



**COMMERCIAL  
PRODUCT SPECIFICATIONS**

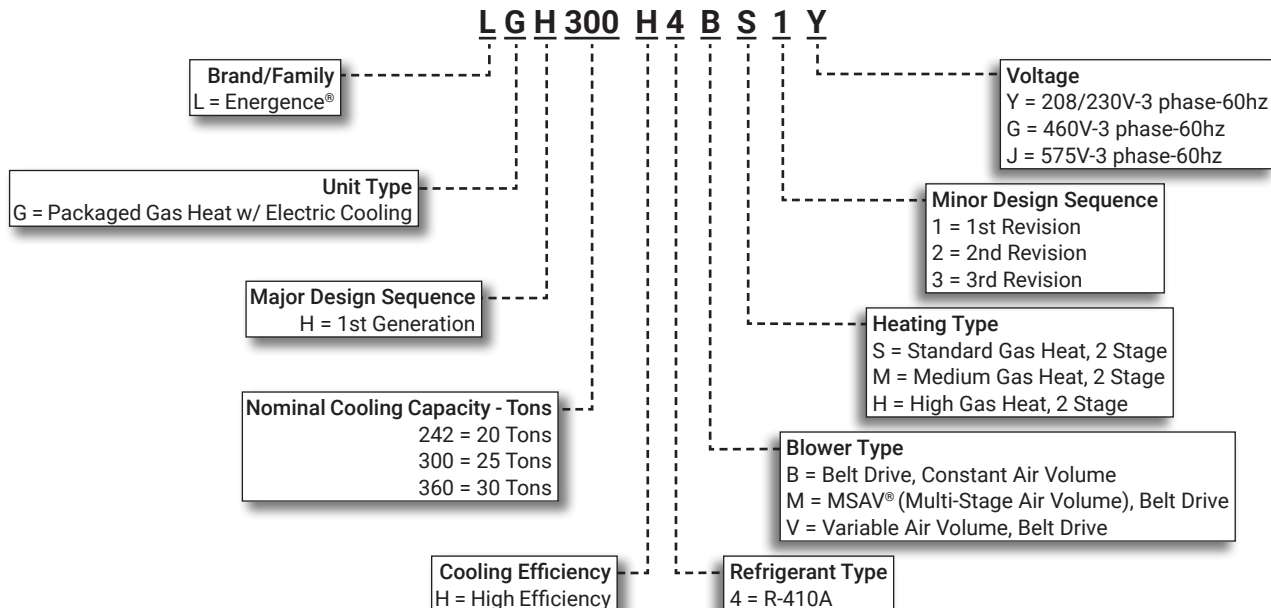


**SMART WIRE™ SYSTEM**



**20 to 30 Tons  
Net Cooling Capacity - 238,000 to 354,000 Btuh  
Gas Input Heat Capacity - 260,000 to 480,000 Btuh**

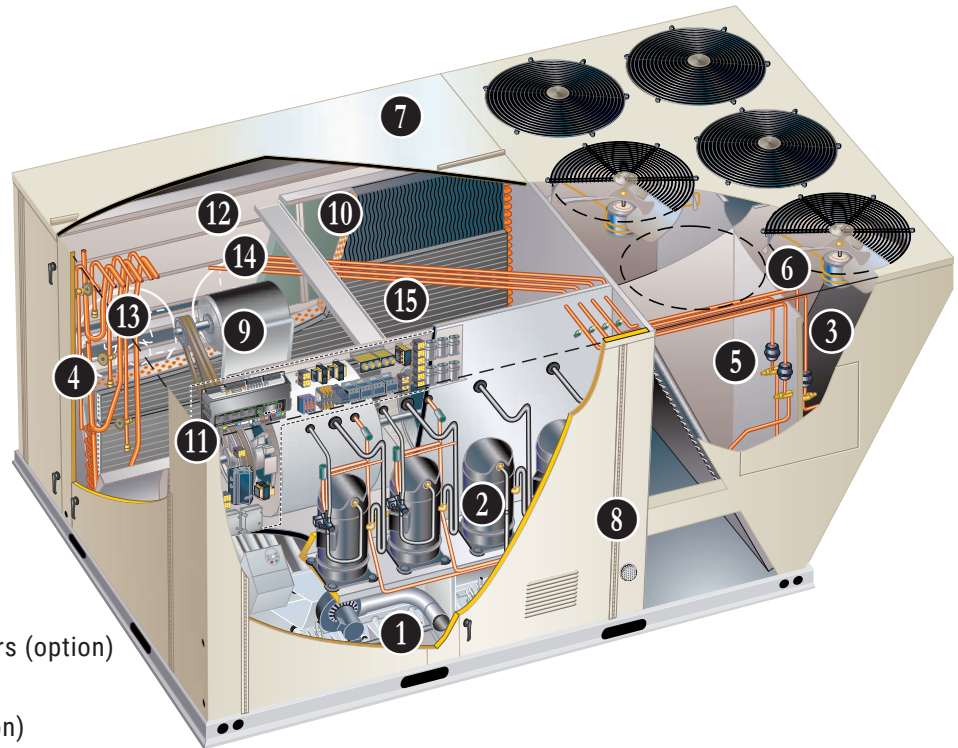
**MODEL NUMBER IDENTIFICATION**



## FEATURE HIGHLIGHTS

Lennox' Energence® 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 Energence rooftop units perfect for business owners looking for an HVAC product with the lowest total cost of ownership.

1. Heat Exchanger/Inshot Burners
2. Scroll Compressors
3. Lennox' Environ™ Coil System
4. Thermal Expansion Valves
5. Filters/Driers
6. Outdoor Coil Fan Motors
7. Heavy Gauge Steel Cabinet
8. Hinged Access Panels
9. Constant, Variable or Multi-Stage Air Volume (MSAV®) Blower
10. Air Filters
11. Prodigy® Control System
12. Economizer (option)
13. Downflow Barometric Relief Dampers (option)
14. Power Exhaust
15. Humiditrol® Dehumidification (option)



## CONTENTS

Approvals And Warranty . . . . .	3
Blower Data . . . . .	38
Control System . . . . .	8
Dimensions - Accessories . . . . .	52
Dimensions - Unit . . . . .	51
Electrical Accessories . . . . .	47
Features And Benefits . . . . .	3
High Altitude Derate . . . . .	31
Humiditrol® Dehumidification System Option . . . . .	13
Humiditrol® Dehumidification System Ratings . . . . .	37
Model Number Identification . . . . .	1
Optional Conventional Temperature Control Systems . . . . .	15
Options / Accessories . . . . .	25
Outdoor Sound Data . . . . .	49
Ratings . . . . .	32
Sequence Of Operation . . . . .	17
Specifications . . . . .	29
Specifications - Gas Heat . . . . .	31
Unit Clearances . . . . .	48
Weight Data . . . . .	50

## APPROVALS AND WARRANTY

### APPROVALS

- AHRI Standard 340/360 certified (242 models)
- Tested at conditions included in AHRI Standard 340/360 (300 and 360 models)
- ETL and CSA listed
- CSA certified energy ratings
- Unit and components ETL, NEC and CEC bonded for grounding to meet safety standards for servicing
- All models are ASHRAE 90.1-2010 energy efficiency compliant and meet or exceed requirements of Section 6.8
- All models meet DOE 2018 energy efficiency standards
- MSAV models meet California Code of Regulations, Title 24 and ASHRAE 90.1-2010 Section 6.4.3.10 requirements for staged airflow
- ENERGY STAR® certified
- ISO 9001 Registered Manufacturing Quality System

### WARRANTY

- Aluminized Heat Exchanger - Limited ten years
- Stainless Steel Heat Exchanger (optional) - Limited fifteen years
- Compressors - Limited five years
- Lennox' Environ™ Coil System - Limited three years
- Prodigy® 2.0 Unit Controller - Limited three years
- Optional High Performance Economizers - Limited five years
- All other covered components - Limited one year

## FEATURES AND BENEFITS

### HEATING SYSTEM

#### 1 Heat Exchanger

- Tubular construction, aluminized steel
- Life-cycle tested

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

#### 2 Aluminized steel inshot burners

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

#### Electronic Pilot Ignition

- Electronic spark igniter provides positive direct ignition of burners on each operating cycle
- Permits main gas valve to stay open only when the burners are proven to be lit
- If loss of flame occurs, gas valve closes, shutting off the gas to the burners
- LED indicates status and aids in troubleshooting
- Factory installed in the control section

#### Limit Controls

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

#### Safety Switches

- Flame roll-out switch

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

### Required Selections

#### Gas Input Choice - Order one:

- Standard Gas Heat, 2 Stage (169,000/260,000 Btuh)
- Medium Gas Heat, 2 Stage (234,000/360,000 Btuh)
- High Gas Heat, 2 Stage (312,000/480,000 Btuh)

**NOTE** – Two-stage heat models can be operated with four stages of gas heating when controlled in either zone sensor, Discharge Air Control, or fresh air tempering mode on the Prodigy 2.0 unit controller (available when using the CS8500 thermostat or when connected to Building Automation Systems using BACnet, LonTalk, or S-Bus protocols). See Gas Heating Specifications table.

### Options/Accessories

#### Factory Installed

##### Stainless Steel Heat Exchanger

- Required if mixed air temperature is below 45°F

#### Factory or Field Installed

##### 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

## FEATURES AND BENEFITS

### HEATING SYSTEM (continued)

#### Field Installed

##### Combustion Air Intake Extensions

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

##### LPG/Propane Kits

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

##### Vertical Vent Extension Kit

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

**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

#### 3 Scroll Compressors

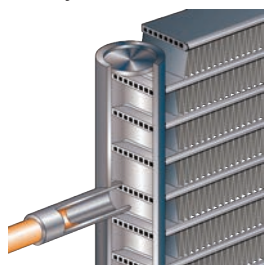
- Scroll compressors on all models for high performance, reliability and quiet operation
- Resiliently mounted on rubber grommets for quiet operation

#### Compressor Crankcase Heaters

- Protects against refrigerant migration that can occur during low ambient operation or during extended off cycles

#### 4 Condenser Coil - Lennox' Environ™ Coil System

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



#### Environ™ Coil System Features:

- Improved heat transfer performance due to high primary surface area (flat tubes) versus secondary surface (fins)
- Smaller internal volume (reduced refrigerant charge)
- High durability
- All aluminum construction

- Fewer brazed joints
- Compact design
- Reduced unit weight
- Easy maintenance/cleaning
- Face split design
- Mounting brackets with rubber inserts
- Angled cabinet design protects coil from damage

#### Evaporator Coil

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

**NOTE** - Constant air volume (CAV) and MSAV® (Multi-Stage Air Volume) models have face-split evaporator coils designed to keep condensate water off of an inactive part of the coil so the condensate will not re-enter the air stream. Variable air volume (VAV) models have row-split, intertwined evaporator coils.

