



**COMMERCIAL
PRODUCT SPECIFICATIONS**

Bulletin No. 210820
September 2021
Supersedes March 2021



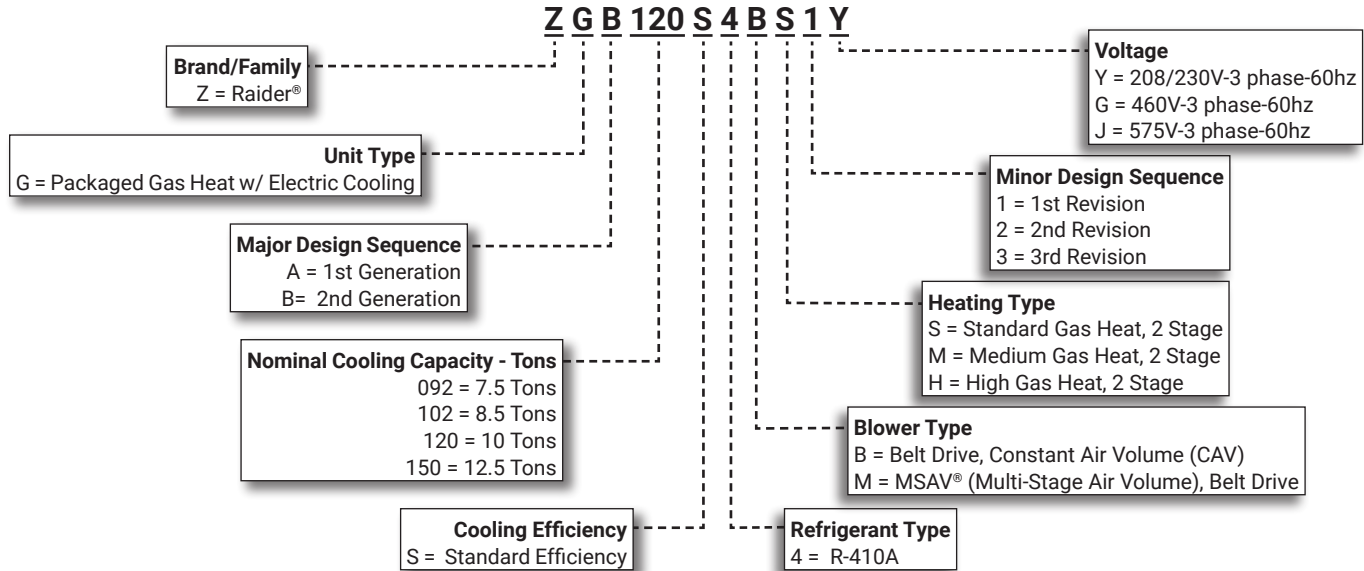
RAIDER®
Value Without Compromise®



**ASHRAE 90.1
COMPLIANT**

7.5 to 12.5 Tons
Net Cooling Capacity - 86,000 to 136,000 Btuh
Gas Input Heat Capacity - 130,000 to 240,000 Btuh

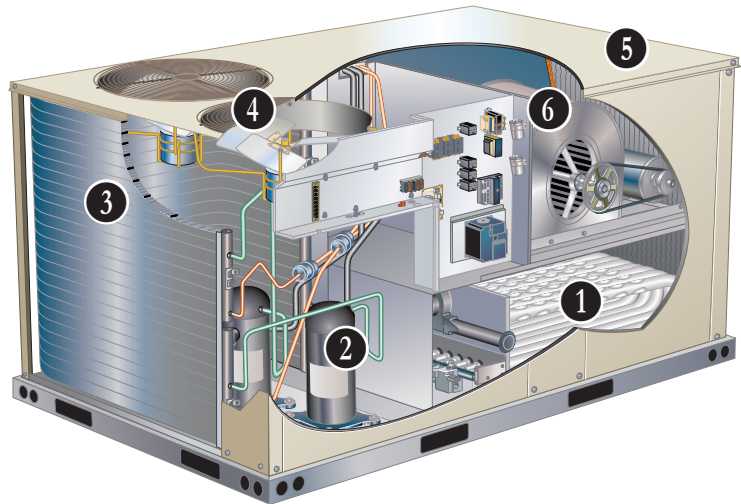
MODEL NUMBER IDENTIFICATION



FEATURE HIGHLIGHTS

Raider® rooftop units from Lennox Commercial are the new standard for cost efficient reliable, efficient rooftop units built for long-lasting performance that can significantly improve indoor environments.

1. Aluminized Steel Heat Exchanger
2. Scroll Compressors
3. Lennox' Environ™ Coil System
4. Outdoor Coil Fans
5. Heavy Gauge Steel Cabinet
6. Supply Air Blower



CONTENTS

| | |
|---|----|
| Approvals And Warranty | 3 |
| Blower Data | 21 |
| Dimensions - Accessories | 34 |
| Dimensions - Unit | 33 |
| Electrical Data | 27 |
| Features And Benefits | 3 |
| Model Number Identification. | 1 |
| Optional Conventional Temperature Control Systems | 10 |
| Options / Accessories | 11 |
| Outdoor Sound Data | 31 |
| Ratings | 17 |
| Specifications | 14 |
| Specifications - Gas Heat | 16 |
| Unit Clearances | 31 |
| Weight Data | 32 |

APPROVALS AND WARRANTY

APPROVALS

- AHRI Standard 340/360 certified
- ETL Intertek listed
- Unit and components ETL, NEC, and CEC bonded for grounding to meet safety standards for servicing
- All models are ASHRAE 90.1-2010 energy efficiency compliant and meet or exceed requirements of Section 6.8.
- MSAV® equipped models meet California Code of Regulations, Title 24 and ASHRAE 90.1-2010 Section 6.4.3.10 requirements for staged airflow
- All models meet DOE 2018 energy efficiency standards
- ISO 9001 Registered Manufacturing Quality System

WARRANTY

- Aluminized Heat Exchanger - Limited ten years
- Stainless Steel Heat Exchanger (optional) - Limited fifteen years
- Compressors - Limited five years
- Lennox' Environ™ Coil System - Limited three years
- Variable-Frequency Drive (VFD) (optional) - Limited five years
- High Performance Economizers (optional) - Limited five years
- All other covered components - Limited one year

FEATURES AND BENEFITS

HEATING SYSTEM

- Aluminized steel inshot burners
- Direct spark ignition
- Electronic flame sensor
- Combustion air inducer
- Redundant automatic dual stage gas valve with manual shut-off

1 Heat Exchanger

- Tubular construction, aluminized steel
- Life-cycle tested

NOTE - Optional Stainless Steel Heat Exchanger is required if mixed air temperature is below 45°F.

Electronic Pilot Ignition

- Electronic spark igniter provides positive direct ignition of burners on each operating cycle
- Permits main gas valve to stay open only when the burners are proven to be lit
- If loss of flame occurs, gas valve closes, shutting off the gas to the burners
- LED indicates status and aids in troubleshooting
- Watchguard circuit on module automatically resets ignition controls after one hour of continuous thermostat demand after unit lockout, eliminating nuisance service calls
- Factory installed in the gas heating compartment

Limit Controls

- Redundant limit controls with fixed temperature setting
- Protects heat exchanger and other components from overheating

Safety Switches

- Flame roll-out switch
- Flame sensor
- Combustion air inducer proving switch
- Protects system operation

Required Selections

Gas Input Choice - Order one:

- Standard Gas Heat, 2 Stage (84,500/130,000 Btuh)
- Medium Gas Heat, 2 Stage (117,000/180,000 Btuh)
- High Gas Heat, 2 Stage (156,000/240,000 Btuh)

Options/Accessories

Factory Installed

Stainless Steel Heat Exchanger

- Required if mixed air temperature is below 45°F

Field Installed

LPG/Propane Kits

- Conversion kit to field change over units from Natural Gas to LPG/Propane

Combustion Air Intake Extensions

- Recommended for use with existing flue extension kits in areas where high snow areas can block intake air

Vertical Vent Extension Kit

- Use to exhaust flue gases vertically above unit
- Required when unit vent is too close to fresh air intakes per building codes
- Also prevents ice formation on intake louvers
- Kit contains vent transition, vent tee, drain cap and installation hardware

NOTE - Straight vent pipes (4 in. B-Vent) and caps are not furnished and must be field supplied. Refer to kit instructions for additional information.

FEATURES AND BENEFITS

COOLING SYSTEM

- Designed to maximize sensible and latent cooling performance at design conditions
- System can operate from 40°F (50°F for 150 models) to 125°F without any additional controls

R-410A Refrigerant

- Non-chlorine based
- Ozone friendly

2 Scroll Compressors

- Scroll compressors on all models for high performance, reliability and quiet operation
- Resiliently mounted on rubber grommets for quiet operation

Refrigerant Metering Orifice

- Accurately meters refrigerant in system
- Refrigerant control is accomplished by exact sizing of refrigerant metering orifice

Filter/Driers

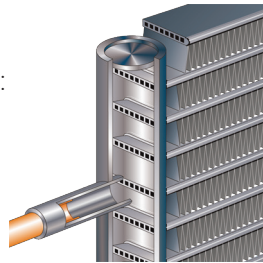
- High capacity filter/drier protects the system from dirt and moisture

High Pressure Switches

- Protects the compressor from overload conditions such as dirty condenser coils, blocked refrigerant flow, or loss of outdoor fan operation

3 Condenser Coil - Lennox' Environ™ Coil System (092 through 120 models and 150S4M models only)

- Lightweight, all aluminum brazed fin construction
- Constructed of three components:
 - A flat extrusion tube
 - Fins in-between the flat extrusion tube
 - Two refrigerant manifolds



Environ™ Coil System Features:

- Improved heat transfer performance due to high primary surface area (flat tubes) versus secondary surface (fins)
- Smaller internal volume (reduced refrigerant charge)
- High durability
- All aluminum construction
- Fewer brazed joints
- Compact design
- Reduced unit weight
- Easy maintenance/cleaning
- Face split design
- Mounting brackets with rubber inserts

Conventional Fin/Tube Condenser Coils (150S4B models only)

- Copper tube construction
- Enhanced rippled-edge aluminum fins
- Flared shoulder tubing connections
- Silver soldered construction

Evaporator Coil

- Copper tube construction
- Enhanced rippled-edge aluminum fins
- Flared shoulder tubing connections
- Silver soldered construction
- Cross row circuiting with rifled tubing

Condensate Drain Pan

- Plastic pan, sloped to meet drainage requirements per ASHRAE 62.1
- Side drain connections

4 Outdoor Coil Fan Motors

- Thermal overload protected
- Totally enclosed
- Permanently lubricated ball bearings
- Shaft up
- Wire basket mount

Outdoor Coil Fans

- PVC coated fan guard furnished

Required Selections

Cooling Capacity

- Specify nominal cooling capacity

Options/Accessories

Field Installed

Condensate Drain Trap

- Available in copper or PVC

Drain Pan Overflow Switch

- Monitors condensate level in drain pan
- Shuts down unit if drain becomes clogged

Low Ambient Kit

(Includes Compressor Crankcase Heater)

- Cycles the outdoor fans while allowing compressor operation in the cooling cycle
- Intermittent fan operation allows the system to operate without icing the evaporator coil and losing capacity
- Designed for use in ambient temperatures no lower than 0°F
- Controls the compressor crankcase heaters

NOTE - Compressor crankcase heater is furnished with the kit and protects against refrigerant migration that can occur during low ambient operation.

FEATURES AND BENEFITS

CONTROLS

Unit Control

- All control voltage is provided via a 24V (secondary) transformer with built-in circuit breaker protection
- **Heat/Cool Staging** - Capable of up to 2 heat / 2 cool staging with a third party DDC control system or thermostat
- **Low Voltage Terminal Block** - Provides screw terminal connections for thermostat or controller wiring
- **Night Setback Mode** - Saves energy by closing outdoor air dampers and operating supply fan on thermostat demand only

Options/Accessories

Field Installed

Smoke Detectors

NOTE - Smoke detectors are not furnished and must be field supplied.

Commercial Control Systems

L Connection® Network

- Complete building automation control system for single or multi-zone applications
- Options include local interface, software for local or remote communication, and hardware for networking other control functions
- See L Connection Network Product Specifications Bulletin for details

Thermostats

- Control system and thermostat options, see page 10.

CABINET

Construction

- 5 • Heavy-gauge steel panels
- Full perimeter heavy-gauge galvanized steel base rail
- Base rails have rigging holes
- Three sides of the base rail have forklift slots
- Raised edges around duct and power entry openings in the bottom of the unit for water protection

Airflow Choice

- Units are shipped in downflow (vertical) return air flow configuration

NOTE - Units can be field converted to horizontal airflow.

Duct Flanges

- Provided for horizontal duct attachment

Power Entry

- Electrical lines can be routed through the unit base or through horizontal access knock-outs

NOTE - Optional Bottom Power Entry Kit is available.

Exterior Panels

- Constructed of heavy-gauge, galvanized steel
- Two-layer enamel paint finish

Insulation

- Fully insulated with non-hygroscopic fiberglass insulation (conditioned areas)

Access Panels

- Filter section
- Blower/heating section
- Compressor/controls section
- Recessed handles for easy service access

Options/Accessories

Factory Installed

Corrosion Protection

- Completely flexible immersed coating
- Electrodeposited dry film process (AST ElectroFin E-Coat)
- Meets Mil Spec MIL-P-53084, ASTM B117 Standard Method Salt Spray Testing
- Indoor Corrosion Protection:
 - Coated coil
- Outdoor Corrosion Protection:
 - Coated coil

Field Installed

Combination Coil/Hail Guards

- Heavy gauge steel frame
- Painted to match cabinet
- Expanded metal mesh protects outdoor coil

FEATURES AND BENEFITS

BLOWER

A wide selection of supply air blower options are available to meet a variety of airflow requirements.

Motor

- Overload protected
- Ball bearings
- Belt drive motors are offered on all models and are available in several different sizes to maximize air performance

6 Supply Air Blower

- Forward curved blades
- Double inlet
- Blower wheel statically and dynamically balanced
- Ball bearings
- Adjustable pulley (allows speed change)

Required Selections

Select Constant Air Volume (CAV) or MSAV® (Multi-Stage Air Volume) Supply Air Blower Option

- Order blower motor horsepower and drive kit number required when base unit is ordered
- See Drive Kit Specifications Table

CAV Operation

- Supply air blower provides a constant volume of air

MSAV® Operation

- Units utilize a Variable-Frequency Drive (VFD) to stage the supply air blower airflow
- The VFD alters the frequency and voltage of the power supply to the blower to control blower speed
- The supply air blower has two speeds:
 - Low speed for part-load cooling operation

NOTE - Low speed is 67% of high speed

- High speed for full load cooling and all heat modes
- Full speed blower operation is set by adjusting the motor pulley to deliver the desired air volume
- The ventilation speed is selectable between high and low speed

NOTE - Part load airflow in cooling mode on MSAV® units should not be set below 220 cfm/nominal full load ton to reduce the risk of evaporator coil freeze-up.

- The VFD has an operational range of -40 to 125°F outdoor air ambient temperature
- Lower operating costs are obtained when the blower is operated on lower speeds

MSAV® Sequence of Operation

- Blower operates in low speed for mechanical cooling mode (Y1), ventilation mode (G), or free cooling mode
- Blower operates in high speed for any other mode - mechanical cooling (Y1+Y2), free cooling + Y2 or heating (W1 and W1+W2)
- Economizer damper minimum position is fully closed in unoccupied mode

- In occupied mode, the economizer damper minimum position is determined by the setting of the economizer control

NOTE - Two-minimum fresh-air settings are only available on MSAV® with the High Performance Economizer option.

