



**PACKAGED GAS ELECTRIC**

**LGH**

**Energence® Rooftop Units**

**60 HZ**

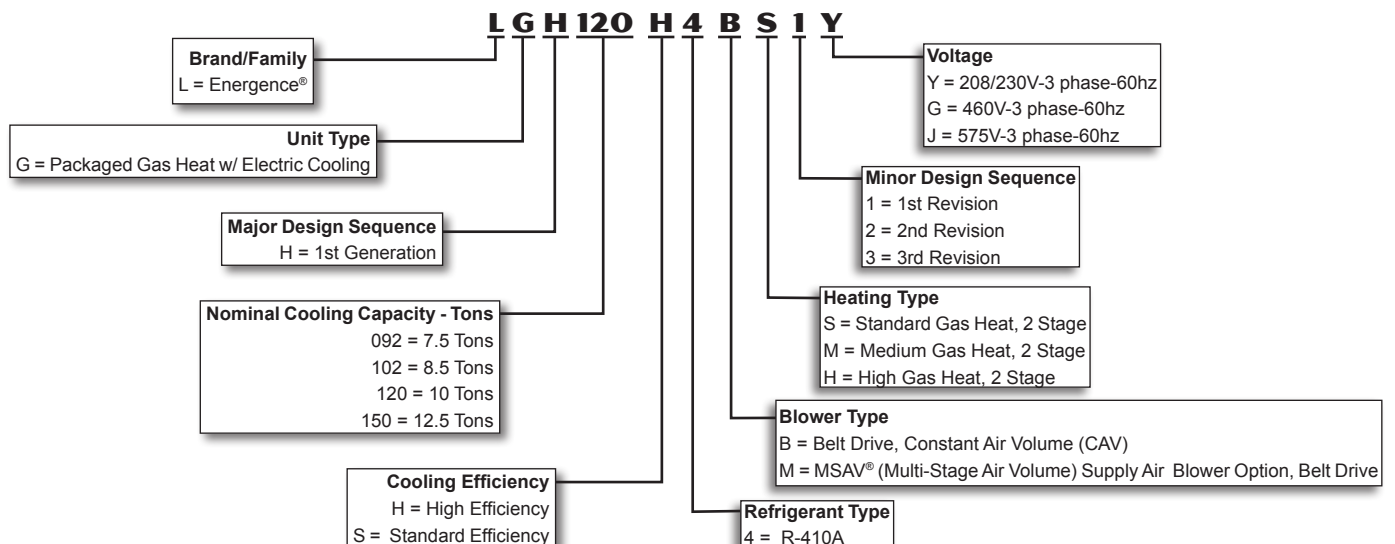
**PRODUCT SPECIFICATIONS**

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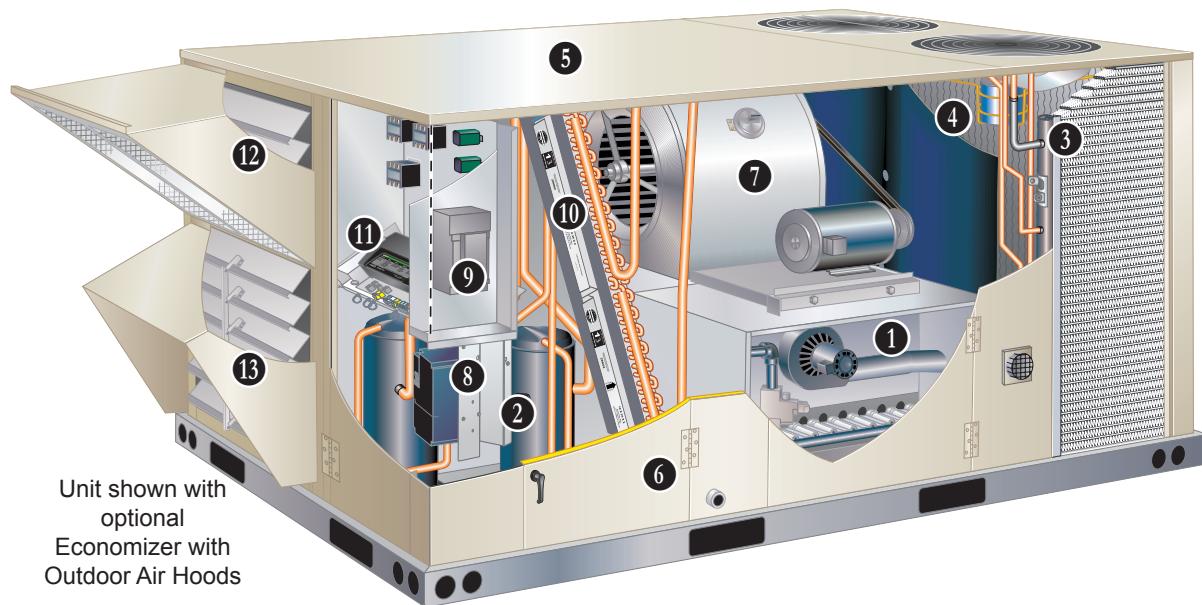


**7.5 to 12.5 Tons**  
**Net Cooling Capacity – 90,000 to 136,000 Btuh**  
**Gas Input Heat Capacity – 130,000 to 240,000 Btuh**

**MODEL NUMBER IDENTIFICATION**



## FEATURES AND BENEFITS



Unit shown with optional Economizer with Outdoor Air Hoods

Lennox' EnergySense® packaged rooftop unit product line was created to save energy with intelligence by offering some of the highest energy efficiency ratings available with a powerful, easy to use unit controller. This makes EnergySense® rooftop units perfect for business owners looking for an HVAC product with the lowest total cost of ownership. EnergySense® rooftop units feature:

- **Hinged Access Panels** - Provide quick access to components and protect panels and roof from damage during servicing.
- **Isolated Compressor Compartment** - Allows performance check during normal compressor operation without disrupting airflow.
- **Corrosion-Resistant Removable, Reversible Drain Pan** - Provides application flexibility, durability and improved serviceability.
- **Thermostatic Expansion Valves (High Efficiency Models)** - Provide peak cooling performance across the entire application range.
- **Scroll Compressors** - Standard on all units for reliable, long-term operation.
- **Lennox' Environ™ Coil System** - Smaller, lighter condenser coil.
- **Humiditrol® Dehumidification System** - Patented system allows for independent control of temperature and humidity, providing enhanced comfort control.
- **Constant Air Volume (CAV) or MSAV® (Multi-Stage Air Volume) Supply Air Blower Option** - Allows constant or multi-staged air delivery.
- **Auto-Tensioner for Blower Belt** - Factory option ensures blower is delivering the proper airflow for comfort, while maximizing efficiency and belt life.
- **MERV 13 Filters** - Available as factory or field option, provide an enhanced level of indoor air quality, and can help the building qualify for additional LEED credits.
- **Foil-Faced Insulation** - Insulation on all internal surfaces that have contact with airflow helps minimize airborne fibers and improve IAQ.
- **Common Components** - Many maintenance items are standard throughout the entire product line, reducing the need to carry different parts to the job or maintain in inventory.

### Prodigy® Control System

Standard on every EnergySense® rooftop unit, the Prodigy® 2.0 unit controller is the center of the Prodigy® Control System. The intuitive user interface makes setup, troubleshooting and service easier than ever. Each unit tracks the runtime of every major component and records the date and time when service or maintenance is performed.



### SmartWire™ System

The SmartWire™ system simplifies field sensor or thermostat installation through advanced connectors that are keyed and color-coded to help prevent miswiring. Not only is the wire coloring scheme standardized across all models, each connection is intuitively labeled to make troubleshooting and servicing quick and easy.

## FEATURES AND BENEFITS

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### APPROVALS

AHRI Certified to AHRI Standard 340/360-2007.

ETL listed.

Efficiency ratings are certified by CSA.

Components are bonded for grounding to meet safety standards for servicing required by UL, ULC and National and Canadian Electrical Codes.

All models are ASHRAE 90.1-2010 compliant.

MSAV® models meet California Code of Regulations, Title 24 requirements for staged airflow.

ISO 9001 Registered Manufacturing Quality System.

ENERGY STAR® certified units are designed to use less energy, help save money on utility bills, and help protect the environment.

The ENERGY STAR® Partner of the Year Award signifies that Lennox has made outstanding contributions to design energy efficient units that will lower energy bills, while meeting industry standards for comfort and indoor air quality. Lennox was the first HVAC manufacturer to win this award and has been a four-time recipient since 2003.

### WARRANTY

Limited ten years aluminized heat exchanger, limited fifteen years optional stainless steel heat exchanger.

Limited five years on compressors.

Limited three years on the Lennox' Environ™ Coil System.

Limited three years on Prodigy® 2.0 unit controller.

Limited five years on Optional High Performance Economizers.

Limited one year all other covered components.

### HEATING SYSTEM

- 1 Aluminized steel inshot burners, direct spark ignition, electronic flame sensor, combustion air inducer, redundant automatic dual stage gas valve with manual shut-off.

#### Heat Exchanger

Tubular construction, aluminized steel, life cycle tested.

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. The system permits main gas valve to stay open only when the burners are proven to be lit. Should a loss of flame occur, the gas valve closes, shutting off the gas to the burners. Ignition module has LED to indicate status and aid in troubleshooting.

Watchguard circuit on module automatically resets ignition controls after one hour of continuous thermostat demand after unit lockout, eliminating nuisance service calls.

Ignition control is factory installed in the gas heating compartment.

#### Limit Controls

Factory installed, redundant limit controls with fixed temperature setting. Heat limit controls protect heat exchanger and other components from overheating.

#### Safety Switches

Flame roll-out switch, flame sensor and combustion air inducer proving switch protect 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)

## FEATURES AND BENEFITS

### HEATING SYSTEM (continued)

#### Options/Accessories

##### Factory Installed

###### Stainless Steel Heat Exchanger

Required if mixed air temperature is below 45°F.

##### Factory or Field Installed

###### Bottom Gas Piping Kit

Allows bottom gas entry.

Field installed only, may be factory ordered to ship with unit.

###### Low Temperature Vestibule Heater

Electric heater automatically controls minimum temperature in gas burner compartment when temperature is below -40°F. CSA certified to allow operation of unit down to -60°F.

##### Field Installed

###### Combustion Air Intake Extensions

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

###### LPG/Propane Kits

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

###### 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. The vent kit 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.*

### COOLING SYSTEM

Designed to maximize sensible and latent cooling performance at design conditions.

System can operate from 0°F to 125°F without any additional controls.

#### R-410A Refrigerant

Non-chlorine based, ozone friendly, R-410A.



#### 2 Scroll Compressors

Scroll compressors on all models for high performance, reliability and quiet operation.

Resiliently mounted on rubber grommets for quiet operation.

#### Compressor Crankcase Heaters

Protects against refrigerant migration that can occur during low ambient operation.

#### Thermal Expansion Valves (High Efficiency Models)

Assures optimal performance throughout the application range. Removable element head.

#### Refrigerant Metering Orifice (Standard Efficiency Models)

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 compressors from overload conditions such as dirty condenser coils, blocked refrigerant flow, or loss of outdoor fan operation.

#### Low Pressure Switches

Protects the compressors from low pressure conditions such as low refrigerant charge, or low/no airflow.

#### Freezestats

Protects the evaporator coil from damaging ice build-up due to conditions such as low/no airflow, or low refrigerant charge.

#### 3 Lennox' Environ™ Coil System

Condenser coil features lightweight, all aluminum brazed fin construction.

Constructed of three components:

a flat extrusion tube, fins in-between the flat extrusion tube and 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 (reduces unit weight).
- Easy maintenance/cleaning.

Face-split design.

Mounting brackets with rubber inserts secure coil to unit providing vibration dampening and corrosion protection.

#### Evaporator Coil

Copper tube construction, enhanced rippled-edge aluminum fins, flared shoulder tubing connections, silver soldered construction for improved heat transfer.

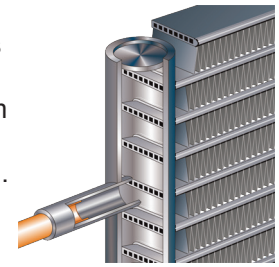
Cross row circuiting with rifled copper tubing optimizes both sensible and latent cooling capacity.

#### Condensate Drain Pan

Plastic pan, sloped to meet drainage requirements per ASHRAE 62.1.

Side or bottom drain connections.

Reversible to allow connection at back of unit.



## FEATURES AND BENEFITS

### 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 of the unit

### Options/Accessories

#### Factory Installed

##### Conventional Fin/Tube Condenser Coil (replaces Environ™ Coil System)

Copper tube construction, enhanced rippled-edge aluminum fins, flared shoulder tubing connections, silver soldered construction.

*NOTE - Required if Humiditrol® Dehumidification System is ordered.*

#### Service Valves

Fully serviceable brass valves installed in discharge & liquid lines.

Not available for units equipped with Environ™ Coil System or Humiditrol® Dehumidification option.

#### Factory or Field Installed

##### Condensate Drain Trap

Available in copper or PVC.

Field installed only, may be factory ordered to ship with unit.

##### Drain Pan Overflow Switch

Monitors condensate level in drain pan, shuts down unit if drain becomes clogged.

## CABINET

### 5 Construction

Heavy-gauge steel panels and full perimeter heavy-gauge galvanized steel base rail provides structural integrity for transportation, handling, and installation.

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 provide additional protection against water entering the building.

#### Airflow Choice

Units are shipped in downflow (vertical) configuration, can be field converted to horizontal airflow with optional Horizontal Discharge Kit.

#### Duct Flanges

Provided for horizontal duct attachment.

#### Power/Gas Entry

Electrical and gas lines can be brought through the unit base or through horizontal access knock-outs

#### Exterior Panels

Constructed of heavy-gauge, galvanized steel with a two-layer enamel paint finish.

#### Insulation

All panels adjacent to conditioned air are fully insulated with non-hygroscopic fiberglass insulation.

Unit base is fully insulated. The insulation also serves as an air seal to the roof curb, eliminating the need to add a seal during installation.

### 6 Hinged Access Panels

Hinged tool-less access panels are provided for the filter section, blower/heating section and compressor/controls section.

All hinged panels have seals and quarter-turn latching handles to provide a tight air and water seal.

### Required Selections

#### Airflow Configuration

Specify downflow or horizontal.

## Options/Accessories

### Factory or Field Installed

#### Return Air Adaptor Plate

For same size LC/LG/LH and TC/TG/TH unit replacement.

Installs on return air opening in unit to match return air opening on existing roof curbs. Also see Accessory Air Resistance table.

### Factory Installed

#### Corrosion Protection

A completely flexible immersed coating with an 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
- Coated reheat coil (Humiditrol®)
- Painted blower housing
- Painted base

Outdoor Corrosion Protection:

- Coated coil
- Painted base

### Field Installed

#### Combination Coil/Hail Guards

Heavy gauge steel frame painted to match cabinet with expanded metal mesh to protect the outdoor coil from damage.

#### Horizontal Discharge Kit

Consists of duct covers to block off downflow supply and return air openings for horizontal applications.

Also includes return air duct flanges for end return air when economizer is used in horizontal applications.

*NOTE - When configuring unit for horizontal application with economizer, a separate Horizontal Barometric Relief Damper with Hood must be ordered separately for installation in the return air duct.*

## FEATURES AND BENEFITS

### **BLOWER**

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

#### **7 Motor**

Overload protected, equipped with ball bearings. Belt drive motors are offered on all models and are available in several different sizes to maximize air performance.

#### **Motor Efficiency**

All blower motors 5 hp and above meet minimum energy efficiency standards in accordance with the Energy Independence and Security Act (EISA) of 2007.

#### **Supply Air Blower**

Forward curved blades, double inlet, blower wheel is statically and dynamically balanced. Equipped with ball bearings and adjustable pulley (allows speed change).

Blower assembly slides out of unit for servicing.

### **Required Selections**

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

On Constant Air Volume (CAV) models, the supply air blower will provide a constant volume of air.

On MSAV® (Multi-Stage Air Volume) supply air blower option models the supply air blower will stage the amount of airflow according to compressor stages, heating demand, ventilation demand or smoke alarm.

*NOTE - Units with the MSAV® supply air blower option have the same face split indoor coils as units with the CAV supply air blower option. 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.*

- 8** Utilizes 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 amount of airflow for each stage can be set according to a parameter in the Prodigy® 2.0 unit controller. Unit is shipped from the factory with preset airflow.

The MSAV® supply air blower option can be ordered with or without an Electronic Bypass Control. If equipped with the bypass control the MSAV® features manual (default) or automatic electronic bypass control of the VFD. In case of a VFD malfunction, a VFD alarm is generated by the Prodigy® 2.0 unit controller. The VFD can be manually bypassed to continue unit operation at full blower speed. Or the unit controller can be set to automatically switch to full blower speed if a VFD alarm is generated.

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.

#### **Ordering Information**

Specify motor horsepower and drive kit number when base unit is ordered.

### **Options/Accessories**

#### **Factory Installed**

##### **Blower Belt Auto-Tensioner**

Provides proper tension to belt drive blower belt without the need for regular adjustments. Maintains airflow and proper performance.

### **ELECTRICAL**

#### **SmartWire™ System**

Advanced wiring connectors are keyed and color-coded to prevent miswiring. Wire coloring scheme is standardized across all models. Each connection is intuitively labeled to make troubleshooting and servicing quick and easy.

#### **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.

### **Options/Accessories**

#### **Factory Installed**

##### **Circuit Breakers**

HACR type. For overload and short circuit protection. Factory wired and mounted in the power entry panel. Current sensitive and temperature activated. Manual reset.

##### **Phase/Voltage Detection (Optional for CAV Models Only)**

Phase detection monitors power supply to assure phase is correct at unit start-up. If phase is incorrect, the unit will not start and an alarm code is reported to the unit controller. Protects unit from being started with incorrect phasing which could lead to issues such as compressors running backwards.

Voltage detection monitors power supply voltage to assure proper voltage. If voltage is not correct (over/under voltage conditions) the unit will not start and an alarm code is reported to the unit controller.

*NOTE - Phase/voltage detection is furnished when the MSAV® (Multi-Stage Air Volume) option is ordered.*

#### **Factory or Field Installed**

#### **9 Disconnect Switch**

Accessible from outside of unit, spring loaded weatherproof cover furnished.

##### **GFI Service Outlets (2)**

115V ground fault circuit interrupter (GFCI) type, non-powered, field-wired.

#### **Field Installed**

##### **GFI Weatherproof Cover**

Single-gang cover.

Heavy-duty UV-resistant polycarbonate case construction. Hinged base cover with gasket.

## FEATURES AND BENEFITS

### **INDOOR AIR QUALITY**

#### **10 Air Filters**

Disposable 2-inch filters furnished as standard.

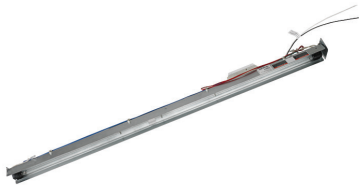
#### **Options/Accessories**

##### **Factory or Field Installed**

##### **Healthy Climate® High Efficiency Air Filters**

Disposable MERV 8 or MERV 13 (Minimum Efficiency Reporting Value based on ASHRAE 52.2) efficiency 2-inch pleated filters.

##### **Healthy Climate® UVC Germicidal Lamps**



Germicidal lamps emit ultra-violet (UV-C) energy, which has been proven to be effective in reducing microbes such as viruses, bacteria, yeasts, and molds. This process either destroys the organism or controls its ability to reproduce.

UV-C energy greatly reduces the growth and proliferation of mold and other bioaerosols (bacteria and viruses) on illuminated surfaces (particularly coil and drain pan).

Lamps are field installed in the blower/evaporator coil section.

All necessary hardware for installation is included.

Lamps operate on 208/230V power supply. Step-down transformer must be field supplied when used with 460V and 575V rooftop units.

Magnetic safety interlock terminates power when access panels are removed.

Approved by ETL.

### **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 (CO<sub>2</sub>) Sensors**

Monitors CO<sub>2</sub> levels, reports to the Prodigy® 2.0 unit controller which adjusts economizer dampers as needed.

## PRODIGY® CONTROL SYSTEM

### 11 PRODIGY 2.0 UNIT CONTROLLER



The Prodigy® 2.0 unit controller is a microprocessor-based controller that provides flexible control of all unit functions.

#### Features:

**LCD Display** - Easy to read menu with buttons for menu navigation. during setup and diagnostics. 4 lines x 20 character display.

**Menu LEDs** - Four LEDs (*Data, Setup, Service, Settings*) aid in menu navigation.

**Main Menu and Help Buttons** - Quick navigation to home screen and built-in help functions.

**Scroll, Value Adjustment Select and Save Buttons**

**Simplified Setup Procedure** - SETUP menu insures proper installation and setup of the rooftop unit.

**Profile Setup** - Copy key settings between units with the same configuration greatly reducing setup time.

**USB Port** - Allows a technician to download and transfer unit information to help verify service was performed.

USB drive will also allow updating software on the Prodigy® Control System to obtain enhanced functionality without the need to change components.

**Unit Controller Software.**

**Unit Self-Test** - Unit Controller can perform a rooftop unit self-test to verify individual critical component and system performance. Included is an economizer test function that helps assure the economizer is operating correctly.

