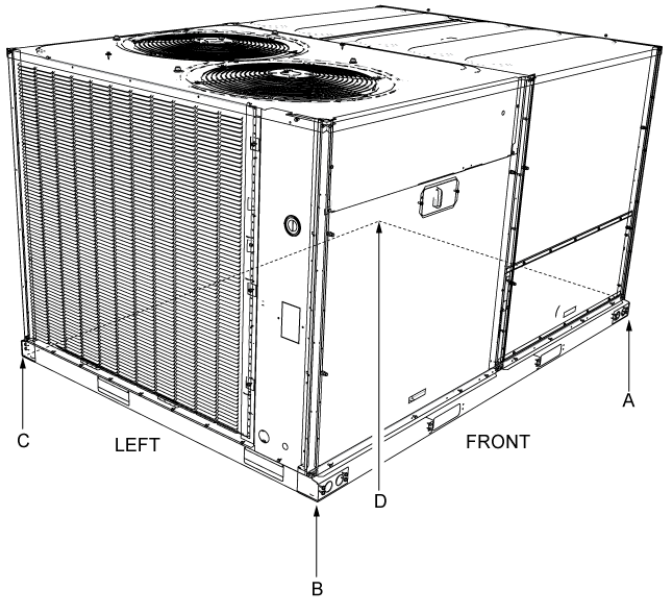
Typical FDD Elementary Wiring Diagram



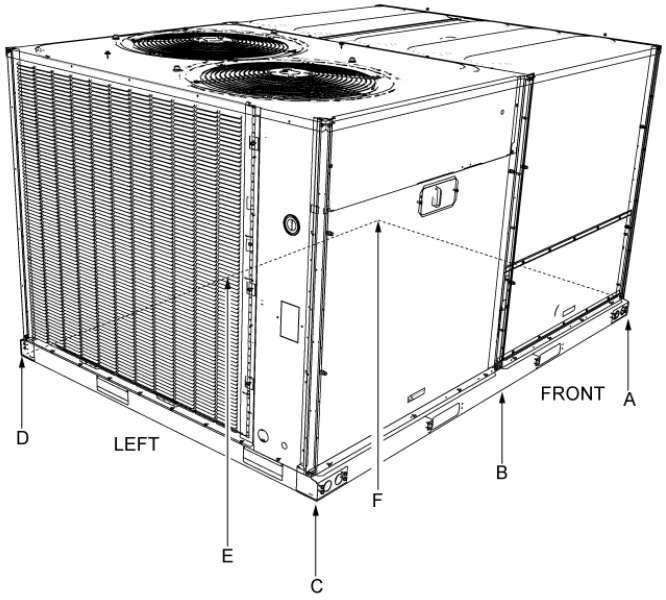
Weights and Dimensions

ZZ07-14 Unit Weights

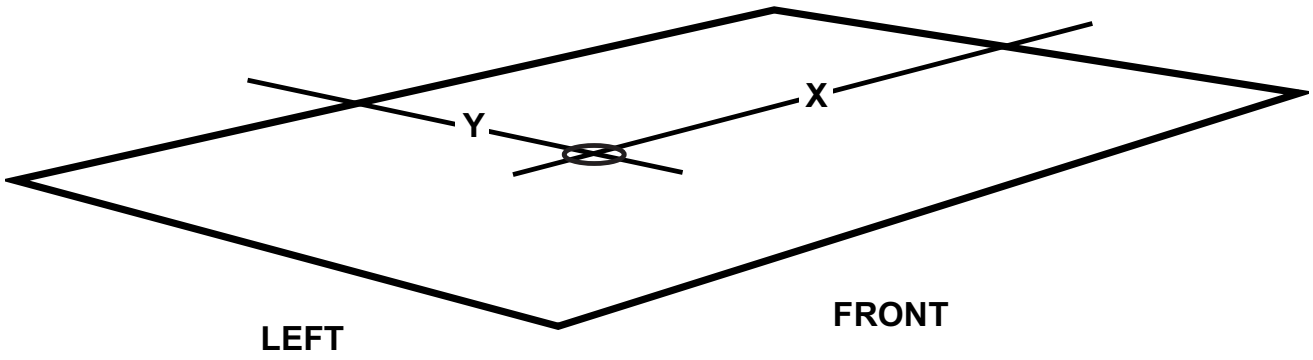
Unit 4 Point Load Weight



Unit 6 Point Load Weight



Unit Center Of Gravity



ZZE07-14 Corner Weights

Model	Size (Tons)	Weight (lbs.)		Center of Gravity		4 point Load Location (lbs.)				6 point Load Location (lbs.)					
		Shipping	Operating	X	Y	A	B	C	D	A	B	C	D	E	F
ZZE	07 (6)	634	614	34	25	168	146	139	160	115	104	95	91	99	109
ZZE	08 (7.5)	617	612	33.6	24.8	170	141	137	165	117	103	91	88	100	113
ZZE	09 (8.5)	857	852	46	36	230	262	192	168	150	163	178	131	120	110
ZZE	12 (10)	884	879	46	36	242	271	193	172	158	171	184	131	122	113
ZZE	14 (12.5)	946	941	45	36	265	284	203	189	175	183	192	137	130	125

ZZG07-14 Corner Weights

Model	Size (Tons)	Weight (lbs.)		Center of Gravity		4 point Load Location (lbs.)				6 point Load Location (lbs.)					
		Shipping	Operating	X	Y	A	B	C	D	A	B	C	D	E	F
ZZG	07 (6)	688	668	34	25	183	159	152	174	125	114	104	99	108	119
ZZG	08 (7.5)	671	666	33.6	24.8	185	153	149	179	127	112	99	96	109	123
ZZG	09 (8.5)	959	954	45	36	269	291	205	189	177	186	197	138	131	125
ZZG	12 (10)	990	985	45	37	284	301	206	194	187	195	203	139	133	128
ZZG	14 (12.5)	1052	1047	44	37	304	312	218	212	202	205	209	146	144	141