NOTE - Units equipped a Variable-Frequency Drive (VFD) are designed to operate on balanced, three-phase power. Operating units on unbalanced three-phase power will reduce the reliability of all electrical components in the unit. Unbalanced power is a result of the power delivery system supplied by the local utility company. Factory-installed inverters are sized to drive blower motors with an equivalent current rating using balanced three-phase power. If unbalanced three-phase power is supplied; the installer must replace the existing factory-installed inverter with an inverter that has a higher current rating to allow for the imbalance. Refer to the installation instructions for additional information and replacement information.

ELECTRICAL

Marked & Color-Coded Wiring

- All electrical wiring is color-coded and marked to identify which components it is connecting

Electrical Plugs

- Positive connection electrical plugs are used to connect common accessories or maintenance parts for easy removal or installation

Required Selections

Voltage Choice

- Specify when ordering base unit

Field Installed

Bottom Power Entry Kit

- Reduces the number of penetrations in the roof
- Includes bulkhead connectors to provide power and control wiring routing through the roof curb

INDOOR AIR QUALITY

Air Filters

- Disposable 2 inch filters furnished as standard

Options/Accessories

Field Installed

Replacement Filter Media Kit With Frame

- Replaces existing pleated filter media
- Includes washable metal mesh screen and metal frame with clip for holding replaceable non-pleated filter

Indoor Air Quality (CO₂) Sensors

- Monitors CO₂ levels, reports to the Unit Controller which adjusts economizer dampers as needed

OPTIONS / ACCESSORIES

ECONOMIZER

Factory or Field Installed

NOTE - Downflow Economizer is factory or field installed.
Horizontal Economizer is field installed only.

Economizer

(Standard and High Performance Common Features)

- Downflow or Horizontal with Outdoor Air Hood and Barometric Relief Dampers with Exhaust Hood
- Barometric Relief Dampers allow relief of excess air
- Aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle
- Bird screen furnished

NOTE - Outdoor Air and Barometric Relief Exhaust Hoods are included when economizer is factory installed and are furnished with economizer when ordered for field installation.

- Occupied/Unoccupied mode with field furnished setback thermostat
- Demand Control Ventilation (DCV) ready using optional CO₂ sensors
- Single temperature control is furnished with Economizer
- Outdoor air temperature sensor enables Economizer if the outdoor temperature is less than the setpoint of the control

Standard Economizer Features (Not for Title 24)

- Gear-driven action
- Return air and outdoor air dampers
- Plug-in connections to unit
- Nylon bearings
- Neoprene seals
- 24-volt
- Fully-modulating spring return motor

Standard Economizer Control Module

The Standard Economizer Control Module can be adjusted to operate based on outdoor air temperatures.



Economizer Controls:

- **Damper Minimum Position** - Can be set lower than traditional minimum air requirements resulting in cost savings
- **IAQ Sensor** - Signals dampers to modulate and maintain 55°F when CO₂ is higher than the CO₂ setpoint
- **Demand Control Ventilation (DCV) LED** - A steady green Demand Control Ventilation LED indicates the IAQ reading is higher than setpoint and requires more fresh air
- **Free Cool LED** - A steady green LED indicates outdoor air is suitable for free cooling
- Free Cooling runs when outdoor air temperature is lower than the set temperature on the economizer control

NOTE - The Free Cooling default setting for outdoor air temperature sensor is 55°F.

ECONOMIZER (continued)

Factory or Field Installed (continued)

High Performance Economizer Features

- Approved for California Title 24 building standards
- Low leakage dampers are Air Movement and Control Association International (AMCA) Class 1A Certified - Maximum 3 CFM per sq. ft. leakage at 1 in. w.g.
- ASHRAE 90.1-2010 compliant
- Gear-driven action
- High torque 24-volt fully-modulating spring return damper motor
- Return air and outdoor air dampers
- Plug-in connections to unit
- Stainless steel bearings
- Enhanced thermoplastic vulcanizate (TPV) seals
- Flexible stainless steel jamb seals minimize air leakage

NOTE - High Performance Economizers are not approved for use with enthalpy controls in Title 24 applications.

NOTE - The free cooling setpoint for Title 24 applications must be set based on the Climate Zone where the system is installed. See Section 140.4 "Prescriptive Requirements for Space Conditioning Systems" of the California Energy Commission's 2013 Building Energy Efficiency Standards.

High Performance Economizer Control Module

- Module provides inputs and outputs to control economizer based on parameter settings
- Module automatically detects sensors by polling to determine which sensors are installed in system
- Module displays any alarm messages (fault detection and diagnostics) as an aid in troubleshooting
- Non-volatile memory retains parameter settings in case of power failure
- Keypad with four navigation buttons and LCD screen is furnished for setting economizer parameters
 - Menu Up/Exit (↑) button returns to the main menu
 - Arrow Up ▲ button moves to the previous or next parameter within the selected menu
 - Arrow Down ▼ button moves to the next parameter within the selected menu
 - Select (enter) (↵) button confirms parameter selection



Main Menu Structure:

- STATUS (economizer and system operation status)
- SETPOINTS (settings for various setpoint parameters)
- SYSTEM SETUP (settings/information about the system)
- ADVANCED SETUP (freeze protection, CO₂ settings, stage 3 delay and additional calibration settings)
- CHECKOUT (damper positions)
- ALARMS (output signal that can be configured for remote alarm monitoring)

NOTE - Refer to Installation Instructions for complete setup information and menu parameters available.

Field Installed

Single Enthalpy Temperature Control (Not for Title 24)

- Outdoor air enthalpy sensor enables Economizer if the outdoor enthalpy is less than the setpoint of the control

Differential Enthalpy Control (Not for Title 24)

- Order two Single Enthalpy Controls
- One is field installed in the return air section, the other in the outdoor air section
- Allows the Economizer control board to select between outdoor air or return air, whichever has lower enthalpy

OPTIONS / ACCESSORIES

EXHAUST

Field Installed

Horizontal Low Profile Barometric Relief Dampers

- For use when unit is configured for horizontal applications in a reduced space requiring an Economizer
- Allows relief of excess air
- Aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle
- Field installed in return air duct
- Exhaust hood with bird screen furnished

Power Exhaust Fan

- Installs internal to unit for downflow applications only with economizer option
- Provides exhaust air pressure relief
- Interlocked to run when supply air blower is operating
- Fan runs when outdoor air dampers are 50% open (adjustable)
- Motor is overload protected
- Fan is 20 in. diameter
- Five blades
- One 1/3 hp motor

NOTE - Requires Economizer with Outdoor Air Hood and Barometric Relief Dampers.

OUTDOOR AIR

Field Installed

Outdoor Air Damper

- Downflow or Horizontal
- Linked mechanical dampers
- 0 to 25% (fixed) outdoor air adjustable
- Installs in unit
- Includes outdoor air hood
- Automatic model features fully modulating spring return damper motor with plug-in connection
- Manual model features a slide damper

NOTE - Maximum mixed air temperature in cooling mode: 100°F.

ROOF CURBS

Field Installed

Hybrid Roof Curbs, Downflow

- Nailer strip furnished; mates to unit
- US National Roofing Contractors approved
- Shipped knocked down
- Interlocking tabs fasten corners together; no tools required
- Can also be fastened together with furnished hardware
- Available in 8, 14, 18, and 24 inch heights

CEILING DIFFUSERS

Field Installed

(Flush or Step-Down)

- White powder coat finish on diffuser face and grilles
- Insulated UL listed duct liner
- Diffuser box has collars for duct connection
- Step-down diffusers have double deflection blades
- Flush diffusers have fixed blades
- Provisions for suspending
- Internally sealed to prevent recirculation
- Removable return air grille
- Adapts to T-bar ceiling grids or plaster ceilings

Transitions (Supply and Return)

NOTE - Ceiling Diffuser Transitions are not furnished and must be field fabricated.

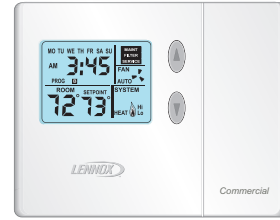
OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

ComfortSense® 7500 Commercial 7-Day Programmable Thermostat



- Four-Stage Heating / Two-Stage Cooling
- Universal Multi-Stage
- Intuitive Touchscreen Interface
- Automatic Changeover between Heating and Cooling
- Full Seven-Day Programming
- Four Time Periods Per Day
- Temperature and Humidity Control
- One-Touch Away Mode
- Holiday Scheduling
- Smooth Setback Recovery (SSR)
- Performance Reports
- Notifications/Reminders
- Economizer Relay Control
- Backlit Display
- Wallplate Furnished
- FDD, ASHRAE and IECC Compliant

ComfortSense® 3000 Commercial 5-2 Day Programmable Thermostat



- Two-Stage Heating / Two-Stage Cooling
- Conventional Systems
- Intuitive Interface
- 5-2 Day Programming
- Program Hold
- Remote Indoor Temperature Sensing
- Smooth Setback Recovery (SSR)
- Economizer Relay Control
- Maintenance/Filter/Service Reminders
- Backlit Display
- Wallplate Furnished
- Simple Up and Down Temperature Control

Bacnet Compatible Thermostat With Reheat Function



- 7-Day Programmable
- BTL listed MS/TP ensures compatibility with any BACnet system
- Built-in control programs for conventional and heat pump applications
- Conventional systems up to 3-stage heat and 3-stage cool
- Heat pumps with 1 or 2 compressors and up to 2-stage auxiliary heat
- On-board temperature and humidity sensor
- Multiple configurable inputs and outputs enable advanced control strategies
- Set-up Wizard enables rapid system configuration
- No special tools required for installation or commissioning
- Seven-day (2, 4 or 6 event) occupancy scheduling per day
- Backlit 5-inch LCD touchscreen

| Description | Catalog No. |
|--|--|
| ComfortSense® 7500 Commercial 7-Day Programmable Thermostat | |
| CS7500 7-Day Thermostat | 17G74 |
| Sensors/ | ¹ Remote non-adjustable wall-mount 20k 47W36 |
| Accessories | ¹ Remote non-adjustable wall-mount 10k 47W37 |
| | Remote non-adjustable discharge air (duct mount) 19L22 |
| | Outdoor temperature sensor X2658 |
| ComfortSense® 3000 5-2 Day Programmable | |
| CS3000 5-2 Day Thermostat | 11Y05 |
| Sensor/ | Remote non-adjustable wall mount 10k averaging 47W37 |
| Accessories | Thermostat wall mounting plate X2659 |
| BACnet | ² 7-Day BACnet Thermostat Y8241 |
| Controls | ³ BACnet Module (factory or field) 16X71 |
| ⁴ BACnet | With Display 97W23 |
| Room Sensors | Without Display 97W24 |
| Universal Thermostat Guard with Lock (clear) | |
| | Inside Dimensions (H x W) 5 7/8 x 8 3/8 in. 39P21 |

¹ Remote wall-mount sensors can be applied in any of the following combinations:
 One Sensor - (1) 47W36, Two Sensors - (2) 47W37, Three Sensors - (2) 47W36 and (1) 47W37
 Four Sensors - (4) 47W36, Five Sensors - (3) 47W36 and (2) 47W37

² BACnet Thermostat (Y8241) will control units with and without the Humiditrol® option. If there is a mix of units equipped with and without Humiditrol on the same site, this thermostat can be used for all units if suitable.

³ Not compatible with units equipped with Humiditrol® option.

⁴ Only compatible with BACnet Module (16X70).

OPTIONS / ACCESSORIES

| Item Description | Catalog Number | Unit Model No | | | | |
|---|--|---------------|-----|-----|-----|---|
| | | 092 | 102 | 120 | 150 | |
| COOLING SYSTEM | | | | | | |
| Condensate Drain Trap | PVC | 22H54 | X | X | X | X |
| | Copper | 76W27 | X | X | X | X |
| Corrosion Protection | Factory | | O | O | O | O |
| Drain Pan Overflow Switch | 99W59 | | X | X | X | X |
| Low Ambient Kit (Includes Compressor Crankcase Heater) | 208/230V-3ph | 10Z35 | X | X | | |
| | 460V-3ph | 10Z36 | X | X | | |
| | 575V-3ph | 10Z37 | X | X | | |
| | 208/230V-3ph | 10Z50 | | | X | X |
| | 460V-3ph | 10Z51 | | | X | X |
| | 575V-3ph | 10Z52 | | | X | X |
| Refrigerant Type | R-410A | | O | O | O | O |
| HEATING SYSTEM | | | | | | |
| Combustion Air Intake Extensions | 19W51 | | X | X | X | X |
| Gas Heat Input | 130,000 Btuh | Factory | O | O | O | O |
| | 180,000 Btuh | Factory | O | O | O | O |
| | 240,000 Btuh | Factory | O | O | O | O |
| LPG/Propane Conversion Kits | Standard Heat | 14N22 | X | X | X | X |
| | Medium Heat | 14N27 | X | X | X | X |
| | High Heat | 14N25 | X | X | X | X |
| Stainless Steel Heat Exchanger | Factory | | O | O | O | O |
| Vertical Vent Extension Kit | 31W62 | | X | X | X | X |
| BLOWER - SUPPLY AIR | | | | | | |
| Blower Option | CAV (Constant Air Volume) | Factory | O | O | O | O |
| | MSAV® (Multi-Stage Air Volume) | Factory | O | O | O | O |
| Blower Motors | Belt Drive - 2 hp | Factory | O | O | O | O |
| | Belt Drive - 3 hp | Factory | O | O | O | O |
| | Belt Drive - 5 hp | Factory | O | O | O | O |
| Drive Kits | Kit #1 590-890 rpm | Factory | O | O | O | O |
| See Blower Data Tables for selection | Kit #2 800-1105 rpm | Factory | O | O | O | O |
| | Kit #3 795-1195 rpm | Factory | O | O | O | O |
| | Kit #4 730-970 rpm | Factory | O | O | O | O |
| | Kit #5 940-1200 rpm | Factory | O | O | O | O |
| | Kit #6 1015-1300 rpm | Factory | O | O | O | O |
| | Kit #10 900-1135 rpm | Factory | O | O | O | O |
| | Kit #11 1040-1315 rpm | Factory | O | O | O | O |
| | Kit #12 1125-1425 rpm | Factory | O | O | O | O |
| | | | | | | |
| CABINET | | | | | | |
| Combination Coil/Hail Guards | 12X21 | | X | X | X | X |
| CONTROLS | | | | | | |
| NOTE - Also see Conventional Thermostat Control Systems on page 10 for Additional Options. | | | | | | |
| | L Connection® Building Automation System | --- | X | X | X | X |

NOTE - Catalog numbers shown are for ordering field installed accessories.