**Time Clock with Run-time Information**

**Built-In Functions Include:**

**Adjustable Blower On/Off Delay**

**Built-in Control Parameter Defaults**

**Compressor Time-Off Delay**

**DDC Compatible**

**Dirty Filter Switch Input**

**Discharge Air Temperature Control**

**Display/Sensor Readout**

**Economizer Control Options** - See Economizer / Outdoor Air / Exhaust Options.

**Fresh Air Tempering**

**Extensive Unit Diagnostics** - Over 100 diagnostic and status messages in English.

**Exhaust Fan Control Modes** - Fresh air damper position.

**Permanent Diagnostic Code Storage**

**Field Adjustable Control Parameters** - Over 200 different control settings.

**Indoor Air Quality Input** - Demand Control Ventilation ready

**Low Ambient Controls** - Cooling operation down to 0°F.

**Gas Valve Time Delay Between First and Second Stage**

**Minimum Compressor Run Time**

**Network Capable** - Can be daisy chained to other units or controls.

**Night Setback Mode**

**Return Air Temperature Limit Control**

**Safety Switch Input** - Allows Controller to respond to a external safety switch trip.

**Service Relay Output**

**Smoke Alarm Mode** - Four choices (unit off, positive pressure, negative pressure, purge).

**Staging** - Up to 2 heat/2 cool (standard Prodigy® 2.0 unit controller thermostat input). Up to 3 cool with additional relay. Up to 4 cool with room sensor or network operation.

**“Strike Three” Protection**

**Gas Reheat Control** - Simultaneous heating and cooling operation for controlling humidity for process air applications such as supermarkets.

NOTE - Prodigy® Control System features shown vary with the type of rooftop unit the control is installed in.

NOTE - See separate Prodigy® Control System Product Specifications Bulletin for additional information.

**On Demand Dehumidification** - Monitors and controls condenser hot gas reheat operation with Humiditrol® option.

**Thermostat Bounce Delay**

**Warm Up Mode Delay**

**LED Indicators**

**PC Interface** - Connect to the Prodigy® 2.0 unit controller from a PC with the Lennox Unit Controller Software.

**Room Sensor Operation** - Controls temperature.

#### Options / Accessories

##### Factory or Field Installed

**Blower Proving Switch**

Monitors blower operation, shuts down unit if blower fails.

**Dirty Filter Switch**

Senses static pressure increase indicating dirty filter condition.

#### Controls Options

##### Factory or Field Installed

**Fresh Air Tempering**

Used in applications with high outside air requirements. The Controller energizes the first stage heat as needed to maintain a minimum supply air temperature for comfort, regardless of the thermostat demand. When ordered as a factory option, the sensor ships with the unit but must be field installed.

**Smoke Detector**

Photoelectric type, installed in supply air section, return air section or both sections. Available with power board and single sensor (supply or return) or power board and two sensors (supply and return). Power board located in unit control compartment.

**Interoperability via BACnet® or LonTalk® Protocols**

Communication compatible with third-party automation systems that support the BACnet Application Specific Controller device profile, LonMark® Space Comfort Controller functional profile, or LonMark Discharge Air Controller functional profile.



## OPTIONS / ACCESSORIES

### Controls Options (Continued)

#### Commercial Control Systems

##### **L Connection® Network Control System**

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 Control System Product Specifications Bulletin for details.

##### **Aftermarket DDC**

Novar® Unit Controller and options.

##### **Thermostats**

Control system and thermostat options. Aftermarket unit controller options.

#### Field Installed

##### **General Purpose Control Kit**

Plug-in control provides additional analog and digital inputs/outputs for field installed options.

##### **Humidity Sensor Kit**

Humidity sensor required with factory installed Humiditrol® dehumidification option or Supermarket reheat field selectable option.

### **12 ECONOMIZER OPTIONS**

Standard and High Performance Models available.

Economizer operation is set and controlled by the Prodigy® 2.0 unit controller.

Simple plug-in connections from economizer to unit controller for easy installation.

All Emergence® rooftop units are equipped with factory installed CEC Title 24 approved sensors for outside, return and discharge air temperature monitoring.

Optional sensors may be used instead of unit sensors to determine whether outdoor air is suitable for free cooling. See Options/Accessories table.

#### Factory or Field Installed

##### **Economizer**

##### **(Standard and High Performance Common Features)**

Downflow or Horizontal with Outdoor Air Hood.

Outdoor Air Hood is included when economizer is factory installed and is furnished with economizer when ordered for field installation.

- 13** Downflow Barometric Relief Dampers with Exhaust Hood is also furnished.

##### **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.

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

##### **High Performance Economizer Features**

Approved for California Title 24 building standards.

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 neoprene blade edge seals and flexible stainless steel jamb seals to 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.*

Refer to Installation Instructions for complete setup information.

##### **Differential Sensible Control**

Factory setting. Uses outdoor air and return air sensors that are furnished with the unit. The Prodigy® 2.0 unit controller compares outdoor air temperature with return air. When the outdoor air is below the configured setpoint and cooler than return air, the controller activates the economizer.

*NOTE - Differential Sensible Control can be configured in the field to provide Offset Differential Sensible Control or Single Sensible Control.*

*In Offset Differential Sensible Control mode, the economizer is enabled if the temperature differential (offset) between outdoor air and return air reaches the configured setpoint. In Single Sensible Control mode, the economizer is enabled when outdoor air temperature falls below the configured setpoint.*

##### **Global Control**

The unit controller communicates with a DDC system with one global sensor (enthalpy or sensible) to determine whether outside air is suitable for free cooling on all units connected to the control system. Sensor must be field provided.

*NOTE - Global control with enthalpy is not approved for Title 24 applications.*

#### Factory or 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 to select between outdoor air or return air, whichever has lower enthalpy.

## OPTIONS / ACCESSORIES

### ECONOMIZER OPTIONS

#### (continued)

#### Field Installed

##### **Outdoor Air CFM Control**

Maintains constant outdoor air volume levels on the supply air fan and varying unit airflows. Using information from a velocity sensor located in the rooftop unit outdoor air section, the Prodigy® 2.0 unit controller changes the economizer position to help minimize the effect of supply fan speed changes on outdoor air volume levels. Setpoint for outdoor air volume is established by field testing.

*NOTE - Not available with Demand Control Ventilation (CO<sub>2</sub> Sensor) or Building Pressure Control.*

##### **Building Pressure Control**

Maintains constant building pressure level.

Using information from a differential pressure between the outdoor air and the building air, the Prodigy® 2.0 unit controller changes the economizer position to help maintain a constant building pressure.

*NOTE - Not available with Demand Control Ventilation (CO<sub>2</sub> Sensor) or Outdoor Air CFM Control.*

### EXHAUST OPTIONS

#### Factory or Field Installed

##### **Power Exhaust Fans**

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, fans run when outdoor air dampers are 50% open (adjustable), motor is overload protected. Requires Economizer and Downflow Barometric Relief Dampers. Fan is 20 in. diameter with 5 blades (K1PWRE10B) WITH 1/3 hp motor.

#### Field Installed

##### **Horizontal Low Profile Barometric Relief Dampers**

For use when unit is configured for horizontal applications 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.

Bird screen and exhaust hood furnished.

Requires Horizontal Discharge Kit.

### OUTDOOR AIR OPTIONS

#### Factory or Field Installed

##### **Outdoor Air Damper - Downflow or Horizontal With Air Hood**

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.

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

### ROOF CURBS

Nailer strip furnished, mates to unit, US National Roofing Contractors Approved, shipped knocked down.

#### **Hybrid Roof Curbs, Downflow**

Roof curb can be assembled using interlocking tabs to fasten corners together. No tools required.

Curb can also be fastened together with furnished hardware.

Available in 8, 14, 18, and 24 inch heights.

See Options/Accessories table.

#### **Adjustable Pitch Curb**

Fully adjustable pitch curbs (3/4 in. per foot in any direction) provide a level platform for rooftop units allowing flexible installations on roofs with uneven or sloped angles.

Uses interlocking tabs to fasten corners together. No tools required.

Hardware is furnished to connect upper curb with lower curb.

Available in 14 inch height.

#### **Adaptor Curbs (not shown)**

Curbs are regionally sourced. Dimensions will vary based upon the source. Contact your local sales representative for a detailed cut sheet with applicable dimensions.

### CEILING DIFFUSERS

#### **Ceiling Diffusers**

##### **(Flush or Step-Down)**

Diffuser face and grilles with white powder coat finish, insulated (UL listed duct liner), diffuser box with collars for duct connection, fixed blades (flush diffusers) and double deflection blades (step-down diffusers), provisions for suspending, internally sealed (prevents recirculation), removable return air grille, adapts to T-bar ceiling grids or plaster ceilings.

#### **Transitions (Supply and Return)**

Used with diffusers, installs in roof curb, galvanized steel construction, flanges furnished for duct connection to diffusers, fully insulated.

## OPTIONS / ACCESSORIES

### HUMIDITROL® DEHUMIDIFICATION SYSTEM

**NOTE - Not available with Environ™ Coil System. Conventional Fin/Tube condenser coil must be ordered as a factory option.**

Factory installed option designed to control humidity.

Provides dehumidification on demand using ASHRAE 90.1 recommended method for comfort conditioning humidity control.

Unit comes equipped with one row reheat coil, solenoid valve and humidity controller.

In addition to a thermostat or room sensor used for conventional operation, a humidity sensor is required and must be located in the occupied space. Remote Mounted Humidity Sensor Kit is required for field installation.

The humidity sensor provides input to the Unit Controller which is used to control activation of the dehumidification operation.

Reheat controls are located in the compressor control section of the unit for easy access.

#### Benefits

Improves indoor air quality.

Helps prevent damage due to high humidity levels.

Improves comfort levels by reducing space humidity levels.

#### OPERATION

##### No Dehumidification Demand

The unit will operate conventionally whenever there is a demand for cooling or heating and no dehumidification demand.

Free cooling is only permitted when there is no demand for dehumidification.

##### Dehumidification Demand Only

The Unit Controller is factory set at 60% relative humidity setpoint and can be adjusted at the Unit Controller or with optional Unit Controller Software.

For L Connection® Network Control Panel (NCP) applications, the humidity setpoint can be adjusted at the NCP.

Reheat operation will initiate on a dehumidification demand and does not require a cooling demand.

The unit will operate in the dehumidification mode until the relative humidity of the conditioned space is below the setpoint.

The reheat coil is sized to provide 68°F to 75°F supply air during reheat operation.

This reduces sensible cooling capacity and extends compressor run time to control humidity when the cooling load is low.

A solenoid valve diverts hot gas from the compressor to the reheat coil.

The cooled and dehumidified air from the evaporator is reheated as it passes through the reheat coil.

The de-superheated and partially condensed refrigerant continues to the outdoor condenser coil where condensing is completed. The unit will continue to operate in this mode until the dehumidification demand is satisfied.

See Sequence of Operation for additional information.

*NOTE - 150 models ordered with the Humiditrol® dehumidification option are equipped with factory installed expansion valves.*

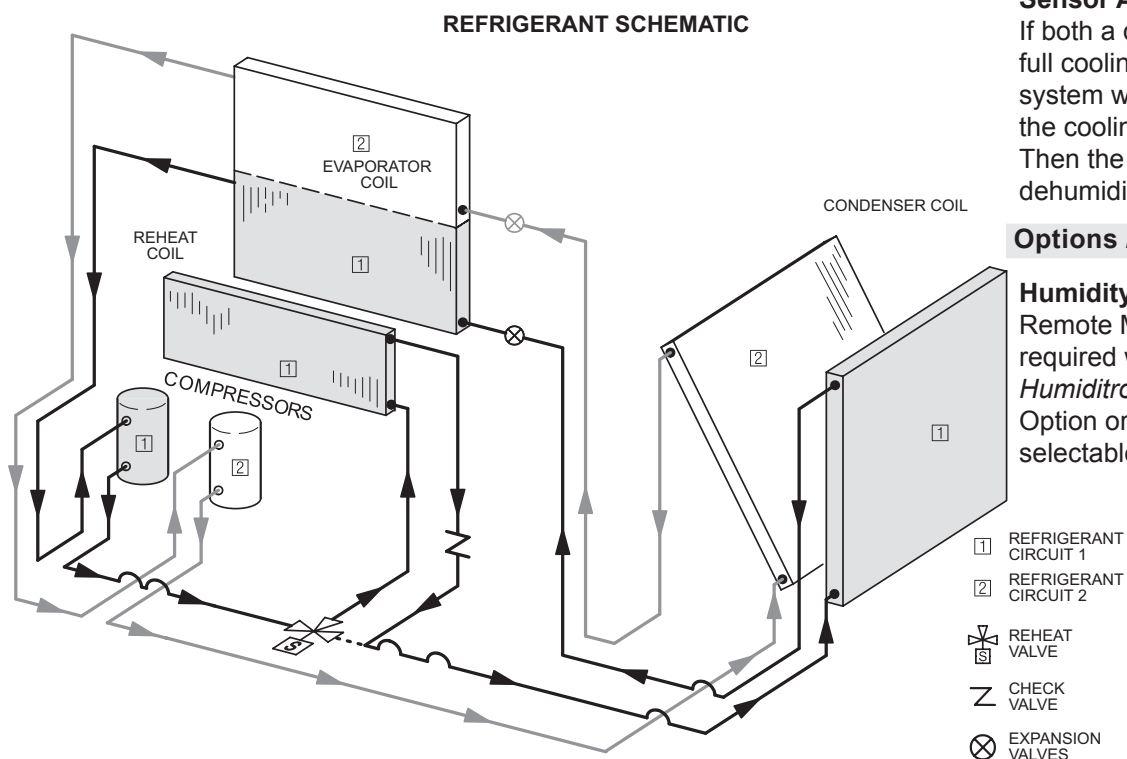
#### Dehumidification and Cooling Demand (Thermostat/Room Sensor Application)

If both a dehumidification and a full cooling load demand occur, the system will operate in cooling until the cooling demand is satisfied. Then the system will energize the dehumidification mode.

#### Options / Accessories

##### Humidity Sensor Kit

Remote Mounted Humidity sensor required with factory installed Humiditrol® dehumidification Option or Supermarket reheat field selectable option.



## SEQUENCE OF OPERATION - MSAV® (MULTI-STAGE AIR VOLUME) MODELS

**Objective:** Outline the unit functions as a result of room thermostat or zone sensor demands.

**Given:** When economizer is present, it will function as an integral part of the unit cooling system. When not present, unit will function as if economizer is present but outdoor ambient is high and sensed as not suitable.

### **UNIT OPERATION WITH 2-STAGE THERMOSTAT (2 COOL AND 2 HEAT STAGES, Y1, Y2, W1, W2)**

#### **SUPPLY AIR BLOWER SPEED**

Unit has following supply air blower speed setting:

- Ventilation speed
- Cooling Speed - Low
- Cooling Speed - High
- Heating speed
- Smoke speed (Used only in smoke removal option - not discussed)

#### **<sup>1</sup> UNIT FEATURES AN ECONOMIZER AND OUTDOOR AIR IS SUITABLE**

Cooling - Thermostat Mode (Y1, Y2)

##### **Y1 Demand:**

All compressors are off, supply air blower is on low cooling speed to minimize blower power consumption, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

##### **Y2 Demand:**

All compressors are off, supply air blower is on high cooling speed providing higher cooling capacity, and economizer modulates to maintain 55°F supply air temperature.

If economizer stays at maximum open for 3 minutes, compressor 1 is energized while supply air blower stays on high cooling speed providing maximum cooling capacity.

<sup>1</sup> Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the rooftop unit via a network connection.

#### **UNIT DOES NOT FEATURE AN ECONOMIZER OR OUTDOOR AIR IS NOT SUITABLE**

##### **Y1 Demand:**

Compressor 1 operates and supply air blower operates at low cooling speed.

##### **Y2 Demand:**

All compressors operate and supply air blower operates at high cooling speed.

#### **DEHUMIDIFICATION MODE**

If a unit with *Humiditrol*® Dehumidification Option receives a call for dehumidification, economizer free cooling is locked out.

##### **Call For Dehumidification, No Y1, Y2 demand:**

1st stage compressor operates, supply air blower operates at high cooling speed, and the reheat valve is energized.

##### **Y1 Demand With A Call For Dehumidification:**

All compressors operate, supply air blower operates at high cooling speed and the reheat valve is energized.

##### **Y2 Demand With A Call For Dehumidification:**

All compressors operate, supply air blower operates at high cooling speed, and the reheat valve is de-energized.

## SEQUENCE OF OPERATION - MSAV® (MULTI-STAGE AIR VOLUME) MODELS

### **UNIT OPERATION WITH 3-STAGE THERMOSTAT OR ZONE SENSOR (3 COOL AND 2 HEAT STAGES, Y1, Y2, Y3 AND W1, W2)**

#### **SUPPLY AIR BLOWER SPEED**

Unit has following supply air blower speed setting:

- Ventilation speed
- Cooling Speed - Low
- Cooling Speed - High
- Heating speed
- Smoke speed (Used only in smoke removal option - not discussed)

#### **<sup>1</sup> UNIT FEATURES AN ECONOMIZER AND OUTDOOR AIR IS SUITABLE**

Cooling - Thermostat or Zone Sensor Mode (Y1, Y2, Y3)

##### **Y1 Demand:**

All compressors are off, supply air blower is on low cooling speed to minimize blower power consumption, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

##### **Y2 Demand:**

All compressors are off, supply air blower is on high cooling speed providing higher cooling capacity, and economizer modulates to maintain 55°F supply air temperature.

If economizer stays at maximum open for 3 minutes, compressor 1 is energized while supply air blower stays on high cooling speed providing maximum cooling capacity. After compressors are energized the economizer stays at maximum open.

##### **Y3 Demand:**

Compressors 1 and 2 are energized while supply air blower stays on high cooling speed.

<sup>1</sup> *Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the rooftop unit via a network connection.*

#### **UNIT DOES NOT FEATURE AN ECONOMIZER OR OUTDOOR AIR IS NOT SUITABLE**

##### **Y1 Demand:**

Compressor 1 operates and supply air blower operates at low cooling speed.

##### **Y2 or Y3 Demand:**

All compressors operate and supply air blower operates at high cooling speed.

#### **DEHUMIDIFICATION MODE**

If a unit with *Humiditrol*® Dehumidification Option receives a call for dehumidification, economizer free cooling is locked out.

##### **Call For Dehumidification, No Y1, Y2 demand:**

1st stage compressor operates, supply air blower operates at high cooling speed, and the reheat valve is energized.

##### **Y1 Demand With A Call For Dehumidification:**

All compressors operate, supply air blower operates at high cooling speed and the reheat valve is energized.

##### **Y2 Or Y3 Demand With A Call For Dehumidification:**

All compressors operate, supply air blower operates at high cooling speed, and the reheat valve is de-energized.

## **SEQUENCE OF OPERATION - MSAV® (MULTI-STAGE AIR VOLUME) MODELS**

### **HEATING MODE**

**NOTE - HEATING MODE IS THE SAME FOR ALL CONTROL OPTIONS**

**W1 Demand:**

Gas valves are open (stage 1 on units with 2-stage gas valves) and supply air blower operates at heating speed.

**W2 Demand:**

Gas valves are open (stage 2 on units with 2-stage gas valves) and supply air blower operates at heating speed.

### **MODULATING OUTDOOR AIR DAMPER**

The minimum damper position for “occupied low blower” and “occupied high blower” is adjusted during unit setup to provide minimum fresh air requirements per ASHRAE 62.1 at the corresponding supply air blower speeds.

- When supply air blower is off or the unit is in unoccupied mode, the outdoor air damper is closed.
- When unit is in occupied mode and supply air blower is operating at a speed below the “midpoint” blower speed, the outdoor air damper is at minimum “low blower” position.
- When unit is in occupied mode and supply air blower is operating at a speed equal to or above the “midpoint” blower speed, the outdoor air damper is at minimum “high blower” position.

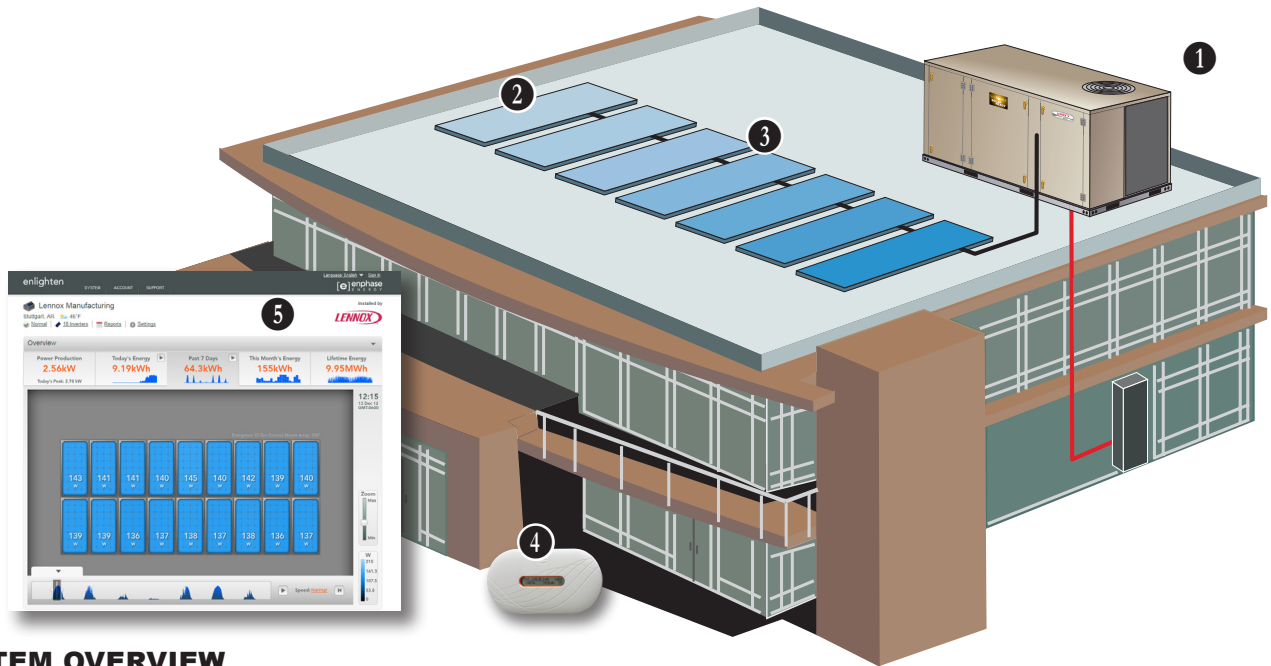
**NOTE - The “midpoint” blower speed is an average of the minimum and maximum blower speed (minimum speed + maximum speed divided by 2).**

### **POWER EXHAUST OPERATION**

**NOTE - POWER EXHAUST OPERATION IS THE SAME FOR ALL CONTROL OPTIONS**

Power exhaust blower operates when economizer outdoor air dampers are 50% open (adjustable) and when supply air blower speed is above 70% (adjustable) of full speed.

