



## TECHNICAL GUIDE

**R-410A**  
**ZT SERIES**  
**3 - 12.5 TON**  
**60 Hertz**



## Description

### Ultra-High Efficiency

YORK® Predator® units are convertible single packages with a common footprint cabinet and common roof curb for all 3 through 12.5 ton models. The units are designed for light commercial applications and can be easily installed on a roof curb, slab, or frame.

All Predator® units are self-contained and assembled on rigid full perimeter base rails allowing for 3-way forklift access and overhead rigging. Every unit is completely charged, wired, piped, and tested at the factory to provide a quick and easy field installation.

Predator® units in all tonnage sizes are convertible between side airflow and down airflow, with corresponding economizer if you require the economizer option.

Predator® units are available in the following configurations: cooling only, cooling with electric heat, and cooling with gas heat. Electric heaters are available as factory-installed options or field-installed accessories.

All units meet ASHRAE 90.1 single-zone variable supply air volume standard. Featuring a variable frequency drive on 3 through 12.5 ton ZT models.

Tested in accordance with:



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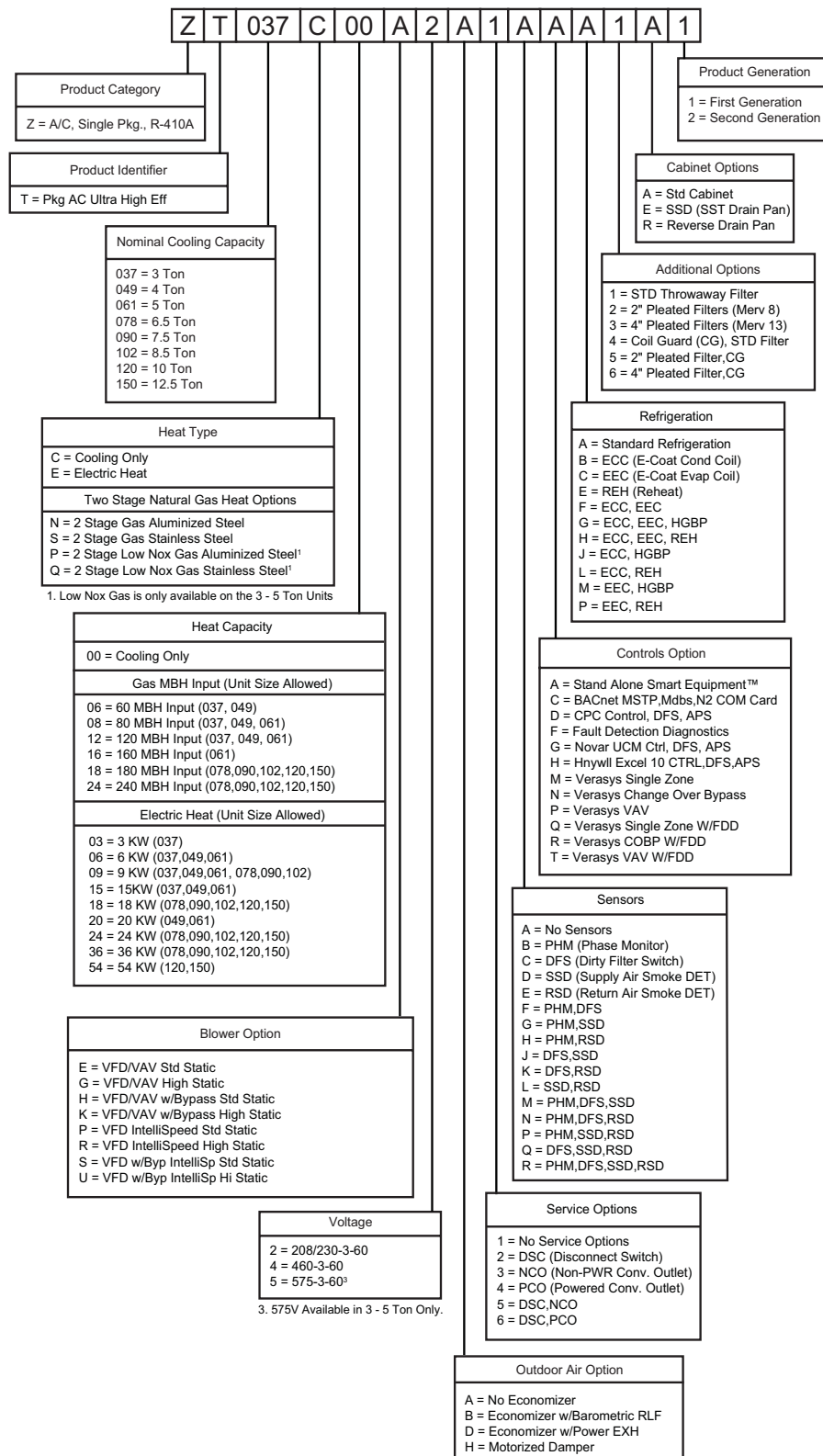
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## Product highlights

- Smart Equipment™ Controls: streamlines commissioning, integration, and service
- Two independent refrigeration circuits for built-in system redundancy and reliability in the 6.5 to 12.5 ton units
- Three stages of cooling in the 6.5 to 12.5 units to meet advanced building code requirements
- Ultra-high efficiency in the original Predator footprint to facilitate a direct upgrade path
- Optional MagnaDry reheat system
- IntelliSpeed variable frequency drive as standard
- Advanced ECM outdoor motors
- Evaporator coils with sine wave fine geometry for increased unit efficiency on 6.5 to 12.5 ton units
- Balanced heating
- Convertible airflow design
- Safety monitoring
- Low ambient control
- Anti-short cycle protection
- Fan delays
- Nuisance trip protection and three strikes
- Full perimeter base rails
- Easy installation
- IntelliSpeed or VAV fan control provide a wide range of indoor airflows

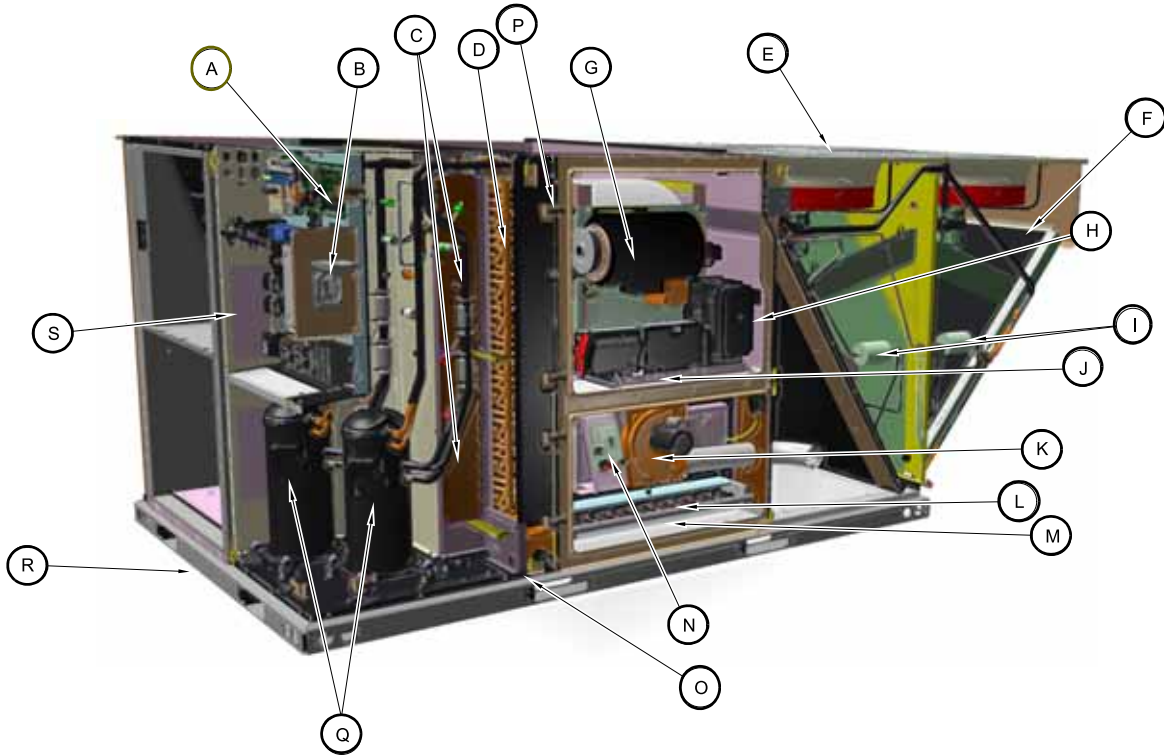
# Nomenclature

## 3-12.5 Ton York® Model Number Nomenclature



## Component location

ZT078, ZT090, and ZT102 shown



Component location table (click on the call out in the illustration above for a more detailed description)

Item	Description
A	Smart Equipment™ supply fan controls with IntelliSpeed™. Includes screw connectors for thermostat wiring and network connections
B	Disconnect location, optional disconnection switch
C	Filter access, 2-inch or 4-inch filter options
D	High efficiency sine wave fin evaporator coil
E	ECM outdoor fan motor
F	Micro-channel aluminum tube/aluminum fin condenser
G	Premium efficiency belt-drive blower motor
H	Variable frequency drive
I	Solid core filter drier
J	Slide-out motor and blower assembly for easy adjustment and service

Item	Description
K	Power ventor motor
L	Two stage gas heating to maintain a warm, comfortable temperature
M	20-gauge aluminized steel tubular heat exchanger for long life. Stainless steel option
N	Intelligent control board for safe and efficient operation
O	Drain pan with 1-inch NPT connection
P	Toolless door latch
Q	Compressor access (High-efficiency 2-stage compressor)
R	Base rails with forklift slots (three sides) and lifting holes <sup>1</sup>
S	Second model nameplate inside hinged access panel

1. Roof curbs in eight-and fourteen-inch heights. Roof curbs to transition from a York Sunline™ footprint to the ZT Series footprint are available as a field-installed accessory.

## Standard features

This section describes the standard features for ultra-high efficiency 3 to 12.5 ton units.

### Ultra-high efficiency

Ultra-high efficiency units reach as high as 17.5 SEER and 14.00 EER for 3 to 5 ton units, and up to 21.2 IEER and 13.1 EER for 6.5 to 12.5 ton units. Gas and electric units have electronic spark ignition and power vented combustion with steady state efficiencies up to 81.5%. These efficiencies exceed all legislated minimum levels and provide low operating costs.

### Two independent refrigeration circuits

Two independent refrigerant circuits provide system redundancy and reliability to give the customer peace of mind. Available on 6.5 to 12.5 ton units only.



### Optional MagnaDry™ dehumidification system

Units optioned with reheat coils provide superior dehumidification at a wide range of outdoor temperatures. This system provides comfort without over-cooling the space. Available on 6.5 to 12.5 ton units only.



### Slide out blower assembly

The Predator® incorporates a number of key features for ease of serviceability.

- The motor and blower slide out of the unit as a common assembly. This facilitates greater access to all the indoor airflow components, thus simplifying maintenance and adjustment.



### Toolless hinged panels

- Service time is reduced through the use of hinged, toolless panels. The panels provide access to frequently inspected components and areas, including the control box, compressors, filters, indoor motor and blower, and the heating section. The panels are screwed in place at the factory to prevent access by children or other unauthorized persons. It is recommended that the panels be secured with screws once service is complete.



- All units use four filters of the same standard size. This standardization simplifies selections for filter replacement.
- All Predator<sup>®</sup> units have a second model nameplate located inside the control access door. This is to prevent deterioration of the nameplate through weathering.
- Service windows have been placed in both condenser section walls. Rotation of the cover allows easy access to the condenser coils for cleaning or inspection.
- The Smart Equipment<sup>™</sup> control board provides alarm messages to help quickly identify any faults.

### Indoor motors

Units come from the factory with premium efficiency, inverter rated, indoor motors. Both motor and belt drive blower are mounted on a slide out assembly for ease of service.

### Variable frequency drive

These factory supplied variable frequency drives come with a 5-year warranty from the manufacturer. They also provide ease of commissioning without the need for a computer to program the motor and soft start capabilities for longer motor and belt life.



### ECM outdoor motors

Units come from the factory with long lasting, high efficiency ECM motors.



### Microchannel coil technology

All ZT condensers use microchannel all-aluminum condensers which provide improved heat transfer capabilities and reduced charge volumes.

### Evaporator coil technology

- 6.5 to 12.5 ton units use new sine wave fin geometry in a copper tube/aluminum fin evaporator coil for increased unit efficiency.



### Environmentally aware

For improved Indoor Air Quality, a combination of aluminum foil faced and elastomeric rubber insulations are used exclusively throughout the units.

## Balanced heating

The Predator® two stage gas heating offers ultimate heating comfort with a balance between first and second stage gas heating. The first stage of a gas heat Predator® unit provides 70% or 75% of the heating capacity for the 3 to 5 ton units. The 6.5 to 12.5 ton units reach 60% heating capacity on the first stage.

## Convertible airflow design

A convertible airflow design provides maximum field flexibility while minimizing inventory. The side ducts are covered when the units leave the factory. In a side supply/return application, the installer simply removes the two side duct covers from the outside of the unit and installs them over the down shot openings without having to cut any panels.

## Advanced, versatile controls

- Smart Equipment™ control boards have standardized a number of features previously available only as options or by using additional controls.
- The unit control incorporates the best of the already proven Simplicity™ controls and creates a more robust, intelligent control. The goal of this control is to use cutting edge technology making the equipment easier to install, operate, and service. All units are factory commissioned, configured, and run tested.
- The Smart Equipment™ control can be configured for use with a standard thermostat (easy to connect screw terminals), a zone sensor, or can be set up to communicate with multiple BAS communication protocols to integrate with building automation systems.



- **On-board USB port**

The Smart Equipment™ control comes standard with an on-board USB port that accepts a common flash drive. This port can be used for features like data logging, listing current and previous system faults, and backing up or updating the software version. Self-test and start up reports are also available through the USB port.

- **Embedded LCD display**

The board has an 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.

### CAUTION

The Smart Equipment™ control board used in this product will effectively operate the cooling system down to 0°F when this product is applied in a comfort cooling application for people. An economizer is typically included in this type of application. When applying this product for process cooling applications (computer rooms, switchgear, etc.), please call the applications department for Ducted Systems @ 1-877-874-SERV for guidance. Additional accessories may be needed for stable operation at temperatures below 30°F.

## Reduced field-installed complexity

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

## 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 control**

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 strikes, 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 locks out the associated compressor. An alarm message is then displayed on the LCD screen.

**Low limit control**

The low limit control (LLC) prevents the supply air from dropping below a specified set point, when there is a demand for cooling during cold outside conditions. This is a programmable setpoint.

**Reliability**

From the beginning, all units undergo computer automated testing before they leave the factory. Units are tested for refrigerant charge and pressure, unit amperage, and 100% functionality. For the long term: all units are painted with a long lasting, powder paint that stands up over the life of the unit. The paint used has been proven by a 750-hour salt spray test.

**Full perimeter base rails**

The permanently attached base rails provide a solid foundation for the entire unit and protect the unit during shipment. The rails offer rigging holes so that an overhead crane can be used to place the units on a roof.

**Easy installation**

Gas and electric utility knockouts are supplied in the unit underside as well as the side of the unit. Utility connections can be made quickly and with a minimum amount of field labor. All units are shipped with 2-inch throw-away filters installed.

**Wide range of indoor airflows**

All supply air blowers are equipped with a belt drive that can be adjusted to meet the exact requirements of the job. A high static drive option is available for applications with a higher CFM and/or static pressure requirement.

**Standard factory warranty**

All models include a 1-year limited warranty on the complete unit. Compressors and electric heater elements each carry a 5-year warranty. Aluminized steel (10 year) and stainless steel tubular heat exchangers carry a 15-year warranty.



## Options and accessories

The following options and accessories are available as factory-installed and field-installed options.

### Options and accessories

	Factory option	Field-installed
<b>Non-electrical</b>		
Burglar bars		✓
Coil guard	✓	✓
Hail guard		✓
Flue exhaust extension		✓
2-inch only metal filter frame		✓
Permanent 2-inch only filter		✓
Gas piping kit		✓
High altitude kit for natural gas		✓
High altitude kit for propane		✓
Propane conversion		✓
Roof curb, 8-inch height		✓
Roof curb, 14-inch height		✓
Transition roof curb (7.5 through 12.5 ton Sunline to Predator 3 through 12.5 ton)		✓
Wooden crate for extra protection during shipping and handling		✓
Low NOx (3 through 5 ton units only)	✓	✓
Aluminized steel gas heat exchanger	✓	
Stainless steel gas heat exchanger	✓	
Stainless steel drain pan	✓	
E-Coat coil coating	✓	
Magna-Dry dehumidification option (6.5 through 12.5 ton units only)	✓	
Hot gas bypass (excludes MagnaDry optioned units)	✓	
<b>Electrical</b>		
High static indoor blower motor	✓	
Disconnect switch	✓	
Convenience outlet - (Non-powered or powered)	✓	
Phase monitors	✓	
Electric heat options	✓	✓
<b>Fresh air</b>		
Manual outside air damper		✓
Barometric relief kit for power exhaust, horizontal application		✓
Single or dual enthalpy control		✓
Low leak vertical economizer	✓	✓
Horizontal economizer		✓
Motorized damper	✓	✓
Power exhaust	✓	✓
<b>Controls</b>		
Air proving switch	✓	✓
CO <sup>2</sup> sensor		✓
CPC BAS control	✓	
Dirty air filter switch	✓	✓
Honeywell BAS control	✓	
Novar® BAS control	✓	
Smoke detectors for supply and return air configurations	✓	✓
MAP (Mobile Access Portal) Gateway for use with Smart Equipment™ control		✓
Verasys	✓	✓

## Factory and field-installed options

YORK® offers several factory and field-installed options for the Predator® line.

### Down flow and end return economizers with barometric relief and fresh air hood

#### Factory or field-installed option

All units offer a variety of optional factory-installed or field-installed down flow economizers that are shipped, installed and wired with low leak dampers designed to meet ASHRAE 90.1, AMCA 511 Class 1A damper, and the International Energy Conservation Code (IECC) certification requirements by achieving leakage rates of 3 CFM/sq. ft. at 1-inch 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. 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 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).

### Single or dual enthalpy control accessories

#### Field-installed option

The single enthalpy or dual enthalpy control kits provide sensors to monitor outdoor air and/or return air humidity and temperature for true enthalpy control of the unit economizer.

### Power exhaust

#### Factory or field-installed option

This factory or field installed option allows down flow or horizontal end return economizer operation. Field installation user must purchase the 1EH0408 barometric relief and hood kit when applying the product in a horizontal flow application. The power exhaust must be removed from the unit and mounted in the horizontal end return duct work when applying the product in the horizontal, end return configuration.

### Motorized outdoor air damper

#### Factory or field-installed option

The motorized outdoor air damper includes a slide-in/plug-in damper assembly with an outdoor air hood and filters. The outdoor air dampers open to the preset position when the indoor fan motor is energized. The damper has a range of 0% to 100% outdoor air entry.

### Manual outdoor air damper

#### Field-installed option

The 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.

### Barometric relief damper

#### Field-installed option

Zero to 100% capacity barometric relief dampers for use with horizontal flow, or field installed economizers.

### Alternate indoor blower motor

#### Factory option

For applications with high static restrictions, units are offered with optional indoor motors that provide higher static output and/or higher airflow, depending upon the installer's needs.

### Aluminized steel gas heat exchanger

#### Factory option

The standard gas heat exchanger option for applications in non-corrosive environments.

### Stainless steel gas heat exchanger

#### Factory option

The gas heat exchanger option for applications in corrosive environments. This option provides a full stainless steel heat exchanger assembly.

## Low NOx option

### Factory or field-installed option

For units with gas furnaces in locations where codes require that the Oxides of Nitrogen emissions from the furnace be below 40 Nano grams per joule. The low NOx option is available for 3 to 5 ton units only.

## Stainless steel drain pan

### Factory option

An optional rust-proof stainless steel drain pan is available to provide years of trouble-free operation in corrosive environments.

## Electric heaters

### Factory or field-installed option

The electric heaters range from 3kW to 54kW and are available in all the voltage options of the base units. All heaters are intended for single point power supply. **Field installed kits:** cooling units include an adapter panel for easy installation of the electric heaters. Necessary hardware and connectors are included with the heaters. All heaters are intended for single point power supply.

## Disconnect switch

### Factory option

For gas heat units and cooling units with electric heat, a HACR breaker sized to the unit is provided. For cooling only units, a switch sized to the largest electric heat available for the particular unit is provided.

## Convenience outlet

### Factory option

Non-powered and powered convenience outlets are available. 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. The powered option is powered by a stepdown transformer in the unit.

## Smoke detectors

### Factory or field-installed option

The smoke detectors stop operation of the unit and provide a fault message to the control board. Smoke detectors are available for both the supply and/or return air configurations.

### **WARNING**

Factory-installed smoke detectors may be subjected to extreme temperatures during off times due to outside air infiltration. These smoke detectors have an operational limit of -4°F to 158°F. Smoke detectors installed in areas that could be outside this range will have to be relocated to prevent false alarms.

## CO<sub>2</sub> sensor

### Field-installed option

This kit senses CO<sub>2</sub> levels and automatically overrides the economizer when levels rise above the preset limits.

## Filters

### Factory or field-installed option

2-inch Pleated MERV 8 or 4-inch Pleated MERV 13 are available to meet LEED requirements. A 2-inch throwaway is shipped as standard.

## Metal frame filter kit

### Field-installed option

A metal frame with polyester filter medium is available.

## Coil guard

### Factory or field-installed option

Customers can purchase a coil guard to protect the condenser coil from damage. Additionally, this kit stops animals and foreign objects from entering the space between the inner condenser coil and the main cabinet. This is not a hail guard kit.

**Hail guard****Field-installed option**

This kit includes a sloped hood that is installed over the outside condenser coil and prevents damage to the coil fins from hail strikes.

**Dirty filter switch****Factory or field-installed option**

This option/kit includes a differential pressure switch that energizes the fault light on the unit thermostat, indicating that there is an abnormally high pressure drop across the filters.

**E-Coat evaporator and condenser****Factory option**

The evaporator and/or condenser coils are coated with an epoxy polymer coating to protect against corrosion.

**Flue exhaust extension kit****Field-installed option**

In locations with wind or weather conditions which 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.

**Gas heat high altitude kit****Field-installed option**

This kit converts a gas heat unit to operate at high altitudes from 2,000 to 6,000 feet. Conversion kits are available for natural gas and propane.

**Gas heat propane conversion kit****Field-installed option**

This kit converts a gas-fired heater from natural gas to propane. It contains the main burner orifices and gas valve replacement springs.

**Gas piping kit****Field-installed option**

Contains pipe nipples, fittings and gas cock required for gas supply connection with external shut off.

**Roof curbs****Field-installed option**

The roof curbs have insulated decks and are shipped disassembled. The roof curbs are available in 8-inch and 14-inch heights. For applications with security concerns, burglar bars are available for the duct openings of the roof curbs.

**Roof curb transition****Field-installed option**

Single piece adapter (10-inch high) roof curbs for transitioning from Sunline™ units to Predator® units. Fits 7.5 to 12.5 Sunline™ roof curbs only.

**Burglar bars****Field-installed option**

Mount in the supply and return openings to prevent entry into the duct work.

**Thermostat****Field-installed option**

The units are designed to operate with 24- volt electronic and electro-mechanical thermostats. All ultra-high efficiency 3 to 5 ton units (with or without an economizer) operate with two-stage heat/two-stage cool or two-stage cooling only thermostats, depending on the unit configuration. All 6.5 to 12.5 ton units (with or without an economizer) operate with two-stage heat/3+ stage cool or 3+ stage cooling only thermostats, depending on the configuration.

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## Control options

The following sections describe the control options.

### Smart Equipment™ control with communication option

The communication option for the Smart Equipment™ control is a factory installed add-on card to expand the capabilities with a gateway to BACnet MS/TP (programmable to Modbus or N2 protocols).

### Novar® BAS control

#### Factory option

The Novar® building automation system controller is factory installed. Includes supply air sensor, return air sensor, dirty filter indicator switch, and air proving switch.

### CPC BAS control

#### Factory option only

The Computer Process Controls Model 810-3060 ARTC Advanced Rooftop building automation system controller is factory installed. Includes supply air sensor, return air sensor, with optional dirty filter indicator switch and air proving switch.

### Honeywell BAS control

#### Factory option

The Honeywell W7750C building automation system controller is factory installed. Includes air supply sensor, return air sensor, with optional dirty filter indicator switch, and air proving switch.

### Verasys

#### Factory or field-installed option

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.

## Guide specifications

### General

YORK® Predator® units are convertible single packages with a common footprint cabinet and common roof curb for all 3 through 12.5 ton models. The units were designed for light commercial applications and can be easily installed on a roof curb, slab, or frame. All Predator® units are self-contained and assembled on rigid full perimeter base rails allowing for 3-way forklift access and overhead rigging. Every unit is completely charged with R-410A, wired, piped, and tested at the factory to provide a quick and easy field installation. All units are convertible between side and down airflow. Independent economizer designs are used on side and down discharge applications, as well as all tonnage sizes. Predator® units are available in the following configurations: cooling only, cooling with electric heat and cooling with gas heat. Electric heaters are available as factory-installed options or field-installed accessories.

### Description

Units shall be factory assembled, single package, (Elec/Elec, Gas/Elec), designed for outdoor installation. They shall have built in field convertible duct connections for down discharge supply/return or horizontal discharge supply/return and be available with factory installed options or field installed accessories. The units shall be factory wired, piped and charged with R-410A refrigerant and factory tested prior to shipment. All unit wiring shall be both numbered and color coded. The cooling performance shall be rated in accordance with DOE and AHRI test procedures. Units shall be CSA certified to ANSI Z21.47 and UL 1995/CAN/CSA No. 236-M90 standards.

### Unit cabinet

Unit cabinet shall be constructed of galvanized steel with exterior surfaces coated with a non-chalking, powder paint finish, certified at a 750-hour salt spray test per ASTM-B117 standards. Indoor blower sections shall be insulated with up to 1" thick insulation coated on the airside. Either aluminum foil faced or elastometric rubber insulation shall be used in the unit's compartments and be fastened to prevent insulation from entering the air stream. Cabinet doors shall be hinged with toolless access for easy servicing and maintenance. Full perimeter base rails shall be provided to assure reliable transit of equipment, overhead rigging, fork truck access and proper sealing on roof curb applications. Disposable 2-in. filters shall be furnished as standard and be accessible through hinged access door. Fan performance measuring ports shall be provided on the outside of the cabinet to allow accurate air measurements of evaporator fan performance without removing panels or creating bypass of the coils. Condensate pan shall be slide out design, constructed of a non corrosive material, internally sloped and conforming to ASHRAE 62-B9 standards. Condensate connection shall be a minimum of ¾" I.D. female and be rigid mount connection.

### Indoor (evaporator) fan assembly

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. 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. Design shall meet ASHRAE 90.1 single-zone variable supply air volume standard. Bearings shall be sealed and permanently lubricated for longer life and no maintenance. Entire blower assembly and motor shall be slide out design.

### Outdoor (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. A cleaning window shall be provided on two sides of the units for coil cleaning.

### Refrigerant components

#### Compressors:

- a. Shall be fully 2-stage, hermetic type, direct drive, internally protected with internal high-pressure relief and over temperature protection. The hermetic motor shall be suction gas cooled and have a voltage range of + or – 10% of the unit nameplate voltage.
- b. Shall have internal spring isolation and sound muffling to minimize vibration and noise, and be externally isolated on a dedicated, independent mounting.

#### Coils:

- a. Evaporator coils shall have aluminum plate fins mechanically bonded to seamless internally enhanced copper tubes with all joints brazed. Special Phenolic coating shall be available as a factory option.
- b. Evaporator coils shall be of the direct expansion, draw-through design.
- c. Condenser coils shall have Micro-Channel aluminum tube, aluminum fins.
- d. Condenser coils shall be of the draw-through design.

Refrigerant Circuit and Refrigerant Safety Components shall include:

- a. Independent fixed-orifice or thermally operated expansion devices.
- b. Solid core filter drier/strainer to eliminate any moisture or foreign matter.
- c. Accessible service gage connections on both suction and discharge lines to charge, evacuate, and measure refrigerant pressure during any necessary servicing or troubleshooting, without losing charge.

Unit Controls:

- 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.
  1. Loss-of-charge/Low-pressure switch.
  2. High-pressure switch.
  3. Freeze condition sensor on evaporator coil. If any of these safety devices trip, the LCD screen will display the alarm message.
- c. Unit shall incorporate "AUTO RESET" compressor over temperature, over current protection.
- d. Unit shall operate with conventional thermostat designs and have a low voltage terminal strip for easy hook-up.
- e. Unit control board shall have on-board diagnostics and fault message display.
- f. Standard controls shall include anti-short cycle and low voltage protection, and permit cooling operation down to a selectable value as low as 0 °F.
- g. Control board shall monitor each refrigerant safety switch independently.

**Gas heating section (if equipped)**

Heat exchanger and exhaust system shall be constructed of aluminized steel and shall be designed with induced draft combustion with post purge logic, energy saving direct spark ignition, and redundant main gas valve. The heat exchanger shall be of the tubular type, constructed of T1-40 aluminized steel for corrosion resistance and allowing minimum mixed air entering temperature of 40 °F. Burners shall be of the in-shot type, constructed of aluminum-coated steel. All gas piping shall enter the unit cabinet at a single location, through either the side or bottom, without any field modifications. An integrated control board shall provide timed control of evaporator fan functioning and burner ignition. Heating section shall be provided with the following minimum protection:

- a. Primary and auxiliary high-temperature limit switches.
- b. Induced draft pressure sensor.
- c. Flame roll out switch (manual reset).
- d. Flame proving controls.
- e. All two stage gas units shall have two independent stages of capacity (70% or 75% 1st stage, 100% 2nd stage).

**Electric heating section (if equipped)**

An electric heating section, with nickel chromium elements, shall be provided in a range of 3 through 54KW. The heating section shall have a primary limit control(s) (automatic reset) to prevent the heating element system from operating at an excessive temperature. The Heating Section assembly shall slide out of the unit for easy maintenance and service. Units with Electric Heating Sections shall be wired for a single point power supply with branch circuit fusing (where required).

**Unit operating characteristics**

Unit shall be capable of starting and running at 125 °F outdoor temperature, exceeding maximum load criteria of AHRI Standard 340/360. The compressor, with standard controls, shall be capable of operation down to 0 °F outdoor temperature. Unit shall be provided with fan time delay to prevent cold air delivery before heat exchanger warms up. (Gas heat only)

**Electrical requirements** - All unit power wiring shall enter unit cabinet at a single factory provided location and be capable of side or bottom entry to minimize roof penetrations and avoid unit field modifications. Separate side and bottom openings shall be provided for the control wiring.

**Standard limited warranties** - Compressor – 5 Years, Heat Exchanger – 10 Years, Elect. Heat Elem. – 5 Years, Parts – 1 Year

**Factory-installed optional outdoor air** (Shall be made available by either/or):

- **Dry bulb automatic economizer** - Outdoor and return air dampers that are interlocked and positioned by a fully-modulating, spring-return damper actuator. The maximum leakage rate for the outdoor air intake dampers shall be designed to meet ASHRAE 90.1, AMCA 511 Class 1A damper, and the International Energy Conservation Code (IECC) certification requirements by achieving leakage rates of 3 CFM/sq. ft. at 1 in. of static pressure. Changeover from compressor to economizer operation shall be provided by an integral electronic enthalpy control that feeds input into the basic module. The outdoor intake opening shall be covered with a rain hood that matches the exterior of the unit. Water eliminator/filters shall be provided.

Simultaneous economizer/compressor operation is also possible. Dampers shall fully close on power loss. Available with barometric relief and power exhaust.

- **Motorized outdoor air dampers** - Outdoor and return air dampers that are interlocked and positioned by a 2- position, spring-return damper actuator. A unit-mounted potentiometer shall be provided to adjust the outdoor and return air damper assembly to take in the design CFM of outdoor air to meet the ventilation requirements of the conditioned space during normal operation. Whenever the indoor fan motor is energized, the dampers open up to one of two pre-selected positions - regardless of the outdoor air enthalpy. Dampers return to the fully closed position when the indoor fan motor is de-energized. Dampers shall fully close on power loss.

### Additional factory-installed options

- **MagnaDry dehumidification system**- removes humidity while maintaining comfort cooling. Available on 6.5 to 12.5 ton units only.
- **Alternate indoor blower motor** – For applications with high restrictions, units are available with optional indoor blower motors that provide higher static output and/or higher airflow.
- **Convenience outlet (powered or non-powered)**– Unit can be provided with an optional 120VAC GFCI outlet with cover on the corner of the unit housing the compressors.
- **Electric heat** - Electric Heaters range from 3kW to 54kW and are available in all the voltage options of the base unit.
- **Phase monitor** - Designed to prevent damage in out-of-phase condition.
- **Coil guard** - Designed to prevent condenser coil damage.
- **BAS controls hardware** - Include supply air sensor, return air sensor, dirty filter indicator and air proving switch.
- **Dirty filter switch** – This kit includes a differential pressure switch that energizes the fault light on the unit thermostat, indicating that there is an abnormally high-pressure drop across the filters.
- **Breaker** – An HACR breaker can be factory installed on gas heat units or cooling units with electric heat.
- **Disconnect switch** - A disconnect can be factory installed on a cooling only units sized for the largest electric heat available.
- **Stainless steel heat exchanger** – For applications in a corrosive environment, this option provides a full stainless steel heat exchanger assembly.
- **Smoke detector** – A smoke detector can be factory mounted and wired in the supply and/or return air compartments.

### Other pre-engineered accessories available

- **Roof curb** - 14-inch and 8-inch high, full perimeter knockdown curb, with hinged design for quick assembly.
- **Barometric relief damper** – (Unit mounted – Downflow, Duct Mounted – Horizontal) – Contains a rain hood, air inlet screen, exhaust damper and mounting hardware. Used to relieve internal air pressure through the unit during economizer operation.
- **Propane conversion kit** – Contains new orifices and gas valve springs to convert from natural to L.P. gas.
- **Economizer** (Downflow and Horizontal flow)
- **Power exhaust** – (Unit mount – Downflow, Duct mount – Horizontal flow)
- **Dual enthalpy kit** - Provides a second input to economizer to monitor return air.



## Physical data

### ZT037-061 physical data

Component	Models								
	ZT037			ZT049			ZT061		
<b>Nominal tonnage</b>	<b>3.0</b>			<b>4.0</b>			<b>5.0</b>		
<b>AHRI cooling performance</b>									
Gross capacity @ AHRI A point (MBh)	38000			51200			61600		
AHRI net capacity (MBh)	37000			50000			60000		
EER	13.05			14.0			13.00		
SEER (208/230 & 460V)	17.0			17.5			16.3		
SEER (575V)	15.95			17.5			16.3		
Nominal CFM	1300			1600			1550		
System power (KW)	2.82			3.57			4.62		
Refrigerant type	R-410A			R-410A			R-410A		
Refrigerant charge (lb-oz)									
System 1 (208/230 & 460V)	10-5			13-2			12-7		
System 1 (575V)	9-12			13-2			12-7		
<b>AHRI heating performance</b>									
Heating model	N06	N08	N12	N06	N08	N12	N08	N12	N16
Heat input (K Btu)	60	80	120	60	80	120	80	120	160
Heat output (K Btu)	49	65	97	49	65	97	65	97	129
Steady state efficiency (%)	81.5	81	81	81.5	81	81	81	81	80.5
No. of burners	4	4	6	4	4	6	4	6	8
No. of stages	2 <sup>1</sup>	2 <sup>2</sup>	2 <sup>2</sup>	2 <sup>1</sup>	2 <sup>2</sup>	2 <sup>2</sup>	2 <sup>2</sup>	2 <sup>2</sup>	2 <sup>2</sup>
Temperature rise range (°F)	20-50°F	25-65°F	50-80°F	20-50°F	25-65°F	40-70°F	25-65°F	35-65°F	45-75°F
Gas limit setting (°F)	235	200	255	235	200	255	200	245	240
Heating model low NOx	P06	P08	P12	P06	P08	P12	P08	P12	P16
Gas limit setting (°F) Low NOx	270	240	315	270	240	315	240	315	240
Gas piping connection (in.)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
<b>Dimensions (inches)</b>									
Length	89			89			89		
Width	59			59			59		
Height	42			42			42		
<b>Operating weight (lbs.)</b>	922			960			968		
<b>Compressors<sup>3</sup></b>									
Type	2-stage scroll			2-stage scroll			2-stage scroll		
Quantity	1			1			1		
Unit capacity steps (%)	67/100			67/100			67/100		
<b>Condenser coil data</b>									
Face area (sq. ft.)	12.2			12.2			12.2		
Rows	1			1			1		
Fins per inch	23			23			23		
Tube diameter (in./MM)	.98/25			.98/25			.98/25		
Circuitry type	2-pass Microchannel			2-pass Microchannel			2-pass Microchannel		
<b>Evaporator coil data</b>									
Face area (sq. ft.)	10.56			10.56			10.56		
Rows	3			4			4		
Fins per inch	15			15			15		
Tube diameter	0.375			0.375			0.375		
Refrigerant control	TXV			TXV			TXV		

**ZT037-061 physical data (continued)**

Component	Models								
	ZT037			ZT049			ZT061		
<b>Nominal tonnage</b>	<b>3.0</b>			<b>4.0</b>			<b>5.0</b>		
<b>Condenser fan data</b>									
Quantity of fans	2			2			2		
Fan diameter (inches)	24			24			24		
Type	Prop			Prop			Prop		
Drive type	Direct ECM			Direct ECM			Direct ECM		
Quantity of motors	2			2			2		
Motor HP each	1/3			1/3			1/3		
No. of speeds	Var.			Var.			Var.		
RPM	850			850			850		
Nominal total CFM	7000			7000			7000		
<b>Belt drive evap. fan data</b>									
Quantity	1			1			1		
Fan size (inches)	12 x 9			12 x 9			12 x 9		
Type	Centrifugal			Centrifugal			Centrifugal		
Motor sheave	1VL40		1VL40	1VL34		1VL44	1VL40		1VM50
Blower sheave	AK79		AK61	AK64		AK69	AK61		AK64
Belt	A47		A45	A47		A47	A45		A47
Motor HP each	1-1/2		1-1/2	1-1/2		1-1/2	1-1/2		2
RPM	1725		1725	1725		1725	1725		1725
Frame size	56		56	56		56	56		56
<b>Filters</b>									
Quantity - size	4 - (24 x 16 x 2) <sup>4,5</sup>			4 - (24 x 16 x 2) <sup>4,5</sup>			4 - (24 x 16 x 2) <sup>4,5</sup>		
	4 - (24 x 16 x 4) <sup>6</sup>			4 - (24 x 16 x 4) <sup>6</sup>			4 - (24 x 16 x 4) <sup>6</sup>		

1. 1st stage capacity is 75% of full capacity.
2. 1st stage capacity is 70% of full capacity.
3. ZT037, ZT049, and ZT061 have crankcase heaters standard.
4. 2 in. throwaway, standard, MERV (Minimum Efficiency Reporting Value).
5. 2 in. pleated, optional, MERV 8.
6. 4 in. pleated, optional, MERV 13.

## ZT078-150 physical data

Component	Models									
	ZT078		ZT090		ZT102		ZT120		ZT150	
Nominal tonnage	6.5		7.5		8.5		10		12.5	
<b>AHRI cooling performance</b>										
Gross capacity @ AHRI A point (Mbh)	76000		91500		104000		121000		147500	
AHRI net capacity (Mbh)	74000		89000		101000		117000		142000	
EER	12.4 <sup>1</sup> /12.6 <sup>2</sup>		13.1		13.1		13.1		12.5	
IEER with Intellispeed	21.2		21		21		21.2		20.2	
VAV IEER	20.5		20.5		18.2		19.5		19	
CFM	2700		3000		3400		3600		4150	
System power (KW)	5.92		6.79		7.71		8.93		11.44	
Refrigerant type	R-410A		R-410A		R-410A		R-410A		R-410A	
Refrigerant charge (lb-oz)										
System 1	5-10		8-0		8-4		7-10		10-8	
System 2	5-14		7-14		8-4		7-10		9-12	
Refrigerant charge (lb-oz) Magna Dry option										
System 1	6-2		8-10		8-8		8-8		10-8	
System 2	5-14		7-14		8-4		7-10		9-12	
<b>AHRI heating performance</b>										
Heating model	N12	N18	N12	N18	N12	N18	N18	N24	N18	N24
Heat input (K Btu)	120	180	120	180	120	180	180	240	180	240
Heat output (K Btu)	96	144	96	144	96	144	144	192	144	192
AFUE %	-	-	-	-	-	-	-	-	-	-
Steady state efficiency (%)	80	80	80	80	80	80	80	80	80	80
No. of burners	4	6	4	6	4	6	6	8	6	8
No. of stages	2 <sup>3</sup>	2 <sup>3</sup>	2 <sup>3</sup>	2 <sup>3</sup>	2 <sup>3</sup>	2 <sup>3</sup>	2 <sup>3</sup>	2 <sup>3</sup>	2 <sup>3</sup>	2 <sup>3</sup>
Temperature rise range (°F)	20-50	35-65	15-45	30-60	10-40	25-55	20-50	35-65	10-40	25-55
Gas limit setting (°F)	165	165	165	165	215	195	195	160	195	160
Gas piping connection (inches)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
<b>Dimensions (inches)</b>										
Length	119-1/2		119-1/2		119-1/2		119-1/2		119-1/2	
Width	59		59		59		59		59	
Height	50-3/4		50-3/4		50-3/4		50-3/4		50-3/4	
<b>Operating weight (lbs.)</b>										
Operating weight (lbs.) with Magna Dry	1282		1283		1284		1460		1478	
<b>Compressors<sup>4</sup></b>										
Type	2-stage scroll		2-stage scroll		2-stage scroll		2-stage scroll		2-stage scroll	
Quantity	2		2		2		2		2	
Unit capacity steps (%)	34 / 67 / 100		29 / 57 / 100		34 / 67 / 100		34 / 67 / 100		34 / 67 / 100	
<b>Condenser coil data</b>										
Face area (sq. ft.)	29.0		29.0		29.0		47.5		47.5	
Rows	1		1		2		1		2	
Fins per inch	23		23		23		23		23	
Tube diameter (in.)/MM	.71/18		1.0/25		.71/18		0.71/18		0.71/18	
Circuitry type	2-pass Microchannel		2-pass Microchannel		3-pass Microchannel		2-pass Microchannel		3-pass Microchannel	
<b>Evaporator coil data</b>										
Face area (sq. ft.)	29		29		29		47.5		47.5	
Rows	3		4		4		4		4	
Fins per inch	15		15		15		15		15	
Tube diameter	0.375		0.375		0.375		0.375		0.375	
Circuitry type	Intertwined		Intertwined		Intertwined		Intertwined		Intertwined	
Refrigerant control	TXV		TXV		TXV		TXV		TXV	
<b>Reheat option coil data</b>										
Face area (sq. ft.)	10		10		10		10		10	
Rows	1		2		2		2		2	
Fins per inch	13		13		13		13		13	
Tube diameter (inches)	3/8		3/8		3/8		3/8		3/8	

**ZT078-150 physical data (continued)**

Component	Models									
	ZT078		ZT090		ZT102		ZT120		ZT150	
<b>Nominal tonnage</b>	6.5		7.5		8.5		10		12.5	
<b>Condenser fan data</b>										
Quantity of fans	4		4		4		4		4	
Fan diameter (inches)	24		24		24		24		24	
Type	Prop		Prop		Prop		Prop		Prop	
Drive type	Direct		Direct		Direct		Direct		Direct	
Quantity of motors	4		4		4		4		4	
Motor HP each	1/3		1/3		1/3		1/3		1/3	
No. of speeds	2		2		2		2		2	
1st speed/2nd speed RPM	850/600		850/600		850/700		850/700		900/700	
1st speed/2nd speed total CFM	14000/9500		14000/9500		14000/11000		14000/11000		15000/11000	
<b>Belt drive evap. fan data</b>										
Quantity	1		1		1		1		1	
Fan size (inches)	15 x 15		15 x 15		15 x 15		15 x 15		15 x 15	
Type	Centrifugal		Centrifugal		Centrifugal		Centrifugal		Centrifugal	
Motor sheave	1VL40	1VM50	1VL40	1VM50	1VM50	1VM50	1VM50	1VM50	1VM50	1VP56
Blower sheave	AK74	AK74	AK69	AK69	AK89	AK74	AK84	AK74	AK74	BK77
Belt	A53	A54	A52	A54	A56	A54	A56	A54	A54	BX55
Motor HP each	1-1/2	2	1-1/2	3	2	3	2	3	3	5
RPM	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Frame size	56	56	56	56	56	56	56	56	56	184T
<b>Filters</b>										
Quantity - size	4 - (24 x 20 x 2) <sup>5,6</sup>		4 - (24 x 20 x 2) <sup>5,6</sup>		4 - (24 x 20 x 2) <sup>5,6</sup>		4 - (24 x 20 x 2) <sup>5,6</sup>		4 - (24 x 20 x 2) <sup>5,6</sup>	
	4 - (24 x 20 x 4) <sup>7</sup>		4 - (24 x 20 x 4) <sup>7</sup>		4 - (24 x 20 x 4) <sup>7</sup>		4 - (24 x 20 x 4) <sup>7</sup>		4 - (24 x 20 x 4) <sup>7</sup>	

1. Gas units
2. Cooling only, electric
3. 1st stage 60% of 2nd stage
4. ZT078, ZT090, ZT102, ZT120, and ZT150 have crankcase heaters as standard.
5. 2 in. throwaway, standard, MERV (Minimum Efficiency Reporting Value) 3.
6. 2 in. pleated, optional, MERV 8.
7. 4 in. pleated, optional, MERV 13.

**ZT037-150 unit limitations**

Size (tons)	Model	Unit voltage	Unit limitations		
			Applied voltage		Outdoor DB temp.
			Minimum	Maximum	Maximum (°F)
037 (3)	ZT	208/230-3-60	187	252	125
		460-3-60	432	504	125
		575-3-60	540	630	125
049 (4)	ZT	208/230-3-60	187	252	125
		460-3-60	432	504	125
		575-3-60	540	630	125
061 (5)	ZT	208/230-3-60	187	252	125
		460-3-60	432	504	125
		575-3-60	540	630	125
078 (6.5)	ZT	208/230-3-60	187	252	125
		460-3-60	432	504	125
090 (7.5)	ZT	208/230-3-60	187	252	125
		460-3-60	432	504	125
102 (8.5)	ZT	208/230-3-60	187	252	125
		460-3-60	432	504	125
120 (10)	ZT	208/230-3-60	187	252	125
		460-3-60	432	504	125
150 (12.5)	ZT	208/230-3-60	187	252	125
		460-3-60	432	504	125



## ZT037 high speed compressor (3.0 ton) (continued)

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
				115°F						125°F							
750	77	36.9	3.0	18.6	16.5	14.5	-	-	-	34.4	3.3	18.2	16.3	14.3	-	-	-
	72	32.4	3.0	22.8	19.7	16.6	13.4	-	-	29.5	3.3	21.6	18.6	15.6	12.6	-	-
	67	28.6	3.0	27.1	22.8	18.6	15.3	12.0	-	25.4	3.4	25.0	21.0	16.9	13.9	10.9	-
	62	28.1	3.0	27.8	24.2	20.6	17.2	13.8	10.3	26.0	3.3	25.7	22.0	18.3	15.2	12.2	9.2
900	77	36.4	3.0	21.6	17.8	14.0	-	-	-	33.3	3.3	21.2	17.3	13.5	-	-	-
	72	33.4	3.0	25.2	21.2	17.1	13.0	-	-	30.4	3.4	23.9	19.9	16.0	12.0	-	-
	67	30.4	3.0	28.8	24.5	20.2	16.1	11.9	-	27.4	3.4	26.6	22.5	18.5	14.6	10.7	-
	62	29.5	3.0	29.3	26.3	23.3	19.1	14.9	10.7	27.2	3.3	26.9	24.0	21.0	17.1	13.3	9.4
	57	28.6	3.0	28.6	28.1	26.4	22.2	17.9	13.7	27.1	3.3	27.1	25.4	23.5	19.7	15.9	12.1
1050	77	36.0	3.0	24.7	19.1	13.4	-	-	-	32.2	3.3	24.1	18.4	12.6	-	-	-
	72	34.4	3.0	27.7	22.6	17.6	12.6	-	-	31.2	3.4	26.2	21.2	16.3	11.4	-	-
	67	32.3	3.0	30.6	26.2	21.8	16.8	11.9	-	29.3	3.4	28.2	24.1	20.0	15.2	10.4	-
	62	31.0	3.0	30.7	28.4	26.1	21.1	16.1	11.2	28.5	3.3	28.2	26.0	23.7	19.0	14.3	9.7
	57	29.6	3.0	29.6	29.6	29.6	25.3	20.4	15.5	27.7	3.3	27.7	27.7	27.4	22.8	18.3	13.7
1200	77	35.6	3.0	27.8	20.3	12.8	-	-	-	31.1	3.3	27.0	19.4	11.8	-	-	-
	72	35.4	3.0	30.1	24.1	18.2	12.2	-	-	32.0	3.4	28.4	22.6	16.7	10.8	-	-
	67	34.1	3.1	32.3	27.9	23.5	17.6	11.8	-	31.2	3.4	29.8	25.7	21.6	15.9	10.2	-
	62	32.4	3.0	32.1	30.5	28.8	23.1	17.3	11.6	29.8	3.3	29.5	28.0	26.5	20.9	15.4	9.9
	57	30.6	3.0	30.6	30.6	30.6	28.5	22.8	17.2	28.3	3.3	28.3	28.3	28.3	26.0	20.6	15.3
1350	72	36.4	3.0	32.5	25.6	18.7	11.8	-	-	32.8	3.4	30.7	23.9	17.1	10.3	-	-
	67	36.0	3.1	34.1	29.6	25.1	18.4	11.7	-	33.1	3.4	31.4	27.3	23.1	16.5	10.0	-
	62	33.8	3.0	33.6	32.6	31.5	25.0	18.5	12.0	31.0	3.4	30.8	30.0	29.2	22.8	16.5	10.1
	57	31.6	3.0	31.6	31.6	31.6	31.6	25.3	19.0	28.9	3.3	28.9	28.9	28.9	28.9	23.0	16.8
1500	72	37.4	3.1	34.9	27.1	19.2	11.4	-	-	33.6	3.4	-	25.2	17.4	9.7	-	-
	67	37.8	3.1	35.8	31.3	26.7	19.2	11.6	-	35.1	3.4	-	28.8	24.7	17.2	9.7	-
	62	35.2	3.0	35.0	34.6	34.3	27.0	19.7	12.4	32.3	3.4	-	32.0	31.9	24.7	17.5	10.3
	57	32.6	3.0	32.6	32.6	32.6	32.6	27.8	20.7	29.6	3.3	-	29.6	29.6	29.6	25.3	18.4

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.