OX - Configure To Order (Factory Installed) or Field Installed

O = Configure To Order (Factory Installed)

X = Field Installed

OPTIONS / ACCESSORIES

| Item Description | Catalog Number | Unit Model No | | | | |
|---|--------------------|---------------|-----|-----|-----|----|
| | | 092 | 102 | 120 | 150 | |
| ELECTRICAL | | | | | | |
| Voltage 60 hz | 208/230V - 3 phase | Factory | O | O | O | O |
| | 460V - 3 phase | Factory | O | O | O | O |
| | 575V - 3 phase | Factory | O | O | O | O |
| Bottom Power Entry Kit | 11H66 | | X | X | X | X |
| INDOOR AIR QUALITY | | | | | | |
| Air Filters | | | | | | |
| Replacement Media Filter With Metal Mesh Frame (includes non-pleated filter media) | Y3063 | | X | X | X | X |
| Indoor Air Quality (CO₂) Sensors | | | | | | |
| Sensor - Wall-mount, off-white plastic cover with LCD display | 77N39 | | X | X | X | X |
| Sensor - Wall-mount, black plastic case, no display, rated for plenum mounting | 87N54 | | X | X | X | X |
| CO ₂ Sensor Duct Mounting Kit - for downflow applications | 85L43 | | X | X | X | X |
| Aspiration Box - for duct mounting non-plenum rated CO ₂ sensors (87N53 or 77N39) | 90N43 | | X | X | X | X |
| ECONOMIZER | | | | | | |
| Standard Economizer (Not for Title 24) | | | | | | |
| Standard Downflow Economizer with Single Temperature Control - With Barometric Relief Dampers and Air Hoods | 10Z29 | | OX | OX | OX | OX |
| Standard Horizontal Economizer with Single Temperature Control - With Barometric Relief Dampers and Air Hoods | 11G98 | | X | X | X | X |
| Standard Economizer Controls (Not for Title 24) | | | | | | |
| Single Enthalpy Control | 21Z09 | | X | X | X | X |
| Differential Enthalpy Control (order 2) | 21Z09 | | X | X | X | X |
| High Performance Economizer (Approved for California Title 24 Building Standards / AMCA Class 1A Certified) | | | | | | |
| High Performance Downflow Economizer with Single Temperature Control - With Barometric Relief Dampers and Air Hoods | 20V25 | | OX | OX | OX | OX |
| High Performance Horizontal Economizer with Single Temperature Control - With Barometric Relief Dampers and Air Hoods | 20V26 | | X | X | X | X |
| High Performance Economizer Controls (Not for Title 24) | | | | | | |
| Single Enthalpy Control | 11G21 | | X | X | X | X |
| Differential Enthalpy Control (order 2) | 11G21 | | X | X | X | X |
| Horizontal Low Profile Barometric Relief Dampers With Exhaust Hood | | | | | | |
| Horizontal Low Profile Barometric Relief Dampers With Exhaust Hood | 53K04 | | X | X | X | X |
| OUTDOOR AIR | | | | | | |
| Outdoor Air Dampers | | | | | | |
| Motorized Dampers with outdoor air hood | 14G36 | | X | X | X | X |
| Manual Dampers with outdoor air hood | 14G37 | | X | X | X | X |

NOTE - Catalog numbers shown are for ordering field installed accessories.

OX - Configure To Order (Factory Installed) or Field Installed

O = Configure To Order (Factory Installed)

X = Field Installed

OPTIONS / ACCESSORIES

| Item Description | Catalog Number | Unit Model No | | | | |
|------------------------------|----------------|---------------|-----|-----|-----|---|
| | | 092 | 102 | 120 | 150 | |
| POWER EXHAUST | | | | | | |
| Standard Static (Downflow) | 208/230V-3ph | 10Z70 | X | X | X | X |
| | 460V-3ph | 10Z71 | X | X | X | X |
| Standard Static (Horizontal) | 208/230V-3ph | 24E01 | X | X | X | X |
| | 460V-3ph | 28E01 | X | X | X | X |
| 575V Transformer Kit | 575V-3ph | 59E02 | X | X | X | X |

NOTE - Order 575V Transformer Kit with 208/230V Power Exhaust Fan for 575V applications. Order two kits for downflow models, order one kit for horizontal models.

ROOF CURBS

| Hybrid Roof Curbs, Downflow | | | | | | |
|------------------------------------|--|--------------|---|---|---|---|
| 8 in. height | | 10Z25 | X | X | X | X |
| 14 in. height | | 10Z26 | X | X | X | X |
| 18 in. height | | 10Z27 | X | X | X | X |
| 24 in. height | | 10Z28 | X | X | X | X |

CEILING DIFFUSERS

| | | | | | | |
|-----------------------|------------|--------------|---|---|---|---|
| Step-Down - Order one | RTD11-95S | 13K61 | X | | | |
| | RTD11-135S | 13K62 | | X | X | |
| | RTD11-185S | 13K63 | | | | X |
| Flush - Order one | FD11-95S | 13K56 | X | | | |
| | FD11-135S | 13K57 | | X | X | |
| | FD11-185S | 13K58 | | | | X |

NOTE - Ceiling Diffuser Transitions are not furnished and must be field fabricated.

NOTE - Catalog numbers shown are for ordering field installed accessories.

OX - Configure To Order (Factory Installed) or Field Installed

O = Configure To Order (Factory Installed)

X = Field Installed

SPECIFICATIONS
7.5 - 8.5 TON

| General Data | | Nominal Tonnage | 7.5 Ton | 7.5 Ton | 8.5 Ton | 8.5 Ton |
|---|---|------------------------|---|-----------------------------------|------------------------------|-----------------------------------|
| | | Model Number | ZGB092S4B | ZGA092S4M | ZGB102S4B | ZGA102S4M |
| | | Efficiency Type | Standard | Standard | Standard | Standard |
| | | Blower Type | CAV (Constant Air Volume) | MSAV® (Multi-Stage Air Volume) | CAV (Constant Air Volume) | MSAV® (Multi-Stage Air Volume) |
| Cooling Performance | Gross Cooling Capacity - Btuh | | 91,100 | 88,200 | 99,000 | 99,900 |
| | ¹ Net Cooling Capacity - Btuh | | 88,000 | 86,000 | 97,000 | 97,000 |
| | AHRI Rated Air Flow - cfm | | 2750 | 2800 | 3250 | 3250 |
| | Total Unit Power - kW | | 8.0 | 7.8 | 10.3 | 8.8 |
| | ¹ EER (Btuh/Watt) | | 11.0 | 11.0 | 11.0 | 11.0 |
| | ¹ IEER (Btuh/Watt) | | 12.7 | 13.0 | 12.7 | 13.0 |
| AHRI Reference No. | | | 201797104 | 202088975 | 201797104 | 202088976 |
| Refrigerant Charge Furnished | Refrigerant Type | | R-410A | R-410A | R-410A | R-410A |
| | Circuit 1 | | 4 lbs. 7 oz. | 4 lbs. 7 oz. | 4 lbs. 13 oz. | 4 lbs. 13 oz. |
| | Circuit 2 | | 3 lbs. 1 oz. | 3 lbs. 1 oz. | 4 lbs. 10 oz. | 4 lbs. 10 oz. |
| Gas Heating Options Available - See page 16 | | | Standard (2 stage), Medium (2 Stage), High (2 Stage) | | | |
| Compressor Type (number) | | | Scroll (2) | Scroll (2) | Scroll (2) | Scroll (2) |
| Outdoor Coils | Net face area (total) - sq. ft. | | 20.9 | 20.9 | 20.9 | 20.9 |
| | Number of rows | | 1 | 1 | 1 | 1 |
| | Fins per inch | | 23 | 23 | 23 | 23 |
| Outdoor Coil Fans | Motor - (No.) hp | | (2) 1/3 | (2) 1/3 | (2) 1/3 | (2) 1/3 |
| | Motor rpm | | 1075 | 1075 | 1075 | 1075 |
| | Total Motor watts | | 740 | 740 | 740 | 740 |
| | Diameter - (No.) in. | | (2) 24 | (2) 24 | (2) 24 | (2) 24 |
| | Number of blades | | 3 | 3 | 3 | 3 |
| | Total Air volume - cfm | | 8800 | 8800 | 8800 | 8800 |
| Indoor Coils | Net face area (total) - sq. ft. | | 12.78 | 12.78 | 12.78 | 12.78 |
| | Tube diameter - in. | | 3/8 | 3/8 | 3/8 | 3/8 |
| | Number of rows | | 2 | 2 | 3 | 3 |
| | Fins per inch | | 14 | 14 | 14 | 14 |
| Drain connection - Number and size | | | (2) 1 in. NPT coupling | | | |
| Expansion device type | | | Refrigerant Metering Orifice (RFC) | | | |
| ² Indoor Blower and Drive Selection | Nominal motor output | | 2 hp, 3 hp, 5 hp | | | |
| | Maximum usable motor output (US Only) | | 2.3 hp, 3.45 hp, 5.75 hp | | | |
| | Motor - Drive kit number | | 2 hp Kit 1 590-890 rpm Kit 2 800-1105 rpm Kit 3 795-1195 rpm 3 hp Kit 4 730-970 rpm Kit 5 940-1200 rpm Kit 6 1015-1300 rpm 5 hp Kit 10 900-1135 rpm Kit 11 1040-1315 rpm Kit 12 1125-1425 rpm | | | |
| | Blower wheel nominal diameter x width - in. | | (1) 15 X 15 | (1) 15 X 15 | (1) 15 X 15 | (1) 15 X 15 |
| Filters | Type of filter | | Disposable | | | |
| | Number and size - in. | | (4) 20 x 24 x 2 | | | |
| Electrical characteristics | | | 208/230V, 460V or 575V - 60 hertz - 3 phase | | | |

NOTE - Net capacity includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.

¹ AHRI Certified to AHRI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

² Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

NOTE – Units equipped with MSAV® (Multi-Stage Air Volume) option are limited to a motor service factor of 1.0.

SPECIFICATIONS

10 - 12.5 TON

| General Data | | Nominal Tonnage | 10 Ton | 10 Ton | 12.5 Ton | 12.5 Ton |
|---|--|------------------------|---|-----------------------------------|------------------------------|-----------------------------------|
| | | Model Number | ZGB120S4B | ZGA120S4M | ZGB150S4B | ZGA150S4M |
| | | Efficiency Type | Standard | Standard | Standard | Standard |
| | | Blower Type | CAV (Constant Air Volume) | MSAV® (Multi-Stage Air Volume) | CAV (Constant Air Volume) | MSAV® (Multi-Stage Air Volume) |
| Cooling Performance | Gross Cooling Capacity - Btuh | | 119,000 | 118,400 | 143,000 | 142,000 |
| | ¹ Net Cooling Capacity - Btuh | | 115,000 | 115,000 | 136,000 | 136,000 |
| | AHRI Rated Air Flow - cfm | | 3100 | 3800 | 3800 | 4400 |
| | Total Unit Power - kW | | 10.3 | 10.5 | 12.7 | 12.6 |
| | ¹ EER (Btuh/Watt) | | 11.0 | 11.0 | 10.8 | 10.8 |
| | ¹ IEER (Btuh/Watt) | | 12.7 | 13.0 | 12.2 | 12.2 |
| AHRI Reference No. | | | 201797102 | 202090718 | 201797117 | 202088977 |
| Refrigerant Charge Furnished | Refrigerant Type | | R-410A | R-410A | R-410A | R-410A |
| | Circuit 1 | | 6 lbs. 4 oz. | 5 lbs. 0 oz. | 12 lbs. 6 oz. | 7 lbs. 0 oz. |
| | Circuit 2 | | 5 lbs. 7 oz. | 5 lbs. 4 oz. | 13 lbs. 6 oz. | 6 lbs. 12 oz. |
| Gas Heating Options Available - See page 16 | | | Standard (2 stage), Medium (2 Stage), High (2 Stage) | | | |
| Compressor Type (number) | | | Scroll (2) | Scroll (2) | Scroll (2) | Scroll (2) |
| Outdoor Coils | Net face area (total) - sq. ft. | | 28.0 | 28.0 | 27.8 | 28.0 |
| | Number of rows | | 1 | 1 | 3 | 1 |
| | Fins per inch | | 23 | 23 | 20 | 20 |
| Outdoor Coil Fans | Motor - (No.) hp | | (2) 1/3 | (2) 1/3 | (2) 1/2 | (2) 1/2 |
| | Motor rpm | | 1075 | 1075 | 1075 | 1075 |
| | Total Motor watts | | 700 | 700 | 910 | 950 |
| | Diameter - (No.) in. | | (2) 24 | (2) 24 | (2) 24 | (2) 24 |
| | Number of blades | | 3 | 3 | 3 | 3 |
| | Total Air volume - cfm | | 9000 | 9000 | 9000 | 9600 |
| Indoor Coils | Net face area (total) - sq. ft. | | 13.54 | 13.54 | 13.54 | 13.54 |
| | Tube diameter - in. | | 3/8 | 3/8 | 3/8 | 3/8 |
| | Number of rows | | 4 | 3 | 4 | 4 |
| | Fins per inch | | 14 | 14 | 14 | 14 |
| Drain connection - Number and size | | | (2) 1 in. NPT coupling | | | |
| Expansion device type | | | Refrigerant Metering Orifice (RFC) | | | |
| ² Indoor Blower and Drive Selection | Nominal motor output | | 2 hp, 3 hp, 5 hp | | | |
| | Maximum usable motor output (US Only) | | 2.3 hp, 3.45 hp, 5.75 hp | | | |
| | Motor - Drive kit number | | 2 hp Kit 1 590-890 rpm Kit 2 800-1105 rpm Kit 3 795-1195 rpm 3 hp Kit 4 730-970 rpm Kit 5 940-1200 rpm Kit 6 1015-1300 rpm 5 hp Kit 10 900-1135 rpm Kit 11 1040-1315 rpm Kit 12 1125-1425 rpm | | | |
| Blower wheel nominal diameter x width - in. | | | (1) 15 X 15 | (1) 15 X 15 | (1) 15 X 15 | (1) 15 X 15 |
| Filters | Type of filter | | Disposable | | | |
| | Number and size - in. | | (4) 20 x 24 x 2 | | | |
| Electrical characteristics | | | 208/230V, 460V or 575V - 60 hertz - 3 phase | | | |

NOTE - Net capacity includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.

¹ AHRI Certified to AHRI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

² Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

NOTE – Units equipped with MSAV® (Multi-Stage Air Volume)MSAV® (Multi-Stage Air Volume) option are limited to a motor service factor of 1.0.

SPECIFICATIONS - GAS HEAT

| | | Heat Input Type | Standard | Medium | High |
|--|-----------------------------|---------------------------|------------|------------|------------|
| | | Number of Gas Heat Stages | 2 | 2 | 2 |
| Gas Heating Performance | Input - Btuh | First Stage | 84,500 | 117,000 | 156,000 |
| | | Second Stage | 130,000 | 180,000 | 240,000 |
| | Output - Btuh | Second Stage | 104,000 | 144,000 | 192,000 |
| | Temperature Rise Range - °F | | 15-45 | 30-60 | 40-70 |
| | Thermal Efficiency | | 80% | 80% | 80% |
| | Gas Supply Connections | | 3/4 in NPT | 3/4 in NPT | 3/4 in NPT |
| Recommended Gas Supply Pressure - in. w.g. | Natural | | 7 | 7 | 7 |
| | LPG/Propane | | 11 | 11 | 11 |

HIGH ALTITUDE DERATE

Units may be installed at altitudes up to 2000 feet above sea level without any modification.

At altitudes above 2000 feet, units must be derated to match gas manifold pressures shown in table below.

At altitudes above 4500 feet unit must be derated 2% for each 1000 feet above sea level.

NOTE – This is the only permissible derate for these units.

| Gas Heat Type | Altitude | Gas Manifold Pressure | | Input Rate Natural Gas or LPG/Propane | |
|---------------|-----------|-----------------------|-----------------|--|--------------|
| | | Natural Gas | LPG/Propane Gas | First Stage | Second Stage |
| | ft. | In. w.g. | In. w.g. | Btuh | Btuh |
| Standard | 2001-4500 | 3.4 | 9.6 | 84,500 | 124,000 |
| Medium | 2001-4500 | 3.4 | 9.6 | 117,000 | 172,000 |
| High | 2001-4500 | 3.4 | 9.6 | 156,000 | 230,000 |

BLOWER DATA

092S STANDARD EFFICIENCY BELT DRIVE BLOWER – BASE UNIT

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY (NO HEAT SECTION) WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE. FOR ALL UNITS ADD:

- 1 – Wet indoor coil air resistance of selected unit.
- 2 – Any factory installed options air resistance (heat section, economizer, etc.)
- 3 – Any field installed accessories air resistance (duct resistance, diffuser, etc.)