# SUNSOURCE® COMMERCIAL ENERGY SYSTEM



## SYSTEM OVERVIEW

All Emergence® 7.5 through 12.5 ton commercial rooftop units are upgradable to the SunSource® Commercial Energy System.

Solar energy is first used to meet building cooling/heating demands. When the cooling and heating system is not operating, the system powers lighting, appliances and other electronic devices in the building. And in some locations, any surplus power is sent back to the utility company for a possible credit (check with your local utility company for availability).

The SunSource® Commercial Energy System consists of the following components:

1. Emergence® 7.5 to 12.5 ton commercial rooftop units with factory installed Solar Power Entry Option (circuit protection for solar power and line voltage wiring).
2. Solarworld Solar Modules (up to 24 modules) may be used to vary the amount of electricity generated).
3. Enphase Microinverter, converts Direct Current to Alternating Current power.
4. Enphase Envoy Communications Gateway that monitors energy usage.
5. Enphase Enlighten™ Performance Monitoring Website

Wiring from the roof mounted solar modules is routed to the rooftop unit.

NOTE - Refer to separate Product Specifications Bulletin for the **SunSource® Commercial Energy System** for more detailed information. See section *Solar - Kits/Accessories*.

Also refer to **SunSource® Commercial Energy System Applications and Design Guidelines** Manual (Corp. 1303-L1) for complete information on designing, sizing and installing a complete system.

## APPROVALS

SunSource® Commercial Energy System is listed by ETL to UL 1995 and can be installed to comply with the NEC.

The SunSource® Energy System for Commercial Rooftop Units meets the requirements for federal tax credits listed under the U.S. Emergency Economic Stabilization Act of 2008, covering 30% of the cost of the solar modules, including installation.

## BASIC SYSTEM REQUIREMENTS

Sufficient south-facing open roof space.

Broadband Internet connection.

208V three-phase or 460V three-phase.

*NOTE: Transformers must be ordered for voltages other than 208V three-phase WYE.*

Grid Interconnection Agreement.

## SOLAR POWER ENTRY OPTION

A factory installed power entry option is available for Emergence® rooftop units that provides a connection point for SunSource® solar modules.

The option provides circuit protection (fuses) for the solar connection and rooftop unit components.

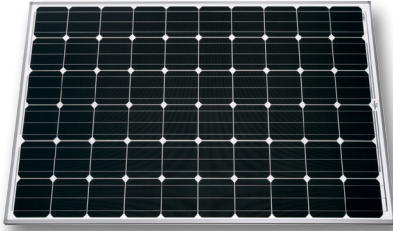
An externally accessible disconnect (non-fused) is also included to shutdown the system for service. Field wiring connections are made directly to the disconnect for the utility connection and to pigtails for easy solar connection.

Local codes may require a field provided solar disconnect and/or a field provided fused HVAC disconnect.

## SUNSOURCE® COMMERCIAL ENERGY SYSTEM

### SOLAR MODULES

Captures solar energy to convert into AC power through the Enphase Microinverter.



Laminated solar module structure consists of the solar glass, two ethylene vinyl acetate (EVA) sheets, the solar cell matrix and a back sheet.

Thick low-iron safety glass withstands extreme weather conditions and heavy snow loads.

Solar modules are ETL/Intertek listed for the US and Canada to UL Standard 1703 and meet National and Canadian Electrical Code requirements.

#### **Solar Module Frame**

Clear anodized aluminum frame with cast aluminum corner keys.

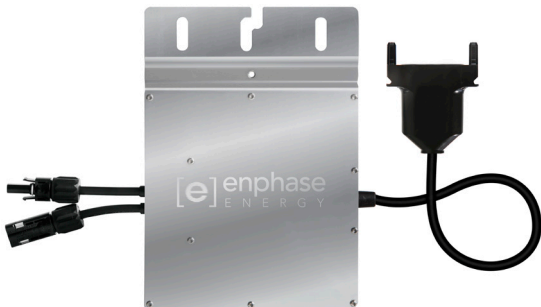
Low profile with extended flange.

Compatible with “top-down” and “bottom-up” mounting methods.

Eight grounding locations (Four corners of the frame and four locations along the length of the module in the extended flange).

Extended cable lengths for easier installation.

### ENPHASE MICROINVERTER



Converts Direct Current (DC), captured by a solar module, to Alternating Current (AC) power. Each solar module is paired with one Enphase Microinverter.

Installed beneath each solar module on the roof.

Enphase Microinverters operate independently from each other allowing solar modules that are not shaded or dirty to operate with optimum performance.

Supports low-light and low-voltage operation.

### FLAT ROOF MOUNTING SYSTEM

PanelClaw® Polar Bear III roof mounting system is designed to maximize array construction speed.



Innovative system consists of three major components (Support, Ballast Tray and Claw).





Modular, adaptable design with single module tilt-up feature to facilitate access to roof, wiring and maintenance.

10 degree nominal tilt angle.

Fully ballasted or mechanically attached.

- **Support** - Galvanized steel tubing. (1) Support unit with pre-installed integrated recycled rubber pads and mounting hardware.
- **Ballast Tray** - Angled fit with locking end-tab to fully capture ballast blocks. Hemmed edges and chamfered corners prevent wiring from coming into contact with sharp edges. Ballast blocks are field provided.
- **Claw** - Attachment to module using standard module mounting holes. UL 2703 certified for electric bonding and grounding. G90 galvanized steel.

### ENPHASE ENGAGE CABLE SYSTEM

- **Enphase Engage Cable** - Enphase Engage Cable (shown with connector) is a 12 AWG cable with pre-installed connectors that plug into the Enphase Microinverter. 
- Five wire cable (208V three-phase)
- **Enphase Engage Cable Terminator** - Each Enphase Engage Cable is terminated at a junction or combiner box. The opposite end of the cable must be terminated with an Enphase Engage Cable Terminator cap. 
- **Enphase Engage Disconnect Tool** - Specialized tool that disconnects cable from an Enphase Microinverter or watertight sealing cap. 
- **Enphase Water-tight Sealing Cap** - Use when open connections on the Enphase Engage Cable are not mated to an Enphase Microinverter. 



**SYSTEM MONITORING**

**Enphase Envoy Communications Gateway (with Wireless Capability)**

The Enphase Envoy Communications Gateway monitors Enphase Microinverter (on solar modules) performance and can be connected to a broadband internet connection to send data to the Enphase Enlighten™ web site for online monitoring. The Enphase Envoy Communications Gateway is not required, but must be used if system performance monitoring is desired.



Limited system monitoring is also available locally with the Envoy and a personal computer if no internet connection is available.

Various Event Messages are also available when monitoring the system via a personal computer locally.

Connection options include:

- Wireless N USB adaptor (802.11b/g/n)
- Ethernet RJ45 (cable included)

NEMA 1 indoor enclosure.

Contents - (1) Envoy Communications Gateway, (1) Wireless N USB adaptor (1) 6 ft. power cord, (1) 10 ft. orange Ethernet RJ45 cable.

CSA (US/C) listed.

**Line Communications Filter**

Envoy Communications Gateway mounted in a weatherproof NEMA 4 enclosure.

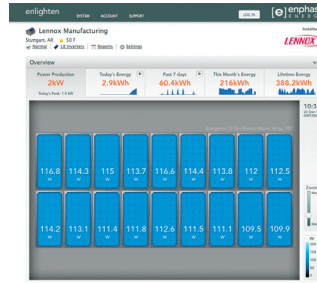


For outdoor installations, installations with transformers, or when multiple communications modules are used on one building.

Contains the Enphase Envoy Communications Gateway and terminal blocks for easy power hookup from the Enphase Microinverter branch circuits distribution to the electrical meter or distribution panel. A filter removes any electrical interference from other devices or multiple Envoy Communication Gateways in the same building.

Unit is UL listed for the US and Canada and meet National Electrical Code requirements.

**Enphase Enlighten™ Performance Monitoring Website**



Powered by the Enphase Envoy Communications Gateway, the Enphase Enlighten™ Performance Monitoring website allows the user to keep track of building energy usage and see environmental benefits in real time.

See demos, view reference installations and other additional information at: <http://enlighten.enphaseenergy.com/>

**SYSTEM ORDERING**

- Specify the number of Solar Module CE (Custom Engineered) Kits required. The system will be shipped as a complete package.

Each kit includes:

- One Solarworld Solar Module
- One Enphase Microinverter
- One Enphase Engage Cable (no. of connectors are determined by total number of Solar Module Kits ordered)
- One PanelClaw® Polar Bear III Mounting System for the Solar Module
- Hardware for mounting
- Custom engineering drawings and full design for solar system
- Emergence® 7.5 to 12.5 ton packaged rooftop unit must be ordered with the factory installed Solar Power Entry Option.
- Enphase Envoy Communications Gateway or Line Communications Filter must be ordered separately.
- Transformers must be ordered separately. See Options/Accessories table.

Contact your nearest Lennox Sales Representative for ordering information.

## OPTIONS / ACCESSORIES

Item Description	Model Number	Catalog Number	Unit Model No			
			092	102	120	150
<b>COOLING SYSTEM</b>						
Condensate Drain Trap	PVC - C1TRAP20AD2	<b>76W26</b>	OX	OX	OX	OX
	Copper - C1TRAP10AD2	<b>76W27</b>	OX	OX	OX	OX
Conventional Fin/Tube Condenser Coil (replaces Environ™ Coil System)		Factory	O	O	O	O
Corrosion Protection		Factory	O	O	O	O
Drain Pan Overflow Switch	E1SNSR71AD1	<b>68W88</b>	OX	OX	OX	OX
Refrigerant Type		R-410A	O	O	O	O
Service valves (not for Environ™ Coil System or Humiditrol® equipped units)		Factory	O	O	O	O
<b>HEATING SYSTEM</b>						
Bottom Gas Piping Kit	C1GPKT01B-01	<b>54W95</b>	OX	OX	OX	OX
Combustion Air Intake Extensions	T1EXTN10AN1	<b>19W51</b>	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
Low Temperature Vestibule Heater	208/230V-3ph - C1LTVH10B-2Y	<b>13X63</b>	OX	OX	OX	OX
	460V - C1LTVH10B-2G	<b>13X64</b>	OX	OX	OX	OX
	575V - C1LTVH10B-2J	<b>13X65</b>	OX	OX	OX	OX
LPG/Propane Conversion Kits	Standard Heat - C1PROP23BS1	<b>14N22</b>	X	X	X	X
	Medium Heat - C1PROP22BS1	<b>14N23</b>	X	X	X	X
	High Heat - C1PROP21BS1	<b>14N25</b>	X	X	X	X
Stainless Steel Heat Exchanger		Factory	O	O	O	O
Vertical Vent Extension Kit	C1EXTN2021	<b>42W16</b>	X	X	X	X
<b>BLOWER - SUPPLY AIR</b>						
Blower Option	CAV (Constant Air Volume)	Factory	O	O	O	O
	MSAV® (Multi-Stage Air Volume) supply air blower option (With VFD Bypass Control)	Factory	O	O	O	O
	MSAV® (Multi-Stage Air Volume) supply air blower option (Without VFD Bypass Control)	Factory	O	O	O	O
Motors - Constant Air Volume (CAV)	Belt Drive (standard or high efficiency) - 2 hp	Factory	O	O	O	O
	Belt Drive (standard or high efficiency) - 3 hp	Factory	O	O	O	O
	Belt Drive (standard efficiency) - 5 hp	Factory	O	O	O	O
Motors - MSAV® Multi-Stage Air Volume	Belt Drive (high efficiency) - 2 hp	Factory	O	O	O	O
	Belt Drive (standard or high efficiency) - 3 hp	Factory	O	O	O	O
	Belt Drive (standard efficiency) - 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 #7 730-970 rpm	Factory	O	O	O	O
	Kit #8 940-1200 rpm	Factory	O	O	O	O
	Kit #9 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
	Blower Belt Auto-Tensioner		Factory	O	O	O
<b>CABINET</b>						
Combination Coil/Hail Guards	Environ™ Coil System - E1GARD21B-1	<b>13T05</b>	X	X	X	X
	Conventional Fin/Tube Condenser Coil - E1GARD20B-1	<b>13T04</b>	X	X	X	X
Horizontal Discharge Kit	K1HECK00B-1	<b>51W25</b>	X	X	X	X
Return Air Adaptor Plate (for LC/LG/LH and TC/TG/TH unit replacement)	C1CONV10B-1	<b>54W96</b>	OX	OX	OX	OX

NOTE - Catalog and model 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	Model Number	Catalog Number	Unit Model No			
			092	102	120	150
<b>CONTROLS</b>						
Blower Proving Switch	C1SNSR35FF1	<b>53W65</b>	OX	OX	OX	OX
Commercial Controls	L Connection® Building Automation System		X	X	X	X
	Prodigy® Control System - BACnet® Module - C0CTRL60AE1L		OX	OX	OX	OX
	Prodigy® Control System - LonTalk® Module - C0CTRL65FF1		OX	OX	OX	OX
	Novar® ETM-2051 - E0CTRL30B1		OX	OX	OX	OX
	Novar® LSE		O	O	O	O
Dirty Filter Switch	E1SNSR55B-1	<b>53W67</b>	OX	OX	OX	OX
General Purpose Control Kit	E1GPBK30C1	<b>13J78</b>	X	X	X	X
Fresh Air Tempering	C1SNSR75AD1	<b>58W63</b>	OX	OX	OX	OX
Smoke Detector - Supply or Return (Power board and one sensor)	C1SNSR44B-2	<b>11K76</b>	OX	OX	OX	OX
Smoke Detector - Supply and Return (Power board and two sensors)	C1SNSR43B-2	<b>11K80</b>	OX	OX	OX	OX
<b>INDOOR AIR QUALITY</b>						
<b>Air Filters</b>						
Healthy Climate® High Efficiency Air Filters	MERV 8 - C1FLTR15B-1	<b>50W61</b>	OX	OX	OX	OX
20 x 25 x 2 (Order 4 per unit)	MERV 13 - C1FLTR40B-1	<b>52W41</b>	OX	OX	OX	OX
Replacement Media Filter With Metal Mesh Frame (includes non-pleated filter media)	C1FLTR30B-1-	<b>Y3063</b>	X	X	X	X
<b>Indoor Air Quality (CO<sub>2</sub>) Sensors</b>						
Sensor - Wall-mount, off-white plastic cover with LCD display	C0SNSR50AE1L	<b>77N39</b>	X	X	X	X
Sensor - Wall-mount, off-white plastic cover, no display	C0SNSR52AE1L	<b>87N53</b>	X	X	X	X
Sensor - Black plastic case with LCD display, rated for plenum mounting	C0SNSR51AE1L	<b>87N52</b>	X	X	X	X
Sensor - Wall-mount, black plastic case, no display, rated for plenum mounting	C0MISC19AE1	<b>87N54</b>	X	X	X	X
CO <sub>2</sub> Sensor Duct Mounting Kit - for downflow applications	C0MISC19AE1-	<b>85L43</b>	X	X	X	X
Aspiration Box - for duct mounting non-plenum rated CO <sub>2</sub> sensors ( <b>87N53</b> or <b>77N39</b> )	C0MISC16AE1-	<b>90N43</b>	X	X	X	X
<b>UVC Germicidal Lamps</b>						
<sup>1</sup> Healthy Climate® UVC Light Kit (208/230v-1ph)	C1UVCL10B-1	<b>54W62</b>	OX	OX	OX	OX
<b>ELECTRICAL</b>						
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
HACR Circuit Breakers		Factory	O	O	O	O
Disconnect Switch	80 amp - C1DISC080B-1	<b>54W56</b>	OX	OX	OX	OX
	150 amp - C1DISC150B-1	<b>54W57</b>	OX	OX	OX	OX
GFI Service	15 amp non-powered, field-wired (208/230V, 460V only) LTAGFIK10/15	<b>74M70</b>	OX	OX	OX	OX
Outlets	20 amp non-powered, field-wired (575V only) C1GFCI20FF1	<b>67E01</b>	OX	OX	OX	OX
Weatherproof Cover for GFI	C1GFCI99FF1	<b>10C89</b>	X	X	X	X
Phase/Voltage Detection (Optional for CAV options only, furnished with MSAV® option)		Factory	O	O	O	O

NOTE - Catalog and model 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	Model Number	Catalog Number	Unit Model No			
			092	102	120	150
<b>ECONOMIZER</b>						
<b>Standard Economizer (Not for Title 24)</b>						
Standard Economizer Downflow or Horizontal - Includes Outdoor Air Hood and Downflow Barometric Relief Dampers with Exhaust Hood Order Horizontal Barometric Relief Dampers separately	E1ECON15B-2	<b>13U46</b>	OX	OX	OX	OX
<b>High Performance Economizer (Approved for California Title 24 Building Standards)</b>						
High Performance Economizer Downflow or Horizontal - Includes Outdoor Air Hood and Downflow Barometric Relief Dampers with Exhaust Hood Order Horizontal Barometric Relief Dampers separately	E1ECON17B-1	<b>10U59</b>	OX	OX	OX	OX
<b>Horizontal Barometric Relief Dampers</b>						
Horizontal Low Profile Barometric With Exhaust Hood	LAGEDH03/15	<b>53K04</b>	X	X	X	X
<b>Economizer Controls (Not for Title 24)</b>						
Differential Enthalpy	Order 2 - C1SNSR64FF1	<b>53W64</b>	OX	OX	OX	OX
Sensible Control	Sensor is Furnished	Factory	O	O	O	O
Single Enthalpy	C1SNSR64FF1	<b>53W64</b>	OX	OX	OX	OX
Building Pressure Control	E1GPBK20C1	<b>13J77</b>	X	X	X	X
Outdoor Air CFM Control	E1GPBK10C1	<b>13J76</b>	X	X	X	X
Global Control	Sensor Field Provided	Factory	O	O	O	O
<sup>1</sup> Lamps operate on 110-230V single-phase power supply. Step-down transformer may be ordered separately for 460V and 575V units. Alternately, 110V power supply may be used to directly power the UVC ballast(s)						
<b>OUTDOOR AIR</b>						
<b>Outdoor Air Dampers With Outdoor Air Hood</b>						
Motorized	C1DAMP20B-1	<b>14G28</b>	OX	OX	OX	OX
Manual	C1DAMP10B-2	<b>14G29</b>	OX	OX	OX	OX
<b>POWER EXHAUST</b>						
Standard Static	208/230V-3ph - K1PWRE10B-1Y	<b>53W44</b>	OX	OX	OX	OX
	460V-3ph - K1PWRE10B-1G	<b>53W45</b>	OX	OX	OX	OX
	575V-3ph - K1PWRE10B-1J	<b>53W46</b>	OX	OX	OX	OX
<b>HUMIDITROL® CONDENSER REHEAT OPTION</b>						
Humiditrol® Dehumidification Option (NOTE - Not available with <b>Environ™</b> Coil System. Conventional Fin/Tube condenser coil must be ordered as a factory option)		Factory	O	O	O	O
Humidity Sensor Kit, Remote mounted (required)	C0SNSR31AE-1	<b>17M50</b>	X	X	X	X
<b>ROOF CURBS</b>						
<b>Hybrid Roof Curbs, Downflow</b>						
8 in. height	C1CURB70B-1	<b>11F54</b>	X	X	X	X
14 in. height	C1CURB71B-1	<b>11F55</b>	X	X	X	X
18 in. height	C1CURB72B-1	<b>11F56</b>	X	X	X	X
24 in. height	C1CURB73B-1	<b>11F57</b>	X	X	X	X
<b>Adjustable Pitch Curb, Downflow</b>						
14 in. height	C1CURB55B-1	<b>54W50</b>	X	X	X	X
<b>CEILING DIFFUSERS</b>						
Step-Down - Order one	RTD11-95S	<b>13K61</b>	X			
	RTD11-135S	<b>13K62</b>		X	X	
	RTD11-185S	<b>13K63</b>				X
Flush - Order one	FD11-95S	<b>13K56</b>	X			
	FD11-135S	<b>13K57</b>		X	X	
	FD11-185S	<b>13K58</b>				X
Transitions (Supply and Return) - Order one	C1DIFF30B-1	<b>12X65</b>	X			
	C1DIFF31B-1	<b>12X66</b>		X	X	
	C1DIFF32B-1	<b>12X67</b>				X