ZT037 low speed compressor (3.0 ton)

Air on evaporator coil		Temperature of air on condenser coil																	
		CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
						Return dry bulb (°F)								Return dry bulb (°F)					
						90	85	80	75	70	65			90	85	80	75	70	65
					75°F						85°F								
750	77	38.7	1.2	19.8	16.4	13.1	-	-	-	35.0	1.4	18.5	15.0	11.5	-	-	-		
	72	34.6	1.2	24.6	20.6	16.6	12.7	-	-	31.8	1.4	23.0	19.2	15.3	11.4	-	-		
	67	30.5	1.2	29.3	24.8	20.2	16.3	12.5	-	28.6	1.4	27.5	23.3	19.1	15.2	11.3	-		
	62	29.6	1.2	29.1	26.4	23.7	18.6	16.3	12.7	27.6	1.4	27.3	25.1	22.9	18.3	15.0	11.0		
900	77	39.0	1.2	23.1	18.3	13.4	-	-	-	35.6	1.4	21.9	16.8	11.7	-	-	-		
	72	35.7	1.2	27.1	22.4	17.8	13.1	-	-	33.0	1.4	25.5	20.9	16.4	11.8	-	-		
	67	32.4	1.2	31.1	26.6	22.1	17.5	13.0	-	30.3	1.4	29.1	25.1	21.0	16.3	11.7	-		
	62	31.3	1.2	30.9	28.7	26.5	20.9	17.6	13.1	29.2	1.4	28.9	27.3	25.7	20.4	16.2	11.5		
	57	30.2	1.2	30.2	30.2	30.2	26.4	22.1	17.8	28.0	1.4	28.0	28.0	28.0	25.5	20.7	15.9		
1050	77	39.4	1.2	26.5	20.1	13.8	-	-	-	36.2	1.4	25.2	18.6	11.9	-	-	-		
	72	36.9	1.2	29.7	24.3	18.9	13.6	-	-	34.1	1.4	28.0	22.7	17.4	12.1	-	-		
	67	34.3	1.2	32.9	28.5	24.1	18.8	13.5	-	32.0	1.4	30.7	26.8	22.9	17.5	12.1	-		
	62	33.0	1.2	32.6	30.9	29.2	23.1	18.8	13.5	30.7	1.4	30.5	29.5	28.4	22.5	17.4	11.9		
	57	31.6	1.2	31.6	31.6	31.6	29.2	24.0	18.9	29.5	1.4	29.5	29.5	29.5	28.3	22.7	17.0		
1200	77	39.7	1.2	29.8	22.0	14.2	-	-	-	36.7	1.4	28.6	20.3	12.1	-	-	-		
	72	38.0	1.2	32.2	26.2	20.1	14.0	-	-	35.2	1.4	30.5	24.5	18.5	12.5	-	-		
	67	36.2	1.2	34.6	30.3	26.0	20.0	14.0	-	33.7	1.4	32.3	28.6	24.8	18.7	12.5	-		
	62	34.6	1.2	34.4	33.2	32.0	25.4	20.0	13.9	32.3	1.4	32.1	31.7	31.2	24.6	18.6	12.3		
	57	33.0	1.2	33.0	33.0	33.0	31.9	26.0	20.0	30.9	1.4	30.9	30.9	30.9	30.9	24.7	18.2		
1350	72	39.1	1.2	34.8	28.0	21.3	14.5	-	-	36.4	1.4	32.9	26.2	19.5	12.8	-	-		
	67	38.1	1.2	36.4	32.2	28.0	21.2	14.5	-	35.4	1.4	33.9	30.3	26.7	19.8	12.9	-		
	62	36.3	1.2	36.1	35.4	34.8	27.7	21.2	14.4	33.9	1.4	33.8	33.8	33.8	26.7	19.8	12.7		
	57	34.4	1.2	34.4	34.4	34.4	34.4	27.9	21.1	32.3	1.3	32.3	32.3	32.3	32.3	26.6	19.4		
	1500	72	40.2	1.2	-	29.9	22.4	15.0	-	-	37.5	1.3	-	28.0	20.6	13.1	-	-	
67		40.0	1.2	-	34.0	30.0	22.5	14.9	-	37.1	1.3	-	32.1	28.6	21.0	13.4	-		
62		37.9	1.1	-	37.7	37.5	29.9	22.4	14.8	35.5	1.3	-	35.4	35.4	28.8	21.0	13.1		
57		35.9	1.1	-	35.9	35.9	35.9	29.8	22.2	33.8	1.3	-	33.8	33.8	33.8	28.6	20.5		
					95°F						105°F								
750	77	31.4	1.6	17.3	13.6	9.9	-	-	-	27.8	1.9	18.0	13.9	9.9	-	-	-		
	72	29.0	1.6	21.5	17.8	14.0	10.2	-	-	26.1	1.9	20.7	17.0	13.3	9.6	-	-		
	67	26.7	1.6	25.7	21.9	18.1	14.1	10.0	-	24.6	1.9	23.5	20.1	16.7	12.7	8.8	-		
	62	25.6	1.6	25.4	23.8	22.2	17.9	13.7	9.4	24.1	1.9	23.3	21.7	20.1	15.9	11.8	7.6		
900	77	32.2	1.6	20.7	15.3	9.9	-	-	-	28.4	1.9	20.5	14.9	9.3	-	-	-		
	72	30.2	1.6	23.9	19.4	14.9	10.4	-	-	27.2	1.9	22.7	18.2	13.8	9.3	-	-		
	67	28.2	1.6	27.2	23.5	19.9	15.2	10.4	-	26.0	1.9	24.8	21.5	18.3	13.7	9.0	-		
	62	27.1	1.6	26.9	25.9	24.9	19.9	14.8	9.8	25.3	1.9	24.7	23.7	22.8	18.0	13.2	8.4		
	57	25.9	1.6	25.9	25.9	25.9	24.6	19.3	14.0	24.6	1.9	24.5	24.5	24.5	22.3	17.4	12.5		
1050	77	32.9	1.6	24.0	17.0	10.0	-	-	-	29.1	1.9	23.0	15.8	8.6	-	-	-		
	72	31.3	1.6	26.3	21.1	15.9	10.7	-	-	28.3	1.9	24.6	19.4	14.2	9.0	-	-		
	67	29.7	1.6	28.6	25.2	21.8	16.2	10.7	-	27.4	1.9	26.1	23.0	19.8	14.6	9.3	-		
	62	28.5	1.6	28.4	28.0	27.6	21.8	16.0	10.2	26.5	1.8	26.0	25.7	25.5	20.1	14.7	9.2		
	57	27.4	1.6	27.4	27.4	27.4	27.4	21.3	15.2	25.6	1.8	25.6	25.6	25.6	25.3	19.5	13.7		
1200	77	33.7	1.6	27.4	18.7	10.0	-	-	-	29.7	1.9	25.6	16.8	7.9	-	-	-		
	72	32.5	1.6	28.7	22.8	16.8	10.9	-	-	29.5	1.8	26.5	20.6	14.7	8.8	-	-		
	67	31.2	1.6	30.0	26.8	23.6	17.3	11.1	-	28.8	1.8	27.4	24.4	21.4	15.5	9.5	-		
	62	30.0	1.6	29.9	29.9	29.9	23.8	17.2	10.6	27.7	1.8	27.3	27.3	27.3	22.1	16.1	10.0		
	57	28.8	1.6	28.8	28.8	28.8	28.8	23.4	16.5	26.6	1.8	26.6	26.6	26.6	26.6	21.6	15.0		
1350	72	33.6	1.6	31.1	24.4	17.8	11.1	-	-	30.6	1.8	28.4	21.8	15.2	8.5	-	-		
	67	32.8	1.6	31.5	28.5	25.4	18.4	11.4	-	30.2	1.8	28.7	25.8	23.0	16.4	9.7	-		
	62	31.5	1.5	31.4	31.4	31.4	25.7	18.4	11.1	28.9	1.8	28.6	28.6	28.6	24.2	17.5	10.8		
	57	30.2	1.5	30.2	30.2	30.2	30.2	25.4	17.7	27.7	1.8	27.7	27.7	27.7	27.7	23.7	16.2		
	1500	72	34.8	1.5	-	26.1	18.7	11.3	-	-	31.7	1.8	-	23.0	15.6	8.3	-	-	
67		34.3	1.5	-	30.1	27.3	19.5	11.8	-	31.6	1.8	-	27.3	24.6	17.3	9.9	-		
62		33.0	1.5	-	32.9	32.9	27.7	19.6	11.5	30.1	1.8	-	30.0	30.0	26.3	18.9	11.6		
57		31.7	1.5	-	31.7	31.7	31.7	27.4	18.9	28.7	1.8	-	28.7	28.7	28.7	25.9	17.5		



## ZT037 low speed compressor (3.0 ton) (continued)

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
				115°F						125°F							
750	77	24.2	2.2	18.6	14.3	9.9	-	-	-	20.5	2.5	19.3	14.6	10.0	-	-	-
	72	23.1	2.2	20.0	16.3	12.6	8.9	-	-	20.1	2.5	19.2	15.6	11.9	8.3	-	-
	67	22.5	2.2	21.3	18.3	15.3	11.4	7.6	-	20.4	2.4	19.1	16.5	13.9	10.1	6.4	-
	62	22.5	2.1	21.3	19.6	18.0	13.9	9.9	5.9	21.0	2.4	19.2	17.5	15.8	11.9	8.0	4.1
900	77	24.7	2.2	20.3	14.5	8.6	-	-	-	20.9	2.5	-	14.0	7.9	-	-	-
	72	24.2	2.2	21.4	17.0	12.6	8.2	-	-	21.2	2.4	-	15.8	11.4	7.1	-	-
	67	23.7	2.1	22.4	19.5	16.6	12.2	7.7	-	21.5	2.4	-	17.5	15.0	10.7	6.3	-
	62	23.5	2.1	22.4	21.5	20.6	16.1	11.6	7.1	21.7	2.4	-	19.3	18.5	14.2	10.0	5.7
	57	23.2	2.1	22.4	22.4	22.4	20.1	15.5	10.9	21.9	2.4	-	20.3	20.3	17.8	13.6	9.4
1050	77	25.2	2.2	22.1	14.6	7.2	-	-	-	21.3	2.4	21.1	13.5	5.8	-	-	-
	72	25.3	2.1	22.8	17.7	12.6	7.4	-	-	22.3	2.4	21.1	16.0	10.9	5.8	-	-
	67	25.0	2.1	23.6	20.8	17.9	12.9	7.8	-	22.7	2.4	21.1	18.6	16.0	11.2	6.3	-
	62	24.4	2.1	23.6	23.4	23.3	18.3	13.3	8.3	22.4	2.4	21.2	21.2	21.1	16.5	11.9	7.3
	57	23.9	2.1	23.6	23.6	23.6	23.2	17.7	12.2	22.1	2.4	21.3	21.3	21.3	21.1	15.9	10.7
1200	77	25.7	2.1	23.8	14.8	5.8	-	-	-	21.7	2.4	21.7	12.9	3.7	-	-	-
	72	26.5	2.1	24.3	18.4	12.6	6.7	-	-	23.5	2.4	22.0	16.2	10.4	4.6	-	-
	67	26.3	2.1	24.7	22.0	19.3	13.6	7.9	-	23.8	2.4	22.1	19.6	17.1	11.7	6.3	-
	62	25.4	2.1	24.7	24.7	24.7	20.5	15.0	9.4	23.1	2.4	22.2	22.2	22.2	18.8	13.8	8.8
	57	24.5	2.1	24.5	24.5	24.5	24.5	19.9	13.5	22.3	2.4	22.3	22.3	22.3	22.3	18.2	12.0
1350	72	27.6	2.1	25.7	19.1	12.5	6.0	-	-	24.6	2.4	23.0	16.5	9.9	3.4	-	-
	67	27.5	2.1	25.9	23.2	20.6	14.3	8.0	-	24.9	2.4	23.1	20.6	18.2	12.2	6.3	-
	62	26.3	2.1	25.9	25.9	25.9	22.7	16.6	10.6	23.7	2.4	23.2	23.2	23.2	21.1	15.8	10.4
	57	25.1	2.1	25.1	25.1	25.1	25.1	22.1	14.8	22.5	2.4	22.5	22.5	22.5	22.5	20.5	13.3
1500	72	28.7	2.1	-	19.8	12.5	5.2	-	-	25.7	2.4	-	-	-	-	-	-
	67	28.8	2.1	-	24.5	21.9	15.0	8.1	-	26.1	2.4	-	-	-	-	-	-
	62	27.3	2.1	-	27.1	27.1	24.8	18.3	11.8	24.4	2.4	-	-	-	-	-	-
	57	25.7	2.1	-	25.7	25.7	25.7	24.3	16.1	22.7	2.4	-	-	-	-	-	-

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.

ZT049 high speed compressor (4.0 ton)

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
				75°F						85°F							
1000	77	67.2	2.6	32.6	27.0	21.4	-	-	-	64.1	2.9	29.5	24.7	19.8	-	-	-
	72	60.1	2.5	38.7	33.3	27.9	22.5	-	-	57.1	2.8	36.6	31.4	26.2	21.0	-	-
	67	53.1	2.5	44.8	39.6	34.5	27.9	22.6	-	50.0	2.8	43.6	38.1	32.6	26.6	21.3	-
	62	49.5	2.5	49.4	45.2	41.0	32.4	28.1	21.7	47.4	2.8	47.3	43.1	39.0	31.8	26.7	20.6
1200	77	67.6	2.6	35.7	28.7	21.7	-	-	-	64.0	2.9	33.6	26.9	20.2	-	-	-
	72	61.3	2.6	42.0	35.6	29.3	22.9	-	-	57.9	2.9	40.1	33.8	27.5	21.3	-	-
	67	54.9	2.5	48.2	42.5	36.8	29.4	23.1	-	51.8	2.8	46.7	40.8	34.9	28.0	21.6	-
	62	52.1	2.5	52.0	48.1	44.3	35.3	29.7	22.5	49.8	2.8	49.7	46.0	42.3	34.4	28.3	21.3
1400	77	68.0	2.6	38.8	30.5	22.1	-	-	-	63.8	2.9	37.6	29.1	20.5	-	-	-
	72	62.4	2.6	45.2	37.9	30.6	23.3	-	-	58.7	2.9	43.6	36.3	28.9	21.5	-	-
	67	56.8	2.5	51.7	45.4	39.1	30.9	23.6	-	53.7	2.8	49.7	43.4	37.2	29.4	22.0	-
	62	54.7	2.5	54.5	51.0	47.6	38.2	31.3	23.2	52.3	2.8	52.1	48.8	45.6	37.0	29.8	21.9
1600	77	68.4	2.7	41.9	32.2	22.5	-	-	-	63.7	2.9	41.6	31.2	20.9	-	-	-
	72	63.5	2.6	48.5	40.2	31.9	23.6	-	-	59.6	2.9	47.1	38.7	30.2	21.7	-	-
	67	58.6	2.6	55.1	48.2	41.4	32.5	24.1	-	55.5	2.9	52.7	46.1	39.6	30.8	22.3	-
	62	57.3	2.6	57.1	54.0	50.8	41.0	32.9	24.0	54.7	2.8	54.4	51.7	48.9	39.7	31.3	22.5
1800	72	64.6	2.7	51.8	42.5	33.2	24.0	-	-	60.4	2.9	50.7	41.1	31.5	22.0	-	-
	67	60.4	2.6	58.5	51.1	43.7	34.0	24.6	-	57.3	2.9	55.7	48.8	41.9	32.2	22.6	-
	62	59.9	2.6	59.7	56.9	54.1	43.9	34.5	24.7	57.2	2.9	56.8	54.5	52.2	42.3	32.9	23.2
	57	59.4	2.6	59.2	59.2	59.2	54.5	44.4	34.4	57.1	2.8	57.1	57.1	57.1	52.8	43.1	33.3
2000	72	65.7	2.7	55.1	44.8	34.6	24.3	-	-	61.2	2.9	54.2	43.5	32.9	22.2	-	-
	67	62.2	2.6	61.9	54.0	46.0	35.5	25.1	-	59.2	2.9	58.7	51.5	44.2	33.6	23.0	-
	62	62.5	2.6	62.2	59.8	57.4	46.8	36.1	25.5	59.6	2.9	59.2	57.4	55.5	45.0	34.4	23.8
	57	62.8	2.6	62.5	62.5	62.5	58.0	47.2	36.3	60.1	2.9	59.7	59.7	59.7	56.3	45.8	35.3
				95°F						105°F							
1000	77	61.1	3.2	26.5	22.4	18.3	-	-	-	55.6	3.6	25.0	21.0	17.1	-	-	-
	72	54.0	3.1	34.5	29.5	24.5	19.5	-	-	49.9	3.6	33.1	28.1	23.0	18.0	-	-
	67	46.8	3.1	42.5	36.6	30.7	25.3	19.9	-	44.2	3.5	41.3	35.1	28.9	23.6	18.2	-
	62	45.3	3.1	45.2	41.1	36.9	31.1	25.3	19.6	42.9	3.6	42.8	38.8	34.9	29.2	23.5	17.9
1200	77	60.3	3.2	31.4	25.0	18.6	-	-	-	55.2	3.6	29.8	23.4	17.1	-	-	-
	72	54.5	3.2	38.3	32.0	25.8	19.6	-	-	50.5	3.6	36.6	30.4	24.2	18.0	-	-
	67	48.7	3.1	45.1	39.1	33.0	26.6	20.1	-	45.9	3.6	43.4	37.3	31.3	24.8	18.3	-
	62	47.6	3.1	47.4	43.8	40.3	33.5	26.8	20.1	45.0	3.6	44.8	41.6	38.3	31.6	24.9	18.2
1400	77	59.6	3.2	36.4	27.6	18.9	-	-	-	54.7	3.6	34.6	25.8	17.1	-	-	-
	72	55.1	3.2	42.0	34.6	27.2	19.7	-	-	51.2	3.6	40.0	32.7	25.3	17.9	-	-
	67	50.5	3.1	47.7	41.5	35.4	27.8	20.3	-	47.6	3.6	45.5	39.6	33.6	26.0	18.5	-
	62	49.9	3.1	49.6	46.6	43.6	35.9	28.3	20.6	47.1	3.6	46.7	44.3	41.8	34.1	26.3	18.6
1600	77	58.9	3.2	41.3	30.3	19.2	-	-	-	54.3	3.6	39.4	28.2	17.0	-	-	-
	72	55.6	3.2	45.8	37.1	28.5	19.8	-	-	51.8	3.6	43.5	35.0	26.5	17.9	-	-
	67	52.4	3.2	50.3	44.0	37.7	29.1	20.4	-	49.3	3.6	47.7	41.8	35.9	27.2	18.6	-
	62	52.2	3.1	51.8	49.4	47.0	38.3	29.7	21.1	49.2	3.6	48.7	47.0	45.3	36.5	27.8	19.0
1800	77	56.2	3.2	49.6	39.7	29.8	19.9	-	-	52.5	3.6	47.0	37.3	27.6	17.9	-	-
	72	54.3	3.2	52.9	46.5	40.1	30.3	20.6	-	51.0	3.6	49.8	44.0	38.2	28.5	18.7	-
	67	54.5	3.2	54.0	52.2	50.3	40.8	31.2	21.6	51.3	3.6	50.7	49.7	48.8	39.0	29.2	19.4
	57	54.8	3.1	54.8	54.8	54.8	51.2	41.7	32.3	51.6	3.6	51.6	51.6	51.6	49.5	39.6	29.7
2000	72	56.8	3.2	-	42.2	31.1	20.1	-	-	53.1	3.6	50.4	39.6	28.8	17.9	-	-
	67	56.1	3.2	55.5	48.9	42.4	31.6	20.8	-	52.7	3.6	51.9	46.2	40.5	29.7	18.8	-
	62	56.8	3.2	56.2	54.9	53.7	43.2	32.6	22.1	53.4	3.6	52.6	52.4	52.2	41.4	30.6	19.7
	57	57.5	3.2	56.9	56.9	56.9	54.7	44.5	34.2	54.2	3.6	53.4	53.4	53.4	53.1	42.3	31.4

## ZT049 high speed compressor (4.0 ton) (continued)

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
				115°F						125°F							
1000	77	50.2	4.1	23.4	19.6	15.9	-	-	-	44.7	4.5	21.9	18.3	14.6	-	-	-
	72	45.9	4.0	31.8	26.6	21.5	16.4	-	-	41.8	4.5	30.4	25.2	20.0	14.9	-	-
	67	41.6	4.0	40.1	33.7	27.2	21.9	16.5	-	39.0	4.4	38.9	32.2	25.4	20.1	14.8	-
	62	40.4	4.0	40.4	36.6	32.9	27.3	21.7	16.2	38.0	4.5	37.9	34.4	30.8	25.4	19.9	14.5
1200	77	50.0	4.1	28.1	21.8	15.5	-	-	-	44.9	4.5	26.4	20.2	14.0	-	-	-
	72	46.6	4.0	34.9	28.7	22.5	16.3	-	-	42.6	4.5	33.2	27.0	20.8	14.6	-	-
	67	43.1	4.0	41.8	35.6	29.5	23.0	16.6	-	40.4	4.4	40.1	33.9	27.7	21.3	14.8	-
	62	42.4	4.0	42.1	39.3	36.4	29.8	23.1	16.4	39.7	4.5	39.5	37.0	34.5	27.9	21.2	14.6
	57	41.6	4.1	41.6	41.6	41.6	36.5	29.6	22.7	39.1	4.6	38.8	38.8	38.8	34.5	27.6	20.8
1400	77	49.9	4.1	32.7	24.0	15.2	-	-	-	45.0	4.5	30.9	22.1	13.3	-	-	-
	72	47.3	4.0	38.1	30.8	23.5	16.2	-	-	43.4	4.5	36.1	28.9	21.6	14.4	-	-
	67	44.7	4.0	43.4	37.6	31.8	24.2	16.7	-	41.7	4.5	41.2	35.6	29.9	22.4	14.9	-
	62	44.3	4.0	43.9	41.9	40.0	32.2	24.4	16.6	41.5	4.5	41.0	39.6	38.2	30.4	22.5	14.7
	57	43.9	4.1	43.9	43.9	43.9	40.3	32.2	24.2	41.2	4.6	40.7	40.7	40.7	38.4	30.2	22.1
1600	77	49.7	4.1	37.4	26.1	14.9	-	-	-	45.2	4.5	35.5	24.1	12.7	-	-	-
	72	48.0	4.1	41.2	32.8	24.4	16.1	-	-	44.2	4.5	38.9	30.7	22.4	14.2	-	-
	67	46.2	4.0	45.0	39.5	34.0	25.4	16.7	-	43.1	4.5	42.4	37.3	32.2	23.5	14.9	-
	62	46.2	4.0	45.6	44.6	43.6	34.7	25.8	16.9	43.2	4.5	42.5	42.2	41.9	32.9	23.8	14.8
	57	46.2	4.1	46.2	46.2	46.2	44.0	34.9	25.7	43.3	4.5	42.6	42.6	42.6	42.3	32.8	23.3
1800	72	48.7	4.1	44.4	34.9	25.4	15.9	-	-	45.0	4.5	41.8	32.5	23.2	13.9	-	-
	67	47.7	4.1	46.7	41.5	36.3	26.6	16.8	-	44.5	4.5	43.5	39.0	34.4	24.7	14.9	-
	62	48.1	4.1	47.3	47.3	47.2	37.2	27.1	17.1	45.0	4.5	44.0	44.0	44.0	35.4	25.1	14.9
	57	48.5	4.1	48.0	48.0	48.0	47.8	37.5	27.2	45.4	4.5	44.5	44.5	44.5	35.4	25.4	24.6
2000	72	49.5	4.1	47.5	37.0	26.4	15.8	-	-	45.8	4.5	-	34.3	24.0	13.7	-	-
	67	49.3	4.1	48.3	43.4	38.6	27.7	16.9	-	45.9	4.5	-	40.7	36.7	25.8	14.9	-
	62	50.1	4.1	49.1	49.1	49.1	39.6	28.5	17.4	46.7	4.5	-	45.5	45.5	37.9	26.4	15.0
	57	50.9	4.0	49.9	49.9	49.9	49.9	40.1	28.7	47.6	4.5	-	46.4	46.4	46.4	38.0	25.9

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.



## ZT049 low speed compressor (4.0 ton) (continued)

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
				115°F						125°F							
1000	77	33.8	3.0	-	20.8	13.1	-	-	-	28.9	3.4	-	20.4	11.8	-	-	-
	72	32.3	3.0	-	23.8	18.0	12.3	-	-	28.8	3.4	-	22.7	16.8	10.9	-	-
	67	30.8	3.0	-	26.7	23.0	17.2	11.5	-	28.4	3.4	-	24.9	21.8	15.9	10.0	-
	62	30.4	3.0	-	29.1	27.9	22.2	16.5	10.8	28.0	3.4	-	27.4	26.8	20.8	14.8	8.9
1200	77	34.5	3.0	-	20.8	11.6	-	-	-	30.0	3.4	-	20.0	10.2	-	-	-
	72	33.2	3.0	-	24.5	18.1	11.6	-	-	29.7	3.4	-	23.0	16.6	10.1	-	-
	67	31.9	3.0	31.7	28.1	24.5	18.0	11.5	-	29.3	3.4	-	26.0	23.0	16.5	10.0	-
	62	31.9	3.0	31.7	31.4	31.0	24.5	17.9	11.3	29.3	3.4	-	29.1	29.1	22.8	16.2	9.6
	57	31.8	3.0	31.6	31.6	31.6	30.9	24.2	17.6	29.3	3.4	-	29.1	29.1	29.1	22.5	15.8
1400	77	35.2	3.0	31.7	20.9	10.0	-	-	-	31.1	3.3	30.6	19.5	8.5	-	-	-
	72	34.0	3.0	32.3	25.2	18.1	11.0	-	-	30.6	3.4	30.3	23.3	16.3	9.3	-	-
	67	33.1	3.0	32.9	29.5	26.1	18.9	11.6	-	30.3	3.4	30.1	27.1	24.1	17.0	9.9	-
	62	33.3	3.0	33.0	33.0	33.0	26.7	19.3	11.8	30.6	3.4	30.2	30.2	30.2	24.8	17.6	10.4
	57	33.6	3.0	33.1	33.1	33.1	33.1	27.0	19.3	30.9	3.4	30.3	30.3	30.3	30.3	25.2	17.9
1600	77	35.9	2.9	33.3	20.9	8.5	-	-	-	32.1	3.3	31.4	19.1	6.9	-	-	-
	72	34.9	3.0	33.7	25.9	18.1	10.3	-	-	31.5	3.3	31.2	23.7	16.1	8.5	-	-
	67	34.2	3.0	34.0	30.9	27.7	19.7	11.6	-	31.3	3.4	31.1	28.2	25.3	17.6	9.9	-
	62	34.8	3.0	34.3	34.3	34.3	29.0	20.7	12.3	32.0	3.3	31.3	31.3	31.3	26.8	18.9	11.1
	57	35.4	2.9	34.5	34.5	34.5	34.5	29.7	21.1	32.6	3.3	31.5	31.5	31.5	31.5	27.9	20.0
1800	72	35.7	2.9	35.0	26.6	18.1	9.7	-	-	32.4	3.3	32.2	24.0	15.9	7.7	-	-
	67	35.4	2.9	35.2	32.3	29.3	20.5	11.6	-	32.3	3.3	32.1	29.3	26.5	18.2	9.9	-
	62	36.3	2.9	35.6	35.6	35.6	31.3	22.1	12.8	33.3	3.3	32.4	32.4	32.4	28.7	20.3	11.9
	57	37.2	2.9	35.9	35.9	35.9	35.9	32.5	22.8	34.2	3.3	32.7	32.7	32.7	32.7	30.7	22.1
2000	72	36.6	2.9	36.4	27.3	18.1	9.0	-	-	33.3	3.3	-	-	-	-	-	-
	67	36.5	2.9	36.4	33.7	30.9	21.3	11.7	-	33.3	3.3	-	-	-	-	-	-
	62	37.8	2.9	36.9	36.9	36.9	33.6	23.5	13.3	34.6	3.3	-	-	-	-	-	-
	57	39.0	2.9	37.4	37.4	37.4	37.4	35.2	24.6	35.9	3.3	-	-	-	-	-	-

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.



## ZT061 high speed compressor (5.0 ton) (continued)

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
				115°F						125°F							
1250	77	63.5	5.4	32.6	27.3	21.9	-	-	-	56.7	6.1	30.5	24.9	19.2	-	-	-
	72	57.9	5.3	41.4	34.9	28.3	21.8	-	-	53.0	5.9	39.3	32.6	25.9	19.3	-	-
	67	52.3	5.2	50.1	42.4	34.7	28.3	21.8	-	49.4	5.8	48.0	40.3	32.6	26.1	19.5	-
	62	50.2	5.1	49.0	45.1	41.1	34.7	28.2	21.8	46.8	5.7	45.5	42.4	39.4	32.9	26.5	20.0
1500	77	62.3	5.4	36.6	28.7	20.8	-	-	-	55.7	6.0	34.5	26.3	18.0	-	-	-
	72	58.0	5.3	44.1	36.5	29.0	21.4	-	-	53.1	5.9	41.8	34.2	26.6	18.9	-	-
	67	53.6	5.2	51.6	44.4	37.2	29.4	21.6	-	50.5	5.8	49.1	42.1	35.1	27.2	19.3	-
	62	51.8	5.1	50.6	48.0	45.4	37.4	29.3	21.3	48.3	5.7	47.0	45.3	43.6	35.5	27.4	19.3
	57	50.0	5.0	49.6	49.6	49.6	45.4	37.1	28.8	46.2	5.6	44.8	44.8	44.8	43.8	35.5	27.2
1750	77	61.2	5.3	40.5	30.0	19.6	-	-	-	54.7	5.9	38.6	27.7	16.9	-	-	-
	72	58.1	5.2	46.8	38.2	29.6	21.0	-	-	53.2	5.8	44.4	35.8	27.2	18.5	-	-
	67	54.9	5.2	53.2	46.4	39.6	30.5	21.4	-	51.5	5.7	50.2	43.8	37.5	28.3	19.1	-
	62	53.4	5.1	52.3	51.0	49.7	40.0	30.4	20.8	49.8	5.7	48.5	48.1	47.8	38.1	28.4	18.6
	57	51.9	5.1	51.3	51.3	51.3	49.6	39.4	29.3	48.0	5.6	46.7	46.7	46.7	46.7	37.6	27.3
2000	77	60.1	5.3	44.4	31.4	18.4	-	-	-	53.7	5.8	42.6	29.1	15.7	-	-	-
	72	58.2	5.2	49.6	39.9	30.3	20.6	-	-	53.3	5.7	47.0	37.4	27.8	18.2	-	-
	67	56.2	5.1	54.7	48.4	42.1	31.7	21.2	-	52.6	5.7	51.3	45.6	39.9	29.4	18.9	-
	62	55.0	5.1	53.9	53.9	53.9	42.7	31.5	20.3	51.2	5.6	50.0	50.0	50.0	40.6	29.3	17.9
	57	53.8	5.1	53.1	53.1	53.1	53.1	41.8	29.8	49.9	5.6	48.6	48.6	48.6	39.6	27.4	-
2250	72	58.3	5.2	52.3	41.6	30.9	20.2	-	-	53.3	5.7	49.5	38.9	28.4	17.8	-	-
	67	57.5	5.1	56.2	50.4	44.5	32.8	21.1	-	53.7	5.6	52.4	47.4	42.3	30.5	18.7	-
	62	56.6	5.1	55.5	55.5	55.5	45.4	32.6	19.8	52.7	5.6	51.5	51.5	51.5	43.2	30.2	17.2
	57	55.7	5.1	54.8	54.8	54.8	54.8	44.1	30.3	51.8	5.6	50.5	50.5	50.5	41.7	27.5	-
2500	72	58.4	5.1	55.0	43.3	31.5	19.8	-	-	53.4	5.6	-	40.5	29.0	17.5	-	-
	67	58.7	5.1	57.8	52.4	47.0	33.9	20.9	-	54.7	5.6	-	49.1	44.7	31.6	18.6	-
	62	58.1	5.1	57.2	57.2	57.2	48.1	33.7	19.3	54.2	5.6	-	53.0	53.0	45.8	31.2	16.5
	57	57.5	5.1	56.6	56.6	56.6	56.6	46.5	30.8	53.6	5.6	-	52.4	52.4	43.8	27.6	-

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.





## ZT061 low speed compressor (5.0 ton) (continued)

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F									125°F						
1250	77	45.1	3.8	-	27.0	17.6	-	-	-	40.1	4.3	-	26.3	16.1	-	-	-
	72	42.6	3.7	-	30.5	23.2	16.0	-	-	38.7	4.2	-	29.0	21.6	14.3	-	-
	67	40.2	3.7	-	34.0	28.8	22.0	15.2	-	37.4	4.1	-	31.7	27.2	20.3	13.3	-
	62	40.0	3.7	-	36.7	34.4	28.1	21.7	15.3	37.4	4.2	-	34.5	32.8	26.2	19.6	13.0
1500	77	45.1	3.8	-	26.6	15.4	-	-	-	40.3	4.3	-	25.4	13.4	-	-	-
	72	43.1	3.7	-	31.1	23.2	15.4	-	-	39.2	4.2	-	29.2	21.3	13.5	-	-
	67	41.1	3.7	-	35.6	31.1	23.2	15.3	-	38.1	4.1	-	33.1	29.3	21.3	13.3	-
	62	41.0	3.7	-	39.5	39.0	31.0	23.0	15.0	38.2	4.2	-	37.0	37.0	29.1	21.1	13.0
	57	40.9	3.7	-	39.9	39.9	38.8	30.8	22.7	38.4	4.2	-	37.2	37.2	37.0	28.8	20.6
1750	77	45.1	3.7	39.4	26.3	13.1	-	-	-	40.5	4.2	38.1	24.4	10.7	-	-	-
	72	43.6	3.7	40.2	31.7	23.3	14.8	-	-	39.7	4.2	37.9	29.5	21.0	12.6	-	-
	67	42.0	3.7	41.0	37.2	33.4	24.4	15.4	-	38.8	4.1	37.7	34.5	31.3	22.3	13.3	-
	62	42.0	3.7	41.0	41.0	41.0	34.0	24.4	14.8	39.1	4.1	37.9	37.9	37.9	32.1	22.5	12.9
	57	42.1	3.7	41.1	41.1	41.1	41.1	33.4	23.3	39.3	4.2	38.1	38.1	38.1	38.1	31.6	21.5
2000	77	45.1	3.7	41.0	25.9	10.9	-	-	-	40.8	4.2	38.9	23.5	8.1	-	-	-
	72	44.0	3.7	41.4	32.4	23.3	14.2	-	-	40.3	4.2	38.7	29.7	20.7	11.8	-	-
	67	42.9	3.6	41.9	38.8	35.7	25.6	15.4	-	39.6	4.1	38.4	35.9	33.4	23.4	13.4	-
	62	43.0	3.7	42.1	42.1	42.1	36.9	25.8	14.6	39.9	4.1	38.8	38.8	38.8	35.0	23.9	12.8
	57	43.2	3.7	42.2	42.2	42.2	42.2	36.1	23.8	40.3	4.1	39.1	39.1	39.1	39.1	34.5	22.3
2250	72	44.5	3.7	42.7	33.0	23.3	13.6	-	-	40.8	4.1	39.4	29.9	20.4	10.9	-	-
	67	43.8	3.6	42.8	40.4	38.0	26.8	15.5	-	40.3	4.1	39.2	37.3	35.4	24.4	13.4	-
	62	44.0	3.6	43.1	43.1	43.1	39.9	27.1	14.3	40.8	4.1	39.6	39.6	39.6	37.9	25.3	12.8
	57	44.3	3.6	43.3	43.3	43.3	43.3	38.7	24.4	41.2	4.1	40.1	40.1	40.1	40.1	37.3	23.2
2500	72	45.0	3.6	-	33.6	23.3	13.0	-	-	41.3	4.1	-	-	-	-	-	-
	67	44.6	3.6	-	42.0	40.3	27.9	15.6	-	41.0	4.1	-	-	-	-	-	-
	62	45.0	3.6	-	44.1	44.1	42.9	28.5	14.1	41.6	4.1	-	-	-	-	-	-
	57	45.4	3.6	-	44.5	44.5	44.5	41.3	24.9	42.2	4.1	-	-	-	-	-	-

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.

## ZT078 (6.5 ton) 1st stage cooling

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
				75°F						85°F							
750	77	37.0	1.2	13.5	14.5	10.3	-	-	-	35.1	1.4	13.7	12.2	9.1	-	-	-
	72	33.6	1.2	21.9	18.4	14.9	11.4	-	-	31.3	1.4	20.5	17.1	13.7	10.3	-	-
	67	30.2	1.2	30.2	22.3	19.5	16.1	12.6	-	27.4	1.4	27.4	22.0	18.2	14.8	11.4	-
	62	29.4	1.2	29.4	29.4	24.0	20.6	17.1	13.6	25.1	1.5	25.1	25.1	20.0	16.6	13.2	9.8
900	77	38.4	1.2	19.0	15.8	11.5	-	-	-	36.0	1.4	19.0	14.3	10.2	-	-	-
	72	34.9	1.2	25.2	20.9	16.7	12.4	-	-	32.1	1.4	23.6	19.4	15.3	11.1	-	-
	67	31.4	1.2	31.4	26.1	21.8	17.6	13.3	-	28.1	1.4	28.1	24.5	20.3	16.2	12.0	-
	62	30.4	1.2	30.4	30.4	26.9	22.6	18.3	14.1	25.7	1.5	25.7	25.7	22.4	18.2	14.1	9.9
	57	27.4	1.2	27.4	27.4	24.3	20.0	15.7	11.5	25.1	1.5	25.1	25.1	21.8	17.7	13.5	9.4
1050	77	39.8	1.2	24.5	17.1	12.7	-	-	-	36.9	1.4	24.4	16.5	11.3	-	-	-
	72	36.2	1.2	28.5	23.5	18.4	13.4	-	-	32.8	1.4	26.6	21.7	16.9	12.0	-	-
	67	32.5	1.2	32.5	29.8	24.1	19.1	14.1	-	28.8	1.4	28.8	27.0	22.4	17.6	12.7	-
	62	31.5	1.2	31.5	31.5	29.7	24.6	19.6	14.6	26.4	1.5	26.4	26.4	24.7	19.8	14.9	10.1
	57	28.4	1.2	28.4	28.4	26.8	21.8	16.7	11.7	25.7	1.5	25.7	25.7	24.1	19.2	14.4	9.5
1200	77	41.3	1.2	30.0	18.4	13.9	-	-	-	37.8	1.4	29.8	18.6	12.3	-	-	-
	72	37.4	1.2	31.8	26.0	20.2	14.4	-	-	33.6	1.4	29.6	24.0	18.4	12.8	-	-
	67	33.6	1.2	33.6	33.6	26.4	20.6	14.8	-	29.5	1.4	29.5	29.5	24.6	19.0	13.4	-
	62	32.5	1.2	32.5	32.5	32.5	26.7	20.9	15.1	27.0	1.5	27.0	27.0	27.0	21.4	15.8	10.2
	57	29.4	1.2	29.4	29.4	29.4	23.6	17.8	12.0	26.4	1.5	26.4	26.4	26.4	20.8	15.2	9.6
1350	72	38.5	1.2	35.7	28.4	21.9	15.4	-	-	34.3	1.4	32.3	26.2	19.9	13.6	-	-
	67	34.6	1.2	34.6	34.6	28.7	22.2	15.7	-	30.1	1.4	30.1	30.1	26.5	20.2	13.9	-
	62	33.4	1.2	33.4	33.4	33.4	26.9	20.4	13.8	27.6	1.5	27.6	27.6	27.6	21.3	15.0	8.7
	57	30.2	1.2	30.2	30.2	30.2	23.7	17.2	10.6	26.9	1.4	26.9	26.9	26.9	20.6	14.3	8.0
	1500	72	39.6	1.2	39.6	30.9	23.6	16.4	-	-	35.0	1.4	35.0	28.3	21.3	14.4	-
67		35.5	1.2	35.5	35.5	31.0	23.7	16.5	-	30.7	1.4	30.7	30.7	28.4	21.4	14.4	-
62		34.3	1.2	34.3	34.3	34.3	27.1	19.8	12.6	28.1	1.4	28.1	28.1	28.1	21.1	14.1	7.1
57		31.1	1.2	31.1	31.1	31.1	23.8	16.6	9.3	27.5	1.4	27.5	27.5	27.5	20.5	13.5	6.5
				95°F						105°F							
750	77	33.2	1.7	13.8	10.0	8.0	-	-	-	31.3	1.9	12.9	8.4	6.9	-	-	-
	72	28.9	1.7	19.2	15.8	12.4	9.1	-	-	26.6	2.0	17.4	14.2	11.0	7.8	-	-
	67	24.5	1.7	24.5	21.6	16.9	13.5	10.2	-	21.9	2.0	21.9	20.0	15.2	12.0	8.8	-
	62	20.8	1.7	20.8	20.8	16.0	12.7	9.3	5.9	19.0	2.0	19.0	19.0	14.4	11.2	8.0	4.8
900	77	33.6	1.7	19.1	12.9	8.9	-	-	-	31.4	1.9	18.0	11.5	7.7	-	-	-
	72	29.2	1.7	21.9	17.9	13.9	9.8	-	-	26.7	2.0	20.0	16.2	12.3	8.5	-	-
	67	24.8	1.7	24.8	22.9	18.8	14.8	10.8	-	22.1	2.0	22.1	20.8	17.0	13.1	9.3	-
	62	21.0	1.7	21.0	21.0	17.8	13.8	9.8	5.7	19.1	2.0	19.1	19.1	16.0	12.2	8.3	4.5
	57	22.9	1.7	22.9	22.9	19.4	15.4	11.3	7.3	19.6	2.0	19.6	19.6	16.5	12.6	8.8	4.9
1050	77	34.0	1.7	24.3	15.9	9.8	-	-	-	31.6	1.9	23.0	14.6	8.4	-	-	-
	72	29.5	1.7	24.7	20.0	15.3	10.6	-	-	26.9	2.0	22.6	18.1	13.6	9.1	-	-
	67	25.1	1.7	25.1	24.1	20.8	16.1	11.3	-	22.2	2.0	22.2	21.6	18.7	14.2	9.7	-
	62	21.3	1.7	21.3	21.3	19.7	15.0	10.2	5.5	19.2	2.0	19.2	19.2	17.7	13.2	8.6	4.1
	57	23.1	1.7	23.1	23.1	21.4	16.7	12.0	7.3	19.7	2.0	19.7	19.7	18.2	13.7	9.2	4.7
1200	77	34.4	1.7	29.5	18.8	10.7	-	-	-	31.8	1.9	28.0	17.7	9.2	-	-	-
	72	29.9	1.7	27.5	22.1	16.7	11.3	-	-	27.1	2.0	25.2	20.0	14.8	9.7	-	-
	67	25.4	1.7	25.4	25.4	22.7	17.3	11.9	-	22.3	2.0	22.3	22.3	20.4	15.3	10.1	-
	62	21.5	1.7	21.5	21.5	21.5	16.1	10.7	5.3	19.3	2.0	19.3	19.3	19.3	14.1	9.0	3.8
	57	23.4	1.7	23.4	23.4	23.4	18.0	12.6	7.2	19.9	2.0	19.9	19.9	19.9	14.7	9.5	4.4
1350	72	30.2	1.7	29.0	23.9	17.9	11.8	-	-	27.4	2.0	26.5	21.6	15.8	9.9	-	-
	67	25.6	1.7	25.6	25.6	24.3	18.2	12.2	-	22.6	2.0	22.6	22.6	21.7	15.9	10.0	-
	62	21.7	1.7	21.7	21.7	21.7	15.6	9.6	3.5	19.6	2.0	19.6	19.6	19.6	13.7	7.9	2.1
	57	23.6	1.7	23.6	23.6	23.6	17.5	11.5	5.4	20.1	2.0	20.1	20.1	20.1	14.3	8.5	2.6
	1500	72	30.5	1.7	30.5	25.8	19.1	12.3	-	-	27.8	1.9	27.8	23.2	16.7	10.2	-
67		25.9	1.7	25.9	25.9	25.9	19.1	12.4	-	22.9	2.0	22.9	22.9	22.9	16.4	9.9	-
62		21.9	1.7	21.9	21.9	21.9	15.2	8.4	1.7	19.8	2.0	19.8	19.8	19.8	13.3	6.8	0.3
57		23.9	1.7	23.9	23.9	23.9	17.1	10.3	3.6	20.4	2.0	20.4	20.4	20.4	13.9	7.4	0.9

## ZT078 (6.5 ton) 1st stage cooling (continued)

Air on evaporator coil		Temperature of air on condenser coil																
		Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						
				Return dry bulb (°F)								Return dry bulb (°F)						
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65	
		115°F									125°F							
750	77	29.3	2.2	12.1	6.8	5.8	-	-	-	27.3	2.5	11.2	5.5	4.6	-	-	-	
	72	24.3	2.2	15.7	12.7	9.6	6.6	-	-	22.0	2.5	13.9	11.1	8.2	5.4	-	-	
	67	19.3	2.3	19.3	18.5	13.5	10.5	7.5	-	16.7	2.6	16.7	16.7	11.8	8.9	6.1	-	
	62	17.1	2.3	17.1	17.1	12.7	9.7	6.6	3.6	15.3	2.5	15.3	15.3	11.0	8.2	5.3	2.5	
900	77	29.3	2.2	16.8	10.1	6.4	-	-	-	27.1	2.5	15.7	8.8	5.2	-	-	-	
	72	24.3	2.2	18.1	14.4	10.7	7.1	-	-	21.8	2.5	16.1	12.7	9.2	5.7	-	-	
	67	19.3	2.3	19.3	18.7	15.1	11.4	7.7	-	16.5	2.6	16.5	16.5	13.2	9.7	6.2	-	
	62	17.1	2.3	17.1	17.1	14.2	10.5	6.8	3.2	15.2	2.5	15.2	15.2	12.3	8.9	5.4	1.9	
	57	16.4	2.3	16.4	16.4	13.5	9.9	6.2	2.5	13.1	2.5	13.1	13.1	10.6	7.1	3.6	0.2	
1050	77	29.3	2.2	21.6	13.3	7.1	-	-	-	26.9	2.5	20.3	12.1	5.7	-	-	-	
	72	24.3	2.2	20.5	16.2	11.9	7.6	-	-	21.7	2.5	18.4	14.3	10.2	6.1	-	-	
	67	19.3	2.3	19.3	19.0	16.6	12.3	8.0	-	16.4	2.6	16.4	16.4	14.6	10.5	6.4	-	
	62	17.1	2.3	17.1	17.1	15.6	11.3	7.0	2.7	15.1	2.6	15.1	15.1	13.6	9.5	5.4	1.3	
	57	16.4	2.3	16.4	16.4	14.9	10.6	6.3	2.0	13.0	2.6	13.0	13.0	11.7	7.6	3.5	-0.6	
1200	77	29.3	2.2	26.4	16.6	7.8	-	-	-	26.7	2.5	24.9	15.5	6.3	-	-	-	
	72	24.3	2.2	22.9	17.9	13.0	8.1	-	-	21.5	2.5	20.6	15.9	11.1	6.4	-	-	
	67	19.3	2.3	19.3	19.3	18.2	13.3	8.3	-	16.3	2.6	16.3	16.3	16.0	11.3	6.5	-	
	62	17.1	2.3	17.1	17.1	17.1	12.2	7.2	2.3	14.9	2.6	14.9	14.9	14.9	10.2	5.5	0.8	
	57	16.4	2.3	16.4	16.4	16.4	11.4	6.5	1.5	12.9	2.6	12.9	12.9	12.9	8.1	3.4	-1.3	
1350	72	24.7	2.2	24.0	19.2	13.6	8.0	-	-	22.0	2.5	21.5	16.9	11.5	6.1	-	-	
	67	19.6	2.3	19.6	19.6	19.1	13.5	7.9	-	16.7	2.6	16.7	16.7	16.5	11.1	5.8	-	
	62	17.4	2.3	17.4	17.4	17.4	11.8	6.2	0.6	15.3	2.6	15.3	15.3	15.3	9.9	4.6	-0.8	
	57	16.7	2.3	16.7	16.7	16.7	11.1	5.5	-0.1	13.2	2.6	13.2	13.2	13.2	7.8	2.4	-2.9	
	57	16.7	2.3	16.7	16.7	16.7	11.1	5.5	-0.1	13.2	2.6	13.2	13.2	13.2	7.8	2.4	-2.9	
1500	72	25.2	2.2	25.2	20.5	14.3	8.0	-	-	22.5	2.5	22.5	17.9	11.9	5.8	-	-	
	67	20.0	2.3	20.0	20.0	20.0	13.7	7.5	-	17.0	2.6	17.0	17.0	17.0	11.0	5.0	-	
	62	17.7	2.3	17.7	17.7	17.7	11.5	5.2	-1.0	15.6	2.6	15.6	15.6	15.6	9.6	3.6	-2.4	
	57	17.0	2.3	17.0	17.0	17.0	10.7	4.4	-1.8	13.5	2.6	13.5	13.5	13.5	7.5	1.5	-4.5	

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.



## ZT078 (6.5 ton) 2nd stage cooling (continued)

Air on evaporator coil		Temperature of air on condenser coil																	
		Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)							
				Return dry bulb (°F)								Return dry bulb (°F)							
				90	85	80	75	70	65			90	85	80	75	70	65		
		115°F									125°F								
1125	77	47.5	5.6	15.3	14.6	10.5	-	-	-	42.2	6.6	13.1	10.9	7.9	-	-	-		
	72	41.2	5.7	24.7	20.7	16.6	12.6	-	-	36.1	6.7	21.6	17.7	13.8	9.9	-	-		
	67	34.9	5.8	34.1	26.8	22.8	18.7	14.7	-	30.0	6.7	30.0	23.5	19.6	15.7	11.8	-		
	62	31.6	5.6	31.6	31.6	25.0	21.0	17.0	12.9	28.1	6.4	28.1	28.1	21.3	17.4	13.5	9.6		
1350	77	49.4	5.4	21.9	16.9	12.0	-	-	-	44.1	6.3	20.0	14.1	9.2	-	-	-		
	72	42.8	5.5	28.8	23.9	18.9	14.0	-	-	37.7	6.4	25.7	20.9	16.0	11.2	-	-		
	67	36.3	5.5	35.8	30.8	25.9	20.9	16.0	-	31.4	6.4	31.4	27.7	22.8	18.0	13.2	-		
	62	32.9	5.3	32.9	32.9	28.5	23.6	18.6	13.7	29.3	6.0	29.3	29.3	24.8	20.0	15.2	10.3		
57	32.7	5.0	32.7	32.7	28.4	23.4	18.5	13.5	29.3	5.7	29.3	29.3	24.8	20.0	15.2	10.3			
1575	77	51.2	5.1	28.4	19.3	13.4	-	-	-	45.9	6.0	26.9	17.3	10.6	-	-	-		
	72	44.5	5.2	32.9	27.1	21.2	15.4	-	-	39.3	6.0	29.8	24.1	18.3	12.6	-	-		
	67	37.7	5.3	37.4	34.9	29.0	23.2	17.3	-	32.7	6.1	32.7	31.8	26.0	20.3	14.5	-		
	62	34.1	5.1	34.1	34.1	31.9	26.1	20.3	14.4	30.5	5.7	30.5	30.5	28.3	22.5	16.8	11.0		
57	34.0	4.7	34.0	34.0	31.8	26.0	20.1	14.3	30.5	5.4	30.5	30.5	28.3	22.6	16.8	11.1			
1800	77	53.1	4.9	34.9	21.6	14.9	-	-	-	47.8	5.6	33.8	20.5	12.0	-	-	-		
	72	46.1	5.0	37.0	30.3	23.5	16.8	-	-	41.0	5.7	34.0	27.3	20.6	13.9	-	-		
	67	39.1	5.0	39.1	38.9	32.2	25.4	18.7	-	34.1	5.7	34.1	34.1	29.2	22.6	15.9	-		
	62	35.4	4.9	35.4	35.4	35.4	28.7	21.9	15.2	31.8	5.4	31.8	31.8	31.8	25.1	18.4	11.8		
57	35.2	4.5	35.2	35.2	35.2	28.5	21.8	15.0	31.8	5.1	31.8	31.8	31.8	25.1	18.4	11.8			
2025	72	46.9	4.8	40.3	32.8	25.3	17.7	-	-	41.8	5.5	36.9	29.5	22.1	14.7	-	-		
	67	39.8	4.9	39.8	39.7	34.6	27.0	19.5	-	34.8	5.6	34.8	34.8	31.3	23.9	16.5	-		
	62	36.0	4.7	36.0	36.0	36.0	28.5	21.0	13.4	32.5	5.2	32.5	32.5	32.5	25.1	17.7	10.3		
	57	35.9	4.4	35.9	35.9	35.9	28.3	20.8	13.3	32.5	5.0	32.5	32.5	32.5	25.1	17.7	10.3		
2250	72	47.7	4.7	43.7	35.4	27.0	18.7	-	-	42.7	5.4	39.8	31.6	23.5	15.4	-	-		
	67	40.5	4.7	40.5	40.5	37.0	28.7	20.3	-	35.6	5.4	35.6	35.6	33.4	25.3	17.2	-		
	62	36.7	4.6	36.7	36.7	36.7	28.3	20.0	11.7	33.2	5.1	33.2	33.2	33.2	25.0	16.9	8.8		
	57	36.5	4.3	36.5	36.5	36.5	28.2	19.9	11.5	33.1	4.8	33.1	33.1	33.1	25.0	16.9	8.8		

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.