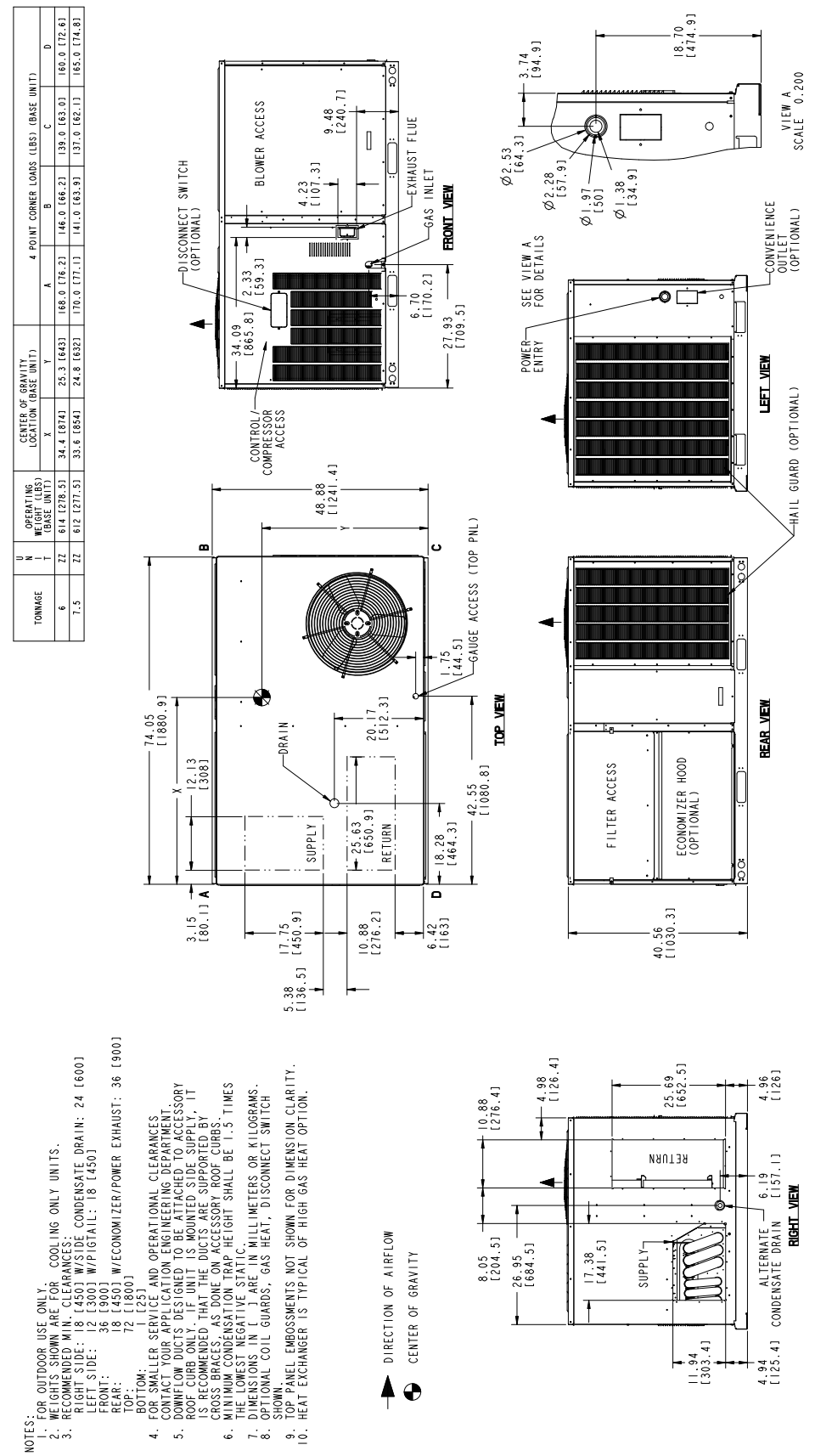
ZZ07-14 Unit Accessory Weights

Unit Accessory	Weights (lbs.)
Powered Convenience Outlet Factory installed	35
Non-Powered Convenience Outlet Factory Installed	10
Vertical Flow Dry Bulb Economizer Small Footprint	63
Vertical Flow Dry Bulb Economizer Large Footprint	96
Horizontal Flow Dry Bulb Economizer Small Footprint Short	75
Horizontal Flow Dry Bulb Economizer Small Footprint Tall	81
Horizontal Flow Dry Bulb Economizer Large Footprint Short	105
Horizontal Flow Dry Bulb Economizer Large Footprint Tall	102
Power Exhaust Vert Flow Small Footprint	39
Power Exhaust Vert Flow Large Footprint	39
Power Exhaust Horiz Flow Small Footprint	39
Power Exhaust Horiz Flow Large Footprint	39
Hail Guard Kit Small Short Factory Installed	19
Hail Guard Kit Small Tall Factory Installed	24
Hail Guard Kit Large Short Factory Installed	50
Hail Guard Kit Large Tall Factory Installed	50
Flue Extension Kit (1FE0414)	15
Flue Extension Kit (1FE0415)	17
Flue Extension Kit (1FE0416)	19
Curb Rigid 14" Small Footprint	145
Curb Rigid 14" Large Footprint	135
Curb Rigid 24" Small Footprint	135
Curb Rigid 24" Large Footprint	135

ZZ07-14 Unit Dimensions

ZZ07 and ZZ08

TONNAGE	UNIT	OPERATING WEIGHT (LBS) (BASE UNIT)	CENTER OF GRAVITY LOCATION (BASE UNIT)		4 POINT CORNER LOADS (LBS) (BASE UNIT)			
			X	Y	A	B	C	D
6	ZZ	614 [278.5]	34.4 [8741]	25.3 [6433]	168.0 [76.2]	146.0 [66.2]	139.0 [63.0]	160.0 [72.6]
7.5	ZZ	612 [277.5]	33.6 [8543]	24.8 [632]	170.0 [77.1]	141.0 [63.9]	137.0 [62.1]	165.0 [74.8]



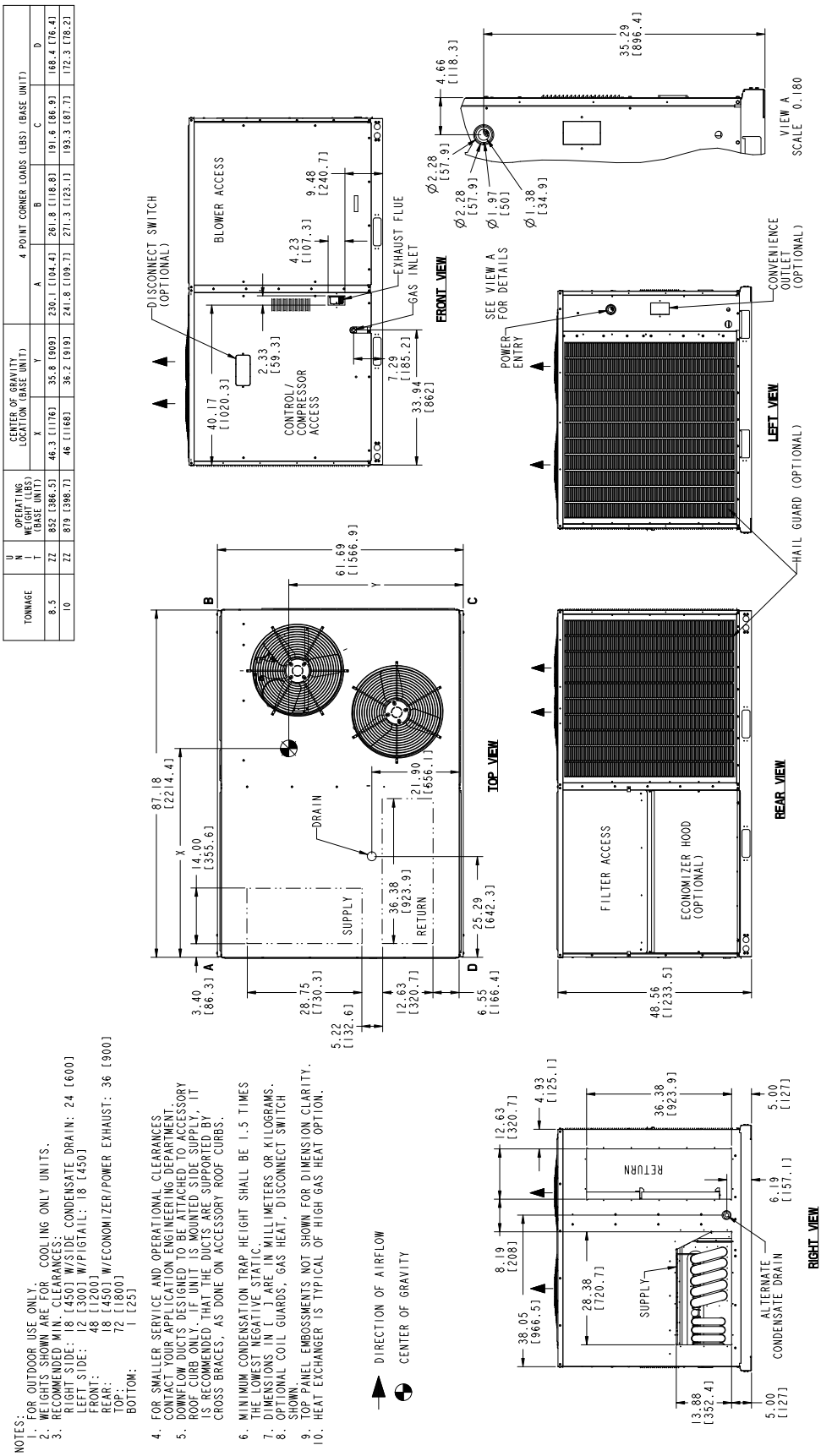
NOTES:
1. FOR OUTDOOR USE ONLY.
2. WEIGHTS SHOWN ARE FOR COOLING ONLY UNITS.
3. RECOMMENDED MIN. CLEARANCES:
   RIGHT SIDE: 18 [450] W/SIDE CONDENSATE DRAIN: 24 [600]
   LEFT SIDE: 12 [300] W/PIGTAIL: 18 [450]
   FRONT: 36 [900]
   REAR: 18 [450] W/ECONOMIZER/POWER EXHAUST: 36 [900]
   TOP: 72 [1800]
   BOTTOM: 1 [25]
4. FOR SMALLER SERVICE AND OPERATIONAL CLEARANCES, CONTACT YOUR APPLICATION ENGINEERING DEPARTMENT.
5. DOWNFLOW DUCTS DESIGNED TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. IF UNIT IS MOUNTED SIDE SUPPLY, IT IS RECOMMENDED THAT THE DUCTS ARE SUPPORTED BY CROSS BRACES, AS DONE ON ACCESSORY ROOF CURBS.
6. MINIMUM CONDENSATION TRAP HEIGHT SHALL BE 1.5 TIMES THE LOWEST NEGATIVE STATIC.
7. DIMENSIONS IN [ ] ARE IN MILLIMETERS OR KILOGRAMS.
8. OPTIONAL COIL GUARDS, GAS HEAT, DISCONNECT SWITCH SHOWN.
9. TOP PANEL EMBOSSMENTS NOT SHOWN FOR DIMENSION CLARITY.
10. HEAT EXCHANGER IS TYPICAL OF HIGH GAS HEAT OPTION.