#### 5 Thermal Expansion Valves

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

#### 6 Filter/Driers

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

#### High Pressure Switches

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

#### Low Pressure Switches

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

#### Condensate Drain Pan

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

**NOTE** - Stainless steel drain pan available as a factory installed option.

#### Freezestats

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

#### 7 Outdoor Coil Fan Motors

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

## FEATURES AND BENEFITS

### **COOLING SYSTEM (continued)**

#### Outdoor Coil Fans

- PVC coated fan guard furnished

#### Required Selections

#### Cooling Capacity

- Specify nominal cooling capacity

#### Options/Accessories

### **Factory Installed**

#### Discharge Air Temperature Sensor

- Sensor sends information to the unit controller to cycle up to 2 stages of heating or 4 stages of cooling to maintain the discharge air setpoints for heating or cooling
- Optional for CAV units (single zone or bypass zoning control)

**NOTE** - Automatically furnished with all Variable Air Volume (VAV) units. Sensor is shipped with the unit for remote field installation in the supply duct

### **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

#### Stainless Steel Drain Pan

- Non-corrosive drain pan

### **CABINET**

#### **8** Construction

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

#### Airflow Choice

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

**NOTE** - Units can be field converted to horizontal air flow with optional Horizontal Return Air Panel Kit and Horizontal Roof Curb.

#### 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
- Two-layer enamel paint finish

### **Insulation**

- Fully insulated with non-hygroscopic fiberglass insulation (conditioned areas)
- Unit base is fully insulated
- Base insulation serves as an air seal to the roof curb, eliminating the need to add a seal during installation

#### **9** Hinged Access Panels

- Filter section
- Blower section
- Heating section
- Compressor/controls section
- Panel seals and quarter-turn latching handles provide a tight air and water seal

#### Options/Accessories

### **Factory Installed**

#### Corrosion Protection

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

### **Field Installed**

#### Combination Coil/Hail Guards

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

#### Grille Guards

- Protects the space between outdoor coils and main cabinet

#### Horizontal Return Air Panel Kit

- Required for horizontal applications with Horizontal Roof Curb
- Contains panel with return air opening for field replacement of existing unit panel and panel to cover bottom return air opening in unit
- See dimension drawings.

## FEATURES AND BENEFITS

### **BLOWER**

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

### **10 Motor**

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

**NOTE** - 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 statically and dynamically balanced
- Ball bearings
- Adjustable pulley (allows speed change)
- Blower assembly slides out of unit for servicing
- Grease fittings furnished

### **Supply Static Pressure Transducer (VAV Models Only)**

- Sends information to the Prodigy® 2.0 unit controller to control VFD blower speed
- Shipped with the unit for remote field installation in the supply duct

### **Required Selections**

#### **Supply Air Blower Selection**

- Specify Constant Air Volume (CAV), Variable Air Volume (VAV) or MSAV® (Multi-Stage Air Volume).
- Constant Air Volume (CAV) models supply a constant volume of air
- Variable Air Volume (VAV) variable frequency drive (VFD) varies the air volume to maintain a constant duct static pressure
- MSAV (Multi-Stage Air Volume) models stage the amount of airflow according to compressor stages, heating demand, ventilation demand or smoke alarm
  - Utilizes a Variable Frequency Drive (VFD) to stage the supply air blower airflow
  - 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 airflows
- 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 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

- Unit controller will automatically switch to full blower speed if a VFD alarm is generated
- VFD has an operational range of 0 to 125° F outdoor air ambient temperature
- Lower operating costs are obtained when the blower is operated on lower speeds

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

### **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.

##### **Supply VFD Blower Bypass Control**

- Allows MSAV or VAV units to operate as a constant air volume (CAV) unit in case of variable frequency drive (VFD) failure

**NOTE** - Bypass control for VAV models is a manual operation only. All supply air duct registers must be opened manually before operating bypass control.

#### **Field Installed**

##### **Supply Static Limit Switch**

- Manual reset switch for supply static high pressure limit
- Prevents exceeding pressure limit in supply air duct
- Optional Mounting Kit includes tubing and adaptors

## FEATURES AND BENEFITS

### **ELECTRICAL**

#### **SmartWire™ System**

- Keyed and color-coded wiring connectors 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 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
- 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)**

- 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) or VAV (Variable Air Volume) option is ordered.

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

#### **Disconnect Switch**

- Accessible outside of unit
- Spring loaded weatherproof cover furnished

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

- 115V ground fault circuit interrupter (GFCI) type
- Available non-powered, field-wired or factory-wired and powered

### **Field Installed**

#### **GFI Weatherproof Cover**

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

### **INDOOR AIR QUALITY**

#### **11 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

#### **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

### **Field Installed**

#### **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

## CONTROL SYSTEM

### PRODIGY® CONTROL SYSTEM



**12** 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 (4 lines x 20 character display)
- Buttons for menu navigation during setup and diagnostic
- Menu navigation LEDs for Data, Setup, Service, Settings
- Main Menu and Help Buttons for quick navigation to home screen and built-in help functions
- Scroll, Value Adjustment Select and Save Buttons
- Setup menu insures proper installation and simplified setup of the rooftop unit
- Profile setup copies key settings between units with the same configuration to reduce setup time
- USB port allows a technician to download and transfer unit information to help verify service was performed
- USB software updates on the Prodigy Control System enhance functionality without the need to change components
- Unit Controller Software
- Unit self-test verifies individual critical component and system performance
- Economizer test function assures 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 / Exhaust Air / Outdoor Air sections)
- Fresh Air Tempering
- Over 100 diagnostic and status messages in English
- Exhaust Fan Control Modes for fresh air damper position
- Permanent Diagnostic Code Storage
- Field Adjustable Control Parameters (Over 200 settings)
- Indoor Air Quality Input (Demand Control Ventilation)
- Low Ambient Controls for 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 has four choices (unit off, positive pressure, negative pressure, purge)
- Up to 2 heat/2 cool (standard Prodigy 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 allows simultaneous heating and cooling operation for humidity control of process air applications such as supermarkets
- On Demand Dehumidification monitors and controls condenser hot gas reheat operation with Humiditrol® dehumidification option
- Thermostat Bounce Delay
- Warm Up Mode Delay
- LED Indicators
- PC Interface connects the Prodigy 2.0 unit controller to a PC with the Lennox Unit Controller Software
- Room Sensor Operation controls temperature

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



## CONTROL SYSTEM

### **PRODIGY® CONTROL SYSTEM (continued)**

#### Controls Options

##### **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

###### **Fresh Air Tempering**

- Used in applications with high outside air requirements
- 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, sensor ships with the unit for field installation

###### **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

##### **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

###### **After-Market DDC**

- Novar® Unit Controller and options

###### **Thermostats**

- Control system and thermostat options
- After-Market unit controller options

##### **Field Installed**

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

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

## OPTIONS / ACCESSORIES

### **ECONOMIZER**

- 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

**NOTE** - 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**

###### **13 High Performance Economizer**

- Approved for California Title 24 building standards
- Low leakage dampers are Air Movement and Control Association International (AMCA) Class 1A Certified - Maximum 3 CFM per sq. ft. leakage at 1 in. w.g.
- ASHRAE 90.1-2010 compliant
- Outdoor Air Hood with mist elimination is included when economizer is factory installed and is furnished with economizer when ordered for field installation
- 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
- Flexible stainless steel jamb seals

**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.

**NOTE** - Refer to Installation Instructions for complete setup information.

## OPTIONS / ACCESSORIES

### ECONOMIZER (continued)

#### 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.

**NOTE** - 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)
- Determines 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
- One is installed in the outdoor air section
- Allows the economizer control to select between outdoor air or return air, whichever has lower enthalpy

### Field Installed

#### Outdoor Air CFM Control

- Maintains constant outdoor air volume levels on the supply air fan and varying unit airflows
- 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
- Includes a static pressure transducer and outdoor static pressure assembly
- Using differential pressure information 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

#### Factory or Field Installed

#### **14** Downflow Barometric Relief Dampers

- Allow relief of excess air
- Aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle
- Exhaust hood is factory installed when dampers are factory installed with economizer
- Exhaust hood is furnished with dampers when ordered for field installation
- Bird screen furnished

#### **15** Standard Static Power Exhaust Fans

- Installs internal to unit for downflow applications only with economizer option
- Provides exhaust air pressure relief
- Interlocked to run when return air dampers are closed and supply air blower is operating
- Fans run based on air damper position (adjustable)
- Three 1/3 hp motors
- 20 in. diameter propeller-type fans
- Five blades
- Total power input of 1125 Watts
- Total air volume of 12,800 cfm at 0 in. w.g.
- Motor is inherently protected
- Totally enclosed
- Steel cabinet and hood painted to match unit

**NOTE** - Requires optional Downflow Economizer Barometric Relief Dampers. See Standard Static Power Exhaust Blower Tables.

## OPTIONS / ACCESSORIES

### EXHAUST (continued)

#### Factory or Field Installed

##### Horizontal 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 hood furnished

**NOTE** - Horizontal Economizer Conversion kit is available for field installation.

#### Field Installed

##### High Static Power Exhaust

- Constant volume high static power exhaust blowers
- Choice of 50% (two, 2 hp motors) or 100% (three, 2 hp motors)
- Centrifugal-type power exhaust blowers
- Overload and sub-fuse protected
- Ball bearings
- Forward curved blades
- Blower wheel is statically and dynamically balanced
- Adjustable pulleys for speed adjustments
- Controlled by damper position.

**NOTE** - VAV/MSAV units can be ordered with High Static Power Exhaust (with VFD) and an optional factory installed Manual Supply VFD Blower Bypass for the Power Exhaust VFD's (see page 6). High Static Power Exhaust (with VFD) features a solid-state analog pressure transducer control which senses differential pressure between conditioned space and outdoor air to regulate exhaust blower speed. See High Static Power Exhaust Blower Tables.

**NOTE** - High Static Power Exhaust is field installed but must be ordered at the same time as the rooftop unit so the unit can be factory configured for this option.