ZT078 (6.5 ton) 3rd stage cooling

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
				75°F								85°F					
1625	77	102.0	4.4	43.0	35.4	28.8	-	-	-	91.8	5.1	39.1	32.8	26.5	-	-	-
	72	89.7	4.3	51.9	45.3	38.8	32.3	-	-	81.9	5.1	48.7	42.4	36.1	29.8	-	-
	67	77.4	4.2	60.8	55.3	48.8	42.2	35.7	-	71.9	5.0	58.3	52.0	45.8	39.5	33.2	-
	62	70.7	4.2	70.7	70.7	62.1	55.6	49.1	42.5	63.8	5.0	63.8	63.8	55.3	49.1	42.8	36.5
1950	77	107.4	4.4	47.6	39.7	31.9	-	-	-	96.4	5.0	44.7	37.0	29.4	-	-	-
	72	94.5	4.3	58.6	50.8	42.9	35.1	-	-	85.9	5.0	55.4	47.7	40.1	32.4	-	-
	67	81.5	4.2	69.7	61.8	54.0	46.1	38.2	-	75.5	4.9	66.0	58.4	50.7	43.1	35.4	-
	62	74.5	4.2	74.5	74.5	68.8	60.9	53.1	45.2	67.0	4.9	67.0	67.0	61.4	53.7	46.0	38.4
	57	70.9	4.2	70.9	70.9	65.5	57.6	49.8	41.9	65.1	4.9	65.1	65.1	59.6	51.9	44.2	36.6
2275	77	112.8	4.4	52.2	44.1	35.0	-	-	-	101.0	5.0	50.3	41.3	32.3	-	-	-
	72	99.2	4.3	65.4	56.2	47.0	37.9	-	-	90.0	4.9	62.1	53.0	44.0	34.9	-	-
	67	85.7	4.2	78.6	68.3	59.1	50.0	40.8	-	79.1	4.9	73.8	64.7	55.7	46.7	37.6	-
	62	78.2	4.2	78.2	78.2	75.4	66.2	57.0	47.9	70.2	4.8	70.2	70.2	67.4	58.3	49.3	40.3
	57	74.5	4.2	74.5	74.5	71.8	62.6	53.4	44.3	68.2	4.8	68.2	68.2	65.4	56.4	47.3	38.3
2600	77	118.2	4.4	56.8	48.5	38.0	-	-	-	105.6	4.9	56.0	45.5	35.1	-	-	-
	72	104.0	4.3	72.1	61.7	51.2	40.7	-	-	94.1	4.8	68.7	58.3	47.9	37.5	-	-
	67	89.8	4.2	87.5	74.8	64.3	53.8	43.4	-	82.7	4.8	81.5	71.1	60.7	50.3	39.8	-
	62	82.0	4.2	82.0	82.0	82.0	71.5	61.0	50.6	73.4	4.8	73.4	73.4	73.4	63.0	52.6	42.1
	57	78.1	4.2	78.1	78.1	78.1	67.6	57.1	46.6	71.2	4.7	71.2	71.2	71.2	60.8	50.4	40.0
2925	72	106.4	4.4	78.3	66.5	54.8	43.1	-	-	95.4	4.8	74.5	62.9	51.4	39.8	-	-
	67	91.9	4.3	90.7	81.6	68.9	57.2	45.4	-	83.8	4.8	83.2	76.6	65.0	53.4	41.9	-
	62	83.9	4.2	83.9	83.9	83.9	72.1	60.4	48.7	74.4	4.8	74.4	74.4	74.4	62.8	51.2	39.6
	57	79.9	4.2	79.9	79.9	79.9	68.1	56.4	44.7	72.2	4.7	72.2	72.2	72.2	60.6	49.0	37.4
3250	72	108.7	4.4	84.4	71.4	58.5	45.5	-	-	96.7	4.9	80.4	67.6	54.8	42.0	-	-
	67	93.9	4.3	93.9	88.4	73.5	60.5	47.5	-	85.0	4.8	85.0	82.2	69.4	56.6	43.9	-
	62	85.7	4.3	85.7	85.7	85.7	72.7	59.8	46.8	75.4	4.8	75.4	75.4	75.4	62.7	49.9	37.1
	57	81.7	4.3	81.7	81.7	81.7	68.7	55.7	42.8	73.2	4.7	73.2	73.2	73.2	60.5	47.7	34.9
				95°F								105°F					
1625	77	81.7	5.8	35.1	30.2	24.2	-	-	-	76.8	6.3	30.8	27.1	21.0	-	-	-
	72	74.1	5.8	45.5	39.5	33.5	27.4	-	-	69.3	6.3	43.0	36.8	30.7	24.6	-	-
	67	66.4	5.8	55.9	48.8	42.7	36.7	30.7	-	61.8	6.2	55.1	46.5	40.4	34.2	28.1	-
	62	57.0	5.8	57.0	57.0	48.6	42.5	36.5	30.5	54.5	6.2	54.5	54.5	45.9	39.8	33.6	27.5
1950	77	85.4	5.7	41.8	34.3	26.9	-	-	-	80.0	6.2	38.4	30.9	23.4	-	-	-
	72	77.4	5.7	52.1	44.6	37.2	29.7	-	-	72.2	6.2	49.2	41.7	34.1	26.6	-	-
	67	69.5	5.7	62.4	55.0	47.5	40.0	32.6	-	64.4	6.1	60.0	52.4	44.9	37.4	29.9	-
	62	59.6	5.7	59.6	59.6	54.0	46.5	39.0	31.6	56.8	6.1	56.8	56.8	51.0	43.5	36.0	28.5
	57	59.2	5.5	59.2	59.2	53.7	46.2	38.7	31.3	55.6	6.1	55.6	55.6	50.0	42.5	35.0	27.5
2275	77	89.2	5.5	48.5	38.5	29.6	-	-	-	83.3	6.1	46.0	34.7	25.7	-	-	-
	72	80.8	5.5	58.7	49.8	40.9	32.0	-	-	75.2	6.1	55.4	46.5	37.6	28.7	-	-
	67	72.5	5.5	69.0	61.2	52.3	43.4	34.4	-	67.1	6.0	64.8	58.4	49.5	40.5	31.6	-
	62	62.2	5.5	62.2	62.2	59.4	50.5	41.5	32.6	59.1	6.0	59.1	59.1	56.2	47.3	38.4	29.4
	57	61.8	5.4	61.8	61.8	59.0	50.1	41.2	32.3	57.9	6.0	57.9	57.9	55.1	46.2	37.3	28.3
2600	77	92.9	5.3	55.1	42.6	32.2	-	-	-	86.5	6.0	53.7	38.4	28.1	-	-	-
	72	84.2	5.3	65.3	55.0	44.6	34.3	-	-	78.1	6.0	61.7	51.4	41.0	30.7	-	-
	67	75.5	5.3	75.5	67.4	57.0	46.7	36.3	-	69.7	5.9	69.7	64.3	54.0	43.7	33.4	-
	62	64.8	5.3	64.8	64.8	64.8	54.4	44.1	33.7	61.4	5.9	61.4	61.4	61.4	51.0	40.7	30.4
	57	64.4	5.2	64.4	64.4	64.4	54.0	43.7	33.3	60.2	5.9	60.2	60.2	60.2	49.8	39.5	29.2
2925	72	84.5	5.3	70.8	59.4	47.9	36.4	-	-	78.1	6.0	66.8	55.4	44.0	32.6	-	-
	67	75.8	5.3	75.8	71.7	61.2	49.7	38.3	-	69.7	5.9	69.7	67.0	57.8	46.5	35.1	-
	62	65.0	5.3	65.0	65.0	65.0	53.5	42.0	30.6	61.3	5.9	61.3	61.3	61.3	49.9	38.6	27.2
	57	64.6	5.2	64.6	64.6	64.6	53.1	41.7	30.2	60.1	5.9	60.1	60.1	60.1	48.7	37.4	26.0
3250	72	84.7	5.3	76.3	63.7	51.2	38.6	-	-	78.1	5.9	71.9	59.4	46.9	34.4	-	-
	67	76.0	5.3	76.0	76.0	65.4	52.8	40.2	-	69.7	5.9	69.7	69.7	61.7	49.2	36.8	-
	62	65.2	5.3	65.2	65.2	65.2	52.6	40.0	27.4	61.3	5.9	61.3	61.3	61.3	48.9	36.4	23.9
	57	64.8	5.2	64.8	64.8	64.8	52.2	39.6	27.0	60.1	5.8	60.1	60.1	60.1	47.7	35.2	22.7

## ZT078 (6.5 ton) 3rd stage cooling (continued)

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
				115°F						125°F							
1625	77	71.9	6.8	26.5	24.1	17.9	-	-	-	67.0	7.3	23.1	21.0	14.7	-	-	-
	72	64.6	6.7	40.4	34.2	27.9	21.7	-	-	59.8	7.1	37.8	31.5	25.2	18.8	-	-
	67	57.2	6.6	54.3	44.2	38.0	31.8	25.5	-	52.6	6.9	52.6	42.0	35.6	29.3	23.0	-
	62	51.9	6.6	51.9	51.9	43.2	37.0	30.8	24.5	49.4	6.9	49.4	49.4	40.6	34.2	27.9	21.5
1950	77	74.6	6.8	35.1	27.5	19.9	-	-	-	69.2	7.4	32.3	24.0	16.4	-	-	-
	72	67.0	6.7	46.3	38.7	31.1	23.5	-	-	61.8	7.2	43.3	35.7	28.1	20.4	-	-
	67	59.4	6.6	57.5	49.9	42.3	34.7	27.2	-	54.4	7.0	54.4	47.4	39.7	32.1	24.4	-
	62	53.9	6.6	53.9	53.9	48.1	40.6	33.0	25.4	51.1	7.0	51.1	51.1	45.2	37.6	29.9	22.3
57	52.0	6.6	52.0	52.0	46.4	38.9	31.3	23.7	48.5	7.1	48.5	48.5	42.8	35.2	27.5	19.9	-
2275	77	77.4	6.8	43.6	30.8	21.9	-	-	-	71.5	7.4	41.5	27.1	18.1	-	-	-
	72	69.5	6.7	52.1	43.2	34.3	25.3	-	-	63.9	7.2	48.9	39.9	31.0	22.0	-	-
	67	61.6	6.5	60.7	55.6	46.6	37.7	28.8	-	56.2	7.1	56.2	52.8	43.8	34.9	25.9	-
	62	56.0	6.5	56.0	56.0	53.0	44.1	35.2	26.2	52.8	7.1	52.8	52.8	49.9	40.9	32.0	23.0
57	54.0	6.5	54.0	54.0	51.2	42.2	33.3	24.4	50.1	7.1	50.1	50.1	47.2	38.3	29.4	20.4	-
2600	77	80.2	6.8	52.2	34.2	23.9	-	-	-	73.8	7.5	50.7	30.2	19.8	-	-	-
	72	72.0	6.6	58.0	47.7	37.4	27.2	-	-	65.9	7.3	54.4	44.1	33.9	23.6	-	-
	67	63.9	6.5	63.9	61.2	51.0	40.7	30.4	-	58.0	7.1	58.0	58.0	47.9	37.7	27.4	-
	62	58.0	6.5	58.0	58.0	58.0	47.7	37.4	27.1	54.5	7.1	54.5	54.5	54.5	44.3	34.0	23.8
57	55.9	6.5	55.9	55.9	55.9	45.6	35.3	25.1	51.7	7.2	51.7	51.7	51.7	41.4	31.2	20.9	-
2925	72	71.7	6.6	62.7	51.4	40.1	28.7	-	-	65.3	7.3	58.6	47.4	36.1	24.9	-	-
	67	63.6	6.5	63.6	62.3	54.5	43.2	31.9	-	57.5	7.1	57.5	57.5	51.2	39.9	28.7	-
	62	57.7	6.5	57.7	57.7	57.7	46.4	35.1	23.8	54.1	7.1	54.1	54.1	54.1	42.8	31.6	20.4
	57	55.7	6.5	55.7	55.7	55.7	44.4	33.0	21.7	51.2	7.2	51.2	51.2	51.2	40.0	28.7	17.5
3250	72	71.4	6.6	67.4	55.0	42.7	30.3	-	-	64.7	7.2	62.9	50.7	38.4	26.2	-	-
	67	63.3	6.5	63.3	63.3	58.1	45.7	33.4	-	57.0	7.1	57.0	57.0	54.4	42.2	29.9	-
	62	57.5	6.5	57.5	57.5	57.5	45.1	32.8	20.4	53.6	7.1	53.6	53.6	53.6	41.4	29.1	16.9
	57	55.4	6.5	55.4	55.4	55.4	43.1	30.7	18.4	50.8	7.1	50.8	50.8	50.8	38.5	26.3	14.1

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.

ZT090 (7.5 ton) 1st stage cooling

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
				75°F						85°F							
875	77	38.3	1.1	18.7	12.0	11.8	-	-	-	33.7	1.4	21.7	13.0	10.9	-	-	-
	72	33.7	1.2	23.9	20.4	16.3	12.3	-	-	30.0	1.4	24.0	19.6	15.5	11.4	-	-
	67	29.1	1.3	29.1	28.8	20.9	16.8	12.8	-	26.3	1.5	26.3	26.2	20.1	16.0	11.8	-
	62	26.5	1.3	26.5	26.5	21.3	17.2	13.2	9.1	24.3	1.5	24.3	24.3	20.2	16.1	12.0	7.9
1050	77	39.3	1.1	26.2	16.6	13.2	-	-	-	34.7	1.4	26.6	16.9	12.0	-	-	-
	72	34.5	1.2	28.0	23.1	18.2	13.3	-	-	30.9	1.4	26.9	22.0	17.1	12.2	-	-
	67	29.8	1.3	29.8	29.6	23.3	18.3	13.4	-	27.1	1.5	27.1	27.0	22.1	17.2	12.3	-
	62	27.1	1.3	27.1	27.1	23.7	18.8	13.9	9.0	25.0	1.5	25.0	25.0	22.3	17.4	12.5	7.6
1225	77	40.3	1.1	33.8	21.2	14.5	-	-	-	35.6	1.4	31.6	20.9	13.2	-	-	-
	72	35.4	1.2	32.2	25.9	20.1	14.3	-	-	31.7	1.4	29.7	24.3	18.7	13.0	-	-
	67	30.6	1.2	30.6	30.5	25.6	19.9	14.1	-	27.8	1.5	27.8	27.8	24.2	18.5	12.8	-
	62	27.8	1.3	27.8	27.8	26.1	20.3	14.5	8.8	25.7	1.5	25.7	25.7	24.3	18.6	12.9	7.2
1400	77	41.3	1.1	41.3	25.8	15.9	-	-	-	36.6	1.4	36.6	24.9	14.3	-	-	-
	72	36.3	1.2	36.3	28.6	21.9	15.3	-	-	32.6	1.4	32.6	26.7	20.2	13.7	-	-
	67	31.3	1.2	31.3	31.3	28.0	21.4	14.7	-	28.6	1.5	28.6	28.6	26.2	19.7	13.2	-
	62	28.5	1.3	28.5	28.5	28.5	21.9	15.2	8.6	26.4	1.5	26.4	26.4	26.4	19.9	13.4	6.9
1575	77	38.0	1.2	38.0	30.8	23.3	15.8	-	-	33.8	1.4	33.8	28.8	21.4	14.1	-	-
	72	32.8	1.2	32.8	32.8	29.8	22.3	14.8	-	29.7	1.5	29.7	29.7	27.8	20.4	13.1	-
	67	29.9	1.2	29.9	29.9	29.9	22.4	14.9	7.4	27.4	1.5	27.4	27.4	27.4	20.0	12.7	5.3
	62	27.1	1.2	27.1	27.1	24.1	16.6	9.1	-	28.4	1.5	28.4	28.4	28.4	21.1	13.7	6.4
1750	77	39.7	1.1	39.7	33.0	24.6	16.3	-	-	35.1	1.4	35.1	30.8	22.6	14.4	-	-
	72	34.3	1.2	34.3	34.3	31.5	23.2	14.8	-	30.7	1.4	30.7	30.7	29.3	21.1	12.9	-
	67	31.3	1.2	31.3	31.3	31.3	22.9	14.6	6.3	28.4	1.5	28.4	28.4	28.4	20.2	12.0	3.8
	62	33.0	1.2	33.0	33.0	33.0	24.7	16.3	8.0	29.5	1.4	29.5	29.5	29.5	21.3	13.1	4.9
				95°F						105°F							
875	77	29.2	1.7	24.6	13.9	10.0	-	-	-	24.8	1.9	22.5	15.8	9.8	-	-	-
	72	26.4	1.7	24.1	18.8	14.6	10.5	-	-	22.3	2.0	21.1	17.8	13.7	9.6	-	-
	67	23.6	1.7	23.6	23.6	19.2	15.1	10.9	-	19.8	2.0	19.8	19.8	17.6	13.4	9.3	-
	62	22.2	1.7	22.2	22.2	19.1	15.0	10.8	6.6	18.3	2.0	18.3	18.3	16.7	12.6	8.5	-
1050	77	30.1	1.7	27.0	17.3	10.9	-	-	-	26.0	1.9	24.5	18.5	10.6	-	-	-
	72	27.2	1.7	25.7	20.8	15.9	11.0	-	-	23.4	2.0	22.6	19.6	14.8	10.0	-	-
	67	24.4	1.7	24.4	24.4	20.9	16.1	11.2	-	20.7	2.0	20.7	20.7	19.0	14.2	9.4	-
	62	22.9	1.7	22.9	22.9	20.8	15.9	11.1	6.2	19.2	2.0	19.2	19.2	18.1	13.3	8.5	-
1225	77	31.0	1.6	29.5	20.6	11.8	-	-	-	27.2	1.9	26.5	21.2	11.4	-	-	-
	72	28.0	1.7	27.3	22.8	17.2	11.6	-	-	24.5	2.0	24.1	21.5	15.9	10.4	-	-
	67	25.1	1.7	25.1	25.1	22.7	17.0	11.4	-	21.7	2.0	21.7	21.7	20.5	15.0	9.5	-
	62	23.6	1.7	23.6	23.6	22.5	16.9	11.3	5.7	20.0	2.0	20.0	20.0	19.5	14.0	8.5	-
1400	77	31.9	1.6	31.9	23.9	12.7	-	-	-	28.5	1.9	28.5	23.9	12.2	-	-	-
	72	28.9	1.7	28.9	24.9	18.5	12.2	-	-	25.6	2.0	25.6	23.3	17.1	10.9	-	-
	67	25.8	1.7	25.8	25.8	24.4	18.0	11.7	-	22.7	2.0	22.7	22.7	21.9	15.7	9.5	-
	62	24.2	1.7	24.2	24.2	24.2	17.9	11.5	5.2	20.9	2.0	20.9	20.9	20.9	14.7	8.5	-
1575	77	29.6	1.7	29.6	26.8	19.6	12.4	-	-	25.8	1.9	25.8	24.3	17.5	10.4	-	-
	72	26.5	1.7	26.5	26.5	25.8	18.6	11.3	-	22.9	2.0	22.9	22.9	22.5	15.4	8.3	-
	67	24.9	1.7	24.9	24.9	24.9	17.7	10.4	3.2	21.1	2.0	21.1	21.1	21.1	14.0	6.9	-
	62	25.3	1.7	25.3	25.3	25.3	18.1	10.9	3.7	22.0	2.0	22.0	22.0	22.0	14.9	7.8	-
1750	77	30.4	1.7	30.4	28.7	20.6	12.6	-	-	26.1	1.9	26.1	25.3	18.0	9.9	-	-
	72	27.2	1.7	27.2	27.2	27.2	19.1	11.0	-	23.1	2.0	23.1	23.1	23.1	15.1	7.1	-
	67	25.5	1.7	25.5	25.5	25.5	17.4	9.3	1.2	21.4	2.0	21.4	21.4	21.4	13.3	5.3	-
	62	26.0	1.7	26.0	26.0	26.0	17.9	9.8	1.7	22.2	1.9	22.2	22.2	22.2	14.2	6.2	-



## ZT090 (7.5 ton) 1st stage cooling (continued)

Air on evaporator coil		Temperature of air on condenser coil																
		Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						
				Return dry bulb (°F)								Return dry bulb (°F)						
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65	
		115°F									125°F							
875	77	20.4	2.2	20.4	17.7	9.5	-	-	-	16.0	2.4	16.0	16.0	11.5	-	-	-	
	72	18.1	2.2	18.1	16.8	12.7	8.6	-	-	14.0	2.5	14.0	14.0	11.8	7.7	-	-	
	67	15.9	2.3	15.9	15.9	15.9	11.8	7.7	-	12.0	2.5	12.0	12.0	10.2	6.2	-	-	
	62	14.3	2.2	14.3	14.3	14.3	10.3	6.2	-	10.4	2.5	10.4	10.4	10.4	7.9	3.9	-	
1050	77	21.9	2.2	21.9	19.8	10.3	-	-	-	17.9	2.4	17.9	17.9	11.6	-	-	-	
	72	19.5	2.2	19.5	18.4	13.7	8.9	-	-	15.7	2.5	15.7	15.7	12.6	7.9	-	-	
	67	17.1	2.3	17.1	17.1	17.1	12.4	7.6	-	13.5	2.6	13.5	13.5	13.5	10.5	5.8	-	
	62	15.4	2.2	15.4	15.4	15.4	10.7	5.9	-	11.7	2.5	11.7	11.7	11.7	8.1	3.4	-	
	57	16.6	2.2	16.6	16.6	16.6	11.8	7.1	-	13.2	2.5	13.2	13.2	13.2	9.6	4.9	-	
1225	77	23.5	2.2	23.5	21.8	11.0	-	-	-	19.7	2.5	19.7	19.7	11.8	-	-	-	
	72	20.9	2.2	20.9	20.1	14.7	9.2	-	-	17.3	2.5	17.3	17.3	13.4	8.1	-	-	
	67	18.3	2.3	18.3	18.3	18.3	12.9	7.5	-	14.9	2.6	14.9	14.9	14.9	10.8	5.5	-	
	62	16.5	2.2	16.5	16.5	16.5	11.1	5.7	-	13.0	2.5	13.0	13.0	13.0	8.2	2.9	-	
	57	17.7	2.2	17.7	17.7	17.7	12.3	6.9	-	14.6	2.5	14.6	14.6	14.6	9.8	4.5	-	
1400	77	25.0	2.2	25.0	23.9	11.7	-	-	-	21.6	2.5	21.6	21.6	11.9	-	-	-	
	72	22.3	2.3	22.3	21.7	15.6	9.5	-	-	19.0	2.6	19.0	19.0	14.2	8.2	-	-	
	67	19.5	2.3	19.5	19.5	19.5	13.4	7.4	-	16.4	2.6	16.4	16.4	16.4	11.1	5.2	-	
	62	17.6	2.3	17.6	17.6	17.6	11.5	5.5	-	14.3	2.5	14.3	14.3	14.3	8.4	2.4	-	
	57	18.9	2.3	18.9	18.9	18.9	12.8	6.8	-	16.0	2.5	16.0	16.0	16.0	10.1	4.1	-	
1575	72	22.0	2.2	22.0	21.8	15.5	8.4	-	-	18.3	2.5	18.3	18.3	13.4	6.4	-	-	
	67	19.3	2.3	19.3	19.3	19.3	12.3	5.2	-	15.7	2.6	15.7	15.7	15.7	9.1	-	-	
	62	17.4	2.2	17.4	17.4	17.4	10.4	3.3	-	13.7	2.5	13.7	13.7	13.7	6.8	-	-	
	57	18.7	2.2	18.7	18.7	18.7	11.7	4.6	-	15.4	2.5	15.4	15.4	15.4	8.5	-	-	
1750	72	21.8	2.2	21.8	21.8	15.3	7.3	-	-	17.5	2.5	17.5	17.5	12.6	4.7	-	-	
	67	19.1	2.2	19.1	19.1	19.1	11.1	3.1	-	15.1	2.5	15.1	15.1	15.1	7.1	-	-	
	62	17.2	2.2	17.2	17.2	17.2	9.2	1.2	-	13.1	2.4	13.1	13.1	13.1	5.2	-	-	
	57	18.5	2.2	18.5	18.5	18.5	10.5	2.5	-	14.8	2.4	14.8	14.8	14.8	6.9	-	-	

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.



## ZT090 (7.5 ton) 2nd stage cooling (continued)

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
				115°F						125°F							
1250	77	59.1	5.0	24.8	20.5	16.0	-	-	-	53.0	5.7	25.4	16.1	13.6	-	-	-
	72	52.0	5.1	34.9	29.1	23.3	17.6	-	-	46.1	5.7	32.3	26.5	20.8	15.0	-	-
	67	44.9	5.1	44.9	37.7	30.6	24.9	19.1	-	39.1	5.8	39.1	36.2	27.9	22.2	16.4	-
	62	42.7	5.1	42.7	42.7	33.9	28.1	22.3	16.6	38.4	5.7	38.4	38.4	29.3	23.6	17.8	12.1
1500	77	60.1	5.0	33.7	24.7	17.7	-	-	-	53.7	5.7	34.5	22.2	15.3	-	-	-
	72	52.9	5.1	39.7	32.8	25.8	18.9	-	-	46.6	5.7	37.0	30.1	23.2	16.3	-	-
	67	45.7	5.1	45.7	40.9	34.0	27.0	20.1	-	39.5	5.8	39.5	38.1	31.2	24.3	17.4	-
	62	43.4	5.1	43.4	43.4	37.6	30.6	23.7	16.8	38.9	5.7	38.9	38.9	32.8	25.9	19.0	12.1
	57	44.1	5.1	44.1	44.1	38.2	31.2	24.3	17.4	39.6	5.7	39.6	39.6	33.5	26.6	19.7	12.8
1750	77	61.1	5.0	42.5	28.8	19.5	-	-	-	54.3	5.7	43.6	28.2	16.9	-	-	-
	72	53.8	5.1	44.5	36.4	28.4	20.3	-	-	47.2	5.7	41.8	33.8	25.7	17.6	-	-
	67	46.5	5.1	46.5	44.1	37.3	29.2	21.1	-	40.0	5.8	40.0	40.0	34.5	26.4	18.4	-
	62	44.2	5.1	44.2	44.2	41.2	33.2	25.1	17.0	39.3	5.7	39.3	39.3	36.3	28.2	20.2	12.1
	57	44.9	5.1	44.9	44.9	41.9	33.8	25.8	17.7	40.1	5.7	40.1	40.1	37.1	29.0	21.0	12.9
2000	77	62.1	5.0	51.4	33.0	21.2	-	-	-	55.0	5.7	52.7	34.3	18.5	-	-	-
	72	54.7	5.1	49.3	40.1	30.9	21.7	-	-	47.7	5.7	46.6	37.4	28.2	18.9	-	-
	67	47.3	5.1	47.3	47.3	40.6	31.4	22.2	-	40.5	5.8	40.5	40.5	37.8	28.6	19.4	-
	62	44.9	5.1	44.9	44.9	44.9	35.7	26.5	17.2	39.8	5.7	39.8	39.8	39.8	30.6	21.4	12.2
	57	45.6	5.1	45.6	45.6	45.6	36.4	27.2	18.0	40.6	5.7	40.6	40.6	40.6	31.4	22.2	13.0
2250	72	54.9	5.0	52.2	43.4	33.2	22.9	-	-	47.6	5.7	47.6	40.6	30.3	20.0	-	-
	67	47.5	5.1	47.5	47.5	43.6	33.4	23.1	-	40.3	5.7	40.3	40.3	40.3	30.4	20.1	-
	62	45.1	5.1	45.1	45.1	45.1	34.8	24.6	14.4	39.7	5.7	39.7	39.7	39.7	29.4	19.1	8.8
	57	45.8	5.1	45.8	45.8	45.8	35.6	25.3	15.1	40.5	5.7	40.5	40.5	40.5	30.2	19.9	9.6
2500	72	55.2	5.0	55.2	46.8	35.5	24.2	-	-	47.4	5.7	47.4	43.8	32.4	21.1	-	-
	67	47.7	5.1	47.7	47.7	46.6	35.4	24.1	-	40.2	5.7	40.2	40.2	40.2	32.2	20.8	-
	62	45.3	5.1	45.3	45.3	45.3	34.0	22.7	11.5	39.6	5.6	39.6	39.6	39.6	28.2	16.9	5.5
	57	46.0	5.0	46.0	46.0	46.0	34.8	23.5	12.2	40.4	5.6	40.4	40.4	40.4	29.0	17.6	6.3

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.



## ZT090 (7.5 ton) 3rd stage cooling (continued)

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
				115°F						125°F							
1875	77	91.5	7.0	36.9	33.8	24.9	-	-	-	84.7	7.7	36.0	29.9	22.0	-	-	-
	72	82.4	6.9	54.6	45.7	36.9	28.0	-	-	76.0	7.6	51.6	42.8	34.0	25.1	-	-
	67	73.2	6.9	72.3	57.7	48.8	39.9	31.1	-	67.3	7.6	67.3	54.8	45.9	37.1	28.3	-
	62	68.5	6.8	68.5	68.5	56.1	47.3	38.4	29.5	63.9	7.6	63.9	63.9	51.6	42.8	33.9	25.1
2250	77	93.2	7.0	47.8	37.6	27.3	-	-	-	86.2	7.7	47.1	34.4	24.2	-	-	-
	72	83.9	6.9	60.9	50.6	40.4	30.2	-	-	77.3	7.7	57.8	47.6	37.4	27.2	-	-
	67	74.6	6.9	74.0	63.7	53.5	43.2	33.0	-	68.5	7.6	68.5	60.8	50.6	40.4	30.2	-
	62	69.7	6.8	69.7	69.7	61.5	51.3	41.0	30.8	65.0	7.6	65.0	65.0	56.8	46.6	36.5	26.3
	57	68.6	6.8	68.6	68.6	60.5	50.3	40.1	29.8	63.2	7.6	63.2	63.2	55.2	45.0	34.8	24.6
2625	77	94.9	7.0	58.7	41.3	29.7	-	-	-	87.7	7.7	58.2	39.0	26.5	-	-	-
	72	85.4	7.0	67.2	55.5	43.9	32.3	-	-	78.7	7.7	64.0	52.4	40.9	29.3	-	-
	67	75.9	6.9	75.6	69.8	58.2	46.5	34.9	-	69.7	7.7	69.7	66.8	55.2	43.7	32.1	-
	62	71.0	6.9	71.0	71.0	66.9	55.3	43.7	32.0	66.2	7.6	66.2	66.2	62.1	50.5	39.0	27.4
	57	69.9	6.9	69.9	69.9	65.8	54.2	42.6	31.0	64.3	7.6	64.3	64.3	60.3	48.8	37.2	25.7
3000	77	96.6	7.0	69.6	45.1	32.1	-	-	-	89.2	7.8	69.3	43.5	28.7	-	-	-
	72	86.9	7.0	73.4	60.5	47.5	34.5	-	-	80.0	7.7	70.1	57.2	44.3	31.4	-	-
	67	77.3	7.0	77.3	75.8	62.8	49.9	36.9	-	70.9	7.7	70.9	70.9	59.9	47.0	34.1	-
	62	72.3	6.9	72.3	72.3	72.3	59.3	46.3	33.3	67.3	7.6	67.3	67.3	67.3	54.4	41.5	28.6
	57	71.1	6.9	71.1	71.1	71.1	58.1	45.1	32.2	65.4	7.6	65.4	65.4	65.4	52.5	39.6	26.7
3375	72	88.0	7.0	78.5	64.5	50.4	36.4	-	-	80.9	7.8	74.5	60.6	46.8	32.9	-	-
	67	78.2	7.0	78.2	77.5	66.8	52.7	38.7	-	71.6	7.7	71.6	71.6	63.3	49.4	35.5	-
	62	73.1	6.9	73.1	73.1	73.1	59.1	45.0	31.0	68.0	7.7	68.0	68.0	68.0	54.2	40.3	26.5
	57	72.0	6.9	72.0	72.0	72.0	57.9	43.9	29.8	66.1	7.7	66.1	66.1	66.1	52.2	38.4	24.5
3750	72	89.0	7.1	83.6	68.5	53.4	38.3	-	-	81.7	7.8	78.9	64.1	49.3	34.4	-	-
	67	79.1	7.0	79.1	79.1	70.7	55.6	40.5	-	72.4	7.8	72.4	72.4	66.6	51.8	37.0	-
	62	74.0	7.0	74.0	74.0	74.0	58.9	43.7	28.6	68.8	7.7	68.8	68.8	68.8	53.9	39.1	24.3
	57	72.8	7.0	72.8	72.8	72.8	57.7	42.6	27.5	66.8	7.7	66.8	66.8	66.8	52.0	37.2	22.3

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.

ZT102 (8.5 ton) 1st stage cooling

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								85°F							
1000	77	51.0	1.6	24.3	21.8	16.1	-	-	-	47.3	1.9	23.3	18.9	14.5	-	-	-
	72	45.7	1.6	32.3	27.1	21.8	16.6	-	-	42.2	2.0	30.1	25.2	20.2	15.2	-	-
	67	40.3	1.7	40.3	32.3	27.5	22.3	17.0	-	37.0	2.0	37.0	31.4	25.8	20.9	15.9	-
	62	36.8	1.7	36.8	36.8	31.0	25.7	20.5	15.3	34.2	2.1	34.2	34.2	28.4	23.4	18.4	13.4
1200	77	51.7	1.6	29.6	23.3	17.4	-	-	-	48.0	1.9	29.3	21.6	15.8	-	-	-
	72	46.3	1.6	35.3	29.4	23.5	17.7	-	-	42.8	2.0	33.5	27.7	21.9	16.2	-	-
	67	40.9	1.7	40.9	35.5	29.7	23.8	17.9	-	37.6	2.0	37.6	33.8	28.1	22.3	16.5	-
	62	37.3	1.7	37.3	37.3	33.4	27.6	21.7	15.8	34.7	2.0	34.7	34.7	30.8	25.1	19.3	13.5
1400	77	52.4	1.6	35.0	24.7	18.7	-	-	-	48.7	1.9	35.4	24.2	17.0	-	-	-
	72	46.9	1.6	38.2	31.7	25.2	18.8	-	-	43.4	2.0	36.8	30.2	23.7	17.1	-	-
	67	41.5	1.7	41.5	38.8	31.8	25.3	18.8	-	38.1	2.0	38.1	36.3	30.3	23.8	17.2	-
	62	37.8	1.7	37.8	37.8	35.9	29.4	22.9	16.4	35.2	2.0	35.2	35.2	33.3	26.7	20.2	13.6
1600	77	53.1	1.6	40.4	26.1	20.0	-	-	-	49.4	1.9	41.5	26.8	18.3	-	-	-
	72	47.6	1.6	41.2	34.1	27.0	19.8	-	-	44.1	2.0	40.1	32.8	25.4	18.1	-	-
	67	42.0	1.7	42.0	42.0	34.0	26.8	19.7	-	38.7	2.0	38.7	38.7	32.6	25.2	17.9	-
	62	38.3	1.7	38.3	38.3	38.3	31.2	24.1	16.9	35.7	2.0	35.7	35.7	35.7	28.4	21.1	13.7
1800	77	53.1	1.6	40.4	26.1	20.0	-	-	-	49.4	1.9	41.5	26.8	18.3	-	-	-
	72	47.6	1.6	41.2	34.1	27.0	19.8	-	-	44.1	2.0	40.1	32.8	25.4	18.1	-	-
	67	42.0	1.7	42.0	42.0	34.0	26.8	19.7	-	38.7	2.0	38.7	38.7	32.6	25.2	17.9	-
	62	38.3	1.7	38.3	38.3	38.3	31.2	24.1	16.9	35.7	2.0	35.7	35.7	35.7	28.4	21.1	13.7
2000	77	53.1	1.6	40.4	26.1	20.0	-	-	-	49.4	1.9	41.5	26.8	18.3	-	-	-
	72	47.6	1.6	41.2	34.1	27.0	19.8	-	-	44.1	2.0	40.1	32.8	25.4	18.1	-	-
	67	42.0	1.7	42.0	42.0	34.0	26.8	19.7	-	38.7	2.0	38.7	38.7	32.6	25.2	17.9	-
	62	38.3	1.7	38.3	38.3	38.3	31.2	24.1	16.9	35.7	2.0	35.7	35.7	35.7	28.4	21.1	13.7
1000	77	43.6	2.3	22.3	16.0	12.9	-	-	-	39.2	2.7	23.9	15.1	11.8	-	-	-
	72	38.7	2.3	28.0	23.3	18.5	13.8	-	-	34.7	2.7	27.1	21.9	17.2	12.6	-	-
	67	33.7	2.4	33.7	30.6	24.2	19.4	14.7	-	30.3	2.7	30.3	28.7	22.7	18.0	13.4	-
	62	31.6	2.4	31.6	31.6	25.8	21.1	16.3	11.6	29.1	2.7	29.1	29.1	24.0	19.3	14.7	10.0
1200	77	44.3	2.3	29.1	19.8	14.2	-	-	-	39.9	2.7	29.2	19.1	12.9	-	-	-
	72	39.3	2.3	31.7	26.0	20.3	14.7	-	-	35.3	2.7	30.0	24.4	18.8	13.2	-	-
	67	34.3	2.3	34.3	32.2	26.5	20.8	15.2	-	30.8	2.7	30.8	29.7	24.7	19.2	13.6	-
	62	32.2	2.4	32.2	32.2	28.3	22.6	16.9	11.2	29.6	2.7	29.6	29.6	26.2	20.6	15.0	9.4
1400	77	45.0	2.3	35.9	23.7	15.4	-	-	-	40.5	2.7	34.4	23.1	13.9	-	-	-
	72	39.9	2.3	35.4	28.7	22.1	15.5	-	-	35.9	2.7	32.8	26.9	20.4	13.9	-	-
	67	34.8	2.3	34.8	33.8	28.8	22.2	15.6	-	31.3	2.7	31.3	30.7	26.8	20.3	13.8	-
	62	32.7	2.4	32.7	32.7	30.7	24.1	17.5	10.9	30.1	2.7	30.1	30.1	28.4	21.9	15.4	8.8
1600	77	45.7	2.3	42.7	27.5	16.6	-	-	-	41.2	2.7	39.6	27.1	15.0	-	-	-
	72	40.6	2.3	39.0	31.5	23.9	16.3	-	-	36.5	2.7	35.7	29.4	22.0	14.5	-	-
	67	35.4	2.3	35.4	35.4	31.1	23.6	16.0	-	31.8	2.7	31.8	31.8	28.9	21.5	14.0	-
	62	33.2	2.3	33.2	33.2	33.2	25.6	18.1	10.5	30.6	2.7	30.6	30.6	30.6	23.1	15.7	8.2
1800	77	41.6	2.3	40.8	34.7	26.2	17.7	-	-	37.3	2.7	36.9	31.9	23.6	15.3	-	-
	72	36.3	2.3	36.3	36.3	34.1	25.7	17.2	-	32.5	2.7	32.5	32.5	31.0	22.7	14.4	-
	67	34.0	2.3	34.0	34.0	34.0	25.6	17.1	8.6	31.3	2.7	31.3	31.3	31.3	23.0	14.6	6.3
	62	33.7	2.3	33.7	33.7	33.7	25.2	16.7	8.3	30.8	2.7	30.8	30.8	30.8	22.5	14.2	5.9
2000	77	42.6	2.3	42.6	37.9	28.5	19.1	-	-	38.1	2.7	38.1	34.4	25.2	16.0	-	-
	72	37.2	2.3	37.2	37.2	37.1	27.8	18.4	-	33.2	2.7	33.2	33.2	33.2	24.0	14.8	-
	67	34.9	2.3	34.9	34.9	34.9	25.5	16.1	6.7	31.9	2.7	31.9	31.9	31.9	22.8	13.6	4.4
	62	34.5	2.3	34.5	34.5	34.5	25.1	15.8	6.4	31.5	2.7	31.5	31.5	31.5	22.3	13.2	4.0

## ZT102 (8.5 ton) 1st stage cooling (continued)

Air on evaporator coil		Temperature of air on condenser coil																
		Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						
				Return dry bulb (°F)								Return dry bulb (°F)						
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65	
		115°F									125°F							
1000	77	34.9	3.1	25.6	14.2	10.6	-	-	-	30.5	3.4	28.1	14.8	9.5	-	-	-	
	72	30.8	3.1	26.2	20.5	15.9	11.3	-	-	26.9	3.5	25.3	19.1	14.6	10.1	-	-	
	67	26.8	3.1	26.8	26.8	21.2	16.6	12.0	-	23.3	3.5	23.3	23.3	19.7	15.1	10.6	-	
	62	26.7	3.1	26.7	26.7	22.2	17.6	13.0	8.5	24.2	3.4	24.2	24.2	20.4	15.9	11.4	6.9	
1200	77	35.5	3.1	29.3	18.3	11.6	-	-	-	31.0	3.5	29.4	18.6	10.3	-	-	-	
	72	31.4	3.1	28.3	22.8	17.3	11.8	-	-	27.4	3.5	26.6	21.2	15.8	10.4	-	-	
	67	27.2	3.1	27.2	27.2	23.0	17.5	12.0	-	23.7	3.5	23.7	23.7	21.2	15.8	10.4	-	
	62	27.1	3.1	27.1	27.1	24.1	18.6	13.1	7.6	24.5	3.5	24.5	24.5	22.0	16.6	11.2	5.8	
57	26.6	3.1	26.6	26.6	23.7	18.2	12.7	7.2	24.0	3.5	24.0	24.0	21.6	16.2	10.8	5.4		
1400	77	36.0	3.1	32.9	22.4	12.5	-	-	-	31.5	3.5	30.7	22.4	11.0	-	-	-	
	72	31.9	3.1	30.3	25.1	18.7	12.2	-	-	27.8	3.5	27.8	23.2	16.9	10.6	-	-	
	67	27.7	3.1	27.7	27.7	24.8	18.4	12.0	-	24.1	3.5	24.1	24.1	22.8	16.5	10.2	-	
	62	27.5	3.1	27.5	27.5	26.0	19.6	13.2	6.8	24.9	3.5	24.9	24.9	23.7	17.4	11.1	4.8	
57	27.0	3.1	27.0	27.0	25.6	19.2	12.8	6.4	24.4	3.5	24.4	24.4	23.2	16.9	10.6	4.3		
1600	77	36.6	3.1	36.6	26.6	13.4	-	-	-	32.0	3.5	32.0	26.1	11.8	-	-	-	
	72	32.4	3.1	32.4	27.4	20.0	12.7	-	-	28.3	3.5	28.3	25.3	18.1	10.9	-	-	
	67	28.1	3.1	28.1	28.1	26.7	19.3	12.0	-	24.5	3.5	24.5	24.5	24.4	17.2	10.0	-	
	62	28.0	3.1	28.0	28.0	28.0	20.6	13.3	6.0	25.3	3.5	25.3	25.3	25.3	18.1	10.9	3.7	
57	27.5	3.1	27.5	27.5	27.5	20.2	12.8	5.5	24.8	3.5	24.8	24.8	24.8	17.6	10.4	3.2		
1800	72	33.0	3.1	33.0	29.1	21.0	12.8	-	-	28.7	3.5	28.7	26.4	18.4	10.4	-	-	
	67	28.6	3.1	28.6	28.6	27.9	19.8	11.6	-	24.8	3.5	24.8	24.8	24.8	16.8	8.8	-	
	62	28.5	3.1	28.5	28.5	28.5	20.3	12.2	4.0	25.7	3.5	25.7	25.7	25.7	17.7	9.7	1.7	
	57	28.0	3.1	28.0	28.0	28.0	19.8	11.7	3.5	25.1	3.5	25.1	25.1	25.1	17.2	9.2	1.2	
2000	72	33.6	3.1	33.6	30.9	21.9	12.9	-	-	29.1	3.5	29.1	27.4	18.6	9.9	-	-	
	67	29.2	3.1	29.2	29.2	29.2	20.2	11.2	-	25.2	3.5	25.2	25.2	25.2	16.4	7.6	-	
	62	29.0	3.1	29.0	29.0	29.0	20.0	11.1	2.1	26.1	3.5	26.1	26.1	26.1	17.3	8.5	-	
	57	28.5	3.1	28.5	28.5	28.5	19.5	10.5	1.6	25.5	3.5	25.5	25.5	25.5	16.7	7.9	-	

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.





## ZT102 (8.5 ton) 2nd stage cooling (continued)

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				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	73.2	5.9	30.0	27.7	20.7	-	-	-	66.3	6.7	29.3	24.7	18.5	-	-	-
	72	65.6	5.9	43.7	36.7	29.7	22.7	-	-	59.6	6.7	41.1	34.2	27.3	20.5	-	-
	67	58.1	5.9	57.4	45.7	38.7	31.7	24.7	-	52.9	6.7	52.9	43.1	36.2	29.3	22.4	-
	62	54.0	5.9	54.0	54.0	44.8	37.8	30.8	23.8	50.3	6.7	50.3	50.3	41.2	34.3	27.4	20.5
1800	77	74.7	5.9	39.1	30.9	22.6	-	-	-	67.5	6.7	38.7	28.4	20.3	-	-	-
	72	67.0	5.9	49.0	40.7	32.5	24.2	-	-	60.7	6.7	46.3	38.1	30.0	21.8	-	-
	67	59.3	5.9	58.8	50.6	42.4	34.1	25.9	-	53.9	6.7	53.9	47.8	39.6	31.5	23.3	-
	62	55.2	5.9	55.2	55.2	49.0	40.8	32.6	24.3	51.2	6.7	51.2	51.2	45.2	37.0	28.8	20.7
	57	54.9	5.9	54.9	54.9	48.8	40.6	32.3	24.1	50.5	6.6	50.5	50.5	44.5	36.3	28.2	20.0
2100	77	76.3	5.8	48.2	34.0	24.5	-	-	-	68.8	6.7	48.0	32.2	22.1	-	-	-
	72	68.4	5.9	54.2	44.8	35.3	25.8	-	-	61.8	6.6	51.5	42.0	32.6	23.1	-	-
	67	60.6	5.9	60.3	55.5	46.0	36.5	27.0	-	54.9	6.6	54.9	52.5	43.1	33.7	24.2	-
	62	56.3	5.9	56.3	56.3	53.2	43.8	34.3	24.8	52.1	6.7	52.1	52.1	49.1	39.7	30.2	20.8
	57	56.0	5.9	56.0	56.0	53.0	43.5	34.0	24.6	51.4	6.6	51.4	51.4	48.4	39.0	29.5	20.1
2400	77	77.8	5.8	57.2	37.2	26.5	-	-	-	70.0	6.6	57.4	36.0	23.8	-	-	-
	72	69.8	5.8	59.5	48.8	38.1	27.3	-	-	62.9	6.6	56.6	45.9	35.2	24.5	-	-
	67	61.8	5.8	61.8	60.3	49.6	38.9	28.2	-	55.8	6.6	55.8	55.8	46.6	35.9	25.1	-
	62	57.4	5.9	57.4	57.4	57.4	46.7	36.0	25.3	53.0	6.6	53.0	53.0	53.0	42.3	31.6	20.9
	57	57.2	5.8	57.2	57.2	57.2	46.5	35.7	25.0	52.3	6.6	52.3	52.3	52.3	41.6	30.9	20.2
2700	72	71.0	5.8	64.9	53.0	41.0	29.1	-	-	63.8	6.6	61.9	49.9	38.0	26.1	-	-
	67	62.8	5.8	62.8	62.1	53.5	41.6	29.7	-	56.6	6.6	56.6	56.6	50.3	38.4	26.5	-
	62	58.4	5.9	58.4	58.4	58.4	46.5	34.5	22.6	53.8	6.6	53.8	53.8	53.8	41.9	29.9	18.0
	57	58.1	5.8	58.1	58.1	58.1	46.2	34.3	22.3	53.0	6.6	53.0	53.0	53.0	41.1	29.2	17.3
3000	72	72.1	5.8	70.3	57.2	44.0	30.9	-	-	64.6	6.6	64.6	54.0	40.8	27.7	-	-
	67	63.8	5.8	63.8	63.8	57.4	44.3	31.2	-	57.4	6.6	57.4	57.4	54.0	40.9	27.8	-
	62	59.3	5.9	59.3	59.3	59.3	46.2	33.1	19.9	54.5	6.6	54.5	54.5	54.5	41.4	28.3	15.1
	57	59.1	5.8	59.1	59.1	59.1	45.9	32.8	19.6	53.7	6.6	53.7	53.7	53.7	40.6	27.5	14.4

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.



## ZT102 (8.5 ton) 3rd stage cooling (continued)

Air on evaporator coil		Temperature of air on condenser coil															
		Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								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	107.5	8.1	43.3	38.9	29.2	-	-	-	101.1	8.9	38.8	36.5	26.9	-	-	-
	72	97.6	8.0	62.3	52.5	42.8	33.0	-	-	91.5	8.8	59.5	49.8	40.1	30.4	-	-
	67	87.8	7.9	81.3	66.1	56.4	46.6	36.8	-	81.9	8.8	80.3	63.0	53.3	43.6	34.0	-
	62	79.5	7.9	79.5	79.5	64.0	54.2	44.5	34.7	74.6	8.7	74.6	74.6	58.9	49.2	39.5	29.8
2550	77	109.0	8.1	54.9	43.5	32.1	-	-	-	102.0	8.9	52.5	41.1	29.6	-	-	-
	72	99.0	8.0	69.8	58.4	47.0	35.6	-	-	92.3	8.9	67.0	55.6	44.1	32.7	-	-
	67	89.1	8.0	84.7	73.3	61.9	50.5	39.1	-	82.6	8.8	81.5	70.1	58.7	47.2	35.8	-
	62	80.6	7.9	80.6	80.6	70.3	58.9	47.5	36.1	75.2	8.7	75.2	75.2	64.7	53.3	41.9	30.5
2975	77	110.5	8.1	66.4	48.0	34.9	-	-	-	102.8	9.0	66.2	45.6	32.3	-	-	-
	72	100.4	8.1	77.3	64.2	51.2	38.1	-	-	93.0	8.9	74.5	61.3	48.2	35.0	-	-
	67	90.3	8.0	88.1	80.5	67.4	54.4	41.3	-	83.2	8.8	82.7	77.1	64.0	50.8	37.7	-
	62	81.7	7.9	81.7	81.7	76.6	63.5	50.5	37.4	75.9	8.7	75.9	75.9	70.6	57.5	44.3	31.1
3400	77	112.1	8.1	78.0	52.5	37.8	-	-	-	103.7	9.0	80.0	50.2	35.0	-	-	-
	72	101.8	8.1	84.8	70.1	55.4	40.7	-	-	93.8	8.9	81.9	67.0	52.2	37.3	-	-
	67	91.6	8.0	91.6	87.7	73.0	58.3	43.6	-	83.9	8.9	83.9	83.9	69.3	54.4	39.5	-
	62	82.8	7.9	82.8	82.8	82.8	68.1	53.4	38.7	76.5	8.7	76.5	76.5	76.5	61.6	46.7	31.8
3825	77	102.9	8.1	90.9	75.0	59.0	43.1	-	-	94.2	9.0	87.7	71.6	55.6	39.6	-	-
	72	92.5	8.0	92.5	90.6	77.8	61.9	45.9	-	84.3	8.9	84.3	84.3	73.9	57.8	41.8	-
	67	83.7	7.9	83.7	83.7	83.7	67.8	51.8	35.9	76.8	8.8	76.8	76.8	76.8	60.8	44.8	28.7
	62	85.3	7.9	85.3	85.3	85.3	69.4	53.5	37.5	78.6	8.8	78.6	78.6	78.6	62.6	46.6	30.5
4250	77	103.9	8.1	97.1	79.9	62.7	45.5	-	-	94.7	9.0	93.4	76.2	59.0	41.9	-	-
	72	93.5	8.0	93.5	93.5	82.6	65.5	48.3	-	84.7	9.0	84.7	84.7	78.5	61.3	44.1	-
	67	84.6	7.9	84.6	84.6	84.6	67.4	50.2	33.1	77.2	8.8	77.2	77.2	77.2	60.0	42.8	25.7
	62	86.2	7.9	86.2	86.2	86.2	69.0	51.9	34.7	79.0	8.8	79.0	79.0	79.0	61.8	44.7	27.5

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.

**ZT120 (10 ton) 1st stage cooling**

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
				75°F						85°F							
1250	77	60.5	2.0	31.0	26.8	19.9	-	-	-	56.9	2.3	27.9	22.6	17.5	-	-	-
	72	52.9	2.0	38.1	32.2	26.3	20.4	-	-	49.5	2.3	35.0	29.4	23.8	18.2	-	-
	67	45.2	2.0	45.2	37.6	32.7	26.8	20.9	-	42.2	2.4	42.2	36.2	30.0	24.4	18.8	-
	62	45.8	1.9	45.8	45.8	39.9	33.9	28.0	22.1	40.4	2.4	40.4	40.4	33.6	28.0	22.4	16.7
1500	77	63.6	1.9	37.3	28.5	21.6	-	-	-	58.9	2.2	35.3	25.9	19.3	-	-	-
	72	55.5	1.9	42.4	35.5	28.6	21.7	-	-	51.3	2.3	39.5	32.8	26.2	19.5	-	-
	67	47.5	2.0	47.5	42.4	35.5	28.6	21.7	-	43.7	2.3	43.7	39.7	33.1	26.4	19.7	-
	62	48.1	1.9	48.1	48.1	43.4	36.5	29.6	22.7	41.8	2.4	41.8	41.8	37.0	30.3	23.7	17.0
	57	44.6	2.0	44.6	44.6	41.4	34.5	27.6	20.7	41.0	2.4	41.0	41.0	36.7	30.1	23.4	16.7
1750	77	66.7	1.9	43.5	30.3	23.4	-	-	-	61.0	2.2	42.7	29.3	21.1	-	-	-
	72	58.2	1.9	46.6	38.7	30.9	23.0	-	-	53.1	2.3	44.0	36.3	28.6	20.9	-	-
	67	49.8	1.9	49.8	47.2	38.4	30.5	22.6	-	45.3	2.3	45.3	43.3	36.1	28.4	20.7	-
	62	50.3	1.9	50.3	50.3	47.0	39.1	31.2	23.4	43.3	2.3	43.3	43.3	40.4	32.7	25.0	17.3
	57	46.8	1.9	46.8	46.8	44.8	36.9	29.0	21.1	42.4	2.3	42.4	42.4	40.1	32.4	24.7	17.0
2000	77	69.7	1.8	49.7	32.0	25.1	-	-	-	63.0	2.2	50.1	32.6	22.8	-	-	-
	72	60.9	1.8	50.9	42.0	33.2	24.3	-	-	54.9	2.2	48.4	39.7	31.0	22.2	-	-
	67	52.0	1.9	52.0	52.0	41.2	32.4	23.5	-	46.8	2.3	46.8	46.8	39.1	30.4	21.7	-
	62	52.5	1.8	52.5	52.5	50.5	41.7	32.8	24.0	44.7	2.3	44.7	44.7	43.8	35.0	26.3	17.6
	57	48.9	1.9	48.9	48.9	48.1	39.3	30.4	21.6	43.8	2.3	43.8	43.8	43.4	34.7	26.0	17.3
2250	72	63.1	1.8	58.7	48.1	37.6	27.1	-	-	56.9	2.2	53.5	43.5	33.6	23.7	-	-
	67	54.0	1.8	54.0	54.0	46.9	36.4	25.9	-	48.5	2.2	48.5	48.5	42.4	32.5	22.6	-
	62	54.5	1.8	54.5	54.5	53.7	43.2	32.7	22.2	46.3	2.3	46.3	46.3	45.9	35.9	26.0	16.1
	57	50.7	1.8	50.7	50.7	50.6	40.1	29.6	19.1	45.4	2.3	45.4	45.4	45.2	35.3	25.4	15.4
2500	72	65.4	1.7	65.4	54.3	42.1	30.0	-	-	58.8	2.2	58.5	47.4	36.2	25.1	-	-
	67	55.9	1.8	55.9	55.9	52.5	40.4	28.2	-	50.1	2.2	50.1	50.1	45.8	34.7	23.5	-
	62	56.4	1.7	56.4	56.4	56.4	44.8	32.6	20.5	48.0	2.2	48.0	48.0	48.0	36.8	25.7	14.6
	57	52.6	1.8	52.6	52.6	52.6	40.9	28.8	16.6	47.0	2.3	47.0	47.0	47.0	35.9	24.7	13.6
				95°F						105°F							
1250	77	53.2	2.6	24.7	18.5	15.2	-	-	-	45.4	3.1	26.5	17.2	14.2	-	-	-
	72	46.2	2.7	32.0	26.6	21.3	15.9	-	-	40.1	3.2	30.6	24.8	19.7	14.5	-	-
	67	39.2	2.8	39.2	34.8	27.4	22.0	16.7	-	34.7	3.3	34.7	32.5	25.2	20.0	14.9	-
	62	34.9	2.9	34.9	34.9	27.4	22.0	16.7	11.3	32.4	3.3	32.4	32.4	25.6	20.4	15.3	10.1
1500	77	54.2	2.5	33.3	23.4	17.0	-	-	-	46.8	3.0	33.3	22.2	15.8	-	-	-
	72	47.1	2.6	36.6	30.2	23.8	17.4	-	-	41.3	3.1	34.5	28.3	22.0	15.7	-	-
	67	40.0	2.7	40.0	37.0	30.6	24.2	17.7	-	35.8	3.2	35.8	34.3	28.2	21.9	15.6	-
	62	35.6	2.8	35.6	35.6	30.6	24.1	17.7	11.3	33.5	3.3	33.5	33.5	28.6	22.3	16.0	9.8
	57	37.3	2.8	37.3	37.3	32.1	25.6	19.2	12.8	33.9	3.3	33.9	33.9	29.3	23.0	16.7	10.5
1750	77	55.3	2.5	41.8	28.3	18.7	-	-	-	48.3	3.0	40.0	27.2	17.5	-	-	-
	72	48.0	2.6	41.3	33.8	26.3	18.8	-	-	42.6	3.1	38.5	31.7	24.3	16.9	-	-
	67	40.8	2.7	40.8	39.3	33.8	26.3	18.8	-	36.9	3.2	36.9	36.2	31.1	23.7	16.3	-
	62	36.3	2.8	36.3	36.3	33.8	26.3	18.7	11.2	34.6	3.3	34.6	34.6	31.6	24.2	16.8	9.4
	57	38.1	2.8	38.1	38.1	35.4	27.9	20.4	12.9	34.9	3.3	34.9	34.9	32.4	25.0	17.6	10.2
2000	77	56.3	2.5	50.4	33.2	20.5	-	-	-	49.7	3.0	46.8	32.3	19.2	-	-	-
	72	48.9	2.6	46.0	37.4	28.8	20.2	-	-	43.9	3.1	42.4	35.2	26.6	18.1	-	-
	67	41.5	2.7	41.5	41.5	37.0	28.4	19.8	-	38.1	3.2	38.1	38.1	34.1	25.6	17.1	-
	62	37.0	2.8	37.0	37.0	37.0	28.4	19.8	11.2	35.6	3.2	35.6	35.6	34.6	26.1	17.6	9.1
	57	38.8	2.7	38.8	38.8	38.8	30.2	21.6	13.0	36.0	3.2	36.0	36.0	35.5	27.0	18.4	9.9
2250	72	50.6	2.6	48.3	38.9	29.6	20.2	-	-	44.8	3.1	43.6	36.5	27.3	18.1	-	-
	67	43.0	2.7	43.0	43.0	38.0	28.7	19.3	-	38.8	3.2	38.8	38.8	34.9	25.8	16.6	-
	62	38.2	2.8	38.2	38.2	38.0	28.6	19.3	10.0	36.3	3.3	36.3	36.3	35.5	26.3	17.1	7.9
	57	40.1	2.7	40.1	40.1	39.8	30.5	21.2	11.8	36.7	3.3	36.7	36.7	36.3	27.2	18.0	8.8
2500	72	52.3	2.6	50.5	40.4	30.4	20.3	-	-	45.7	3.1	44.8	37.8	27.9	18.1	-	-
	67	44.4	2.7	44.4	44.4	39.0	29.0	18.9	-	39.6	3.2	39.6	39.6	35.8	25.9	16.1	-
	62	39.5	2.8	39.5	39.5	39.0	28.9	18.8	8.7	37.0	3.3	37.0	37.0	36.3	26.5	16.6	6.8
	57	41.4	2.7	41.4	41.4	40.9	30.8	20.7	10.6	37.5	3.3	37.5	37.5	37.2	27.4	17.5	7.7

## ZT120 (10 ton) 1st stage cooling (continued)

Air on evaporator coil		Temperature of air on condenser coil																
		Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						
				Return dry bulb (°F)								Return dry bulb (°F)						
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65	
		115°F									125°F							
1250	77	37.7	3.5	28.3	15.8	13.1	-	-	-	29.9	4.0	29.9	16.7	12.1	-	-	-	
	72	33.9	3.7	29.2	23.0	18.0	13.1	-	-	27.8	4.2	27.8	21.2	16.4	11.7	-	-	
	67	30.2	3.8	30.2	30.2	23.0	18.0	13.1	-	25.7	4.3	25.7	25.7	20.8	16.0	11.2	-	
	62	30.0	3.8	30.0	30.0	23.7	18.8	13.8	8.9	27.5	4.3	27.5	27.5	21.9	17.2	12.4	7.6	
1500	77	39.5	3.5	33.2	21.0	14.7	-	-	-	32.1	4.0	32.1	21.3	13.5	-	-	-	
	72	35.6	3.6	32.4	26.3	20.2	14.1	-	-	29.8	4.1	29.8	24.4	18.4	12.5	-	-	
	67	31.6	3.8	31.6	31.6	25.7	19.6	13.5	-	27.5	4.3	27.5	27.5	23.3	17.3	11.4	-	
	62	31.4	3.8	31.4	31.4	26.6	20.5	14.3	8.2	29.3	4.2	29.3	29.3	24.6	18.6	12.7	6.7	
57	30.4	3.8	30.4	30.4	26.5	20.4	14.3	8.2	27.0	4.3	27.0	27.0	23.7	17.8	11.8	5.8		
1750	77	41.3	3.5	38.2	26.2	16.3	-	-	-	34.3	3.9	34.3	25.8	15.0	-	-	-	
	72	37.2	3.6	35.7	29.6	22.4	15.1	-	-	31.8	4.1	31.8	27.6	20.4	13.3	-	-	
	67	33.1	3.7	33.1	33.1	28.5	21.2	13.9	-	29.3	4.2	29.3	29.3	25.8	18.7	11.5	-	
	62	32.9	3.7	32.9	32.9	29.4	22.1	14.9	7.6	31.2	4.2	31.2	31.2	27.2	20.1	12.9	5.8	
57	31.8	3.8	31.8	31.8	29.3	22.1	14.8	7.5	28.7	4.3	28.7	28.7	26.3	19.1	12.0	4.8		
2000	77	43.1	3.4	43.1	31.3	17.8	-	-	-	36.6	3.9	36.6	30.4	16.5	-	-	-	
	72	38.9	3.5	38.9	33.0	24.5	16.1	-	-	33.8	4.0	33.8	30.8	22.4	14.0	-	-	
	67	34.6	3.7	34.6	34.6	31.2	22.8	14.4	-	31.1	4.2	31.1	31.1	28.3	20.0	11.6	-	
	62	34.3	3.7	34.3	34.3	32.3	23.8	15.4	7.0	33.0	4.1	33.0	33.0	29.9	21.6	13.2	4.8	
57	33.2	3.7	33.2	33.2	32.2	23.7	15.3	6.9	30.5	4.2	30.5	30.5	28.9	20.5	12.2	3.8		
2250	72	39.0	3.6	39.0	34.0	25.0	16.0	-	-	33.2	4.1	33.2	31.6	22.8	13.9	-	-	
	67	34.7	3.7	34.7	34.7	31.9	22.9	13.8	-	30.6	4.2	30.6	30.6	28.8	19.9	11.1	-	
	62	34.5	3.7	34.5	34.5	32.9	23.9	14.9	5.9	32.6	4.2	32.6	32.6	30.4	21.5	12.7	3.8	
	57	33.4	3.8	33.4	33.4	32.8	23.8	14.8	5.8	30.0	4.3	30.0	30.0	29.3	20.5	11.6	2.8	
2500	72	39.2	3.6	39.2	35.1	25.5	15.9	-	-	32.6	4.1	32.6	32.5	23.1	13.8	-	-	
	67	34.8	3.8	34.8	34.8	32.5	22.9	13.3	-	30.1	4.3	30.1	30.1	29.2	19.9	10.5	-	
	62	34.6	3.8	34.6	34.6	33.6	24.0	14.4	4.8	32.1	4.3	32.1	32.1	30.9	21.5	12.2	2.8	
	57	33.5	3.8	33.5	33.5	33.5	23.9	14.3	4.7	29.5	4.3	29.5	29.5	20.4	11.1	1.7		

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.