Then determine from blower table blower motor output required.

See page 25 for blower motors and drives.

See page 25 for wet coil and option/accessory air resistance data.

MAXIMUM STATIC PRESSURE WITH GAS HEAT - 2.0 in. w.g.

| Total Air Volume cfm | Total Static Pressure – in. w.g. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|----------------------------------|------|-----|------|-----|------|-----|------|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|
| | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2 | | 2.2 | | 2.4 | | 2.6 | | | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 1750 | 498 | 0.08 | 565 | 0.25 | 633 | 0.50 | 701 | 0.71 | 768 | 0.87 | 830 | 0.99 | 890 | 1.08 | 946 | 1.16 | 998 | 1.27 | 1049 | 1.41 | 1098 | 1.58 | --- | --- | --- | --- | | |
| 2000 | 512 | 0.12 | 578 | 0.37 | 645 | 0.60 | 713 | 0.81 | 780 | 0.97 | 842 | 1.10 | 901 | 1.19 | 955 | 1.28 | 1007 | 1.40 | 1057 | 1.56 | 1105 | 1.74 | 1153 | 1.94 | 1201 | 2.16 | | |
| 2250 | 527 | 0.24 | 592 | 0.49 | 659 | 0.72 | 727 | 0.92 | 793 | 1.08 | 855 | 1.21 | 913 | 1.32 | 966 | 1.42 | 1017 | 1.55 | 1066 | 1.72 | 1114 | 1.92 | 1162 | 2.13 | 1210 | 2.35 | | |
| 2500 | 543 | 0.37 | 608 | 0.61 | 675 | 0.84 | 743 | 1.04 | 809 | 1.21 | 869 | 1.35 | 926 | 1.45 | 978 | 1.57 | 1028 | 1.72 | 1076 | 1.90 | 1124 | 2.11 | 1171 | 2.33 | 1221 | 2.57 | | |
| 2750 | 560 | 0.51 | 625 | 0.75 | 693 | 0.98 | 761 | 1.18 | 826 | 1.35 | 885 | 1.49 | 939 | 1.60 | 990 | 1.73 | 1039 | 1.90 | 1087 | 2.10 | 1135 | 2.32 | 1183 | 2.55 | 1232 | 2.80 | | |
| 3000 | 579 | 0.66 | 645 | 0.90 | 713 | 1.13 | 781 | 1.34 | 844 | 1.51 | 901 | 1.65 | 954 | 1.77 | 1004 | 1.92 | 1052 | 2.11 | 1100 | 2.32 | 1147 | 2.56 | 1195 | 2.80 | 1245 | 3.05 | | |
| 3250 | 600 | 0.82 | 666 | 1.06 | 735 | 1.30 | 803 | 1.51 | 864 | 1.69 | 918 | 1.82 | 969 | 1.95 | 1018 | 2.12 | 1066 | 2.34 | 1113 | 2.57 | 1161 | 2.81 | 1209 | 3.06 | 1259 | 3.31 | | |
| 3500 | 622 | 0.98 | 690 | 1.24 | 760 | 1.49 | 826 | 1.70 | 883 | 1.87 | 936 | 2.01 | 985 | 2.16 | 1033 | 2.35 | 1081 | 2.59 | 1128 | 2.84 | 1176 | 3.09 | 1224 | 3.34 | 1275 | 3.60 | | |
| 3750 | 646 | 1.17 | 716 | 1.45 | 786 | 1.70 | 849 | 1.91 | 903 | 2.07 | 953 | 2.21 | 1002 | 2.38 | 1049 | 2.61 | 1097 | 2.87 | 1144 | 3.12 | 1192 | 3.38 | 1241 | 3.64 | 1292 | 3.91 | | |
| 4000 | 674 | 1.38 | 746 | 1.68 | 814 | 1.93 | 872 | 2.12 | 923 | 2.28 | 971 | 2.43 | 1019 | 2.64 | 1067 | 2.90 | 1114 | 3.17 | 1161 | 3.43 | 1209 | 3.69 | 1259 | 3.96 | 1311 | 4.24 | | |
| 4250 | 705 | 1.63 | 777 | 1.94 | 841 | 2.17 | 894 | 2.34 | 943 | 2.50 | 990 | 2.69 | 1038 | 2.93 | 1085 | 3.21 | 1132 | 3.49 | 1179 | 3.76 | 1228 | 4.03 | 1279 | 4.31 | 1332 | 4.60 | | |

BLOWER DATA

102S STANDARD EFFICIENCY BELT DRIVE BLOWER – BASE UNIT

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY (NO HEAT SECTION) WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE. FOR ALL UNITS ADD:

- 1 – Wet indoor coil air resistance of selected unit.
- 2 – Any factory installed options air resistance (heat section, economizer, etc.)
- 3 – Any field installed accessories air resistance (duct resistance, diffuser, etc.)

Then determine from blower table blower motor output required.

See page 25 for blower motors and drives.

See page 25 for wet coil and option/accessory air resistance data.

MAXIMUM STATIC PRESSURE WITH GAS HEAT - 2.0 in. w.g.

| Total Air Volume cfm | Total Static Pressure – in. w.g. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|----------------------------------|------|-----|------|-----|------|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|
| | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | | 2.2 | | 2.4 | | 2.6 | | | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 1750 | 494 | 0.11 | 562 | 0.34 | 632 | 0.56 | 702 | 0.74 | 771 | 0.85 | 838 | 0.96 | 902 | 1.07 | 961 | 1.19 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2000 | 514 | 0.26 | 581 | 0.49 | 650 | 0.70 | 719 | 0.87 | 786 | 0.98 | 852 | 1.09 | 915 | 1.20 | 972 | 1.32 | 1026 | 1.47 | 1076 | 1.65 | --- | --- | --- | --- | --- | --- | --- | --- |
| 2250 | 533 | 0.41 | 599 | 0.62 | 667 | 0.82 | 735 | 0.99 | 802 | 1.10 | 866 | 1.21 | 928 | 1.33 | 984 | 1.46 | 1037 | 1.63 | 1085 | 1.81 | 1132 | 2.01 | 1178 | 2.21 | 1226 | 2.43 | --- | --- |
| 2500 | 553 | 0.55 | 619 | 0.76 | 685 | 0.95 | 753 | 1.10 | 818 | 1.22 | 881 | 1.34 | 942 | 1.47 | 997 | 1.62 | 1048 | 1.80 | 1096 | 1.99 | 1142 | 2.20 | 1188 | 2.41 | 1237 | 2.64 | --- | --- |
| 2750 | 573 | 0.70 | 638 | 0.90 | 705 | 1.08 | 771 | 1.22 | 835 | 1.35 | 897 | 1.49 | 957 | 1.63 | 1011 | 1.80 | 1061 | 1.99 | 1108 | 2.19 | 1154 | 2.41 | 1200 | 2.63 | 1249 | 2.87 | --- | --- |
| 3000 | 594 | 0.85 | 659 | 1.05 | 725 | 1.22 | 791 | 1.36 | 853 | 1.50 | 915 | 1.65 | 973 | 1.81 | 1026 | 1.99 | 1075 | 2.20 | 1121 | 2.42 | 1167 | 2.64 | 1213 | 2.87 | 1262 | 3.12 | --- | --- |
| 3250 | 617 | 1.01 | 682 | 1.20 | 747 | 1.37 | 812 | 1.52 | 873 | 1.67 | 934 | 1.83 | 990 | 2.01 | 1042 | 2.21 | 1089 | 2.43 | 1135 | 2.66 | 1181 | 2.90 | 1228 | 3.13 | 1277 | 3.38 | --- | --- |
| 3500 | 640 | 1.17 | 706 | 1.36 | 771 | 1.53 | 834 | 1.70 | 895 | 1.86 | 954 | 2.03 | 1008 | 2.23 | 1058 | 2.46 | 1105 | 2.69 | 1150 | 2.93 | 1196 | 3.17 | 1243 | 3.41 | 1293 | 3.65 | --- | --- |
| 3750 | 665 | 1.34 | 731 | 1.54 | 796 | 1.72 | 857 | 1.89 | 917 | 2.07 | 975 | 2.26 | 1027 | 2.48 | 1076 | 2.72 | 1121 | 2.97 | 1166 | 3.22 | 1212 | 3.46 | 1261 | 3.71 | 1311 | 3.96 | --- | --- |
| 4000 | 692 | 1.54 | 758 | 1.75 | 822 | 1.93 | 882 | 2.11 | 940 | 2.30 | 996 | 2.51 | 1047 | 2.76 | 1094 | 3.02 | 1139 | 3.27 | 1184 | 3.52 | 1230 | 3.77 | 1280 | 4.03 | 1330 | 4.29 | --- | --- |
| 4250 | 722 | 1.76 | 787 | 1.97 | 849 | 2.15 | 908 | 2.35 | 965 | 2.56 | 1018 | 2.79 | 1067 | 3.06 | 1113 | 3.33 | 1157 | 3.59 | 1202 | 3.85 | 1250 | 4.11 | 1300 | 4.38 | 1352 | 4.65 | --- | --- |

BLOWER DATA

120S4M STANDARD EFFICIENCY BELT DRIVE BLOWER – BASE UNIT

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY (NO HEAT SECTION) WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE. FOR ALL UNITS ADD:

- 1 – Wet indoor coil air resistance of selected unit.
- 2 – Any factory installed options air resistance (heat section, economizer, etc.)
- 3 – Any field installed accessories air resistance (duct resistance, diffuser, etc.)

Then determine from blower table blower motor output required.

See page 25 for blower motors and drives.

See page 25 for wet coil and option/accessory air resistance data.

MAXIMUM STATIC PRESSURE WITH GAS HEAT - 2.0 in. w.g.

| Total Air Volume cfm | Total Static Pressure – in. w.g. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|----------------------------------|------|-----|------|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|
| | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2 | | 2.2 | | 2.4 | | 2.6 | | | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 2000 | 535 | 0.28 | 596 | 0.49 | 660 | 0.69 | 724 | 0.87 | 788 | 1.00 | 851 | 1.11 | 913 | 1.23 | 971 | 1.37 | 1025 | 1.52 | 1076 | 1.69 | 1124 | 1.86 | --- | --- | --- | --- | | |
| 2250 | 552 | 0.43 | 613 | 0.63 | 675 | 0.81 | 738 | 0.98 | 802 | 1.11 | 864 | 1.22 | 925 | 1.36 | 982 | 1.51 | 1036 | 1.68 | 1085 | 1.85 | 1133 | 2.04 | 1180 | 2.23 | 1228 | 2.44 | | |
| 2500 | 570 | 0.57 | 630 | 0.76 | 692 | 0.94 | 754 | 1.10 | 817 | 1.22 | 879 | 1.35 | 939 | 1.51 | 995 | 1.67 | 1047 | 1.85 | 1096 | 2.04 | 1143 | 2.23 | 1190 | 2.43 | 1239 | 2.65 | | |
| 2750 | 589 | 0.72 | 648 | 0.91 | 709 | 1.08 | 772 | 1.22 | 833 | 1.36 | 894 | 1.50 | 954 | 1.67 | 1009 | 1.85 | 1059 | 2.04 | 1108 | 2.24 | 1154 | 2.44 | 1202 | 2.65 | 1251 | 2.87 | | |
| 3000 | 608 | 0.87 | 668 | 1.05 | 729 | 1.22 | 791 | 1.37 | 852 | 1.51 | 912 | 1.67 | 970 | 1.85 | 1023 | 2.05 | 1073 | 2.25 | 1120 | 2.46 | 1167 | 2.67 | 1215 | 2.89 | 1265 | 3.11 | | |
| 3250 | 629 | 1.03 | 688 | 1.21 | 749 | 1.37 | 811 | 1.52 | 871 | 1.68 | 930 | 1.86 | 987 | 2.06 | 1039 | 2.27 | 1088 | 2.49 | 1134 | 2.70 | 1181 | 2.92 | 1229 | 3.14 | 1279 | 3.37 | | |
| 3500 | 651 | 1.20 | 710 | 1.38 | 772 | 1.54 | 833 | 1.70 | 892 | 1.88 | 950 | 2.07 | 1004 | 2.28 | 1055 | 2.51 | 1103 | 2.74 | 1150 | 2.96 | 1196 | 3.19 | 1245 | 3.42 | 1295 | 3.65 | | |
| 3750 | 674 | 1.36 | 734 | 1.56 | 796 | 1.73 | 856 | 1.90 | 914 | 2.10 | 970 | 2.30 | 1023 | 2.53 | 1072 | 2.78 | 1120 | 3.02 | 1166 | 3.25 | 1213 | 3.47 | 1262 | 3.71 | 1313 | 3.95 | | |
| 4000 | 699 | 1.55 | 761 | 1.76 | 822 | 1.94 | 880 | 2.12 | 936 | 2.33 | 991 | 2.56 | 1042 | 2.81 | 1090 | 3.07 | 1137 | 3.31 | 1183 | 3.55 | 1231 | 3.78 | 1281 | 4.03 | 1333 | 4.28 | | |
| 4250 | 726 | 1.77 | 789 | 1.98 | 849 | 2.16 | 904 | 2.37 | 959 | 2.59 | 1012 | 2.84 | 1062 | 3.11 | 1109 | 3.38 | 1156 | 3.63 | 1202 | 3.87 | 1251 | 4.11 | 1302 | 4.37 | 1354 | 4.63 | | |
| 4500 | 756 | 2.01 | 818 | 2.22 | 875 | 2.41 | 929 | 2.63 | 983 | 2.88 | 1034 | 3.15 | 1082 | 3.44 | 1129 | 3.71 | 1175 | 3.96 | 1222 | 4.21 | 1271 | 4.46 | 1323 | 4.72 | 1376 | 5.00 | | |
| 4750 | 788 | 2.27 | 848 | 2.47 | 902 | 2.68 | 955 | 2.92 | 1006 | 3.20 | 1056 | 3.50 | 1104 | 3.79 | 1150 | 4.06 | 1196 | 4.32 | 1243 | 4.57 | 1293 | 4.83 | 1345 | 5.09 | 1399 | 5.37 | | |
| 5000 | 822 | 2.54 | 878 | 2.75 | 929 | 2.98 | 980 | 3.25 | 1031 | 3.56 | 1079 | 3.87 | 1126 | 4.16 | 1172 | 4.44 | 1218 | 4.70 | 1266 | 4.95 | 1315 | 5.20 | 1367 | 5.47 | 1421 | 5.74 | | |

BLOWER DATA

120S4B AND 150S STANDARD EFFICIENCY BELT DRIVE BLOWER – BASE UNIT

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY (NO HEAT SECTION) WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE. FOR ALL UNITS ADD:

- 1 – Wet indoor coil air resistance of selected unit.
- 2 – Any factory installed options air resistance (heat section, economizer, etc.)
- 3 – Any field installed accessories air resistance (duct resistance, diffuser, etc.)

Then determine from blower table blower motor output required.

See page 25 for blower motors and drives.

See page 25 for wet coil and option/accessory air resistance data.