### Power Exhaust Control Options

#### Damper Position Control

- For Standard or High Static Power Exhaust without VFD
- Prodigy® 2.0 unit controller controls the power exhaust based on economizer damper position

#### Differential Pressure Transducer

- For High Static Power Exhaust with VFD
- Prodigy® 2.0 unit controller controls the power exhaust system based on a 0-10VDC signal from a differential pressure transducer, which compares atmospheric pressure to conditioned space static pressure
- The transducer is factory installed in the power exhaust section

#### Field Installed

##### Pressure Switch

- For Standard or High Static Power Exhaust without VFD
- Prodigy® 2.0 unit controller controls the power exhaust system based on one or two pressure switch(es)

**NOTE** - Order one per unit with Standard or High Static Power Exhaust without VFD.

**NOTE** - Order two per unit with Standard Static Power Exhaust for MSAV or VAV models.

### OUTDOOR AIR

#### 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 parallel blade, gear-driven dampers with adjustable fixed position

**NOTE** - Minimum mixed air temperature in heating mode is 30°F. Maximum mixed air temperature in cooling mode is 90°F.

## OPTIONS / ACCESSORIES

### **ROOF CURBS**

- Nailer strip furnished (downflow only)
- Mates to unit
- US National Roofing Contractors Approved
- Shipped knocked down

### **Downflow**

#### **Hybrid Roof Curbs**

- Interlocking tabs fasten corners together
- No tools required
- Can also be fastened together with furnished hardware
- Available in 14, 18, and 24 inch heights

### **Horizontal**

- Converts unit from downflow to horizontal (side) air flow
- Return air is on unit
- Supply air is on curb
- Available in 37 inch and 41 inch heights.
- See dimension drawings

**NOTE** - Requires Horizontal Return Air Panel Kit.

**NOTE** - Optional Insulation Kit is available to help prevent sweating.

### **CEILING DIFFUSERS**

#### **Field Installed**

#### **Ceiling Diffusers**

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

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

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

- Used with diffusers
- Installs in roof curb
- Galvanized steel construction
- Flanges furnished for duct connection to diffusers
- Fully insulated

### 16 **OVERVIEW**

**NOTE** - Available for 300H and 360H models only with MSAV option and without VFD Bypass 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
- 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

**NOTE** - See Sequence of Operation for additional information.

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

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

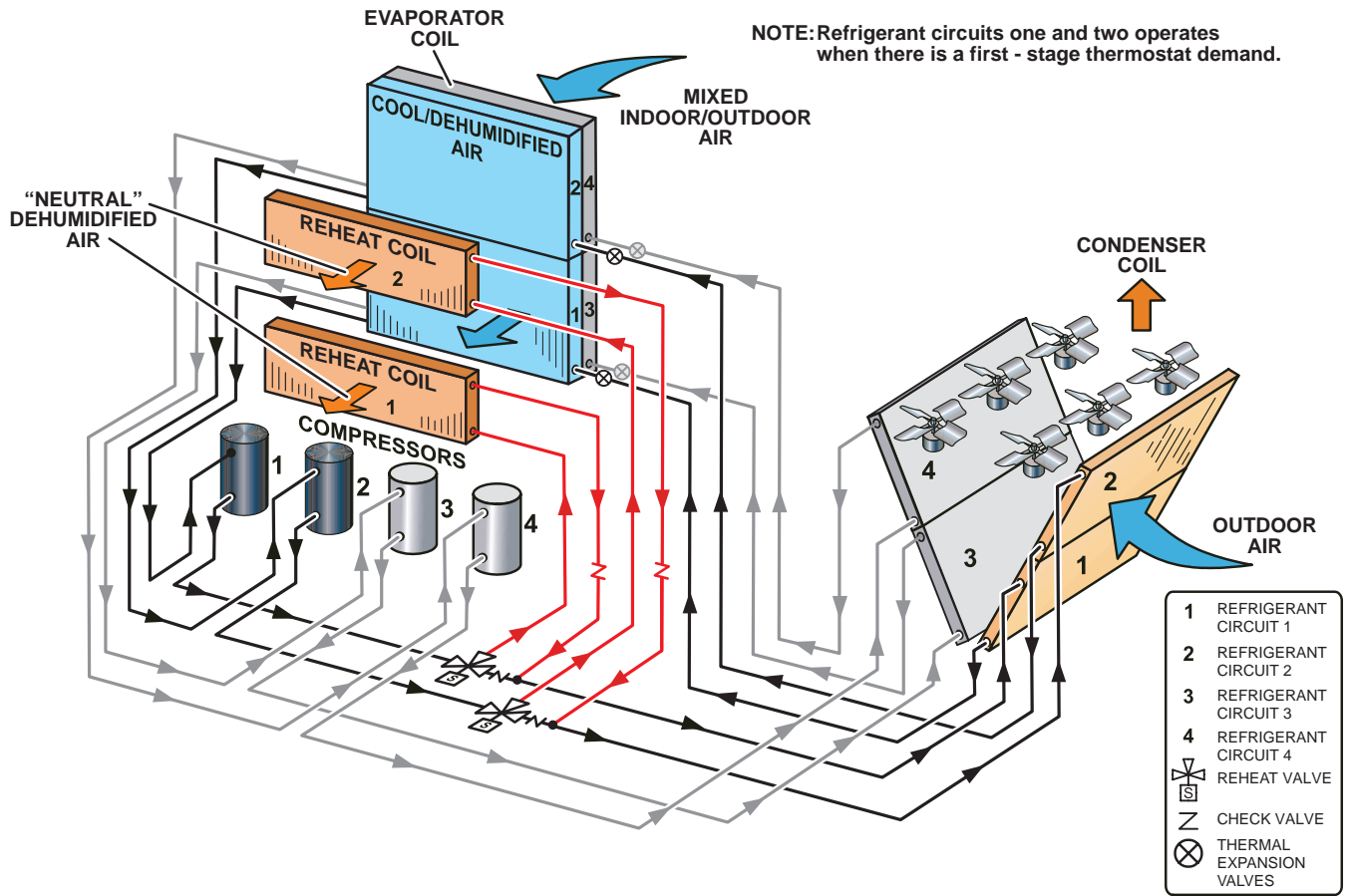
### **Options/Accessories**

#### **Humidity Sensor Kit**

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

# HUMIDITROL® DEHUMIDIFICATION SYSTEM OPTION

## REFRIGERANT SCHEMATIC



## OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

### ComfortSense® 8500 Commercial 7 Day Programmable Thermostat



- Fully Communicating Thermostat
- Up to 4 Heat and 4 Cool
- Automatic Changeover between Heating and Cooling Modes
- Designed to maximize Prodigy® Control System Operation
- BACNet Compatible
- Remote Indoor Temperature Sensing (up to nine averaging sensors)
- Intuitive Touchscreen Interface
- Backlit Display
- Relative Humidity Sensor
- Remote Occupancy Sensing
- Outside Air Temperature Display
- Four-Wire Installation
- Scheduled Occupancy Control
- Performance Reports (standalone mode)
- Full Variable-Speed Control (Emergence® 3-6 Ton Ultra High Efficiency units only)
- Dehumidification/Humiditrol® Control
- Wallplate Furnished
- ASHRAE and IECC Compliant

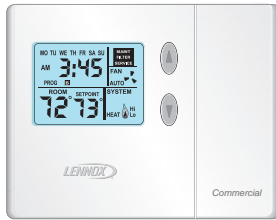
### ComfortSense® 7500 Commercial 7-Day Programmable Thermostat



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

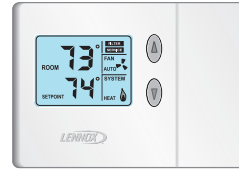
## OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

### ComfortSense® 3000 Commercial 5-2 Day Programmable Thermostat



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

### ComfortSense® Non-Programmable Thermostat



- One-Stage Heating / Cooling
- Conventional Systems
- Intuitive Interface
- Manual Changeover
- Backlit Display
- Simple Up and Down Temperature Control

## OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

Description	Model No.	Catalog No.
<b>ComfortSense® 8500 Commercial 7 Day Programmable Thermostat</b>		
	No CO <sub>2</sub> Sensing	C0STAT03FF2L
	With CO <sub>2</sub> Sensing	C0STAT22FF2L
Sensors/Accessories	<sup>1</sup> Remote non-adjustable wall-mount 10k	C0SNZN73AE1-
	<sup>1</sup> Remote non-adjustable wall-mount 11k	C0SNZN08AE1
	Locking cover (clear)	C0MISC15AE1

<sup>1</sup> Up to nine of the same type remote temperature sensors can be connected in parallel.

### Sysbus Network Cable (Yellow) for ComfortSense 8500

Twisted pair 100% shielded communication cable, Red and Black 22 AWG, yellow jacket, rated at 75°C, 300V, Plenum rated Insulation - Low smoke PVC, NEC, CMP	500 ft. box	C0MISC00AE1-	<b>27M19</b>
	1000 ft. box	C0MISC04AE1-	<b>94L63</b>
	2500 ft. roll	C0MISC01AE1-	<b>68M25</b>

### ComfortSense® 7500 Commercial 7-Day Programmable Thermostat

		C0STAT06FF2L	<b>17G74</b>
Sensors/Accessories	<sup>2</sup> Remote non-adjustable wall-mount 20k	C0SNZN01AE2-	<b>47W36</b>
	<sup>2</sup> Remote non-adjustable wall-mount 10k	C0SNZN73AE1-	<b>47W37</b>
	Remote non-adjustable discharge air (duct mount)	C0SNDC00AE1-	<b>19L22</b>
	Outdoor temperature sensor	C0SNSR03AE1-	<b>X2658</b>
	Universal thermostat locking guard (clear)	C0MISC15AE1-	<b>39P21</b>

<sup>2</sup> Remote wall-mount sensors can be applied in any of the following combinations:

- One Sensor - (1) 47W36
- Two Sensors - (2) 47W37
- Three Sensors - (2) 47W36 and (1) 47W37
- Four Sensors - (4) 47W36
- Five Sensors - (3) 47W36 and (2) 47W37

### ComfortSense® 3000 Commercial 5-2 Day Programmable Thermostat

		C0STAT05FF1L	<b>11Y05</b>
Sensors/Accessories	Remote non-adjustable wall mount 10k averaging	C0SNZN73AE1-	<b>47W37</b>
	Thermostat wall mounting plate	C0MISC17AE1-	<b>X2659</b>

### ComfortSense® Non-Programmable Thermostat

		C0STAT12AE1L	<b>51M32</b>
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**Objective:** Outline the unit functions as a result of room thermostat or room 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 OR THIRD PARTY UNIT CONTROLLERS (2 HEAT / 2 COOL)**  
**(THIS SECTION NOT APPLICABLE FOR DISCHARGE AIR TEMPERATURE CONTROL)**

**SUPPLY AIR BLOWER SPEED**

Unit has one blower speed for all modes of operation.

**COOLING MODE (2 Cool)**

**<sup>1</sup> Unit Features An Economizer And Outdoor Air Is Suitable**

**Y1 Demand:**

All compressors are off, supply air blower is on; economizer modulates (minimum to maximum open position) to satisfy thermostat demand.

**Y2 Demand:**

All compressors are off, supply air blower is on, and economizer modulates (minimum to maximum open position) to maintain 55°F discharge air temperature.

*NOTE - If economizer stays at maximum open for 3 minutes, compressors 1 and 2 are energized with the supply air blower on, providing maximum cooling capacity.*

*NOTE - The thermostat or third party unit controller has direct control over the rooftop unit's staging capability. While the unit controller typically has direct control over the economizer, it is possible for a thermostat or third party unit controller to directly control this functionality*

*<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 RTU via a network connection.*

**Unit Does Not Feature An Economizer Or Outdoor Air Is Not Suitable**

**Y1 Demand:**

The first two compressors operate and the supply air blower is activated. This is ~50% of the cooling capacity.

**Y2 Demand:**

All compressors operate and supply air blower is activated. This is 100% of the cooling capacity.

**HEATING MODE (2 Heat)**

**W1 Demand:**

The first two stages of mechanical heat are activated, providing ~66% heating capacity

**W2 Demand:**

The third and fourth stages of mechanical heat are activated, providing 100% of mechanical heating capacity.