DIRECTION OF AIRFLOW

CENTER OF GRAVITY

ZZ09 and ZZ12

TONNAGE	UNIT	OPERATING WEIGHT (LBS) (BASE UNIT)	CENTER OF GRAVITY LOCATION (BASE UNIT)		4 POINT CORNER LOADS (LBS) (BASE UNIT)			
			X	Y	A	B	C	D
8.5	ZZ	852 [386.5]	46.3 [1176]	35.8 [909]	230.1 [104.4]	261.8 [118.8]	191.6 [86.9]	168.4 [76.4]
10	ZZ	879 [398.7]	46 [1168]	36.2 [919]	241.8 [109.7]	271.3 [123.1]	193.3 [87.7]	172.3 [78.2]



NOTES:
1. FOR OUTDOOR USE ONLY. COOLING ONLY UNITS.
2. WEIGHTS SHOWN ARE FOR COOLING ONLY UNITS.
3. RECOMMENDED MIN. CLEARANCES:
   RIGHT SIDE: 18 [450] W/SIDE CONDENSATE DRAIN: 24 [600]
   LEFT SIDE: 12 [300] W/PIGTAIL: 18 [450]
   FRONT: 48 [1200]
   REAR: 18 [450] W/ECONOMIZER/POWER EXHAUST: 36 [900]
   TOP: 72 [1800]
   BOTTOM: 1 [25]
4. FOR SMALLER SERVICE AND OPERATIONAL CLEARANCES, CONTACT YOUR APPLICATION ENGINEERING DEPARTMENT.
5. DOWNFLOW DUCTS DESIGNED TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. IF UNIT IS MOUNTED SIDE SUPPLY, IT IS RECOMMENDED THAT THE DUCTS ARE SUPPORTED BY CROSS BRACES, AS DONE ON ACCESSORY ROOF CURBS.
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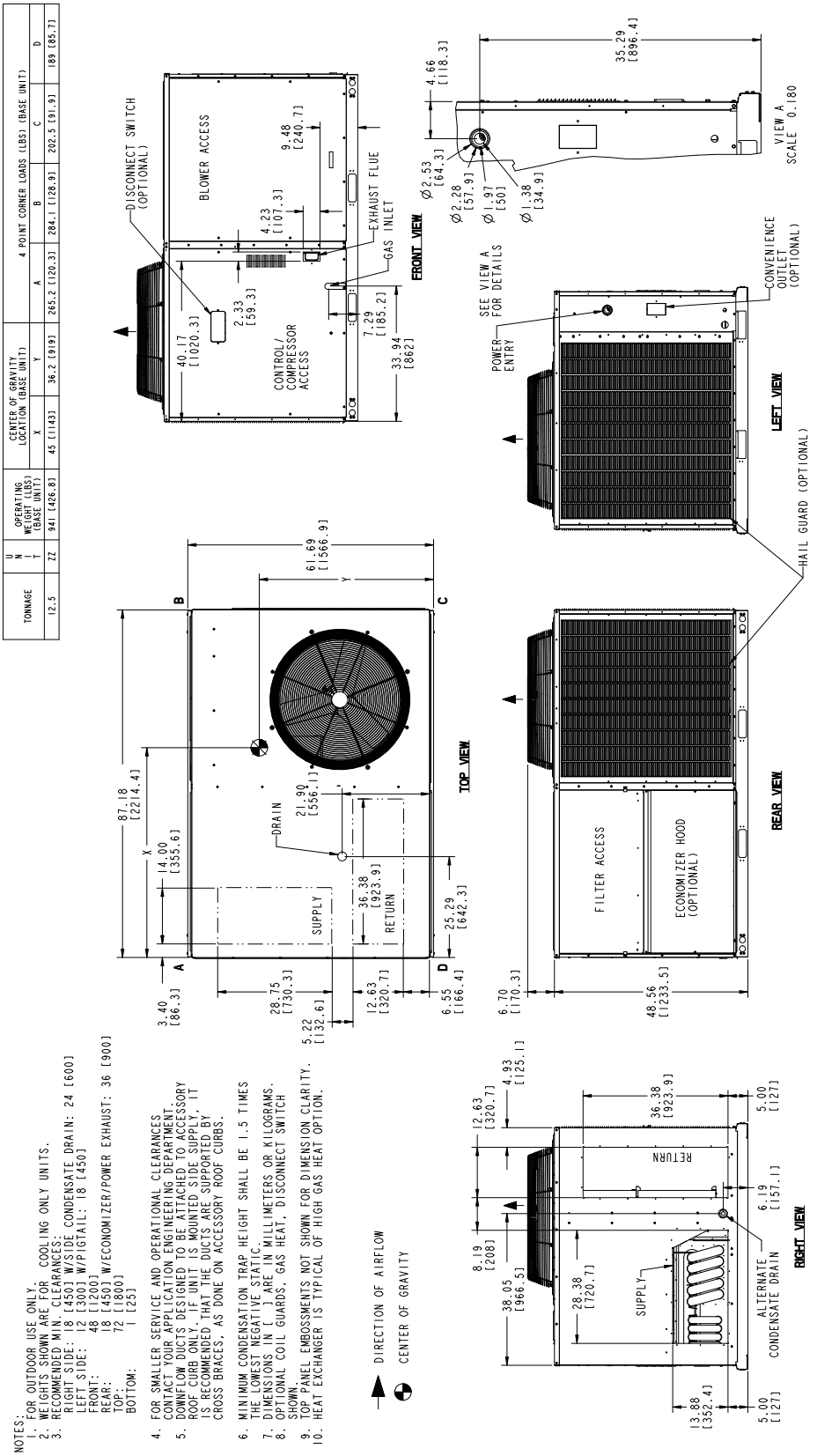
8. OPTIONAL COIL GUARDS, GAS HEAT, DISCONNECT SWITCH SHOWN.
9. TOP PANEL EMBOSSMENTS NOT SHOWN FOR DIMENSION CLARITY.
10. HEAT EXCHANGER IS TYPICAL OF HIGH GAS HEAT OPTION.