NOTE - Catalog and model 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	Model Number	Catalog Number	Unit Model No			
			092	102	120	150
<b>SUNSOURCE® COMMERCIAL ENERGY SYSTEM</b>						
Solar Module CE Kit	One 285W Solar Module (silver frame), One PanelClaw Polar Bear III Mounting System and One Enphase M250 Microinverter	<b>10U67</b>	X	X	X	X
Solar Power Entry with Disconnect		Factory	O	O	O	O
Enphase Envoy Communications Gateway (with Wireless Capability)		<b>13L89</b>	X	X	X	X
Line Communication Filter (external)	C1C400D11A	<b>10F93</b>	X	X	X	X
Transformer (6 kW)	E1TRFM15AD3Y (208Y to 208 VAC Delta)	<b>11H71</b>	X	X	X	X
	E1TRFM15AD2Y (230 VAC Delta)	<b>11H28</b>	X	X	X	X
	E1TRFM15AD3G (460 VAC Delta or Wye)	<b>11H29</b>	X	X	X	X

NOTE - Catalog and model 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

General Data		Nominal Tonnage	7.5 Ton	7.5 Ton	8.5 Ton	8.5 Ton
		Model Number	LGH092H4B	LGH092H4M	LGH102H4B	LGH102H4M
		Efficiency Type	High	High	High	High
		Blower Type	Constant Air Volume CAV	MSAV® (Multi-Stage Air Volume)	Constant Air Volume CAV	MSAV® (Multi-Stage Air Volume)
<b>Cooling Performance</b>	Gross Cooling Capacity - Btuh		93,000	93,000	103,800	103,800
	<sup>1</sup> Net Cooling Capacity - Btuh		90,000	90,000	100,000	100,000
	AHRI Rated Air Flow - cfm		3000	2800	3400	3400
	Total Unit Power - kW		7.5	7.5	8.1	8.1
	<sup>1</sup> EER (Btuh/Watt)		12.5	12.5	12.2	12.2
	<sup>2</sup> IEER (Btuh/Watt)		13.0	14.0	12.9	14.0
	Refrigerant Type		R-410A	R-410A	R-410A	R-410A
<b>Refrigerant Charge</b>	Environ™ Coil System	Circuit 1	6 lbs. 13 oz.	6 lbs. 13 oz.	6 lbs. 8 oz.	6 lbs. 8 oz.
		Circuit 2	7 lbs. 2 oz.	7 lbs. 2 oz.	6 lbs. 15 oz.	6 lbs. 15 oz.
	Conventional Fin/Tube Coil Option	Circuit 1	12 lbs. 14 oz.	12 lbs. 14 oz.	13 lbs. 8 oz.	13 lbs. 8 oz.
		Circuit 2	11 lbs. 3 oz.	11 lbs. 3 oz.	12 lbs. 7 oz.	12 lbs. 7 oz.
	Conventional Fin/Tube With Humiditrol®	Circuit 1	16 lbs. 6 oz.	16 lbs. 6 oz.	17 lbs. 0 oz.	17 lbs. 0 oz.
		Circuit 2	11 lbs. 3 oz.	11 lbs. 3 oz.	12 lbs. 7 oz.	12 lbs. 7 oz.
<b>Gas Heating Options Available - See page 24</b>			Standard (2 Stage), Medium (2 Stage), High (2 Stage)			
<b>Compressor Type (number)</b>			Scroll (2)	Scroll (2)	Scroll (2)	Scroll (2)
<b>Outdoor Coils</b>	Net face area (total) - sq. ft.		28.0 (29.33)	28.0 (29.33)	28.0 (29.33)	28.0 (29.33)
	Environ™ Number of rows		1 (3)	1 (3)	1 (3)	1 (3)
	(Fin/Tube) Fins per inch		20 (20)	20 (20)	20 (20)	20 (20)
<b>Outdoor Coil Fans</b>	Motor - (No.) hp		(2) 1/3	(2) 1/3	(2) 1/3	(2) 1/3
	Motor rpm		1075	1075	1075	1075
	Total Motor watts		800	800	800	800
	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
<b>Indoor Coils</b>	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		4	4	4	4
	Fins per inch		14	14	14	14
Drain connection - Number and size			(1) 1 in. NPT coupling			
Expansion device type			Balance port TXV, removable head			
<sup>3</sup> <b>Indoor Blower and Drive Selection</b>	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 <b>Kit 1</b> 590-890 rpm (std. and high efficiency) <b>Kit 2</b> 800-1105 rpm (std. and high efficiency) <b>Kit 3</b> 795-1195 rpm (std. and high efficiency) 3 hp <b>Kit 4</b> 730-970 rpm (std. efficiency) <b>Kit 5</b> 940-1200 rpm (std. efficiency) <b>Kit 6</b> 1015-1300 rpm (std. efficiency) <b>Kit 7</b> 730-970 rpm (high efficiency) <b>Kit 8</b> 940-1200 rpm (high efficiency) <b>Kit 9</b> 1015-1300 rpm (high efficiency) 5 hp <b>Kit 10</b> 900-1135 rpm (std. efficiency) <b>Kit 11</b> 1040-1315 rpm (std. efficiency) <b>Kit 12</b> 1125-1425 rpm (std. efficiency)			
Blower wheel nominal diameter x width - in.		(1) 15 X 15	(1) 15 X 15	(1) 15 X 15	(1) 15 X 15	
<b>Filters</b>	Type of filter		Disposable			
	Number and size - in.		(4) 20 x 25 x 2			
<b>Electrical characteristics</b>			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.

<sup>1</sup> 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.

<sup>2</sup> Integrated Energy Efficiency Ratio certified and tested according to AHRI Standard 340/360.

<sup>3</sup> 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

General Data		Nominal Tonnage	10 Ton	10 Ton	12.5 Ton	12.5 Ton
		Model Number	LGH120H4B	LGH120H4M	LGH150S4B	LGH150S4M
		Efficiency Type	High	High	Standard	Standard
		Blower Type	Constant Air Volume CAV	MSAV® (Multi-Stage Air Volume)	Constant Air Volume CAV	MSAV® (Multi-Stage Air Volume)
<b>Cooling Performance</b>	Gross Cooling Capacity - Btuh		122,000	122,000	142,600	142,600
	<sup>1</sup> Net Cooling Capacity - Btuh		118,000	118,000	138,000	138,000
	AHRI Rated Air Flow - cfm		3600	3300	4100	4100
	Total Unit Power - kW		9.9	9.8	12.5	12.5
	<sup>1</sup> EER (Btuh/Watt)		12	12.0	10.8	10.8
	<sup>2</sup> IEER (Btuh/Watt)		13.0	13.8	11.4	13.1
	Refrigerant Type		R-410A	R-410A	R-410A	R-410A
<b>Refrigerant Charge</b>	Environ™ Coil System	Circuit 1	7 lbs. 4 oz.	7 lbs. 4 oz.	7 lbs. 4 oz.	7 lbs. 4 oz.
		Circuit 2	7 lbs. 8 oz.	7 lbs. 8 oz.	6 lbs. 12 oz.	6 lbs. 12 oz.
	Conventional Fin/Tube Coil Option	Circuit 1	14 lbs. 8 oz.	14 lbs. 8 oz.	17 lbs. 8 oz.	17 lbs. 8 oz.
		Circuit 2	13 lbs. 8 oz.	13 lbs. 8 oz.	12 lbs. 12 oz.	12 lbs. 12 oz.
	Conventional Fin/Tube With Humiditrol®	Circuit 1	18 lbs. 0 oz.	18 lbs. 0 oz.	18 lbs. 8 oz.	18 lbs. 8 oz.
		Circuit 2	13 lbs. 8 oz.	13 lbs. 8 oz.	14 lbs. 8 oz.	14 lbs. 8 oz.
<b>Gas Heating Options Available - See page 24</b>			Standard (2 Stage), Medium (2 Stage), High (2 Stage)			
<b>Compressor Type (number)</b>			Scroll (2)	Scroll (2)	Scroll (2)	Scroll (2)
<b>Outdoor Coils</b>	Environ™ (Fin/Tube)	Net face area (total) - sq. ft.	28.0 (29.33)	28.0 (29.33)	28.0 (29.33)	28.0 (29.33)
		Number of rows	1 (3)	1 (3)	1 (3)	1 (3)
		Fins per inch	20 (20)	20 (20)	20 (20)	20 (20)
<b>Outdoor Coil Fans</b>		Motor - (No.) hp	(2) 1/3	(2) 1/3	(2) 1/2	(2) 1/2
		Motor rpm	1075	1075	1075	1075
		Total Motor watts	800	800	1050	1050
		Diameter - (No.) in.	(2) 24	(2) 24	(2) 24	(2) 24
		Number of blades	3	3	3	3
		Total Air volume - cfm	8800	8800	9700	9700
<b>Indoor Coils</b>		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	4	4	4
		Fins per inch	14	14	14	14
		Drain connection - Number and size	(1) 1 in. NPT coupling			
		Expansion device type	Balance port TXV, removable head		<sup>5</sup> Refrigerant Metering Orifice (RFC)	
<sup>3</sup> <b>Indoor Blower and Drive Selection</b>		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 <b>Kit 1</b> 590-890 rpm (std. and high efficiency) <b>Kit 2</b> 800-1105 rpm (std. and high efficiency) <b>Kit 3</b> 795-1195 rpm (std. and high efficiency) 3 hp <b>Kit 4</b> 730-970 rpm (std. efficiency) <b>Kit 5</b> 940-1200 rpm (std. efficiency) <b>Kit 6</b> 1015-1300 rpm (std. efficiency) <b>Kit 7</b> 730-970 rpm (high efficiency) <b>Kit 8</b> 940-1200 rpm (high efficiency) <b>Kit 9</b> 1015-1300 rpm (high efficiency) 5 hp <b>Kit 10</b> 900-1135 rpm (std. efficiency) <b>Kit 11</b> 1040-1315 rpm (std. efficiency) <b>Kit 12</b> 1125-1425 rpm (std. efficiency)			
		Blower wheel nominal diameter x width - in.	(1) 15 X 15	(1) 15 X 15	(1) 15 X 15	(1) 15 X 15
<b>Filters</b>	Type of filter	Disposable				
	Number and size - in.	(4) 20 x 25 x 2				
<b>Electrical characteristics</b>			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.

<sup>1</sup> 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.

<sup>2</sup> Integrated Energy Efficiency Ratio certified and tested according to AHRI Standard 340/360.

<sup>3</sup> 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.

<sup>5</sup> 150 models ordered with the Humiditrol® Dehumidification option are equipped with factory installed expansion valves.

NOTE - Units equipped with 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	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 in. w.c.	7 in. w.c.	7 in. w.c.
	LPG/Propane		11 in. w.c.	11 in. w.c.	11 in. w.c.

## 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 Feet	Gas Manifold Pressure in. w.g.		Input Rate - Btuh (Natural Gas or LPG/Propane)	
		Natural Gas	LPG/Propane Gas	First Stage	Second Stage
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



# RATINGS

NOTE – For Temperatures and Capacities not shown in tables, see bulletin – Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

## 7.5 TON HIGH EFFICIENCY LGH092H4B (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	2400	48.6	1.95	0.63	0.76	0.93	46.8	2.21	0.64	0.78	0.95	44.9	2.49	0.65	0.80	0.98	42.9	2.81	0.66	0.83	1.00
	3000	51.0	1.96	0.67	0.85	1.00	49.1	2.22	0.68	0.88	1.00	47.2	2.50	0.70	0.90	1.00	45.0	2.82	0.72	0.94	1.00
	3600	52.9	1.97	0.72	0.95	1.00	50.9	2.22	0.74	0.97	1.00	48.9	2.50	0.76	0.99	1.00	46.7	2.82	0.79	1.00	1.00
67°F	2400	51.3	1.96	0.50	0.61	0.72	49.5	2.22	0.51	0.62	0.73	47.6	2.50	0.51	0.63	0.76	45.5	2.82	0.52	0.64	0.78
	3000	53.9	1.97	0.53	0.65	0.80	51.9	2.22	0.53	0.66	0.83	49.7	2.50	0.55	0.67	0.86	47.7	2.82	0.56	0.69	0.89
	3600	55.9	1.98	0.55	0.70	0.90	53.7	2.23	0.56	0.71	0.93	51.5	2.51	0.57	0.74	0.96	48.9	2.83	0.58	0.76	0.99
71°F	2400	54.1	1.97	0.39	0.49	0.59	52.2	2.22	0.39	0.49	0.60	50.2	2.50	0.39	0.51	0.60	48.0	2.82	0.39	0.51	0.61
	3000	56.8	1.98	0.39	0.51	0.63	54.7	2.23	0.40	0.52	0.64	52.4	2.51	0.40	0.53	0.65	50.1	2.83	0.41	0.55	0.67
	3600	58.6	1.99	0.41	0.54	0.67	56.5	2.24	0.41	0.55	0.69	54.1	2.51	0.42	0.56	0.71	51.5	2.83	0.42	0.57	0.73

## 7.5 TON HIGH EFFICIENCY LGH092H4B (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	2400	87.9	5.19	.69	.83	.98	84.0	5.86	.70	.85	1.00	79.8	6.64	.72	.88	1.00	75.2	7.55	.74	.92	1.00
	3000	92.3	5.20	.74	.92	1.00	88.0	5.87	.76	.95	1.00	83.5	6.64	.78	.98	1.00	78.7	7.54	.81	1.00	1.00
	3600	95.6	5.21	.79	1.00	1.00	91.4	5.87	.82	1.00	1.00	87.3	6.64	.85	1.00	1.00	82.9	7.55	.88	1.00	1.00
67°F	2400	93.0	5.20	.55	.66	.79	89.0	5.87	.55	.68	.81	84.5	6.64	.56	.69	.84	79.5	7.54	.58	.71	.87
	3000	97.3	5.21	.58	.71	.88	93.0	5.88	.59	.73	.91	88.2	6.65	.60	.76	.94	82.8	7.54	.61	.78	.98
	3600	100.6	5.22	.61	.77	.97	95.7	5.88	.62	.79	.99	90.8	6.65	.63	.82	1.00	85.2	7.54	.64	.86	1.00
71°F	2400	98.2	5.21	.42	.53	.64	93.8	5.88	.42	.54	.65	89.0	6.65	.42	.54	.67	84.2	7.54	.43	.56	.69
	3000	102.5	5.23	.43	.56	.69	97.9	5.89	.43	.58	.71	92.9	6.65	.44	.59	.73	87.5	7.54	.44	.60	.76
	3600	105.9	5.24	.44	.60	.75	100.8	5.89	.45	.61	.77	95.4	6.65	.45	.62	.79	89.9	7.54	.46	.64	.84

## 8.5 TON HIGH EFFICIENCY LGH102H4B (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	2720	52.3	2.13	.62	.76	.96	50.4	2.41	.63	.78	.98	48.4	2.73	.64	.81	1.00	46.3	3.08	.65	.84	1.00
	3400	54.8	2.14	.66	.87	1.00	52.7	2.42	.67	.90	1.00	50.6	2.73	.69	.93	1.00	48.4	3.09	.71	.97	1.00
	4080	56.6	2.15	.72	.97	1.00	54.6	2.43	.74	.99	1.00	52.4	2.74	.77	1.00	1.00	50.3	3.09	.80	1.00	1.00
67°F	2720	55.2	2.14	.49	.60	.71	53.2	2.42	.50	.61	.73	51.2	2.73	.50	.62	.76	48.7	3.09	.50	.63	.79
	3400	57.7	2.15	.52	.64	.82	55.6	2.43	.52	.65	.84	53.3	2.74	.54	.67	.88	50.9	3.09	.55	.68	.92
	4080	59.7	2.16	.55	.69	.93	57.4	2.44	.56	.71	.96	54.9	2.74	.56	.73	.99	52.4	3.10	.57	.76	1.00
71°F	2720	58.0	2.16	.38	.48	.58	56.1	2.43	.38	.49	.59	53.8	2.74	.38	.49	.60	51.3	3.09	.38	.50	.61
	3400	60.7	2.16	.39	.51	.62	58.4	2.44	.39	.51	.63	56.0	2.75	.39	.53	.65	53.6	3.10	.40	.54	.67
	4080	62.5	2.17	.40	.53	.67	60.2	2.45	.40	.55	.68	57.8	2.75	.40	.56	.71	55.0	3.10	.41	.56	.73

## 8.5 TON HIGH EFFICIENCY LGH102H4B (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	2720	98.8	5.54	.70	.85	1.00	94.4	6.27	.72	.88	1.00	89.7	7.10	.73	.91	1.00	84.7	8.09	.76	.95	1.00
	3400	103.3	5.56	.76	.95	1.00	98.6	6.27	.78	.98	1.00	93.5	7.11	.80	1.00	1.00	88.7	8.08	.83	1.00	1.00
	4080	106.9	5.56	.82	1.00	1.00	102.6	6.28	.84	1.00	1.00	98.2	7.12	.88	1.00	1.00	93.1	8.08	.91	1.00	1.00
67°F	2720	104.3	5.56	.55	.68	.81	99.6	6.28	.56	.69	.84	94.7	7.11	.57	.71	.87	89.3	8.08	.59	.73	.91
	3400	108.8	5.57	.59	.74	.91	103.8	6.29	.60	.76	.94	98.5	7.12	.61	.78	.97	92.7	8.08	.62	.81	1.00
	4080	112.0	5.58	.62	.80	.99	106.6	6.30	.63	.82	1.00	101.2	7.12	.65	.85	1.00	95.2	8.08	.66	.89	1.00
71°F	2720	109.6	5.57	.42	.54	.66	104.7	6.29	.43	.55	.67	99.7	7.12	.43	.56	.69	94.1	8.08	.43	.58	.71
	3400	114.3	5.59	.43	.58	.72	109.2	6.30	.44	.59	.74	103.6	7.12	.45	.60	.76	97.4	8.08	.45	.61	.78
	4080	117.8	5.60	.45	.61	.77	112.2	6.31	.45	.62	.80	106.4	7.13	.46	.64	.83	100.0	8.08	.47	.66	.86

# RATINGS

NOTE - For Temperatures and Capacities not shown in tables, see bulletin - Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

## 10 TON HIGH EFFICIENCY LGH120H4B (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	3200	61.5	2.61	.64	.78	.95	59.3	2.96	.65	.80	.97	56.8	3.34	.66	.82	1.00	54.3	3.77	.67	.85	1.00
	4000	64.5	2.64	.68	.86	1.00	62.2	2.99	.70	.89	1.00	59.5	3.37	.71	.93	1.00	56.8	3.80	.74	.96	1.00
	4800	66.8	2.67	.73	.95	1.00	64.3	3.02	.76	.98	1.00	61.5	3.40	.78	1.00	1.00	58.8	3.83	.81	1.00	1.00
67°F	3200	64.8	2.65	.51	.62	.73	62.5	2.99	.52	.63	.75	60.0	3.38	.52	.64	.78	57.2	3.81	.53	.65	.80
	4000	68.1	2.68	.53	.66	.82	65.5	3.03	.54	.67	.84	62.7	3.41	.55	.69	.88	59.8	3.84	.56	.70	.91
	4800	70.3	2.71	.56	.70	.91	67.7	3.06	.58	.73	.94	64.7	3.44	.58	.75	.98	61.6	3.87	.60	.78	1.00
71°F	3200	68.5	2.69	.40	.50	.60	66.0	3.04	.39	.50	.61	63.4	3.42	.40	.51	.62	60.5	3.85	.40	.52	.63
	4000	71.5	2.72	.40	.52	.64	68.9	3.07	.40	.53	.65	65.9	3.46	.41	.54	.67	62.7	3.88	.41	.55	.68
	4800	73.9	2.75	.41	.55	.68	70.9	3.10	.42	.56	.70	67.9	3.48	.43	.57	.73	64.7	3.91	.43	.58	.75

## 10 TON HIGH EFFICIENCY LGH120H4B (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	3200	118.3	7.09	.67	.83	1.00	113.1	8.00	.68	.86	1.00	107.4	9.04	.70	.89	1.00	101.4	10.23	.72	.93	1.00
	4000	123.7	7.16	.72	.94	1.00	118.2	8.07	.75	.97	1.00	112.2	9.11	.78	1.00	1.00	106.1	10.29	.81	1.00	1.00
	4800	127.9	7.21	.79	1.00	1.00	122.7	8.13	.82	1.00	1.00	116.9	9.17	.85	1.00	1.00	111.3	10.37	.90	1.00	1.00
67°F	3200	124.8	7.17	.53	.65	.79	119.2	8.08	.54	.66	.81	113.4	9.12	.54	.68	.84	106.8	10.30	.56	.70	.89
	4000	130.2	7.24	.56	.70	.90	124.4	8.16	.57	.72	.93	118.1	9.19	.58	.75	.97	111.1	10.36	.60	.78	1.00
	4800	134.2	7.29	.59	.77	.99	127.9	8.21	.61	.80	1.00	121.0	9.23	.62	.82	1.00	114.1	10.40	.64	.87	1.00
71°F	3200	131.6	7.26	.40	.52	.63	125.7	8.17	.41	.52	.64	119.6	9.21	.41	.53	.66	112.8	10.38	.41	.55	.68
	4000	136.6	7.33	.42	.55	.68	130.6	8.24	.42	.56	.70	123.7	9.27	.43	.58	.72	116.7	10.45	.43	.59	.75
	4800	140.5	7.38	.43	.58	.74	134.1	8.29	.44	.60	.77	127.3	9.32	.44	.62	.80	119.5	10.49	.45	.63	.84