**UNIT OPERATION IN ROOM SENSOR MODE OR DISCHARGE AIR TEMPERATURE CONTROL****(4 HEAT / 4 COOL)****SUPPLY AIR BLOWER SPEED**

Unit has one blower speed for all modes of operation.

**COOLING MODE (4 Cool)**

- Room sensors (when connected to S-Bus) or Discharge air temperature (DAT) can be used to control unit staging.
- DAT default setpoint = 55°F. Unit will stage compressors as required to maintain the setpoint when provided with Y1 thermostat demand.
- Room sensor occupied default setpoint = 75°F. Unit will stage compressors as required to maintain the setpoint.
- Increasing compressor stages provides more cooling capacity while decreasing compressor stages provides less cooling capacity.

**<sup>1</sup> Unit Features An Economizer And Outdoor Air Is Suitable****Cooling Stage 1:**

All compressors are off, supply air blower is on; economizer modulates (minimum to maximum open position) to maintain setpoint.

**Cooling Stage 2:**

One compressor is activated; supply air blower is on; economizer modulates (minimum to maximum open position) to maintain setpoint.

**Cooling Stage 3:**

Two compressors are activated; supply air blower is on; economizer modulates (minimum to maximum open position) to maintain setpoint.

**Cooling Stage 4:**

All compressors are activated; supply air blower is on; economizer modulates (minimum to maximum open position) to maintain setpoint.

*NOTE - The thermostat or third party unit controller has direct control over the rooftop unit's staging capability. While the unit controller typically has direct control over the economizer, it is possible for a thermostat or third party unit controller to directly control this functionality*

<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 RTU via a network connection.

**Unit Does Not Feature An Economizer Or Outdoor Air Is Not Suitable****Cooling Stage 1:**

The first compressor is activated; supply air blower is on. This is ~25% of the cooling capacity.

**Cooling Stage 2:**

The first and second compressors are activated; supply air blower is on. This is ~50% of the cooling capacity.

**Cooling Stage 3:**

The first three compressors are activated; supply air blower is on. This is ~75% of the cooling capacity.

**Cooling Stage 4:**

All compressors operate and supply air blower is activated. This is 100% of the cooling capacity.

**UNIT OPERATION IN ROOM SENSOR MODE OR DISCHARGE AIR TEMPERATURE CONTROL  
(4 HEAT / 4 COOL) (CONTINUED)****HEATING MODE (4 Heat)**

- Room sensors (when connected to S-Bus) or Discharge air temperature (DAT) can be used to control unit staging.
- DAT default setpoint = 110°F. Unit will stage heating as required to maintain the setpoint when provided with W1 demand.
- Room sensor occupied setpoint default = 70°F. Unit will stage heating as required to maintain the setpoint.
- Increasing heat stages provides more heating capacity while decreasing heat stages provides less heating capacity.

**Heating Stage 1 :**

The first stage of mechanical heat is activated; gas valve one is in low fire mode. This is ~33% of heating capacity.

**Heating Stage 2 :**

The first and second stages of mechanical heat are activated; gas valves one and two are in low fire mode. This is ~66% of heating capacity.

**Heating Stage 3 :**

Gas valve one is in high fire mode; gas valve two is in low fire mode. This is ~83% of heating capacity.

**Heating Stage 4 :**

Gas valves one and two are in high fire mode. This is 100% of heating capacity.

**UNIT OPERATION WITH 2-STAGE THERMOSTAT OR THIRD PARTY UNIT CONTROLLERS (2 HEAT / 2 COOL)  
(THIS SECTION NOT APPLICABLE FOR DISCHARGE AIR TEMPERATURE CONTROL)****SUPPLY AIR BLOWER SPEED**

Unit has the following supply air blower speed settings:

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

**COOLING MODE (2 Cool)****<sup>1</sup> Unit Features An Economizer And Outdoor Air Is Suitable****Y1 Demand:**

All compressors are off, supply air blower is set to Low Cooling Speed; economizer modulates (minimum to maximum open position) to maintain 55°F discharge air temperature.

**Y2 Demand:**

All compressors are off, supply air blower is set to High Cooling Speed, and economizer modulates (minimum to maximum open position) to maintain 55°F discharge air temperature.

*NOTE - If economizer stays at maximum open for 3 minutes, 1st stage compressors (compressor 1 and 2) are 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 RTU via a network connection.

**Unit Does Not Feature An Economizer Or Outdoor Air Is Not Suitable****Y1 Demand:**

The first two compressors operate and the supply air blower is activated. The blower is set to the Low Cooling Speed.

**Y2 Demand:**

All compressors operate and supply air blower is activated. The blower is set to the 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:**

Compressors 1 and 2 operate, supply air blower operates at low cooling speed, and both reheat valves are energized.

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

All compressors operate, supply air blower operates at high cooling speed and both reheat valves are energized.

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

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

**HEATING MODE (2 Heat)****W1 Demand:**

The first two stages of mechanical heat are activated; the blower is set to Heating Speed.

**W2 Demand:**

The third and fourth stages of mechanical heat are activated; the blower is set to the Heating Speed.

**UNIT OPERATION IN ROOM SENSOR MODE OR DISCHARGE AIR TEMPERATURE CONTROL  
(4 HEAT / 4 COOL)****SUPPLY AIR BLOWER SPEED**

Unit has the following supply air blower speed settings:

- Ventilation speed
- Cooling Speed 1 (low)
- Cooling Speed 2 (medium-low)
- Cooling Speed 3 (medium-high)
- Cooling Speed 4 (high)
- Heating Speed
- Smoke Speed (Used only in smoke removal option - not discussed)

**COOLING MODE (4 Cool)**

- Room sensors (when connected to S-Bus) or Discharge air temperature (DAT) can be used to control unit staging.
- DAT default setpoint = 55°F. Unit will stage compressors as required to maintain the setpoint when provided with Y1 thermostat demand.
- Room sensor occupied default setpoint = 75°F. Unit will stage compressors as required to maintain the setpoint.
- Increasing compressor stages provides more cooling capacity while decreasing compressor stages provides less cooling capacity.

**<sup>1</sup> Unit Features An Economizer And Outdoor Air Is Suitable****Cooling Stage 1:**

All compressors are off, supply air blower is on Cooling Speed 1 to minimize blower power consumption, economizer modulates (minimum to maximum open position) to maintain setpoint.

**Cooling Stage 2:**

All compressors are off, supply air blower is on Cooling Speed 4 to provide higher cooling capacity, and economizer modulates to maintain setpoint. If economizer stays at maximum open for 3 minutes, compressor 1 is energized while supply air blower stays on Cooling Speed 4. After compressor 1 is energized, the economizer stays at maximum open.

**Cooling Stage 3:**

Compressor 1 and 2 are energized while supply air blower is on Cooling speed 4 to provide even higher cooling capacity.

**Cooling Stage 4:**

All compressors are energized while supply air blower is on Cooling speed 4 to provide maximum cooling capacity. 1 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 RTU via a network connection.

**Unit Does Not Feature An Economizer Or Outdoor Air Is Not Suitable****Cooling Stage 1:**

Compressor 1 operates and supply air blower operates at Cooling Speed 1.

**Cooling Stage 2:**

Compressors 1 and 2 operate and supply air blower operates at Cooling Speed 2.

**Cooling Stage 3:**

Compressors 1, 2, and 3 operate and supply air blower operates at Cooling Speed 3.

**Cooling Stage 4:**

All compressors operate and supply air blower operates at Cooling Speed 4.

**UNIT OPERATION IN ROOM SENSOR MODE OR DISCHARGE AIR TEMPERATURE CONTROL  
(4 HEAT / 4 COOL) (CONTINUED)****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, Y3, Y4 Demand:**

Compressors 1 and 2 operate, supply air blower operates at medium-low cooling speed, and both reheat valves are energized.

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

Compressors 1, 2, and 3 operate, supply air blower operates at high cooling speed and both reheat valves are energized.

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

All compressors operate, supply air blower operates at high cooling speed and both reheat valves are energized.

**Y3 Demand With A Call For Dehumidification:**

All compressors operate, supply air blower operates at high cooling speed, and the reheat valve of compressor 1 is energized while the reheat valve of compressor 2 is de-energized.

**Y4 Demand With A Call For Dehumidification:**

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

**HEATING MODE (4 Heat) HEATING MODE (4 Heat)**

- Room sensors (when connected to S-Bus) or Discharge air temperature (DAT) can be used to control up to four stages of electric heat.
- DAT default setpoint = 110°F. Unit will stage heating as required to maintain the setpoint when provided with W1 demand.
- Room sensor occupied setpoint default = 70°F. Unit will stage heating as required to maintain the setpoint.
- Increasing heat stages provides more heating capacity while decreasing heat stages provides less heating capacity.
- Blower set to Heating Speed for all stages.

**Heating Stage 1:**

The first stage of mechanical heat is activated; gas valve one is in low fire mode. This is ~33% of heating capacity.

**Heating Stage 2 :**

The first and second stages of mechanical heat are activated; gas valves one and two are in low fire mode. This is ~66% of heating capacity.

**Heating Stage 3:**

Gas valve one is in high fire mode; gas valve two is in low fire mode. This is ~83% of heating capacity.

**Heating Stage 4:**

Gas valves one and two are in high fire mode. This is 100% of heating capacity.

**UNITS IN ZONING APPLICATIONS OPERATING WITH DISCHARGE AIR CONTROL (4 HEAT / 4 COOL)****SUPPLY AIR BLOWER SPEED**

Unit has the following supply air blower speed settings:

- Ventilation Speed
- Cooling Speed - Fully modular based on supply duct static pressure
- Heating Speed
- Smoke Speed (Used only in smoke removal option - not discussed)

**COOLING MODE (4 Cool)**

- Discharge air temperature (DAT) can be used to control unit staging.
- DAT default setpoint = 55°F. Unit will stage compressors as required to maintain the setpoint when provided with Y1 thermostat demand.
- Increasing compressor stages provides more cooling capacity while decreasing compressor stages provides less cooling capacity.

**<sup>1</sup> Unit Features An Economizer And Outdoor Air Is Suitable****Cooling Stage 1:**

All compressors are off, supply air blower operates to maintain duct static pressure, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

**Cooling Stage 2:**

All compressors are off, supply air blower operates to maintain duct static pressure, 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 operates to maintain duct static pressure. After compressor 1 is energized, the economizer stays at maximum open.

**Cooling Stage 3:**

Compressor 1 and 2 are energized while supply air blower operates to maintain duct static pressure.

**Cooling Stage 4:**

All compressors are energized while supply air blower operates to maintain duct static pressure.

<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 RTU via a network connection.

**Unit Does Not Feature An Economizer Or Outdoor Air Is Not Suitable****Cooling Stage 1:**

Compressor 1 operates and supply air blower operates to maintain duct static pressure.

**Cooling Stage 2:**

Compressors 1 and 2 operate and supply air blower operates to maintain duct static pressure.