DIRECTION OF AIRFLOW

CENTER OF GRAVITY

ZZ14

TONNAGE	UNIT	OPERATING WEIGHT (LBS) (BASE UNIT)	CENTER OF GRAVITY LOCATION (BASE UNIT)		4 POINT CORNER LOADS (LBS) (BASE UNIT)			
			X	Y	A	B	C	D
12.5	ZZ	941 [426.8]	45 [1143]	36.2 [919]	265.2 [120.3]	284.1 [128.9]	202.5 [91.9]	189 [85.7]



ZZ07-08 Unit Clearances

Direction	Distance (in.)	Direction	Distance (in.)
Top[1]	72	Right	18
Front	36	Left	12
Rear	18[2]/36[3]	Bottom[4]	1

1. Units must be installed outdoors. Over hanging structure or shrubs should not obscure condenser air discharge outlet.
2. Units without economizer or power exhaust.
3. Units equipped with an Economizer or Power Exhaust. Flue products must not be discharged within 10 Feet of the rear of the unit.
4. Units may be installed on combustible floors made from wood or class A, B or C roof covering materials.

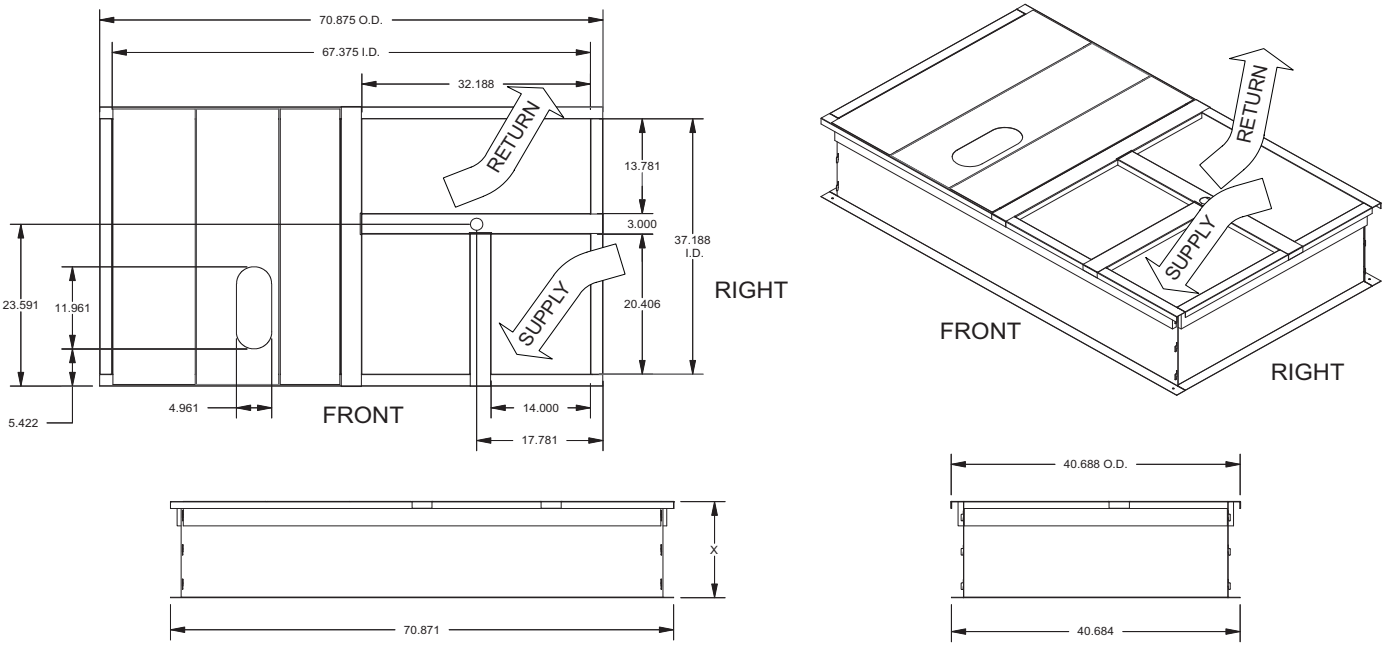
ZZ09-14 Unit Clearances

Direction	Distance (in.)	Direction	Distance (in.)
Top[1]	72	Right	18
Front	48	Left	12
Rear	18[2]/36[3]	Bottom[4]	1

1. Units must be installed outdoors. Over hanging structure or shrubs should not obscure condenser air discharge outlet.
2. Units without economizer or power exhaust.
3. Units equipped with an Economizer or Power Exhaust. Flue products must not be discharged within 10 Feet of the rear of the unit.
4. Units may be installed on combustible floors made from wood or class A, B or C roof covering materials.

ZZ07-14 Unit Roof Curb Dimensions

1RC0456, 1RC0458 Roof Curb Dimensions



1RC0456 X= 14" Height
1RC0458 X= 24" Height

Notes:
1. Sides, ends and cross support are 18-G90. Deck pans, R/A & S/A supports are 20-G90.
2. Full perimeter wood nailer.
3. Insulated deck pans.