## 12.5 TON STANDARD EFFICIENCY LGH150S4B (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	3800	80.2	3.25	0.63	0.78	0.94	74.7	3.64	0.63	0.79	0.96	69.1	4.08	0.64	0.81	0.99	63.1	4.58	0.64	0.83	1.00
	4400	83.6	3.27	0.66	0.83	1.00	77.8	3.66	0.67	0.85	1.00	72.0	4.11	0.67	0.87	1.00	65.9	4.60	0.69	0.91	1.00
	5000	86.3	3.29	0.69	0.88	1.00	80.5	3.69	0.71	0.91	1.00	74.3	4.12	0.71	0.94	1.00	68.1	4.62	0.74	0.98	1.00
67°F	3800	85.9	3.28	0.50	0.62	0.74	80.3	3.68	0.50	0.62	0.75	74.4	4.12	0.49	0.62	0.77	68.2	4.62	0.48	0.62	0.79
	4400	89.3	3.31	0.52	0.64	0.79	83.4	3.71	0.52	0.65	0.81	77.4	4.15	0.51	0.65	0.83	71.0	4.65	0.51	0.66	0.87
	5000	92.1	3.33	0.54	0.67	0.84	86.2	3.73	0.53	0.68	0.86	79.7	4.17	0.53	0.69	0.90	73.2	4.67	0.53	0.71	0.93
71°F	3800	91.7	3.32	0.38	0.49	0.60	85.8	3.73	0.38	0.49	0.60	79.8	4.17	0.36	0.49	0.60	73.3	4.67	0.35	0.48	0.61
	4400	95.2	3.35	0.40	0.51	0.62	89.1	3.76	0.39	0.51	0.63	82.8	4.20	0.37	0.51	0.63	76.2	4.70	0.36	0.50	0.64
	5000	97.9	3.37	0.40	0.53	0.65	91.7	3.78	0.40	0.53	0.66	85.2	4.22	0.38	0.53	0.67	78.4	4.72	0.37	0.53	0.68

## 12.5 TON STANDARD EFFICIENCY LGH150S4B (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	3800	139.7	8.40	0.69	0.85	1.00	127.4	9.42	0.70	0.87	1.00	114.8	10.59	0.71	0.90	1.00	101.5	11.94	0.72	0.94	1.00
	4400	145.4	8.45	0.73	0.90	1.00	132.9	9.47	0.74	0.93	1.00	119.8	10.64	0.76	0.97	1.00	106.2	11.99	0.79	1.00	1.00
	5000	150.3	8.49	0.77	0.96	1.00	137.4	9.52	0.79	0.99	1.00	124.4	10.69	0.81	1.00	1.00	111.7	12.05	0.84	1.00	1.00
67°F	3800	150.3	8.49	0.53	0.67	0.82	137.9	9.52	0.53	0.68	0.84	124.7	10.69	0.52	0.69	0.86	111.1	12.04	0.51	0.71	0.90
	4400	156.2	8.55	0.56	0.71	0.87	143.3	9.57	0.55	0.72	0.89	129.7	10.75	0.55	0.74	0.93	115.4	12.10	0.55	0.76	0.97
	5000	161.1	8.59	0.58	0.75	0.92	147.6	9.62	0.58	0.77	0.95	133.7	10.79	0.59	0.79	0.99	119.1	12.14	0.59	0.82	1.00
71°F	3800	161.9	8.60	0.39	0.53	0.66	148.7	9.63	0.38	0.52	0.66	135.1	10.80	0.36	0.52	0.67	120.8	12.15	0.34	0.51	0.68
	4400	167.4	8.65	0.41	0.55	0.69	153.9	9.68	0.39	0.55	0.70	139.8	10.85	0.38	0.54	0.72	124.9	12.20	0.36	0.55	0.74
	5000	171.9	8.70	0.42	0.57	0.73	158.0	9.73	0.41	0.58	0.75	143.5	10.90	0.39	0.58	0.77	128.5	12.24	0.37	0.59	0.80

## RATINGS

NOTE – For Temperatures and Capacities not shown in tables, see bulletin – Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

### 7.5 TON HIGH EFFICIENCY LGH092H4M (1ST STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
		cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F
63°F	1680	43.9	1.94	0.59	0.69	0.81	42.4	2.20	0.60	0.70	0.82	40.9	2.48	0.60	0.71	0.84	39.2	2.81	0.61	0.73	0.86
	2100	46.9	1.95	0.61	0.74	0.88	45.2	2.20	0.62	0.76	0.90	43.5	2.49	0.63	0.78	0.93	41.6	2.81	0.64	0.80	0.95
	2520	49.2	1.96	0.65	0.8	0.96	47.3	2.21	0.66	0.81	0.98	45.4	2.49	0.67	0.84	1.00	43.4	2.82	0.69	0.87	1.00
67°F	1680	46.6	1.95	0.48	0.56	0.65	45.2	2.20	0.48	0.57	0.66	43.5	2.49	0.48	0.58	0.68	41.7	2.81	0.49	0.58	0.69
	2100	49.6	1.96	0.49	0.59	0.70	47.8	2.21	0.50	0.59	0.72	46.0	2.49	0.50	0.60	0.73	44.0	2.81	0.51	0.61	0.75
	2520	51.9	1.96	0.51	0.62	0.76	50.1	2.22	0.52	0.63	0.77	48.1	2.50	0.52	0.64	0.79	45.9	2.82	0.53	0.66	0.82
71°F	1680	49.4	1.96	0.38	0.46	0.54	47.8	2.21	0.38	0.47	0.55	46.1	2.50	0.39	0.47	0.55	44.2	2.82	0.38	0.47	0.56
	2100	52.5	1.97	0.38	0.48	0.57	50.7	2.22	0.39	0.48	0.57	48.8	2.50	0.39	0.49	0.58	46.7	2.82	0.39	0.49	0.59
	2520	54.6	1.97	0.39	0.49	0.59	52.7	2.23	0.39	0.50	0.60	50.6	2.51	0.40	0.50	0.62	48.4	2.82	0.40	0.51	0.63

### 7.5 TON HIGH EFFICIENCY LGH092H4M (2ND STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
		cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F
63°F	2400	87.9	5.19	.69	.83	.98	84.0	5.86	.70	.85	1.00	79.8	6.64	.72	.88	1.00	75.2	7.55	.74	.92	1.00
	3000	92.3	5.20	.74	.92	1.00	88.0	5.87	.76	.95	1.00	83.5	6.64	.78	.98	1.00	78.7	7.54	.81	1.00	1.00
	3600	95.6	5.21	.79	1.00	1.00	91.4	5.87	.82	1.00	1.00	87.3	6.64	.85	1.00	1.00	82.9	7.55	.88	1.00	1.00
67°F	2400	93.0	5.20	.55	.66	.79	89.0	5.87	.55	.68	.81	84.5	6.64	.56	.69	.84	79.5	7.54	.58	.71	.87
	3000	97.3	5.21	.58	.71	.88	93.0	5.88	.59	.73	.91	88.2	6.65	.60	.76	.94	82.8	7.54	.61	.78	.98
	3600	100.6	5.22	.61	.77	.97	95.7	5.88	.62	.79	.99	90.8	6.65	.63	.82	1.00	85.2	7.54	.64	.86	1.00
71°F	2400	98.2	5.21	.42	.53	.64	93.8	5.88	.42	.54	.65	89.0	6.65	.42	.54	.67	84.2	7.54	.43	.56	.69
	3000	102.5	5.23	.43	.56	.69	97.9	5.89	.43	.58	.71	92.9	6.65	.44	.59	.73	87.5	7.54	.44	.60	.76
	3600	105.9	5.24	.44	.60	.75	100.8	5.89	.45	.61	.77	95.4	6.65	.45	.62	.79	89.9	7.54	.46	.64	.84

### 8.5 TON HIGH EFFICIENCY LGH102H4M (1ST STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
		cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F
63°F	1920	49.5	2.12	0.61	0.72	0.84	47.8	2.4	0.63	0.73	0.86	46.1	2.71	0.63	0.75	0.87	44.2	3.07	0.63	0.76	0.9
	2400	52.6	2.13	0.64	0.78	0.92	50.8	2.41	0.65	0.79	0.94	48.8	2.72	0.66	0.81	0.96	46.6	3.08	0.68	0.83	0.98
	2880	54.8	2.14	0.68	0.83	0.99	52.9	2.42	0.69	0.85	1	50.8	2.73	0.71	0.87	1	48.4	3.08	0.72	0.9	1
67°F	1920	52.3	2.13	0.5	0.59	0.69	50.7	2.41	0.51	0.6	0.7	48.8	2.72	0.51	0.6	0.71	46.9	3.08	0.51	0.61	0.72
	2400	55.4	2.14	0.52	0.62	0.73	53.6	2.42	0.52	0.63	0.75	51.5	2.73	0.52	0.64	0.77	49.3	3.08	0.53	0.65	0.79
	2880	57.8	2.15	0.53	0.65	0.79	55.8	2.43	0.53	0.66	0.81	53.6	2.73	0.54	0.68	0.83	51.2	3.09	0.56	0.7	0.87
71°F	1920	55.5	2.14	0.4	0.48	0.57	53.7	2.42	0.4	0.49	0.57	51.7	2.73	0.39	0.49	0.58	49.5	3.09	0.4	0.49	0.59
	2400	58.6	2.15	0.4	0.5	0.6	56.5	2.43	0.4	0.51	0.6	54.4	2.74	0.41	0.51	0.61	52	3.09	0.4	0.52	0.62
	2880	60.9	2.16	0.41	0.52	0.63	58.6	2.43	0.41	0.52	0.64	56.3	2.74	0.41	0.53	0.65	53.9	3.09	0.41	0.54	0.67

### 8.5 TON HIGH EFFICIENCY LGH102H4M (2ND STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
		cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F
63°F	2720	98.8	5.54	.70	.85	1.00	94.4	6.27	.72	.88	1.00	89.7	7.10	.73	.91	1.00	84.7	8.09	.76	.95	1.00
	3400	103.3	5.56	.76	.95	1.00	98.6	6.27	.78	.98	1.00	93.5	7.11	.80	1.00	1.00	88.7	8.08	.83	1.00	1.00
	4080	106.9	5.56	.82	1.00	1.00	102.6	6.28	.84	1.00	1.00	98.2	7.12	.88	1.00	1.00	93.1	8.08	.91	1.00	1.00
67°F	2720	104.3	5.56	.55	.68	.81	99.6	6.28	.56	.69	.84	94.7	7.11	.57	.71	.87	89.3	8.08	.59	.73	.91
	3400	108.8	5.57	.59	.74	.91	103.8	6.29	.60	.76	.94	98.5	7.12	.61	.78	.97	92.7	8.08	.62	.81	1.00
	4080	112.0	5.58	.62	.80	.99	106.6	6.30	.63	.82	1.00	101.2	7.12	.65	.85	1.00	95.2	8.08	.66	.89	1.00
71°F	2720	109.6	5.57	.42	.54	.66	104.7	6.29	.43	.55	.67	99.7	7.12	.43	.56	.69	94.1	8.08	.43	.58	.71
	3400	114.3	5.59	.43	.58	.72	109.2	6.30	.44	.59	.74	103.6	7.12	.45	.60	.76	97.4	8.08	.45	.61	.78
	4080	117.8	5.60	.45	.61	.77	112.2	6.31	.45	.62	.80	106.4	7.13	.46	.64	.83	100.0	8.08	.47	.66	.86

# RATINGS

NOTE – For Temperatures and Capacities not shown in tables, see bulletin – Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

## 10 TON HIGH EFFICIENCY LGH120H4M (1ST STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	2240	59	2.61	0.68	0.77	0.87	57	2.96	0.68	0.78	0.88	54.9	3.34	0.69	0.8	0.89	52.6	3.78	0.7	0.81	0.91
	2800	62.9	2.64	0.71	0.82	0.92	60.6	2.99	0.72	0.83	0.94	58.2	3.38	0.72	0.84	0.96	55.6	3.82	0.74	0.86	0.98
	3360	65.7	2.67	0.74	0.86	0.98	63.3	3.02	0.75	0.87	0.99	60.6	3.41	0.76	0.89	1	58	3.85	0.77	0.91	1
67°F	2240	62.5	2.64	0.55	0.65	0.74	60.5	2.99	0.56	0.65	0.75	58.2	3.38	0.56	0.67	0.76	55.8	3.82	0.56	0.67	0.77
	2800	66.2	2.67	0.57	0.68	0.79	64	3.03	0.57	0.69	0.8	61.4	3.42	0.58	0.7	0.81	58.9	3.86	0.58	0.71	0.83
	3360	69.3	2.7	0.58	0.71	0.83	66.8	3.06	0.59	0.72	0.84	64	3.45	0.6	0.73	0.86	61.1	3.88	0.6	0.75	0.88
71°F	2240	66.3	2.67	0.44	0.53	0.62	64	3.03	0.44	0.54	0.63	61.6	3.42	0.44	0.54	0.64	59.1	3.86	0.44	0.55	0.65
	2800	70.2	2.71	0.44	0.55	0.65	67.8	3.07	0.44	0.56	0.67	65.1	3.46	0.45	0.56	0.67	62.2	3.9	0.45	0.57	0.68
	3360	73.1	2.74	0.45	0.57	0.69	70.3	3.1	0.45	0.58	0.7	67.6	3.49	0.45	0.59	0.71	64.5	3.93	0.45	0.59	0.72

## 10 TON HIGH EFFICIENCY LGH120H4M (2ND STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	3200	118.3	7.09	.67	.83	1.00	113.1	8.00	.68	.86	1.00	107.4	9.04	.70	.89	1.00	101.4	10.23	.72	.93	1.00
	4000	123.7	7.16	.72	.94	1.00	118.2	8.07	.75	.97	1.00	112.2	9.11	.78	1.00	1.00	106.1	10.29	.81	1.00	1.00
	4800	127.9	7.21	.79	1.00	1.00	122.7	8.13	.82	1.00	1.00	116.9	9.17	.85	1.00	1.00	111.3	10.37	.90	1.00	1.00
67°F	3200	124.8	7.17	.53	.65	.79	119.2	8.08	.54	.66	.81	113.4	9.12	.54	.68	.84	106.8	10.30	.56	.70	.89
	4000	130.2	7.24	.56	.70	.90	124.4	8.16	.57	.72	.93	118.1	9.19	.58	.75	.97	111.1	10.36	.60	.78	1.00
	4800	134.2	7.29	.59	.77	.99	127.9	8.21	.61	.80	1.00	121.0	9.23	.62	.82	1.00	114.1	10.40	.64	.87	1.00
71°F	3200	131.6	7.26	.40	.52	.63	125.7	8.17	.41	.52	.64	119.6	9.21	.41	.53	.66	112.8	10.38	.41	.55	.68
	4000	136.6	7.33	.42	.55	.68	130.6	8.24	.42	.56	.70	123.7	9.27	.43	.58	.72	116.7	10.45	.43	.59	.75
	4800	140.5	7.38	.43	.58	.74	134.1	8.29	.44	.60	.77	127.3	9.32	.44	.62	.80	119.5	10.49	.45	.63	.84

## 12.5 TON STANDARD EFFICIENCY LGH150S4M (1ST STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	2560	68.1	3.12	0.63	0.73	0.83	63.3	3.50	0.62	0.73	0.84	58.5	3.93	0.61	0.73	0.85	53.3	4.42	0.60	0.74	0.87
	3200	74.0	3.15	0.66	0.78	0.90	69.0	3.54	0.66	0.79	0.91	63.6	3.97	0.66	0.79	0.93	58.1	4.46	0.65	0.80	0.96
	3840	78.3	3.18	0.69	0.83	0.95	73.0	3.57	0.69	0.83	0.97	67.4	4.00	0.70	0.85	1.00	61.5	4.49	0.70	0.87	1.00
67°F	2560	73.4	3.15	0.50	0.60	0.70	68.7	3.53	0.49	0.59	0.70	63.6	3.97	0.48	0.59	0.70	58.2	4.46	0.46	0.59	0.71
	3200	79.4	3.19	0.53	0.64	0.75	74.2	3.58	0.52	0.64	0.75	68.8	4.01	0.51	0.64	0.76	62.9	4.50	0.49	0.63	0.77
	3840	83.9	3.22	0.55	0.67	0.79	78.4	3.61	0.54	0.67	0.80	72.6	4.04	0.54	0.68	0.82	66.5	4.53	0.53	0.68	0.84
71°F	2560	79.2	3.19	0.40	0.49	0.58	74.2	3.58	0.38	0.48	0.57	69.0	4.01	0.36	0.47	0.57	63.4	4.50	0.34	0.45	0.57
	3200	85.1	3.22	0.41	0.52	0.62	79.8	3.62	0.39	0.51	0.62	74.2	4.06	0.38	0.50	0.62	68.2	4.55	0.36	0.49	0.61
	3840	89.5	3.26	0.42	0.54	0.65	83.6	3.65	0.41	0.53	0.65	77.7	4.09	0.40	0.53	0.66	71.4	4.58	0.38	0.52	0.66

## 12.5 TON STANDARD EFFICIENCY LGH150S4M (2ND STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	3800	139.7	8.40	0.69	0.85	1.00	127.4	9.42	0.70	0.87	1.00	114.8	10.59	0.71	0.90	1.00	101.5	11.94	0.72	0.94	1.00
	4400	145.4	8.45	0.73	0.90	1.00	132.9	9.47	0.74	0.93	1.00	119.8	10.64	0.76	0.97	1.00	106.2	11.99	0.79	1.00	1.00
	5000	150.3	8.49	0.77	0.96	1.00	137.4	9.52	0.79	0.99	1.00	124.4	10.69	0.81	1.00	1.00	111.7	12.05	0.84	1.00	1.00
67°F	3800	150.3	8.49	0.53	0.67	0.82	137.9	9.52	0.53	0.68	0.84	124.7	10.69	0.52	0.69	0.86	111.1	12.04	0.51	0.71	0.90
	4400	156.2	8.55	0.56	0.71	0.87	143.3	9.57	0.55	0.72	0.89	129.7	10.75	0.55	0.74	0.93	115.4	12.10	0.55	0.76	0.97
	5000	161.1	8.59	0.58	0.75	0.92	147.6	9.62	0.58	0.77	0.95	133.7	10.79	0.59	0.79	0.99	119.1	12.14	0.59	0.82	1.00
71°F	3800	161.9	8.60	0.39	0.53	0.66	148.7	9.63	0.38	0.52	0.66	135.1	10.80	0.36	0.52	0.67	120.8	12.15	0.34	0.51	0.68
	4400	167.4	8.65	0.41	0.55	0.69	153.9	9.68	0.39	0.55	0.70	139.8	10.85	0.38	0.54	0.72	124.9	12.20	0.36	0.55	0.74
	5000	171.9	8.70	0.42	0.57	0.73	158.0	9.73	0.41	0.58	0.75	143.5	10.90	0.39	0.58	0.77	128.5	12.24	0.37	0.59	0.80

# HUMIDITROL® DEHUMIDIFICATION SYSTEM RATINGS

## 7.5 TON HIGH EFFICIENCY LGH092H4 WITH HUMIDITROL® OPERATING (1ST STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	2400	26.1	1.9	.45	.63	.81	22.1	2.2	.33	.55	.77	18.0	2.4	.21	.47	.73	14.0	2.6	.09	.39	.69
	3000	30.8	1.9	.49	.69	.89	26.0	2.2	.36	.59	.82	21.2	2.4	.22	.48	.74	16.4	2.6	.09	.37	.66
	3600	35.5	1.9	.54	.76	.98	29.9	2.2	.39	.62	.86	24.3	2.4	.24	.49	.74	18.7	2.6	.09	.36	.63
67°F	2400	33.8	2.0	.32	.48	.64	29.1	2.2	.20	.39	.58	24.3	2.4	.07	.30	.52	19.5	2.7	-.05	.21	.46
	3000	38.0	2.0	.35	.52	.70	32.8	2.2	.20	.41	.62	27.6	2.4	.06	.30	.54	22.4	2.7	-.08	.19	.47
	3600	42.1	2.0	.37	.56	.75	36.5	2.2	.21	.44	.66	30.9	2.4	.05	.31	.56	25.4	2.7	-.10	.18	.47
71°F	2400	41.6	2.0	.19	.33	.47	37.0	2.2	.07	.23	.39	30.5	2.5	-.06	.12	.31	25.0	2.7	-.19	.02	.23
	3000	45.1	2.0	.20	.35	.50	39.6	2.2	.05	.24	.42	34.1	2.5	-.10	.12	.35	28.5	2.7	-.24	.01	.27
	3600	48.7	2.0	.20	.37	.53	43.1	2.2	.03	.25	.46	41.5	2.5	-.13	.13	.39	32.0	2.7	-.30	.01	.31

## 7.5 TON HIGH EFFICIENCY LGH092H4 WITH HUMIDITROL® OPERATING (2ND STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	2400	75.3	4.0	.63	.76	.89	68.2	4.5	.62	.78	.92	61.2	5.0	.61	.80	.96	54.1	5.5	.60	.82	1.00
	3000	78.8	4.0	.68	.81	.94	71.2	4.5	.68	.82	.96	63.5	5.0	.67	.83	.98	55.9	5.5	.67	.83	1.00
	3600	82.3	4.0	.73	.90	1.00	74.1	4.5	.73	.90	1.00	65.9	5.0	.73	.89	1.00	57.7	5.5	.74	.88	1.00
67°F	2400	84.0	4.0	.48	.61	.73	78.0	4.5	.46	.60	.75	72.0	5.0	.43	.60	.76	66.1	5.5	.41	.60	.77
	3000	88.6	4.0	.51	.65	.79	81.7	4.5	.49	.64	.79	74.8	5.1	.47	.63	.80	68.0	5.6	.45	.63	.81
	3600	93.3	4.1	.53	.71	.84	85.5	4.6	.52	.69	.84	77.6	5.1	.50	.68	.84	69.8	5.6	.49	.67	.84
71°F	2400	92.7	4.1	.33	.45	.58	87.8	4.6	.29	.43	.57	82.9	5.1	.25	.40	.55	78.0	5.6	.22	.38	.54
	3000	98.5	4.1	.34	.48	.63	92.3	4.6	.30	.46	.62	86.2	5.1	.26	.44	.62	80.0	5.6	.22	.42	.61
	3600	104.2	4.1	.34	.51	.68	96.8	4.6	.30	.49	.68	89.4	5.1	.27	.48	.68	82.0	5.6	.23	.46	.68