## ZT120 (10 ton) 2nd stage cooling (continued)

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
				115°F						125°F							
1750	77	80.6	6.9	34.1	30.4	22.6	-	-	-	70.5	7.8	32.4	27.4	19.7	-	-	
	72	73.3	6.9	49.1	41.4	33.6	25.8	-	-	65.0	7.8	45.9	38.3	30.6	22.9	-	
	67	65.9	6.9	64.2	52.3	44.5	36.8	29.0	-	59.4	7.8	59.4	49.1	41.5	33.8	26.1	
	62	60.6	7.0	60.6	60.6	52.0	44.2	36.5	28.7	56.2	7.8	56.2	56.2	48.6	41.0	33.3	25.6
2100	77	83.4	6.8	43.1	33.9	24.8	-	-	-	73.0	7.8	41.5	30.6	21.6	-	-	
	72	75.8	6.8	55.0	45.9	36.8	27.6	-	-	67.3	7.7	51.5	42.5	33.5	24.5	-	
	67	68.2	6.8	67.0	57.9	48.8	39.6	30.5	-	61.6	7.7	61.6	54.4	45.4	36.4	27.3	
	62	62.7	6.9	62.7	62.7	56.9	47.8	38.7	29.5	58.2	7.8	58.2	53.2	44.2	35.2	26.2	
	57	64.0	6.9	64.0	64.0	56.8	47.7	38.6	29.4	59.3	7.8	59.3	59.3	52.2	43.2	34.1	25.1
2450	77	86.1	6.7	52.0	37.4	26.9	-	-	-	75.6	7.7	50.5	33.8	23.5	-	-	
	72	78.3	6.8	60.9	50.4	40.0	29.5	-	-	69.7	7.7	57.1	46.7	36.4	26.0	-	
	67	70.4	6.8	69.9	63.5	53.0	42.5	32.0	-	63.8	7.7	63.8	59.7	49.3	38.9	28.6	
	62	64.7	6.9	64.7	64.7	61.9	51.4	40.9	30.4	60.2	7.7	60.2	60.2	57.8	47.5	37.1	26.7
	57	66.1	6.8	66.1	66.1	61.8	51.3	40.8	30.3	61.4	7.7	61.4	61.4	56.7	46.3	35.9	25.6
2800	77	88.9	6.7	61.0	40.9	29.1	-	-	-	78.2	7.6	59.5	37.0	25.3	-	-	
	72	80.8	6.7	66.8	55.0	43.1	31.3	-	-	72.1	7.6	62.7	51.0	39.3	27.5	-	
	67	72.7	6.7	72.7	69.1	57.2	45.4	33.5	-	65.9	7.6	65.9	64.9	53.2	41.5	29.8	
	62	66.8	6.8	66.8	66.8	66.8	55.0	43.1	31.3	62.3	7.7	62.3	62.3	62.3	50.7	39.0	27.3
	57	68.2	6.8	68.2	68.2	66.7	54.8	43.0	31.1	63.4	7.7	63.4	63.4	61.2	49.5	37.7	26.0
3150	72	81.3	6.7	72.4	59.4	46.4	33.4	-	-	71.5	7.6	68.1	55.3	42.5	29.7	-	
	67	73.1	6.7	73.1	71.3	61.5	48.5	35.5	-	65.5	7.6	65.5	65.5	57.6	44.7	31.9	
	62	67.2	6.8	67.2	67.2	67.2	54.2	41.2	28.2	61.9	7.7	61.9	61.9	61.9	49.2	36.3	23.5
	57	68.6	6.8	68.6	68.6	67.8	54.8	41.8	28.8	63.0	7.7	63.0	63.0	61.9	49.1	36.3	23.5
3500	72	81.7	6.7	77.9	63.8	49.6	35.5	-	-	71.0	7.7	71.0	59.6	45.7	31.8	-	
	67	73.5	6.7	73.5	73.5	65.8	51.7	37.5	-	65.0	7.6	65.0	65.0	61.9	48.0	34.1	
	62	67.6	6.8	67.6	67.6	67.6	53.5	39.3	25.2	61.5	7.7	61.5	61.5	61.5	47.6	33.7	19.8
	57	69.0	6.8	69.0	69.0	69.0	54.8	40.7	26.5	62.7	7.7	62.7	62.7	62.7	48.8	34.9	21.0

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.





## ZT120 (10 ton) 3rd stage cooling (continued)

Air on evaporator coil		Temperature of air on condenser coil																	
		Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)							
				Return dry bulb (°F)								Return dry bulb (°F)							
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65		
		115°F									125°F								
2500	77	123.5	9.3	50.4	43.4	32.3	-	-	-	113.9	10.3	44.6	40.0	29.0	-	-	-		
	72	113.1	9.2	71.4	60.3	49.1	37.9	-	-	104.5	10.2	67.5	56.4	45.4	34.3	-	-		
	67	102.7	9.2	92.5	77.1	65.9	54.8	43.6	-	95.1	10.2	90.2	72.8	61.8	50.7	39.7	-		
	62	98.6	9.1	98.6	95.1	77.9	66.7	55.6	44.4	95.9	10.1	95.9	90.6	72.4	61.3	50.3	39.2		
3000	77	125.6	9.3	60.8	48.1	35.3	-	-	-	115.3	10.3	57.1	44.4	31.8	-	-	-		
	72	115.0	9.3	79.2	66.4	53.6	40.9	-	-	105.8	10.3	75.1	62.4	49.8	37.2	-	-		
	67	104.4	9.2	97.6	84.8	72.0	59.2	46.4	-	96.3	10.2	93.1	80.5	67.8	55.2	42.5	-		
	62	100.2	9.1	100.2	97.9	85.1	72.3	59.5	46.7	97.1	10.1	97.1	93.6	79.4	66.8	54.2	41.5		
3500	77	127.7	9.3	71.3	52.7	38.2	-	-	-	116.7	10.3	69.6	48.9	34.6	-	-	-		
	72	116.9	9.3	87.0	72.6	58.2	43.8	-	-	107.1	10.3	82.7	68.5	54.2	40.0	-	-		
	67	106.1	9.2	102.7	92.5	78.1	63.7	49.3	-	97.5	10.2	96.0	88.1	73.8	59.6	45.4	-		
	62	101.9	9.1	101.9	100.7	92.3	77.9	63.5	49.1	98.4	10.1	98.4	96.6	86.5	72.3	58.0	43.8		
4000	77	129.8	9.4	81.7	57.3	41.2	-	-	-	118.1	10.4	82.1	53.3	37.5	-	-	-		
	72	118.8	9.3	94.8	78.8	62.7	46.7	-	-	108.4	10.3	90.3	74.5	58.7	42.8	-	-		
	67	107.8	9.2	107.8	100.2	84.2	68.2	52.2	-	98.6	10.2	98.6	95.7	79.9	64.0	48.2	-		
	62	103.6	9.1	103.6	103.6	99.5	83.5	67.5	51.5	99.6	10.1	99.6	99.6	93.6	77.7	61.9	46.1		
4500	77	130.1	9.3	102.0	84.5	67.1	49.6	-	-	108.8	10.3	97.2	79.9	62.7	45.5	-	-		
	72	120.1	9.3	102.0	84.5	67.1	49.6	-	-	108.8	10.3	97.2	79.9	62.7	45.5	-	-		
	67	109.0	9.2	109.0	105.2	90.1	72.6	55.1	-	99.0	10.2	99.0	99.0	85.3	68.1	50.9	-		
	62	104.6	9.1	104.6	104.6	102.6	85.2	67.7	50.3	100.1	10.1	100.1	100.1	97.1	79.8	62.6	45.4		
5000	77	130.1	9.3	106.0	106.0	104.0	86.5	69.1	51.6	101.7	9.8	101.7	101.7	98.7	81.4	64.2	47.0		
	72	121.3	9.3	109.2	90.3	71.4	52.5	-	-	109.2	10.2	104.0	85.4	66.7	48.1	-	-		
	67	110.1	9.2	110.1	110.1	95.9	77.0	58.1	-	99.4	10.2	99.4	99.4	90.8	72.2	53.5	-		
	62	105.7	9.1	105.7	105.7	105.7	86.8	67.9	49.0	100.6	10.1	100.6	100.6	100.6	81.9	63.3	44.6		
57	107.1	8.9	107.1	107.1	107.1	88.2	69.3	50.4	102.2	9.7	102.2	102.2	102.2	83.5	64.9	46.2			

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.



## ZT150 (12.5 ton) 1st stage cooling (continued)

Air on evaporator coil		Temperature of air on condenser coil																
		Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						
				Return dry bulb (°F)								Return dry bulb (°F)						
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65	
		115°F									125°F							
1500	77	51.7	4.5	37.0	20.0	16.2	-	-	-	45.9	5.1	40.0	20.2	14.3	-	-	-	
	72	47.5	4.5	40.2	31.6	24.5	17.4	-	-	41.9	5.1	38.2	29.1	22.2	15.2	-	-	
	67	43.3	4.6	43.3	43.3	32.9	25.8	18.7	-	37.9	5.1	37.9	37.9	30.0	23.1	16.1	-	
	62	42.6	4.6	42.6	42.6	35.3	28.2	21.1	14.0	37.8	5.2	37.8	37.8	31.9	25.0	18.1	11.1	
1800	77	53.1	4.5	43.3	26.4	17.8	-	-	-	47.2	5.1	43.2	26.7	15.9	-	-	-	
	72	48.8	4.5	43.9	35.4	27.0	18.5	-	-	43.1	5.1	41.1	32.8	24.6	16.3	-	-	
	67	44.4	4.6	44.4	44.4	36.1	27.7	19.3	-	39.0	5.2	39.0	39.0	33.2	25.0	16.7	-	
	62	43.7	4.6	43.7	43.7	38.9	30.4	22.0	13.6	38.9	5.2	38.9	38.9	35.4	27.1	18.9	10.6	
2100	77	54.5	4.5	49.6	32.9	19.4	-	-	-	48.5	5.1	46.5	33.2	17.5	-	-	-	
	72	50.0	4.5	47.6	39.2	29.4	19.7	-	-	44.2	5.1	44.0	36.6	27.0	17.4	-	-	
	67	45.6	4.6	45.6	45.6	39.4	29.7	19.9	-	40.0	5.2	40.0	40.0	36.5	26.9	17.3	-	
	62	44.8	4.6	44.8	44.8	42.4	32.6	22.9	13.1	39.9	5.2	39.9	39.9	38.9	29.3	19.7	10.1	
2400	77	55.9	4.5	55.9	39.3	21.1	-	-	-	49.7	5.1	49.7	39.6	19.1	-	-	-	
	72	51.3	4.5	51.3	43.0	31.9	20.8	-	-	45.4	5.1	45.4	40.3	29.4	18.5	-	-	
	67	46.7	4.6	46.7	46.7	42.7	31.6	20.5	-	41.1	5.2	41.1	41.1	39.8	28.8	17.9	-	
	62	46.0	4.6	46.0	46.0	46.0	34.8	23.7	12.6	41.0	5.2	41.0	41.0	41.0	31.4	20.5	9.5	
2700	77	57.2	4.5	57.2	45.9	33.4	20.9	-	-	46.6	5.1	46.6	42.8	30.5	18.2	-	-	
	72	52.3	4.6	52.3	47.6	44.7	32.3	19.8	-	42.2	5.1	42.2	42.2	41.3	29.0	16.6	-	
	67	47.6	4.6	47.6	46.9	46.9	34.4	22.0	9.5	42.0	5.2	42.0	42.0	42.0	30.4	18.1	5.8	
	62	46.9	4.6	46.9	46.9	47.0	34.5	22.0	9.6	43.7	5.1	43.7	43.7	42.7	30.4	18.1	5.7	
3000	72	53.3	4.5	53.3	48.7	34.9	21.1	-	-	47.8	5.1	47.8	45.3	31.6	17.9	-	-	
	67	48.5	4.5	48.5	48.5	46.8	33.0	19.2	-	43.3	5.1	43.3	43.3	42.8	29.1	15.4	-	
	62	47.8	4.6	47.8	47.8	47.8	34.0	20.2	6.4	43.1	5.1	43.1	43.1	43.1	29.4	15.7	2.0	
	57	49.0	4.5	49.0	49.0	49.0	35.2	21.4	7.6	44.8	5.1	44.8	44.8	44.8	31.1	17.4	3.7	

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.



## ZT150 (12.5 ton) 2nd stage cooling (continued)

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				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	105.9	8.9	44.6	40.1	29.6	-	-	-	95.6	10.1	42.3	35.8	26.2	-	-	-
	72	97.1	9.0	64.9	54.4	44.0	33.5	-	-	87.6	10.2	61.0	50.6	40.2	29.8	-	-
	67	88.3	9.1	85.2	68.8	58.3	47.8	37.4	-	79.6	10.3	79.6	64.6	54.2	43.8	33.4	-
	62	84.6	9.2	84.6	82.0	66.2	55.7	45.2	34.8	77.5	10.3	77.5	74.9	59.2	48.8	38.5	28.1
2700	77	108.9	8.9	57.1	44.9	32.7	-	-	-	98.4	10.1	56.0	41.3	29.2	-	-	-
	72	99.8	9.0	72.9	60.7	48.5	36.3	-	-	90.1	10.2	68.9	56.8	44.7	32.6	-	-
	67	90.8	9.1	88.8	76.6	64.4	52.2	40.0	-	81.9	10.3	81.9	72.4	60.2	48.1	36.0	-
	62	87.0	9.2	87.0	85.2	73.0	60.8	48.7	36.5	79.7	10.3	79.7	78.0	65.9	53.7	41.6	29.5
3150	77	111.9	9.0	69.5	49.7	35.8	-	-	-	101.1	10.1	69.7	46.7	32.1	-	-	-
	72	102.6	9.0	80.9	67.0	53.1	39.2	-	-	92.6	10.2	76.9	63.1	49.2	35.3	-	-
	67	93.3	9.1	92.3	84.3	70.4	56.5	42.6	-	84.2	10.3	84.2	80.1	66.3	52.4	38.5	-
	62	89.4	9.2	89.4	88.5	79.9	66.0	52.1	38.2	81.9	10.3	81.9	81.1	72.5	58.6	44.8	30.9
3600	77	114.9	9.0	82.0	54.5	38.8	-	-	-	103.8	10.2	83.4	52.1	35.0	-	-	-
	72	105.4	9.0	88.9	73.3	57.6	42.0	-	-	95.1	10.2	84.9	69.3	53.7	38.1	-	-
	67	95.8	9.1	95.8	92.1	76.4	60.8	45.2	-	86.5	10.3	86.5	86.5	72.3	56.7	41.1	-
	62	91.8	9.2	91.8	91.8	86.8	71.1	55.5	39.9	84.2	10.4	84.2	84.2	79.2	63.5	47.9	32.3
4050	77	106.5	9.0	96.1	78.9	61.8	44.7	-	-	95.8	10.2	91.9	74.8	57.7	40.6	-	-
	72	96.8	9.1	96.8	95.0	82.0	64.9	47.8	-	87.0	10.3	87.0	87.0	77.7	60.6	43.5	-
	67	92.8	9.1	92.8	92.8	90.3	73.1	56.0	38.9	84.7	10.3	84.7	84.7	82.2	65.1	48.0	30.9
	62	93.2	9.2	93.2	93.2	90.4	73.3	56.2	39.1	85.1	10.4	85.1	85.1	82.3	65.2	48.1	31.0
4500	72	107.6	9.0	103.2	84.6	66.0	47.4	-	-	96.4	10.1	96.4	80.3	61.7	43.1	-	-
	67	97.8	9.0	97.8	97.8	87.6	69.0	50.4	-	87.6	10.2	87.6	87.6	83.1	64.5	45.9	-
	62	93.8	9.1	93.8	93.8	93.8	75.2	56.6	37.9	85.3	10.2	85.3	85.3	85.3	66.7	48.1	29.5
	57	94.2	9.1	94.2	94.2	94.2	75.6	57.0	38.4	85.6	10.3	85.6	85.6	85.6	67.0	48.4	29.8

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.



## ZT150 (12.5 ton) 3rd stage cooling (continued)

Air on evaporator coil		Temperature of air on condenser coil																	
		CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
						Return dry bulb (°F)								Return dry bulb (°F)					
						90	85	80	75	70	65			90	85	80	75	70	65
115°F										125°F									
3125	77	147.7	12.0	60.5	53.0	39.1	-	-	-	136.3	13.3	53.1	48.5	34.6	-	-	-		
	72	136.8	11.9	88.5	74.6	60.7	46.8	-	-	126.4	13.1	83.7	69.8	55.9	42.0	-	-		
	67	125.8	11.7	116.5	96.2	82.3	68.4	54.5	-	116.4	13.0	114.3	91.1	77.2	63.4	49.5	-		
	62	122.4	11.7	122.4	116.4	95.5	81.6	67.7	53.8	115.8	13.0	115.8	108.7	88.0	74.1	60.2	46.3		
3750	77	150.2	12.0	74.3	58.6	42.8	-	-	-	137.9	13.2	69.4	53.8	38.1	-	-	-		
	72	139.0	11.8	98.0	82.2	66.5	50.7	-	-	127.8	13.1	92.9	77.2	61.5	45.8	-	-		
	67	127.9	11.7	121.7	105.9	90.2	74.4	58.7	-	117.8	13.0	116.3	100.6	85.0	69.3	53.6	-		
	62	124.4	11.7	124.4	120.4	104.6	88.9	73.1	57.4	117.2	12.9	117.2	112.5	96.8	81.1	65.4	49.7		
57	124.7	11.7	124.7	119.5	103.7	87.9	72.2	56.4	116.7	12.9	116.7	110.9	95.2	79.5	63.8	48.1			
4375	77	152.6	11.9	88.1	64.1	46.5	-	-	-	139.4	13.2	85.8	59.0	41.6	-	-	-		
	72	141.3	11.8	107.5	89.9	72.3	54.7	-	-	129.3	13.1	102.1	84.6	67.1	49.6	-	-		
	67	130.0	11.7	126.8	115.6	98.0	80.4	62.8	-	119.1	12.9	118.4	110.2	92.7	75.2	57.7	-		
	62	126.4	11.7	126.4	124.4	113.8	96.2	78.6	61.0	118.6	12.9	118.6	116.2	105.6	88.1	70.6	53.1		
57	126.7	11.6	126.7	124.1	112.7	95.1	77.5	59.9	118.0	12.9	118.0	115.1	103.9	86.4	68.9	51.4			
5000	77	155.0	11.9	101.9	69.7	50.3	-	-	-	141.0	13.2	102.2	64.3	45.0	-	-	-		
	72	143.5	11.8	116.9	97.5	78.1	58.6	-	-	130.7	13.0	111.3	92.0	72.7	53.4	-	-		
	67	132.0	11.7	132.0	125.3	105.9	86.4	67.0	-	120.5	12.9	120.5	119.7	100.4	81.1	61.8	-		
	62	128.4	11.6	128.4	128.4	122.9	103.4	84.0	64.6	120.0	12.9	120.0	120.0	114.4	95.1	75.8	56.5		
57	128.7	11.6	128.7	128.7	121.8	102.3	82.9	63.5	119.4	12.8	119.4	119.4	112.6	93.3	74.0	54.7			
5625	72	144.9	11.8	125.4	104.4	83.4	62.3	-	-	131.6	13.1	119.7	98.8	77.8	56.9	-	-		
	67	133.3	11.7	133.3	129.9	113.1	92.0	71.0	-	121.3	12.9	121.3	121.3	107.4	86.5	65.5	-		
	62	129.6	11.7	129.6	129.6	126.8	105.8	84.8	63.8	120.8	12.9	120.8	120.8	118.0	97.1	76.1	55.2		
	57	129.9	11.6	129.9	129.9	126.5	105.4	84.4	63.4	120.2	12.9	120.2	120.2	116.8	95.8	74.9	53.9		
6250	72	146.2	11.8	133.9	111.3	88.7	66.1	-	-	132.5	13.1	128.1	105.5	82.9	60.3	-	-		
	67	134.5	11.7	134.5	134.5	120.2	97.6	75.0	-	122.1	13.0	122.1	122.1	114.5	91.9	69.3	-		
	62	130.8	11.7	130.8	130.8	130.8	108.2	85.6	63.0	121.6	12.9	121.6	121.6	121.6	99.0	76.4	53.8		
	57	131.1	11.7	131.1	131.1	131.1	108.5	85.9	63.3	121.0	12.9	121.0	121.0	121.0	98.4	75.8	53.2		

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.





## ZT078 (6.5 ton) reheat (continued)

Air on evaporator coil		Temperature of air on condenser coil																	
		Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)							
Return dry bulb (°F)						Return dry bulb (°F)													
90	85			80	75	70	65	90	85			80	75	70	65				
		75°F									85°F								
1625	77	37.6	3.1	4.7	2.8	1.0	-	-	-	34.4	3.2	4.6	2.9	1.3	-	-	-		
	72	32.5	2.9	9.8	8.0	6.1	4.3	-	-	28.9	3.1	8.7	7.1	5.4	3.8	-	-		
	67	27.3	2.8	15.0	13.1	11.3	9.5	7.6	-	23.4	3.0	12.8	11.2	9.6	7.9	6.3	-		
	62	23.8	2.8	22.6	18.8	15.0	13.1	11.3	9.4	20.0	2.9	20.0	17.5	13.0	11.4	9.7	8.1		
1950	77	39.5	3.0	6.3	3.8	1.2	-	-	-	35.6	3.2	6.2	3.9	1.7	-	-	-		
	72	34.0	2.9	12.9	10.3	7.8	5.3	-	-	29.9	3.1	11.5	9.2	7.0	4.7	-	-		
	67	28.6	2.8	19.4	16.9	14.4	11.8	9.3	-	24.1	3.0	16.8	14.6	12.3	10.0	7.8	-		
	62	24.9	2.7	24.1	21.6	19.0	16.5	14.0	11.4	20.6	2.9	20.6	19.0	16.7	14.5	12.2	9.9		
	57	23.6	2.6	23.1	20.6	18.0	15.5	13.0	10.4	19.7	2.8	19.7	17.5	15.3	13.0	10.8	8.5		
2275	77	41.3	3.0	7.9	4.7	1.5	-	-	-	36.8	3.1	7.8	4.9	2.0	-	-	-		
	72	35.6	2.9	15.9	12.7	9.5	6.3	-	-	30.8	3.0	14.3	11.4	8.5	5.6	-	-		
	67	29.9	2.8	23.9	20.7	17.5	14.2	11.0	-	24.9	2.9	20.8	17.9	15.0	12.1	9.3	-		
	62	26.1	2.7	25.7	24.4	23.1	19.9	16.7	13.5	21.3	2.9	21.3	20.5	20.4	17.5	14.7	11.8		
	57	24.7	2.6	24.4	23.2	21.9	18.7	15.5	12.2	20.3	2.7	20.3	19.3	18.7	15.8	12.9	10.0		
2600	77	43.1	2.9	9.6	5.7	1.8	-	-	-	38.0	3.1	9.4	5.9	2.4	-	-	-		
	72	37.2	2.8	19.0	15.1	11.2	7.2	-	-	31.8	3.0	17.1	13.6	10.1	6.6	-	-		
	67	31.2	2.7	28.4	24.5	20.5	16.6	12.7	-	25.7	2.9	24.7	21.2	17.7	14.2	10.7	-		
	62	27.2	2.7	27.2	27.2	27.2	23.3	19.4	15.5	21.9	2.9	21.9	21.9	21.9	20.6	17.1	13.6		
	57	25.8	2.6	25.8	25.8	25.8	21.9	18.0	14.1	21.0	2.7	21.0	21.0	21.0	18.5	15.0	11.5		
2925	72	37.7	2.8	22.3	17.7	13.0	8.4	-	-	32.0	2.9	20.9	16.5	12.2	7.8	-	-		
	67	31.7	2.7	30.2	28.3	24.0	19.4	14.8	-	25.8	2.8	25.7	25.3	21.6	17.2	12.8	-		
	62	27.6	2.6	27.6	27.6	27.6	23.0	18.4	13.7	22.0	2.8	22.0	22.0	22.0	18.7	14.4	10.0		
	57	26.1	2.5	26.1	26.1	26.1	21.5	16.9	12.3	21.0	2.7	21.0	21.0	21.0	17.2	12.9	8.5		
3250	72	38.2	2.7	25.6	20.3	14.9	9.6	-	-	32.1	2.9	24.7	19.5	14.3	9.1	-	-		
	67	32.1	2.6	32.1	32.1	27.5	22.2	16.9	-	25.9	2.8	25.9	25.9	25.4	20.2	15.0	-		
	62	28.0	2.5	28.0	28.0	28.0	22.6	17.3	12.0	22.1	2.7	22.1	22.1	22.1	16.9	11.7	6.5		
	57	26.5	2.5	26.5	26.5	26.5	21.2	15.8	10.5	21.1	2.6	21.1	21.1	21.1	15.9	10.7	5.5		

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.



## ZT090 (7.5 ton) reheat (continued)

Air on evaporator coil		Temperature of air on condenser coil																	
		Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)							
				Return dry bulb (°F)								Return dry bulb (°F)							
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65		
		75°F									85°F								
1875	77	50.1	2.8	8.1	5.0	2.0	-	-	-	45.3	3.0	5.1	4.1	1.4	-	-	-		
	72	44.3	2.7	15.3	12.3	9.2	6.2	-	-	39.2	2.9	12.9	10.2	7.5	4.7	-	-		
	67	38.5	2.6	22.6	19.5	16.5	13.4	10.4	-	33.2	2.8	19.0	16.3	13.5	10.8	8.1	-		
	62	34.7	2.6	31.9	25.9	20.2	17.2	14.1	11.1	29.9	2.8	25.7	19.5	14.5	11.8	9.0	6.3		
2250	77	51.9	2.8	10.6	6.6	2.5	-	-	-	47.2	3.0	9.5	5.7	2.0	-	-	-		
	72	45.9	2.7	19.9	15.9	11.9	7.8	-	-	40.9	2.9	17.9	14.1	10.4	6.6	-	-		
	67	39.8	2.6	29.2	25.2	21.2	17.2	13.1	-	34.5	2.8	26.3	22.5	18.7	15.0	11.2	-		
	62	36.0	2.5	34.1	30.0	26.0	22.0	18.0	13.9	31.2	2.8	28.3	24.3	20.5	16.7	13.0	9.2		
2625	77	53.6	2.7	13.1	8.1	3.1	-	-	-	49.1	2.9	13.9	7.4	2.6	-	-	-		
	72	47.4	2.6	24.5	19.5	14.5	9.5	-	-	42.5	2.9	22.9	18.0	13.2	8.4	-	-		
	67	41.2	2.5	35.9	30.9	25.9	20.9	15.9	-	35.9	2.8	33.5	28.7	23.9	19.1	14.3	-		
	62	37.2	2.5	36.2	34.2	31.8	26.8	21.8	16.8	32.4	2.8	31.0	29.0	26.5	21.7	16.9	12.1		
3000	77	55.4	2.7	15.6	9.6	3.7	-	-	-	50.9	2.9	18.3	9.0	3.1	-	-	-		
	72	49.0	2.6	29.1	23.1	17.1	11.2	-	-	44.1	2.8	27.8	22.0	16.1	10.3	-	-		
	67	42.5	2.5	42.5	36.6	30.6	24.7	18.7	-	37.3	2.7	37.3	35.0	29.1	23.2	17.4	-		
	62	38.4	2.5	38.4	38.4	37.6	31.6	25.7	19.7	33.7	2.8	33.7	33.7	32.5	26.6	20.8	14.9		
3375	77	57.0	2.7	17.1	10.1	4.1	-	-	-	53.0	2.9	19.8	10.0	3.1	-	-	-		
	72	50.6	2.6	30.6	24.6	18.6	12.6	-	-	46.6	2.8	29.6	23.6	17.6	11.6	-	-		
	67	42.7	2.5	42.7	39.7	34.4	27.6	20.9	-	37.0	2.7	37.0	37.0	32.8	25.9	19.1	-		
	62	38.6	2.5	38.6	38.6	38.2	31.4	24.6	17.9	33.4	2.7	33.4	33.4	32.8	26.0	19.1	12.3		
3750	77	60.6	2.7	19.1	11.1	4.1	-	-	-	58.0	2.9	21.8	11.0	3.1	-	-	-		
	72	54.2	2.6	32.6	26.6	20.6	14.6	-	-	51.6	2.8	31.8	25.8	19.8	13.8	-	-		
	67	42.9	2.5	42.9	42.9	38.2	30.6	23.0	-	36.6	2.7	36.6	36.6	36.4	28.6	20.8	-		
	62	38.7	2.5	38.7	38.7	38.7	31.1	23.6	16.0	33.1	2.7	33.1	33.1	33.1	25.3	17.5	9.7		
3750	77	60.6	2.7	19.1	11.1	4.1	-	-	-	58.0	2.9	21.8	11.0	3.1	-	-	-		
	72	54.2	2.6	32.6	26.6	20.6	14.6	-	-	51.6	2.8	31.8	25.8	19.8	13.8	-	-		
	67	42.9	2.5	42.9	42.9	38.2	30.6	23.0	-	36.6	2.7	36.6	36.6	36.4	28.6	20.8	-		
	62	38.7	2.5	38.7	38.7	38.7	31.1	23.6	16.0	33.1	2.7	33.1	33.1	33.1	25.3	17.5	9.7		
3750	77	60.6	2.7	19.1	11.1	4.1	-	-	-	58.0	2.9	21.8	11.0	3.1	-	-	-		
	72	54.2	2.6	32.6	26.6	20.6	14.6	-	-	51.6	2.8	31.8	25.8	19.8	13.8	-	-		
	67	42.9	2.5	42.9	42.9	38.2	30.6	23.0	-	36.6	2.7	36.6	36.6	36.4	28.6	20.8	-		
	62	38.7	2.5	38.7	38.7	38.7	31.1	23.6	16.0	33.1	2.7	33.1	33.1	33.1	25.3	17.5	9.7		
3750	77	60.6	2.7	19.1	11.1	4.1	-	-	-	58.0	2.9	21.8	11.0	3.1	-	-	-		
	72	54.2	2.6	32.6	26.6	20.6	14.6	-	-	51.6	2.8	31.8	25.8	19.8	13.8	-	-		
	67	42.9	2.5	42.9	42.9	38.2	30.6	23.0	-	36.6	2.7	36.6	36.6	36.4	28.6	20.8	-		
	62	38.7	2.5	38.7	38.7	38.7	31.1	23.6	16.0	33.1	2.7	33.1	33.1	33.1	25.3	17.5	9.7		
3750	77	60.6	2.7	19.1	11.1	4.1	-	-	-	58.0	2.9	21.8	11.0	3.1	-	-	-		
	72	54.2	2.6	32.6	26.6	20.6	14.6	-	-	51.6	2.8	31.8	25.8	19.8	13.8	-	-		
	67	42.9	2.5	42.9	42.9	38.2	30.6	23.0	-	36.6	2.7	36.6	36.6	36.4	28.6	20.8	-		
	62	38.7	2.5	38.7	38.7	38.7	31.1	23.6	16.0	33.1	2.7	33.1	33.1	33.1	25.3	17.5	9.7		

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.



## ZT102 (8.5 ton) reheat (continued)

Air on evaporator coil		Temperature of air on condenser coil															
		Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F									85°F						
2125	77	49.7	3.3	32.2	22.4	17.5	-	-	-	47.3	3.5	34.3	24.5	17.4	-	-	-
	72	45.0	3.3	36.3	31.4	26.5	21.5	-	-	41.9	3.5	35.4	30.5	25.6	20.7	-	-
	67	40.4	3.2	40.4	40.4	35.4	30.5	25.5	-	36.5	3.5	36.5	36.5	33.7	28.8	23.9	-
	62	39.0	3.2	39.0	39.0	35.8	30.8	25.9	21.0	35.3	3.4	35.3	35.3	33.2	28.3	23.4	18.5
2550	77	51.3	3.3	35.9	25.2	18.6	-	-	-	48.9	3.5	38.4	27.6	18.7	-	-	-
	72	46.5	3.3	38.8	33.5	28.1	22.8	-	-	43.3	3.5	38.0	32.7	27.3	21.9	-	-
	67	41.7	3.2	41.7	41.7	37.6	32.3	27.0	-	37.7	3.5	37.7	37.7	35.9	30.6	25.2	-
	62	40.3	3.2	40.3	40.3	38.0	32.7	27.4	22.0	36.5	3.4	36.5	36.5	35.5	30.1	24.7	19.3
57	38.6	3.2	38.6	38.6	36.6	31.3	26.0	20.6	34.7	3.4	34.7	34.7	33.3	27.9	22.5	17.1	
2975	77	53.0	3.3	39.6	28.1	19.7	-	-	-	50.6	3.5	42.4	30.7	19.9	-	-	-
	72	48.0	3.3	41.3	35.6	29.8	24.1	-	-	44.8	3.5	40.7	34.9	29.0	23.2	-	-
	67	43.1	3.2	43.1	43.1	39.9	34.1	28.4	-	39.0	3.5	39.0	39.0	38.2	32.3	26.5	-
	62	41.6	3.2	41.6	41.6	40.3	34.6	28.8	23.0	37.8	3.4	37.8	37.8	37.7	31.9	26.0	20.1
57	39.8	3.2	39.8	39.8	38.8	33.1	27.3	21.6	35.9	3.4	35.9	35.9	35.4	29.5	23.7	17.8	
3400	77	54.6	3.3	43.2	30.9	20.8	-	-	-	52.2	3.5	46.5	33.9	21.2	-	-	-
	72	49.5	3.3	43.8	37.6	31.5	25.3	-	-	46.3	3.5	43.4	37.1	30.7	24.4	-	-
	67	44.4	3.2	44.4	44.4	42.1	36.0	29.8	-	40.3	3.5	40.3	40.3	40.3	34.1	27.8	-
	62	42.9	3.2	42.9	42.9	42.6	36.4	30.2	24.1	39.0	3.4	39.0	39.0	39.0	33.6	27.3	20.9
57	41.0	3.2	41.0	41.0	41.0	34.8	28.7	22.5	37.0	3.4	37.0	37.0	37.0	31.2	24.8	18.5	
3825	72	50.8	3.3	46.2	39.7	33.2	26.8	-	-	47.7	3.5	45.8	39.2	32.5	25.8	-	-
	67	45.6	3.3	45.6	45.6	44.5	38.0	31.5	-	41.5	3.5	41.5	41.5	41.5	36.1	29.4	-
	62	44.0	3.2	44.0	44.0	43.9	37.4	30.9	24.5	40.2	3.4	40.2	40.2	40.2	34.0	27.3	20.6
	57	42.1	3.2	42.1	42.1	42.1	35.7	29.2	22.7	38.2	3.4	38.2	38.2	38.2	31.7	25.0	18.4
4250	72	52.2	3.3	48.5	41.7	35.0	28.2	-	-	49.1	3.5	48.2	41.2	34.2	27.2	-	-
	67	46.8	3.3	46.8	46.8	46.8	40.0	33.2	-	42.8	3.5	42.8	42.8	42.8	38.0	31.0	-
	62	45.2	3.2	45.2	45.2	45.2	38.4	31.6	24.9	41.4	3.4	41.4	41.4	41.4	34.4	27.3	20.3
	57	43.2	3.2	43.2	43.2	43.2	36.5	29.7	22.9	39.3	3.4	39.3	39.3	39.3	32.3	25.3	18.3

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.



## ZT120 (10 ton) reheat (continued)

Air on evaporator coil		Temperature of air on condenser coil															
		Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
				75°F								85°F					
2500	77	60.6	4.3	-	-	-	-	-	-	57.8	4.5	-	-	-	-	-	
	72	53.9	4.1	6.5	4.5	2.4	0.3	-	-	50.2	4.3	3.6	1.9	0.2	-	-	
	67	47.1	3.9	18.8	16.7	14.6	12.5	10.5	-	42.7	4.2	15.1	13.4	11.7	10.0	8.3	
	62	43.2	3.8	31.9	27.3	22.7	20.6	18.6	16.5	39.2	4.1	27.4	23.4	18.5	16.8	15.1	
3000	77	62.1	4.2	-7.1	-10.1	-13.2	-	-	-	58.6	4.4	-	-	-	-	-	
	72	55.1	4.0	9.4	6.3	3.2	0.1	-	-	50.9	4.3	6.1	3.4	0.7	-2.1	-	
	67	48.2	3.8	25.8	22.7	19.6	16.6	13.5	-	43.2	4.1	22.2	19.5	16.7	14.0	11.3	
	62	44.2	3.8	36.7	33.6	30.5	27.5	24.4	21.3	39.7	4.0	31.9	29.1	26.4	23.7	21.0	
57	41.2	3.8	34.7	31.6	28.5	25.4	22.4	19.3	36.3	4.0	28.8	26.1	23.4	20.7	17.9		
3500	77	63.5	4.2	-	-	-	-	-	-	59.4	4.4	-	-	-	-	-	
	72	56.4	4.0	12.2	8.1	4.0	0.0	-	-	51.6	4.2	8.6	4.8	1.1	-	-	
	67	49.4	3.8	32.8	28.7	24.7	20.6	16.5	-	43.8	4.1	29.3	25.6	21.8	18.1	14.3	
	62	45.2	3.7	41.5	39.9	38.3	34.3	30.2	26.1	40.2	4.0	36.3	34.9	34.4	30.7	26.9	
57	42.1	3.7	38.9	37.3	35.8	31.7	27.6	23.6	36.7	4.0	33.0	31.6	30.6	26.8	23.1		
4000	77	64.9	4.1	-	-	-	-	-	-	60.2	4.3	-	-	-	-	-	
	72	57.7	3.9	15.0	9.9	4.8	-0.2	-	-	52.2	4.2	11.1	6.3	1.5	-	-	
	67	50.5	3.7	39.8	34.7	29.7	24.6	19.5	-	44.3	4.0	36.4	31.7	26.9	22.1	17.4	
	62	46.3	3.7	46.3	46.3	46.2	41.1	36.0	30.9	40.7	3.9	40.7	40.7	40.7	37.6	32.8	
57	43.1	3.7	43.1	43.1	43.1	38.0	32.9	27.9	37.2	3.9	37.2	37.2	37.2	33.0	28.2		
4500	72	59.1	3.9	17.3	11.4	5.6	-	-	-	53.6	4.1	13.2	7.6	2.0	-	-	
	67	51.7	3.7	46.1	40.3	34.4	28.6	22.8	-	45.5	4.0	43.1	37.5	31.9	26.3	20.7	
	62	47.4	3.7	47.4	47.4	47.3	41.5	35.7	29.9	41.8	3.9	41.8	41.8	41.8	37.0	31.4	
	57	44.1	3.7	44.1	44.1	44.1	38.3	32.5	26.7	38.1	3.9	38.1	38.1	38.1	32.8	27.2	
5000	72	60.5	3.9	19.5	13.0	6.4	-	-	-	55.0	4.1	15.3	8.9	2.5	-	-	
	67	52.9	3.7	52.3	45.8	39.2	32.7	26.1	-	46.6	4.0	46.6	43.4	37.0	30.5	24.1	
	62	48.5	3.6	48.5	48.5	48.5	41.9	35.4	28.8	42.9	3.9	42.9	42.9	42.9	36.4	30.0	
	57	45.2	3.6	45.2	45.2	45.2	38.6	32.1	25.5	39.1	3.9	39.1	39.1	39.1	32.7	26.2	

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.





**ZT150 (12.5 ton) reheat (continued)**

Air on evaporator coil		Temperature of air on condenser coil															
CFM	WB (°F)	Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)						Total capacity <sup>1</sup> (MBh)	Total input (kW) <sup>2</sup>	Sensible capacity (MBh)					
				Return dry bulb (°F)								Return dry bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								85°F							
3125	77	71.4	5.3	-	-	-	-	-	-	66.4	5.7	-	-	-	-	-	-
	72	65.9	5.1	10.5	7.5	4.6	1.6	-	-	61.0	5.5	9.2	6.6	4.0	1.5	-	-
	67	60.3	5.0	25.8	22.9	19.9	17.0	14.0	-	55.6	5.4	20.9	18.3	15.8	13.2	10.6	-
	62	57.9	5.0	38.1	33.3	30.3	27.4	24.4	21.5	53.4	5.3	29.7	25.0	22.4	19.9	17.3	14.7
3750	77	74.1	5.2	-	-	-	-	-	-	69.6	5.6	-	-	-	-	-	-
	72	68.3	5.1	13.4	9.7	6.0	2.3	-	-	63.9	5.5	12.8	9.3	5.7	2.2	-	-
	67	62.6	5.0	33.3	29.6	25.9	22.2	18.5	-	58.2	5.3	29.9	26.4	22.9	19.4	15.9	-
	62	60.1	4.9	46.9	43.1	39.4	35.7	32.0	28.3	56.0	5.3	40.1	36.6	33.1	29.6	26.1	22.6
	57	58.4	4.9	48.6	44.9	41.2	37.5	33.7	30.0	54.9	5.3	41.6	38.0	34.5	31.0	27.5	24.0
4375	77	76.8	5.2	-	-	-	-	-	-	72.8	5.6	-	-	-	-	-	-
	72	70.8	5.1	16.3	11.8	7.3	2.9	-	-	66.8	5.4	16.3	11.9	7.4	3.0	-	-
	67	64.9	4.9	40.9	36.4	31.9	27.4	23.0	-	60.9	5.3	38.9	34.5	30.0	25.6	21.1	-
	62	62.3	4.9	55.7	53.0	48.5	44.1	39.6	35.1	58.5	5.2	50.6	48.2	43.8	39.3	34.9	30.4
	57	60.5	4.9	55.6	53.8	50.7	46.2	41.7	37.2	57.4	5.3	50.7	49.0	45.7	41.2	36.8	32.3
5000	77	79.5	5.2	-	-	-	-	-	-	75.9	5.5	-	-	-	-	-	-
	72	73.3	5.0	19.2	14.0	8.7	3.5	-	-	69.7	5.4	19.9	14.5	9.1	3.8	-	-
	67	67.2	4.9	48.4	43.1	37.9	32.6	27.4	-	63.5	5.2	47.9	42.5	37.2	31.8	26.4	-
	62	64.5	4.8	64.5	62.9	57.6	52.4	47.2	41.9	61.1	5.2	61.1	59.8	54.4	49.1	43.7	38.3
	57	62.6	4.8	62.6	62.6	60.2	54.9	49.7	44.5	59.9	5.2	59.9	59.9	56.8	51.4	46.0	40.7
5250	72	73.1	5.0	20.0	14.5	9.1	3.6	-	-	69.1	5.3	20.6	15.0	9.4	3.9	-	-
	67	67.0	4.9	50.2	44.8	39.3	33.8	28.4	-	62.9	5.2	49.5	43.9	38.3	32.8	27.2	-
	62	64.3	4.8	64.3	63.5	59.8	54.3	48.9	43.4	60.5	5.2	60.5	59.9	56.1	50.5	45.0	39.4
	57	62.4	4.8	62.4	62.4	61.2	55.7	50.3	44.8	59.3	5.2	59.3	59.3	57.8	52.2	46.6	41.1
5500	72	72.9	5.0	20.8	15.1	9.4	3.7	-	-	68.4	5.3	21.3	15.5	9.7	4.0	-	-
	67	66.7	4.8	52.1	46.4	40.7	35.0	29.3	-	62.3	5.2	51.0	45.3	39.5	33.7	28.0	-
	62	64.1	4.8	64.1	64.1	61.9	56.3	50.6	44.9	59.9	5.1	59.9	59.9	57.8	52.0	46.2	40.5
	57	62.2	4.8	62.2	62.2	62.2	56.5	50.9	45.2	58.8	5.1	58.8	58.8	58.8	53.0	47.2	41.5

1. These capacities are gross ratings. For net capacity, deduct the air blower motor, 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.
4. With the operating point determined from steps 1, 2, and 3, locate this point on the appropriate supply air blower performance table. Linear interpolation may be necessary.
5. Note the RPM and BHP from step 4 and locate the appropriate motor and/or drive.
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 the turns open to obtain the desired operation point.

**Example**

1. 2400 CFM
2. 1.6 IWC
3. Using the supply air blower performance table below, the following data point was located: 1230 RPM and 1.62 BHP.
4. Using the RPM selection table below, Size X and Model Y is found.
5. 1.62 BHP exceeds the maximum continuous BHP rating of the 1.5 HP motor. The 2 HP motor is required.
6. 1230 RPM is within the range of the 2 HP drives.
7. Using the 2 HP motor and drive, .5 turns open achieves 1230 RPM.

**Airflow performance**

**Example supply air blower performance**

Air flow (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
	1.5 HP & Field supplied drive						Standard 1.5 HP and drive						Alternate 2 HP & Drive							
2200	804	0.50	866	0.71	925	0.90	982	1.06	1038	1.21	1092	1.35	1147	1.48	1203	1.61	1259	1.73	1317	1.87
2400	835	0.66	897	0.87	956	1.06	1013	1.22	1069	1.37	1124	1.51	1178	1.64	1234	1.77	1290	1.90	1348	2.03
2600	869	0.84	931	1.05	990	1.24	1047	1.40	1103	1.55	1158	1.69	1212	1.82	1268	1.95	1324	2.07	1382	2.21
2800	906	1.03	968	1.25	1027	1.43	1084	1.60	1139	1.75	1194	1.89	1249	2.02	1304	2.14	1361	2.27	-	-

**Example RPM selection**

Size (tons)	Model	Airflow option	HP	Max. BHP	Motor sheave	Blower sheave	6 turns open	5 turns open	4 turns open	3 turns open	2 turns open	1 turn open	Fully closed
X	Y	Std.	1.5	1.73	1VM50	AK74	N/A	897	945	991	1035	1079	1126
		H. Static	2	2.30	1VM50	AK64	N/A	1039	1094	1150	1207	1256	1308

**Example additional static resistance**

Size (tons)	Model	CFM	Cooling only	Economizer	4-in. pleated filter	Electric heat kW					
						3	6	9	15	20	24
X	Y	900	0.05	-0.05	0.01	0.00	0.00	0.00	0.01	0.01	0.01
		1000	0.05	-0.03	0.02	0.00	0.00	0.00	0.02	0.02	0.02
		1100	0.04	-0.02	0.03	0.01	0.01	0.01	0.02	0.02	0.02
		1200	0.04	0.00	0.04	0.01	0.01	0.01	0.02	0.02	0.02
		1300	0.03	0.01	0.05	0.01	0.01	0.01	0.03	0.03	0.03

## Altitude and temperature correction for CFM, static pressure, and power

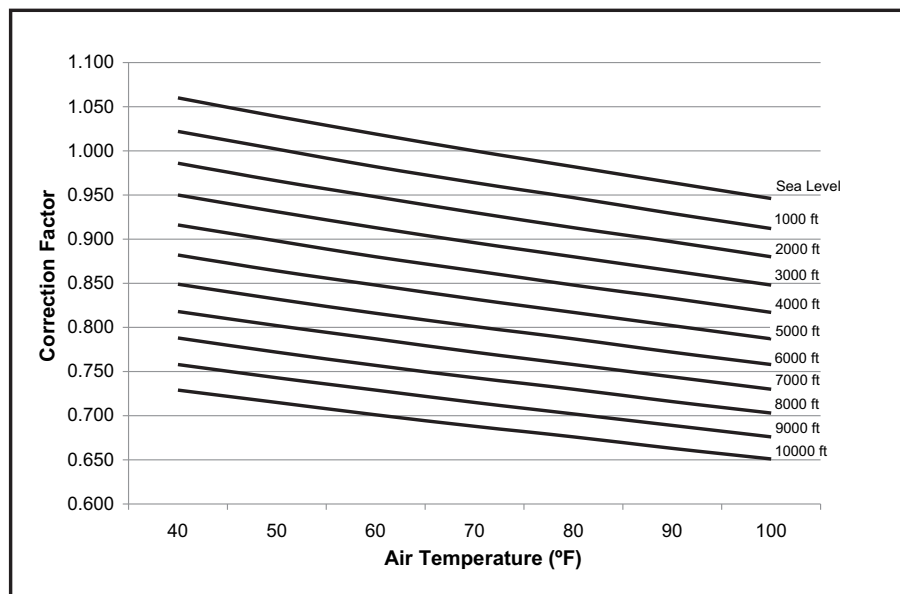
Use the information below to assist in the application of the product at altitudes at or exceeding 1000 feet above sea level.

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 is generated and less power is required than a similar application at sea level. Air density correction factors are shown in the *Altitude and temperature correction factors* table on page 75 and the following figure.

### Altitude and 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



Use the examples below to 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 blower performance data is 6,000 CFM, 1.5 IWC and 4.0 BHP?