**Cooling Stage 3:**

Compressors 1, 2, and 3 operate and supply air blower operates to maintain duct static pressure.

**Cooling Stage 4:**

All compressors operate and supply air blower operates to maintain duct static pressure.

**UNITS IN ZONING APPLICATIONS OPERATING WITH DISCHARGE AIR CONTROL (4 HEAT / 4 COOL)  
(CONTINUED)****HEATING MODE (4 Heat)**

Discharge air temperature (DAT) can be used to control unit staging.

- DAT default setpoint = 110°F. Unit will stage heating as required to maintain the setpoint when provided with W1 demand.
- Increasing heat stages provides more heating capacity while decreasing heat stages provides less heating capacity.
- Blower set to Heating Speed for all stages.

**Heating Stage 1:**

The first stage of mechanical heat is activated; gas valve one is in low fire mode. This is ~33% of heating capacity.

**Heating Stage 2:**

The first and second stages of mechanical heat are activated; gas valves one and two are in low fire mode. This is ~66% of heating capacity.

**Heating Stage 3:**

Gas valve one is in high fire mode; gas valve two is in low fire mode. This is ~83% of heating capacity.

**Heating Stage 4:**

Gas valves one and two are in high fire mode. This is 100% of heating capacity.

**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).*



## OPTIONS / ACCESSORIES

Item Description	Model Number	Catalog Number	Unit Model No.		
			242	300	360
<b>COOLING SYSTEM</b>					
Condensate Drain Trap	PVC - C1TRAP20AD2	<b>76W26</b>	OX	OX	OX
	Copper - C1TRAP10AD2	<b>76W27</b>	OX	OX	OX
Corrosion Protection		Factory	O	O	O
Drain Pan Overflow Switch	E1SNSR71AD1	<b>68W88</b>	OX	OX	OX
Efficiency	High	Factory	O	O	O
Refrigerant Type	R-410A	Factory	O	O	O
Plastic Condensate Drain Pan		Factory	O	O	O
Stainless Steel Condensate Drain Pan	C1DPAN10D-1-	<b>83W42</b>	OX	OX	OX
<b>GAS HEAT</b>					
Combustion Air Intake Extensions (Order 2 Kits)	C1EXTN10FF1	<b>89L97</b>	X	X	X
Gas Heat Input	Standard - 260 kBtuh input	Factory	O	O	O
	Medium - 360 kBtuh input	Factory	O	O	O
	High - 480 kBtuh input	Factory	O	O	O
LPG/Propane Conversion Kits (Order 2 Kits)	Standard Heat - LTALPGK-130	<b>72M94</b>	X	X	X
	Medium Heat - LTALPGK-180	<b>72M95</b>	X	X	X
	High Heat - LTALPGK-240	<b>72M96</b>	X	X	X
Low Temperature Vesibule Heater	208/230V-3ph - C1LTVH10C-1Y	<b>58W28</b>	OX	OX	OX
	460V-3ph - C1LTVH10C-1G	<b>58W29</b>	OX	OX	OX
	575V-3ph - C1LTVH10C-1J	<b>58W30</b>	OX	OX	OX
Stainless Steel Heat Exchanger		Factory	O	O	O
Vertical Vent Extension	C1EXTN2021	<b>42W16</b>	X	X	X
<b>BLOWER - SUPPLY AIR</b>					
Motors	Belt Drive (standard efficiency) - 5 hp	Factory	O	O	O
	Belt Drive (standard efficiency) - 7.5 hp	Factory	O	O	O
	Belt Drive (standard efficiency) - 10 hp	Factory	O	O	O
	Supply VFD Blower Bypass (VAV/MSAV units w/VFD only)	Factory	O	O	O
Drive Kits See Blower Data Tables for usage and selection	Kit #1 740-895 rpm	Factory	O	O	O
	Kit #2 870-1045 rpm	Factory	O	O	O
	Kit #3 715-880 rpm	Factory	O	O	O
	Kit #4 770-965 rpm	Factory	O	O	O
	Kit #5 660-810 rpm	Factory	O	O	O
	Kit #6 770-965 rpm	Factory	O	O	O
	Kit #7 570-720 rpm	Factory	O	O	O
	Kit #8 480-630 rpm	Factory	O	O	O
	Kit #9 410-535 rpm	Factory	O	O	O
	Blower Belt Auto-Tensioner	Factory	O	O	O
<b>CABINET</b>					
Combination Coil/Hail Guards	C1GARD52D-1	<b>13T16</b>	X	X	X
Grille Guards	C1GARD39D-1-	<b>86K30</b>	X	X	X
Horizontal Return Air Panel Kit		<b>38K48</b>	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

## OPTIONS / ACCESSORIES

Item Description	Model Number	Catalog Number	Unit Model No.		
			242	300	360
<b>CONTROLS</b>					
Blower Proving Switch	C1SNSR35FF1	<b>53W65</b>	OX	OX	OX
Commercial Controls	CPC Einstein Integration	Factory	O	O	O
	Prodigy® Control System - BACnet® Module - C0CTRL60AE1L	<b>59W51</b>	OX	OX	OX
	Prodigy® Control System - LonTalk® Module - C0CTRL65FF1	<b>54W27</b>	OX	OX	OX
	Nova® LSE	Factory	O	O	O
	L Connection® Building Automation System	---	OX	OX	OX
Dirty Filter Switch	E1SNSR55C-1	<b>53W68</b>	OX	OX	OX
Discharge Air Temperature Sensor		Factory	O	O	O
Fresh Air Tempering	C1SNSR75AD1	<b>58W63</b>	OX	OX	OX
General Purpose Control Kit	E1GPBK30C1	<b>13J78</b>	X	X	X
Smoke Detector - Supply or Return (Power board and one sensor)	C1SNSR44C-1	<b>83W40</b>	OX	OX	OX
Smoke Detector - Supply and Return (Power board and two sensors)	C1SNSR43C-1	<b>83W41</b>	OX	OX	OX
Supply Static Limit Switch	C0SNSR11AE1	<b>79M80</b>	X	X	X
Supply Static Limit Switch - Mounting Kit	C0SNSR12AE1	<b>79M81</b>	X	X	X
<b>INDOOR AIR QUALITY</b>					
<b>Air Filters</b>					
Healthy Climate® High Efficiency Air Filters 20 x 20 x 2 - order 12 per unit	MERV 8 - C1FLTR15D-1-	<b>54W21</b>	OX	OX	OX
	MERV 13 - C1FLTR40D-1-	<b>52W39</b>	OX	OX	OX
Replaceable Media Filter with Metal Mesh Frame (includes Non- Pleated Filter Media) 20 x 20 x 2- order 12 per unit	C1FLTR30D-1-	<b>44N60</b>	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
Sensor - Wall-mount, off-white plastic cover, no display	C0SNSR52AE1L	<b>87N53</b>	X	X	X
Sensor - Black plastic case with LCD display, rated for plenum mounting	C0SNSR51AE1L	<b>87N52</b>	X	X	X
Sensor - Wall-mount, black plastic case, no display, rated for plenum mounting	C0MISC19AE1	<b>87N54</b>	X	X	X
CO <sub>2</sub> Sensor Duct Mounting Kit - for downflow applications	C0MISC19AE1-	<b>85L43</b>	X	X	X
Aspiration Box - for duct mounting non-plenum rated CO <sub>2</sub> sensors (87N53 or 77N39)	C0MISC16AE1-	<b>90N43</b>	X	X	X
<b>ELECTRICAL</b>					
Voltage 60 hz	208/230V - 3 phase	Factory	O	O	O
	460V - 3 phase	Factory	O	O	O
	575V - 3 phase	Factory	O	O	O
Disconnect Switch - See Electrical Accessories Tables on page 47 for selection	80 amp	<b>54W88</b>	OX	OX	OX
	150 amp	<b>54W89</b>	OX	OX	OX
	250 amp	<b>90W82</b>	OX	OX	OX
GFI Service Outlets	15 amp non-powered, field-wired (208/230V, 460V) LTAGFIK10/15	<b>74M70</b>	OX	OX	OX
	15 amp factory-wired and powered (208/230V, 460V, 575V)	Factory	O	O	O
	20 amp non-powered, field-wired (575V only) C1GFCI20FF1	<b>67E01</b>	OX	OX	OX
Weatherproof Cover for GFI	C1GFCI99FF1	<b>10C89</b>	X	X	X
Phase/Voltage Detection		Factory	O	O	O
<b><sup>1</sup> HUMIDITROL® CONDENSER REHEAT OPTION</b>					
Humiditrol® Dehumidification Option		Factory		O	O
Humidity Sensor Kit, Remote mounted (required)	C0SNSR31AE-1	<b>17M50</b>		X	X

<sup>1</sup> Available for 300H and 360H models only with MSAV option and without VFD Bypass Option.

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.		
			242	300	360
<b>ECONOMIZER</b>					
<b>High Performance Economizer (Approved for California Title 24 Building Standards / AMCA Class 1A Certified)</b>					
High Performance Economizer Downflow or Horizontal Applications - Includes Outdoor Air Hood, order Downflow or Horizontal Barometric Relief Dampers separately.	E1ECON17D-2	18X87	OX	OX	OX
<b>Economizer Controls</b>					
Differential Enthalpy (Not for Title 24)	Order 2 - C1SNSR64FF1	53W64	OX	OX	OX
Sensible Control	Sensor is Furnished	Factory	O	O	O
Single Enthalpy (Not for Title 24)	C1SNSR64FF1	53W64	OX	OX	OX
Global, Enthalpy	Sensor Field Provided	Factory	O	O	O
Building Pressure Control	E1GPBK20C1	13J77	X	X	X
Differential Sensible	Sensor is Furnished	Factory	O	O	O
Outdoor Air CFM Control	E1GPBK10C1	13J76	OX	OX	OX
<b>Barometric Relief Dampers With Exhaust Hood</b>					
Downflow Barometric Relief Dampers	E1DAMP60D-1	76W17	OX	OX	OX
Horizontal Barometric Relief Dampers	LAGEDH30/36	33K78	OX	OX	OX
<b>OUTDOOR AIR</b>					
<b>Outdoor Air Dampers With Outdoor Air Hood</b>					
Motorized	E1DAMP25D-2-	18X89	OX	OX	OX
Manual	E1DAMP15D-2-	18X88	OX	OX	OX
<b>POWER EXHAUST</b>					
Standard Static	208/230V - E1PWRE40D-1Y	74W21	OX	OX	OX
	460V - E1PWRE40D-1G	74W22	OX	OX	OX
	575V - E1PWRE40D-1J	74W23	OX	OX	OX
High Static - 50%	208/230V - Drive Kit #1 (405-533 rpm) - LAPEB30/36AY	83M83	X	X	X
	208/230V - Drive Kit #2 (531-731 rpm) - LAPEB30/36BY	84M34	X	X	X
	208/230V - Drive Kit #3 (731-932 rpm) - LAPEB30/36CY	84M35	X	X	X
	460V - Drive Kit #1 (405-533 rpm) - LAPEB30/36AG	83M84	X	X	X
	460V - Drive Kit #2 (531-731 rpm) - LAPEB30/36BG	84M36	X	X	X
	460V - Drive Kit #3 (731-932 rpm) - LAPEB30/36CG	84M37	X	X	X
	575V - Drive Kit #1 (405-533 rpm) - LAPEB30/36AJ	83M85	X	X	X
	575V - Drive Kit #2 (531-731 rpm) - LAPEB30/36BJ	84M38	X	X	X
	575V - Drive Kit #3 (731-932 rpm) - LAPEB30/36CJ	84M39	X	X	X
	High Static - 100%	208/230V - Drive Kit #1 (406-533 rpm) - LAPEB30/36DY	83M86	X	X
208/230V - Drive Kit #2 (531-731 rpm) - LAPEB30/36EY		84M40	X	X	X
208/230V - Drive Kit #3 (731-932 rpm) - LAPEB30/36FY		84M41	X	X	X
460V - Drive Kit #1 (406-533 rpm) - LAPEB30/36DG		83M87	X	X	X
460V - Drive Kit #2 (531-731 rpm) - LAPEB30/36EG		84M42	X	X	X
460V - Drive Kit #3 (731-932 rpm) - LAPEB30/36FG		84M43	X	X	X
575V - Drive Kit #1 (406-533 rpm) - LAPEB30/36DJ		83M88	X	X	X
575V - Drive Kit #2 (531-731 rpm) - LAPEB30/36EJ		84M44	X	X	X
575V - Drive Kit #3 (731-932 rpm) - LAPEB30/36FJ		84M45	X	X	X
100% with VFD		208/230V - LAPEV30/36GY	83M89	X	X
	460V - LAPEV30/36GG	83M90	X	X	X
	575V - LAPEV30/36GJ	83M91	X	X	X
100% with VFD and Bypass	208/230V - LAPEV30/36HY	83M92	X	X	X
	460V - LAPEV30/36HG	83M93	X	X	X
	575V - LAPEV30/36HJ	83M94	X	X	X
<b>Power Exhaust Control</b>					
<sup>1</sup> Pressure Switch	C0SNSR10AE1	79M79	X	X	X