## 8.5 TON HIGH EFFICIENCY LGH102H4 WITH HUMIDITROL® OPERATING (1ST STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	2720	34.2	2.1	.47	.57	.67	28.5	2.3	.34	.51	.68	22.7	2.6	.22	.45	.68	17.0	2.9	.09	.39	.69
	3400	39.1	2.1	.49	.64	.78	32.4	2.3	.37	.58	.80	25.8	2.6	.24	.53	.82	19.1	2.8	.12	.48	.84
	4080	44.0	2.1	.51	.70	.89	36.4	2.3	.39	.66	.93	28.9	2.6	.26	.62	.96	21.3	2.8	.14	.57	1.00
67°F	2720	42.5	2.1	.33	.44	.55	37.8	2.4	.19	.36	.52	33.2	2.6	.06	.27	.48	28.5	2.9	-.07	.19	.45
	3400	47.0	2.1	.33	.48	.62	41.5	2.4	.20	.40	.60	31.8	2.6	.06	.32	.57	30.5	2.9	-.07	.24	.55
	4080	51.5	2.1	.34	.52	.70	45.1	2.4	.20	.44	.68	38.8	2.6	.06	.36	.66	32.4	2.9	-.08	.29	.65
71°F	2720	50.7	2.1	.18	.31	.44	47.2	2.4	.05	.20	.36	43.6	2.7	-.09	.10	.29	40.1	2.9	-.23	-.01	.21
	3400	54.9	2.2	.18	.32	.47	50.5	2.4	.03	.21	.40	46.2	2.7	-.12	.11	.33	41.8	2.9	-.26	.00	.25
	4080	59.0	2.2	.17	.34	.50	51.8	2.4	.02	.23	.44	48.7	2.7	-.14	.11	.37	43.5	2.9	-.29	.00	.30

## 8.5 TON HIGH EFFICIENCY LGH102H4 WITH HUMIDITROL® OPERATING (2ND STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	2720	85.3	4.3	.64	.81	.97	77.9	4.9	.63	.82	1.00	70.5	5.5	.62	.84	1.00	63.1	6.0	.60	.86	1.00
	3400	89.2	4.3	.69	.84	.98	81.7	4.9	.69	.84	1.00	74.2	5.5	.68	.84	1.00	66.7	6.0	.68	.84	1.00
	4080	93.1	4.4	.75	.87	.99	85.5	4.9	.75	.88	1.00	77.8	5.5	.75	.89	1.00	70.2	6.0	.76	.90	1.00
67°F	2720	100.8	4.4	.48	.63	.77	93.3	5.0	.45	.62	.77	85.9	5.5	.43	.62	.77	78.5	6.1	.40	.62	.78
	3400	104.5	4.4	.51	.66	.80	97.8	5.0	.49	.65	.80	89.2	5.5	.46	.64	.81	81.5	6.1	.44	.62	.81
	4080	108.2	4.4	.54	.69	.83	100.3	5.0	.52	.68	.84	92.4	5.5	.50	.68	.84	84.6	6.1	.48	.67	.84
71°F	2720	116.2	4.4	.32	.45	.58	112.6	5.0	.28	.42	.57	101.3	5.6	.24	.40	.56	93.8	6.2	.20	.37	.55
	3400	119.7	4.5	.33	.48	.63	115.2	5.0	.29	.45	.62	104.1	5.6	.24	.43	.62	96.4	6.2	.20	.41	.62
	4080	123.2	4.5	.34	.51	.68	118.1	5.1	.29	.49	.68	107.0	5.6	.25	.46	.68	98.9	6.2	.20	.44	.68

# HUMIDITROL® DEHUMIDIFICATION SYSTEM RATINGS

## 10 TON HIGH EFFICIENCY LGH120H4 WITH HUMIDITROL® OPERATING (1ST STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	3200	49.5	2.6	.48	.70	.92	42.3	2.9	.39	.66	.94	35.1	3.2	.22	.60	.98	27.9	3.5	.01	.46	1.00
	4000	59.0	2.6	.56	.82	1.00	49.1	2.9	.45	.81	1.00	39.1	3.2	.31	.80	.93	29.2	3.5	-.01	.77	.97
	4800	68.6	2.6	.62	.92	1.00	55.9	2.9	.56	.96	1.00	43.2	3.2	.41	1.00	1.00	30.5	3.5	-.02	.97	.80
67°F	3200	61.2	2.7	.30	.49	.66	52.4	3.0	.20	.41	.64	43.5	3.3	.01	.30	.59	34.7	3.6	-.06	.08	.50
	4000	68.2	2.7	.34	.55	.77	57.7	3.0	.23	.49	.75	47.1	3.3	.05	.38	.75	36.5	3.6	-.12	.15	.72
	4800	75.2	2.7	.37	.62	.87	62.9	3.0	.26	.57	.89	50.7	3.3	.06	.50	.92	38.4	3.6	-.18	.28	.98
71°F	3200	73.0	2.7	.17	.32	.48	62.5	3.0	.06	.24	.42	52.0	3.3	-.12	.11	.34	41.5	3.6	-.13	.03	.19
	4000	77.4	2.7	.17	.35	.54	66.2	3.0	.05	.28	.50	55.1	3.3	-.14	.15	.42	43.9	3.6	-.23	-.04	.28
	4800	81.9	2.8	.19	.39	.61	70.0	3.1	.06	.31	.57	58.1	3.4	-.16	.18	.51	46.3	3.7	-.34	-.09	.40

## 10 TON HIGH EFFICIENCY LGH120H4 WITH HUMIDITROL® OPERATING (2ND STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	3200	104.7	5.4	.61	.73	.86	95.0	6.1	.58	.75	.91	85.3	6.8	.56	.76	.95	75.5	7.5	.53	.77	1.00
	4000	114.8	5.5	.63	.78	.93	103.4	6.2	.62	.78	.95	91.9	6.8	.60	.79	.98	80.5	7.5	.59	.79	1.00
	4800	125.0	5.5	.65	.82	.99	111.8	6.2	.65	.82	1.00	98.6	6.9	.65	.82	1.00	85.4	7.5	.64	.82	1.00
67°F	3200	118.9	5.5	.45	.57	.69	108.5	6.2	.42	.57	.71	98.1	6.9	.39	.56	.73	87.7	7.6	.36	.56	.74
	4000	128.7	5.6	.47	.60	.74	117.3	6.3	.44	.59	.75	105.9	6.9	.42	.59	.75	94.5	7.6	.39	.58	.76
	4800	138.4	5.6	.48	.64	.79	126.1	6.3	.46	.62	.79	113.8	7.0	.44	.61	.78	101.4	7.6	.42	.60	.78
71°F	3200	133.1	5.6	.29	.41	.53	122.0	6.3	.26	.39	.51	110.9	7.0	.23	.36	.50	99.8	7.7	.20	.34	.49
	4000	142.5	5.7	.30	.43	.56	131.2	6.4	.27	.41	.55	119.9	7.1	.23	.38	.53	108.6	7.7	.19	.36	.52
	4800	151.9	5.8	.31	.45	.59	140.4	6.4	.27	.42	.58	128.9	7.1	.23	.40	.57	117.5	7.7	.19	.37	.56

## 12.5 TON STANDARD EFFICIENCY LGH150S4 WITH HUMIDITROL® OPERATING (1ST STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	3800	55.2	3.4	.48	.70	.91	45.8	3.8	.40	.67	.94	36.4	4.1	.25	.61	.97	27.0	4.5	.33	.51	.99
	4400	58.2	3.5	.53	.77	1.00	47.9	3.8	.45	.76	1.00	37.6	4.1	.31	.73	1.00	27.3	4.5	.22	.69	1.00
	5000	61.2	3.5	.57	.84	1.00	50.0	3.8	.50	.85	1.00	38.8	4.1	.33	.73	.90	27.6	4.5	.10	.89	1.00
67°F	3800	63.7	3.5	.29	.48	.66	53.8	3.9	.20	.41	.63	44.0	4.2	.04	.32	.59	34.1	4.6	.03	.12	.52
	4400	66.6	3.6	.32	.51	.73	56.1	3.9	.21	.46	.72	45.7	4.2	.05	.36	.68	35.3	4.6	-.04	.19	.65
	5000	69.4	3.6	.33	.55	.79	58.4	3.9	.24	.51	.79	47.4	4.2	.08	.42	.79	36.4	4.6	-.10	.25	.60
71°F	3800	72.2	3.6	.15	.31	.47	61.9	4.0	.05	.23	.42	51.6	4.3	-.10	.12	.35	41.3	4.6	-.28	-.07	.22
	4400	74.9	3.7	.16	.33	.51	64.4	4.0	.05	.25	.45	53.8	4.3	-.11	.14	.39	43.3	4.7	-.29	-.06	.27
	5000	77.7	3.7	.16	.35	.55	66.9	4.0	.05	.28	.51	56.1	4.4	-.12	.16	.45	45.3	4.7	-.30	-.04	.33

## 12.5 TON STANDARD EFFICIENCY LGH150S4 WITH HUMIDITROL® OPERATING (2ND STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	3800	122.7	7.3	.63	.79	.96	110.6	8.0	.62	.80	.99	98.6	8.8	.61	.81	1.00	86.5	9.6	.60	.82	1.00
	4400	127.4	7.3	.66	.82	.97	114.4	8.1	.65	.83	1.00	101.4	8.8	.65	.84	1.00	88.4	9.6	.64	.85	1.00
	5000	132.1	7.3	.69	.84	.99	118.2	8.1	.69	.86	1.00	104.2	8.9	.69	.87	1.00	90.3	9.6	.69	.88	1.00
67°F	3800	137.7	7.5	.47	.62	.76	124.7	8.2	.44	.61	.78	111.8	9.0	.42	.60	.79	98.8	9.8	.39	.60	.80
	4400	142.5	7.5	.49	.64	.79	128.7	8.3	.46	.63	.80	115.0	9.0	.44	.63	.81	101.3	9.8	.42	.62	.83
	5000	147.2	7.6	.50	.66	.81	132.7	8.3	.48	.65	.82	118.2	9.1	.46	.65	.84	103.7	9.8	.44	.65	.85
71°F	3800	152.7	7.7	.31	.44	.57	138.8	8.4	.27	.42	.56	125.0	9.2	.23	.39	.55	111.1	10.0	.19	.37	.55
	4400	157.5	7.7	.31	.46	.60	143.1	8.5	.27	.43	.60	128.6	9.2	.23	.41	.59	114.2	10.0	.19	.39	.59
	5000	162.4	7.8	.31	.47	.63	147.3	8.5	.27	.45	.63	132.2	9.3	.23	.43	.63	117.2	10.0	.19	.41	.63

## BLOWER DATA

### 092 AND 102 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 33 for blower motors and drives. See page 33 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
1750	481	0.21	549	0.4	618	0.57	688	0.7	758	0.82	824	0.93	885	1.08	941	1.23	991	1.39	1038	1.54	1082	1.68	1124	1.82	1166	1.95	
2000	493	0.29	561	0.47	629	0.64	700	0.77	768	0.9	832	1.02	892	1.17	946	1.33	995	1.49	1041	1.66	1085	1.81	1126	1.97	1167	2.12	
2250	507	0.37	574	0.56	643	0.72	712	0.86	779	0.99	842	1.13	900	1.28	953	1.44	1001	1.61	1045	1.78	1088	1.95	1128	2.12	1168	2.3	
2500	521	0.46	588	0.64	657	0.81	727	0.95	792	1.09	853	1.24	909	1.4	960	1.57	1007	1.74	1050	1.93	1091	2.11	1130	2.29	1170	2.48	
2750	537	0.56	604	0.74	674	0.91	743	1.06	806	1.21	865	1.36	920	1.53	969	1.71	1014	1.89	1055	2.08	1095	2.27	1133	2.47	1172	2.66	
3000	554	0.67	622	0.86	692	1.02	760	1.18	822	1.34	878	1.5	931	1.68	979	1.86	1021	2.06	1061	2.26	1099	2.46	1136	2.65	1174	2.85	
3250	572	0.78	641	0.98	712	1.15	778	1.32	838	1.49	892	1.66	943	1.84	989	2.03	1030	2.24	1068	2.45	1105	2.65	1141	2.85	1178	3.06	
3500	592	0.9	663	1.12	733	1.3	798	1.47	855	1.65	907	1.83	956	2.02	1000	2.22	1039	2.44	1076	2.65	1111	2.86	1146	3.07	1183	3.27	
3750	614	1.04	687	1.28	756	1.47	818	1.65	872	1.83	923	2.02	970	2.22	1011	2.43	1049	2.65	1084	2.87	1118	3.09	1152	3.29	1189	3.51	
4000	639	1.22	713	1.48	780	1.66	838	1.83	890	2.02	939	2.22	984	2.44	1023	2.66	1059	2.89	1093	3.11	1126	3.33	1160	3.54	1197	3.77	
4250	667	1.43	741	1.69	805	1.86	859	2.02	909	2.22	956	2.45	998	2.68	1036	2.92	1070	3.15	1103	3.37	1135	3.59	1169	3.81	1207	4.05	

## BLOWER DATA

### 120 AND 150 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 33 for blower motors and drives. See page 33 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	497	0.25	558	0.44	624	0.6	694	0.74	764	0.85	830	0.99	889	1.16	943	1.34	994	1.52	1045	1.71	1096	1.89	1146	2.08	1197	2.27	
2250	511	0.34	573	0.52	638	0.68	708	0.82	776	0.94	839	1.09	896	1.26	948	1.45	998	1.64	1048	1.83	1098	2.01	1149	2.2	1200	2.4	
2500	527	0.44	589	0.62	654	0.78	723	0.91	789	1.05	850	1.21	904	1.39	955	1.58	1003	1.77	1052	1.96	1101	2.14	1152	2.33	1203	2.53	
2750	545	0.55	606	0.72	672	0.88	740	1.03	804	1.17	861	1.34	914	1.53	962	1.72	1010	1.92	1057	2.10	1105	2.29	1154	2.47	1206	2.68	
3000	564	0.66	626	0.84	692	1.01	759	1.16	819	1.32	874	1.49	924	1.68	971	1.88	1017	2.08	1063	2.26	1110	2.44	1158	2.63	1208	2.83	
3250	585	0.79	648	0.98	714	1.14	778	1.31	836	1.48	887	1.66	935	1.86	981	2.06	1026	2.26	1071	2.45	1117	2.63	1163	2.80	1213	3.00	
3500	607	0.93	672	1.13	737	1.31	798	1.48	852	1.66	901	1.85	948	2.05	993	2.26	1037	2.46	1081	2.65	1125	2.83	1171	3.01	1221	3.21	
3750	632	1.10	698	1.31	762	1.50	819	1.67	869	1.86	915	2.05	961	2.25	1005	2.47	1049	2.68	1092	2.88	1136	3.05	1181	3.24	1231	3.45	
4000	660	1.30	726	1.52	787	1.70	838	1.87	885	2.06	930	2.26	974	2.48	1018	2.71	1062	2.93	1105	3.12	1149	3.30	1194	3.49	1245	3.72	
4250	691	1.53	755	1.75	810	1.91	857	2.07	901	2.27	945	2.50	990	2.74	1034	2.98	1077	3.20	1120	3.39	1163	3.58	1210	3.79	1262	4.03	
4500	724	1.78	783	1.98	831	2.12	874	2.28	917	2.50	962	2.75	1006	3.02	1051	3.27	1094	3.49	1137	3.70	1181	3.89	1228	4.11	1281	4.38	
4750	757	2.05	809	2.20	851	2.33	891	2.51	935	2.76	980	3.05	1025	3.33	1070	3.59	1113	3.82	1156	4.03	1201	4.24	1249	4.47	1303	4.75	
5000	787	2.31	831	2.43	870	2.57	910	2.78	954	3.06	1000	3.38	1046	3.68	1091	3.95	1135	4.19	1178	4.40	1224	4.62	1272	4.86	1325	5.13	
5250	814	2.55	852	2.66	889	2.83	930	3.09	975	3.41	1023	3.76	1070	4.08	1115	4.35	1159	4.59	1203	4.81	1248	5.03	1297	5.27	1350	5.53	
5500	835	2.78	871	2.91	909	3.13	952	3.44	999	3.81	1049	4.18	1096	4.51	1142	4.79	1186	5.03	1229	5.24	1275	5.46	1324	5.69	---	---	
5750	854	3.01	890	3.19	930	3.48	977	3.86	1027	4.27	1078	4.66	1126	4.99	1171	5.26	1214	5.49	1258	5.70	---	---	---	---	---	---	
6000	871	3.26	910	3.53	955	3.90	1006	4.34	1060	4.80	1111	5.19	1158	5.51	---	---	---	---	---	---	---	---	---	---	---	---	
6250	890	3.57	934	3.94	985	4.41	1041	4.91	1096	5.38	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	



## BLOWER DATA

### FACTORY INSTALLED BELT DRIVE KIT SPECIFICATIONS

Motor Efficiency	Nominal hp	Maximum hp	Drive Kit Number	RPM Range
Standard & High	2	2.3	1	590 - 890
Standard & High	2	2.3	2	800 - 1105
Standard & High	2	2.3	3	795 - 1195
Standard	3	3.45	4	730 - 970
Standard	3	3.45	5	940 - 1200
Standard	3	3.45	6	1015 - 1300
High	3	3.45	7	730 - 970
High	3	3.45	8	940 - 1200
High	3	3.45	9	1015 - 1300
Standard	5	5.75	10	900 - 1135
Standard	5	5.75	11	1040 - 1315
Standard	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 in. w.g.	Air Volume Exhausted cfm
0	3175
0.05	2955
0.10	2685
0.15	2410
0.20	2165
0.25	1920
0.30	1420
0.35	1200

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

Air Volume cfm	Wet Indoor Coil		Gas Heat Exchanger			Economizer	Humiditrol Condenser Reheat Coil	Filters		Return Air Adaptor Plate
			Standard Heat	Medium heat	High Heat			MERV 8	MERV 13	
	092, 102	120, 150								
1750	0.04	0.04	0.06	0.02	0.02	0.05	0.02	0.01	0.03	0.00
2000	0.05	0.05	0.07	0.05	0.06	0.06	0.02	0.01	0.03	0.00
2250	0.06	0.06	0.07	0.07	0.08	0.08	0.02	0.01	0.04	0.00
2500	0.07	0.07	0.09	0.10	0.11	0.11	0.03	0.01	0.05	0.00
2750	0.08	0.08	0.09	0.11	0.12	0.12	0.03	0.02	0.05	0.00
3000	0.10	0.09	0.11	0.12	0.13	0.13	0.03	0.02	0.06	0.02
3250	0.11	0.10	0.12	0.15	0.16	0.15	0.04	0.02	0.06	0.02
3500	0.12	0.11	0.12	0.16	0.17	0.15	0.04	0.03	0.07	0.04
3750	0.14	0.13	0.14	0.19	0.20	0.15	0.05	0.03	0.08	0.07
4000	0.15	0.14	0.14	0.21	0.22	0.19	0.05	0.04	0.08	0.09
4250	0.17	0.15	0.14	0.24	0.28	0.19	0.06	0.04	0.09	0.11
4500	0.19	0.17	0.15	0.26	0.32	0.22	0.07	0.04	0.09	0.12
4750	0.20	0.18	0.16	0.29	0.37	0.25	0.07	0.05	0.10	0.16
5000	0.22	0.20	0.16	0.34	0.43	0.29	0.08	0.06	0.10	0.18
5250	0.24	0.22	0.16	0.37	0.47	0.32	0.08	0.06	0.11	0.19
5500	0.25	0.23	0.18	0.44	0.54	0.34	0.09	0.07	0.12	0.22
5750	0.27	0.25	0.19	0.49	0.59	0.45	0.10	0.07	0.12	0.25
6000	0.29	0.27	0.20	0.54	0.64	0.52	0.10	0.08	0.13	0.27

## 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 & 120 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
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	<sup>1</sup> 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

<sup>1</sup> 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 HIGH EFFICIENCY (R-410A)

LGHO92H4

<sup>1</sup> Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	11.6			5.5			4.7		
	Locked Rotor Amps	86			37			34		
Compressor 2	Rated Load Amps	11.6			5.5			4.7		
	Locked Rotor Amps	86			37			34		
Outdoor Fan Motors (2)	Full Load Amps	2.4			1.3			1		
	(total)	(4.8)			(2.6)			(2)		
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4			1.3			1		
Service Outlet 115V GFI (amps)		15			15			20		
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
<sup>2</sup> Maximum Overcurrent Protection	Unit Only	45	50	60	20	25	30	20	20	25
	With (1) 0.33 HP Power Exhaust	50	50	60	25	25	30	20	20	25
<sup>3</sup> Minimum Circuit Ampacity	Unit Only	39	42	49	19	20	24	16	17	20
	With (1) 0.33 HP Power Exhaust	41	44	52	20	22	25	17	18	21

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

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.