**Solution:** At an elevation of 5,000 ft. the indoor blower will still deliver 6,000 CFM if the RPM is unchanged. However, you must use the airflow performance tables to determine the static pressure and BHP. We assume an air temperature of 70°F because no temperature data is given. The *Altitude and temperature correction factors* table on page 75 shows the correction factor to be 0.832.

$$\text{Corrected static pressure} = 1.5 \times 0.832 = 1.248 \text{ IWC}$$

$$\text{Corrected BHP} = 4.0 \times 0.832 = 3.328$$

**Example 2:** A system, located at 5,000 feet of elevation, is to deliver 6,000 CFM at a static pressure of 1.5 in. 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 1.5 in. 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.

$$\text{Sea level static pressure} = 1.5 / .832 = 1.80 \text{ in.}$$

Enter the blower table at 6000 CFM and static pressure of 1.8 in. The RPM listed is the same RPM needed at 5,000 ft. Suppose that the corresponding BHP listed in the table is 3.2. This value must be corrected for elevation.

$$\text{BHP at 5,000 ft.} = 3.2 \times .832 = 2.66$$

$$\text{BHP at 5,000 ft.} = 0.7 \times .832 = 0.58$$

**Indoor blower specifications**

Size (tons)	Model	Airflow option	Motor					Motor sheave			Blower sheave			Belt
			HP	RPM	Eff.	SF	Frame	Datum dia. (in.)	Bore (in.)	Model	Datum dia. (in.)	Bore (in.)	Model	
037 (3)	ZT	Std.	1-1/2	1725	0.86	1.15	56	2.4 - 3.4	7/8	1VL40	7.5	1	AK79	A47
		H. static	1-1/2	1725	0.86	1.15	56	2.4 - 3.4	7/8	1VL40	5.7	1	AK61	A45
049 (4)	ZT	Std.	1-1/2	1725	0.86	1.15	56	1.9 - 2.9	7/8	1VL34	6	1	AK64	A47
		H. static	1-1/2	1725	0.86	1.15	56	2.8 - 3.8	7/8	1VL44	6.5	1	AK69	A47
061 (5)	ZT	Std.	1-1/2	1725	0.86	1.15	56	2.4 - 3.4	7/8	1VL40	5.7	1	AK61	A45
		H. static	2	1725	0.86	1.15	56	3.4 - 4.4	7/8	1VM50	6	1	AK64	A47
078 (6.5)	ZT	Std.	1-1/2	1725	0.8	1.15	56	2.6 - 3.6	7/8	1VL40	7.0	1	AK74	A53
		H. static	2	1725	0.8	1.15	56	3.6 - 4.6	7/8	1VM50	6.0	1	AK74	A54
090 (7.5)	ZT	Std.	1-1/2	1725	0.8	1.15	56	2.6 - 3.6	7/8	1VL40	7.0	1	AK69	A52
		H. static	3	1725	0.8	1.15	56	3.6 - 4.6	7/8	1VM50	5.7	1	AK69	A54
102 (8.5)	ZT	Std.	2	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	9.0	1	AK89	A56
		H. static	3	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A54
120 (10)	ZT	Std.	2	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	8.0	1	AK84	A56
		H. static	3	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A54
150 (12.5)	ZT	Std.	3	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A54
		H. static	5	1725	0.87	1.15	184T	4.3 - 5.3	1-1/8	1VP56	6.7	1	BK77	BX55

**Power exhaust specifications**

Model	Voltage	Motor			Unit (per circuit)			Fuse size	CFM @ 0.1 ESP
		HP	RPM <sup>1</sup>	QTY	LRA	FLA	MCA		
2PE04704706	208/230-1-60	3/4	1075	1	24.9	5	6.3	10	4800
2PE04704746	460-1-60	3/4	1075	1	N/A	2.2	2.8	5	4800
2PE04704758	575-1-60	3/4	1050	1	N/A	1.5	1.9	4	4800

1. Motors are multi-tapped and factory wired for high speed.

**RPM selection**

Size (tons)	Model	Airflow option	HP	Max BHP	Motor sheave	Blower sheave	6 turns open	5 turns open	4 turns open	3 turns open	2 turns open	1 turns open	Fully closed
037 (3)	ZT	Field supplied	1.5	1.5	1VL34	AK79	N/A	465	512	557	606	651	695
		Standard	1.5	1.5	1VL40	AK79	N/A	612	661	707	752	799	844
		High static	1.5	1.5	1VL40	AK61	N/A	782	846	906	968	1022	1085
		Field supplied	1.5	1.5	1VL40	AK54	N/A	896	960	1030	1090	166	1238
049 (4)	ZT	Standard	1.5	1.5	1VL34	AK64	N/A	576	631	688	747	800	859
		High static	1.5	1.5	1VL44	AK69	N/A	792	844	892	944	996	1045
		Field Supplied	1.5	1.5	1VL44	AK59	N/A	915	989	1050	1113	1173	1238
061 (5)	ZT	Field Supplied	1.5	1.5	1VL40	AK79	N/A	609	656	703	746	792	839
		Standard	1.5	1.5	1VL40	AK61	N/A	782	846	906	968	1022	1085
		Field Supplied	2	2	1VL40	AK54	N/A	896	960	1030	1090	1166	1238
078 (6.5)	ZT	High static	2	2	1VM50	AK64	N/A	1022	1079	1135	1190	1246	1297
		Standard	1.5	1.725	1VL40	AK74	N/A	663	713	759	803	840	882
090 (7.5)	ZT	High static	2	2.3	1VM50	AK74	N/A	884	927	977	1025	1074	1121
		Standard	1.5	1.725	1VL40	AK69	N/A	714	761	799	852	905	955
102 (8.5)	ZT	High static	3	3.45	1VM50	AK69	N/A	952	1002	1043	1104	1140	1202
		Standard	2	2.3	1VM50	AK89	N/A	737	775	812	851	889	926
120 (10)	ZT	High static	3	3.45	1VM50	AK74	N/A	903	943	985	1028	1071	1113
		Standard	2	2.3	1VM50	AK84	N/A	781	819	859	897	932	969
150 (12.5)	ZT	High static	3	3.45	1VM50	AK74	N/A	903	943	985	1028	1076	1113
		Standard	3	3.45	1VM50	AK74	N/A	908	955	1003	1049	1094	1142
		High static	5	5.75	1VP56	BK77	1104	1102	1157	1200	1246	1282	1328

## Additional static resistance - ZT037 through 061

Size (tons)	Model	CFM	Cooling only <sup>1</sup>	Economizer <sup>2 3</sup>	4-in. pleated filter <sup>2</sup>	Electric heat kW <sup>2</sup>					
						3	6	9	15	20	24
037 (3)	ZT	900	0.05	-0.05	0.01	0.00	0.00	0.00	0.01	0.01	0.01
		1000	0.05	-0.03	0.02	0.00	0.00	0.00	0.02	0.02	0.02
		1100	0.04	-0.02	0.03	0.01	0.01	0.01	0.02	0.02	0.02
		1200	0.04	0.00	0.04	0.01	0.01	0.01	0.02	0.02	0.02
		1300	0.03	0.01	0.05	0.01	0.01	0.01	0.03	0.03	0.03
		1400	0.03	0.03	0.07	0.02	0.02	0.02	0.03	0.03	0.03
		1500	0.03	0.04	0.08	0.02	0.02	0.02	0.04	0.04	0.04
049 (4) 061 (5)	ZT	1200	-0.01	0.10	0.05	0.01	0.01	0.01	0.02	0.02	0.02
		1300	-0.01	0.11	0.06	0.01	0.01	0.01	0.03	0.03	0.03
		1400	-0.01	0.12	0.06	0.02	0.02	0.02	0.03	0.03	0.03
		1500	-0.01	0.13	0.07	0.02	0.02	0.02	0.04	0.04	0.04
		1600	-0.01	0.14	0.08	0.02	0.02	0.02	0.04	0.04	0.04
		1700	-0.01	0.15	0.08	0.03	0.03	0.03	0.05	0.05	0.05
		1800	-0.02	0.16	0.09	0.03	0.03	0.03	0.05	0.05	0.05
		1900	-0.02	0.17	0.10	0.04	0.04	0.04	0.06	0.06	0.06
		2000	-0.02	0.18	0.10	0.04	0.04	0.04	0.07	0.07	0.07
		2100	-0.03	0.19	0.11	0.05	0.05	0.05	0.07	0.07	0.07
		2200	-0.03	0.20	0.12	0.06	0.06	0.06	0.08	0.08	0.08
		2300	-0.04	0.21	0.12	0.06	0.06	0.06	0.09	0.09	0.09
		2400	-0.04	0.22	0.13	0.07	0.07	0.07	0.10	0.10	0.10
2500	-0.05	0.23	0.14	0.08	0.08	0.08	0.11	0.11	0.11		

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 delivers less CFM during full economizer operation.

## Additional static resistance - ZT078 through 150

Size (tons)	Model	CFM	Cooling only <sup>1</sup>	Reheat coil <sup>2 3</sup>	Economizer <sup>2 3</sup>	4-in. filter <sup>2</sup>	Electric heat kW <sup>2</sup>				
							09	18	24	36	54
078 (6.5) 090 (7.5) 102 (8.5) 120 (10) 150 (12.5)	ZT	1900	0.03	0.07	0.04	0.12	0.05	0.06	0.07	0.08	0.10
		2100	0.04	0.08	0.10	0.13	0.06	0.07	0.08	0.09	0.11
		2300	0.06	0.09	0.17	0.14	0.07	0.08	0.09	0.10	0.13
		2500	0.08	0.10	0.23	0.16	0.08	0.09	0.10	0.11	0.14
		2700	0.10	0.11	0.29	0.17	0.09	0.10	0.12	0.13	0.16
		2900	0.12	0.12	0.34	0.19	0.10	0.11	0.13	0.14	0.18
		3100	0.15	0.13	0.40	0.20	0.12	0.13	0.15	0.16	0.20
		3300	0.17	0.14	0.45	0.22	0.13	0.14	0.17	0.18	0.22
		3500	0.20	0.15	0.51	0.26	0.15	0.16	0.19	0.20	0.24
		3700	0.22	0.17	0.56	0.27	0.17	0.18	0.21	0.22	0.26
		3900	0.25	0.18	0.61	0.29	0.19	0.20	0.23	0.24	0.28
		4100	0.28	0.19	0.66	0.32	0.21	0.22	0.25	0.26	0.31
		4300	0.31	0.20	0.70	0.35	0.23	0.24	0.28	0.29	0.34
		4500	0.34	0.21	0.75	0.38	0.25	0.26	0.30	0.31	0.37
		4700	0.38	0.22	0.79	0.41	0.28	0.29	0.33	0.34	0.40
		4900	0.41	0.24	0.83	0.44	0.30	0.31	0.35	0.37	0.43
		5100	0.45	0.25	0.87	0.47	0.33	0.34	0.38	0.40	0.46
		5300	0.48	0.26	0.91	0.51	0.35	0.37	0.41	0.43	0.49
		5500	0.52	0.27	0.95	0.55	0.38	0.40	0.44	0.46	0.53
		5700	0.56	0.28	0.98	0.58	0.41	0.43	0.47	0.49	0.56
5900	0.60	0.30	1.02	0.62	0.44	0.46	0.50	0.53	0.59		
6100	0.64	0.31	1.05	0.67	0.47	0.49	0.53	0.56	0.62		
6300	0.69	0.32	1.08	0.71	0.50	0.53	0.56	0.59	0.65		

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.

**Gas heat minimum supply air**

Size (tons)	Model	Heat size	Supply air (CFM)	
			Heating	
			Minimum	Maximum
037 (3)	ZT	N06	890	2220
		N08	915	2370
		N12	1130	1800
049 (4)	ZT	N06	890	2220
		N08	915	2370
		N12	1290	2250
061 (5)	ZT	N08	915	2370
		N12	1380	2570
		N16	1580	2630
078 (6.5)	ZT	N12	1950	3250
		N18	1950	3250
090 (7.5)	ZT	N12	2250	3750
		N18	2250	3750
102 (8.5)	ZT	N12	2550	4250
		N18	2550	4250
120 (10)	ZT	N18	3000	5000
		N24	3000	5000
150 (12.5)	ZT	N18	3750	6250
		N24	3750	6250

**Electric heat minimum supply air****3 through 5 tons**

Size (tons)	Model	Voltage	Minimum supply air (CFM)					
			Heater kW					
			3	6	9	15	20	24
037 (3)	ZT	208/230-3-60	960	960	1020	1020	-	-
		460-3-60	980	960	960	960	-	-
		600-3-60	-	-	960	960	-	-
049 (4)	ZT	208/230-3-60	-	1280	1420	1420	1420	-
		460-3-60	-	1400	1400	1400	1400	-
		600-3-60	-	-	1400	1400	1400	-
061 (5)	ZT	208/230-3-60	-	1600	1600	1600	1600	1600
		460-3-60	-	1600	1600	1600	1600	1600
		600-3-60	-	-	1600	1600	1600	1600

**6.5 through 12.5 tons**

Size (tons)	Model	Voltage	Minimum supply air (CFM)				
			Heater kW				
			9	18	24	36	54
078 (6.5)	ZT	208/230-3-60	1950	1950	1950	1950	-
		460-3-60	1950	1950	1950	1950	-
090 (7.5)	ZT	208/230-3-60	1950	1950	1950	1950	-
		460-3-60	2250	2250	2250	2250	-
102 (8.5)	ZT	208/230-3-60	2550	2550	2550	2550	-
		460-3-60	2550	2550	2550	2550	-
120 (10)	ZT	208/230-3-60	-	3000	3000	3000	3500
		460-3-60	-	3000	3000	3000	3000
150 (12.5)	ZT	208/230-3-60	-	3750	3750	3750	4000
		460-3-60	-	3750	3750	3750	3750

# Airflow performance

## ZT037-150 side duct application

### ZT037 (3.0 ton) side duct

Air flow (CFM)	Available external static pressure - IWG <sup>1</sup>																			
	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
	FS <sup>4</sup>				Standard 1.5 HP and drive						High static 1.5 HP and drive				FS <sup>4</sup>					
900	468	0.24	563	0.27	652	0.36	736	0.46	814	0.56	887	0.67	955	0.76	1017	0.87	1074	1.01	1126	1.09
1000	479	0.25	578	0.29	670	0.38	756	0.47	837	0.57	911	0.68	979	0.78	1041	0.89	1098	1.03	1148	1.11
1100	494	0.27	594	0.31	688	0.40	775	0.49	856	0.59	931	0.69	999	0.79	1061	0.90	1117	1.04	1167	1.13
1200	509	0.28	608	0.37	701	0.46	788	0.55	870	0.65	945	0.75	1015	0.85	1078	0.95	1136	1.06	1188	1.17
1300	524	0.30	623	0.39	716	0.48	804	0.58	886	0.68	961	0.78	1032	0.88	1096	0.99	1154	1.09	1207	1.20
1400	540	0.32	639	0.41	732	0.51	819	0.61	901	0.71	977	0.82	1048	0.92	1113	1.03	1172	1.14	1226	1.26
1500	562	0.34	660	0.44	753	0.54	840	0.65	921	0.75	998	0.85	1069	0.96	1135	1.07	1195	1.18	-	-

1. Blower performance includes gas heat exchangers and 2-in. filters. See the static resistance table for additional applications.
2. See the RPM selection table to determine the required motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field supplied drive

### ZT049 (4.0 ton) side duct

Air flow (CFM)	Available external static pressure - IWG <sup>1</sup>																			
	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
					Standard 1.5 HP and drive						High static 1.5 HP and drive				FS <sup>4</sup>					
1200	-	-	618	0.34	695	0.40	783	0.47	864	0.54	940	0.60	983	0.69	1073	0.76	1119	0.88	1178	0.94
1300	-	-	638	0.38	712	0.43	799	0.50	876	0.59	954	0.65	995	0.74	1080	0.81	1130	0.94	1188	1.00
1400	-	-	653	0.40	729	0.46	815	0.54	888	0.63	965	0.72	1007	0.78	1088	0.87	1140	1.00	1198	1.06
1500	574	0.36	666	0.42	747	0.50	831	0.59	900	0.68	975	0.78	1019	0.83	1096	0.92	1151	1.06	1207	1.11
1600	596	0.39	689	0.44	766	0.54	847	0.63	912	0.73	983	0.84	1031	0.88	1103	0.97	1162	1.13	1217	1.18
1700	619	0.43	711	0.49	786	0.58	863	0.68	925	0.79	991	0.89	1043	0.94	1112	1.04	1172	1.19	1227	1.25
1800	643	0.47	734	0.54	808	0.64	878	0.73	936	0.84	998	0.95	1055	1.00	1121	1.10	1183	1.27	1237	1.33
1900	669	0.52	757	0.61	831	0.71	894	0.79	948	0.91	1004	1.00	1067	1.06	1130	1.16	1194	1.35	-	-
2000	697	0.58	779	0.67	856	0.78	910	0.85	960	0.98	1010	1.05	1079	1.13	1140	1.23	-	-	-	-

1. Blower performance includes gas heat exchangers and 2-in. filters. See the static resistance table for additional applications.
2. See the RPM selection table to determine the required motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field supplied drive.

### ZT061 (5.0 ton) side duct

Air flow (CFM)	Available external static pressure - IWG <sup>1</sup>																			
	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
	FS <sup>4</sup>				Standard 1.5 HP and drive						High static 2.0 HP and drive									
1500	-	-	667	0.40	747	0.50	837	0.58	904	0.59	972	0.73	1039	0.88	1096	0.92	1151	1.06	1207	1.11
1600	-	-	689	0.44	766	0.54	844	0.60	917	0.65	982	0.79	1047	0.93	1103	0.97	1162	1.13	1217	1.18
1700	615	0.43	711	0.48	786	0.58	852	0.64	931	0.73	994	0.86	1057	1.00	1112	1.04	1172	1.19	1227	1.25
1800	641	0.48	734	0.53	808	0.64	863	0.68	945	0.80	1006	0.93	1067	1.06	1121	1.10	1183	1.27	1237	1.33
1900	666	0.52	757	0.59	831	0.71	878	0.76	959	0.87	1018	0.99	1077	1.12	1130	1.16	1194	1.35	1246	1.40
2000	692	0.58	781	0.65	842	0.73	914	0.82	973	0.94	1031	1.06	1089	1.19	1140	1.23	1204	1.43	1256	1.49
2100	718	0.64	806	0.73	863	0.75	934	0.88	987	1.01	1044	1.14	1101	1.26	1151	1.31	1215	1.53	1266	1.58
2200	744	0.71	832	0.81	886	0.83	954	0.95	1002	1.09	1059	1.22	1116	1.36	1164	1.40	1226	1.63	1276	1.67
2300	770	0.79	859	0.91	907	0.90	972	1.02	1017	1.16	1074	1.31	1131	1.45	1178	1.50	1236	1.72	1286	1.78
2400	796	0.87	887	1.03	927	0.98	990	1.09	1032	1.24	1091	1.40	1150	1.56	1195	1.62	1247	1.83	1295	1.87
2500	822	0.96	916	1.17	946	1.06	1006	1.17	1047	1.32	1112	1.52	1177	1.73	1219	1.79	1258	1.95	-	-

1. Blower performance includes gas heat exchangers and 2-in. filters. See the static resistance table for additional applications.
2. See the RPM selection table to determine the required motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field supplied drive.

**ZT078 (6.5 ton) side duct**

Air flow (CFM)	Available external static pressure - IWG <sup>1</sup>																			
	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
	Field supplied drive				Standard 1.5 HP and drive						High static 2 HP and drive									
1800	557	0.27	626	0.53	686	0.75	742	0.94	801	1.10	867	1.25	946	1.40	1045	1.56	1167	1.74	1320	1.94
2000	566	0.36	635	0.62	695	0.84	752	1.02	810	1.19	876	1.34	956	1.49	1054	1.65	1177	1.82	1330	2.03
2200	578	0.46	647	0.72	707	0.93	763	1.12	822	1.28	888	1.44	968	1.59	1066	1.74	1189	1.92	1342	2.12
2400	592	0.57	661	0.83	721	1.04	777	1.23	836	1.39	902	1.55	981	1.70	1080	1.85	1203	2.03	1356	2.23
2600	608	0.69	677	0.95	737	1.17	793	1.35	851	1.52	918	1.67	997	1.82	1096	1.98	1218	2.15	1371	2.36
2800	625	0.82	694	1.08	754	1.30	811	1.49	869	1.65	935	1.80	1015	1.95	1113	2.11	1236	2.28	1389	2.49
3000	645	0.96	714	1.23	773	1.44	830	1.63	888	1.79	955	1.94	1034	2.09	1132	2.25	1255	2.43	-	-
3200	666	1.12	735	1.38	794	1.60	851	1.78	909	1.95	976	2.10	1055	2.25	1153	2.40	-	-	-	-
3400	688	1.28	757	1.54	817	1.76	873	1.94	932	2.11	998	2.26	1078	2.41	1176	2.57	-	-	-	-
	2 HP and field supplied drive																			

1. Blower performance includes gas heat exchangers and 2-in. filters. See the static resistance table for additional applications.
2. See the RPM selection table to determine the required motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

**ZT090 (7.5 ton) side duct**

Air flow (CFM)	Available external static pressure - IWG <sup>1</sup>																			
	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
	Field supplied drive				Standard 1.5 HP and drive						High static 3 HP and drive									
2000	620	0.28	680	0.51	737	0.71	791	0.90	844	1.07	897	1.23	952	1.39	1010	1.56	1073	1.74	1142	1.94
2200	626	0.38	686	0.60	743	0.81	797	0.99	850	1.16	903	1.32	958	1.49	1016	1.65	1079	1.83	1148	2.03
2400	632	0.49	693	0.71	750	0.92	804	1.10	856	1.27	910	1.43	964	1.59	1023	1.76	1085	1.94	1154	2.14
2600	640	0.61	701	0.84	758	1.04	812	1.22	864	1.39	917	1.56	972	1.72	1030	1.89	1093	2.07	1162	2.27
2800	650	0.75	711	0.98	767	1.18	821	1.36	874	1.53	927	1.70	982	1.86	1040	2.03	1103	2.21	1172	2.40
3000	662	0.90	723	1.13	779	1.33	833	1.51	886	1.68	939	1.85	994	2.01	1052	2.18	1115	2.36	1184	2.56
3200	677	1.07	737	1.29	794	1.50	848	1.68	901	1.85	954	2.01	1009	2.18	1067	2.34	1130	2.52	1199	2.72
3400	694	1.24	754	1.47	811	1.67	865	1.86	918	2.03	971	2.19	1026	2.35	1084	2.52	1147	2.70	1216	2.90
3600	713	1.43	774	1.66	831	1.86	885	2.05	937	2.22	991	2.38	1045	2.54	1104	2.71	1166	2.89	1235	3.09
3800	736	1.63	796	1.86	853	2.06	907	2.24	960	2.41	1013	2.58	1068	2.74	1126	2.91	1189	3.09	1258	3.29

1. Blower performance includes gas heat exchangers and 2-in. filters. See the static resistance table for additional applications.
2. See the RPM selection table to determine the required motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.



**ZT102 (8.5 ton) side duct**

Air flow (CFM)	Available external static pressure - IWG <sup>1</sup>																			
	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
	Field supplied drive				Standard 2 HP and drive				High static 3 HP and drive											
2200	610	0.39	668	0.66	724	0.87	780	1.05	835	1.21	891	1.35	948	1.49	1009	1.65	1074	1.83	1143	2.05
2400	619	0.49	677	0.76	734	0.98	789	1.16	844	1.31	900	1.46	958	1.60	1018	1.76	1083	1.94	1153	2.16
2600	631	0.61	689	0.88	745	1.10	801	1.28	856	1.43	911	1.58	969	1.72	1030	1.87	1095	2.06	1164	2.28
2800	644	0.74	703	1.01	759	1.23	814	1.41	869	1.56	925	1.71	983	1.85	1044	2.01	1109	2.19	1178	2.41
3000	661	0.89	719	1.16	775	1.38	831	1.56	886	1.71	941	1.85	999	1.99	1060	2.15	1125	2.33	1194	2.55
3200	679	1.05	737	1.32	793	1.53	849	1.71	904	1.87	959	2.01	1017	2.15	1078	2.31	1143	2.49	1212	2.71
3400	698	1.22	757	1.49	813	1.71	868	1.88	923	2.04	979	2.18	1037	2.32	1098	2.48	1162	2.66	1232	2.88
3600	720	1.40	778	1.67	835	1.89	890	2.07	945	2.22	1001	2.37	1059	2.51	1119	2.66	1184	2.85	1254	3.07
3800	743	1.60	802	1.87	858	2.08	913	2.26	968	2.42	1024	2.56	1082	2.70	1143	2.86	1207	3.04	1277	3.26
4000	768	1.81	826	2.07	883	2.29	938	2.47	993	2.63	1049	2.77	1106	2.91	1167	3.07	1232	3.25	-	-
4200	794	2.03	852	2.29	909	2.51	964	2.69	1019	2.85	1075	2.99	1133	3.13	1193	3.29	-	-	-	-

3 HP and field supplied drive

1. Blower performance includes gas heat exchangers and 2-in. filters. See the static resistance table for additional applications.
2. See the RPM selection table to determine the required motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

**ZT120 (10 ton) side duct**

Air flow (CFM)	Available external static pressure - IWG <sup>1</sup>																			
	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
	Field supplied drive				Standard 2 HP and drive				High static 3 HP and drive											
2600	647	0.61	702	0.85	755	1.06	808	1.24	860	1.41	914	1.57	970	1.73	1028	1.90	1091	2.07	1159	2.27
2800	657	0.75	713	0.99	766	1.20	819	1.38	871	1.55	925	1.71	981	1.87	1039	2.04	1102	2.21	1170	2.41
3000	671	0.90	726	1.14	780	1.35	832	1.53	885	1.70	938	1.86	994	2.02	1053	2.19	1116	2.36	1183	2.56
3200	687	1.06	742	1.30	795	1.51	848	1.70	901	1.87	954	2.03	1010	2.19	1069	2.35	1132	2.53	1199	2.72
3400	705	1.24	760	1.48	814	1.69	866	1.87	919	2.04	973	2.20	1028	2.36	1087	2.53	1150	2.70	1218	2.90
3600	726	1.42	781	1.66	835	1.87	887	2.06	940	2.23	993	2.39	1049	2.55	1108	2.71	1171	2.89	1239	3.09
3800	749	1.62	805	1.86	858	2.07	910	2.26	963	2.43	1017	2.59	1072	2.75	1131	2.91	1194	3.09	1262	3.28
4000	775	1.83	830	2.07	883	2.28	936	2.46	989	2.63	1042	2.79	1098	2.95	1157	3.12	1220	3.29	1287	3.49
4200	803	2.04	858	2.28	911	2.49	964	2.68	1016	2.85	1070	3.01	1126	3.17	1185	3.33	1247	3.51	-	-
4400	833	2.27	888	2.51	941	2.72	994	2.90	1046	3.07	1100	3.24	1156	3.39	-	-	-	-	-	-
4600	865	2.50	920	2.74	973	2.95	1026	3.14	1078	3.31	-	-	-	-	-	-	-	-	-	-

3 HP and field supplied drive

1. Blower performance includes gas heat exchangers and 2-in. filters. See the static resistance table for additional applications.
2. See the RPM selection table to determine the required motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

**ZT150 (12.5 ton) side duct**

Air flow (CFM)	Available external static pressure - IWG <sup>1</sup>																			
	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
	Field supplied drive								Standard 3 HP and drive											
3200	736	0.44	774	0.79	816	1.12	861	1.41	910	1.68	960	1.92	1012	2.15	1065	2.36	1118	2.57	1171	2.77
3400	751	0.64	789	1.00	831	1.32	877	1.61	925	1.88	975	2.13	1027	2.35	1080	2.57	1133	2.77	1186	2.98
3600	768	0.87	806	1.22	848	1.55	894	1.84	942	2.11	992	2.35	1044	2.58	1097	2.79	1150	3.00	1203	3.20
3800	787	1.11	825	1.47	867	1.79	913	2.09	961	2.35	1011	2.60	1063	2.83	1116	3.04	1169	3.25	1222	3.45
4000	808	1.38	846	1.74	888	2.06	933	2.35	982	2.62	1032	2.86	1084	3.09	1137	3.31	1190	3.51	1242	3.71
4200	830	1.67	868	2.03	910	2.35	956	2.64	1004	2.91	1054	3.15	1106	3.38	1159	3.59	1212	3.80	1265	4.00
4400	854	1.98	892	2.33	934	2.66	980	2.95	1028	3.21	1078	3.46	1130	3.69	1183	3.90	1236	4.11	1289	4.31
4600	880	2.30	918	2.66	960	2.98	1005	3.28	1053	3.54	1104	3.79	1156	4.01	1209	4.23	1262	4.43	1314	4.64
4800	907	2.65	945	3.01	987	3.33	1032	3.62	1081	3.89	1131	4.13	1183	4.36	1236	4.58	1289	4.78	1341	4.98
5000	935	3.01	973	3.37	1015	3.69	1061	3.99	1109	4.25	1160	4.50	1212	4.73	1264	4.94	1317	5.15	1370	5.35
5200	965	3.40	1003	3.75	1045	4.08	1091	4.37	1139	4.64	1190	4.88	1242	5.11	1294	5.32	1347	5.53	1400	5.73
5400	996	3.80	1034	4.16	1076	4.48	1122	4.77	1170	5.04	1221	5.28	1273	5.51	1326	5.72	-	-	-	-
5600	1029	4.22	1067	4.57	1109	4.90	1155	5.19	1203	5.46	1253	5.70	-	-	-	-	-	-	-	-
5800	1063	4.65	1101	5.01	1143	5.33	1188	5.62	-	-	-	-	-	-	-	-	-	-	-	-
6000	1098	5.10	1136	5.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6200	1134	5.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	High static 5 HP and drive										5 HP and field supplied drive									

1. Blower performance includes gas heat exchangers and 2-in. filters. See the static resistance table for additional applications.
2. See the RPM selection table to determine the required motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.





**ZT120 (10 ton) bottom duct**

Air flow (CFM)	Available external static pressure - IWG <sup>1</sup>																			
	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
	Field supplied drive		Standard 2 HP and drive						High static 3 HP and drive											
2600	742	1.06	782	1.18	828	1.30	880	1.43	936	1.56	993	1.69	1050	1.80	1105	1.91	1157	1.99	1204	2.05
2800	762	1.20	802	1.32	849	1.44	901	1.57	956	1.70	1014	1.83	1071	1.94	1126	2.05	1178	2.13	1224	2.19
3000	785	1.36	825	1.47	872	1.60	924	1.73	979	1.86	1036	1.98	1093	2.10	1149	2.20	1200	2.28	1247	2.35
3200	810	1.52	850	1.64	897	1.76	949	1.89	1004	2.02	1061	2.15	1118	2.27	1173	2.37	1225	2.45	1272	2.51
3400	837	1.71	877	1.82	924	1.95	976	2.08	1031	2.21	1088	2.33	1145	2.45	1200	2.55	1252	2.63	1299	2.70
3600	866	1.90	906	2.02	953	2.14	1005	2.27	1060	2.40	1117	2.53	1174	2.64	1230	2.75	1281	2.83	1328	2.89
3800	897	2.11	937	2.23	984	2.35	1036	2.48	1091	2.61	1148	2.74	1205	2.85	1261	2.96	1313	3.04	1359	3.10
4000	930	2.34	970	2.45	1017	2.58	1069	2.70	1125	2.84	1182	2.96	1239	3.08	1294	3.18	1346	3.26	1392	3.32
4200	966	2.57	1006	2.69	1052	2.81	1104	2.94	1160	3.07	1217	3.20	1274	3.31	1329	3.42	-	-	-	-
4400	1003	2.82	1043	2.94	1089	3.06	1141	3.19	1197	3.32	1254	3.45	-	-	-	-	-	-	-	-
4600	1041	3.08	1082	3.20	1128	3.32	1180	3.45	-	-	-	-	-	-	-	-	-	-	-	-
	3 HP and field supplied drive																			

1. Blower performance includes gas heat exchangers and 2-in. filters. See the static resistance table for additional applications.
2. See the RPM selection table to determine the required motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

**ZT150 (12.5 ton) bottom duct**

Air flow (CFM)	Available external static pressure - IWG <sup>1</sup>																			
	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
	Field supplied drive		Standard 3 HP and drive						High static 5 HP and drive											
3200	829	0.96	870	1.21	914	1.46	960	1.70	1009	1.93	1059	2.15	1111	2.37	1164	2.57	1218	2.76	1273	2.93
3400	853	1.18	894	1.43	938	1.68	984	1.92	1033	2.15	1083	2.38	1135	2.59	1188	2.79	1242	2.98	1297	3.16
3600	879	1.43	920	1.68	964	1.93	1010	2.17	1059	2.40	1109	2.63	1161	2.84	1214	3.04	1268	3.23	1323	3.41
3800	907	1.70	948	1.95	992	2.20	1038	2.44	1087	2.67	1137	2.90	1189	3.11	1242	3.31	1296	3.50	1351	3.68
4000	937	1.99	978	2.25	1022	2.50	1068	2.74	1117	2.97	1167	3.19	1219	3.40	1272	3.61	1326	3.80	1381	3.97
4200	969	2.31	1010	2.57	1054	2.81	1101	3.05	1149	3.29	1200	3.51	1252	3.72	1305	3.93	1359	4.11	1413	4.29
4400	1003	2.65	1045	2.91	1089	3.16	1135	3.40	1184	3.63	1234	3.85	1286	4.06	1339	4.27	1393	4.46	1448	4.63
4600	1040	3.02	1081	3.27	1125	3.52	1171	3.76	1220	3.99	1270	4.22	1322	4.43	1375	4.63	1429	4.82	1484	5.00
4800	1078	3.41	1119	3.66	1163	3.91	1210	4.15	1258	4.38	1309	4.60	1361	4.82	1414	5.02	1468	5.21	1522	5.38
5000	1119	3.82	1160	4.07	1204	4.32	1250	4.56	1299	4.79	1349	5.01	1401	5.23	1454	5.43	1508	5.62	1563	5.79
5200	1161	4.25	1202	4.50	1246	4.75	1293	4.99	1341	5.22	1392	5.45	1443	5.66	-	-	-	-	-	-
5400	1205	4.70	1246	4.95	1290	5.20	1337	5.44	1385	5.67	-	-	-	-	-	-	-	-	-	-
5600	1251	5.17	1292	5.43	1336	5.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5800	1299	5.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5 HP and field supplied drive																			

1. Blower performance includes gas heat exchangers and 2-in. filters. See the static resistance table for additional applications.
2. See the RPM selection table to determine the required motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

## Sound performance

### Indoor sound power levels (3 through 5 ton)

### Indoor sound power levels (horizontal ducted inlet, standard static belt drive)

Unit description/model	ZT037 / 3 ton / standard static belt drive			
Test configuration	Horizontal (side return) ducted inlet			
Indoor blower speed (RPM)	612 - 3 turns open equivalent		709 - 1 turn open equivalent	
External static pressure (IWG)	0.5		0.4	
Airflow (CFM)	850		1300	
Blower motor BHP	0.37		0.40	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)
63	73	77	73	77
125	61	70	66	71
250	56	63	60	64
500	51	56	55	57
1000	44	48	51	52
2000	41	44	48	49
4000	44	47	47	48
8000	42	44	43	44

1. Cooling operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. [Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.](#)
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Unit description/model	ZT049 / 4 ton / standard static belt drive			
Test configuration	Horizontal (side return) ducted inlet			
Indoor blower speed (RPM)	612 - 3 turns open equivalent		709 - 1 turn open equivalent	
External static pressure (IWG)	0.5		0.4	
Airflow (CFM)	850		1300	
Blower motor BHP	0.37		0.40	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)
63	73	77	73	77
125	61	70	66	71
250	56	63	60	64
500	51	56	55	57
1000	44	48	51	52
2000	41	44	48	49
4000	44	47	47	48
8000	42	44	43	44

1. Cooling operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. [Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.](#)
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Unit description/model	ZT061 / 5 ton / standard static belt drive			
Test configuration	Horizontal (side return) ducted inlet			
Indoor blower speed (RPM)	814 - 3 turns open equivalent		918 - 1 turn open equivalent	
External static pressure (IWG)	0.6		0.8	
Airflow (CFM)	1700		1950	
Blower motor BHP	0.42		0.88	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)
63	77	81	85	82
125	71	80	68	81
250	63	67	64	68
500	58	60	60	61
1000	56	57	58	59
2000	52	53	55	55
4000	51	51	54	54
8000	47	47	48	48

1. Cooling operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

### Indoor sound power levels (horizontal ducted discharge, standard static belt drive)

Unit description/model	ZT037 / 3 ton / standard static belt drive			
Test configuration	Horizontal (side supply) ducted discharge			
Indoor blower speed (RPM)	610 - 3 turns open equivalent		710 - 1 turn open equivalent	
External static pressure (IWG)	0.5		0.6	
Airflow (CFM)	850		950	
Blower motor BHP	0.37		0.42	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)
63	77	78	79	79
125	74	75	75	76
250	66	68	70	70
500	61	61	65	64
1000	60	62	65	66
2000	52	52	58	58
4000	52	52	59	60
8000	44	44	50	50

1. Cooling operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Unit description/model	ZT049 / 4 ton / standard static belt drive			
Test configuration	Horizontal (side supply) ducted discharge			
Indoor blower speed (RPM)	610 - 3 turns open equivalent		710 - 1 turn open equivalent	
External static pressure (IWG)	0.5		0.6	
Airflow (CFM)	850		950	
Blower motor BHP	0.37		0.42	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)
63	77	78	79	79
125	74	75	75	76
250	66	68	70	70
500	61	61	65	64
1000	60	62	65	66
2000	52	52	58	58
4000	52	52	59	60
8000	44	44	50	50

1. Cooling operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Unit description/model	ZT061 / 5 ton / standard static belt drive			
Test configuration	Horizontal (side supply) ducted discharge			
Indoor blower speed (RPM)	810 - 3 turns open equivalent		918 - 1 turn open equivalent	
External static pressure (IWG)	0.4		0.8	
Airflow (CFM)	2050		1950	
Blower motor BHP	0.73		0.88	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)
63	85	83	83	83
125	78	79	76	79
250	69	70	69	70
500	68	68	68	68
1000	64	64	65	65
2000	63	63	64	64
4000	64	64	64	64
8000	59	59	59	60

1. Cooling operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.



## Indoor sound power levels (vertical ducted inlet, standard static belt drive)

Unit description/model	ZT037 / 3 ton / standard static belt drive			
Test configuration	Vertical (bottom return) ducted inlet			
Indoor blower speed (RPM)	609 - 3 turns open equivalent		708 - 1 turn open equivalent	
External static pressure (IWG)	0.4		0.4	
Airflow (CFM)	850		1150	
Blower motor BHP	0.32		0.38	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)
63	76	76	74	76
125	63	70	66	70
250	55	62	59	62
500	54	55	58	59
1000	48	48	53	53
2000	44	44	48	48
4000	41	44	45	46
8000	42	43	43	44

1. Differentials for cooling operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Unit description/model	ZT049 / 4 ton / standard static belt drive			
Test configuration	Vertical (bottom return) ducted inlet			
Indoor blower speed (RPM)	609 - 3 turns open equivalent		708 - 1 turn open equivalent	
External static pressure (IWG)	0.4		0.4	
Airflow (CFM)	850		1150	
Blower motor BHP	0.32		0.38	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)
63	76	76	74	76
125	63	70	66	70
250	55	62	59	62
500	54	55	58	59
1000	48	48	53	53
2000	44	44	48	48
4000	41	44	45	46
8000	42	43	43	44

1. Differentials for cooling operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Unit description/model	ZT061 / 5 ton / standard static belt drive			
Test configuration	Vertical (bottom return) ducted inlet			
Indoor blower speed (RPM)	812 - 3 turns open equivalent		915- 1 turn open equivalent	
External static pressure (IWG)	0.6		0.8	
Airflow (CFM)	1575		1800	
Blower motor BHP	0.64		0.83	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)
63	75	78	80	80
125	66	80	69	81
250	59	66	62	65
500	60	60	63	63
1000	57	57	60	60
2000	52	53	55	55
4000	49	50	53	53
8000	44	45	47	47

1. Differentials for cooling operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

### Indoor sound power levels (vertical ducted discharge, standard static belt drive)

Unit description/model	ZT037 / 3 ton / standard static belt drive			
Test configuration	Vertical (bottom supply) ducted discharge			
Indoor blower speed (RPM)	609 - 3 turns open equivalent		712 - 1 turn open equivalent	
External static pressure (IWG)	0.4		0.6	
Airflow (CFM)	850		950	
Blower motor BHP	0.32		0.42	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)
63	76	77	81	81
125	68	68	72	72
250	55	65	57	57
500	56	57	57	57
1000	51	57	52	56
2000	49	49	50	50
4000	48	48	49	51
8000	46	46	47	48

1. Differentials for Cooling operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Unit description/model	ZT049 / 4 ton / standard static belt drive			
Test configuration	Vertical (bottom supply) ducted discharge			
Indoor blower speed (RPM)	609 - 3 turns open equivalent		712 - 1 turn open equivalent	
External static pressure (IWG)	0.4		0.6	
Airflow (CFM)	850		950	
Blower motor BHP	0.32		0.42	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>1</sup> (dB)
63	76	77	81	81
125	68	68	72	72
250	55	65	57	57
500	56	57	57	57
1000	51	57	52	56
2000	49	49	50	50
4000	48	48	49	51
8000	46	46	47	48

1. Differentials for Cooling operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Unit description/model	ZT061 / 5 ton / standard static belt drive			
Test configuration	Vertical (bottom supply) ducted discharge			
Indoor blower speed (RPM)	809 - 3 turns open equivalent		914 - 1 turn open equivalent	
External static pressure (IWG)	0.5		0.8	
Airflow (CFM)	1700		1800	
Blower motor BHP	0.64		0.83	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>1</sup> (dB)
63	81	81	79	79
125	75	75	75	76
250	65	65	63	63
500	67	67	67	67
1000	63	63	63	63
2000	61	62	61	61
4000	62	62	61	61
8000	57	57	56	56

1. Differentials for Cooling operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

## Indoor sound power levels (horizontal ducted inlet, high static belt drive)

Unit description/model	ZT037 / 3 ton / high static belt drive					
Test configuration	Horizontal (side return) ducted inlet					
Indoor blower speed (RPM)	876 - 4 turns open equivalent		1,064 - 1/2 turn open equivalent		1,190 - 2.5 turns open equivalent <sup>1</sup>	
External static pressure (IWG)	1.0		1.6		2.0 <sup>1</sup>	
Nominal airflow (CFM)	1,200		1,100		1,000	
Blower motor BHP	0.64		0.93		1.08	
Octave center freq. Hz	ID blower only (dB)	Cooling Operation <sup>2</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>2</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>2</sup> (dB)
63	75	80	81	81	81	83
125	69	71	71	73	73	75
250	62	68	66	71	68	70
500	54	56	57	59	59	60
1000	52	56	56	58	58	60
2000	47	49	52	52	54	56
4000	43	45	48	49	51	53
8000	43	45	45	46	47	48

- Requires driven pulley #AK-56, normal high static pulley is an #AK-69.
- Cooling operation – ID blower, compressor and outdoor fan operating at 230 VAC.
  - Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
  - Testing datum includes effect of standard inlet air filters.
  - Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
  - Test duct termination is flush with reverberant room wall.
  - Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Unit description/model	ZT049 / 4 ton / high static belt drive					
Test configuration	Horizontal (side return) ducted inlet					
Indoor blower speed (RPM)	965 - 5.5 turns open equivalent		1,088 - 4 turns open equivalent		1,186 - 2.5 turns open equivalent	
External static pressure (IWG)	1.0		1.6		2.0	
Nominal airflow (CFM)	1,600		1,400		1,200	
Blower motor BHP	0.86		1.03		1.13	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>1</sup> (dB)
63	74	80	77	80	81	81
125	69	74	72	75	75	76
250	68	68	68	69	70	71
500	62	62	60	61	61	63
1000	60	61	58	58	59	60
2000	57	57	53	54	55	56
4000	56	56	49	50	51	52
8000	54	54	45	47	47	48

- Cooling operation – ID blower, compressor and outdoor fan operating at 230 VAC.
  - Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
  - Testing datum includes effect of standard inlet air filters.
  - Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
  - Test duct termination is flush with reverberant room wall.
  - Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Unit description/model	ZT061 / 5 ton / high static belt drive					
Test configuration	Horizontal (side return) ducted inlet					
Indoor blower speed (RPM)	1,012- 5.5 turns open equivalent		1,134 - 3 turns open equivalent		1,174 - 2 turns open equivalent	
External static pressure (IWG)	1.0		1.6		2.0	
Nominal airflow (CFM)	2,000		1,800		1,600	
Blower motor BHP	1.04		1.25		1.39	
Octave center freq. Hz	ID blower only (dB)	Cooling Operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>1</sup> (dB)
63	76	78	78	79	79	81
125	70	73	73	76	74	77
250	68	70	68	69	69	70
500	61	62	61	62	60	62
1000	61	62	61	62	58	60
2000	57	58	57	58	54	56
4000	56	56	55	56	52	53
8000	50	50	50	50	47	48

1. Cooling operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

### Indoor sound power levels (horizontal ducted discharge, high static belt drive)

Unit description/model	ZT037 / 3 ton / high static belt drive					
Test configuration	Horizontal (side supply) ducted discharge					
Indoor blower speed (RPM)	896 - 3.5 turns open equivalent		1,072 - fully closed equivalent		1,170 - 2.5 turns open equivalent <sup>1</sup>	
External static pressure (IWG)	1.0		1.6		2.0 <sup>1</sup>	
Nominal airflow (CFM)	1,200		1,100		1,000	
Blower motor BHP	0.64		0.93		1.08	
Octave center freq. Hz	ID blower only (dB)	Cooling Operation <sup>2</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>2</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>2</sup> (dB)
63	77	81	83	84	83	84
125	74	76	76	77	80	80
250	67	68	70	70	72	73
500	65	66	67	67	67	68
1000	61	62	67	67	66	69
2000	58	60	63	63	63	64
4000	57	59	62	62	62	63
8000	51	53	56	57	56	58

1. Requires driven pulley #AK-56, normal high static pulley is an #AK-69.

2. Cooling operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Unit description/model	ZT049 / 4 ton / high static belt drive					
Test configuration	Horizontal (side supply) ducted discharge					
Indoor blower speed (RPM)	922 - 6 turns open equivalent		1,069 - 4 turns open equivalent		1,165 - 2.5 turns open equivalent	
External static pressure (IWG)	1.0		1.6		2.0	
Nominal airflow (CFM)	1,600		1,400		1,200	
Blower motor BHP	0.86		1.03		1.13	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>1</sup> (dB)
63	80	82	82	83	84	84
125	76	77	76	77	78	79
250	71	72	72	72	74	74
500	69	69	69	69	70	70
1000	65	65	69	69	70	70
2000	64	64	64	64	65	65
4000	63	63	63	63	64	64
8000	58	58	58	58	59	59

1. Cooling operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Unit description/model	ZT061 / 5 ton / high static belt drive					
Test configuration	Horizontal (side supply) ducted discharge					
Indoor blower speed (RPM)	1,009- 5.5 turns open equivalent		1,131 - 3 turns open equivalent		1,184 - 2 turns open equivalent	
External static pressure (IWG)	1.0		1.6		2.0	
Nominal airflow (CFM)	2,000		1,800		1,600	
Blower motor BHP	1.04		1.25		1.39	
Octave center freq. Hz	ID blower only (dB)	Cooling Operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>1</sup> (dB)
63	84	85	82	83	82	83
125	78	79	79	79	78	79
250	75	75	74	75	73	73
500	71	71	70	71	69	69
1000	69	69	71	71	71	72
2000	66	67	67	67	66	66
4000	66	66	66	67	66	66
8000	61	62	61	62	60	60

1. Cooling operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

## Indoor sound power levels (vertical ducted inlet, high static belt drive)

Unit description/model	ZT037 / 3 ton / high static belt drive					
Test configuration	Vertical (bottom return) ducted inlet					
Indoor blower speed (RPM)	927 - 3 turns open equivalent		1,085 - 1/2 turn open equivalent		1,190 - 2.5 turns open equivalent <sup>1</sup>	
External static pressure (IWG)	1.0		1.6		2.0 <sup>1</sup>	
Nominal airflow (CFM)	1,200		1,100		1,000	
Blower motor BHP	0.68		0.93		1.09	
Octave center freq. Hz	ID blower only (dB)	Cooling Operation <sup>2</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>2</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>2</sup> (dB)
63	77	79	82	83	79	81
125	68	69	70	71	72	73
250	60	67	62	69	64	67
500	58	58	63	63	62	63
1000	54	55	60	60	60	60
2000	48	49	56	56	55	55
4000	43	44	48	49	51	51
8000	44	44	45	46	47	47

1. Requires driven pulley #AK-56, normal high static pulley is an #AK-69.

2. Differentials for Cooling operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Unit description/model	ZT049 / 4 ton / high static belt drive					
Test configuration	Vertical (bottom return) ducted inlet					
Indoor blower speed (RPM)	968 - 5.5 turns open equivalent		1,120 - 3.5 turns open equivalent		1,218 - 2.0 turns open equivalent	
External static pressure (IWG)	1.0		1.6		2.0	
Nominal airflow (CFM)	1,600		1,400		1,200	
Blower motor BHP	0.86		1.03		1.13	
Octave center freq. Hz	ID blower only (dB)	Cooling Operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling Operation <sup>1</sup> (dB)
63	77	79	78	78	81	81
125	69	73	71	73	73	74
250	63	63	63	64	66	66
500	63	64	62	63	64	64
1000	59	59	59	59	61	61
2000	54	54	53	54	56	56
4000	49	49	48	48	50	51
8000	45	46	45	46	47	47

1. Differentials for Cooling operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Unit description/model	ZT061 / 5 ton / high static belt drive					
Test configuration	Vertical (bottom return) ducted inlet					
Indoor blower speed (RPM)	1,039 - 5 turns open equivalent		1,143 - 3 turns open equivalent		1,201 - 2 turns open equivalent	
External static pressure (IWG)	1.0		1.6		2.0	
Nominal airflow (CFM)	2,000		1,800		1,600	
Blower motor BHP	1.11		1.25		1.39	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)
63	79	80	77	77	81	81
125	74	75	71	73	73	74
250	63	65	63	64	63	65
500	62	63	64	64	62	62
1000	61	61	61	61	59	59
2000	55	56	55	56	54	55
4000	52	52	50	51	50	50
8000	47	47	46	46	46	46

1. Differentials for cooling operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

### Indoor sound power levels (vertical ducted discharge, high static belt drive)

Unit description/model	ZT037 / 3 ton / high static belt drive					
Test configuration	Vertical (bottom supply) ducted discharge					
Indoor blower speed (RPM)	920 - 3.0 turns open equivalent		1,074 - fully closed equivalent		1,189 - 2.0 turns open equivalent <sup>1</sup>	
External static pressure (IWG)	1.0		1.6		2.0 <sup>1</sup>	
Nominal airflow (CFM)	1,200		1,100		1,000	
Blower motor BHP	0.68		0.93		1.09	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>2</sup> (dB)	ID blower only (dB)	Cooling operation <sup>2</sup> (dB)	ID blower only (dB)	Cooling operation <sup>2</sup> (dB)
63	81	82	81	81	82	82
125	78	78	78	78	81	81
250	69	70	70	71	74	74
500	67	68	68	69	71	71
1000	62	63	67	68	70	71
2000	60	61	62	63	65	66
4000	61	61	63	63	66	66
8000	54	55	57	57	60	61

1. Requires driven pulley #AK-56, normal high static pulley is an #AK-69.

2. Differentials for cooling operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.



Unit description/model	ZT049 / 4 ton / high static belt drive					
Test configuration	Vertical (bottom supply) ducted discharge					
Indoor blower speed (RPM)	962 - 5.5 turns open equivalent		1,092 - 3.5 turns open equivalent		1,190 - 2.0 turns open equivalent	
External static pressure (IWG)	1.0		1.6		2.0	
Nominal airflow (CFM)	1,600		1,400		1,200	
Blower motor BHP	0.86		1.03		1.13	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)
63	83	84	82	82	83	83
125	80	81	79	80	80	81
250	75	75	74	75	75	75
500	71	72	70	71	71	72
1000	66	67	70	71	72	72
2000	63	64	64	64	65	65
4000	64	64	64	64	65	66
8000	58	59	59	59	60	60

1. Differentials for cooling operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Unit description/model	ZT061 / 5 ton / high static belt drive					
Test configuration	Vertical (bottom supply) ducted discharge					
Indoor blower speed (RPM)	1,033 - 5.5 turns open equivalent		1,135 - 3 turns open equivalent		1,175 - 2.5 turns open equivalent	
External static pressure (IWG)	1.0		1.6		2.0	
Nominal airflow (CFM)	2,000		1,135		1,175	
Blower motor BHP	1.11		1.25		1.39	
Octave center freq. Hz	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)	ID blower only (dB)	Cooling operation <sup>1</sup> (dB)
63	83	83	83	83	85	86
125	84	84	82	82	79	81
250	79	80	77	78	66	66
500	73	73	70	71	65	66
1000	69	70	69	70	61	65
2000	67	67	65	66	60	61
4000	67	68	66	67	61	62
8000	62	63	60	61	54	54

1. Differentials for cooling operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

## Indoor sound power levels (6.5 to 12.5 ton units)

### Indoor sound power levels (vertical ducted discharge)

Unit description/model	ZT078			
Test configuration	Vertical (bottom supply) ducted discharge			
External static pressure (IWG)	0.4	1.0	1.6	2.0
Nominal airflow (CFM)	2600	2400	2200	2000
Octave band center frequency (Hz)	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>
63	83	87	90	91
125	81	83	85	86
250	72	73	74	75
500	69	69	71	72
1000	64	65	67	69
2000	62	62	64	65
4000	61	62	64	65
8000	54	56	57	59

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value of sound data in any other form than sound power level ratings

Unit description/model	ZT090			
Test configuration	Vertical (bottom supply) ducted discharge			
External static pressure (IWG)	0.4	1.0	1.6	2.0
Nominal airflow (CFM)	3000	2800	2600	2400
Octave band center frequency (Hz)	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>
63	86	87	89	90
125	85	87	89	90
250	78	79	80	81
500	72	74	75	76
1000	67	69	71	72
2000	65	67	69	70
4000	64	67	68	69
8000	57	60	62	63

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value of sound data in any other form than sound power level ratings

Unit description/model	ZT102			
Test configuration	Vertical (bottom supply) ducted discharge			
External static pressure (IWG)	0.4	1.0	1.6	2.0
Nominal airflow (CFM)	3400	3200	3000	2800
Octave band center frequency (Hz)	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>
63	87	89	90	90
125	87	88	90	91
250	80	81	82	84
500	75	75	78	79
1000	70	71	73	75
2000	68	69	71	73
4000	68	68	71	72
8000	61	62	64	66

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value of sound data in any other form than sound power level ratings

Unit description/model	ZT120			
Test configuration	Vertical (bottom supply) ducted discharge			
External static pressure (IWG)	0.4	1.0	1.6	2.0
Nominal airflow (CFM)	4000	3800	3600	3400
Octave band center frequency (Hz)	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>
63	92	92	91	91
125	91	91	92	93
250	85	85	87	88
500	79	80	81	83
1000	75	76	78	79
2000	73	74	75	77
4000	72	73	75	76
8000	65	66	68	69

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value of sound data in any other form than sound power level ratings

Unit description/model	ZT150			
Test configuration	Vertical (bottom supply) ducted discharge			
External static pressure (IWG)	0.4	1.0	1.6	2.0
Nominal airflow (CFM)	4600	4400	4200	4000
Octave band center frequency (Hz)	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>
63	87	86	86	87
125	85	86	88	89
250	76	76	78	78
500	72	73	74	74
1000	66	67	69	69
2000	63	64	66	66
4000	63	64	65	66
8000	56	57	58	59

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value of sound data in any other form than sound power level ratings

### Indoor sound power levels (horizontal ducted discharge)

Unit description/model	ZT078			
Test configuration	Horizontal (side supply) ducted discharge			
External static pressure (IWG)	0.4	1.0	1.6	2.0
Nominal airflow (CFM)	2600	2400	2200	2000
Octave band center frequency (Hz)	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>
63	84	88	91	93
125	76	80	86	90
250	70	73	80	85
500	66	67	74	79
1000	62	65	73	80
2000	60	63	70	75
4000	58	61	69	75
8000	52	54	63	69

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value of sound data in any other form than sound power level ratings

Unit description/model	ZT090			
Test configuration	Horizontal (side supply) ducted discharge			
External static pressure (IWG)	0.4	1.0	1.6	2.0
Nominal airflow (CFM)	3000	2800	2600	2400
Octave band center frequency (Hz)	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>
63	84	86	89	90
125	80	82	84	86
250	73	75	77	79
500	67	68	69	71
1000	64	66	68	70
2000	62	64	66	68
4000	60	63	65	67
8000	53	56	58	60

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value of sound data in any other form than sound power level ratings

Unit description/model	ZT102			
Test configuration	Horizontal (side supply) ducted discharge			
External static pressure (IWG)	0.4	1.0	1.6	2.0
Nominal airflow (CFM)	3400	3200	3000	2800
Octave band center frequency (Hz)	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>
63	87	89	90	91
125	81	83	85	86
250	75	76	79	81
500	70	70	73	75
1000	68	69	72	74
2000	66	67	70	72
4000	64	65	68	71
8000	58	59	63	65