<sup>1</sup> Order one per unit with Standard or High Static Power Exhaust without VFD. Order two per unit with standard static power exhaust for MSAV or VAV models.

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.		
			242	300	360
<b>ROOF CURBS</b>					
<b>Hybrid Roof Curbs, Downflow</b>					
14 in. height	C1CURB71D-1	11F62	X	X	X
18 in. height	C1CURB72D-1	11F63	X	X	X
24 in. height	C1CURB73D-1	11F64	X	X	X
<b>Standard Roof Curbs, Horizontal - Requires Horizontal Return Air Panel Kit</b>					
30 in. height - slab applications	C1CURB15C-1	11T90	X	X	X
41 in. height - rooftop applications	C1CURB17C-1	11T97	X	X	X
<b>Horizontal Return Air Panel Kit (Required)</b>		<b>38K48</b>	X	X	X
<b>Insulation Kit For Standard Horizontal Roof Curbs</b>					
	for C1CURB15C-1	<b>73K33</b>	X	X	X
	for C1CURB17C-1	<b>73K35</b>	X	X	X
<b>CEILING DIFFUSERS</b>					
Step-Down - Order one	LARTD30/36S	<b>45K74</b>	X	X	X
Flush - Order one	LAFD30/36S	<b>45K75</b>	X	X	X
Transitions (Supply and Return) - Order one	LASRT30/36	<b>33K80</b>	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	20 Ton	25 Ton	25 Ton	25 Ton
		Model Number	LGH242H4V	LGH300H4B	LGH300H4V	LGH300H4M
		Efficiency Type	High	High	High	High
		Blower Type	VAV (Variable Air Volume)	CAV (Constant Air Volume)	VAV (Variable Air Volume)	MSAV® (Multi-Stage Air Volume)
<b>Cooling Performance</b>	Gross Cooling Capacity - Btuh		244,000	310,000	310,000	310,000
	Net Cooling Capacity - Btuh		<sup>1</sup> 238,000	<sup>2</sup> 300,000	<sup>2</sup> 300,000	<sup>2</sup> 300,000
	AHRI Rated Air Flow - cfm		6800	8100	8100	8100
	Total Unit Power - kW		19.3	25.9	25.8	25.8
	EER (Btuh/Watt)		<sup>1</sup> 12.3	<sup>2</sup> 11.6	<sup>2</sup> 11.6	<sup>2</sup> 11.6
	IEER (Btuh/Watt)		<sup>1</sup> 15.5	<sup>2</sup> 12.5	<sup>2</sup> 14.3	<sup>2</sup> 14.4
<b>Refrigerant Charge</b>	Refrigerant Type		R-410A	R-410A	R-410A	R-410A
	Circuit 1		8 lbs. 0 oz.	9 lbs. 4 oz.	8 lbs. 0 oz.	8 lbs. 0 oz.
	Circuit 2		8 lbs. 0 oz.	9 lbs. 0 oz.	8 lbs. 0 oz.	8 lbs. 0 oz.
	Circuit 3		8 lbs. 8 oz.	8 lbs. 12 oz.	8 lbs. 0 oz.	8 lbs. 0 oz.
	Circuit 4		8 lbs. 8 oz.	8 lbs. 8 oz.	8 lbs. 8 oz.	8 lbs. 8 oz.
<b>Gas Heating Options Available</b>			See page 31			
<b>Compressor Type (number)</b>			Scroll (4)	Scroll (4)	Scroll (4)	Scroll (4)
<b>Outdoor Coils</b>	Net face area (total) - sq. ft.		68.3	68.3	68.3	68.3
	Number of rows		1	1	1	1
	Fins per inch		23	23	23	23
<b>Outdoor Coil Fans</b>	Motor - (No.) horsepower		(6) 1/3	(6) 1/3	(6) 1/3	(6) 1/3
	Motor rpm		1075	1075	1075	1075
	Total Motor watts		2500	2500	2500	2500
	Diameter - (No.) in.		(6) 24	(6) 24	(6) 24	(6) 24
	Number of blades		3	3	3	3
	Total Air volume - cfm		21,500	21,500	21,500	21,500
<b>Indoor Coils</b>	Net face area (total) - sq. ft.		31.40	31.40	31.40	31.40
	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 - No. and size		(1) 1 in. NPT	(1) 1 in. NPT	(1) 1 in. NPT	(1) 1 in. NPT
Expansion device type			Balance port TXV, removable head			
<b><sup>3</sup> Indoor Blower and Kit Selection</b>	Nominal motor output		5 hp, 7.5 hp, 10 hp			
	Maximum usable motor output (US Only)		5.75 hp, 8.63 hp, 11.5 hp			
	Motor - Kit kit number		<b>5 hp</b> Kit 5 660-810 rpm Kit 6 770-965 rpm Kit 7 570-720 rpm Kit 8 480-630 rpm Kit 9 410-535 rpm <b>7.5 hp</b> Kit 3 715-880 rpm Kit 4 770-965 rpm <b>10 hp</b> Kit 1 740-895 rpm Kit 2 870-1045 rpm			
	Blower wheel nom. D x W - in.		(2) 18 x 15	(2) 18 x 15	(2) 18 x 15	(2) 18 x 15
<b>Filters</b>	Type of filter		Fiberglass, disposable			
	Number and size - in.		(12) 20 x 20 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> Tested at conditions included in with 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.

## SPECIFICATIONS

General Data		30 Ton	30 Ton	30 Ton
Nominal Tonnage		30 Ton	30 Ton	30 Ton
Model Number		LGH360H4B	LGH360H4V	LGH360H4M
Efficiency Type		High	High	High
Blower Type		CAV (Constant Air Volume)	VAV (Variable Air Volume)	MSAV® (Multi-Stage Air Volume)
<b>Cooling Performance</b>	Gross Cooling Capacity - Btuh	370,000	370,000	370,000
	<sup>1</sup> Net Cooling Capacity - Btuh	354,000	350,000	350,000
	AHRI Rated Air Flow - cfm	9600	8600	8600
	Total Unit Power - kW	33.4	33.0	33.0
	<sup>1</sup> EER (Btuh/Watt)	10.6	10.6	10.6
	<sup>1</sup> IEER (Btuh/Watt)	11.6	13.5	14.0
<b>Refrigerant Charge</b>	Refrigerant Type	R-410A	R-410A	R-410A
	Circuit 1	9 lbs. 0 oz.	8 lbs. 0 oz.	8 lbs. 0 oz.
	Circuit 2	8 lbs. 0 oz.	8 lbs. 0 oz.	8 lbs. 0 oz.
	Circuit 3	9 lbs. 0 oz.	8 lbs. 0 oz.	8 lbs. 0 oz.
	Circuit 4	7 lbs. 8 oz.	8 lbs. 0 oz.	8 lbs. 0 oz.
<b>Gas Heating Options Available</b>		See page 31		
<b>Compressor Type (number)</b>		Scroll (4)	Scroll (4)	Scroll (4)
<b>Outdoor Coils</b>	Net face area (total) - sq. ft.	68.3	68.3	68.3
	Number of rows	1	1	1
	Fins per inch	23	23	23
<b>Outdoor Coil Fans</b>	Motor - (No.) horsepower	(6) 1/3	(6) 1/3	(6) 1/3
	Motor rpm	1075	1075	1075
	Total Motor watts	2500	2500	2500
	Diameter - (No.) in.	(6) 24	(6) 24	(6) 24
	Number of blades	3	3	3
	Total Air volume - cfm	21,500	21,500	21,500
<b>Indoor Coils</b>	Net face area (total) - sq. ft.	31.40	31.40	31.40
	Tube diameter - in.	3/8	3/8	3/8
	Number of rows	4	4	4
	Fins per inch	14	14	14
	Drain connection - No. and size	(1) 1 in. NPT	(1) 1 in. NPT	(1) 1 in. NPT
Expansion device type		Balance port TXV, removable head		
<b><sup>3</sup> Indoor Blower and Kit Selection</b>	Nominal motor output	5 hp, 7.5 hp, 10 hp		
	Maximum usable motor output (US Only)	5.75 hp, 8.63 hp, 11.5 hp		
	Motor - Kit kit number	<b>5 hp</b> Kit 5 660-810 rpm Kit 6 770-965 rpm Kit 7 570-720 rpm Kit 8 480-630 rpm Kit 9 410-535 rpm <b>7.5 hp</b> Kit 3 715-880 rpm Kit 4 770-965 rpm <b>10 hp</b> Kit 1 740-895 rpm Kit 2 870-1045 rpm		
	Blower wheel nom. D x W - in.	(2) 18 x 15	(2) 18 x 15	(2) 18 x 15
<b>Filters</b>	Type of filter	Fiberglass, disposable		
	Number and size - in.	(12) 20 x 20 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>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.