<sup>2</sup> HACR type breaker or fuse.

<sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

### 8.5 TON HIGH EFFICIENCY (R-410A)

LGHI02H4

<sup>1</sup> Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	11			5.5			4.7		
	Locked Rotor Amps	86			37			34		
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		
	(total)	(4.8)			(2.6)			(2)		
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4			1.3			1		
Service Outlet 115V GFI (amps)		15			15			20		
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
<sup>2</sup> Maximum Overcurrent Protection	Unit Only	45	50	60	20	25	30	20	20	25
	With (1) 0.33 HP Power Exhaust	50	50	60	25	25	30	20	20	25
<sup>3</sup> Minimum Circuit Ampacity	Unit Only	38	41	48	19	20	24	16	17	20
	With (1) 0.33 HP Power Exhaust	40	43	51	20	22	25	17	18	21

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

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.

<sup>2</sup> HACR type breaker or fuse.

<sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

## ELECTRICAL DATA

### 10 TON HIGH EFFICIENCY (R-410A)

### LGHI20H4

<sup>1</sup> 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		
	(total)	(4.8)			(2.6)			(2)		
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4			1.3			1		
Service Outlet 115V GFI (amps)		15			15			20		
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
<sup>2</sup> Maximum Overcurrent Protection	Unit Only	50	50	60	30	30	35	20	20	25
	With (1) 0.33 HP Power Exhaust	50	60	70	30	30	35	20	20	25
<sup>3</sup> Minimum Circuit Ampacity	Unit Only	43	46	53	24	26	29	16	18	20
	With (1) 0.33 HP Power Exhaust	46	49	56	26	27	30	17	19	21

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

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.

<sup>2</sup> HACR type breaker or fuse.

<sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

### 12.5 TON STANDARD EFFICIENCY (R-410A)

### LGHI50S4

<sup>1</sup> 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			1.5			1.2		
	(total)	(6)			(3)			(2.4)		
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4			1.3			1		
Service Outlet 115V GFI (amps)		15			15			20		
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
<sup>2</sup> Maximum Overcurrent Protection	Unit Only	70	80	80	30	30	35	25	25	25
	With (1) 0.33 HP Power Exhaust	70	80	80	30	35	35	25	25	30
<sup>3</sup> Minimum Circuit Ampacity	Unit Only	58	61	67	25	27	30	20	22	24
	With (1) 0.33 HP Power Exhaust	60	64	70	27	28	31	21	23	25

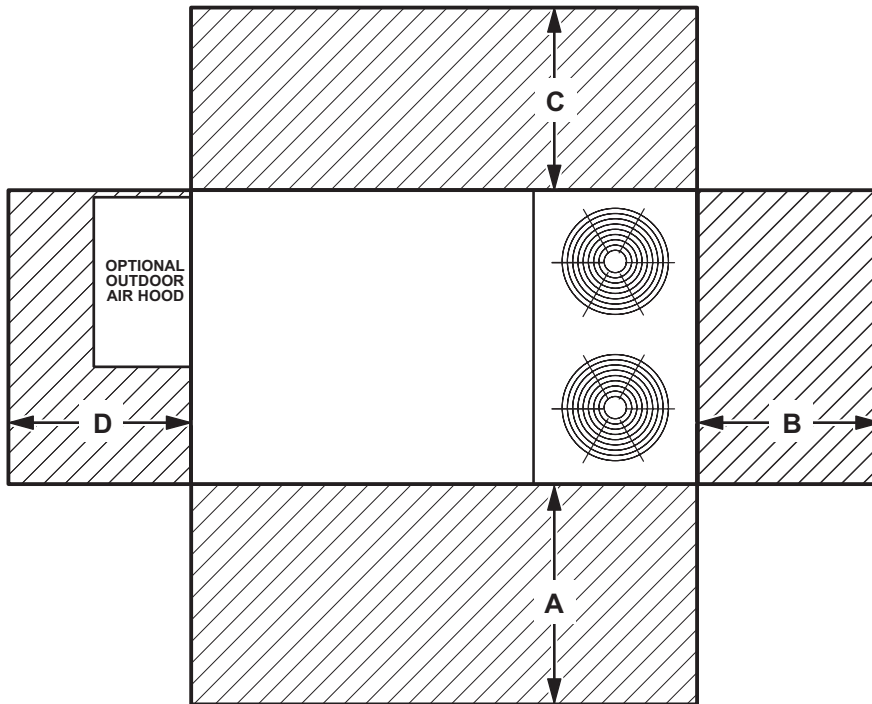
NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.

<sup>2</sup> HACR type breaker or fuse.

<sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

## UNIT CLEARANCES - INCHES (MM)



<sup>1</sup> Unit Clearance	A		B		C		D		Top Clearance
	in.	mm	in.	mm	in.	mm	in.	mm	
<b>Service Clearance</b>	60	1524	36	914	36	934	60	1524	Unobstructed
<b>Clearance to Combustibles</b>	36	914	1	25	1	25	1	25	
<b>Minimum Operation Clearance</b>	36	914	36	914	36	914	36	914	

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

<sup>1</sup> Service Clearance - Required for removal of serviceable parts.

Clearance to Combustibles - Required clearance to combustible material.

Minimum Operation Clearance - Required clearance for proper unit operation.

## OUTDOOR SOUND DATA

Unit Model Number	Octave Band Linear Sound Power Levels dB, re 10 <sup>-12</sup> Watts - Center Frequency - Hz							<sup>1</sup> Sound Rating Number (SRN) (dBA)
	125	250	500	1000	2000	4000	8000	
092, 102 and 120	76	79	84	83	79	73	66	88
150	77	80	85	84	79	74	66	88

Note - The octave sound power data does not include tonal corrections.

<sup>1</sup> Sound Rating Number according to ARI Standard 270-95 or ARI Standard 370-2001 (includes pure tone penalty). "SRN" is the overall A-Weighted Sound Power Level, (LWA), dB (100 Hz to 10,000 Hz).

## OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

Item	Model No.	Catalog No.
<p><b>COMFORTSENSE® 7500 COMMERCIAL 7-DAY PROGRAMMABLE THERMOSTAT</b></p>  <ul style="list-style-type: none"> <li>• Four-Stage Heating / Two-Stage Cooling Universal Multi-Stage</li> <li>• Intuitive Touchscreen Interface</li> <li>• Remote Indoor Temperature Sensing with Averaging</li> <li>• Outside or Discharge Air Temperature Display</li> <li>• Full Seven-Day Programming</li> <li>• Four Time Periods Per Day</li> <li>• Occupancy Scheduling with Economizer Relay Control</li> <li>• Away Mode</li> <li>• Holiday Scheduling</li> <li>• Smooth Setback Recovery (SSR)</li> <li>• Performance Reports</li> <li>• Notifications/Reminders</li> <li>• Dehumidification/Humiditrol® Control for Split Systems and Rooftop Units</li> <li>• Economizer Relay Control</li> <li>• Backlit Display</li> <li>• Wallplate Furnished</li> </ul>	C0STAT06FF1L	<b>13H15</b>
<b>Optional Accessories</b>		
<sup>1</sup> Remote non-adjustable wall mount 20k temperature sensor	C0SNZN01AE2-	<b>47W36</b>
<sup>1</sup> Remote non-adjustable wall mount 10k temperature sensor	C0SNZN73AE1-	<b>47W37</b>
Remote non-adjustable discharge air (duct mount) temperature sensor	C0SNDC00AE1-	<b>19L22</b>
Outdoor temperature sensor	C0SNSR03AE1-	<b>X2658</b>
Locking cover (clear)	C0MISC15AE1-	<b>39P21</b>
<sup>1</sup> Remote 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		
<p><b>COMFORTSENSE® 3000 COMMERCIAL 5-2 DAY PROGRAMMABLE THERMOSTAT</b></p>  <ul style="list-style-type: none"> <li>• Two-Stage Heating / Two-Stage Cooling Conventional Systems</li> <li>• Intuitive Interface</li> <li>• 5-2 Day Programming</li> <li>• Program Hold</li> <li>• Remote Indoor Temperature Sensing</li> <li>• Smooth Setback Recovery (SSR)</li> <li>• Economizer Relay Control</li> <li>• Maintenance/Filter/Service Reminders</li> <li>• Backlit Display</li> <li>• Wallplate Furnished</li> <li>• Simple Up and Down Temperature Control.</li> </ul>	C0STAT05FF1L	<b>11Y05</b>
<b>Optional Accessories</b>		
Remote non-adjustable wall mount 10k averaging temperature sensor	C0SNZN73AE1-	<b>47W37</b>
Optional wall mounting plate	C0MISC17AE1-	<b>X2659</b>
<p><b>DIGITAL NON-PROGRAMMABLE THERMOSTAT</b></p>  <ul style="list-style-type: none"> <li>• One-Stage Heating / Cooling Conventional Systems</li> <li>• Intuitive Interface</li> <li>• Automatic Changeover</li> <li>• Backlit Display</li> <li>• Simple Up and Down Temperature Control.</li> </ul>	C0STAT12AE1L	<b>51M32</b>
<b>Optional Accessories</b>		
Outdoor temperature sensor	C0SNSR04AE1-	<b>X2658</b>
Optional wall mounting plate	C0MISC17AE1-	<b>X2659</b>

## WEIGHT DATA

Model Number	Outdoor Coil	Net		Shipping		Outdoor Coil	Net		Shipping	
		lbs.	kg	lbs.	kg		lbs.	kg		
092 Base Unit	Environ™	1088	494	1173	532	Fin/Tube	1168	530	1253	568
092 Max. Unit	Environ™	1239	562	1324	601	Fin/Tube	1319	598	1404	637
102 Base Unit	Environ™	1095	497	1180	535	Fin/Tube	1175	533	1260	572
102 Max. Unit	Environ™	1246	565	1331	604	Fin/Tube	1326	601	1411	640
120 Base Unit	Environ™	1130	513	1215	551	Fin/Tube	1210	549	1295	587
120 Max. Unit	Environ™	1281	581	1366	620	Fin/Tube	1361	617	1446	656
150 Base Unit	Environ™	1170	531	1255	569	Fin/Tube	1250	567	1335	606
150 Max. Unit	Environ™	1321	599	1406	638	Fin/Tube	1401	635	1486	674

## OPTIONS / ACCESSORIES

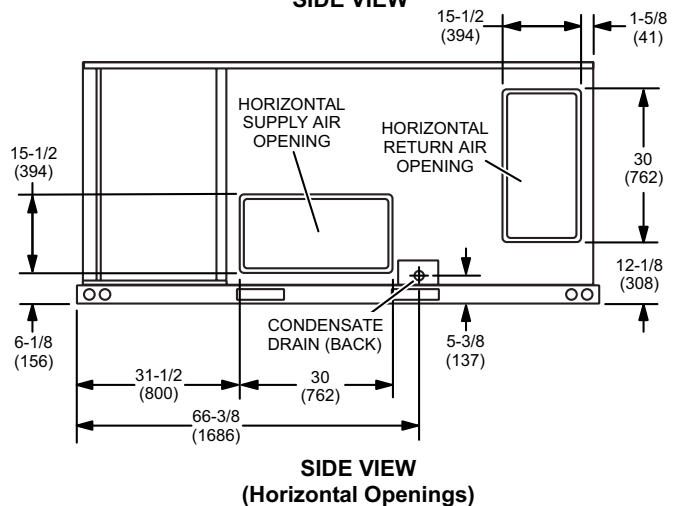
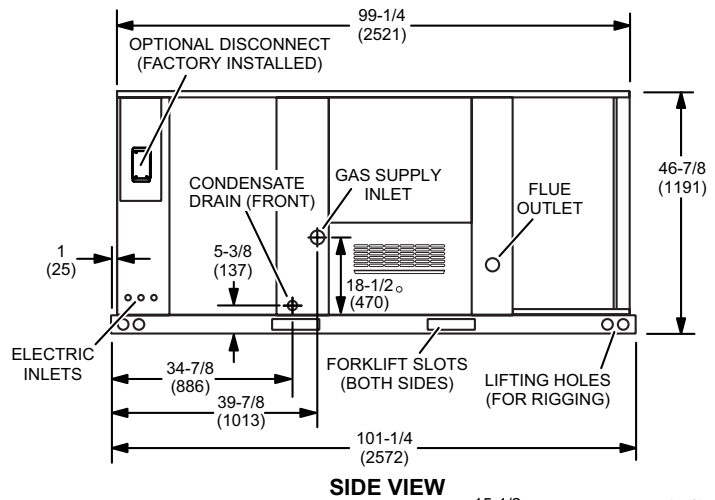
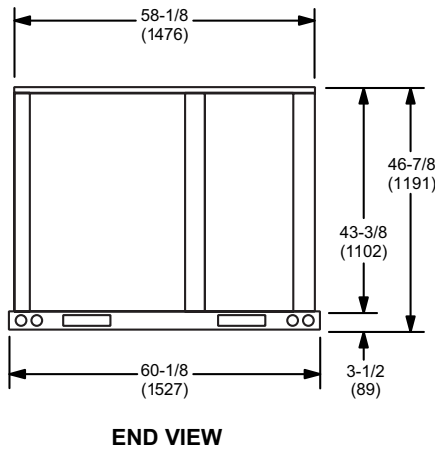
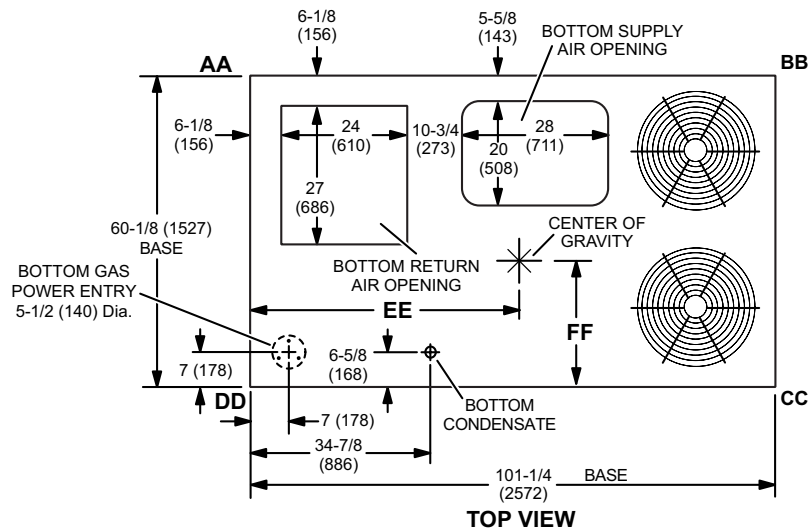
Model Number	Shipping Weight	
	lbs.	kg
<b>CONVENTIONAL FIN/TUBE CONDENSER COIL</b>		
Fin/Tube Condenser Coil	80	36
<b>ECONOMIZER / OUTDOOR AIR / EXHAUST</b>		
<b>Economizer</b>		
Economizer Dampers	60	27
Outdoor Air Hood (downflow)	23	10
Barometric Relief Dampers (downflow)	8	4
Barometric Relief Dampers (low profile horizontal)	20	9
<b>Outdoor Air Dampers</b>		
Outdoor Air Damper Section - Automatic	51	23
Outdoor Air Damper Section - Manual	39	18
<b>Power Exhaust</b>	31	14
<b>GAS HEAT EXCHANGER (NET WEIGHT)</b>		
Medium Heat (adder over standard heat)	9	5
High Heat (adder over standard heat)	32	15
<b>HUMIDITROL® DEHUMIDIFICATION SYSTEM</b>		
Humiditrol® Dehumification Option	20	9
<b>MSAV® (MULTI-STAGE AIR VOLUME) SUPPLY AIR BLOWER OPTION</b>		
Variable Frequency Drive (VFD) and associated components	10	5
<b>ROOF CURBS</b>		
<b>Hybrid Roof Curbs, Downflow</b>		
8 in. height	60	27
14 in. height	85	39
18 in. height	100	45
24 in. height	125	57
<b>Adjustable Pitch Curb, Downflow</b>		
14 in. height	191	82
<b>CEILING DIFFUSERS</b>		
<b>Step-Down</b>		
RTD11-95S	118	54
RTD11-135S	135	61
RTD11-185S	168	76
<b>Flush</b>		
FD11-95S	118	54
FD11-135S	135	61
FD11-185S	168	76
<b>Transitions</b>		
C1DIFF30B-1	30	14
C1DIFF31B-1	32	15
C1DIFF32B-1	36	16
<b>PACKAGING</b>		
LTL Packaging (less than truck load)	105	48

# DIMENSIONS - UNIT - INCHES (MM)

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
092	293	133	338	153	263	119	295	134	286	130	316	143	326	148	370	168	46.5	1181	45.5	1156	24.5	622	25.5	648
102	294	134	340	154	265	120	297	135	288	131	318	144	328	149	372	169	46.5	1181	45.5	1156	24.5	622	25.5	648
120	306	139	349	158	275	125	305	138	295	134	326	148	334	152	382	173	46.5	1181	45.5	1156	24.5	622	25.5	648
150	316	143	359	163	284	129	314	142	304	138	393	178	345	157	393	178	46.5	1181	45.5	1156	24.5	622	25.5	648

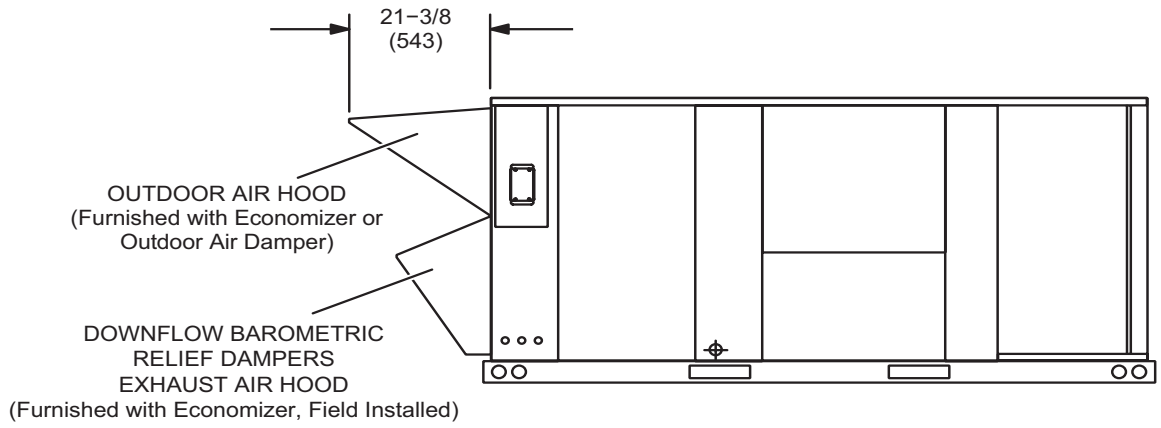
Base Unit - The unit with NO INTERNAL OPTIONS.

Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit or high static power exhaust.