Unit Models used with 1RC0456, 1RC0458 Roof Curb

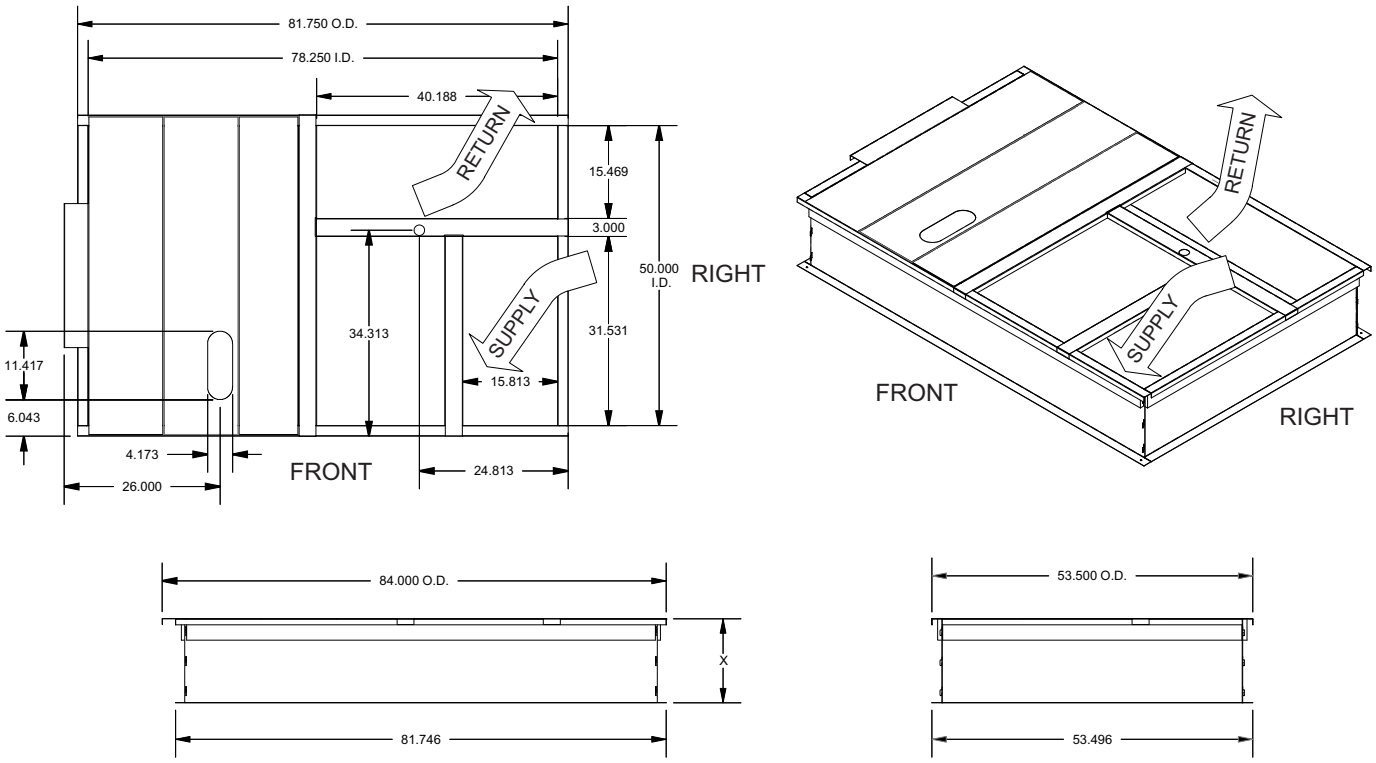
ZZ07
ZZ08

NOTE: If utilities are required thru the base of the unit or thru the roof curb the following field installed accessories can be purchased thru your dealer or contractor:

1TB0401 - Thru the base electrical and thru the curb gas

1TB0403 - Thru the base electrical and gas

1RC0457, 1RC0459 Roof Curb Dimensions



1RC0457 X= 14" Height
1RC0459 X= 24" Height

Notes:
1. Sides, ends, unit locator and cross support are 18-G90. Deck pans, R/A & S/A supports are 20-G90.
2. Full perimeter wood nailer.
3. Insulated deck pans.

Unit Models used with 1RC0457, 1RC0459 Roof Curb

ZZ09
ZZ12
ZZ14

NOTE: If utilities are required thru the base of the unit or thru the roof curb the following field installed accessories can be purchased thru your dealer or contractor:

1TB0402 - Thru the base electrical and thru the curb gas

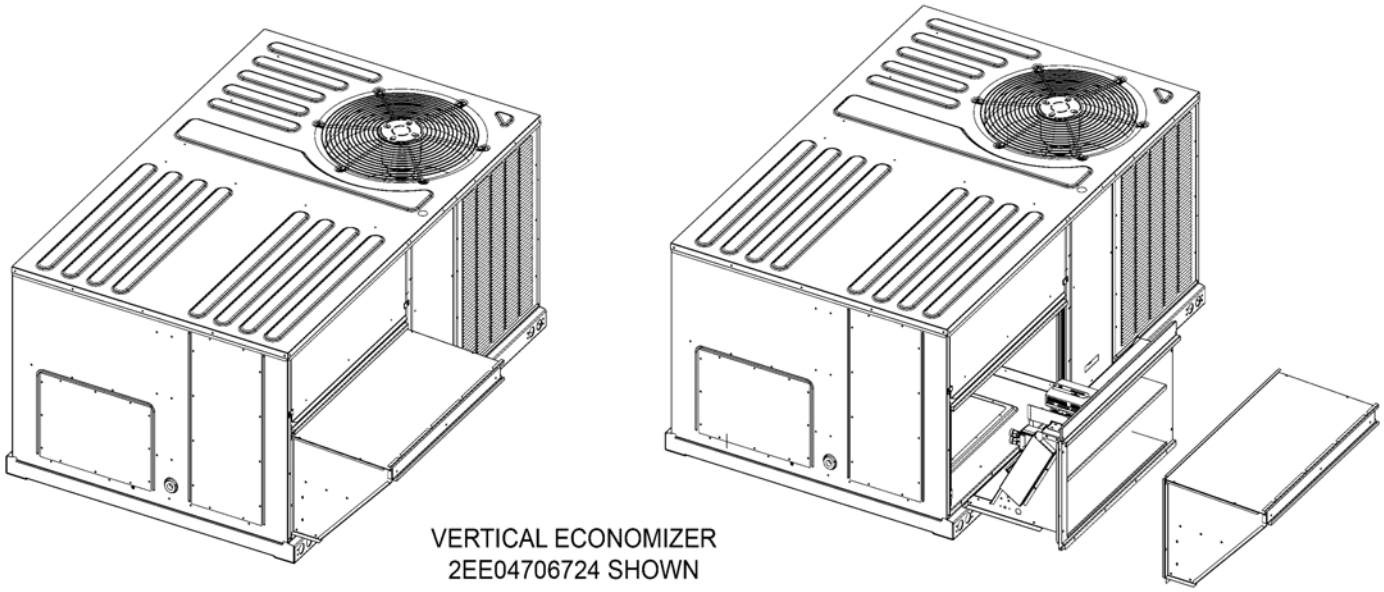
1TB0404 - Thru the base electrical and gas

Economizer Options

Economizer Usage

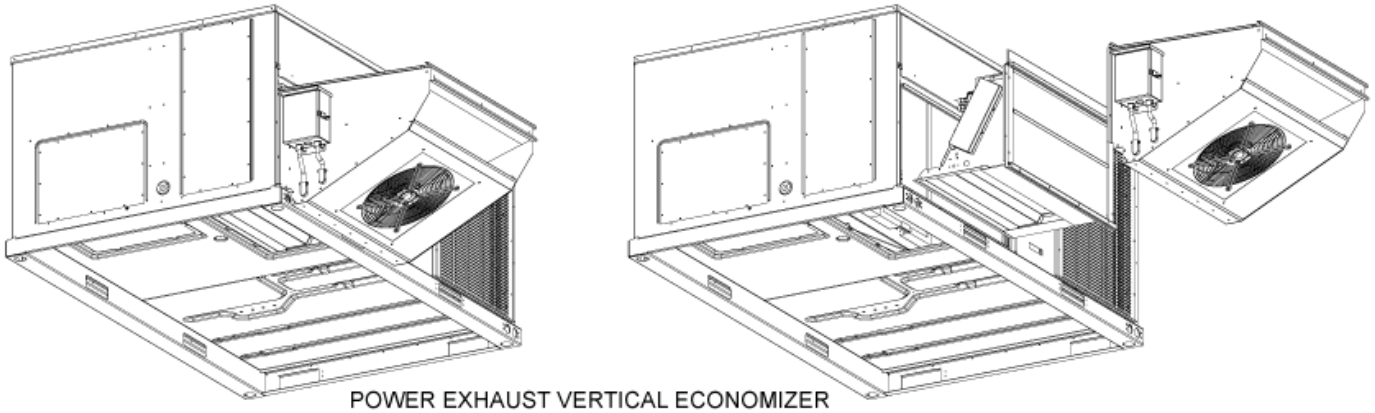
Application	Description	Accessory Kit Number
Economizer Vertical Flow	Econ, DB, Vertical Flow, Small Footprint	2EE04706724
	Econ, DB, Vertical Flow, Large Footprint	2EE04706824
Economizer Horizontal Flow	Econ, DB, Horizontal Flow, Small Footprint, Short Cabinet	2EE04707024
	Econ, DB, Horizontal Flow, Small Footprint, Tall Cabinet	2EE04707124
	Econ, DB, Horizontal Flow, Large Footprint, Short Cabinet	2EE04707224
	Econ, DB, Horizontal Flow, Large Footprint, Tall Cabinet	2EE04707324
Power Exhaust Vertical Flow	Power Exhaust Vert Flow Small Footprint 208V-230V 3-ph	2PE04704225
	Power Exhaust Vert Flow Small Footprint 460V 3-ph	2PE04704246
	Power Exhaust Vert Flow Large Footprint 208V-230V 1-ph	2PE04704306
	Power Exhaust Vert Flow Large Footprint 208V-230V 3-ph	2PE04704325
	Power Exhaust Vert Flow Large Footprint 460V 3-ph	2PE04704346
Power Exhaust Horizontal Flow	Power Exhaust Horiz Flow Small Footprint 208V-230V 3-ph	2PE04704425
	Power Exhaust Horiz Flow Small Footprint 460V 3-ph	2PE04704446
	Power Exhaust Horiz Flow Large Footprint 208V-230V 3-ph	2PE04704525
	Power Exhaust Horiz Flow Large Footprint 460V 3-ph	2PE04704546