## SPECIFICATIONS - GAS HEAT

Usage Data		Model Number	LGH242 LGH300 LGH360		
		Heat Input Type	Standard (S)	Medium (M)	High (H)
		Number of Gas Heat Stages	2	2	2
<b>Gas Heating Performance (Two-Stage)</b>	Input - Btuh	First Stage	169,000	234,000	312,000
		Second Stage	260,000	360,000	480,000
	Output - Btuh	First Stage	---	---	---
		Second Stage	208,000	288,000	384,000
<sup>1</sup> <b>Gas Heating Performance (Four-Stage)</b>	Input - Btuh	First Stage	84,500	117,000	156,000
		Second Stage	169,000	234,000	312,000
		Third Stage	214,000	297,000	396,000
		Fourth Stage	260,000	360,000	480,000
	Output - Btuh	First Stage	---	---	---
		Second Stage	---	---	---
		Third Stage	---	---	---
		Fourth Stage	208,000	288,000	384,000
Temperature Rise Range - °F			15 - 45	30 - 60	40 - 70
Thermal Efficiency			80.0%	80.0%	80.0%
Gas Supply Connections			1 in. npt	1 in. npt	1 in. npt
Recommended Gas Supply Pressure - in. w.g.	Natural		7	7	7
	LPG/Propane		11	11	11

<sup>1</sup> Four-Stage Gas Heating is field configured.

## 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.

### TWO-STAGE

Gas Heat Type (Two-Stage)	Altitude - ft.	Gas Manifold Pressure - in. w.g.		Input Rate Natural Gas or LPG/Propane - Btuh	
		Natural Gas	LPG/Propane Gas	First Stage	Second Stage
Low (L)		No adjustment required			
Standard (S)	2001 - 4500	3.4	9.6	169,000	249,000
Medium (M)	2001 - 4500	3.4	9.6	234,000	345,000
High (H)	2001 - 4500	3.4	9.6	312,000	460,000

### FOUR-STAGE

<sup>1</sup> Gas Heat Type (Four-Stage)	Altitude - ft.	Gas Manifold Pressure - in. w.g.		Input Rate Natural Gas or LPG/Propane - Btuh			
		Natural Gas	LPG/Propane Gas	First Stage	Second Stage	Third Stage	Fourth Stage
Low (L)		No adjustment required					
Standard (S)	2001 - 4500	3.4	9.6	84,000	169,000	209,000	249,000
Medium (M)	2001 - 4500	3.4	9.6	117,000	234,000	289,000	345,000
High (H)	2001 - 4500	3.4	9.6	156,000	312,000	386,000	460,000

<sup>1</sup> Four-Stage Gas Heating is field configured.













HUMIDITROL® DEHUMIDIFICATION SYSTEM RATINGS

25 TON HIGH EFFICIENCY LGH300H4M WITH HUMIDITROL® OPERATING (1ST STAGE)

Table with columns for Entering Wet Bulb Temperature, Total Air Volume, and Outdoor Air Temperature Entering Outdoor Coil (65°F, 75°F, 85°F, 95°F). Rows include data for 63°F, 67°F, and 71°F at various flow rates.

25 TON HIGH EFFICIENCY LGH300H4M WITH HUMIDITROL® OPERATING (2ND STAGE)

Table with columns for Entering Wet Bulb Temperature, Total Air Volume, and Outdoor Air Temperature Entering Outdoor Coil (65°F, 75°F, 85°F, 95°F). Rows include data for 63°F, 67°F, and 71°F at various flow rates.

30 TON HIGH EFFICIENCY LGH360H4M WITH HUMIDITROL® OPERATING (1ST STAGE)

Table with columns for Entering Wet Bulb Temperature, Total Air Volume, and Outdoor Air Temperature Entering Outdoor Coil (65°F, 75°F, 85°F, 95°F). Rows include data for 63°F, 67°F, and 71°F at various flow rates.

30 TON HIGH EFFICIENCY LGH360H4M WITH HUMIDITROL® OPERATING (2ND STAGE)

Table with columns for Entering Wet Bulb Temperature, Total Air Volume, and Outdoor Air Temperature Entering Outdoor Coil (65°F, 75°F, 85°F, 95°F). Rows include data for 63°F, 67°F, and 71°F at various flow rates.

## BLOWER DATA

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL & 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 and drive required.

See page 39 for wet coil and option/accessory air resistance data.

See page 39 for factory installed drive kit specifications.

Air Volume cfm	TOTAL STATIC PRESSURE - In. w.g.																									
	0.20		0.40		0.60		0.80		1.00		1.20		1.40		1.60		1.80		2.00		2.20		2.40		2.60	
	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
4000	372	0.26	433	0.65	497	0.99	565	1.27	630	1.54	687	1.79	738	2.04	784	2.30	824	2.56	861	2.82	897	3.10	932	3.40	974	4.01
4500	382	0.41	441	0.79	506	1.12	574	1.41	638	1.69	694	1.95	744	2.22	790	2.50	831	2.77	868	3.05	903	3.35	938	3.66	974	4.30
5000	392	0.56	451	0.93	516	1.25	584	1.55	646	1.85	702	2.12	751	2.41	796	2.70	837	3.00	874	3.30	909	3.61	944	3.93	980	4.60
5500	402	0.73	462	1.08	527	1.40	594	1.72	655	2.02	710	2.31	758	2.61	802	2.92	843	3.24	880	3.56	916	3.88	951	4.22	987	4.91
6000	414	0.89	473	1.24	539	1.56	605	1.90	665	2.21	718	2.51	766	2.83	809	3.16	850	3.51	887	3.84	922	4.18	957	4.52	994	5.24
6500	426	1.07	486	1.41	551	1.74	616	2.10	675	2.42	727	2.73	774	3.07	817	3.43	857	3.80	894	4.15	929	4.49	964	4.85	1001	5.59
7000	439	1.26	499	1.60	565	1.93	628	2.31	685	2.64	737	2.97	782	3.34	825	3.72	864	4.11	901	4.48	937	4.83	971	5.19	1008	5.97
7500	453	1.46	513	1.79	579	2.14	641	2.55	696	2.88	747	3.24	792	3.63	833	4.04	872	4.45	909	4.83	945	5.20	979	5.56	1016	6.37
8000	467	1.66	528	2.00	593	2.38	653	2.81	708	3.15	757	3.53	801	3.95	843	4.39	881	4.82	918	5.22	953	5.59	988	5.96	1025	6.81
8500	483	1.88	544	2.22	608	2.65	667	3.10	720	3.44	768	3.85	812	4.30	852	4.78	890	5.22	927	5.63	962	6.01	997	6.39	1034	7.28
9000	499	2.11	561	2.47	624	2.95	681	3.41	733	3.76	780	4.20	823	4.69	862	5.19	900	5.65	936	6.07	972	6.46	1007	6.85	1044	7.78
9500	516	2.36	578	2.75	640	3.26	696	3.73	746	4.10	792	4.58	834	5.11	873	5.64	910	6.12	946	6.54	982	6.93	1018	7.34	1055	8.32
10,000	534	2.64	596	3.06	657	3.60	711	4.07	760	4.48	805	5.00	845	5.57	884	6.12	921	6.61	957	7.03	992	7.43	1028	7.86	1066	8.89
10,500	553	2.93	615	3.39	674	3.95	727	4.44	775	4.90	817	5.46	857	6.06	895	6.62	932	7.12	967	7.55	1003	7.96	1039	8.40	1077	9.49
11,000	572	3.24	634	3.74	692	4.31	744	4.83	789	5.35	830	5.95	869	6.58	907	7.16	943	7.65	978	8.09	1013	8.51	1050	8.98	1089	10.12
11,500	592	3.58	653	4.12	711	4.70	760	5.27	803	5.85	843	6.49	881	7.13	918	7.71	954	8.21	989	8.65	1025	9.10	1062	9.59	1101	10.77
12,000	613	3.95	674	4.53	729	5.14	776	5.75	818	6.39	857	7.06	894	7.71	930	8.30	965	8.80	1000	9.25	1036	9.71	1073	10.22	1112	11.42
12,500	635	4.37	695	4.98	748	5.62	792	6.29	832	6.98	870	7.67	906	8.33	941	8.91	976	9.42	1011	9.87	1048	10.35	1085	10.86	1124	11.42
13,000	657	4.83	715	5.50	766	6.18	808	6.89	847	7.61	883	8.32	918	8.98	953	9.56	988	10.06	1023	10.52	1059	11.00	1096	11.57	1134	12.66
13,500	680	5.35	736	6.06	784	6.78	824	7.53	861	8.29	896	9.00	930	9.66	965	10.24	1000	10.74	1035	11.20	1071	11.84	1108	12.42	1146	13.76
14,000	704	5.92	757	6.67	801	7.44	839	8.23	875	9.00	909	9.72	943	10.38	977	10.94	1012	11.43	1047	11.99	1083	12.64	1120	13.22	1158	14.96
14,500	727	6.55	777	7.34	818	8.16	854	8.97	889	9.75	922	10.48	955	11.12	989	11.74	1024	12.03	1059	12.59	1095	13.42	1132	14.00	1170	16.28
15,000	750	7.23	797	8.07	834	8.92	868	9.75	902	10.54	935	11.26	969	11.94	1003	12.56	1040	13.13	1077	13.70	1113	14.44	1150	15.12	1188	17.60

## BLOWER DATA

### DRIVE KIT SPECIFICATIONS

Motor Efficiency	Nominal hp	Maximum hp	Drive Kit Number	RPM Range
Standard	5	5.75	5	660 - 810
Standard	5	5.75	6	770 - 965
Standard	5	5.75	7	570 - 720
Standard	5	5.75	8	480 - 630
Standard	5	5.75	9	410 - 535
Standard	7.5	8.63	3	715 - 880
Standard	7.5	8.63	4	770 - 965
Standard	10	11.50	1	740 - 895
Standard	10	11.50	2	870 - 1045

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.