MAXIMUM STATIC PRESSURE WITH GAS HEAT - 2.0 in. w.g.

| Total Air Volume cfm | Total Static Pressure – in. w.g. | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | | 2.2 | | 2.4 | | 2.6 | | |
| | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM |
| 2000 | 542 | 0.43 | 602 | 0.60 | 664 | 0.75 | 732 | 0.89 | 802 | 1.02 | 869 | 1.15 | 927 | 1.27 | 979 | 1.41 | 1029 | 1.57 | 1079 | 1.75 | 1129 | 1.95 | 1179 | 2.15 | 1230 | 2.37 | |
| 2250 | 560 | 0.55 | 619 | 0.71 | 681 | 0.86 | 748 | 1.00 | 817 | 1.14 | 882 | 1.27 | 939 | 1.41 | 991 | 1.57 | 1041 | 1.74 | 1090 | 1.93 | 1140 | 2.13 | 1190 | 2.35 | 1241 | 2.57 | |
| 2500 | 579 | 0.68 | 637 | 0.83 | 699 | 0.98 | 766 | 1.12 | 834 | 1.26 | 897 | 1.41 | 953 | 1.57 | 1005 | 1.74 | 1054 | 1.92 | 1103 | 2.12 | 1152 | 2.33 | 1202 | 2.55 | 1254 | 2.79 | |
| 2750 | 599 | 0.81 | 657 | 0.97 | 719 | 1.11 | 785 | 1.25 | 851 | 1.41 | 913 | 1.57 | 968 | 1.74 | 1020 | 1.93 | 1068 | 2.13 | 1116 | 2.34 | 1165 | 2.56 | 1215 | 2.78 | 1268 | 3.01 | |
| 3000 | 620 | 0.95 | 678 | 1.11 | 741 | 1.25 | 806 | 1.40 | 870 | 1.58 | 930 | 1.75 | 985 | 1.94 | 1036 | 2.14 | 1084 | 2.36 | 1131 | 2.58 | 1180 | 2.80 | 1230 | 3.02 | 1283 | 3.26 | |
| 3250 | 643 | 1.10 | 701 | 1.26 | 764 | 1.41 | 828 | 1.57 | 891 | 1.76 | 950 | 1.95 | 1003 | 2.16 | 1053 | 2.38 | 1100 | 2.61 | 1148 | 2.83 | 1196 | 3.06 | 1246 | 3.29 | 1299 | 3.52 | |
| 3500 | 667 | 1.26 | 726 | 1.43 | 788 | 1.58 | 851 | 1.77 | 913 | 1.97 | 970 | 2.17 | 1023 | 2.41 | 1071 | 2.65 | 1118 | 2.88 | 1165 | 3.11 | 1213 | 3.33 | 1264 | 3.57 | 1317 | 3.81 | |
| 3750 | 693 | 1.44 | 752 | 1.61 | 813 | 1.78 | 876 | 1.98 | 936 | 2.20 | 992 | 2.43 | 1043 | 2.68 | 1091 | 2.93 | 1137 | 3.17 | 1183 | 3.40 | 1232 | 3.64 | 1284 | 3.88 | 1338 | 4.13 | |
| 4000 | 720 | 1.65 | 779 | 1.82 | 840 | 2.00 | 902 | 2.22 | 961 | 2.46 | 1015 | 2.71 | 1064 | 2.98 | 1111 | 3.24 | 1156 | 3.48 | 1203 | 3.72 | 1253 | 3.96 | 1305 | 4.22 | 1359 | 4.48 | |
| 4250 | 748 | 1.86 | 807 | 2.04 | 868 | 2.24 | 929 | 2.48 | 986 | 2.75 | 1038 | 3.02 | 1086 | 3.30 | 1132 | 3.57 | 1177 | 3.81 | 1224 | 4.05 | 1274 | 4.31 | 1327 | 4.57 | 1382 | 4.85 | |
| 4500 | 778 | 2.09 | 837 | 2.28 | 898 | 2.51 | 957 | 2.78 | 1012 | 3.07 | 1062 | 3.37 | 1108 | 3.65 | 1154 | 3.92 | 1199 | 4.17 | 1247 | 4.41 | 1297 | 4.67 | 1350 | 4.94 | 1405 | 5.22 | |
| 4750 | 809 | 2.34 | 868 | 2.56 | 929 | 2.82 | 986 | 3.12 | 1038 | 3.43 | 1087 | 3.74 | 1132 | 4.03 | 1177 | 4.29 | 1223 | 4.54 | 1270 | 4.79 | 1321 | 5.04 | 1374 | 5.31 | 1428 | 5.58 | |
| 5000 | 841 | 2.62 | 901 | 2.87 | 960 | 3.17 | 1015 | 3.50 | 1065 | 3.83 | 1112 | 4.14 | 1157 | 4.43 | 1201 | 4.69 | 1247 | 4.94 | 1295 | 5.18 | 1345 | 5.42 | 1398 | 5.68 | --- | --- | |
| 5250 | 875 | 2.93 | 935 | 3.23 | 992 | 3.56 | 1044 | 3.91 | 1092 | 4.26 | 1138 | 4.57 | 1182 | 4.85 | 1226 | 5.10 | 1272 | 5.34 | 1320 | 5.57 | --- | --- | --- | --- | --- | --- | |
| 5500 | 911 | 3.30 | 969 | 3.63 | 1024 | 4.00 | 1074 | 4.37 | 1120 | 4.71 | 1165 | 5.02 | 1208 | 5.29 | 1253 | 5.53 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| 5750 | 948 | 3.71 | 1004 | 4.08 | 1056 | 4.48 | 1104 | 4.85 | 1148 | 5.19 | 1192 | 5.49 | 1235 | 5.74 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| 6000 | 985 | 4.18 | 1039 | 4.59 | 1088 | 5.00 | 1134 | 5.37 | 1177 | 5.69 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| 6250 | 1022 | 4.70 | 1073 | 5.14 | 1120 | 5.54 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |

BLOWER DATA

FACTORY INSTALLED BELT DRIVE KIT SPECIFICATIONS

| Nominal hp | Maximum hp | Drive Kit Number | RPM Range |
|------------|------------|------------------|-------------|
| 2 | 2.3 | 1 | 590 - 890 |
| 2 | 2.3 | 2 | 800 - 1105 |
| 2 | 2.3 | 3 | 795 - 1195 |
| 3 | 3.45 | 4 | 730 - 970 |
| 3 | 3.45 | 5 | 940 - 1200 |
| 3 | 3.45 | 6 | 1015 - 1300 |
| 5 | 5.75 | 10 | 900 - 1135 |
| 5 | 5.75 | 11 | 1040 - 1315 |
| 5 | 5.75 | 12 | 1125 - 1425 |

NOTE - Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

NOTE – Units equipped with MSAV® (Multi-Stage Air Volume)option are limited to a motor service factor of 1.0.

POWER EXHAUST FAN PERFORMANCE

| Return Air System Static Pressure | Air Volume Exhausted |
|-----------------------------------|----------------------|
| in. w.g. | cfm |
| 0 | 3575 |
| 0.05 | 3405 |
| 0.10 | 3550 |
| 0.15 | 3245 |
| 0.20 | 3115 |
| 0.25 | 3020 |
| 0.30 | 2900 |
| 0.35 | 2785 |

FACTORY INSTALLED OPTIONS/FIELD INSTALLED ACCESSORY AIR RESISTANCE - in. w.g.

| Air Volume cfm | Wet Indoor Coil | | | Gas Heat Exchanger | | | Economizer | Filters | |
|----------------|-----------------|-------------|--------------|--------------------|-------------|-----------|------------|---------|---------|
| | 092 | 102, 120S4M | 120/S4B, 150 | Standard Heat | Medium Heat | High Heat | | MERV 8 | MERV 13 |
| 1750 | 0.02 | 0.03 | 0.04 | 0.06 | 0.02 | 0.02 | 0.03 | 0.01 | 0.03 |
| 2000 | 0.02 | 0.04 | 0.05 | 0.07 | 0.05 | 0.06 | 0.05 | 0.01 | 0.03 |
| 2250 | 0.03 | 0.05 | 0.06 | 0.07 | 0.07 | 0.08 | 0.06 | 0.01 | 0.04 |
| 2500 | 0.03 | 0.05 | 0.07 | 0.09 | 0.10 | 0.11 | 0.08 | 0.01 | 0.05 |
| 2750 | 0.04 | 0.06 | 0.08 | 0.09 | 0.11 | 0.12 | 0.09 | 0.02 | 0.05 |
| 3000 | 0.05 | 0.07 | 0.09 | 0.11 | 0.12 | 0.13 | 0.11 | 0.02 | 0.06 |
| 3250 | 0.05 | 0.08 | 0.10 | 0.12 | 0.15 | 0.16 | 0.13 | 0.02 | 0.06 |
| 3500 | 0.06 | 0.09 | 0.11 | 0.12 | 0.16 | 0.17 | 0.15 | 0.03 | 0.07 |
| 3750 | 0.07 | 0.10 | 0.13 | 0.14 | 0.19 | 0.20 | 0.17 | 0.03 | 0.08 |
| 4000 | 0.07 | 0.11 | 0.14 | 0.14 | 0.21 | 0.22 | 0.19 | 0.04 | 0.08 |
| 4250 | 0.08 | 0.13 | 0.15 | 0.14 | 0.24 | 0.28 | 0.21 | 0.04 | 0.09 |
| 4500 | 0.09 | 0.14 | 0.17 | 0.15 | 0.26 | 0.32 | 0.24 | 0.04 | 0.09 |
| 4750 | 0.10 | 0.15 | 0.18 | 0.16 | 0.29 | 0.37 | 0.26 | 0.05 | 0.10 |
| 5000 | 0.10 | 0.16 | 0.20 | 0.16 | 0.34 | 0.43 | 0.29 | 0.06 | 0.10 |
| 5250 | 0.11 | 0.17 | 0.22 | 0.16 | 0.37 | 0.47 | 0.32 | 0.06 | 0.11 |
| 5500 | 0.12 | 0.19 | 0.23 | 0.18 | 0.44 | 0.54 | 0.34 | 0.07 | 0.12 |
| 5750 | 0.13 | 0.20 | 0.25 | 0.19 | 0.49 | 0.59 | 0.37 | 0.07 | 0.12 |
| 6000 | 0.14 | 0.22 | 0.27 | 0.20 | 0.54 | 0.64 | 0.40 | 0.08 | 0.13 |

BLOWER DATA

CEILING DIFFUSERS AIR RESISTANCE - in. w.g.

| Unit Size | RTD11 Step-Down Diffuser | | | | FD11 Flush Diffuser |
|---------------------|--------------------------|-------------|---------------------|-----------------------|---------------------|
| | Air Volume cfm | 2 Ends Open | 1 Side, 2 Ends Open | All Ends & Sides Open | |
| 092 Models | 2400 | 0.21 | 0.18 | 0.15 | 0.14 |
| | 2600 | 0.24 | 0.21 | 0.18 | 0.17 |
| | 2800 | 0.27 | 0.24 | 0.21 | 0.20 |
| | 3000 | 0.32 | 0.29 | 0.25 | 0.25 |
| | 3200 | 0.41 | 0.37 | 0.32 | 0.31 |
| | 3400 | 0.50 | 0.45 | 0.39 | 0.37 |
| | 3600 | 0.61 | 0.54 | 0.48 | 0.44 |
| 102 & 120S4M Models | 3800 | 0.73 | 0.63 | 0.57 | 0.51 |
| | 3600 | 0.36 | 0.28 | 0.23 | 0.15 |
| | 3800 | 0.40 | 0.32 | 0.26 | 0.18 |
| | 4000 | 0.44 | 0.36 | 0.29 | 0.21 |
| | 4200 | 0.49 | 0.40 | 0.33 | 0.24 |
| | 4400 | 0.54 | 0.44 | 0.37 | 0.27 |
| | 4600 | 0.60 | 0.49 | 0.42 | 0.31 |
| | 4800 | 0.65 | 0.53 | 0.46 | 0.35 |
| 120S4B & 150 Models | 5000 | 0.69 | 0.58 | 0.50 | 0.39 |
| | 5200 | 0.75 | 0.62 | 0.54 | 0.43 |
| | 4200 | 0.22 | 0.19 | 0.16 | 0.10 |
| | 4400 | 0.28 | 0.24 | 0.20 | 0.12 |
| | 4600 | 0.34 | 0.29 | 0.24 | 0.15 |
| | 4800 | 0.40 | 0.34 | 0.29 | 0.19 |
| | 5000 | 0.46 | 0.39 | 0.34 | 0.23 |
| | 5200 | 0.52 | 0.44 | 0.39 | 0.27 |
| 5400 | 0.58 | 0.49 | 0.43 | 0.31 | |
| 5600 | 0.64 | 0.54 | 0.47 | 0.35 | |
| 5800 | 0.70 | 0.59 | 0.51 | 0.39 | |

CEILING DIFFUSER AIR THROW DATA

| Model No. | Air Volume cfm | ¹ Effective Throw Range | |
|-----------------|----------------|------------------------------------|------------|
| | | RTD11 Step-Down | FD11 Flush |
| | | ft. | ft. |
| 092 Models | 2600 | 24 - 29 | 19 - 24 |
| | 2800 | 25 - 30 | 20 - 28 |
| | 3000 | 27 - 33 | 21 - 29 |
| | 3200 | 28 - 35 | 22 - 29 |
| | 3400 | 30 - 37 | 22 - 30 |
| 102, 120 Models | 3600 | 25 - 33 | 22 - 29 |
| | 3800 | 27 - 35 | 22 - 30 |
| | 4000 | 29 - 37 | 24 - 33 |
| | 4200 | 32 - 40 | 26 - 35 |
| | 4400 | 34 - 42 | 28 - 37 |
| 150 Models | 5600 | 39 - 49 | 28 - 37 |
| | 5800 | 42 - 51 | 29 - 38 |
| | 6000 | 44 - 54 | 40 - 50 |
| | 6200 | 45 - 55 | 42 - 51 |
| | 6400 | 46 - 55 | 43 - 52 |
| 6600 | 47 - 56 | 45 - 56 | |

¹ Throw is the horizontal or vertical distance an air stream travels on leaving the outlet or diffuser before the maximum velocity is reduced to 50 ft. per minute. Four sides open.