Field Installed Vertical Flow Economizer



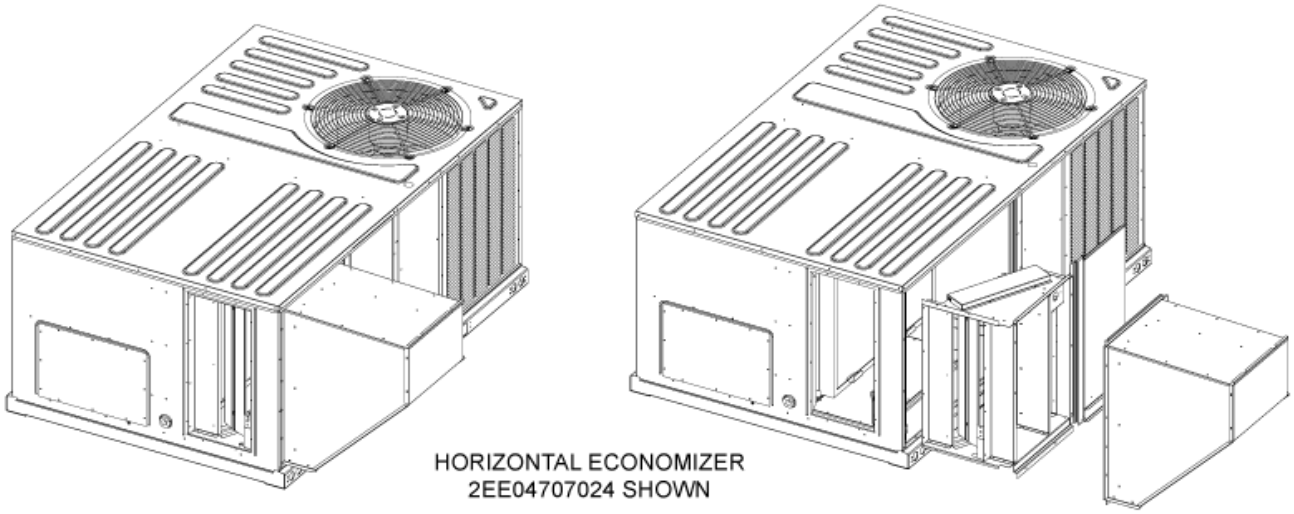
VERTICAL ECONOMIZER
2EE04706724 SHOWN

Field Installed Vertical Flow Economizer W/Power Exhaust



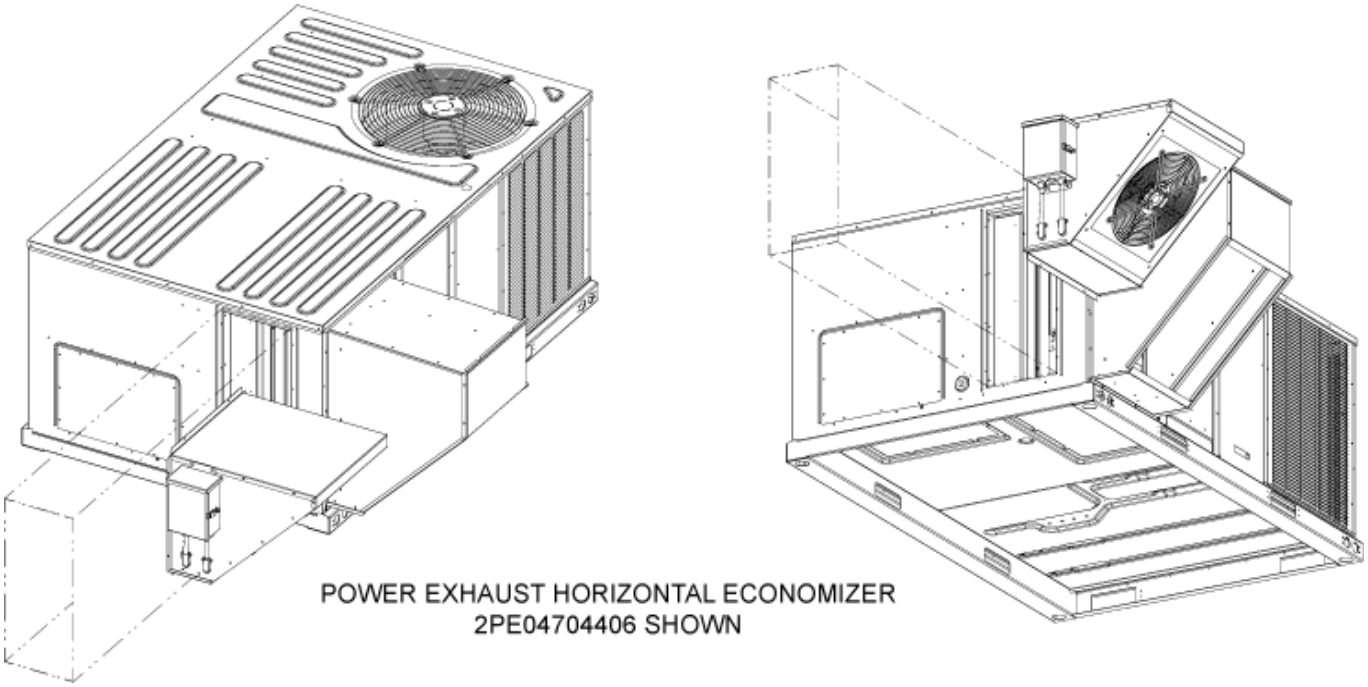
POWER EXHAUST VERTICAL ECONOMIZER
2PE04704206 SHOWN

Field Installed Horizontal Flow Economizer



HORIZONTAL ECONOMIZER
2EE04707024 SHOWN

Field Installed Horizontal Flow Economizer W/Power Exhaust



POWER EXHAUST HORIZONTAL ECONOMIZER
2PE04704406 SHOWN

Guide Specifications

YORK® GUIDE MECHANICAL SPECIFICATIONS
SINGLE PACKAGE AIR CONDITIONERS

7 THRU 12-1/2 NOMINAL TONS

Sun™ Core SERIES

Size Range: 7 to 12 1/2 Tons Nominal Cooling

70,000 to 200000 BTUH Nominal Gas Heating Output

Model Series: ZZ

DIVISION 23 – HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Number **Title**

23 00 00 HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

23 06 00 Schedules for HVAC
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

23 07 00 HVAC Insulation
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 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. Gas 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 00 Instrumentation and Control for HVAC
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 “G” when calling for fan only or continuous fan.
   b. have capability to energize 2 different stages of cooling, and 2 different stages of heating.
   c. include capability for occupancy scheduling.

23 09 23 Direct- digital Control system for HVAC

23 09 23.13 Decentralized, Rooftop Units:

23 09 23.13.A. Smart Equipment™ (Unit based microprocessor control)

1. Shall be ASHRAE 62 compliant.
2. Shall include an integrated economizer controller to support an economizer with 2 to 10 v DC actuator input.
3. Controller shall accept the following inputs: space temperature, setpoint adjustment, outdoor air temperature, indoor air quality, outdoor air quality, indoor relative humidity, compressor lockout, fire shutdown, enthalpy, fan status, remote time clock/door switch.
4. Shall accept a CO2 sensor in the conditioned space, and be Demand Control Ventilation ready.
5. Unit shall provide surge protection for the controller through a circuit breaker.
6. Shall have an LED display independently showing the status of activity on the communication bus, and processor operation.
7. Software upgrades will be accomplished by local download. Software upgrades through chip replacements are not allowed.