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value of sound data in any other form than sound power level ratings

Unit description/model	ZT120			
Test configuration	Horizontal (side supply) ducted discharge			
External static pressure (IWG)	0.4	1.0	1.6	2.0
Nominal airflow (CFM)	4000	3800	3600	3400
Octave band center frequency (Hz)	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>
63	90	91	91	91
125	84	86	87	87
250	77	78	80	82
500	71	72	74	75
1000	69	71	74	75
2000	67	69	71	73
4000	66	68	70	72
8000	60	62	64	66

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value of sound data in any other form than sound power level ratings

Unit description/model	ZT150			
Test configuration	Horizontal (side supply) ducted discharge			
External static pressure (IWG)	0.4	1.0	1.6	2.0
Nominal airflow (CFM)	4600	4400	4200	4000
Octave band center frequency (Hz)	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>	Full stage cooling operation (dB) <sup>1</sup>
63	87	88	89	90
125	83	85	86	88
250	75	76	77	78
500	73	74	75	76
1000	70	72	74	75
2000	70	71	73	74
4000	66	68	70	71
8000	60	61	63	65

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value of sound data in any other form than sound power level ratings

**Outdoor sound power levels ZT037-150**

Size (tons)	Model	Sound rating <sup>1</sup> dB (A)	Octave band centerline frequency (Hz)							
			63	125	250	500	1000	2000	4000	8000
037 (3)	ZT	75	78.5	78.5	74.0	72.0	68.5	65.0	60.5	53.0
049 (4)	ZT	75	83.0	78.5	74.5	72.0	69.5	63.0	58.0	55.5
061 (5)	ZT	75	80.0	78.0	74.5	72.5	69.0	63.0	57.5	52.0
078 (6.5)	ZT	84	86	85	83	82	79	72	67	60
090 (7.5)	ZT	85	83	84	85	84	81	75	70	67
102 (8.5)	ZT	84	85	87	84	82	79	73	68	61
120 (10)	ZT	82	83	82	82	80	77	72	67	62
150 (12.5)	ZT	83	92	84	83	82	78	72	68	63

1. Rated in accordance with AHRI 270 standard.

# Electrical data

## ZT037-150 standard indoor blower - without powered convenience outlet

Size (tons)	Volt	Compressors (each)						OD fan motors (each) FLA	Supply blower motor FLA	Pwr exh motor FLA	Pwr conv outlet FLA	Electric heat option				MCA <sup>1</sup> (amps)	MCA <sup>1</sup> with pwr exh (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size with pwr exh (amps)
		RLA		LRA		MCC						Model	kW	Stages	Amps				
		C1	C2	C1	C2	C1	C2												
037 (3)	208	11.6		73		18		3.5	4.3	5.5		None	-	-	-	25.8	31.3	35	40
												E03	2.3	1	6.4	25.8	31.3	35	40
												E06	4.5	1	12.5	25.8	31.3	35	40
												E08	6.8	1	18.9	29	35.9	35	40
												E15	11.3	2	31.4	44.6	51.5	45	60
	230	11.6		73		18		3.5	4.3	5.5		None	-	-	-	25.8	31.3	35	40
												E03	3	1	7.2	25.8	31.3	35	40
												E06	6	1	14.4	25.8	31.3	35	40
												E08	9	1	21.7	32.5	39.4	35	40
												E15	15	2	36.1	50.5	57.4	60	60
	460	5.7		38		9		1.6	2.1	2.2		None	-	-	-	12.4	14.6	15	20
												E03	3	1	3.6	12.4	14.6	15	20
E06												6	1	7.2	12.4	14.6	15	20	
E08												9	1	10.8	16.1	18.9	20	20	
E15												15	2	18	25.1	27.9	30	30	
575	4		25.6		6		3.5	2	1.8		None	-	-	-	9.8	11.6	15	15	
											E08	9	1	8.7	13.4	15.6	15	20	
											E15	15	2	14.4	20.5	22.8	25	25	
											E20	20	2	19.2	26.5	28.8	30	30	
049 (4)	208	14		83.1		22		3.5	4.3	5.5		None	-	-	-	28.8	34.3	40	45
												E06	4.5	1	12.5	28.8	34.3	40	45
												E08	6.8	1	18.9	29	35.9	40	45
												E15	11.3	2	31.4	44.6	51.5	45	60
												E20	15	2	41.6	57.4	64.3	60	70
	230	14		83.1		22		3.5	4.3	5.5		None	-	-	-	28.8	34.3	40	45
												E06	6	1	14.4	28.8	34.3	40	45
												E08	9	1	21.7	32.5	39.4	40	45
												E15	15	2	36.1	50.5	57.4	60	60
												E20	20	2	48.1	65.5	72.4	70	80
	460	6.4		41		10		3.5	2.1	2.2		None	-	-	-	13.6	15.8	20	20
												E06	6	1	7.2	13.6	15.8	20	20
												E08	9	1	10.8	16.1	18.9	20	20
												E15	15	2	18	25.1	27.9	30	30
												E20	20	2	24.1	32.8	35.5	35	40
	575	4.6		33		7		3.5	2	1.8		None	-	-	-	10.6	12.4	15	15
E08												9	1	8.7	13.4	15.6	15	20	
E15												15	2	14.4	20.5	22.8	25	25	
E20												20	2	19.2	26.5	28.8	30	30	
E23												24	2	23.1	31.4	33.6	35	35	
061 (5)	208	16.5		110		26		3.5	4.3	5.5		None	-	-	-	31.9	37.4	40	50
												E06	4.5	1	12.5	31.9	37.4	40	50
												E08	6.8	1	18.9	31.9	37.4	40	50
												E15	11.3	2	31.4	44.6	51.5	45	60
												E20	15	2	41.6	57.4	64.3	60	70
												E23	18	2	50	67.9	74.8	70	80
	230	16.5		110		26		3.5	4.3	5.5		None	-	-	-	31.9	37.4	40	50
												E06	6	1	14.4	31.9	37.4	40	50
												E08	9	1	21.7	32.5	39.4	45	50
												E15	15	2	36.1	50.5	57.4	60	60
												E20	20	2	48.1	65.5	72.4	70	80
												E23	24	2	57.7	77.5	84.4	80	90
	460	7.2		52		11		3.5	2.1	2.2		None	-	-	-	14.6	16.8	20	20
												E06	6	1	7.2	14.6	16.8	20	20
												E08	9	1	10.8	16.1	18.9	20	20
												E15	15	2	18	25.1	27.9	30	30
												E20	20	2	24.1	32.8	35.5	35	40
												E23	24	2	28.9	38.8	41.5	40	45
	575	5.5		38.9		9		3.5	2	1.8		None	-	-	-	11.7	13.5	15	15
												E08	9	1	8.7	13.4	15.6	15	20
E15												15	2	14.4	20.5	22.8	25	25	
E20												20	2	19.2	26.5	28.8	30	30	
E23												24	2	23.1	31.4	33.6	35	35	



**ZT037-150 standard indoor blower - without powered convenience outlet (continued)**

Size (tons)	Volt	Compressors (each)						OD fan motors (each)	Supply blower motor	Pwr exh motor	Pwr conv outlet	Electric heat option				MCA <sup>1</sup> (amps)	MCA <sup>1</sup> with pwr exh (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size with pwr exh (amps)				
		RLA		LRA		MCC						FLA	FLA	FLA	FLA					Model	kW	Stages	Amps
		C1	C2	C1	C2	C1	C2																
078 (6.5)	208	11.6	11.6	73	73	18	18	3.5	5.2	5.5	None	-	-	-	45.3	50.8	50	60					
											E09	6.8	1	18.9	45.3	50.8	50	60					
											E18	13.5	2	37.5	53.4	60.3	60	70					
											E24	18	2	50	69	75.9	70	80					
											E36	25.5	2	70.8	95	101.9	100	110					
											None	-	-	-	45.3	50.8	50	60					
	230	11.6	11.6	73	73	18	18	3.5	5.2	5.5	E09	9	1	21.7	45.3	50.8	50	60					
											E18	18	2	43.3	60.6	67.5	70	70					
											E24	24	2	57.7	78.6	85.5	80	90					
											E36	34	2	81.8	108.8	115.6	110	125					
											None	-	-	-	21.8	24	25	25					
											E09	9	1	10.8	21.8	24	25	25					
460	5.7	5.7	38	38	9	9	1.6	2.6	2.2	E18	18	2	21.7	30.4	33.1	35	35						
										E24	24	2	28.9	39.4	42.1	40	45						
										E36	34	2	40.9	54.4	57.1	60	60						
										None	-	-	-	21.8	24	25	25						
										E09	9	1	10.8	21.8	24	25	25						
										E18	18	2	21.7	30.4	33.1	35	35						
090 (7.5)	208	11.6	14	73	83.1	18	22	3.5	5.2	5.5	None	-	-	-	48.3	53.8	60	60					
											E09	6.8	1	18.9	48.3	53.8	60	60					
											E18	13.5	2	37.5	53.4	60.3	60	70					
											E24	18	2	50	69	75.9	70	80					
											E36	25.5	2	70.8	95	101.9	100	110					
											None	-	-	-	48.3	53.8	60	60					
	230	11.6	14	73	83.1	18	22	3.5	5.2	5.5	E09	9	1	21.7	48.3	53.8	60	60					
											E18	18	2	43.3	60.6	67.5	70	70					
											E24	24	2	57.7	78.6	85.5	80	90					
											E36	34	2	81.8	108.8	115.6	110	125					
											None	-	-	-	22.7	24.9	25	30					
											E09	9	1	10.8	22.7	24.9	25	30					
460	5.7	6.4	38	41	9	10	1.6	2.6	2.2	E18	18	2	21.7	30.4	33.1	35	35						
										E24	24	2	28.9	39.4	42.1	40	45						
										E36	34	2	40.9	54.4	57.1	60	60						
										None	-	-	-	22.7	24.9	25	30						
										E09	9	1	10.8	22.7	24.9	25	30						
										E18	18	2	21.7	30.4	33.1	35	35						
102 (8.5)	208	14	14	83.1	83.1	22	22	3.5	6.8	5.5	None	-	-	-	52.3	57.8	60	70					
											E09	6.8	1	18.9	52.3	57.8	60	70					
											E18	13.5	2	37.5	55.4	62.3	60	70					
											E24	18	2	50	71	77.9	80	80					
											E36	25.5	2	70.8	97	103.9	100	110					
											None	-	-	-	52.3	57.8	60	70					
	230	14	14	83.1	83.1	22	22	3.5	6.8	5.5	E09	9	1	21.7	52.3	57.8	60	70					
											E18	18	2	43.3	62.6	69.5	70	70					
											E24	24	2	57.7	80.6	87.5	90	90					
											E36	34	2	81.8	110.8	117.6	125	125					
											None	-	-	-	24.2	26.4	30	30					
											E09	9	1	10.8	24.2	26.4	30	30					
460	6.4	6.4	41	41	10	10	1.6	3.4	2.2	E18	18	2	21.7	31.4	34.1	35	35						
										E24	24	2	28.9	40.4	43.1	45	45						
										E36	34	2	40.9	55.4	58.1	60	60						
										None	-	-	-	24.2	26.4	30	30						
										E09	9	1	10.8	24.2	26.4	30	30						
										E18	18	2	21.7	31.4	34.1	35	35						
120 (10)	208	16.2	16.2	110	110	25	25	3.5	6.8	5.5	None	-	-	-	57.3	62.8	70	70					
											E18	13.5	2	37.5	57.3	62.8	70	70					
											E24	18	2	50	71	77.9	80	80					
											E36	25.5	2	70.8	97	103.9	100	110					
											E54	40.6	2	112.7	149.4	156.3	150	175					
											None	-	-	-	57.3	62.8	70	70					
	230	16.2	16.2	110	110	25	25	3.5	6.8	5.5	E18	18	2	43.3	62.6	69.5	70	70					
											E24	24	2	57.7	80.6	87.5	90	90					
											E36	34	2	81.8	110.8	117.6	125	125					
											E54	54	2	129.9	138.4	145.3	150	175					
											None	-	-	-	26.9	29.1	30	35					
											E18	18	2	21.7	31.4	34.1	35	35					
460	7.6	7.6	52	52	12	12	1.6	3.4	2.2	E24	24	2	28.9	40.4	43.1	45	45						
										E36	34	2	40.9	55.4	58.1	60	60						
										None	-	-	-	26.9	29.1	30	35						
										E18	18	2	21.7	31.4	34.1	35	35						
										E24	24	2	28.9	40.4	43.1	45	45						
										E36	34	2	40.9	55.4	58.1	60	60						

**ZT037-150 standard indoor blower - without powered convenience outlet (continued)**

Size (tons)	Volt	Compressors (each)						OD fan motors (each)	Supply blower motor	Pwr exh motor	Pwr conv outlet	Electric heat option				MCA <sup>1</sup> (amps)	MCA <sup>1</sup> with pwr exh (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size with pwr exh (amps)				
		RLA		LRA		MCC						FLA	FLA	FLA	FLA					Model	kW	Stages	Amps
		C1	C2	C1	C2	C1	C2																
150 (12.5)	208	17.6	17.6	136	136	27	27	3.5	9.6	5.5		None	-	-	-	63.2	68.7	80	80				
												E18	13.5	2	37.5	63.2	68.7	80	80				
												E24	18	2	50	74.5	81.4	80	90				
												E36	25.5	2	70.8	100.5	107.4	110	110				
												E54	40.6	2	112.7	152.9	159.8	175	175				
	230	17.6	17.6	136	136	27	27	3.5	9.6	5.5			None	-	-	-	63.2	68.7	80	80			
													E18	18	2	43.3	66.1	73	80	80			
													E24	24	2	57.7	84.1	91	90	100			
													E36	34	2	81.8	114.3	121.1	125	125			
													E54	54	2	129.9	141.9	148.8	175	175			
	460	8.5	8.5	66.1	66.1	13	13	1.6	4.7	2.2			None	-	-	-	30.2	32.4	35	40			
													E18	18	2	21.7	33	35.8	35	40			
													E24	24	2	28.9	42	44.8	45	45			
													E36	34	2	40.9	57	59.8	60	60			
													E54	54	2	65	70.9	73.6	80	80			

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZT037-150 high static indoor blower - without powered convenience outlet

Size (tons)	Volt	Compressors (each)						OD fan motors (each)	Supply blower motor	Pwr exh motor	Pwr conv outlet	Electric heat option				MCA <sup>1</sup> (amps)	MCA <sup>1</sup> with pwr exh (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size with pwr exh (amps)
		RLA		LRA		MCC						Model	kW	Stages	Amps				
		C1	C2	C1	C2	C1	C2												
037 (3)	208	11.6		73		18		3.5	4.3	5.5		None	-	-	-	25.8	31.3	35	40
												E03	2.3	1	6.4	25.8	31.3	35	40
												E06	4.5	1	12.5	25.8	31.3	35	40
												E08	6.8	1	18.9	29	35.9	35	40
												E15	11.3	2	31.4	44.6	51.5	45	60
	230	11.6		73		18		3.5	4.3	5.5		None	-	-	-	25.8	31.3	35	40
												E03	3	1	7.2	25.8	31.3	35	40
												E06	6	1	14.4	25.8	31.3	35	40
												E08	9	1	21.7	32.5	39.4	35	40
												E15	15	2	36.1	50.5	57.4	60	60
	460	5.7		38		9		1.6	2.1	2.2		None	-	-	-	12.4	14.6	15	20
												E03	3	1	3.6	12.4	14.6	15	20
E06												6	1	7.2	12.4	14.6	15	20	
E08												9	1	10.8	16.1	18.9	20	20	
E15												15	2	18	25.1	27.9	30	30	
575	4.0		25.6		6.2		3.5	2.0	1.8	0.0	None	-	-	-	9.8	11.6	15	15	
											E09	9.0	1	8.7	13.3	15.6	15	20	
											E15	15.0	2	14.4	20.5	22.8	25	25	
049 (4)	208	14.0		83.1		21.9		3.5	4.3	5.5	0.0	None	-	-	-	28.8	34.3	40	45
												E06	4.5	1	12.5	28.8	34.3	40	45
												E09	6.8	1	18.9	29.0	35.8	40	45
												E15	11.3	2	31.4	44.6	51.5	45	60
												E20	15.0	2	41.6	57.4	64.3	60	70
	230	14.0		83.1		21.9		3.5	4.3	5.5	0.0	None	-	-	-	28.8	34.3	40	45
												E06	6.0	1	14.4	28.8	34.3	40	45
												E09	9.0	1	21.7	32.4	39.3	40	45
												E15	15.0	2	36.1	50.5	57.4	60	60
												E20	20.0	2	48.1	65.5	72.4	70	80
	460	6.4		41.0		10.0		3.5	2.1	2.2	0.0	None	-	-	-	13.6	15.8	20	20
												E06	6.0	1	7.2	13.6	15.8	20	20
												E09	9.0	1	10.8	16.2	18.9	20	20
												E15	15.0	2	18.0	25.2	27.9	30	30
												E20	20.0	2	24.1	32.7	35.4	35	40
	575	4.6		33.0		7.1		3.5	2.0	1.8	0.0	None	-	-	-	10.6	12.4	15	15
												E09	9.0	1	8.7	13.3	15.6	15	20
												E15	15.0	2	14.4	20.5	22.8	25	25
E20												20.0	2	19.2	26.6	28.8	30	30	
061 (5)	208	16.5		110.0		25.8		3.5	6.8	5.5	0.0	None	-	-	-	34.4	39.9	45	50
												E06	4.5	1	12.5	34.4	39.9	45	50
												E09	6.8	1	18.9	34.4	39.9	45	50
												E15	11.3	2	31.4	47.7	54.6	50	60
												E20	15.0	2	41.6	60.5	67.4	70	70
												E24	18.0	2	50.0	71.0	77.8	80	80
	230	16.5		110.0		25.8		3.5	6.8	5.5	0.0	None	-	-	-	34.4	39.9	45	50
												E06	6.0	1	14.4	34.4	39.9	45	50
												E09	9.0	1	21.7	35.6	42.4	45	50
												E15	15.0	2	36.1	53.6	60.5	60	70
												E20	20.0	2	48.1	68.6	75.5	70	80
												E24	24.0	2	57.7	80.7	87.5	90	90
	460	7.2		52.0		11.3		3.5	3.2	2.2	0.0	None	-	-	-	15.7	17.9	20	25
												E06	6.0	1	7.2	15.7	17.9	20	25
												E09	9.0	1	10.8	17.5	20.2	20	25
												E15	15.0	2	18.0	26.5	29.2	30	30
												E20	20.0	2	24.1	34.0	36.8	35	40
												E24	24.0	2	28.9	40.0	42.8	40	45
575	5.5		38.9		8.6		3.5	2.2	1.8	0.0	None	-	-	-	11.9	13.7	15	15	
											E09	9.0	1	8.7	13.6	15.9	15	20	
											E15	15.0	2	14.4	20.8	23.0	25	25	
											E20	20.0	2	19.2	26.8	29.0	30	30	
											E24	24.0	2	23.1	31.6	33.9	35	35	

ZT037-150 high static indoor blower - without powered convenience outlet (continued)

Size (tons)	Volt	Compressors (each)						OD fan motors (each)	Supply blower motor	Pwr exh motor	Pwr conv outlet	Electric heat option				MCA <sup>1</sup> (amps)	MCA <sup>1</sup> with pwr exh (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size with pwr exh (amps)
		RLA		LRA		MCC						Model	kW	Stages	Amps				
		C1	C2	C1	C2	C1	C2												
078 (6)	208	11.6	11.6	73	73	18	18	3.5	6.8	5.5	None	-	-	-	46.9	52.4	50	60	
											E09	6.8	1	18.9	46.9	52.4	50	60	
											E18	13.5	2	37.5	55.4	62.3	60	70	
											E24	18	2	50	71	77.9	80	80	
	230	11.6	11.6	73	73	18	18	3.5	6.8	5.5	None	-	-	-	46.9	52.4	50	60	
											E09	9	1	21.7	46.9	52.4	50	60	
											E18	18	2	43.3	62.6	69.5	70	70	
											E24	24	2	57.7	80.6	87.5	90	90	
	460	5.7	5.7	38	38	9	9	1.6	3.4	2.2	None	-	-	-	22.6	24.8	25	30	
											E09	9	1	10.8	22.6	24.8	25	30	
											E18	18	2	21.7	31.4	34.1	35	35	
											E24	24	2	28.9	40.4	43.1	45	45	
090 (7.5)	208	11.6	14	73	83.1	18	22	3.5	9.6	5.5	None	-	-	-	52.7	58.2	60	70	
											E09	6.8	1	18.9	52.7	58.2	60	70	
											E18	13.5	2	37.5	58.9	65.8	60	70	
											E24	18	2	50	74.5	81.4	80	90	
	230	11.6	14	73	83.1	18	22	3.5	9.6	5.5	None	-	-	-	52.7	58.2	60	70	
											E09	9	1	21.7	52.7	58.2	60	70	
											E18	18	2	43.3	66.1	73	70	80	
											E24	24	2	57.7	84.1	91	90	100	
	460	5.7	6.4	38	41	9	10	1.6	4.7	2.2	None	-	-	-	24.8	27	30	30	
											E09	9	1	10.8	24.8	27	30	30	
											E18	18	2	21.7	33	35.8	35	40	
											E24	24	2	28.9	42	44.8	45	45	
102 (8.5)	208	14	14	83.1	83.1	22	22	3.5	9.6	5.5	None	-	-	-	55.1	60.6	60	70	
											E09	6.8	1	18.9	55.1	60.6	60	70	
											E18	13.5	2	37.5	58.9	65.8	60	70	
											E24	18	2	50	74.5	81.4	80	90	
	230	14	14	83.1	83.1	22	22	3.5	9.6	5.5	None	-	-	-	55.1	60.6	60	70	
											E09	9	1	21.7	55.1	60.6	60	70	
											E18	18	2	43.3	66.1	73	70	80	
											E24	24	2	57.7	84.1	91	90	100	
	460	6.4	6.4	41	41	10	10	1.6	4.7	2.2	None	-	-	-	25.5	27.7	30	30	
											E09	9	1	10.8	25.5	27.7	30	30	
											E18	18	2	21.7	33	35.8	35	40	
											E24	24	2	28.9	42	44.8	45	45	
120 (10)	208	16.2	16.2	110	110	25	25	3.5	9.6	5.5	None	-	-	-	60.1	65.6	70	80	
											E18	13.5	2	37.5	60.1	65.8	70	80	
											E24	18	2	50	74.5	81.4	80	90	
											E36	25.5	2	70.8	100.5	107.4	110	110	
	230	16.2	16.2	110	110	25	25	3.5	9.6	5.5	None	-	-	-	60.1	65.6	70	80	
											E18	18	2	43.3	66.1	73	70	80	
											E24	24	2	57.7	84.1	91	90	100	
											E36	34	2	81.8	114.3	121.1	125	125	
	460	7.6	7.6	52	52	12	12	1.6	4.7	2.2	None	-	-	-	28.2	30.4	35	35	
											E18	18	2	21.7	33	35.8	35	40	
											E24	24	2	28.9	42	44.8	45	45	
											E36	34	2	40.9	57	59.8	60	60	
460	7.6	7.6	52	52	12	12	1.6	4.7	2.2	E54	54	2	129.9	141.9	148.8	175	175		
										E54	54	2	65	70.9	73.6	80	80		

## ZT037-150 high static indoor blower - without powered convenience outlet (continued)

Size (tons)	Volt	Compressors (each)						OD fan motors (each)	Supply blower motor	Pwr exh motor	Pwr conv outlet	Electric heat option				MCA <sup>1</sup> (amps)	MCA <sup>1</sup> with pwr exh (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size with pwr exh (amps)	
		RLA		LRA		MCC						Model	kW	Stages	Amps					
		C1	C2	C1	C2	C1	C2													FLA
150 (12.5)	208	17.6	17.6	136	136	27	27	3.5	14	5.5		None	-	-	-	67.6	73.1	80	90	
												E18	13.5	2	37.5	67.6	73.1	80	90	
												E24	18	2	50	80	86.9	80	90	
												E36	25.5	2	70.8	106	112.9	110	125	
												E54	40.6	2	112.7	158.4	165.3	175	175	
	230	17.6	17.6	136	136	27	27	3.5	14	5.5			None	-	-	-	67.6	73.1	80	90
													E18	18	2	43.3	71.6	78.5	80	90
													E24	24	2	57.7	89.6	96.5	90	100
													E36	34	2	81.8	119.8	126.6	125	150
													E54	54	2	129.9	147.4	154.3	175	175
	460	8.5	8.5	66.1	66.1	13	13	1.6	6.6	2.2			None	-	-	-	32.1	34.3	40	40
													E18	18	2	21.7	35.4	38.1	40	40
													E24	24	2	28.9	44.4	47.1	45	50
													E36	34	2	40.9	59.4	62.1	60	70
													E54	54	2	65	73.3	76	80	90

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZT037-150 standard indoor blower - with powered convenience outlet

Size (tons)	Volt	Compressors (each)						OD fan motors (each)	Supply blower motor	Pwr exh motor	Pwr conv outlet	Electric heat option				MCA <sup>1</sup> (amps)	MCA <sup>1</sup> with pwr exh (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size with pwr exh (amps)				
		RLA		LRA		MCC						FLA	FLA	FLA	FLA					Model	kW	Stages	Amps
		C1	C2	C1	C2	C1	C2																
037 (3)	208	11.6		73		18		3.5	4.3	5.5	20	None	-	-	-	35.8	41.3	45	50				
												E03	2.3	1	6.4	35.8	41.3	45	50				
												E06	4.5	1	12.5	35.8	41.3	45	50				
												E08	6.8	1	18.9	41.5	48.4	45	50				
	230	11.6		73		18		3.5	4.3	5.5	20	None	-	-	-	35.8	41.3	45	50				
												E03	3	1	7.2	35.8	41.3	45	50				
												E06	6	1	14.4	35.9	42.8	45	50				
												E08	9	1	21.7	45	51.9	45	60				
	460	5.7		38		9		1.6	2.1	2.2	20	None	-	-	-	17.4	19.6	20	25				
												E03	3	1	3.6	17.4	19.6	20	25				
												E06	6	1	7.2	17.9	20.6	20	25				
												E08	9	1	10.8	22.4	25.1	25	30				
575	4.0		25.6		6.2		3.5	2.0	1.8	4.0	None	-	-	-	13.8	15.6	15	20					
											E09	9.0	1	8.7	18.3	20.6	20	25					
											E15	15.0	2	14.4	25.5	27.8	30	30					
											E20	20.0	2	19.2	31.6	33.8	35	35					
049 (4)	208	14.0		83.1		21.9		3.5	4.3	5.5	10.0	None	-	-	-	38.8	44.3	50	50				
												E06	4.5	1	12.5	38.8	44.3	50	50				
												E09	6.8	1	18.9	41.5	48.3	50	50				
												E15	11.3	2	31.4	57.1	64.0	60	70				
	230	14.0		83.1		21.9		3.5	4.3	5.5	10.0	None	-	-	-	38.8	44.3	50	50				
												E06	6.0	1	14.4	38.8	44.3	50	50				
												E09	9.0	1	21.7	44.9	51.8	50	60				
												E15	15.0	2	36.1	63.0	69.9	70	70				
	460	6.4		41.0		10.0		3.5	2.1	2.2	5.0	None	-	-	-	18.6	20.8	25	25				
												E06	6.0	1	7.2	18.6	20.8	25	25				
												E09	9.0	1	10.8	22.4	25.2	25	30				
												E15	15.0	2	18.0	31.4	34.2	35	35				
575	4.6		33.0		7.1		3.5	2.0	1.8	4.0	None	-	-	-	14.6	16.4	15	20					
											E09	9.0	1	8.7	18.3	20.6	20	25					
											E15	15.0	2	14.4	25.5	27.8	30	30					
											E20	20.0	2	19.2	31.6	33.8	35	35					
061 (5)	208	16.5		110.0		26		3.5	4.3	5.5	20	None	-	-	-	41.9	47.4	50	60				
												E06	4.5	1	12.5	41.9	47.4	50	60				
												E08	6.8	1	18.9	41.9	48.4	50	60				
												E15	11.3	2	31.4	57.1	64	60	70				
	230	16.5		110.0		26		3.5	4.3	5.5	20	None	-	-	-	41.9	47.4	50	60				
												E06	6	1	14.4	41.9	47.4	50	60				
												E08	9	1	21.7	45	51.9	50	60				
												E15	15	2	36.1	63	69.9	70	70				
	460	7.2		52.0		11		3.5	2.1	2.2	20	None	-	-	-	19.6	21.8	25	25				
												E06	6	1	7.2	19.6	21.8	25	25				
												E08	9	1	10.8	22.4	25.1	25	30				
												E15	15	2	18	31.4	34.1	35	35				
575	5.5		38.9		9		3.5	2	1.8	20	None	-	-	-	15.7	17.5	20	20					
											E08	9	1	8.7	18.4	20.6	20	25					
											E15	15	2	14.4	25.5	27.8	30	30					
											E20	20	2	19.2	31.5	33.8	35	35					
												E23	24	2	23.1	36.4	38.6	40	40				

ZT037-150 standard indoor blower - with powered convenience outlet (continued)

Size (tons)	Volt	Compressors (each)						OD fan motors (each)	Supply blower motor	Pwr exh motor	Pwr conv outlet	Electric heat option				MCA <sup>1</sup> (amps)	MCA <sup>1</sup> with pwr exh (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size with pwr exh (amps)
		RLA		LRA		MCC						Model	kW	Stages	Amps				
		C1	C2	C1	C2	C1	C2												
078 (6.5)	208	11.6	11.6	73	73	18	18	3.5	5.2	5.5	20	None	-	-	-	55.3	60.8	60	70
												E09	6.8	1	18.9	55.3	60.8	60	70
												E18	13.5	2	37.5	65.9	72.8	70	80
												E24	18	2	50	81.5	88.4	90	90
												E36	25.5	2	70.8	107.5	114.4	110	125
	230	11.6	11.6	73	73	18	18	3.5	5.2	5.5	20	None	-	-	-	55.3	60.8	60	70
												E09	9	1	21.7	55.3	60.8	60	70
												E18	18	2	43.3	73.1	80	80	80
												E24	24	2	57.7	91.1	98	100	100
												E36	34	2	81.8	121.3	128.1	125	150
	460	5.7	5.7	38	38	9	9	1.6	2.6	2.2	20	None	-	-	-	26.8	29	30	30
												E09	9	1	10.8	26.8	29	30	30
												E18	18	2	21.7	36.6	39.4	40	40
												E24	24	2	28.9	45.6	48.4	50	50
												E36	34	2	40.9	60.6	63.4	70	70
090 (7.5)	208	11.6	14	73	83.1	18	22	3.5	5.2	5.5	20	None	-	-	-	58.3	63.8	70	70
												E09	6.8	1	18.9	58.3	63.8	70	70
												E18	13.5	2	37.5	65.9	72.8	70	80
												E24	18	2	50	81.5	88.4	90	90
												E36	25.5	2	70.8	107.5	114.4	110	125
	230	11.6	14	73	83.1	18	22	3.5	5.2	5.5	20	None	-	-	-	58.3	63.8	70	70
												E09	9	1	21.7	58.3	63.8	70	70
												E18	18	2	43.3	73.1	80	80	80
												E24	24	2	57.7	91.1	98	100	100
												E36	34	2	81.8	121.3	128.1	125	150
	460	5.7	6.4	38	41	9	10	1.6	2.6	2.2	20	None	-	-	-	27.7	29.9	30	35
												E09	9	1	10.8	27.7	29.9	30	35
												E18	18	2	21.7	36.6	39.4	40	40
												E24	24	2	28.9	45.6	48.4	50	50
												E36	34	2	40.9	60.6	63.4	70	70
102 (8.5)	208	14	14	83.1	83.1	22	22	3.5	6.8	5.5	20	None	-	-	-	62.3	67.8	70	80
												E09	6.8	1	18.9	62.3	67.8	70	80
												E18	13.5	2	37.5	67.9	74.8	70	80
												E24	18	2	50	83.5	90.4	90	100
												E36	25.5	2	70.8	109.5	116.4	110	125
	230	14	14	83.1	83.1	22	22	3.5	6.8	5.5	20	None	-	-	-	62.3	67.8	70	80
												E09	9	1	21.7	62.3	67.8	70	80
												E18	18	2	43.3	75.1	82	80	90
												E24	24	2	57.7	93.1	100	100	100
												E36	34	2	81.8	123.3	130.1	125	150
	460	6.4	6.4	41	41	10	10	1.6	3.4	2.2	20	None	-	-	-	29.2	31.4	35	35
												E09	9	1	10.8	29.2	31.4	35	35
												E18	18	2	21.7	37.6	40.4	40	45
												E24	24	2	28.9	46.6	49.4	50	50
												E36	34	2	40.9	61.6	64.4	70	70
120 (10)	208	16.2	16.2	110	110	25	25	3.5	6.8	5.5	20	None	-	-	-	67.3	72.8	80	80
												E18	13.5	2	37.5	67.9	74.8	80	80
												E24	18	2	50	83.5	90.4	90	100
												E36	25.5	2	70.8	109.5	116.4	110	125
												E54	40.6	2	112.7	161.9	168.8	175	175
	230	16.2	16.2	110	110	25	25	3.5	6.8	5.5	20	None	-	-	-	67.3	72.8	80	80
												E18	18	2	43.3	75.1	82	80	90
												E24	24	2	57.7	93.1	100	100	100
												E36	34	2	81.8	123.3	130.1	125	150
												E54	54	2	129.9	150.9	157.8	175	175
	460	7.6	7.6	52	52	12	12	1.6	3.4	2.2	20	None	-	-	-	31.9	34.1	35	40
												E18	18	2	21.7	37.6	40.4	40	45
												E24	24	2	28.9	46.6	49.4	50	50
												E36	34	2	40.9	61.6	64.4	70	70
												E54	54	2	65	75.5	78.3	80	90

**ZT037-150 standard indoor blower - with powered convenience outlet (continued)**

Size (tons)	Volt	Compressors (each)						OD fan motors (each)	Supply blower motor	Pwr exh motor	Pwr conv outlet	Electric heat option				MCA <sup>1</sup> (amps)	MCA <sup>1</sup> with pwr exh (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size with pwr exh (amps)
		RLA		LRA		MCC						Model	kW	Stages	Amps				
		C1	C2	C1	C2	C1	C2												
150 (12.5)	208	17.6	17.6	136	136	27	27	3.5	9.6	5.5	20	None	-	-	-	73.2	78.7	90	90
												E18	13.5	2	37.5	73.2	78.7	90	90
												E24	18	2	50	87	93.9	90	100
												E36	25.5	2	70.8	113	119.9	125	125
												E54	40.6	2	112.7	165.4	172.3	175	175
	230	17.6	17.6	136	136	27	27	3.5	9.6	5.5	20	None	-	-	-	73.2	78.7	90	90
												E18	18	2	43.3	78.6	85.5	90	90
												E24	24	2	57.7	96.6	103.5	100	110
												E36	34	2	81.8	126.8	133.6	150	150
												E54	54	2	129.9	154.4	161.3	175	175
	460	8.5	8.5	66.1	66.1	13	13	1.6	4.7	2.2	20	None	-	-	-	35.2	37.4	40	45
												E18	18	2	21.7	39.3	42	40	45
												E24	24	2	28.9	48.3	51	50	60
												E36	34	2	40.9	63.3	66	70	70
												E54	54	2	65	77.1	79.9	90	90

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.



ZT037-150 high static indoor blower - with powered convenience outlet

Size (tons)	Volt	Compressors (each)						OD fan motors (each) FLA	Supply blower motor FLA	Pwr exh motor FLA	Pwr conv outlet FLA	Electric heat option				MCA <sup>1</sup> (amps)	MCA <sup>1</sup> with pwr exh (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size with pwr exh (amps)
		RLA		LRA		MCC						Model	kW	Stages	Amps				
		C1	C2	C1	C2	C1	C2												
037 (3)	208	11.6		73	18		3.5	4.3	5.5	20	None	-	-	-	35.8	41.3	45	50	
											E03	2.3	1	6.4	35.8	41.3	45	50	
											E06	4.5	1	12.5	35.8	41.3	45	50	
											E08	6.8	1	18.9	41.5	48.4	45	50	
	230	11.6		73	18		3.5	4.3	5.5	20	None	-	-	-	35.8	41.3	45	50	
											E03	3	1	7.2	35.8	41.3	45	50	
											E06	6	1	14.4	35.9	42.8	45	50	
											E08	9	1	21.7	45	51.9	45	60	
	460	5.7		38	9		1.6	2.1	2.2	20	None	-	-	-	17.4	19.6	20	25	
											E03	3	1	3.6	17.4	19.6	20	25	
											E06	6	1	7.2	17.9	20.6	20	25	
											E08	9	1	10.8	22.4	25.1	25	30	
575	4.0		25.6	6.2		3.5	2.0	1.8	4.0	None	-	-	-	13.8	15.6	15	20		
										E09	9.0	1	8.7	18.3	20.6	20	25		
										E15	15.0	2	14.4	25.5	27.8	30	30		
										E20	20.0	2	19.2	31.6	33.8	35	35		
049 (4)	208	14.0		83.1	21.9		3.5	4.3	5.5	10.0	None	-	-	-	38.8	44.3	50	50	
											E06	4.5	1	12.5	38.8	44.3	50	50	
											E09	6.8	1	18.9	41.5	48.3	50	50	
											E15	11.3	2	31.4	57.1	64.0	70	70	
	230	14.0		83.1	21.9		3.5	4.3	5.5	10.0	None	-	-	-	38.8	44.3	50	50	
											E06	6.0	1	14.4	38.8	44.3	50	50	
											E09	9.0	1	21.7	44.9	51.8	50	60	
											E15	15.0	2	36.1	63.0	69.9	70	70	
	460	6.4		41.0	10.0		3.5	2.1	2.2	5.0	None	-	-	-	18.6	20.8	25	25	
											E06	6.0	1	7.2	18.6	20.8	25	25	
											E09	9.0	1	10.8	22.4	25.2	25	30	
											E15	15.0	2	18.0	31.4	34.2	35	35	
575	4.6		33.0	7.1		3.5	2.0	1.8	4.0	None	-	-	-	14.6	16.4	15	20		
										E09	9.0	1	8.7	18.3	20.6	20	25		
										E15	15.0	2	14.4	25.5	27.8	30	30		
										E20	20.0	2	19.2	31.6	33.8	35	35		
061 (5)	208	16.5		110.0	26		3.5	6.8	5.5	20	None	-	-	-	44.4	49.9	60	60	
											E06	4.5	1	12.5	44.4	49.9	60	60	
											E08	6.8	1	18.9	44.6	51.5	60	60	
											E15	11.3	2	31.4	60.3	67.1	70	70	
	230	16.5		110.0	26		3.5	6.8	5.5	20	None	-	-	-	44.4	49.9	60	60	
											E06	6	1	14.4	44.4	49.9	60	60	
											E08	9	1	21.7	48.1	55	60	60	
											E15	15	2	36.1	66.1	73	70	80	
	460	7.2		52.0	11		3.5	3.15	2.2	20	None	-	-	-	20.7	22.9	25	30	
											E06	6	1	7.2	20.7	22.9	25	30	
											E08	9	1	10.8	23.7	26.4	25	30	
											E15	15	2	18	32.7	35.4	35	40	
575	5.5		38.9	9		3.5	2.2	1.8	20	None	-	-	-	15.9	17.7	20	20		
										E08	9	1	8.7	18.6	20.9	20	25		
										E15	15	2	14.4	25.8	28	30	30		
										E20	20	2	19.2	31.8	34	35	35		
575	5.5		38.9	9		3.5	2.2	1.8	20	E23	24	2	23.1	36.6	38.9	40	40		
										E23	24	2	23.1	36.6	38.9	40	40		

**ZT037-150 high static indoor blower - with powered convenience outlet (continued)**

Size (tons)	Volt	Compressors (each)						OD fan motors (each)	Supply blower motor	Pwr exh motor	Pwr conv outlet	Electric heat option				MCA <sup>1</sup> (amps)	MCA <sup>1</sup> with pwr exh (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size with pwr exh (amps)
		RLA		LRA		MCC						Model	kW	Stages	Amps				
		C1	C2	C1	C2	C1	C2												
078 (6.5)	208	11.6	11.6	73	73	18	18	3.5	6.8	5.5	20	None	-	-	56.9	62.4	60	70	
												E09	6.8	1	18.9	56.9	62.4	60	70
												E18	13.5	2	37.5	67.9	74.8	70	80
												E24	18	2	50	83.5	90.4	90	100
	230	11.6	11.6	73	73	18	18	3.5	6.8	5.5	20	None	-	-	56.9	62.4	60	70	
												E09	9	1	21.7	56.9	62.4	60	70
												E18	18	2	43.3	75.1	82	80	90
												E24	24	2	57.7	93.1	100	100	100
	460	5.7	5.7	38	38	9	9	1.6	3.4	2.2	20	None	-	-	27.6	29.8	30	35	
												E09	9	1	10.8	27.6	29.8	30	35
												E18	18	2	21.7	37.6	40.4	40	45
												E24	24	2	28.9	46.6	49.4	50	50
090 (7.5)	208	11.6	14	73	83.1	18	22	3.5	9.6	5.5	20	None	-	-	62.7	68.2	70	80	
												E09	6.8	1	18.9	62.7	68.2	70	80
												E18	13.5	2	37.5	71.4	78.3	80	80
												E24	18	2	50	87	93.9	90	100
	230	11.6	14	73	83.1	18	22	3.5	9.6	5.5	20	None	-	-	62.7	68.2	70	80	
												E09	9	1	21.7	62.7	68.2	70	80
												E18	18	2	43.3	78.6	85.5	80	90
												E24	24	2	57.7	96.6	103.5	100	110
	460	5.7	6.4	38	41	9	10	1.6	4.7	2.2	20	None	-	-	29.8	32	35	35	
												E09	9	1	10.8	29.8	32	35	35
												E18	18	2	21.7	39.3	42	40	45
												E24	24	2	28.9	48.3	51	50	60
102 (8.5)	208	14	14	83.1	83.1	22	22	3.5	9.6	5.5	20	None	-	-	65.1	70.6	70	80	
												E09	6.8	1	18.9	65.1	70.6	70	80
												E18	13.5	2	37.5	71.4	78.3	80	80
												E24	18	2	50	87	93.9	90	100
	230	14	14	83.1	83.1	22	22	3.5	9.6	5.5	20	None	-	-	65.1	70.6	70	80	
												E09	9	1	21.7	65.1	70.6	70	80
												E18	18	2	43.3	78.6	85.5	80	90
												E24	24	2	57.7	96.6	103.5	100	110
	460	6.4	6.4	41	41	10	10	1.6	4.7	2.2	20	None	-	-	30.5	32.7	35	35	
												E09	9	1	10.8	30.5	32.7	35	35
												E18	18	2	21.7	39.3	42	40	45
												E24	24	2	28.9	48.3	51	50	60
120 (10)	208	16.2	16.2	110	110	25	25	3.5	9.6	5.5	20	None	-	-	70.1	75.6	80	90	
												E18	13.5	2	37.5	71.4	78.3	80	90
												E24	18	2	50	87	93.9	90	100
												E36	25.5	2	70.8	113	119.9	125	125
	230	16.2	16.2	110	110	25	25	3.5	9.6	5.5	20	None	-	-	70.1	75.6	80	90	
												E18	18	2	43.3	78.6	85.5	80	90
												E24	24	2	57.7	96.6	103.5	100	110
												E36	34	2	81.8	126.8	133.6	150	150
	460	7.6	7.6	52	52	12	12	1.6	4.7	2.2	20	None	-	-	33.2	35.4	40	40	
												E18	18	2	21.7	39.3	42	40	45
												E24	24	2	28.9	48.3	51	50	60
												E36	34	2	40.9	63.3	66	70	70

**ZT037-150 high static indoor blower - with powered convenience outlet (continued)**

Size (tons)	Volt	Compressors (each)						OD fan motors (each)	Supply blower motor	Pwr exh motor	Pwr conv outlet	Electric heat option				MCA <sup>1</sup> (amps)	MCA <sup>1</sup> with pwr exh (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size (amps)	Max fuse <sup>2</sup> / breaker <sup>3</sup> size with pwr exh (amps)				
		RLA		LRA		MCC						FLA	FLA	FLA	FLA					Model	kW	Stages	Amps
		C1	C2	C1	C2	C1	C2																
150 (12.5)	208	17.6	17.6	136	136	27	27	3.5	14	5.5	20	None	-	-	-	77.6	83.1	90	100				
												E18	13.5	2	37.5	77.6	83.8	90	100				
												E24	18	2	50	92.5	99.4	100	100				
												E36	25.5	2	70.8	118.5	125.4	125	150				
												E54	40.6	2	112.7	170.9	177.8	175	200				
	230	17.6	17.6	136	136	27	27	3.5	14	5.5	20	None	-	-	-	77.6	83.1	90	100				
												E18	18	2	43.3	84.1	91	90	100				
												E24	24	2	57.7	102.1	109	110	110				
												E36	34	2	81.8	132.3	139.1	150	150				
												E54	54	2	129.9	159.9	166.8	175	175				
	460	8.5	8.5	66.1	66.1	13	13	1.6	6.6	2.2	20	None	-	-	-	37.1	39.3	45	45				
												E18	18	2	21.7	41.6	44.4	45	45				
												E24	24	2	28.9	50.6	53.4	60	60				
												E36	34	2	40.9	65.6	68.4	70	70				
												E54	54	2	65	79.5	82.3	90	90				

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

**Electric heat multipliers**

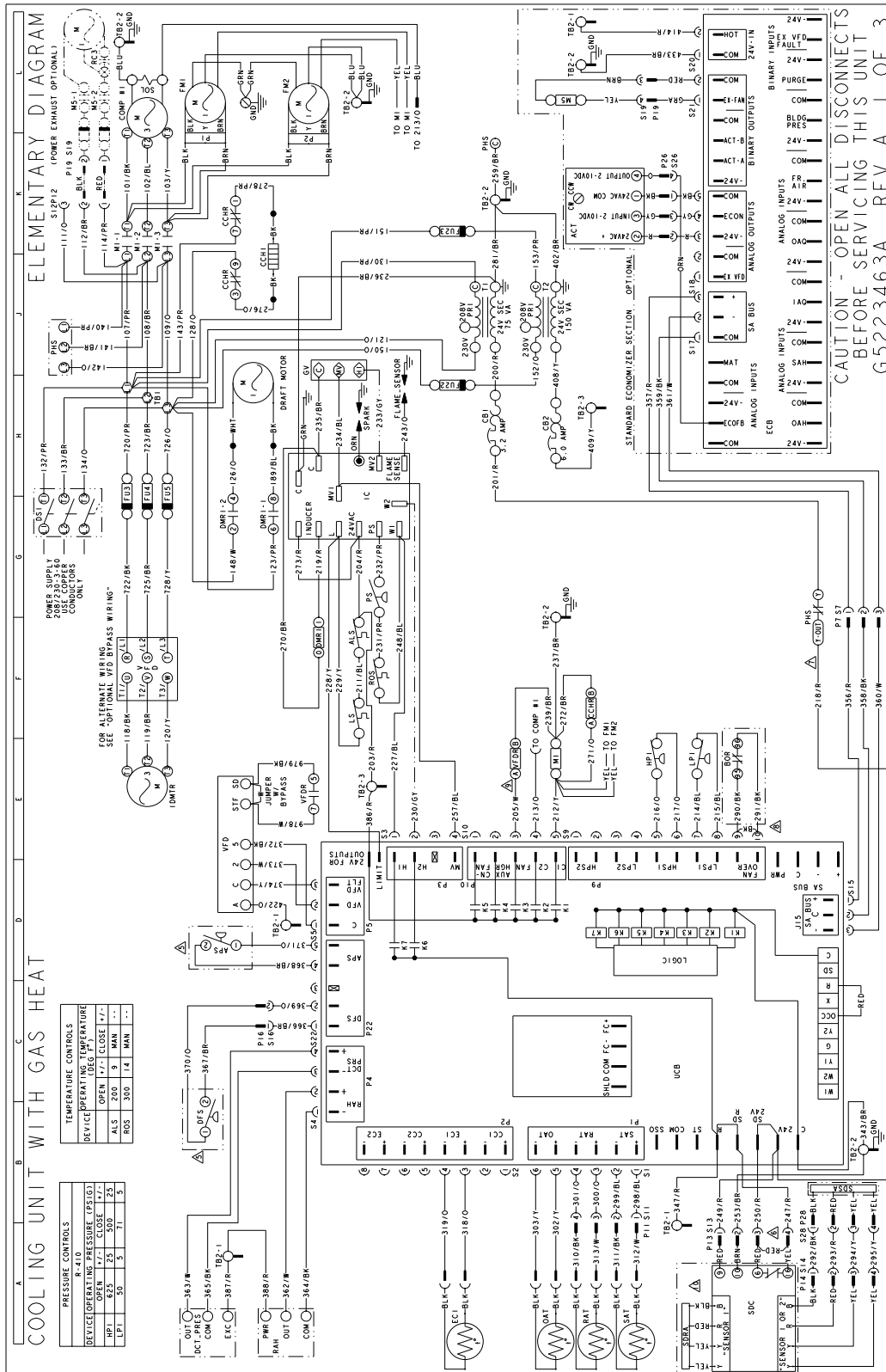
Voltage		kW capacity multipliers <sup>1</sup>
Nominal	Applied	
240	208	0.75
	230	0.92
480	460	0.92
600	575	0.92

1. Electric heaters are rated at nominal voltage. Use this table to determine the electric heat capacity for heaters applied at lower voltages.