ELECTRICAL DATA**7.5 TON****7.5 TON STANDARD EFFICIENCY - CONSTANT AIR VOLUME****ZGB092S4B**

| ¹ Voltage - 60hz | | 208/230V - 3 Ph | | | 460V - 3 Ph | | | 575V - 3 Ph | | |
|---|-------------------------------|-----------------|------|------|-------------|-----|-----|-------------|-----|-----|
| Compressor 1 | Rated Load Amps | 13.5 | | | 8 | | | 5 | | |
| | Locked Rotor Amps | 109 | | | 59 | | | 40 | | |
| Compressor 2 | Rated Load Amps | 8.7 | | | 4 | | | 3.6 | | |
| | Locked Rotor Amps | 70 | | | 31 | | | 27 | | |
| Outdoor Fan Motors (2) | Full Load Amps | 2.4 | | | 1.3 | | | 1.0 | | |
| | (total) | (4.8) | | | (2.6) | | | (2.0) | | |
| Power Exhaust (2) 0.5 HP | Full Load Amps | 1.5 | | | 0.6 | | | 0.6 | | |
| | (total) | (3.0) | | | (1.2) | | | (1.2) | | |
| Indoor Blower Motor | Horsepower | 2 | 3 | 5 | 2 | 3 | 5 | 2 | 3 | 5 |
| | Full Load Amps | 7.5 | 10.6 | 16.7 | 3.4 | 4.8 | 7.6 | 2.7 | 3.9 | 6.1 |
| ² Maximum Overcurrent Protection | Unit Only | 50 | 50 | 60 | 25 | 25 | 30 | 15 | 20 | 20 |
| | With (2) 0.5 HP Power Exhaust | 50 | 50 | 60 | 25 | 30 | 30 | 20 | 20 | 25 |
| ³ Minimum Circuit Ampacity | Unit Only | 38 | 41 | 48 | 20 | 22 | 25 | 15 | 16 | 19 |
| | With (2) 0.5 HP Power Exhaust | 41 | 44 | 51 | 22 | 23 | 26 | 16 | 17 | 20 |

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

¹ Extremes of operating range are plus and minus 10% of line voltage.² HACR type breaker or fuse.³ Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.**ELECTRICAL DATA****7.5 TON****7.5 TON STANDARD EFFICIENCY - MSAV® (Multi-Stage Air Volume) Supply Air****ZGA092S4M**

| ¹ Voltage - 60hz | | 208/230V - 3 Ph | | | 460V - 3 Ph | | | 575V - 3 Ph | | |
|---|-------------------------------|-----------------|------|------|-------------|-----|-----|-------------|-----|-----|
| Compressor 1 | Rated Load Amps | 13.5 | | | 8 | | | 5 | | |
| | Locked Rotor Amps | 109 | | | 59 | | | 40 | | |
| Compressor 2 | Rated Load Amps | 8.7 | | | 4 | | | 3.6 | | |
| | Locked Rotor Amps | 70 | | | 31 | | | 27 | | |
| Outdoor Fan Motors (2) | Full Load Amps | 2.4 | | | 1.3 | | | 1.0 | | |
| | (total) | (4.8) | | | (2.6) | | | (2.0) | | |
| Power Exhaust (2) 0.5 HP | Full Load Amps | 1.5 | | | 0.6 | | | 0.6 | | |
| | (total) | (3.0) | | | (1.2) | | | (1.2) | | |
| Indoor Blower Motor | Horsepower | 2 | 3 | 5 | 2 | 3 | 5 | 2 | 3 | 5 |
| | Full Load Amps | 7.5 | 10.6 | 16.7 | 3.4 | 4.8 | 7.6 | 2.7 | 3.9 | 6.1 |
| ² Maximum Overcurrent Protection | Unit Only | 50 | 50 | 60 | 25 | 25 | 30 | 15 | 20 | 20 |
| | With (2) 0.5 HP Power Exhaust | 50 | 50 | 60 | 25 | 30 | 30 | 20 | 20 | 25 |
| ³ Minimum Circuit Ampacity | Unit Only | 38 | 41 | 48 | 20 | 22 | 25 | 15 | 16 | 19 |
| | With (2) 0.5 HP Power Exhaust | 41 | 44 | 51 | 22 | 23 | 26 | 16 | 17 | 20 |

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

¹ Extremes of operating range are plus and minus 10% of line voltage.² HACR type breaker or fuse.³ Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA**8.5 TON****8.5 TON STANDARD EFFICIENCY - CONSTANT AIR VOLUME****ZGB102S4B**

| ¹ Voltage - 60hz | | 208/230V - 3 Ph | | | 460V - 3 Ph | | | 575V - 3 Ph | | |
|---|-------------------------------|-----------------|------|------|-------------|-----|-----|-------------|-----|-----|
| Compressor 1 | Rated Load Amps | 13.5 | | | 8 | | | 5 | | |
| | Locked Rotor Amps | 109 | | | 59 | | | 40 | | |
| Compressor 2 | Rated Load Amps | 11 | | | 5.5 | | | 4.7 | | |
| | Locked Rotor Amps | 86 | | | 37 | | | 34 | | |
| Outdoor Fan Motors (2) | Full Load Amps | 2.4 | | | 1.3 | | | 1.0 | | |
| | (total) | (4.8) | | | (2.6) | | | (2.0) | | |
| Power Exhaust (2) 0.5 HP | Full Load Amps | 1.5 | | | 0.6 | | | 0.6 | | |
| | (total) | (3.0) | | | (1.2) | | | (1.2) | | |
| Indoor Blower Motor | Horsepower | 2 | 3 | 5 | 2 | 3 | 5 | 2 | 3 | 5 |
| | Full Load Amps | 7.5 | 10.6 | 16.7 | 3.4 | 4.8 | 7.6 | 2.7 | 3.9 | 6.1 |
| ² Maximum Overcurrent Protection | Unit Only | 50 | 50 | 60 | 25 | 30 | 30 | 20 | 20 | 25 |
| | With (2) 0.5 HP Power Exhaust | 50 | 50 | 60 | 30 | 30 | 30 | 20 | 20 | 25 |
| ³ Minimum Circuit Ampacity | Unit Only | 41 | 44 | 51 | 22 | 23 | 26 | 16 | 17 | 20 |
| | With (2) 0.5 HP Power Exhaust | 44 | 47 | 54 | 23 | 25 | 27 | 17 | 19 | 21 |

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

¹ Extremes of operating range are plus and minus 10% of line voltage.² HACR type breaker or fuse.³ Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.**ELECTRICAL DATA****8.5 TON****8.5 TON STANDARD EFFICIENCY - MSAV® (Multi-Stage Air Volume) Supply Air****ZGA102S4M**

| ¹ Voltage - 60hz | | 208/230V - 3 Ph | | | 460V - 3 Ph | | | 575V - 3 Ph | | |
|---|-------------------------------|-----------------|------|------|-------------|-----|-----|-------------|-----|-----|
| Compressor 1 | Rated Load Amps | 13.5 | | | 8 | | | 5 | | |
| | Locked Rotor Amps | 109 | | | 59 | | | 40 | | |
| Compressor 2 | Rated Load Amps | 11 | | | 5.5 | | | 4.7 | | |
| | Locked Rotor Amps | 86 | | | 37 | | | 34 | | |
| Outdoor Fan Motors (2) | Full Load Amps | 2.4 | | | 1.3 | | | 1.0 | | |
| | (total) | (4.8) | | | (2.6) | | | (2.0) | | |
| Power Exhaust (2) 0.5 HP | Full Load Amps | 1.5 | | | 0.6 | | | 0.6 | | |
| | (total) | (3.0) | | | (1.2) | | | (1.2) | | |
| Indoor Blower Motor | Horsepower | 2 | 3 | 5 | 2 | 3 | 5 | 2 | 3 | 5 |
| | Full Load Amps | 7.5 | 10.6 | 16.7 | 3.4 | 4.8 | 7.6 | 2.7 | 3.9 | 6.1 |
| ² Maximum Overcurrent Protection | Unit Only | 50 | 50 | 60 | 25 | 30 | 30 | 20 | 20 | 25 |
| | With (2) 0.5 HP Power Exhaust | 50 | 50 | 60 | 30 | 30 | 30 | 20 | 20 | 25 |
| ³ Minimum Circuit Ampacity | Unit Only | 41 | 44 | 51 | 22 | 23 | 26 | 16 | 17 | 20 |
| | With (2) 0.5 HP Power Exhaust | 44 | 47 | 54 | 23 | 25 | 27 | 17 | 19 | 21 |

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

¹ Extremes of operating range are plus and minus 10% of line voltage.² HACR type breaker or fuse.³ Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA**10 TON****10 TON STANDARD EFFICIENCY - CONSTANT AIR VOLUME****ZGB120S4B**

| ¹ Voltage - 60hz | | 208/230V - 3 Ph | | | 460V - 3 Ph | | | 575V - 3 Ph | | |
|---|-------------------------------|-----------------|------|------|-------------|-----|-----|-------------|-----|-----|
| Compressor 1 | Rated Load Amps | 13.5 | | | 8 | | | 5 | | |
| | Locked Rotor Amps | 109 | | | 59 | | | 40 | | |
| Compressor 2 | Rated Load Amps | 13.5 | | | 8 | | | 5 | | |
| | Locked Rotor Amps | 109 | | | 59 | | | 40 | | |
| Outdoor Fan Motors (2) | Full Load Amps | 2.4 | | | 1.3 | | | 1.0 | | |
| | (total) | (4.8) | | | (2.6) | | | (2.0) | | |
| Power Exhaust (2) 0.5 HP | Full Load Amps | 1.5 | | | 0.6 | | | 0.6 | | |
| | (total) | (3.0) | | | (1.2) | | | (1.2) | | |
| Indoor Blower Motor | Horsepower | 2 | 3 | 5 | 2 | 3 | 5 | 2 | 3 | 5 |
| | Full Load Amps | 7.5 | 10.6 | 16.7 | 3.4 | 4.8 | 7.6 | 2.7 | 3.9 | 6.1 |
| ² Maximum Overcurrent Protection | Unit Only | 50 | 50 | 60 | 30 | 30 | 35 | 20 | 20 | 25 |
| | With (2) 0.5 HP Power Exhaust | 50 | 60 | 70 | 30 | 30 | 35 | 20 | 20 | 25 |
| ³ Minimum Circuit Ampacity | Unit Only | 43 | 46 | 53 | 24 | 26 | 29 | 16 | 18 | 20 |
| | With (2) 0.5 HP Power Exhaust | 46 | 49 | 56 | 26 | 27 | 30 | 18 | 19 | 21 |

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

¹ Extremes of operating range are plus and minus 10% of line voltage.² HACR type breaker or fuse.³ Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.**ELECTRICAL DATA****10 TON****10 TON STANDARD EFFICIENCY - MSAV® (Multi-Stage Air Volume) Supply Air****ZGA120S4M**

| ¹ Voltage - 60hz | | 208/230V - 3 Ph | | | 460V - 3 Ph | | | 575V - 3 Ph | | |
|---|-------------------------------|-----------------|------|------|-------------|-----|-----|-------------|-----|-----|
| Compressor 1 | Rated Load Amps | 13.5 | | | 8 | | | 5 | | |
| | Locked Rotor Amps | 109 | | | 59 | | | 40 | | |
| Compressor 2 | Rated Load Amps | 13.5 | | | 8 | | | 5 | | |
| | Locked Rotor Amps | 109 | | | 59 | | | 40 | | |
| Outdoor Fan Motors (2) | Full Load Amps | 2.4 | | | 1.3 | | | 1.0 | | |
| | (total) | (4.8) | | | (2.6) | | | (2.0) | | |
| Power Exhaust (2) 0.5 HP | Full Load Amps | 1.5 | | | 0.6 | | | 0.6 | | |
| | (total) | (3.0) | | | (1.2) | | | (1.2) | | |
| Indoor Blower Motor | Horsepower | 2 | 3 | 5 | 2 | 3 | 5 | 2 | 3 | 5 |
| | Full Load Amps | 7.5 | 10.6 | 16.7 | 3.4 | 4.8 | 7.6 | 2.7 | 3.9 | 6.1 |
| ² Maximum Overcurrent Protection | Unit Only | 50 | 50 | 60 | 30 | 30 | 35 | 20 | 20 | 25 |
| | With (2) 0.5 HP Power Exhaust | 50 | 60 | 70 | 30 | 30 | 35 | 20 | 20 | 25 |
| ³ Minimum Circuit Ampacity | Unit Only | 43 | 46 | 53 | 24 | 26 | 29 | 16 | 18 | 20 |
| | With (2) 0.5 HP Power Exhaust | 46 | 49 | 56 | 26 | 27 | 30 | 18 | 19 | 21 |

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

¹ Extremes of operating range are plus and minus 10% of line voltage.² HACR type breaker or fuse.³ Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA**12.5 TON****12.5 TON STANDARD EFFICIENCY - CONSTANT AIR VOLUME****ZGB150S4B**

| ¹ Voltage - 60hz | | 208/230V - 3 Ph | | | 460V - 3 Ph | | | 575V - 3 Ph | | |
|---|-------------------------------|-----------------|------|------|-------------|-----|-----|-------------|-----|-----|
| Compressor 1 | Rated Load Amps | 19.6 | | | 8.2 | | | 6.6 | | |
| | Locked Rotor Amps | 136 | | | 66.1 | | | 55.3 | | |
| Compressor 2 | Rated Load Amps | 22.4 | | | 10.6 | | | 7.7 | | |
| | Locked Rotor Amps | 149 | | | 75 | | | 54 | | |
| Outdoor Fan Motors (2) | Full Load Amps | 3.0 | | | 1.5 | | | 1.2 | | |
| | (total) | (6.0) | | | (3.0) | | | (2.4) | | |
| Power Exhaust (2) 0.5 HP | Full Load Amps | 1.5 | | | 0.6 | | | 0.6 | | |
| | (total) | (3.0) | | | (1.2) | | | (1.2) | | |
| Indoor Blower Motor | Horsepower | 2 | 3 | 5 | 2 | 3 | 5 | 2 | 3 | 5 |
| | Full Load Amps | 7.5 | 10.6 | 16.7 | 3.4 | 4.8 | 7.6 | 2.7 | 3.9 | 6.1 |
| ² Maximum Overcurrent Protection | Unit Only | 80 | 80 | 90 | 35 | 35 | 40 | 25 | 30 | 30 |
| | With (2) 0.5 HP Power Exhaust | 80 | 80 | 90 | 35 | 40 | 40 | 30 | 30 | 30 |
| ³ Minimum Circuit Ampacity | Unit Only | 62 | 65 | 71 | 28 | 30 | 33 | 22 | 23 | 25 |
| | With (2) 0.5 HP Power Exhaust | 65 | 68 | 74 | 30 | 31 | 34 | 23 | 24 | 26 |

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

¹ Extremes of operating range are plus and minus 10% of line voltage.² HACR type breaker or fuse.³ Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.**ELECTRICAL DATA****12.5 TON****12.5 TON STANDARD EFFICIENCY - MSAV® (Multi-Stage Air Volume) Supply Air****ZGA150S4M**

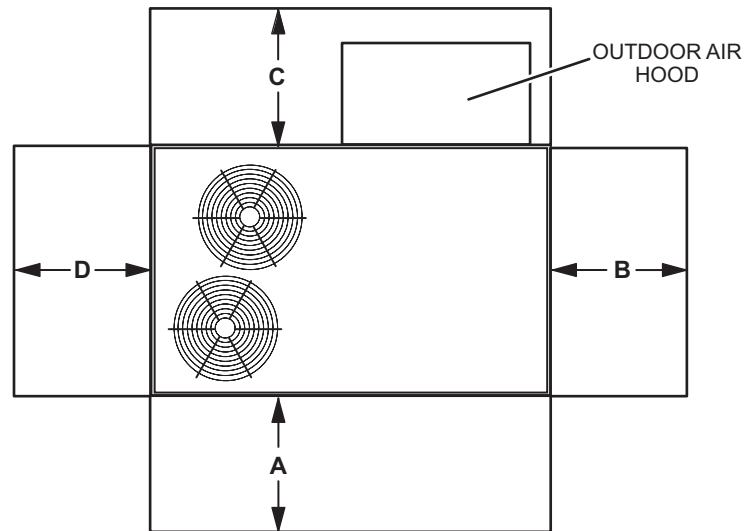
| ¹ Voltage - 60hz | | 208/230V - 3 Ph | | | 460V - 3 Ph | | | 575V - 3 Ph | | |
|---|-------------------------------|-----------------|------|------|-------------|-----|-----|-------------|-----|-----|
| Compressor 1 | Rated Load Amps | 19.6 | | | 8.2 | | | 6.6 | | |
| | Locked Rotor Amps | 136 | | | 66.1 | | | 55.3 | | |
| Compressor 2 | Rated Load Amps | 19.6 | | | 8.2 | | | 6.6 | | |
| | Locked Rotor Amps | 136 | | | 66.1 | | | 55.3 | | |
| Outdoor Fan Motors (2) | Full Load Amps | 3.0 | | | 1.5 | | | 1.2 | | |
| | (total) | (6.0) | | | (3.0) | | | (2.4) | | |
| Power Exhaust (2) 0.5 HP | Full Load Amps | 1.5 | | | 0.6 | | | 0.6 | | |
| | (total) | (3.0) | | | (1.2) | | | (1.2) | | |
| Indoor Blower Motor | Horsepower | 2 | 3 | 5 | 2 | 3 | 5 | 2 | 3 | 5 |
| | Full Load Amps | 7.5 | 10.6 | 16.7 | 3.4 | 4.8 | 7.6 | 2.7 | 3.9 | 6.1 |
| ² Maximum Overcurrent Protection | Unit Only | 70 | 80 | 80 | 30 | 30 | 35 | 25 | 25 | 25 |
| | With (2) 0.5 HP Power Exhaust | 80 | 80 | 80 | 30 | 35 | 35 | 25 | 25 | 30 |
| ³ Minimum Circuit Ampacity | Unit Only | 58 | 61 | 67 | 25 | 27 | 30 | 20 | 22 | 24 |
| | With (2) 0.5 HP Power Exhaust | 61 | 64 | 70 | 27 | 28 | 31 | 22 | 23 | 25 |

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

¹ Extremes of operating range are plus and minus 10% of line voltage.² HACR type breaker or fuse.³ Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

UNIT CLEARANCES

UNIT WITH ECONOMIZER



| 1 Unit Clearance | A | | B | | C | | D | | Top Clearance |
|------------------------------------|-----|------|-----|-----|-----|-----|-----|------|---------------|
| | in. | mm | in. | mm | in. | mm | in. | mm | |
| Service Clearance | 60 | 1524 | 36 | 914 | 36 | 914 | 60 | 1524 | Unobstructed |
| Clearance to Combustibles | 36 | 914 | 1 | 25 | 1 | 25 | 1 | 25 | |
| Minimum Operation Clearance | 36 | 914 | 36 | 914 | 36 | 914 | 36 | 914 | |

NOTE - Entire perimeter of unit base requires support when elevated above the mounting surface.