A. Unit shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-volt transformer side.

B. Unit shall incorporate a lockout circuit which provides reset capability at the space thermostat or base unit should any of the following standard safety devices trip and shut off compressor:

C. Loss-of-charge/Low-pressure switch.

D. High-pressure switch.

E. Freeze-protection temperature sensor, evaporator coil. If any of the above safety devices trip, an LED (light-emitting diode) indicator shall flash a diagnostic code that indicates which safety switch has tripped.

F. Unit shall incorporate “AUTO RESET” compressor over temperature, over current protection.

G. Unit shall operate with conventional thermostat designs and have a low voltage terminal strip for easy hook-up.

H. Unit control board shall have on-board diagnostics and fault code display.

I. Standard controls shall include anti-short cycle and low voltage protection, and permit cooling operation down to 0 ºF.

J. Control board shall monitor each refrigerant safety switch independently.

K. Control board shall retain last 5 fault codes in non-volatile memory, which will not be lost in the event of a power loss.

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

1. Shall be ASHRAE 62 compliant.
2. Shall include built- in protocol for BACNET , Modbus , and Johnson N2.
3. Shall allow access of up to 62 network variables (SNVT). Shall be compatible with all open controllers
4. Baud rate Controller shall be selectable using a dip switch.
5. Shall have an LED display independently showing the status of serial communication, running, errors, power, all digital outputs, and all analog inputs.
6. Shall accept the following inputs: space temperature, setpoint adjustment, outdoor air temperature, indoor air quality, outdoor air quality, compressor lock- out, fire shutdown, enthalpy switch, and fan status/filter status/ humidity/ remote occupancy.

7. Software upgrades will be accomplished by either local or remote download. No software upgrades through chip replacements are allowed.

23 09 33 Electric and Electronic Control System for HVAC

23 09 33.13 Decentralized, Rooftop Units:

23 09 33.13.A. General:

1. Shall be complete with self- contained low- voltage control circuit protected by a resettable circuit breaker on the 24- v transformer side. Transformer shall have 75VA capability.
2. Shall utilize color- coded wiring.
3. Shall include a central control terminal board to conveniently and safely provide connection points for vital control functions such as: smoke detectors, phase monitor, gas controller, economizer, thermostat, DDC control options, and low and high pressure switches.
4. The heat exchanger shall be controlled by an integrated gas controller (IGC) microprocessor. See heat exchanger section of this specification.

23 09 33.23.B. Safeties:

1. Compressor over- temperature, over- current. High internal pressure differential.
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.
5. Heating section shall be provided with the following minimum protections:
   a. High- temperature limit switches.
   b. Induced draft motor speed sensor.
   c. Flame roll-out switch.
   d. Flame proving controls

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, disposable 2” or 4” thick fiberglass filters of commercially available sizes.
2. Units can accept 2” or 4” filters and have a field convertible toolless

3. Filters shall be accessible through an access panel with toolless removal as described in the unit cabinet section of this specification (23 81 19.13.H).

23 81 19 Self- Contained Air Conditioners

23 81 19.13 Small- Capacity Self- Contained Air Conditioners

23 81 19.13.A. General

1. Outdoor, rooftop mounted, electrically controlled, heating and cooling unit utilizing a fully hermetic scroll compressor(s) for cooling duty and gas combustion for heating duty.
2. Factory assembled, single- piece heating and cooling rooftop unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, and special features required prior to field start- up.
3. Unit shall use environmentally sound, R-410A refrigerant.
4. Unit shall be installed in accordance with the manufacturer's instructions.
5. Unit must be selected and installed in compliance with local, state, and federal codes.

23 81 19.13.B. Quality Assurance

1. Unit meets ASHRAE 90.1 minimum efficiency requirements.
2. Unit shall be rated in accordance with AHRI Standards 210/240 or 340/360.
3. Unit shall be designed to conform to ASHRAE 15.
4. Unit shall be UL- tested and certified in accordance with ANSI Z21.47 -2012/CSA 2.3-2012, CSA C22.2 No. 236-11 (UL 1995) 4th edition and CSA C22.2 No. 3 - M 1988.
5. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
6. Unit casing shall be capable of withstanding 750-hour salt spray exposure per ASTM B117 (scribed specimen).
7. Unit shall be designed in accordance with ISO 9001, and shall be manufactured in a facility registered by ISO 9001.
8. Roof curb shall be designed to conform to NRCA Standards.
9. Unit shall be subjected to a completely automated run test on the assembly line. The data for each unit will be stored at the factory, and must be available upon request.
10. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
11. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.
12. 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.

23 81 19.13.E. Project Conditions

1. As specified in the contract.

23 81 19.13.F. Operating Characteristics

1. Unit shall be capable of starting and running at 125°_F (52°_C) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 210/240 or 340/360 at ± 10% voltage.
2. Compressor with standard controls shall be capable of operation down to 0°_F (2°_C), ambient outdoor temperatures. 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.
6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.

23 81 19.13.G. Electrical Requirements

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

23 81 19.13.H. Unit Cabinet

1. **Unit cabinet shall be constructed of galvanized steel with exterior surfaces coated with a non-chalking, powder paint finish, certified at 750-hour salt spray test per ASTM-B117 standards.**
2. 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 1/2 lb density, flexible fiberglass insulation, neoprene coated on the air side. Aluminum foil- faced fiberglass insulation shall be used in the gas heat compartment. Fan shall be a belt drive assembly and include an adjustable pitch motor pulley. Job site selected brake horsepower shall not exceed the motors nameplate horsepower rating plus the service factor (Only premium efficiency motors have hp rating on the nameplate). Units shall be designed to operate within the service factor. Fan wheel shall be double inlet type with forward curve blades, dynamically balanced to operate smoothly throughout the entire range of operation. Airflow design shall be constant volume. Bearings shall be sealed and permanently lubricated for longer life and no maintenance.

Condenser Fan Assembly: The outdoor fans shall be of the direct drive type, discharge air vertically, have aluminum blades riveted to corrosion resistant steel spider brackets and shall be dynamically balanced for smooth operation. The outdoor fan motors shall have permanently lubricated bearings internally protected against overload conditions and staged independently.

3. Base of unit shall have a minimum of four locations for thru- the- base gas and electrical connections (factory installed or field installed), standard.
4. Base Rail
   a. Unit shall have base rails on a minimum of 4 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.
5. 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 side of the drain pan. Connection shall be made per manufacturer’s recommendations.
6. Top panel:
   a. Shall be a single piece top panel.
7. Gas Connections:
   a. All gas piping connecting to unit gas valve shall enter the unit cabinet at a single location on side of unit
   b. Thru- the- base capability
      (1.) Standard unit shall have a thru- the- base gas- line location using a raised, embossed portion of the unit base-pan.
      (2.) Optional, factory- approved, water- tight connection method must be used for thru- the- base gas connections.
      (3.) No base-pan penetration, other than those authorized by the manufacturer, is permitted.
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 base-pan.
      (2.) Optional, factory- approved, water- tight connection method must be used for thru- the- base electrical connections.
      (3.) No base-pan 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, toolless, removable, filter access panel.
    c. Panels covering control box, indoor fan, indoor fan motor, gas components (where applicable), and compressors shall have a molded composite handles.
    d. Handles shall be UV modified, composite. They shall be permanently attached, and recessed into the panel.
    e. Screws on the vertical portion of all removable access panel shall engage into heat resistant, molded composite collars.
    f. Collars shall be removable and easily replaceable using manufacturer recommended parts.