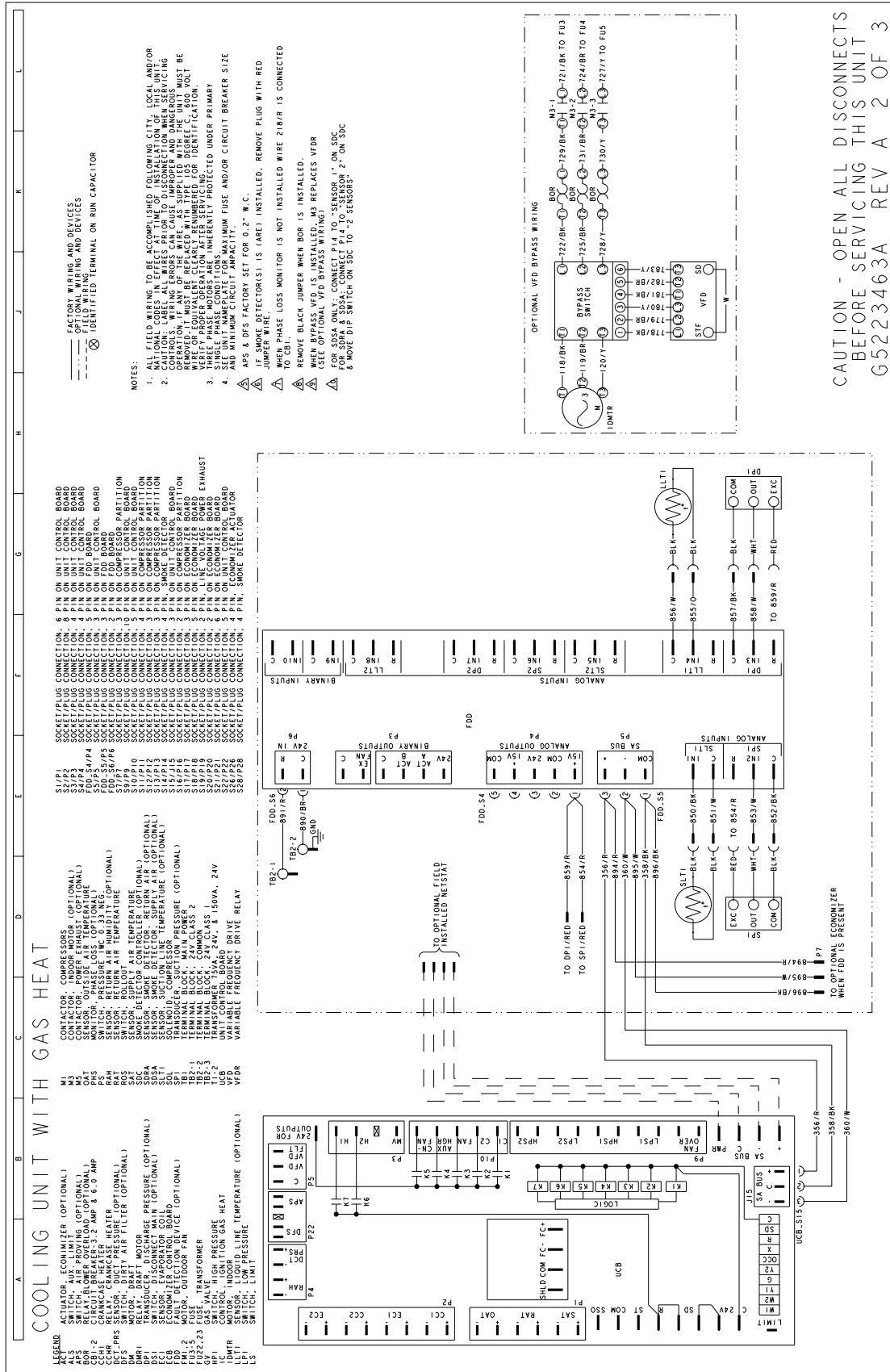
# Typical wiring diagrams

## ZT037-150 typical wiring diagrams

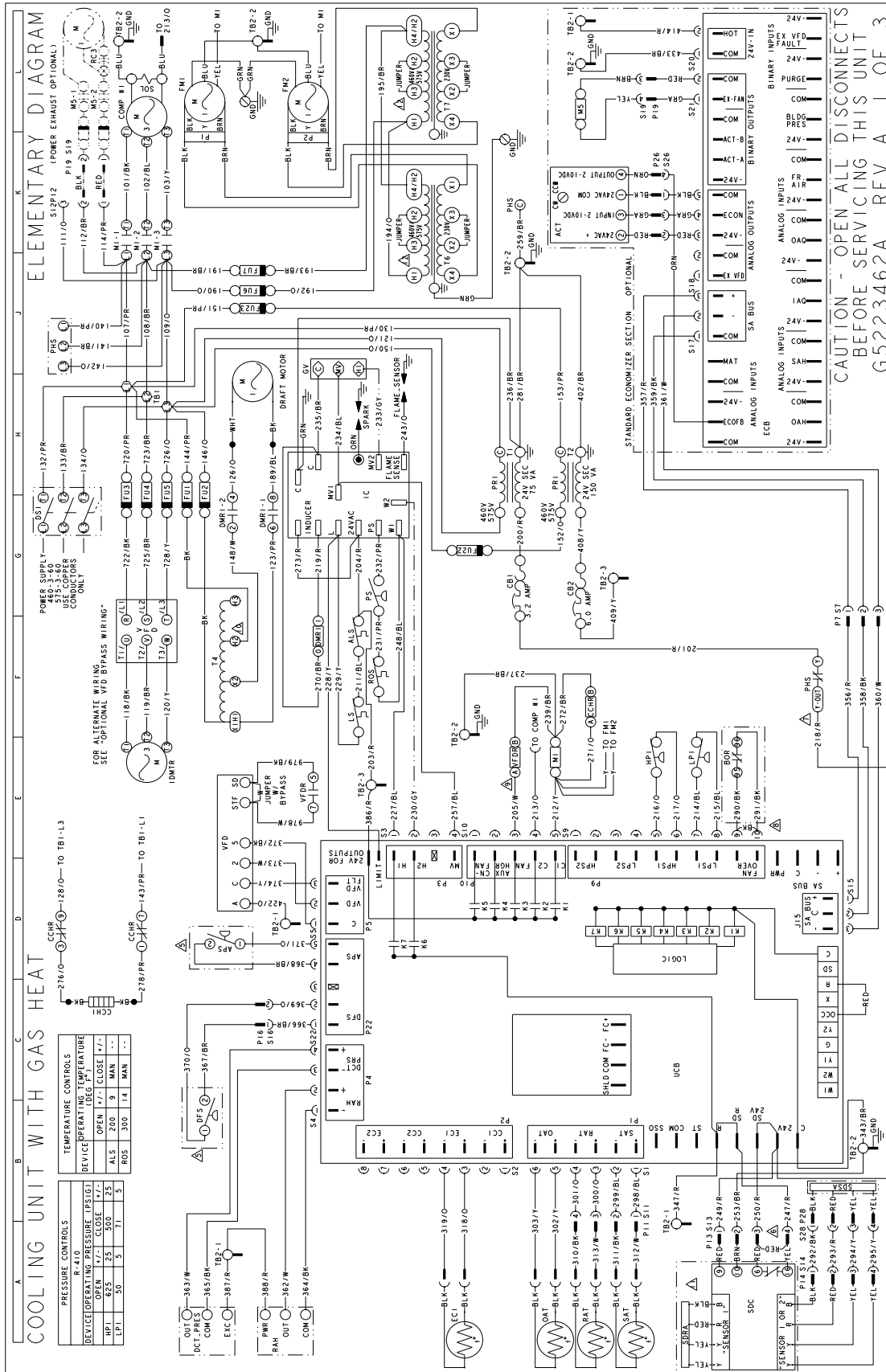
### Typical ZT037-061 cooling unit with gas heat 208/230 volt wiring diagram



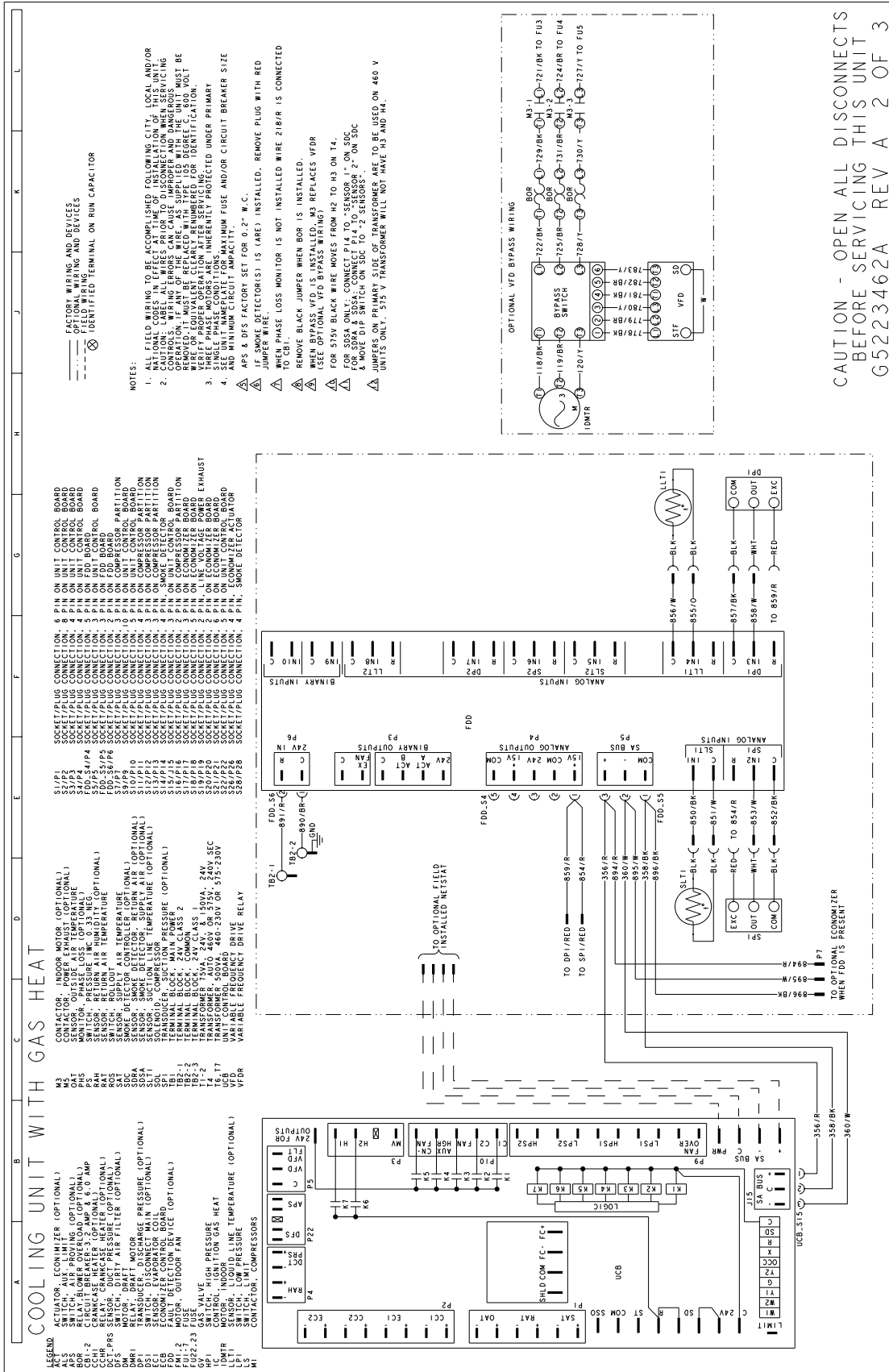
Typical ZT037-061 cooling unit with gas heat 208/230 volt unit (options)



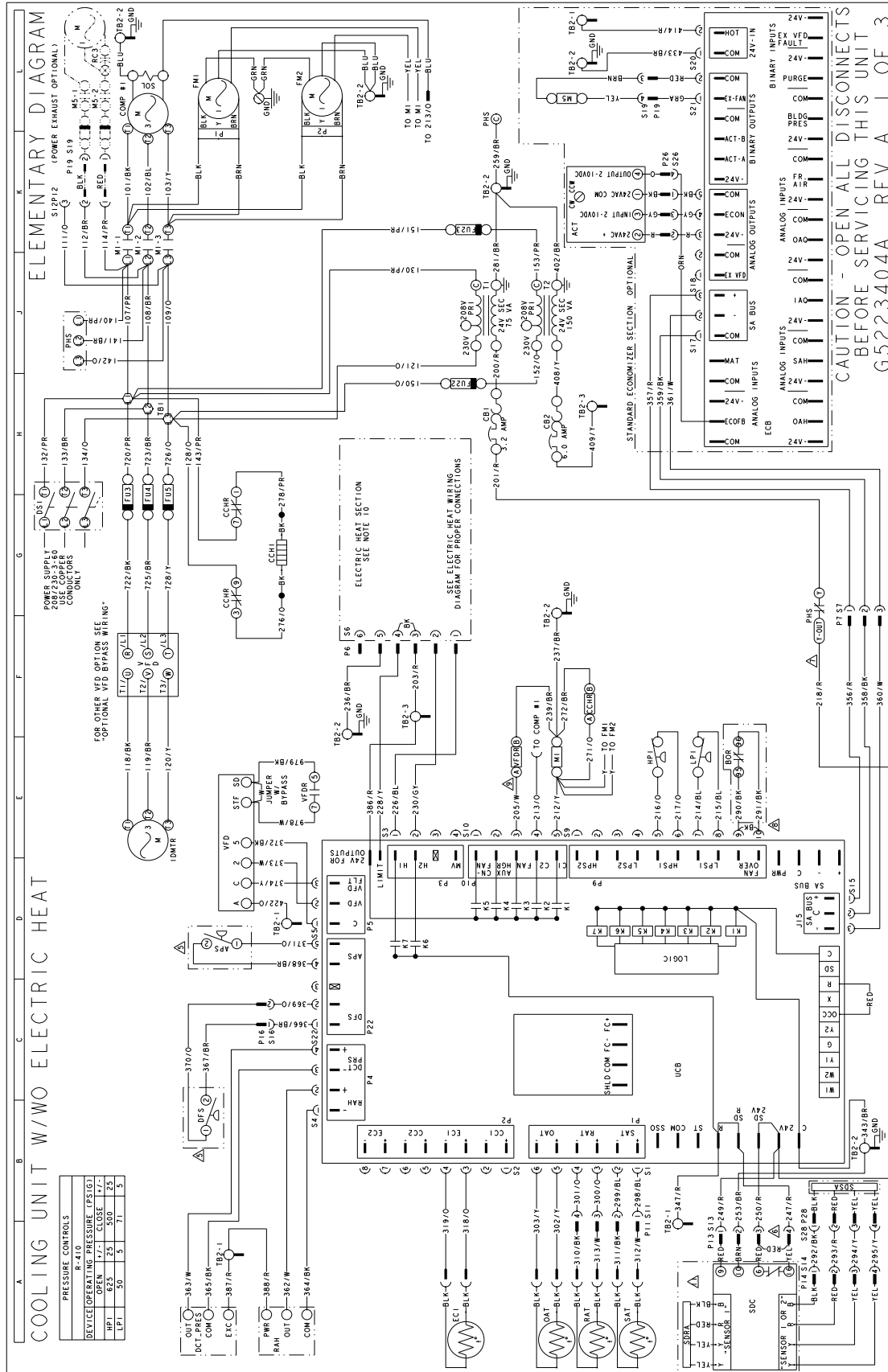
Typical ZT037-061 cooling unit with gas heat 460/575 volt wiring diagram



Typical ZT037-061 cooling unit with gas heat 460/575 volt unit (options)

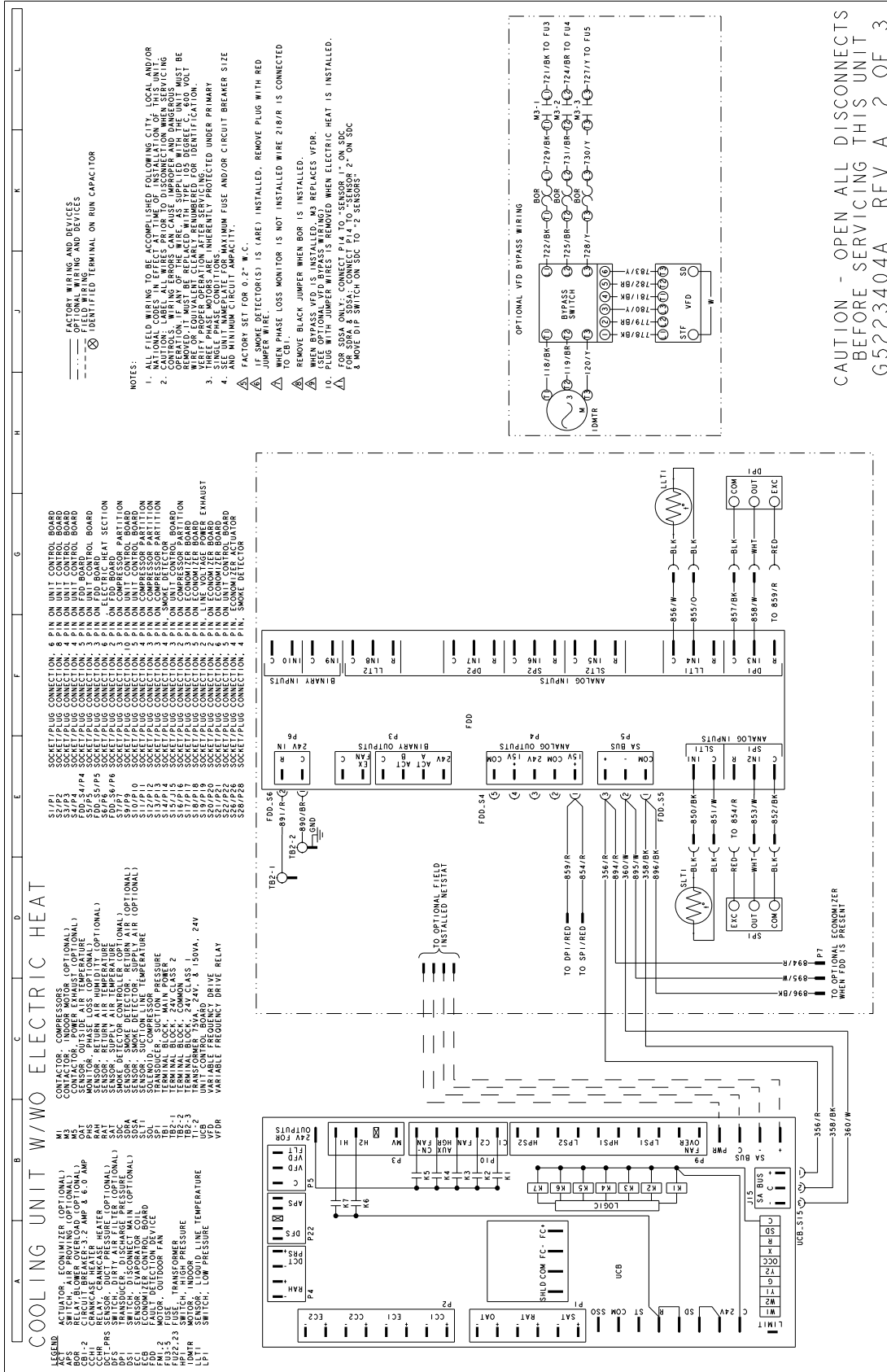


Typical ZT037-061 cooling unit with/without electric heat 208/230 volt wiring diagram

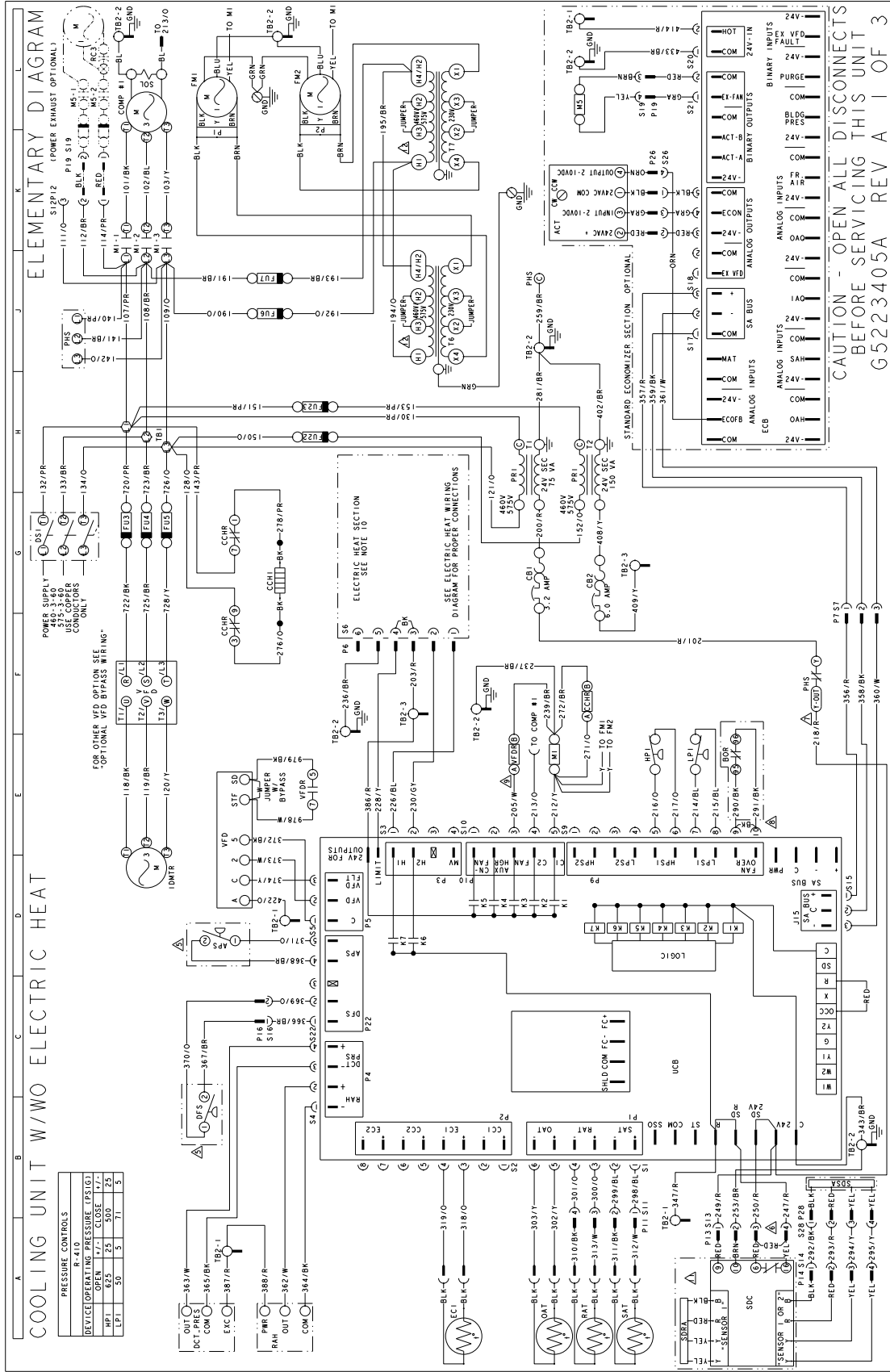




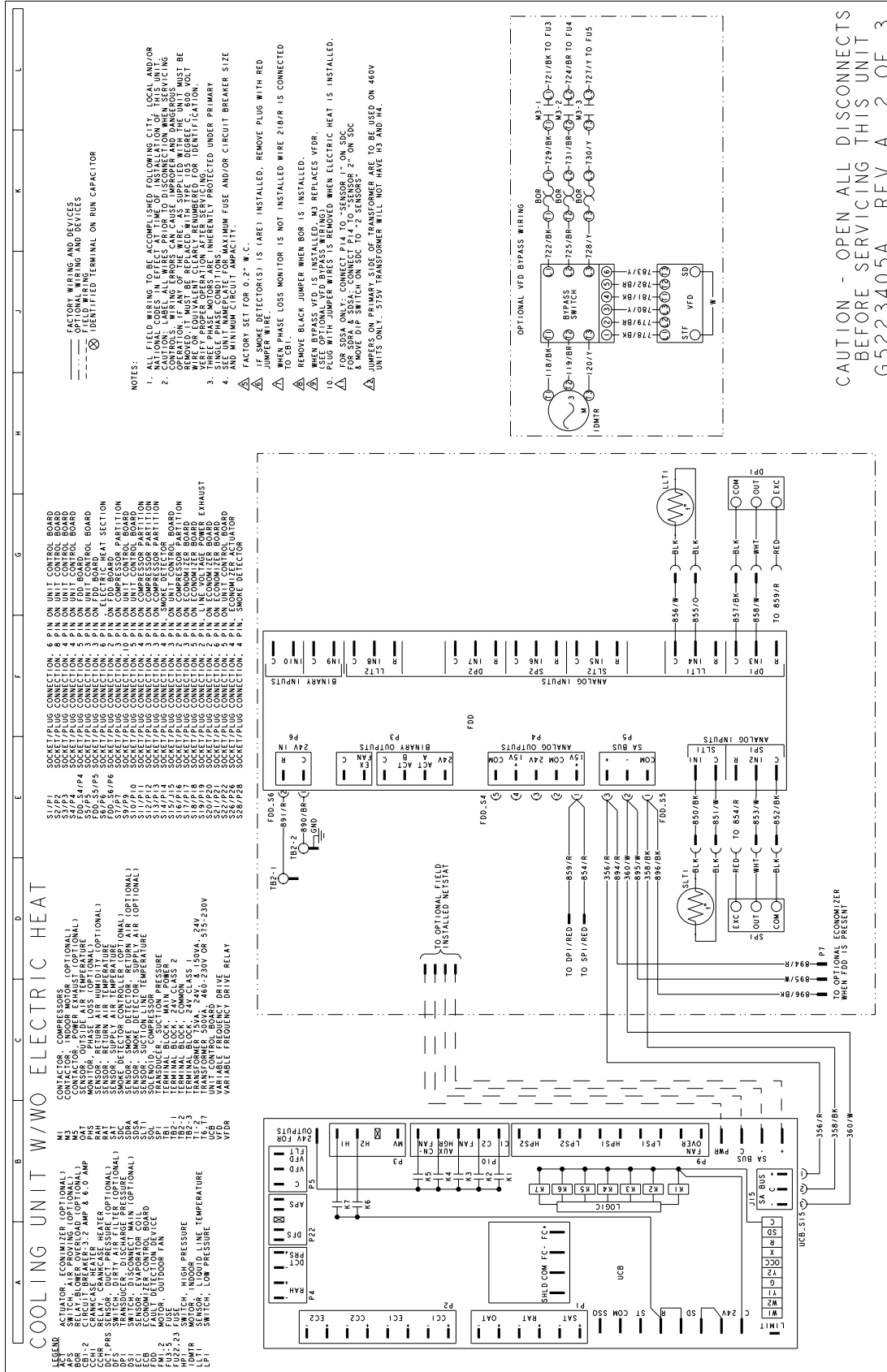
Typical ZT037-061 cooling unit with/without electric heat 208/230 volt unit



Typical ZT037-061 cooling unit with/without electric heat 460/575 volt wiring diagram

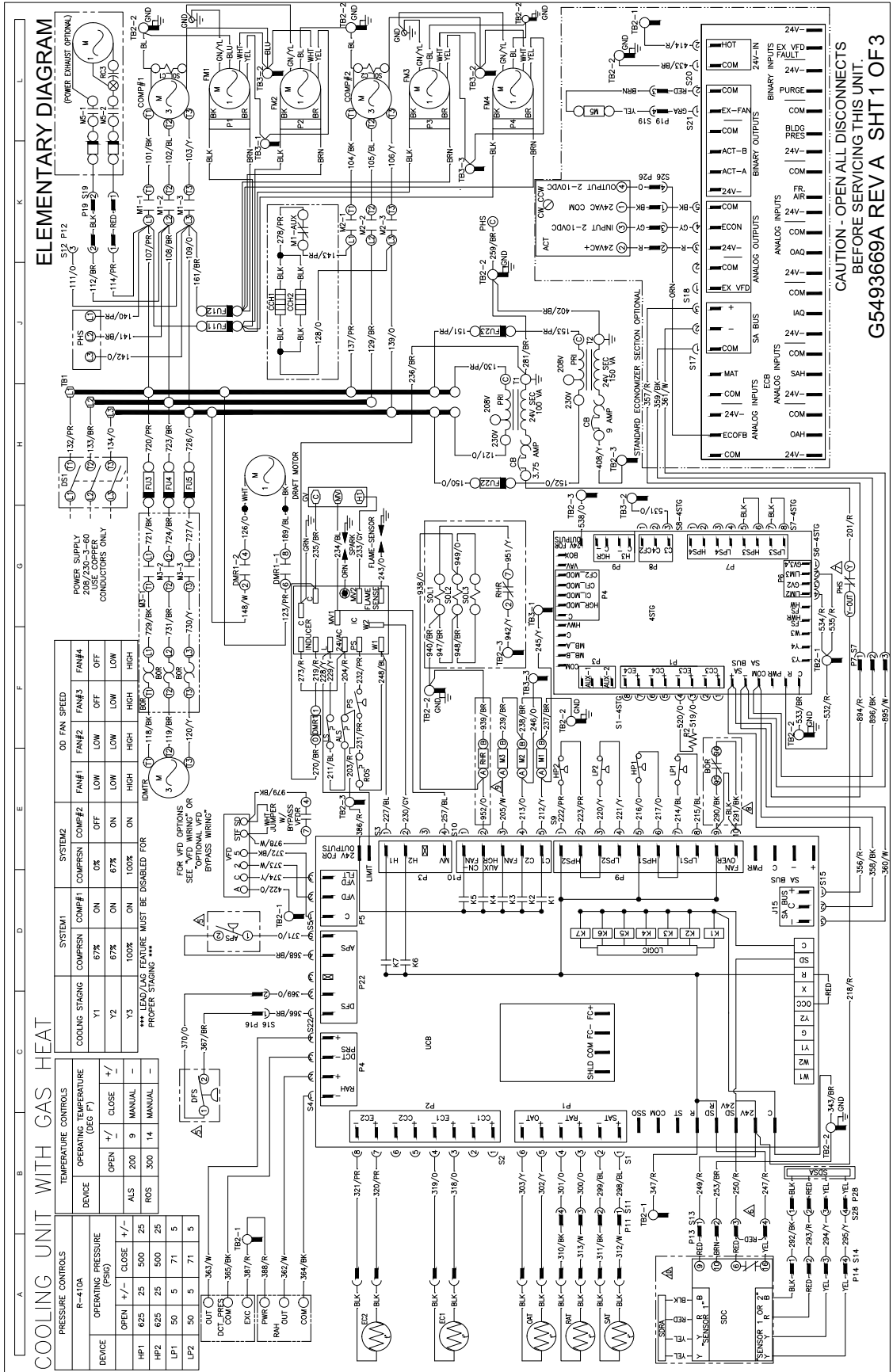


### Typical ZT037-061 cooling unit with/without electric heat 460/575 volt unit (options)

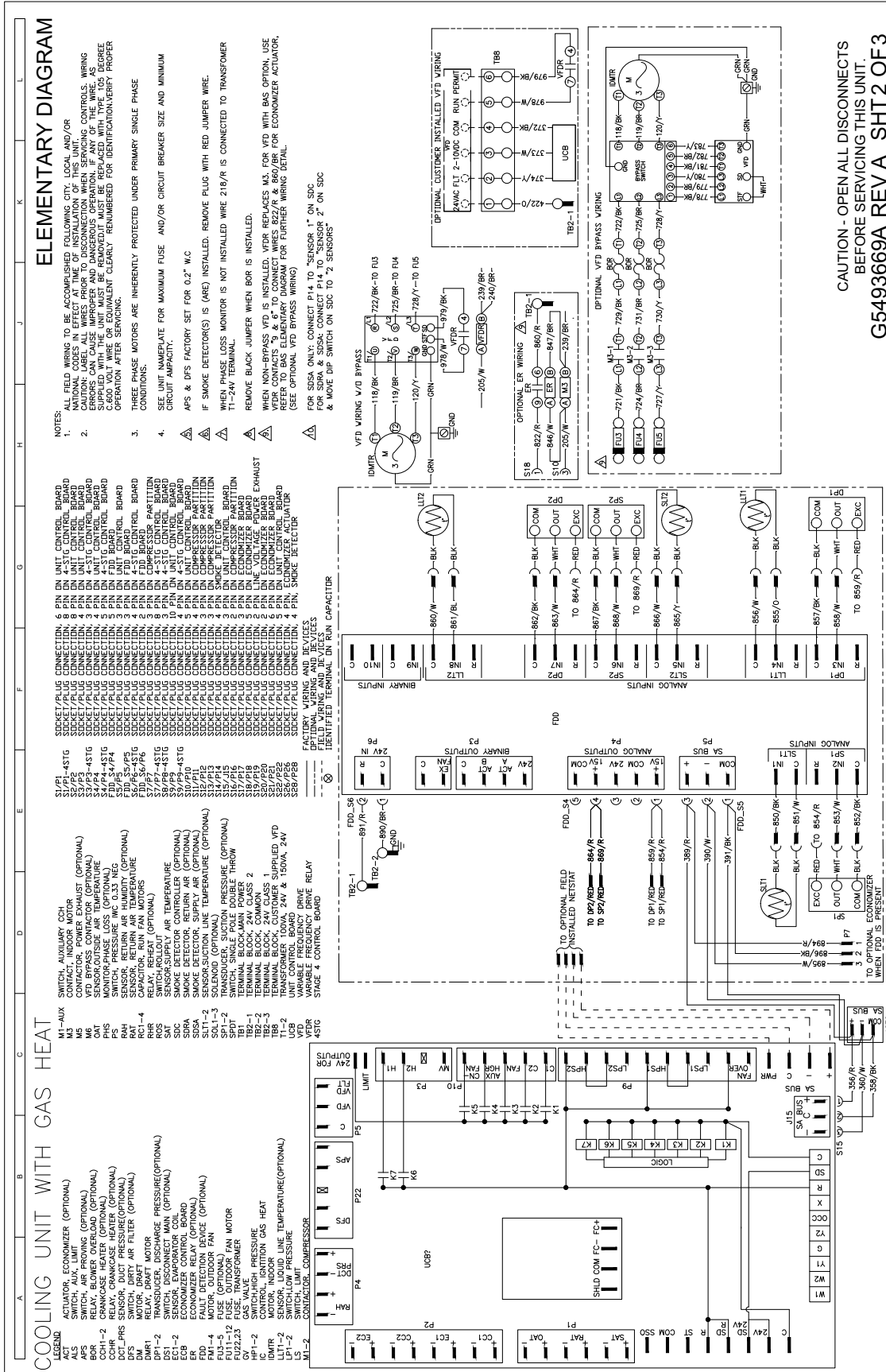


CAUTION - OPEN ALL DISCONNECTS BEFORE SERVICING THIS UNIT  
G5223405A REV A 2 OF 3

Typical ZT078-150 cooling unit with gas heat 208/230 volt wiring diagram



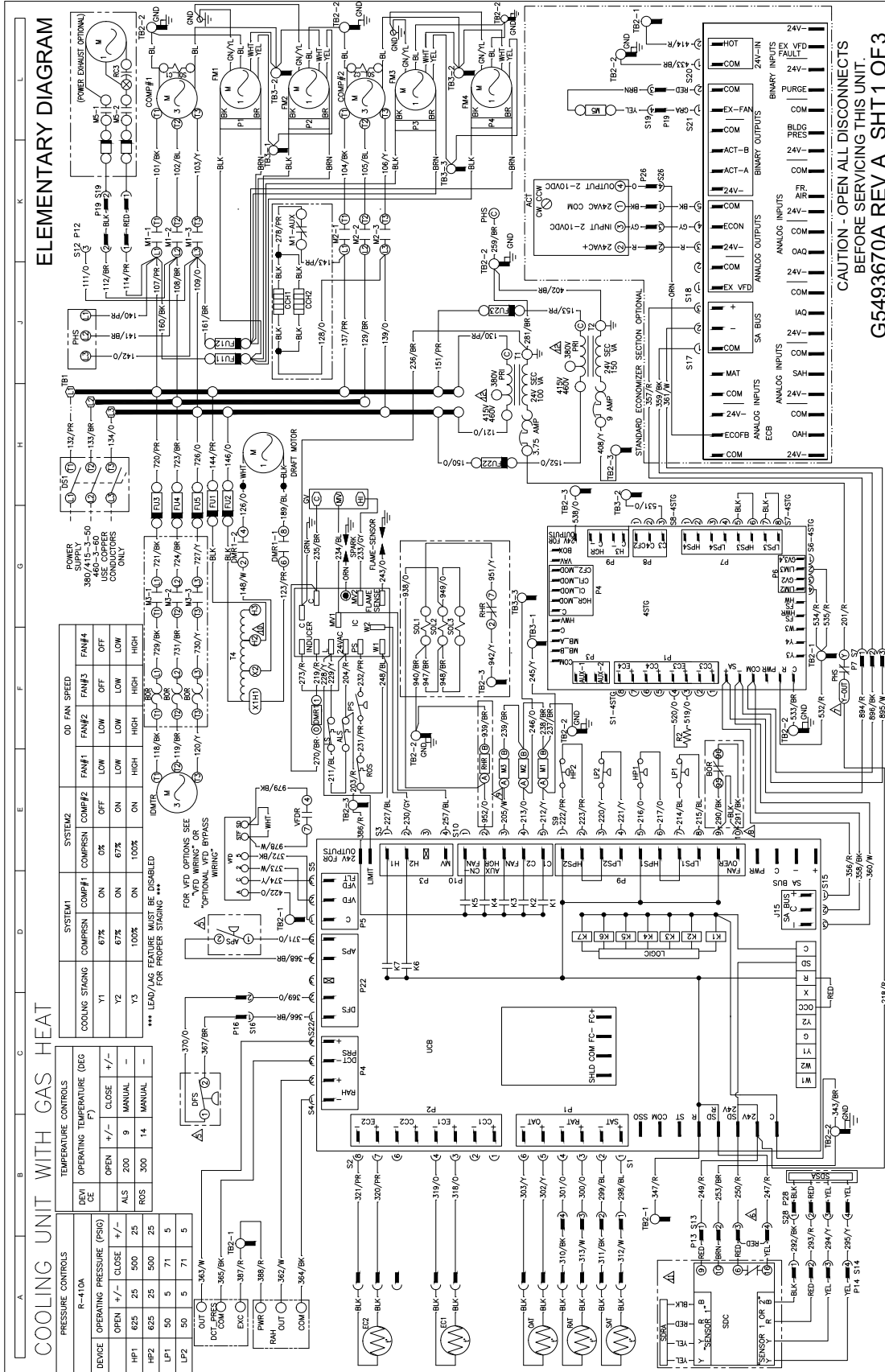
Typical ZT078-150 cooling unit with gas heat 208/230 volt unit (options)



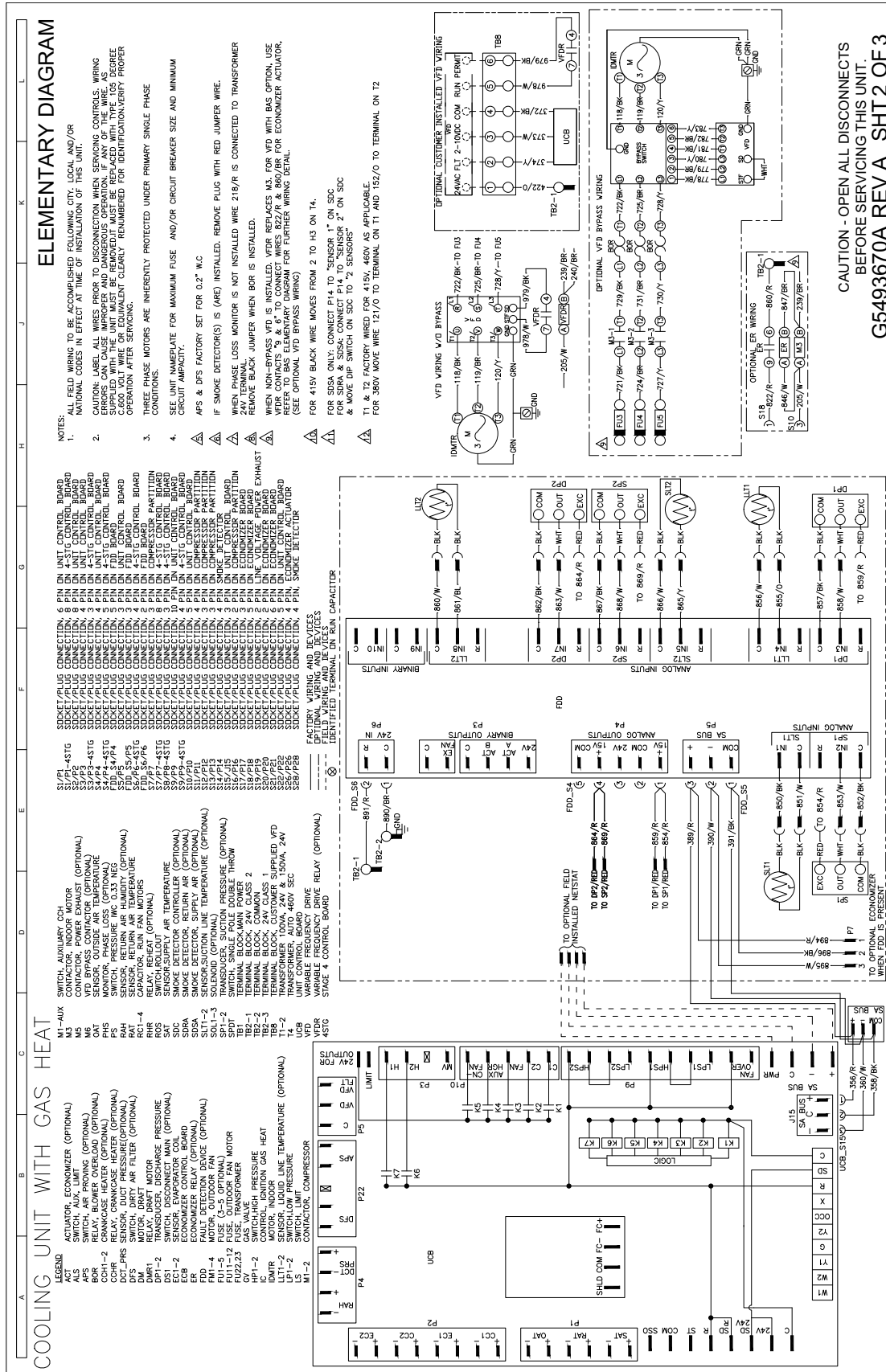
**CAUTION - OPEN ALL DISCONNECTS BEFORE SERVICING THIS UNIT.**

**G5493669A REV A SHT 2 OF 3**

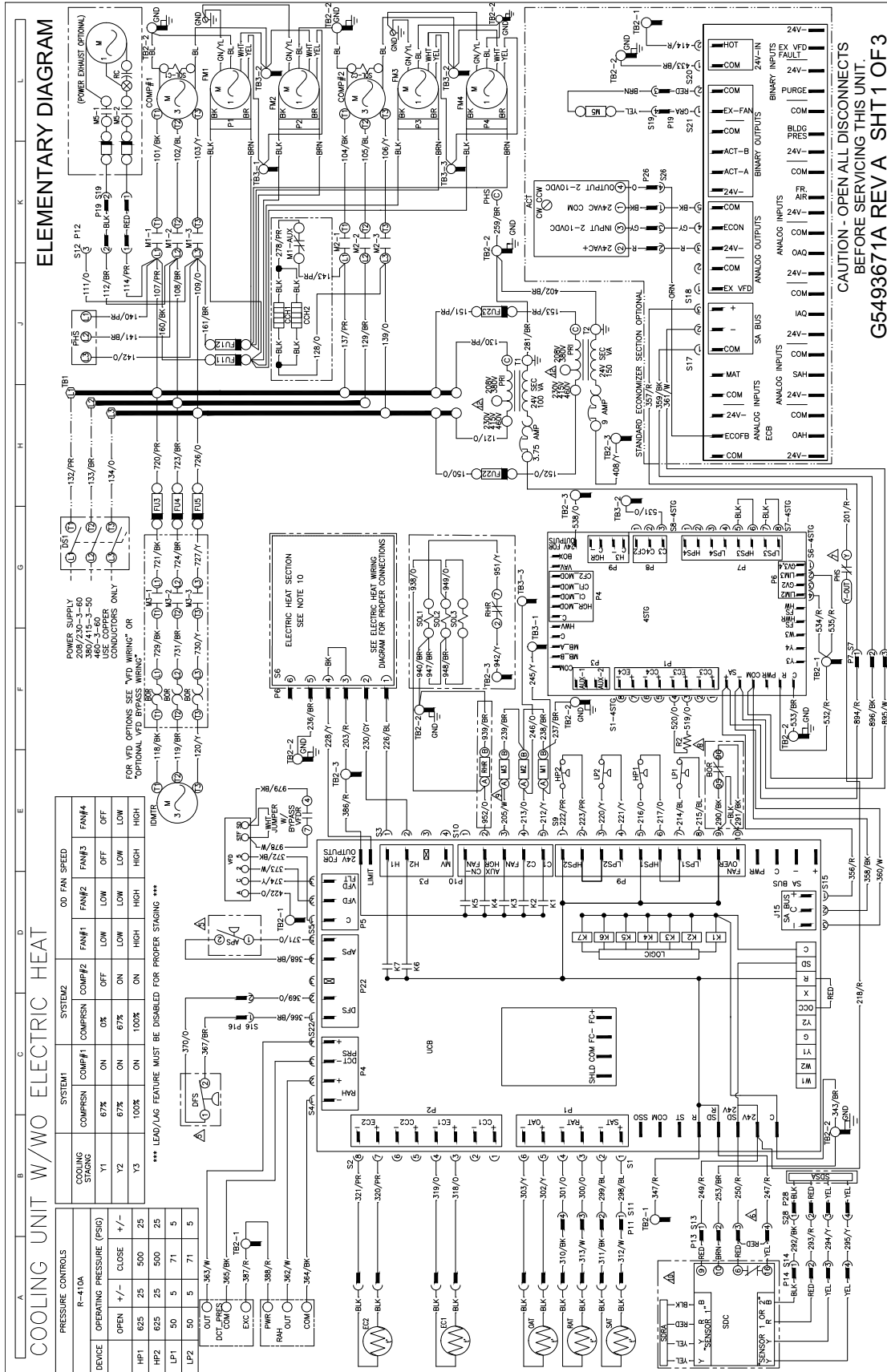
Typical ZT078-150 cooling unit with gas heat 460 volt wiring diagram



Typical ZT078-150 cooling unit with gas heat 460 volt unit (options)

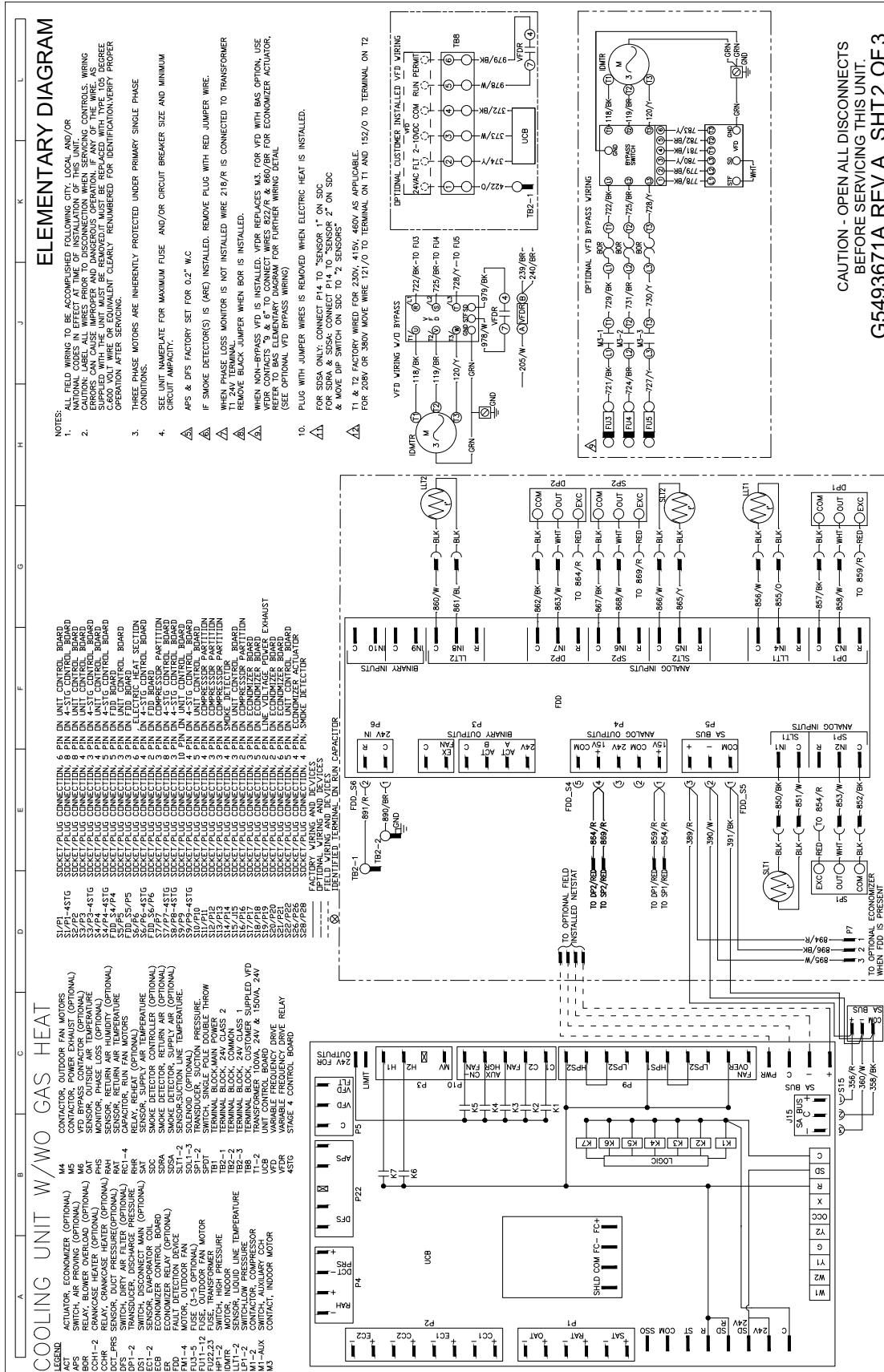


Typical ZT078-150 cooling unit with/without electric heat wiring diagram



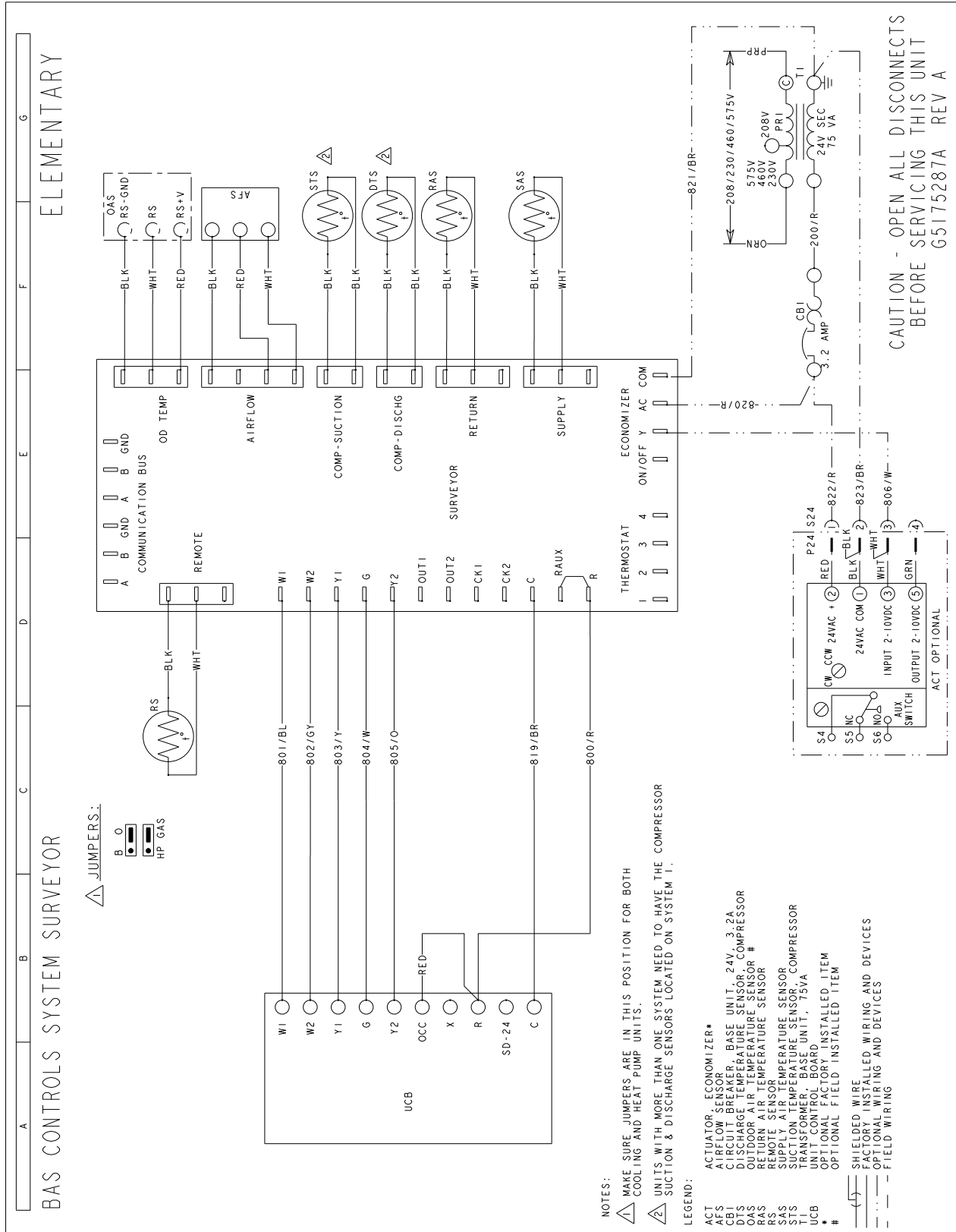


Typical ZT078-150 cooling unit with/without electric heat unit (options)

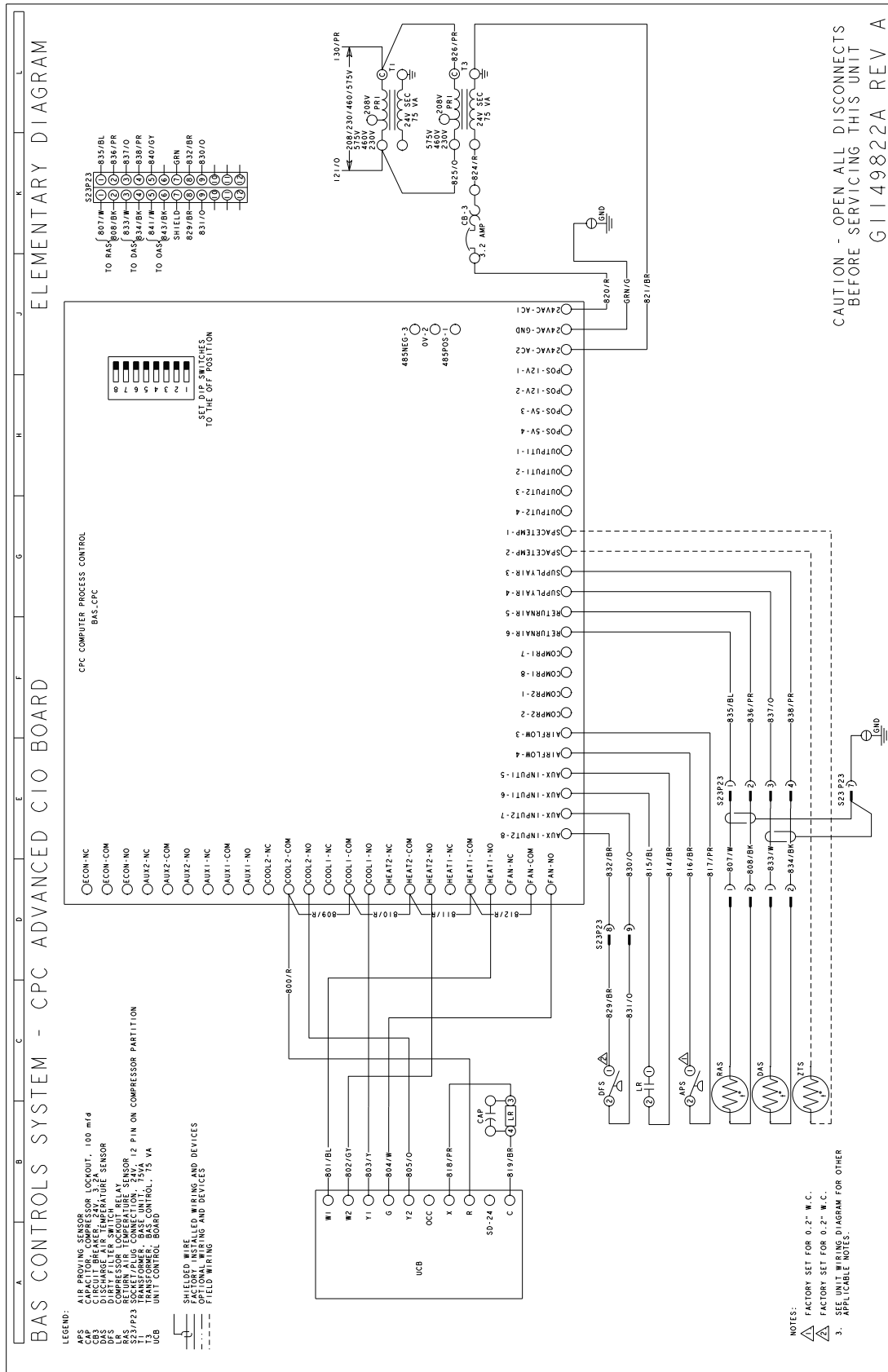


# BAS controls typical wiring diagrams

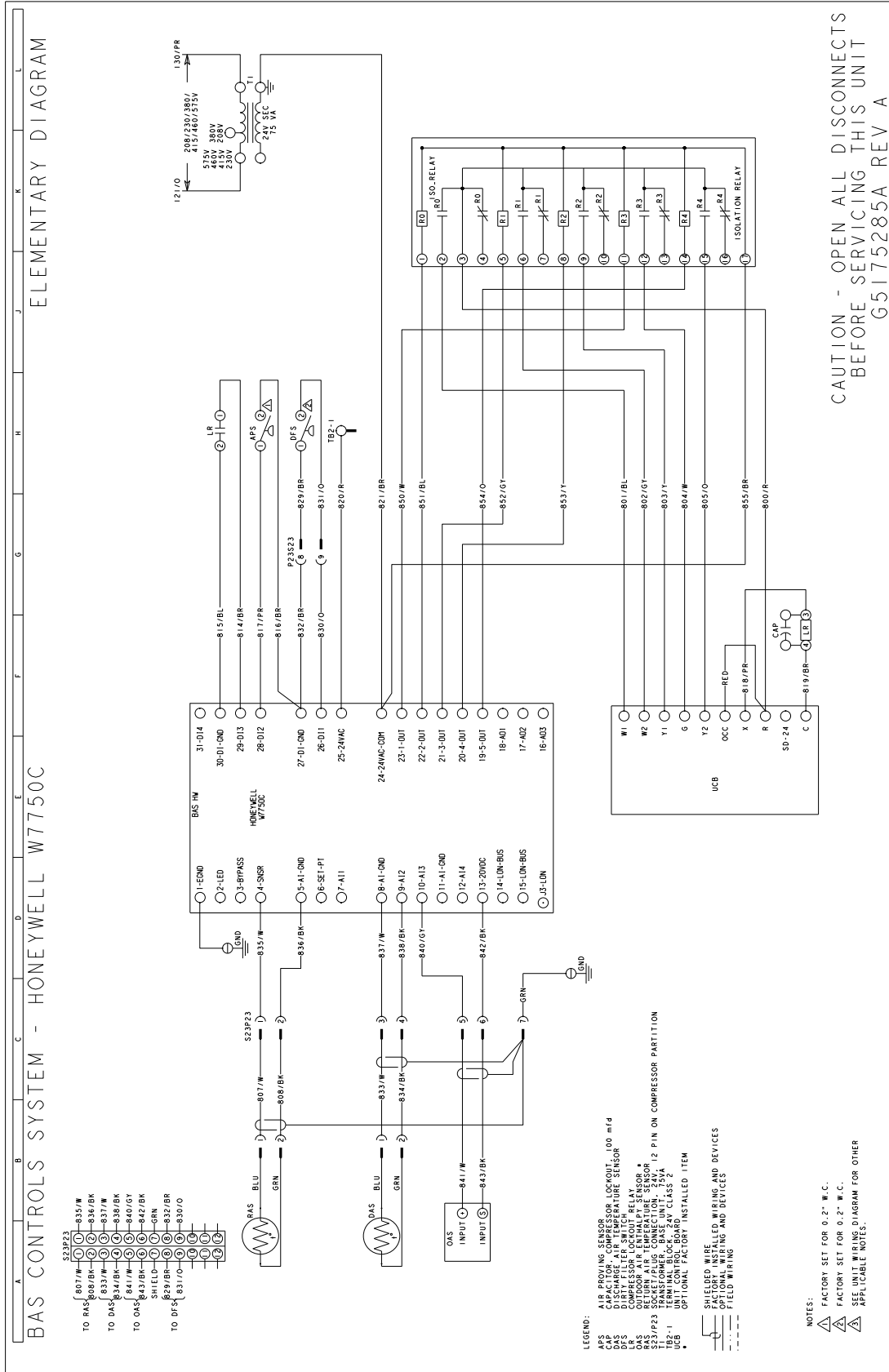
## Typical SURVEYOR BAS control wiring diagram