¹ Service Clearance - Required for removal of serviceable parts.

Clearance to Combustibles - Required for clearance to combustible material.

Minimum Operation Clearance - Required clearance for proper unit operation.

OUTDOOR SOUND DATA

| Unit Model Number | Octave Band Sound Power Levels dBA, re 10 ⁻¹² Watts - Center Frequency - Hz | | | | | | | 1 Sound Rating Number (dBA) |
|-------------------|--|-----|-----|------|------|------|------|-----------------------------|
| | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | |
| 092, 102 and 120 | 72 | 74 | 79 | 80 | 76 | 70 | 63 | 84 |
| 150 | 76 | 81 | 87 | 86 | 80 | 77 | 76 | 91 |

¹ Sound Rating Number according to AHRI Standard 270-2008. Sound Rating Number is the overall A-Weighted Sound Power Level, (LWA), dB (100 Hz to 10,000 Hz).

WEIGHT DATA

| Model Number | Net | | Shipping | |
|------------------|------|-----|----------|-----|
| | lbs. | kg | lbs. | kg |
| 092S Base Unit | 902 | 409 | 987 | 448 |
| 092S Max. Unit | 1053 | 478 | 1138 | 516 |
| 102S Base Unit | 922 | 418 | 1007 | 457 |
| 102S Max. Unit | 1073 | 487 | 1158 | 525 |
| 120S4B Base Unit | 1154 | 523 | 1239 | 562 |
| 120S4B Max. Unit | 1305 | 592 | 1390 | 630 |
| 120S4M Base Unit | 962 | 436 | 1047 | 475 |
| 120S4M Max. Unit | 1113 | 505 | 1198 | 543 |
| 150S Base Unit | 1052 | 477 | 1137 | 516 |
| 150S Max. Unit | 1203 | 546 | 1288 | 584 |

OPTIONS / ACCESSORIES

| Model Number | Shipping Weight | |
|--------------|-----------------|----|
| | lbs. | kg |

CABINET

| | | |
|-----------------|----|----|
| Coil/Hail Guard | 50 | 23 |
|-----------------|----|----|

CEILING DIFFUSERS**Step-Down**

| | | |
|------------|-----|----|
| RTD11-95S | 118 | 54 |
| RTD11-135S | 135 | 61 |
| RTD11-185S | 168 | 76 |

Flush

| | | |
|-----------|-----|----|
| FD11-95S | 118 | 54 |
| FD11-135S | 135 | 61 |
| FD11-185S | 168 | 76 |

ECONOMIZER / OUTDOOR AIR / EXHAUST**Economizer**

| | | |
|--|----|----|
| Downflow with Barometric Relief Dampers and Hoods | 90 | 41 |
| Horizontal with Barometric Relief Dampers and Hoods | 95 | 43 |
| Horizontal Low Profile Barometric Relief Dampers with Hood | 8 | 4 |

Outdoor Air Dampers

| | | |
|--|----|----|
| Outdoor Air Damper Section with Hood - Automatic | 44 | 20 |
| Outdoor Air Damper Section with Hood - Manual | 27 | 12 |

Power Exhaust

| | | |
|------------|----|----|
| Downflow | 60 | 27 |
| Horizontal | 41 | 19 |

GAS HEAT EXCHANGER (NET WEIGHT)

| | | |
|--|----|----|
| Medium Heat (adder over standard heat) | 9 | 4 |
| High Heat (adder over standard heat) | 32 | 15 |

MSAV® (MULTI-STAGE AIR VOLUME) SUPPLY AIR BLOWER OPTION

| | | |
|--|----|---|
| Variable-Frequency Drive (VFD) and associated components | 10 | 5 |
|--|----|---|

ROOF CURBS**Hybrid Roof Curbs, Downflow**

| | | |
|---------------|-----|----|
| 8 in. height | 79 | 36 |
| 14 in. height | 104 | 47 |
| 18 in. height | 120 | 54 |
| 24 in. height | 145 | 66 |

PACKAGING

| | | |
|--------------------------------------|-----|----|
| LTL Packaging (less than truck load) | 105 | 48 |
|--------------------------------------|-----|----|

DIMENSIONS - UNIT

| Model No. | CORNER WEIGHTS | | | | | | | | | | | | | | CENTER OF GRAVITY | | | | | | | | | |
|-----------|----------------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|-------------------|-----|------|------|------|------|------|-----|------|-----|
| | AA | | | | BB | | | | CC | | | | DD | | | | EE | | | | FF | | | |
| | Base | | Max. | | Base | | Max. | | Base | | Max. | | Base | | Max. | | Base | | Max. | | Base | | Max. | |
| | lbs. | kg | lbs. | kg | lbs. | kg | lbs. | kg | lbs. | kg | lbs. | kg | lbs. | kg | lbs. | kg | in. | mm | in. | mm | in. | mm | in. | mm |
| 092S | 258 | 117 | 299 | 136 | 191 | 87 | 236 | 107 | 192 | 87 | 229 | 104 | 260 | 118 | 289 | 131 | 47.5 | 1207 | 48.5 | 1232 | 25.5 | 648 | 26.5 | 673 |
| 102S | 264 | 120 | 305 | 138 | 195 | 88 | 241 | 109 | 197 | 89 | 233 | 106 | 266 | 121 | 295 | 134 | 47.5 | 1207 | 48.5 | 1232 | 25.5 | 648 | 26.5 | 673 |
| 120S | 275 | 125 | 316 | 143 | 204 | 92 | 250 | 113 | 205 | 93 | 242 | 110 | 278 | 126 | 306 | 139 | 47.5 | 1207 | 48.5 | 1232 | 25.5 | 648 | 26.5 | 673 |
| 150S | 301 | 137 | 341 | 155 | 223 | 101 | 270 | 123 | 224 | 102 | 261 | 118 | 304 | 138 | 330 | 150 | 47.5 | 1207 | 48.5 | 1232 | 25.5 | 648 | 26.5 | 673 |

Base Unit - The unit with NO OPTIONS.

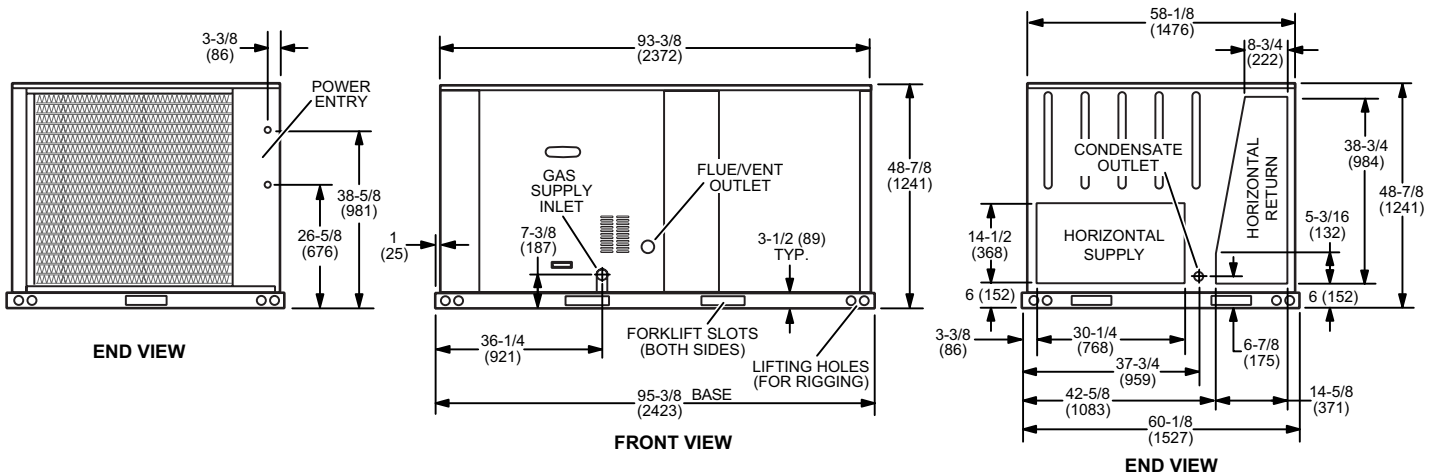
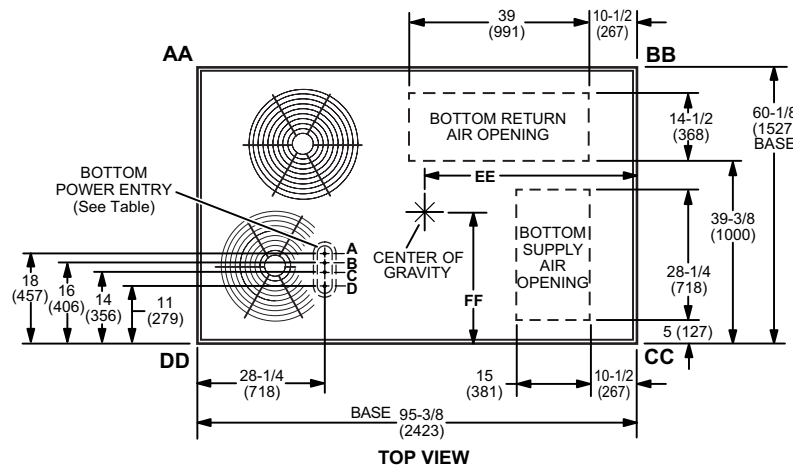
Max. Unit - The unit with ALL OPTIONS Installed. (Economizer, etc.)

BOTTOM POWER ENTRY

Holes required for Optional Bottom Power Entry Kit

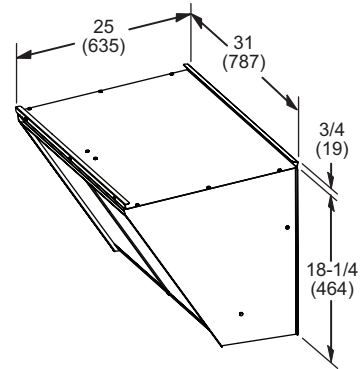
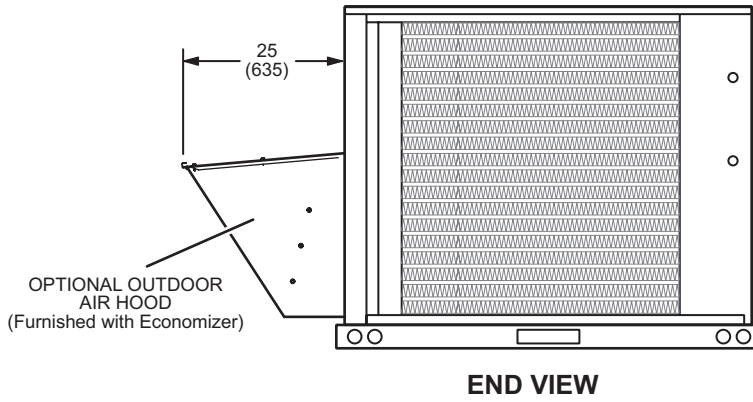
| | Threaded Conduit Fittings (Provided in Kit) | Wire Use | Hole Diameter Required in Unit Base (Max.) |
|----------|---|----------|--|
| A | ¹ 1/2 | ACC | 7/8 (23) |
| B | 1/2 | 24V | 7/8 (23) |
| C | 1-1/4 | POWER | 1-3/4 (44) |
| D | ¹ 3/4 | AUX | 1-3/4 (44) |

¹ Field provided.

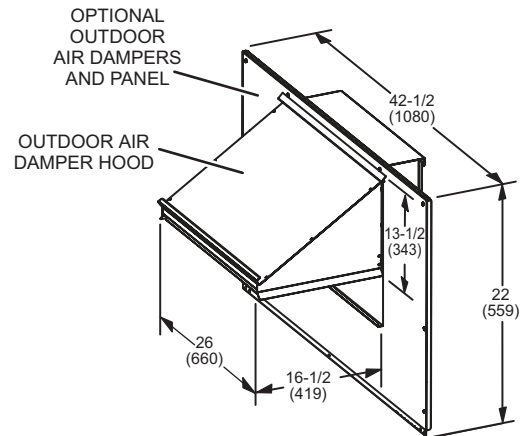
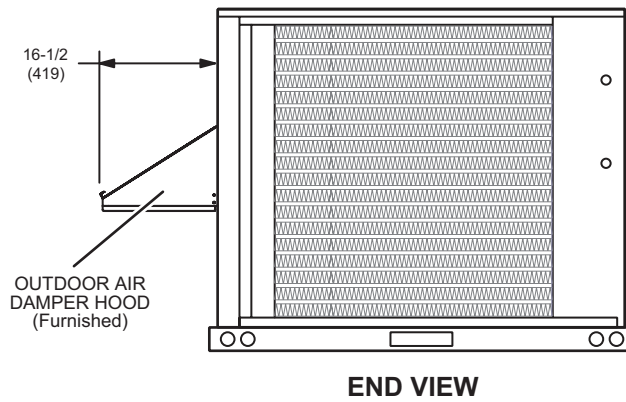


DIMENSIONS - ACCESSORIES

OUTDOOR AIR HOOD DETAIL FOR OPTIONAL DOWNFLOW ECONOMIZER (Downflow Applications)

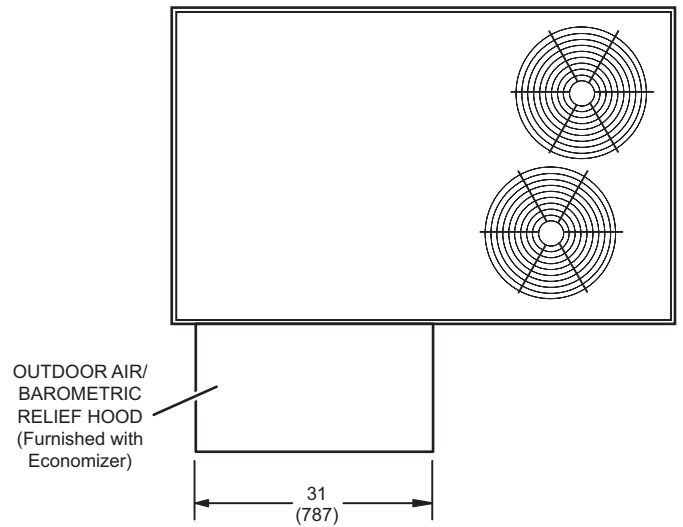


OUTDOOR AIR DAMPER HOOD DETAIL FOR OPTIONAL MANUAL OR MOTORIZED OUTDOOR AIR DAMPERS (Downflow or Horizontal Applications)