23 81 19.13.I. Gas Heat

1. General
    a. Heat exchanger shall be an induced draft design. Positive pressure heat exchanger designs shall not be allowed.
    b. Shall incorporate a direct- spark ignition system and redundant main gas valve.
    c. Gas supply pressure at the inlet to the rooftop unit gas valve must match that required by the manufacturer.
2. The heat exchanger shall be controlled by an integrated gas controller (IGC) microprocessor.
    a. IGC board shall notify users of fault using an LED (light- emitting diode).
    b. The LED shall be visible without removing the control box access panel.
    c. IGC board shall contain algorithms that modify evaporator- fan operation to prevent future cycling on high temperature limit switch.
    d. Unit shall be equipped with anti- cycle protection with one short cycle on unit flame roll-out switch or 4 continuous short cycles on the high temperature limit switch. Fault indication shall be made using an LED.
3. Standard Heat Exchanger construction
    a. Heat exchanger shall be of the tubular- section type constructed of a minimum of 20- gauge steel coated with a nominal 1.2 mil aluminum- silicone alloy for corrosion resistance.
    b. Burners shall be of the in- shot type constructed of aluminum- coated steel.
    c. Burners shall incorporate orifices for rated heat output up to 2000 ft (610m) elevation. Additional accessory kits may be required for applications above 2000 ft (610m) elevation, depending on local gas supply conditions.
    d. Each heat exchanger tube shall contain multiple dimples for increased heating effectiveness.
4. Optional Stainless Steel Heat Exchanger construction a. Use energy saving, direct- spark ignition system. b. Use a redundant main gas valve.
    c. Burners shall be of the in- shot type constructed of aluminum- coated steel.
    d. All gas piping shall enter the unit cabinet at a single location on side of unit (horizontal plane).
    e. The optional stainless steel heat exchanger shall be of the tubular- section type, constructed of a minimum of 20- gauge type 409 stainless steel.
    f. Type 409 stainless steel shall be used in heat exchanger tubes and vestibule plate
    g. Complete stainless steel heat exchanger allows for greater application flexibility.

23 81 19.13.J. Coils

1. Standard Aluminum Fin/Copper Tube Coils:
    a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.
    b. Evaporator coils shall be leak tested to 150 psig, pressure tested to 450 psig, and qualified to CSA C22.2 No. 236-11 (UL 1995) 4th edition burst test at 1775 psig.
    c. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to CSA C22.2 No. 236-11 (UL 1995) 4th edition burst test at 1980 psig.
2. Optional EFIN- coated aluminum- fin evaporator and condenser coils:

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

23 81 19.13.K. Refrigerant Components

1. Refrigerant circuit shall include the following control, safety, and maintenance features:
   a. Thermostatic Expansion Valve (TXV) shall help provide optimum performance across the entire operating range. Shall contain removable power element to allow change out of power element and bulb without removing the valve body. (Orifice on ZZ09, ZZ12)
   b. Refrigerant filter drier - Solid core design.
   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 fully hermetic, scroll compressor for each independent refrigeration circuit.
   b. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
   c. Compressors shall be internally protected from high discharge temperature conditions.
   d. Compressors shall be protected from an over- temperature and over- amperage conditions by an internal, motor overload device.
   e. Compressor shall be factory mounted on rubber grommets.
   f. Compressor motors shall have internal line break thermal, current overload and high pressure differential protection.
   g. Crankcase heaters shall not be required for normal operating range, unless provided by the factory.

23 81 19.13.L. Filter Section

1. Filters access is specified in the unit cabinet section of this specification.
3. Shall consist of factory- installed, low velocity, throw- away 2” or 4” thick fiberglass filters.
3. Units can accept 2” or 4” filters and have a field convertible toolless

23 81 19.13.M. Evaporator Fan and Motor

1. Evaporator fan motor:
   a. Shall have permanently lubricated bearings.
   b. Shall have inherent automatic reset thermal protection (Only on single-phase, belt-drive motors, three - phase, belt-drive motors have internal thermostat used for external line-break control.).
2. Belt- driven Evaporator Fan:
   a. Belt drive shall include an adjustable- pitch motor pulley.
   b. Shall use sealed, permanently lubricated ball- bearing type.
   c. Blower fan shall be double- inlet type with forward- curved blades.
   d. Shall be constructed from steel with a corrosion resistant finish and dynamically balanced.

23 81 19.13.N. Condenser Fans and Motors

The outdoor fans shall be of the direct drive type, discharge air vertically, have aluminum blades riveted to corrosion resistant steel spider brackets and shall be dynamically balanced for smooth operation. The outdoor fan motors shall

have permanently lubricated 60°C ball bearings internally protected against overload conditions and staged independently. A cleaning window shall be provided on two sides of the units for coil cleaning.

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. All models Shall use a shaft- down design except shaft- up on ZZ14 size with rain shield.
2. Condenser Fans:
   a. Shall be a direct- driven propeller type fan.
   b. Shall have galvanized steel blades riveted to corrosion- resistant steel spiders and shall be dynamically balanced.
3. Standard Integrated Economizers:
   a. Integrated, gear- driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
   b. Independent modules for vertical or horizontal return configurations shall be available. Vertical return modules shall be available as a factory installed option.
   c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
   d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below set-points.
   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 models shall be equipped with low- leakage dampers, not to exceed 2% leakage at 1 in. wg pressure differential. Economizers will come with Actuator and module that is tied to Smart Equipment™:
      (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
4. Two- Position Damper
   a. Damper shall be a Two- Position Damper. Damper travel shall be from the full closed position to the field adjustable %- open setpoint.
   b. Damper shall include adjustable damper travel from 25% to 100% (full open).
   c. Damper shall include single or dual blade, gear driven dampers and actuator motor.
   d. Actuator shall be direct coupled to damper gear. No linkage arms or control rods shall be acceptable. e. Damper will admit up to 100% outdoor air for applicable rooftop units.
   f. Damper shall close upon indoor (evaporator) fan shutoff and/or loss of power.
   g. The damper actuator shall plug into the rooftop unit’s wiring harness plug. No hard wiring shall be required.
   h. Outside air hood shall include aluminum water entrainment filter.
5. Manual damper
   a. Manual damper package shall consist of damper, air inlet screen, and rain hood which can be preset to admit up to 25 or 50% outdoor air for year round ventilation.
6. Condenser Coil Hail Guard Assembly (Factory and Field installed on all models):
   a. Shall protect against damage from hail.
   b. Shall be of louvered style.
7. Unit- Mounted, Non- Fused Disconnect Switch: (Verify on the unit nameplate that the disconnect is properly sized for the application. Units with field installed electric heat may exceed the factory installed disconnect amperage rating.)

a. Switch shall be factory- installed, internally mounted.
b. National Electric Code (NEC) and UL approved non- fused switch shall provide unit power shutoff.
c. Shall be accessible from outside the unit.
d. Shall provide local shutdown and lockout capability.

8. Thru- the- Base Connectors:
   a. Kits shall provide connectors to permit gas and electrical connections to be brought to the unit through the unit base-pan.
   b. Minimum of four connection locations per unit.
9. 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.
10. 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.
11. High Altitude Gas Conversion Kit:
    a. Package shall contain all the necessary hardware and instructions to convert a standard natural gas.
12. 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.
13. 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.
14. Indoor Air Quality (CO2) Sensor:
    a. Shall be able to provide demand ventilation indoor air quality (IAQ) control.
    b. The IAQ sensor shall be available in duct mount, wall mount, or wall mount with LED display. The set- point shall have adjustment capability.
    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.

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