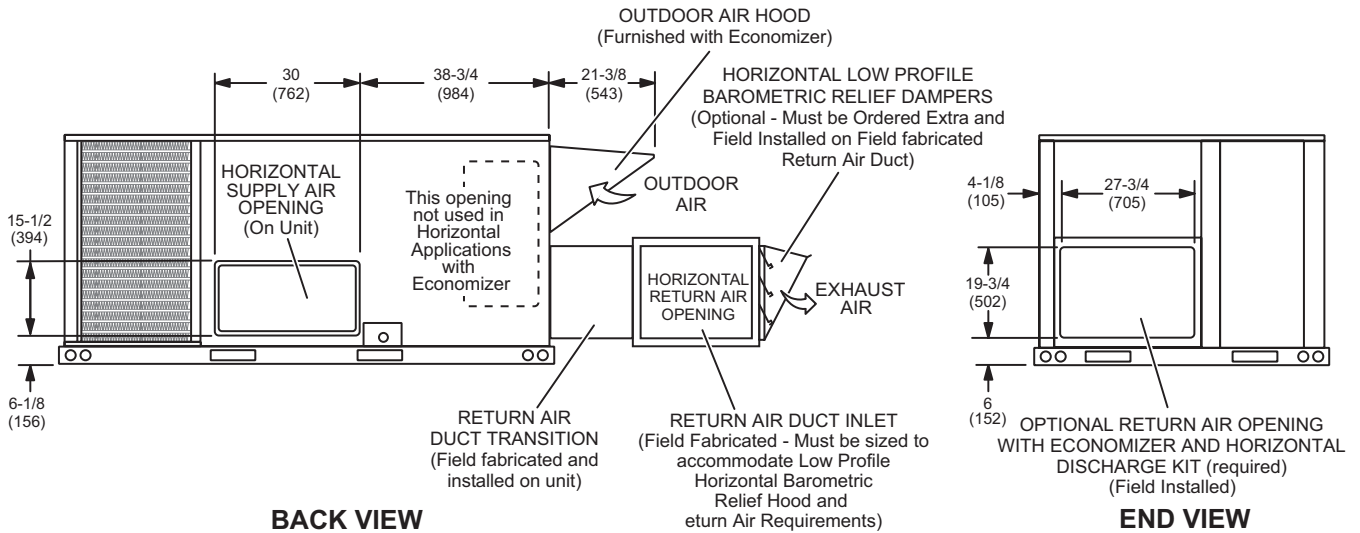
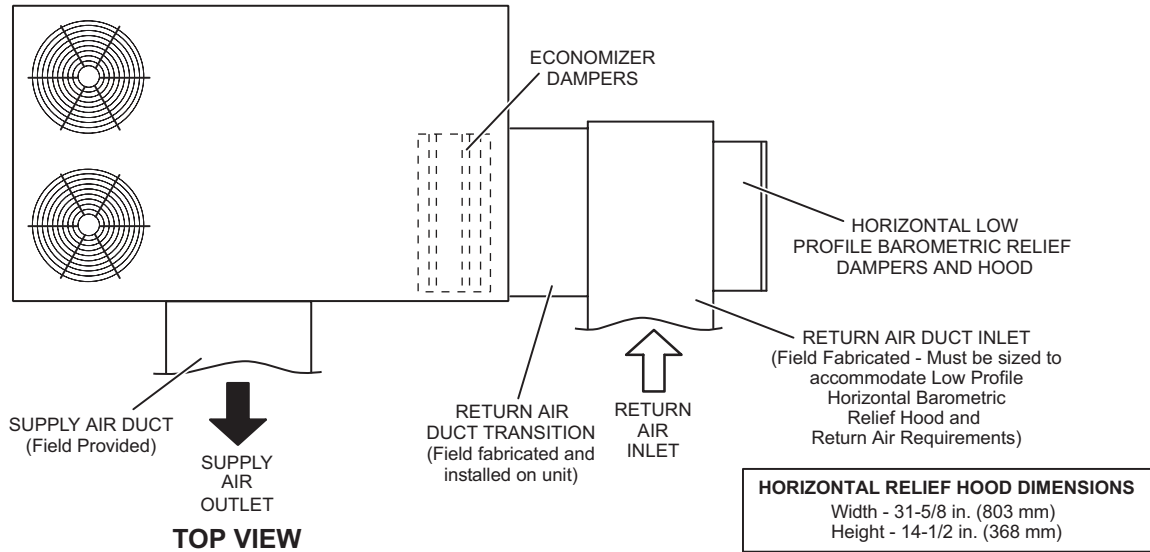
**OUTDOOR AIR HOOD DETAIL**



# DIMENSIONS - ACCESSORIES - INCHES (MM)

## HORIZONTAL ECONOMIZER APPLICATION

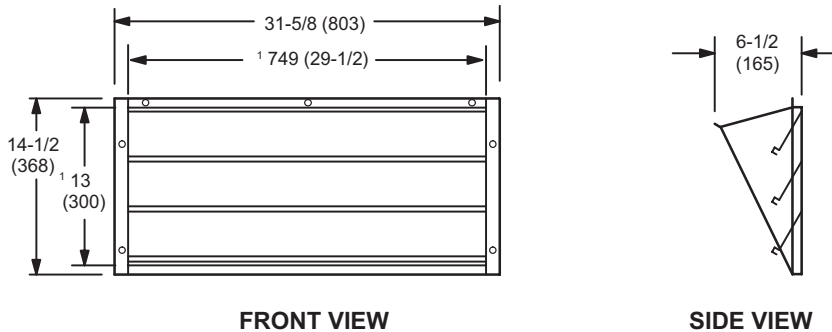
(with Optional Low Profile Horizontal Barometric Relief Dampers and Horizontal Discharge Kit - Required)



NOTE - Return Air Duct and Transition must be supported.

## HORIZONTAL LOW PROFILE BAROMETRIC RELIEF DAMPERS

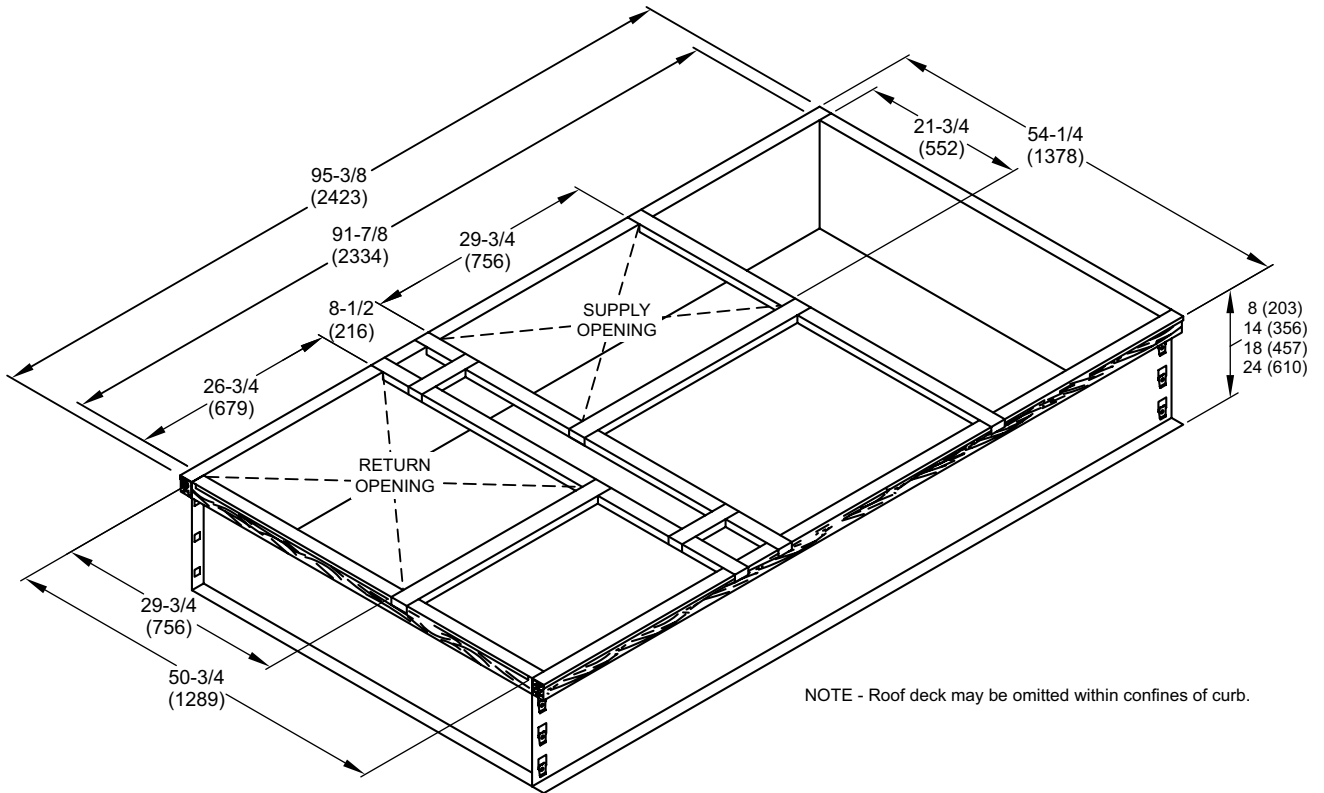
(Field installed in horizontal return air duct adjacent to unit)



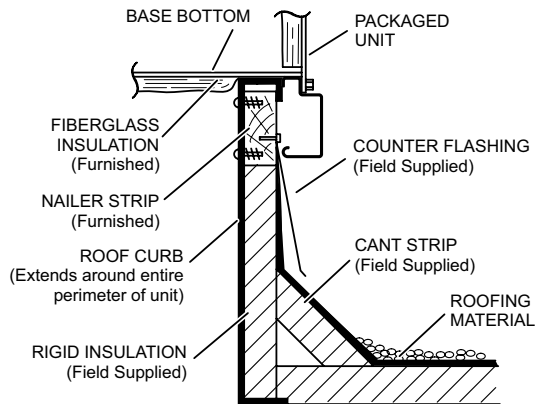
<sup>1</sup> NOTE - Opening size required in return air duct.

# DIMENSIONS - ACCESSORIES - INCHES (MM)

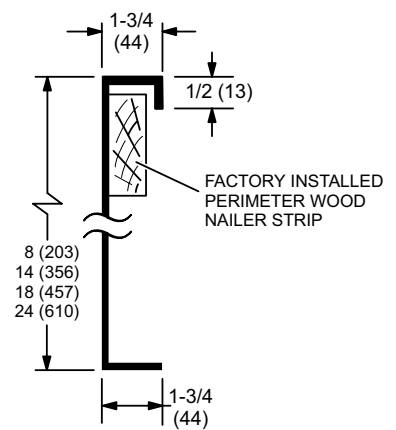
## HYBRID ROOF CURBS - DOUBLE DUCT OPENING



### TYPICAL FLASHING DETAIL FOR ROOF CURB

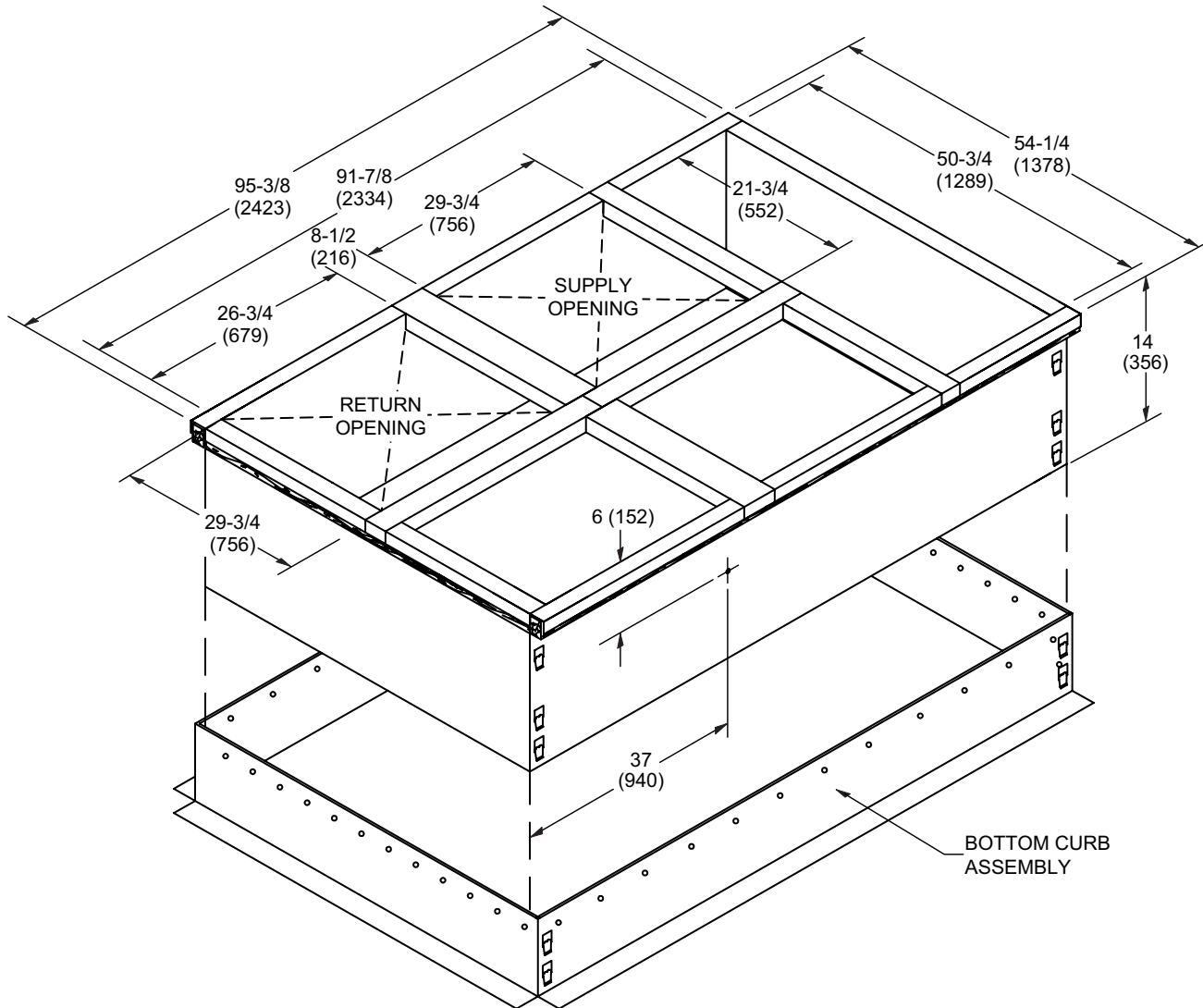


### DETAIL ROOF CURB



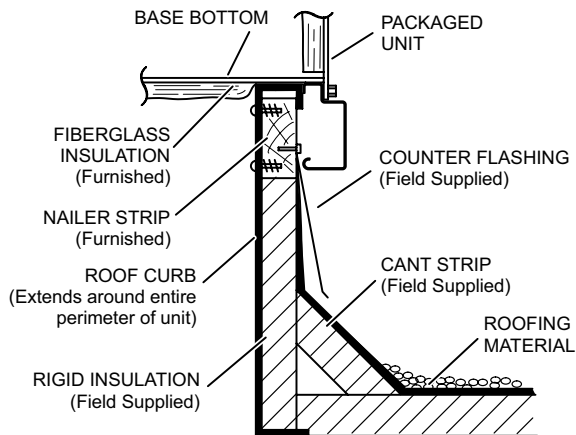
# DIMENSIONS - ACCESSORIES - INCHES (MM)

## ADJUSTABLE PITCH CURBS - DOUBLE DUCT OPENING

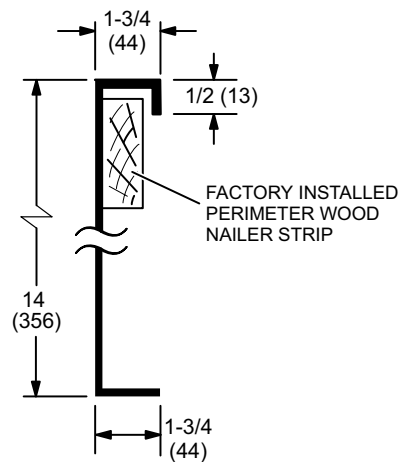


NOTE - Maximum slope pitch is 3/4 in. per 1 foot (19 mm per 305 mm) in any one direction.

### TYPICAL FLASHING DETAIL FOR ROOF CURB



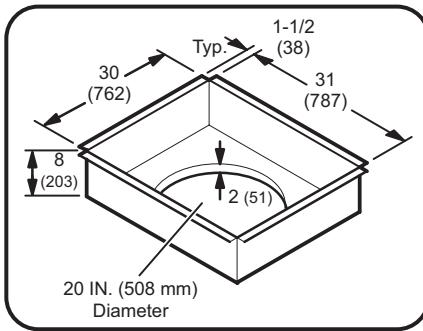
### DETAIL ROOF CURB



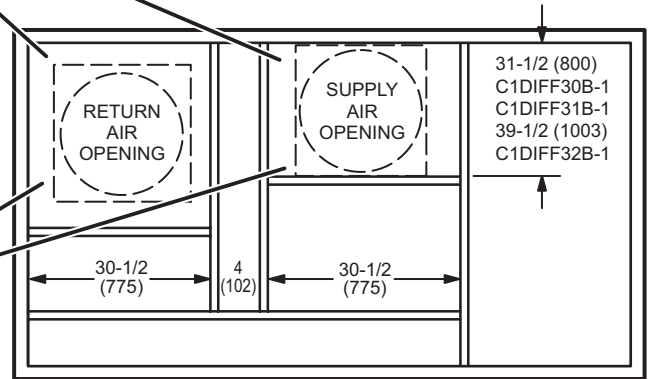
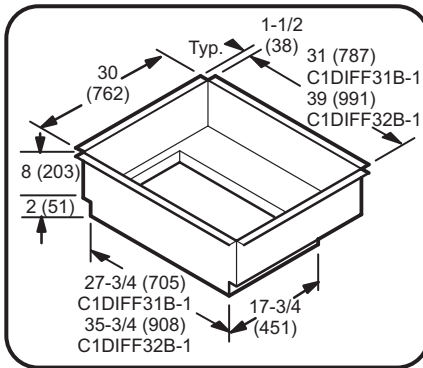
**DIMENSIONS - ACCESSORIES - INCHES (MM)**

**ROOF CURBS WITH SUPPLY & RETURN AIR TRANSITIONS FOR CEILING DIFFUSERS**

**C1DIFF30B-1 ROUND TRANSITIONS**  
(for 092 models)



**C1DIFF31B-1 & C1DIFF32B-1 RECTANGULAR TRANSITIONS**  
(for 102 thru 150 models)

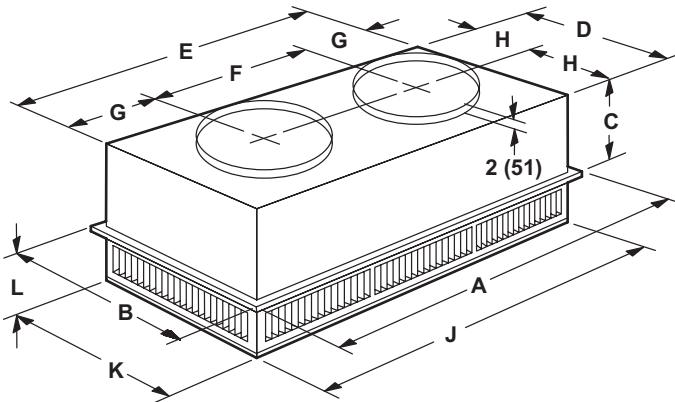


**TOP VIEW**

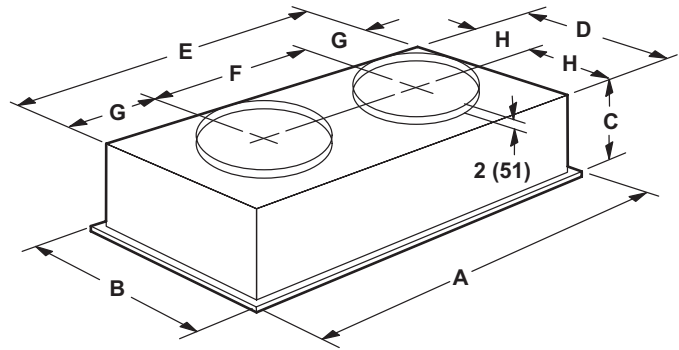
## DIMENSIONS - ACCESSORIES - INCHES (MM)

### COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

#### STEP-DOWN CEILING DIFFUSER



#### FLUSH CEILING DIFFUSER



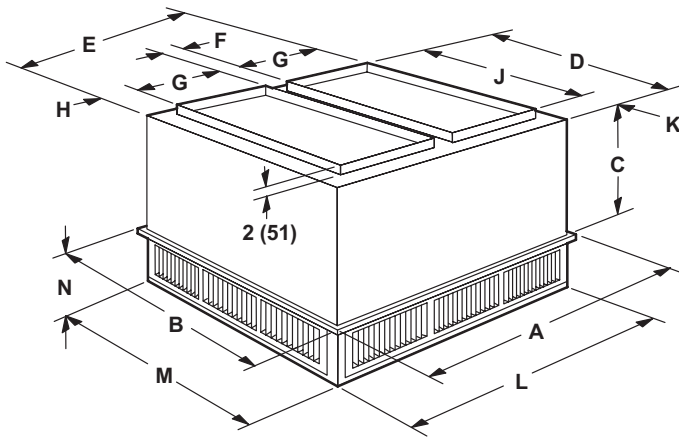
Model Number		RTD11-95S
A	in.	47-5/8
	mm	1159
B	in.	29-5/8
	mm	752
C	in.	14-3/8
	mm	365
D	in.	27-1/2
	mm	699
E	in.	45-1/2
	mm	1158
F	in.	22-1/2
	mm	572
G	in.	11-1/2
	mm	292
H	in.	13-3/4
	mm	349
J	in.	45-1/2
	mm	1156
K	in.	27-1/2
	mm	699
L	in.	8-1/8
	mm	206
Duct Size	in.	20 round
	mm	508 round

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

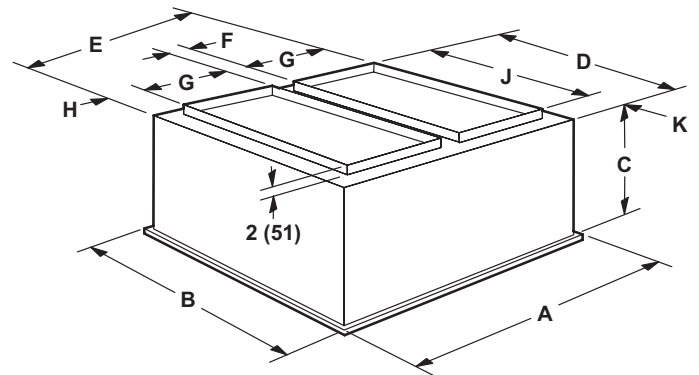
## ACCESSORY DIMENSIONS - INCHES (MM)

### COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

#### STEP-DOWN CEILING DIFFUSER



#### FLUSH CEILING DIFFUSER

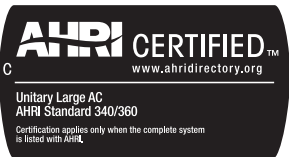


Model Number		RTD11-135S	RTD11-185S
A	in.	47-5/8	47-5/8
	mm	1210	1210
B	in.	35-5/8	47-5/8
	mm	905	1210
C	in.	20-5/8	24-5/8
	mm	524	625
D	in.	33-1/2	45-1/2
	mm	851	1156
E	in.	45-1/2	45-1/2
	mm	1156	1156
F	in.	4-1/2	4-1/2
	mm	114	114
G	in.	18	18
	mm	457	457
H	in.	2-1/2	2-1/2
	mm	64	64
J	in.	28	36
	mm	711	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

Section	Description
Electrical Data	Updated for 092H4 and 102H4 models.
Options / Accessories	New Diffuser model and catalog numbers.
Specifications	Refrigerant charge updated for 092H4 and 102H4 models.
Weight Data	New diffuser weights.



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