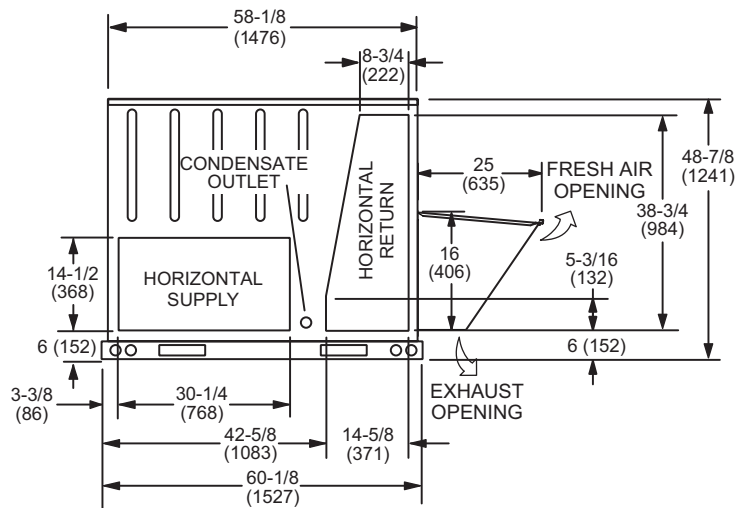


DIMENSIONS - ACCESSORIES

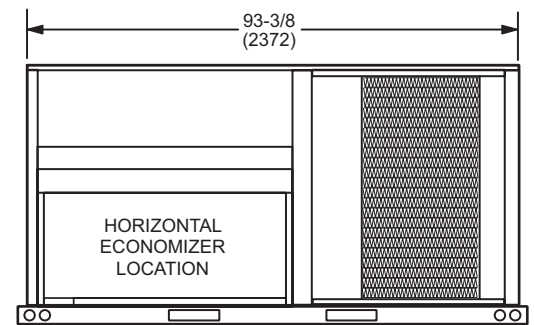
OUTDOOR AIR HOOD DETAIL WITH OPTIONAL HORIZONTAL ECONOMIZER AND BAROMETRIC RELIEF DAMPERS (Horizontal Applications)



TOP VIEW



END VIEW

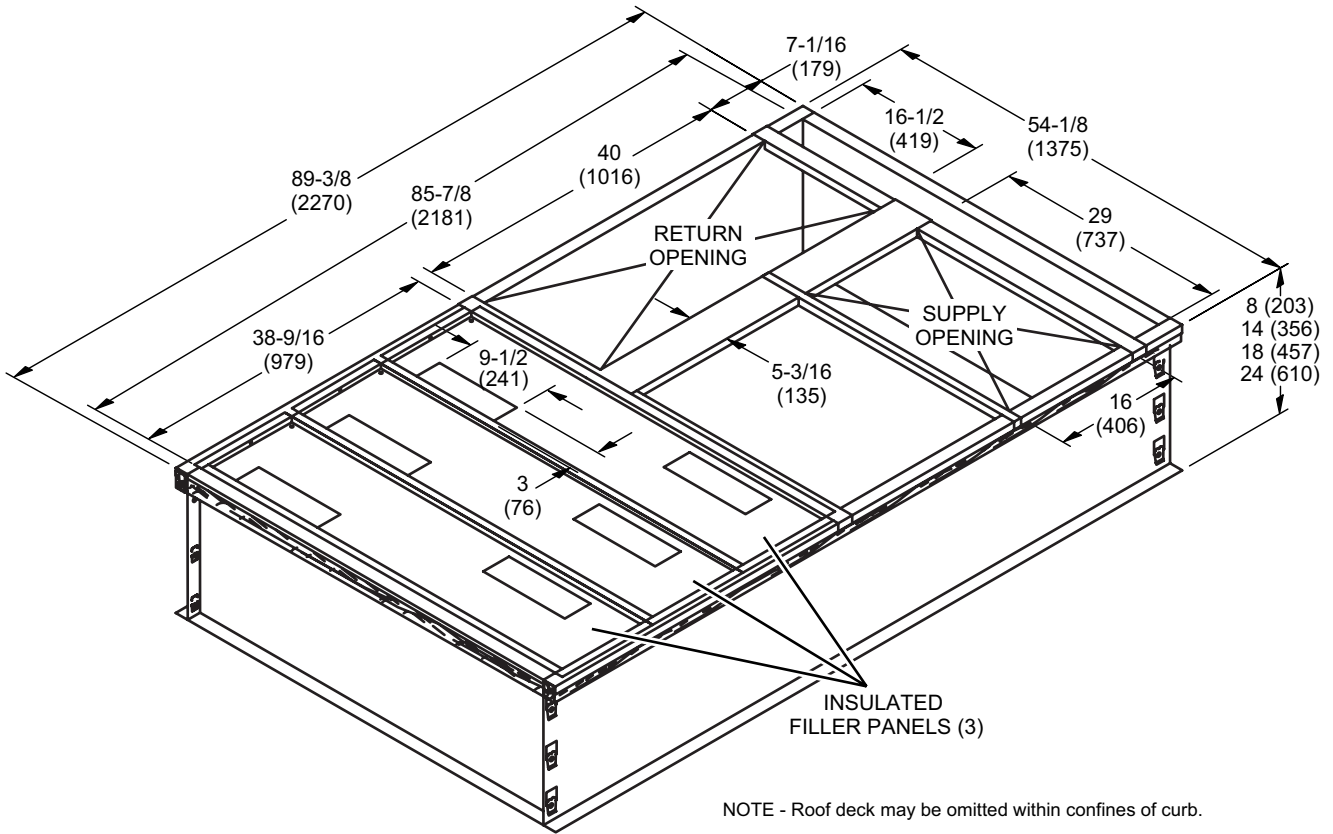


BACK VIEW

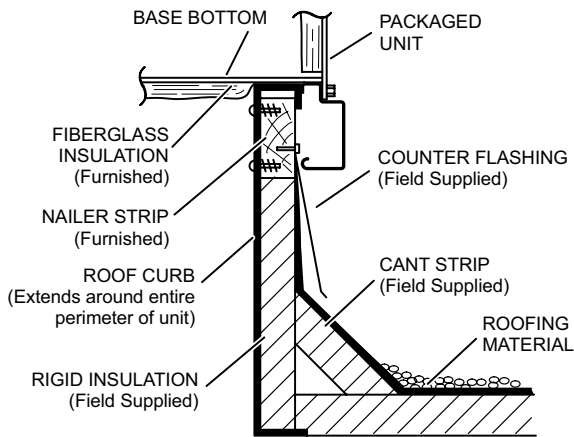
Note - Supply and Return Air Ducts must be supported.

DIMENSIONS - ACCESSORIES

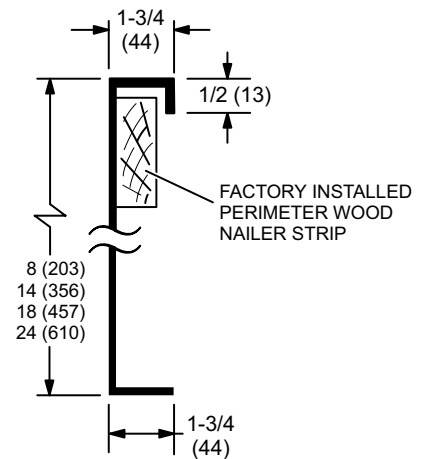
HYBRID CURBS - DOUBLE DUCT OPENING



TYPICAL FLASHING DETAIL FOR ROOF CURB



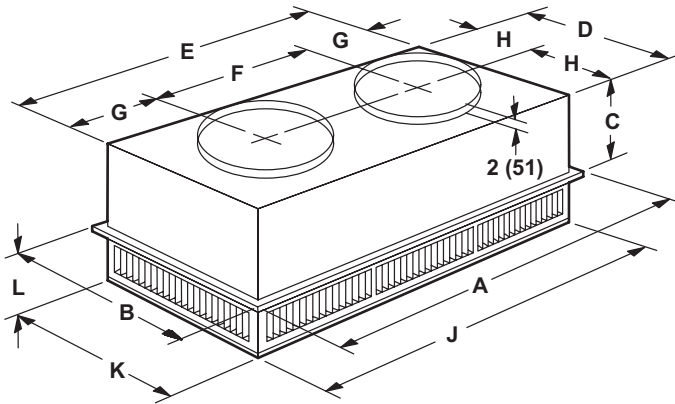
DETAIL ROOF CURB



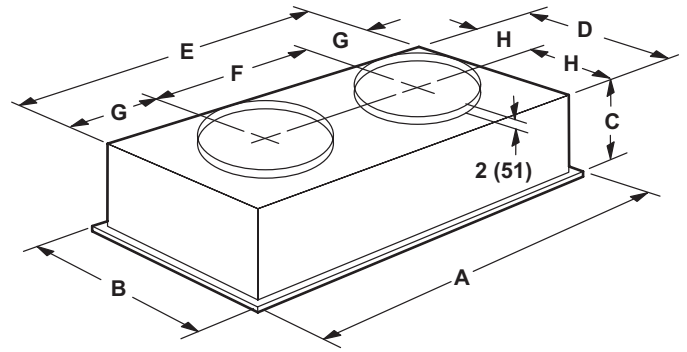
DIMENSIONS - ACCESSORIES

COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



FLUSH CEILING DIFFUSER



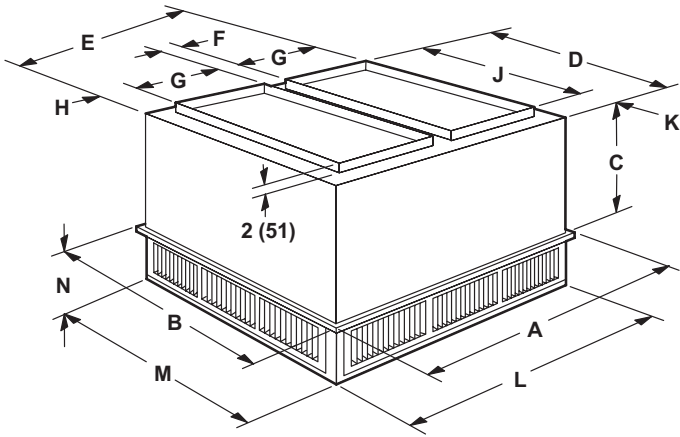
| Model Number | | RTD11-95S |
|--------------|-----|-----------|
| A | in. | 47-5/8 |
| | mm | 1159 |
| B | in. | 29-5/8 |
| | mm | 752 |
| C | in. | 14-3/8 |
| | mm | 365 |
| D | in. | 27-1/2 |
| | mm | 699 |
| E | in. | 45-1/2 |
| | mm | 1158 |
| F | in. | 22-1/2 |
| | mm | 572 |
| G | in. | 11-1/2 |
| | mm | 292 |
| H | in. | 13-3/4 |
| | mm | 349 |
| J | in. | 45-1/2 |
| | mm | 1156 |
| K | in. | 27-1/2 |
| | mm | 699 |
| L | in. | 8-1/8 |
| | mm | 206 |
| Duct Size | in. | 20 round |
| | mm | 508 round |

| Model Number | | FD11-95S |
|--------------|-----|-----------|
| A | in. | 47-5/8 |
| | mm | 1159 |
| B | in. | 29-5/8 |
| | mm | 752 |
| C | in. | 16-5/8 |
| | mm | 422 |
| D | in. | 27 |
| | mm | 686 |
| E | in. | 45 |
| | mm | 1143 |
| F | in. | 22-1/2 |
| | mm | 572 |
| G | in. | 11-1/4 |
| | mm | 286 |
| H | in. | 13-1/2 |
| | mm | 343 |
| Duct Size | in. | 20 round |
| | mm | 508 round |

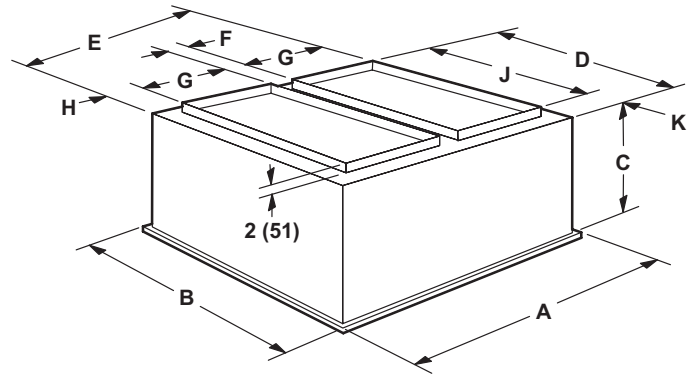
DIMENSIONS - ACCESSORIES

COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



FLUSH CEILING DIFFUSER



| Model Number | | RTD11-135S | RTD11-185S |
|--------------|-----|------------|------------|
| A | in. | 47-5/8 | 47-5/8 |
| | mm | 1210 | 1210 |
| B | in. | 35-5/8 | 47-5/8 |
| | mm | 905 | 1210 |
| C | in. | 20-5/8 | 24-5/8 |
| | mm | 524 | 625 |
| D | in. | 33-1/2 | 45-1/2 |
| | mm | 851 | 1156 |
| E | in. | 45-1/2 | 45-1/2 |
| | mm | 1156 | 1156 |
| F | in. | 4-1/2 | 4-1/2 |
| | mm | 114 | 114 |
| G | in. | 18 | 18 |
| | mm | 457 | 457 |
| H | in. | 2-1/2 | 2-1/2 |
| | mm | 64 | 64 |
| J | in. | 28 | 36 |
| | mm | 711 | 914 |
| K | in. | 2-3/4 | 4-3/4 |
| | mm | 70 | 121 |
| L | in. | 45-1/2 | 45-1/2 |
| | mm | 1156 | 1156 |
| M | in. | 33-1/2 | 45-1/2 |
| | mm | 851 | 1156 |
| N | in. | 9-1/8 | 10-1/8 |
| | mm | 232 | 257 |
| Duct Size | in. | 18 x 28 | 18 x 36 |
| | mm | 457 x 711 | 457 x 914 |

| Model Number | | FD11-135S | FD11-185S |
|--------------|-----|-----------|-----------|
| A | in. | 47-5/8 | 47-5/8 |
| | mm | 1210 | 1210 |
| B | in. | 35-5/8 | 47-5/8 |
| | mm | 905 | 1210 |
| C | in. | 23-1/4 | 29-1/4 |
| | mm | 591 | 743 |
| D | in. | 33 | 45 |
| | mm | 838 | 1143 |
| E | in. | 45 | 45 |
| | mm | 1143 | 1143 |
| F | in. | 4-1/2 | 4-1/2 |
| | mm | 114 | 114 |
| G | in. | 18 | 18 |
| | mm | 457 | 457 |
| H | in. | 2-1/4 | 2-1/4 |
| | mm | 57 | 57 |
| J | in. | 28 | 36 |
| | mm | 711 | 914 |
| K | in. | 2-1/2 | 4-1/2 |
| | mm | 64 | 114 |
| Duct Size | in. | 18 x 28 | 18 x 36 |
| | mm | 457 x 711 | 457 x 914 |

REVISIONS

| Sections | Description of Change |
|---------------------|--|
| Options/Accessories | Removed Healthy Climate® High Efficiency Air Filters |



Visit us at www.lennox.com

For the latest technical information, www.lennoxcommercial.com

Contact us at 1-800-4-LENNOX

NOTE - Due to Lennox' ongoing commitment to quality, Specifications, Ratings and Dimensions subject to change without notice and without incurring liability. Improper installation, adjustment, alteration, service or maintenance can cause property damage or personal injury. Installation and service must be performed by a qualified installer and servicing agency.

©2021 Lennox Industries, Inc.