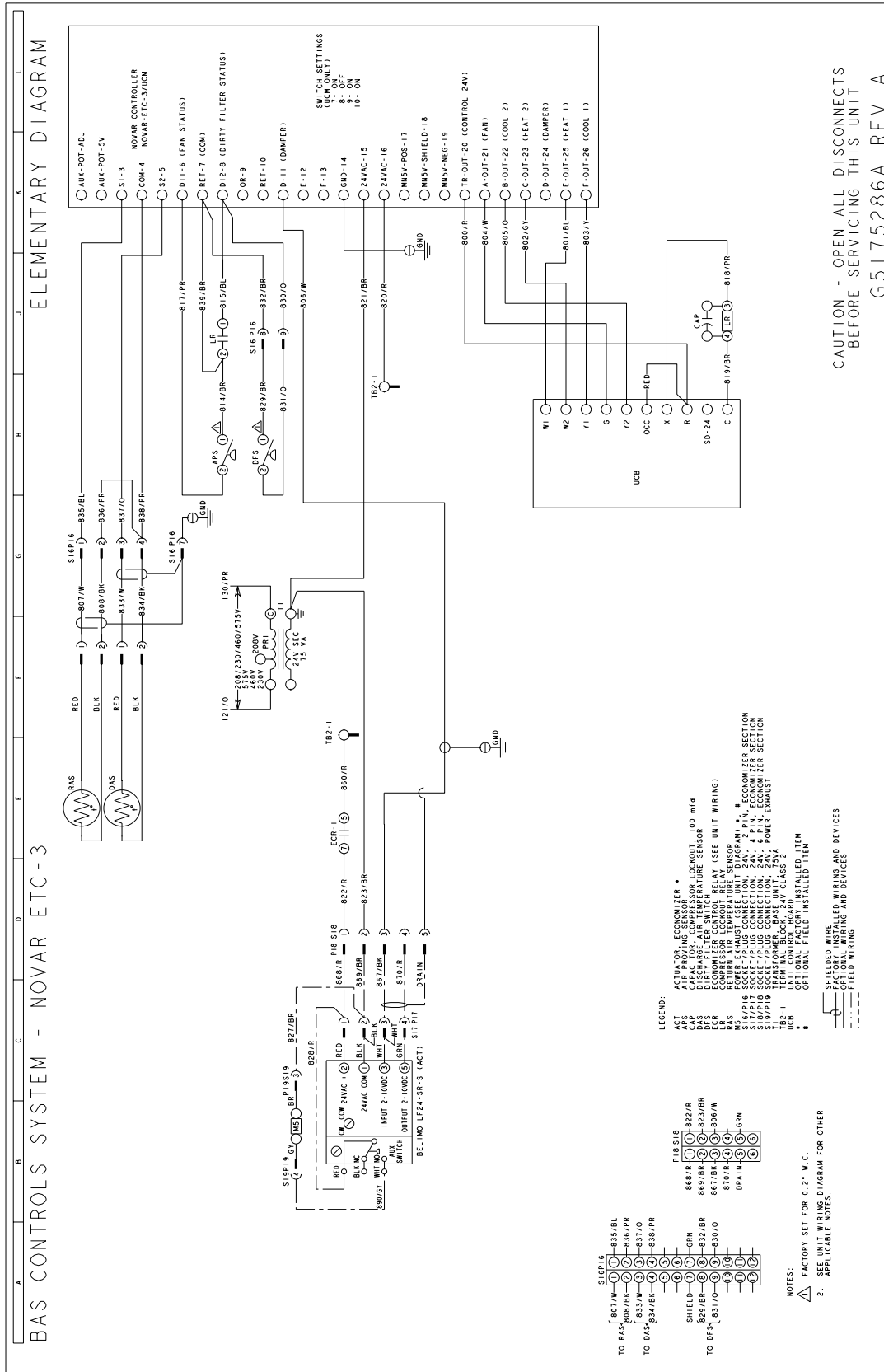
Typical CPC BAS control wiring diagram



Typical HONEYWELL BAS control wiring diagram



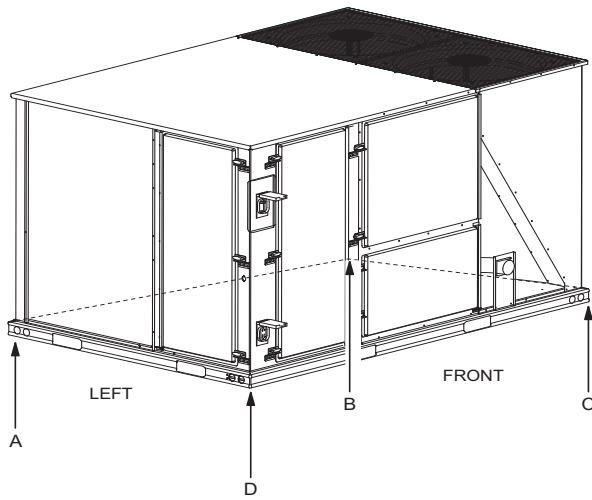
Typical NOVAR BAS control wiring diagram



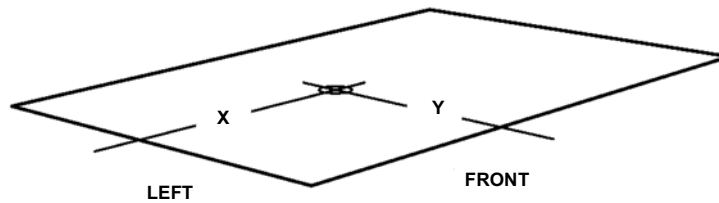
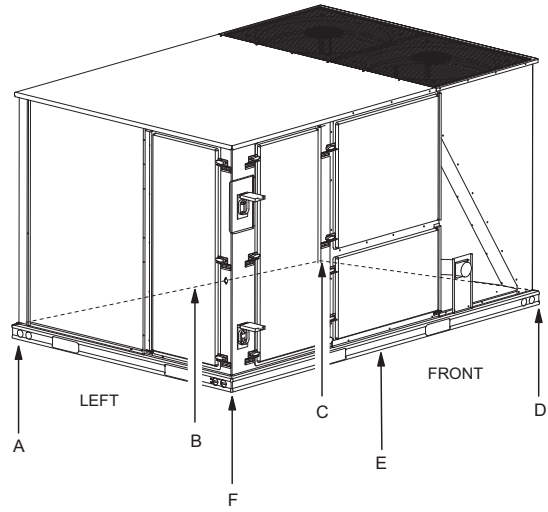
## Weights and dimensions

### ZT037-150 unit weights

Unit 4 point load weight



Unit 6 point load weight



### ZT037-150 standard unit weights

Size (tons)	Model	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
037 (3)	ZT	927	922	42.4	24.7	202	184	255	281	137	128	121	168	178	190
049 (4)	ZT	965	960	42.5	25.5	217	198	260	285	147	138	130	171	181	193
061 (5)	ZT	973	968	41.6	25.5	223	196	257	293	152	139	128	168	183	199
078 (6.5)	ZT	1287	1282	47.25	24.00	245	277	404	357	160	173	188	275	253	233
090 (7.5)	ZT	1288	1283	48.25	25.34	252	299	397	335	164	183	205	272	242	217
102 (8.5)	ZT	1289	1284	47.25	24.75	253	286	396	350	165	179	195	269	248	228
120 (10)	ZT	1465	1460	45.00	25.50	312	319	419	410	207	210	214	280	276	272
150 (12.5)	ZT	1483	1478	49.75	24.50	271	343	483	381	174	202	238	335	285	244

**ZT078-150 with MagnaDry option unit weights**

Size (tons)	Model	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
078 (6.5)	ZT	1293	1288	47.25	24.00	246	278	406	358	161	174	189	276	254	234
090 (7.5)	ZT	1298	1293	48.25	25.34	254	301	400	338	165	184	207	274	244	219
102 (8.5)	ZT	1309	1304	47.25	24.75	257	290	402	355	168	182	198	274	251	232
120 (10)	ZT	1486	1481	45.00	25.50	316	324	425	416	210	213	217	285	280	276
150 (12.5)	ZT	1503	1498	49.75	24.50	274	348	490	386	176	205	241	340	288	248

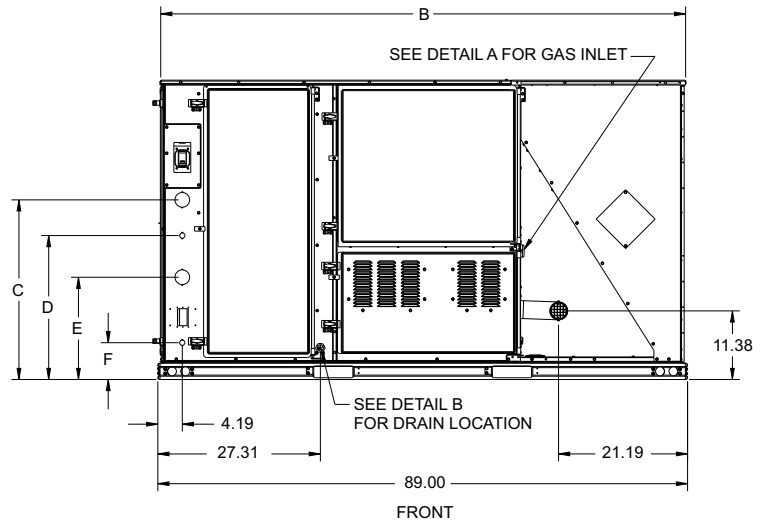
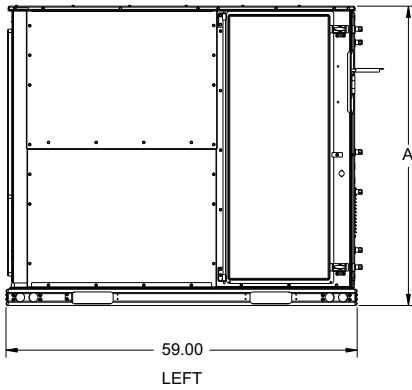
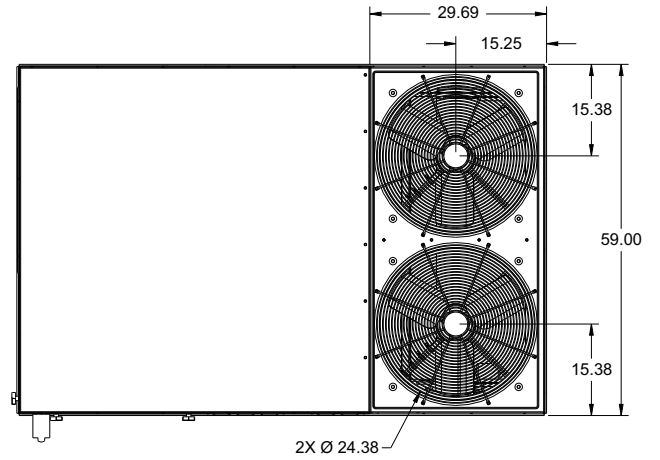
**ZT037-150 unit accessory weights**

Unit accessory	Weight (lbs.)	
	Shipping	Operating
Economizer	90	85
Power exhaust	40	35
Electric heat <sup>1</sup>	49	49
Gas heat <sup>2</sup>	110	110
Variable frequency drive <sup>3</sup>	30	30

1. Weight given is for the maximum heater size available (54KW).
2. Weight given is for the maximum number of tube heat exchangers available (8 tube).
3. Weight includes mounting hardware, controls and manual bypass option (3 to 5 ton only).

### ZT037-150 unit dimensions

ZT037 - 061

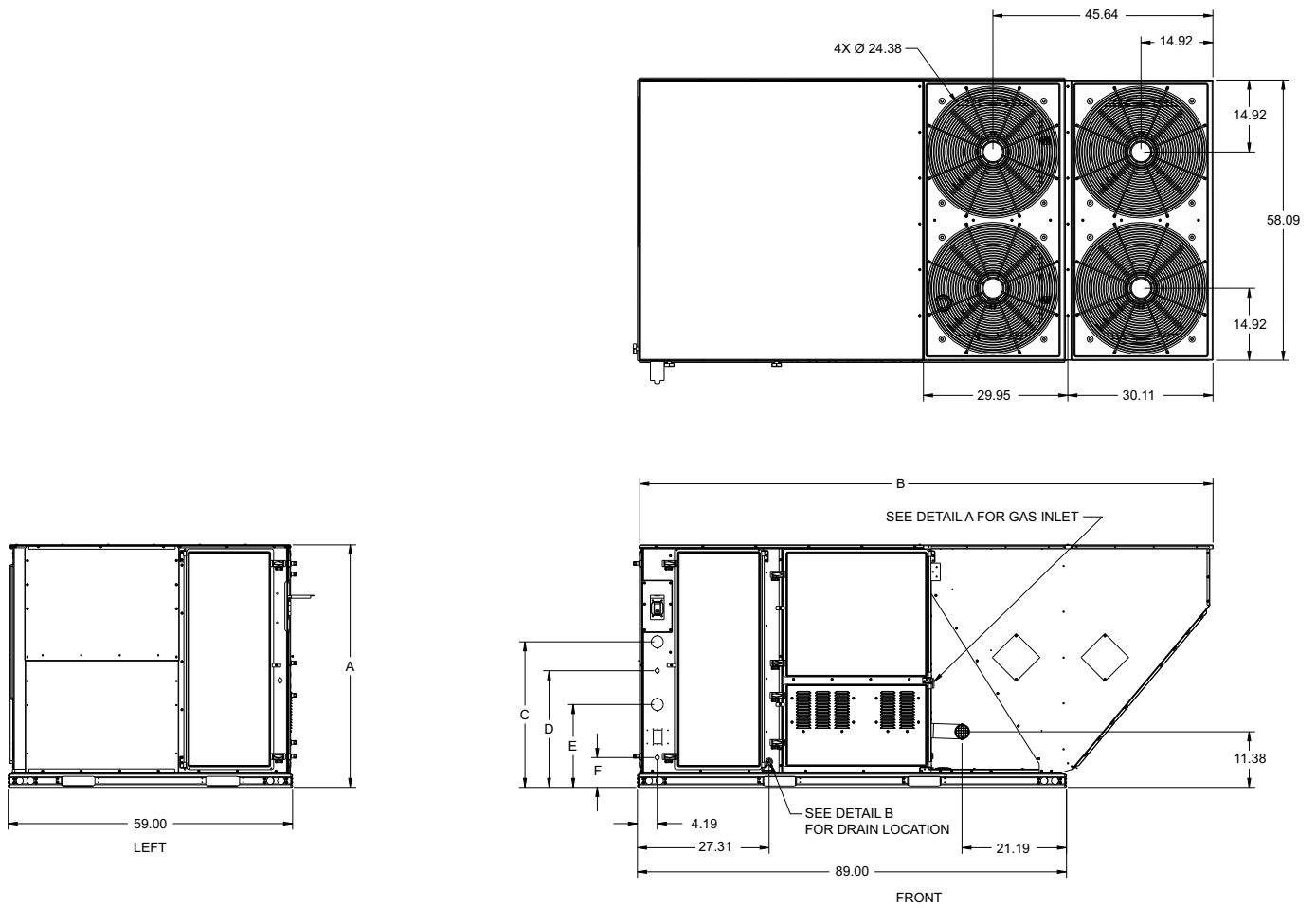


### ZT037-061 unit physical dimensions

Unit model number	Dimension (in.)					
	A	B	C	D	E	F
ZT037, 049, 061	42	89	22 1/8	18 3/16	15 3/16	6 3/16



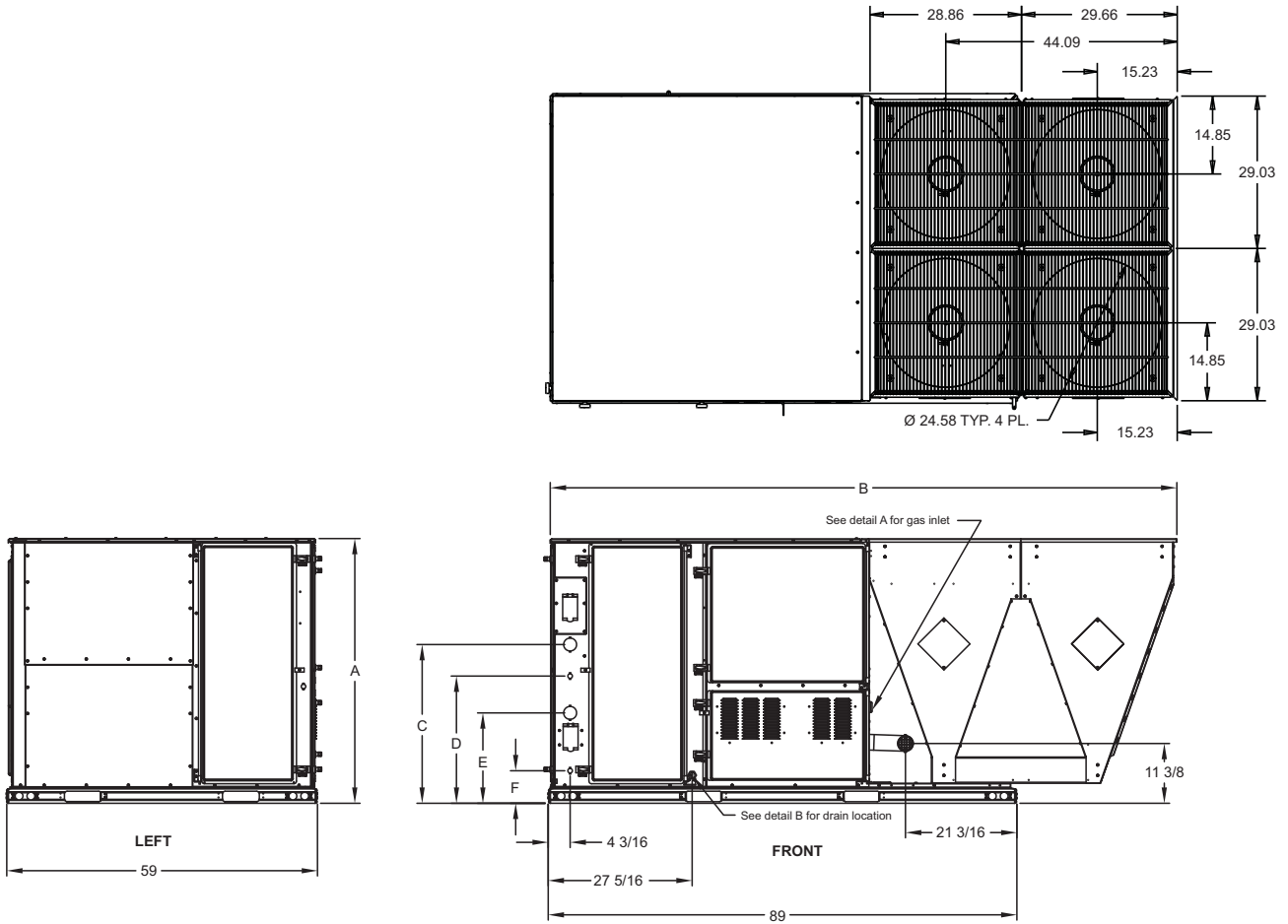
ZT078 - ZT102



ZT078-102 unit physical dimensions

Unit model number	Dimension (in.)					
	A	B	C	D	E	F
078, 090 and 102	42	89	22 1/8	18 3/16	15 3/16	6 3/16

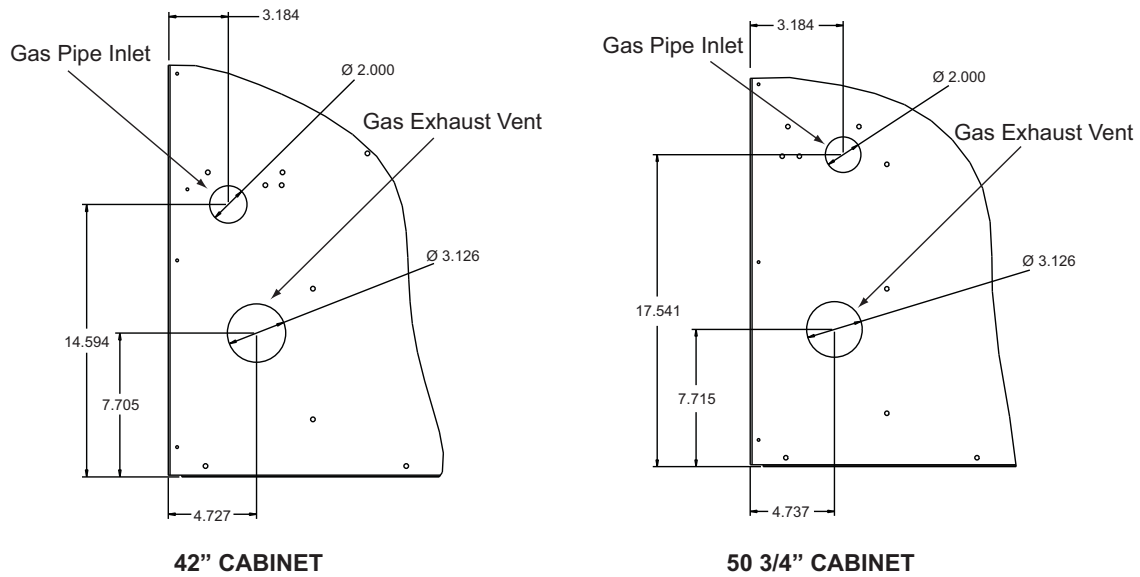
ZT120 - ZT150



ZT120-150 unit physical dimensions

Unit model number	Dimension (in.)					
	A	B	C	D	E	F
ZT120 and 150	50 3/4	119 1/2	30 3/16	24 3/16	17 3/16	6 3/16

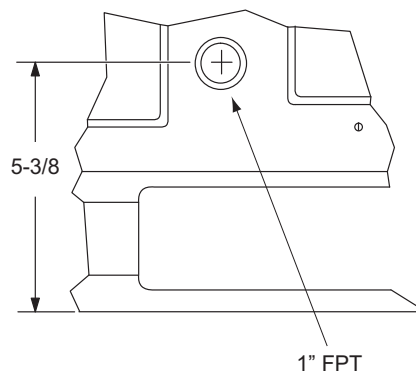
**Detail A**



**42" CABINET**

**50 3/4" CABINET**

**Detail B**

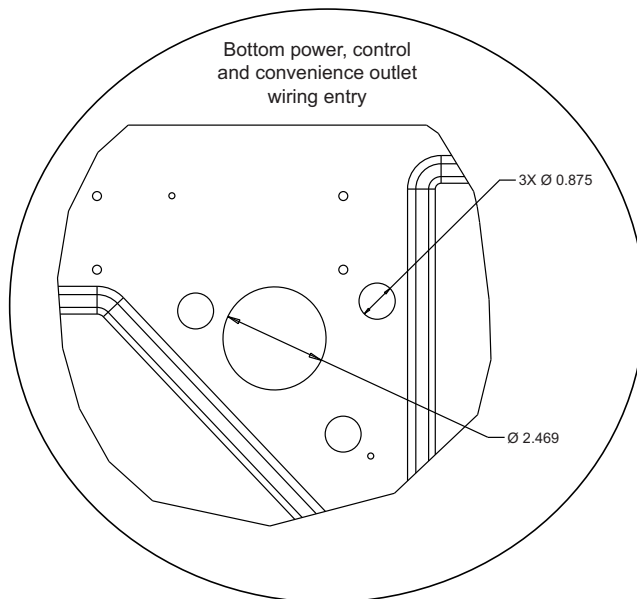
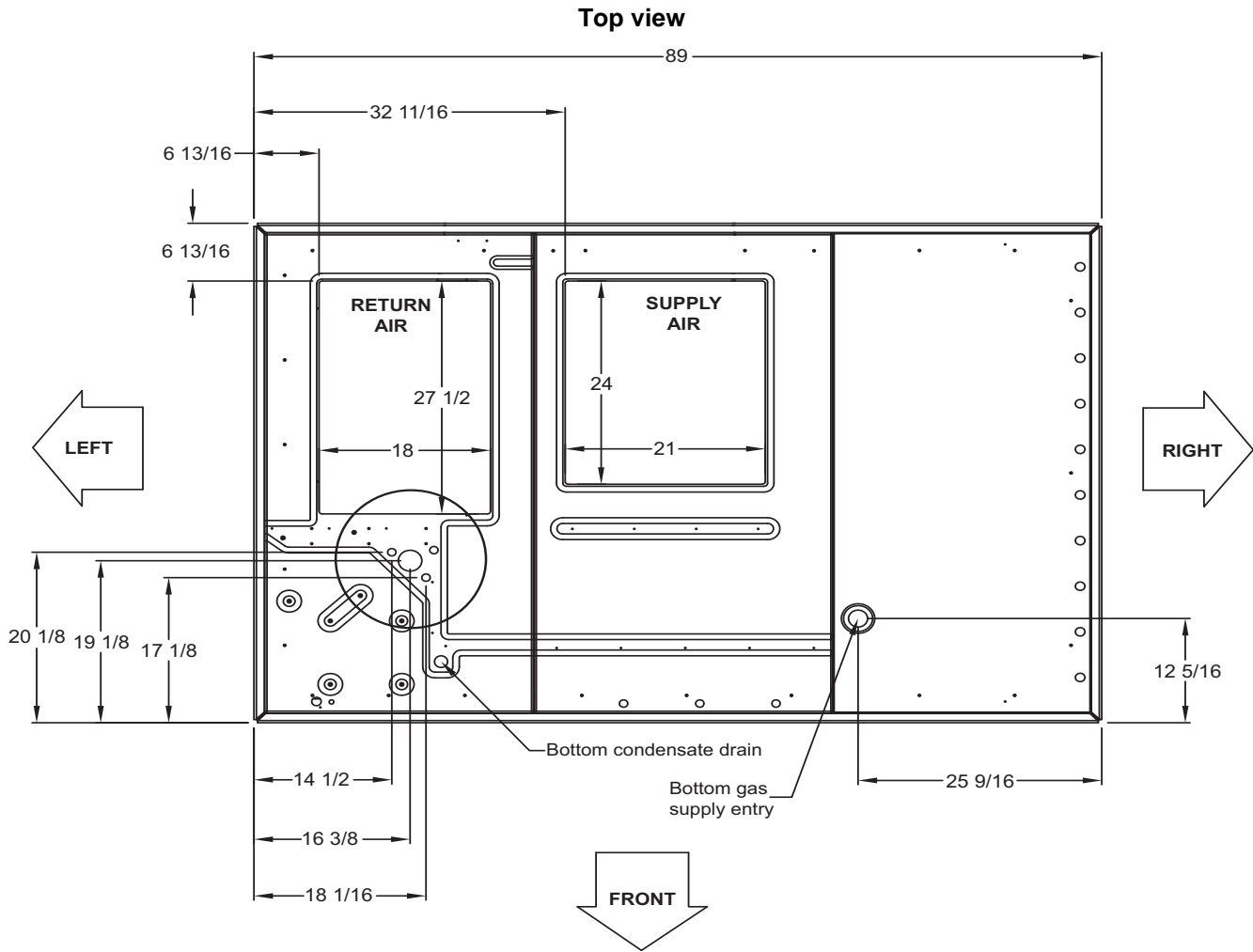


**ZT037-150 unit clearances**

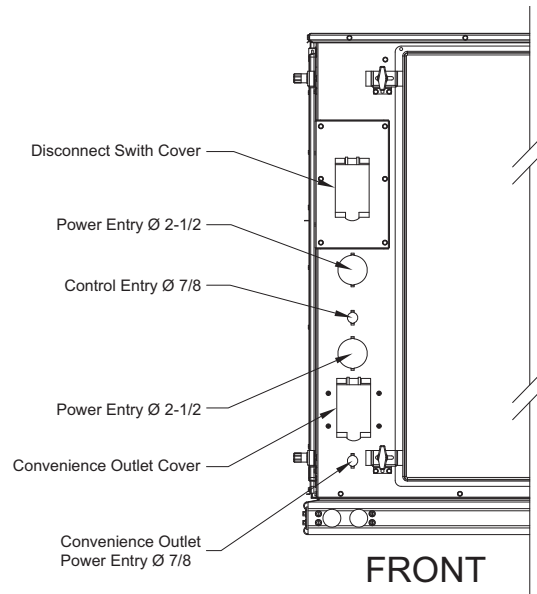
Direction	Distance (in.)	Direction	Distance (in.)
Top <sup>1</sup>	72	Right	12
Front	36	Left	36
Rear	36 <sup>2</sup>	Bottom <sup>3</sup>	0

1. Units must be installed outdoors. make sure that overhanging structure or shrubs do not obscure the condenser air discharge outlet.
2. With economizer, 12 in. without economizer.
3. Units may be installed on combustible floors made from wood or class A, B or C roof covering materials.

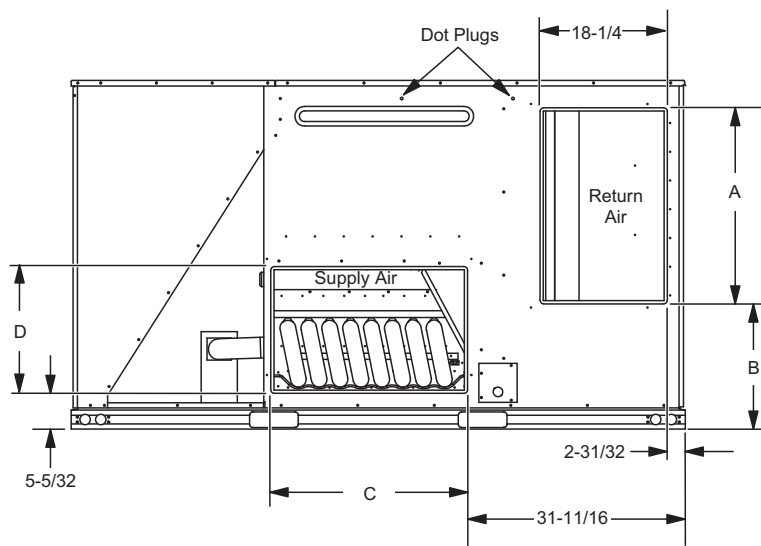
ZT037-150 unit bottom duct openings



**ZT037-150 unit electrical entry**



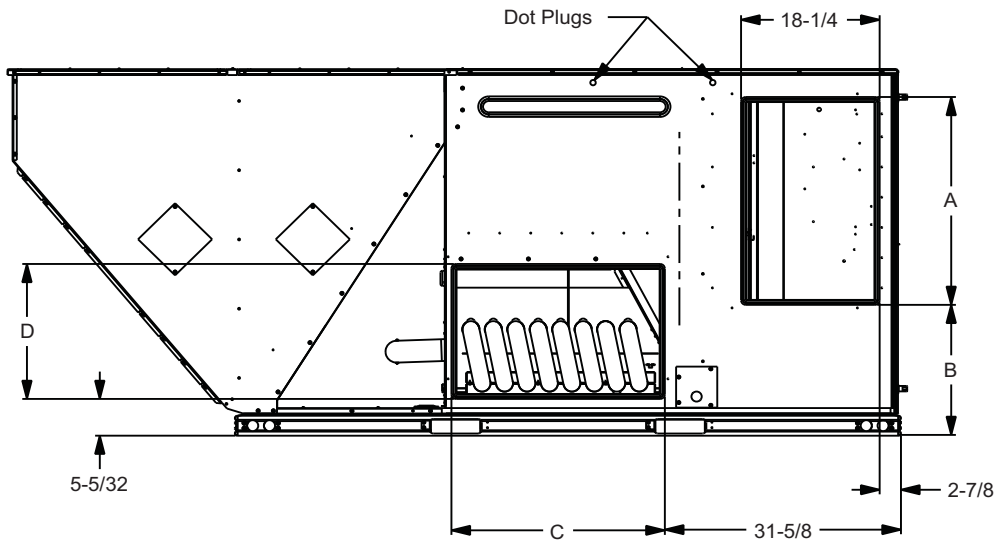
**ZT037-061 unit side duct openings**



**ZT037-061 side duct dimensions**

Unit model number	Dimension (in.)			
	A	B	C	D
ZT037, 049, 061	27 3/4	12 1/16	27 1/2	16

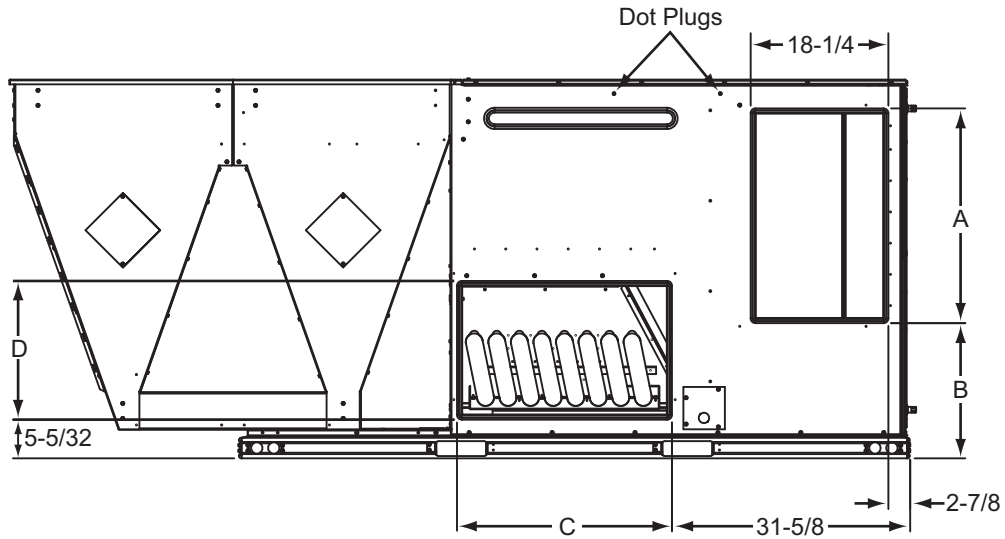
**ZT078-102 unit side duct openings**



**ZT078-102 side duct dimensions**

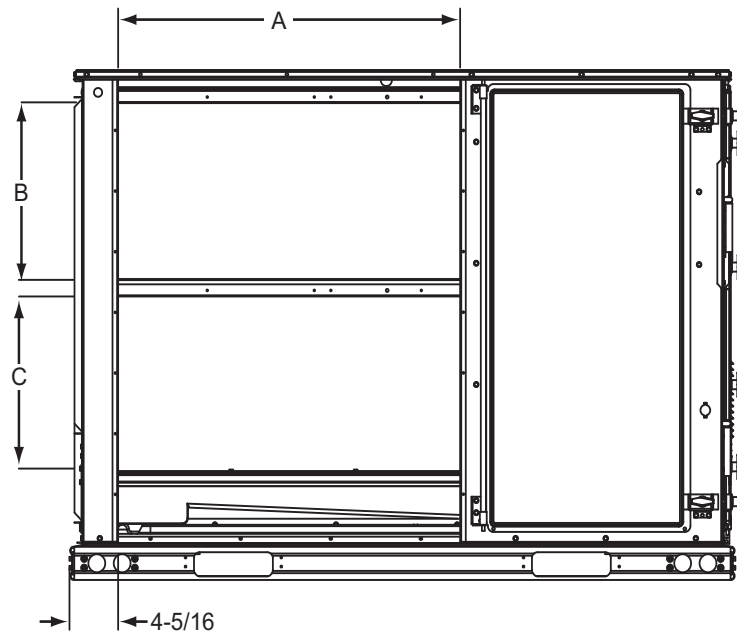
Unit model number	Dimension (in.)			
	A	B	C	D
ZT078, 090, 102	28 1/4	18 1/16	28 1/4	18 1/4

**ZT120-150 unit side duct openings**



**ZT120-150 side duct dimensions**

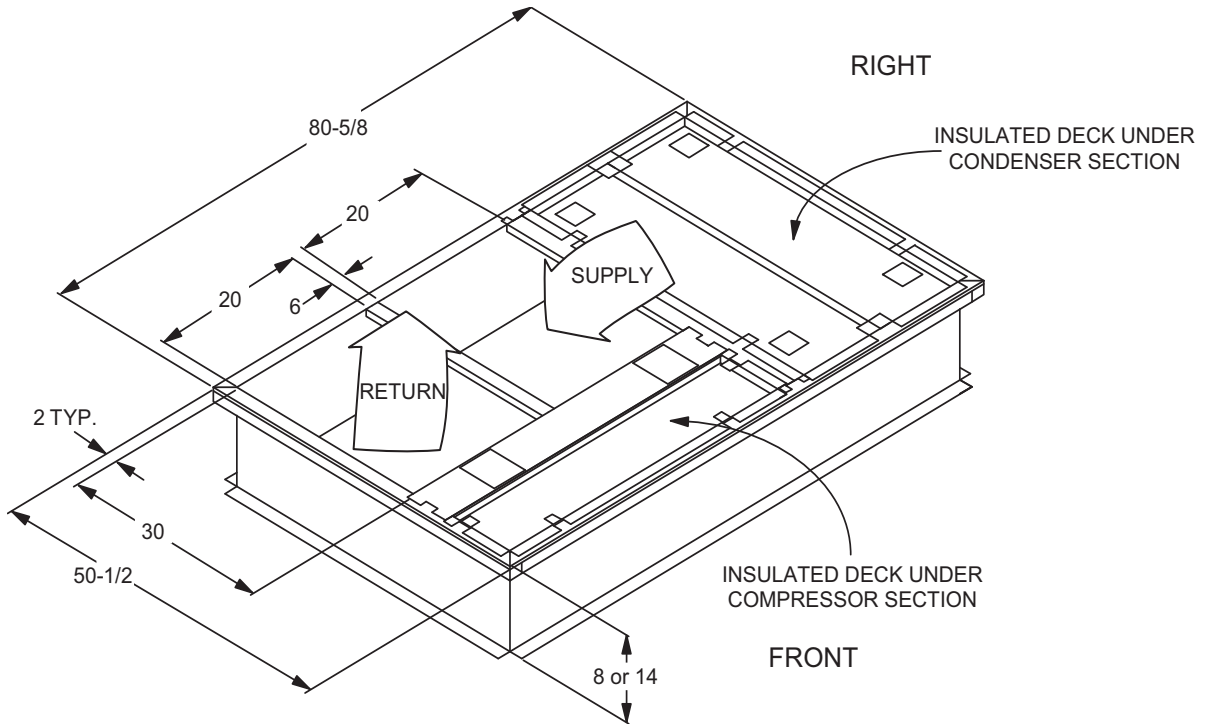
Unit model number	Dimension (in.)			
	A	B	C	D
ZT120, 150	28 1/4	18 1/16	28 1/4	18 1/4

**ZT037-061 unit left/end duct opening****ZT037-150 left/end duct dimensions**

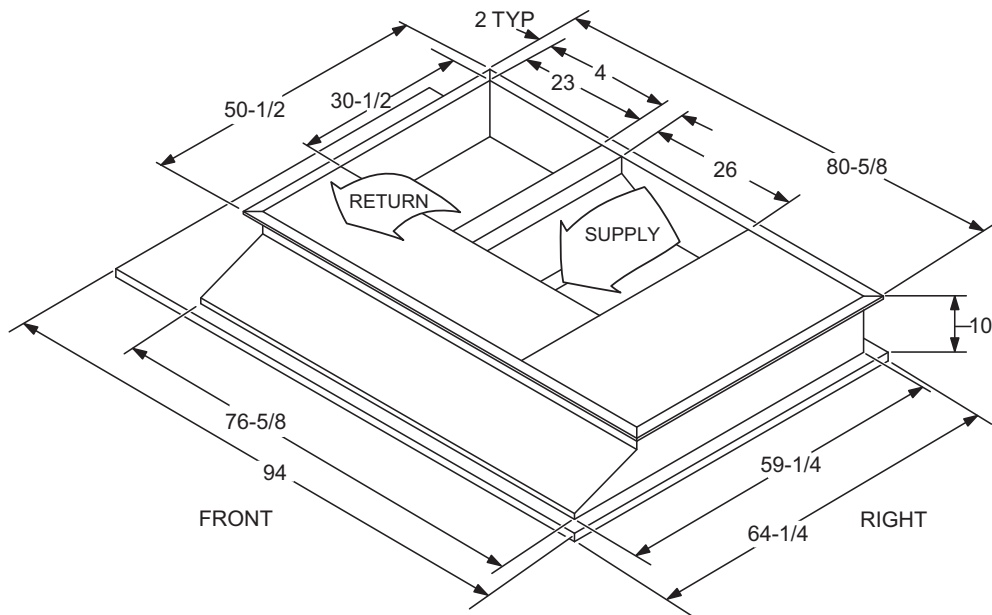
Unit model number	Dimension (in.)		
	A	B	C
ZT037, 049, 061	30.357	13.365	22.516
ZT078, 090, 102	30.358	22.580	22.330
ZT120, 150	30.358	22.580	22.330

### ZT037-150 unit accessory dimensions

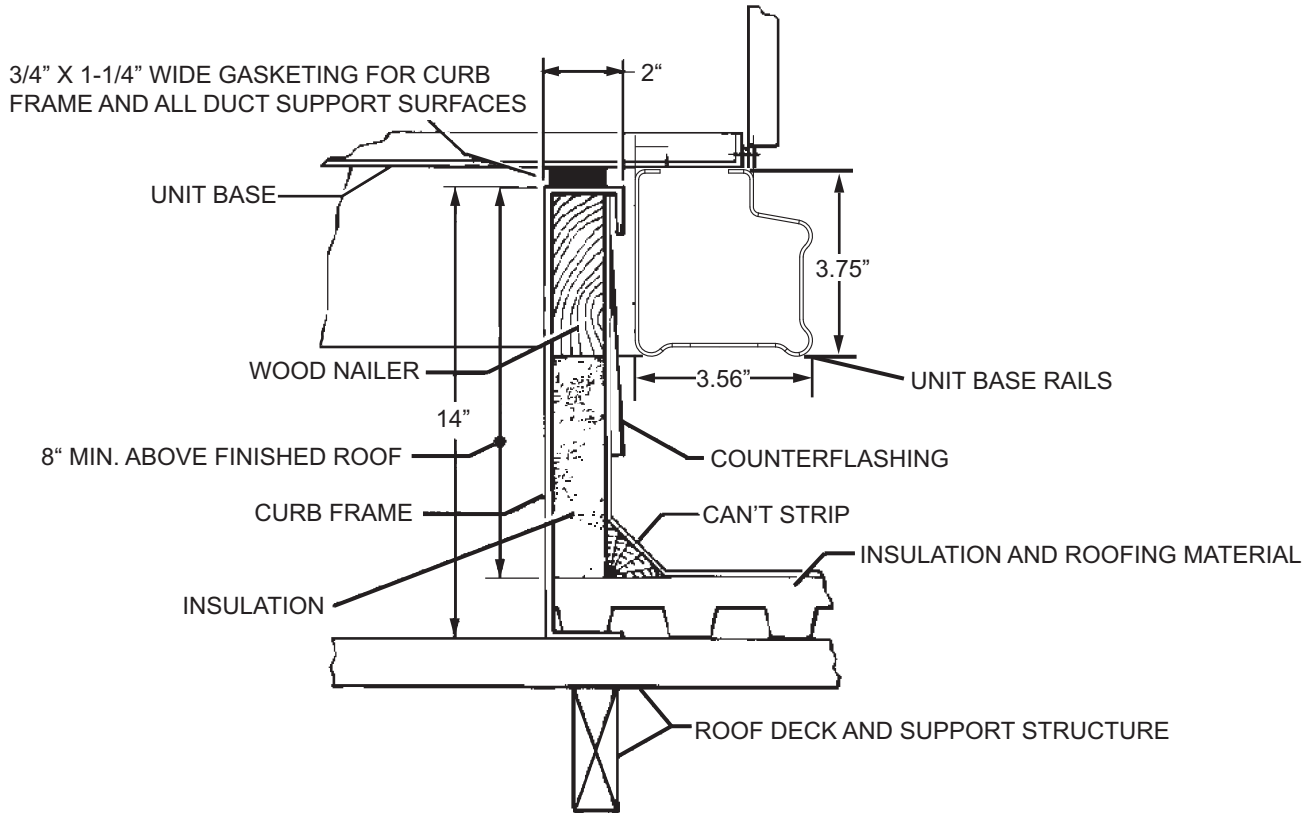
#### ZT037-150 roof curb



#### ZT037-061 transition roof curb





**ZT037-150 roof curb cutaway**

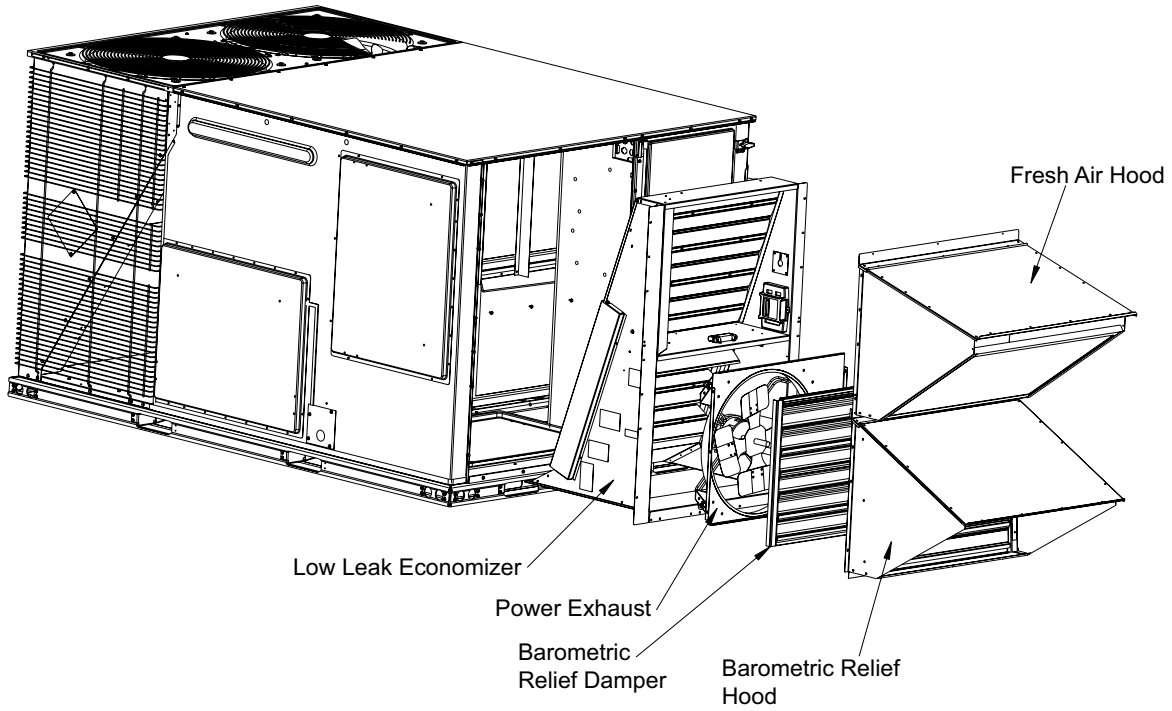
## Economizer options

### Economizer usage

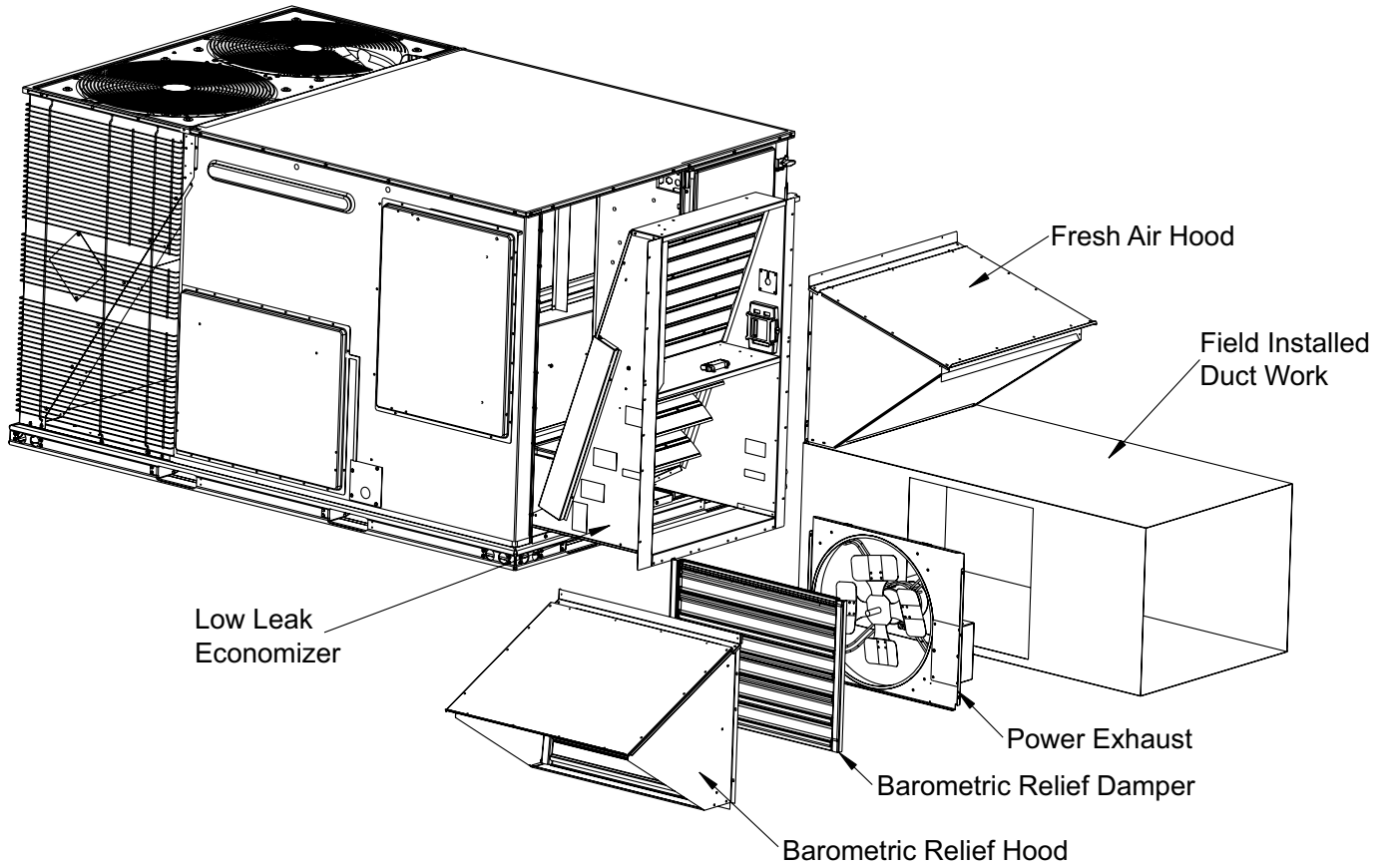
Application	Cabinet height	Description	Model
Side return	All	Horizontal economizer without barometric relief	2EE04706924 <sup>1</sup>
Downflow, end return	42 in.	Economizer, 42 inch tall cabinet	2EE04717424 <sup>2</sup>
Horizontal or ERV	50 in.	Economizer, 50 inch tall cabinet	2EE04717624 <sup>2</sup>

1. Barometric relief must be ordered separately and installed in duct work.
2. Includes fresh air hood, exhaust hood and barometric relief.

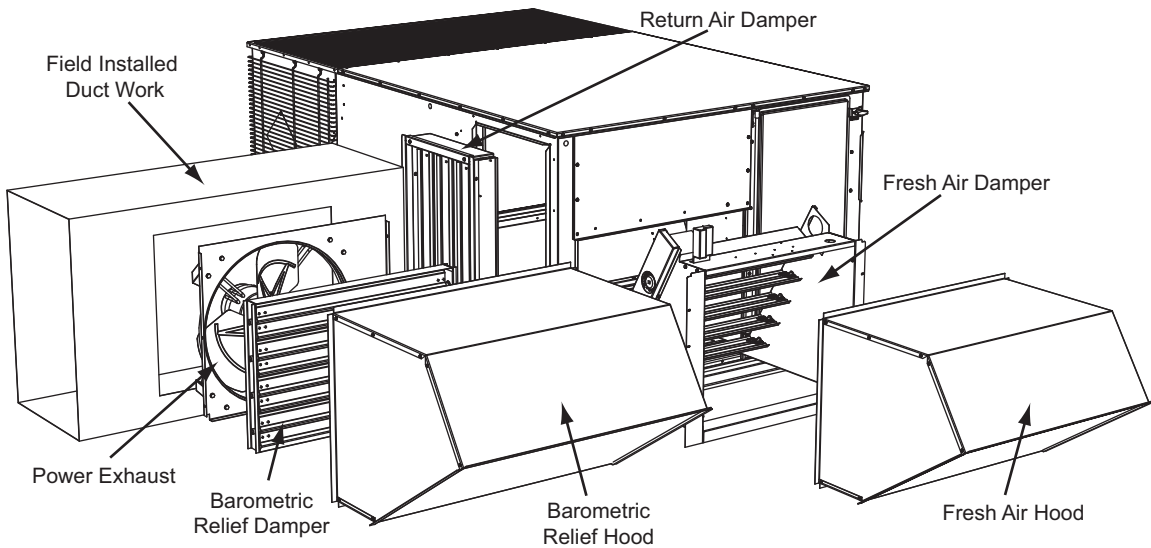
### Economizer downflow with power exhaust



**Economizer end return with power exhaust**



**Field-installed horizontal economizer with power exhaust**



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