### FACTORY INSTALLED OPTIONS/FIELD INSTALLED ACCESSORY AIR RESISTANCE

Air Volume cfm	Wet Indoor Coil in. w.g.	Humiditrol® Condenser Reheat Coil in. w.g.	Gas Heat Exchanger			Economizer in. w.g.	Filters		Horizontal Roof Curb in. w.g.
			Standard Heat	Medium Heat	High Heat		MERV 8	MERV 13	
			in. w.g.	in. w.g.	in. w.g.		in. w.g.	in. w.g.	
4000	0.04	0.04	0.08	0.08	0.11	0.00	0.00	0.00	0.04
4500	0.04	0.04	0.09	0.10	0.13	0.00	0.00	0.00	0.05
5000	0.05	0.04	0.10	0.12	0.15	0.00	0.00	0.00	0.06
5500	0.06	0.06	0.11	0.14	0.17	0.01	0.00	0.01	0.07
6000	0.07	0.06	0.12	0.16	0.19	0.01	0.00	0.02	0.08
6500	0.08	0.08	0.13	0.18	0.21	0.01	0.01	0.02	0.09
7000	0.09	0.08	0.14	0.20	0.24	0.02	0.01	0.03	0.10
7500	0.10	0.10	0.15	0.21	0.25	0.02	0.01	0.04	0.11
8000	0.11	0.10	0.17	0.24	0.28	0.02	0.01	0.04	0.13
8500	0.12	0.10	0.20	0.27	0.31	0.03	0.01	0.04	0.15
9000	0.13	0.12	0.22	0.29	0.34	0.04	0.01	0.04	0.17
9500	0.14	0.14	0.24	0.32	0.38	0.04	0.02	0.06	0.19
10,000	0.15	0.16	0.27	0.36	0.42	0.05	0.02	0.06	0.21
10,500	0.16	0.17	0.30	0.40	0.46	0.06	0.02	0.06	0.24
11,000	0.18	0.18	0.33	0.43	0.50	0.07	0.02	0.07	0.27
11,500	0.19	0.19	0.37	0.48	0.55	0.08	0.02	0.08	0.30
12,000	0.20	0.20	0.40	0.52	0.60	0.10	0.02	0.08	0.33
12,500	0.21	0.22	0.44	0.57	0.65	0.11	0.03	0.10	0.37
13,000	0.23	0.23	0.48	0.61	0.70	0.13	0.03	0.10	0.40
13,500	0.24	0.25	0.53	0.67	0.76	0.14	0.03	0.11	0.44
14,000	0.26	0.26	0.57	0.72	0.82	0.16	0.03	0.12	0.49
14,500	0.27	0.27	0.62	0.78	0.89	0.18	0.04	0.13	0.53
15,000	0.29	0.29	0.68	0.84	0.95	0.21	0.04	0.13	0.58

## BLOWER DATA

### POWER EXHAUST PERFORMANCE - STANDARD STATIC

Return Duct Negative Static Pressure	Air Volume Exhausted
in. w.g.	cfm
0.00	12,800
0.05	12,200
0.10	11,500
0.15	10,800
0.20	9900
0.25	9000
0.30	7900
0.35	6750
0.40	5450
0.45	4150
0.50	2900

### POWER EXHAUST - 50% HIGH STATIC OPERATION

Air Volume cfm	RETURN DUCT NEGATIVE STATIC PRESSURE - In. w.g.																					
	0		0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4000	---	---	---	---	430	0.40	475	0.45	520	0.50	570	0.55	615	0.65	665	0.70	710	0.75	755	0.85	---	---
4500	---	---	415	0.45	460	0.55	500	0.60	545	0.65	585	0.70	625	0.80	670	0.85	710	0.95	750	1.00	795	1.10
5000	415	0.55	455	0.65	490	0.70	530	0.75	570	0.85	605	0.90	645	1.00	680	1.05	720	1.15	755	1.20	795	1.30
5500	460	0.75	495	0.85	525	0.90	560	0.95	595	1.05	630	1.10	665	1.20	700	1.30	735	1.35	765	1.45	800	1.55
6000	500	1.00	530	1.05	565	1.15	595	1.20	625	1.30	660	1.40	690	1.45	720	1.55	750	1.65	785	1.70	815	1.80
6500	540	1.25	570	1.30	600	1.40	630	1.50	660	1.60	685	1.65	715	1.75	745	1.85	775	1.95	805	2.05	830	2.10
7000	585	1.55	610	1.65	635	1.70	665	1.85	690	1.90	720	2.00	745	2.10	770	2.20	800	2.30	825	2.40	855	2.50
7500	625	1.90	650	2.00	675	2.10	700	2.20	725	2.30	750	2.40	775	2.50	800	2.60	825	2.70	850	2.80	875	2.90
8000	665	2.30	690	2.40	715	2.55	735	2.60	760	2.70	785	2.85	810	2.95	830	3.05	855	3.15	880	3.25	905	3.40
8500	710	2.80	730	2.90	755	3.00	775	3.10	795	3.20	820	3.35	840	3.45	865	3.55	885	3.65	910	3.80	930	3.90

### POWER EXHAUST - 100% HIGH STATIC OPERATION

Air Volume cfm	RETURN DUCT NEGATIVE STATIC PRESSURE - In. w.g.																					
	0		0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8500	475	1.30	500	1.30	525	1.40	550	1.50	585	1.60	625	1.75	670	1.90	710	2.10	745	2.30	780	2.50	815	2.70
9000	520	1.55	535	1.60	550	1.65	570	1.70	605	1.85	640	1.95	685	2.15	720	2.35	760	2.55	790	2.75	825	3.00
9500	550	1.80	560	1.85	575	1.90	600	2.00	620	2.10	655	2.20	695	2.40	735	2.60	770	2.80	800	3.00	835	3.25
10,000	575	2.10	590	2.15	605	2.20	620	2.30	645	2.40	675	2.50	710	2.65	745	2.85	780	3.05	815	3.30	845	3.50
10,500	605	2.45	615	2.45	625	2.50	645	2.60	670	2.75	690	2.80	725	3.00	755	3.15	790	3.35	825	3.60	855	3.80
11,000	630	2.80	645	2.85	660	2.95	675	3.00	685	3.05	715	3.20	740	3.30	770	3.50	805	3.70	835	3.90	870	4.20
11,500	665	3.25	675	3.30	680	3.30	695	3.40	715	3.50	735	3.60	755	3.70	785	3.85	815	4.05	850	4.30	880	4.50
12,000	685	3.60	700	3.70	710	3.75	725	3.85	740	3.95	755	4.00	780	4.15	805	4.30	830	4.45	860	4.65	890	4.90
12,500	720	4.10	730	4.20	740	4.25	750	4.30	765	4.40	780	4.50	800	4.60	820	4.75	845	4.90	875	5.10	905	5.35
13,000	745	4.60	750	4.65	765	4.75	780	4.85	790	4.90	805	5.00	820	5.10	840	5.25	865	5.40	890	5.60	915	5.80
13,500	775	5.15	785	5.25	795	5.35	805	5.40	815	5.50	830	5.60	845	5.70	865	5.80	880	5.95	905	6.10	930	6.30
14,000	805	5.80	810	5.80	820	5.90	830	6.00	845	6.10	855	6.20	870	6.30	885	6.40	905	6.55	925	6.70	---	---

### HIGH STATIC POWER EXHAUST WITH CONSTANT AIR VOLUME - DRIVE KIT SPECIFICATIONS

Power Exhaust Model No.	Motor HP	Drive Kit Number	RPM Range
LAPEB30/36A (50%)	(2) 2 hp	1	406 - 533
LAPEB30/36B (50%)	(2) 2 hp	2	531 - 731
LAPEB30/36C (50%)	(2) 2 hp	3	731 - 932
LAPEB30/36D (100%)	(3) 2 hp	1	406 - 533
LAPEB30/36E (100%)	(3) 2 hp	2	531 - 731
LAPEB30/36F (100%)	(3) 2 hp	3	731 - 932

NOTE - Using total air volume and system static pressure requirements, determine from blower performance tables rpm and motor output required.



## BLOWER DATA

### CEILING DIFFUSER AIR RESISTANCE - in. w.g.

Air Volume cfm	Step-Down Diffuser			Flush Diffuser
	LARTD30/36S			LAFD30/36S
	2 Ends Open	1 Side/2 Ends Open	All Ends & Sides Open	
7500	0.37	0.31	0.25	0.29
8000	0.42	0.36	0.29	0.34
8500	0.48	0.41	0.34	0.39
9000	0.55	0.47	0.39	0.44
9500	0.62	0.53	0.45	0.51
10,000	0.70	0.60	0.51	0.57
10,500	0.78	0.68	0.58	0.65
11,000	0.87	0.76	0.65	0.72
11,500	0.97	0.85	0.73	0.81
12,000	1.08	0.94	0.82	0.9
12,500	1.19	1.04	0.91	0.99
13,000	1.30	1.15	1.00	1.10
13,500	1.43	1.26	1.10	1.20
14,000	1.56	1.38	1.20	1.31
14,500	1.69	1.50	1.31	1.43
15,000	1.84	1.63	1.43	1.56

### CEILING DIFFUSER AIR THROW DATA - ft.

Air Volume cfm	<sup>1</sup> Effective Throw Range - ft.	
	Step-Down	Flush
9000	40 - 47	29 - 35
9500	43 - 50	33 - 41
10,000	46 - 54	37 - 46
10,500	50 - 58	42 - 51
11,000	53 - 61	46 - 56
11,500	55 - 64	50 - 61
12,000	58 - 67	54 - 66
12,500	61 - 71	58 - 71
13,000	64 - 74	62 - 75
13,500	67 - 77	66 - 79

<sup>1</sup> Throw is the horizontal or vertical distance an airstream travels on leaving the outletor diffuser before the maximum velocity is reduced to 50 ft. per minute. Four sides open.

**ELECTRICAL DATA**

**HIGH EFFICIENCY - VARIABLE AIR VOLUME - 20 TON**

Model No.		LGH242H4V								
		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
<sup>1</sup> Voltage - 60hz										
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		
Compressor 3	Rated Load Amps	13.5			8			5		
	Locked Rotor Amps	109			59			40		
Compressor 4	Rated Load Amps	13.5			8			5		
	Locked Rotor Amps	109			59			40		
Outdoor Fan Motors (6)	Full Load Amps	2.4			1.3			1		
	(total)	(14.4)			(7.8)			(6)		
Standard Power Exhaust (3) 0.33 HP	Full Load Amps	2.4			1.3			1		
	(total)	(7.2)			(3.9)			(3)		
50% High Static Power Exhaust (2) 2 HP	Full Load Amps	7.5			3.4			2.7		
	(total)	(15)			(6.8)			(5.4)		
100% High Static Power Exhaust (3) 2 HP	Full Load Amps	7.5			3.4			2.7		
	(total)	(22.5)			(10.2)			(8.1)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10
	Full Load Amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11
<sup>2</sup> Maximum Overcurrent Protection	Unit Only	100	110	125	50	60	70	35	45	50
	With (3) 0.33 HP Standard Power Exhaust	110	125	125	60	60	70	40	45	50
	With 50% High Static Power Exhaust (2) 2 HP	110	125	150	60	70	70	45	50	50
	With 100% High Static Power Exhaust (3) 2 HP	125	125	150	60	70	80	45	50	50
<sup>3</sup> Minimum Circuit Ampacity	Unit Only	90	99	107	50	54	58	34	38	40
	With (3) 0.33 HP Standard Power Exhaust	97	106	115	54	58	62	37	41	43
	With 50% High Static Power Exhaust (2) 2 HP	105	114	122	57	61	65	40	43	46
	With 100% High Static Power Exhaust (3) 2 HP	112	122	130	60	64	68	42	46	48

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**
**HIGH EFFICIENCY - CONSTANT AIR VOLUME - 25 TON**

Model No.		LGH300H4B								
<sup>1</sup> Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	22.4			10.6			7.7		
	Locked Rotor Amps	149			75			54		
Compressor 2	Rated Load Amps	22.4			10.6			7.7		
	Locked Rotor Amps	149			75			54		
Compressor 3	Rated Load Amps	22.4			10.6			7.7		
	Locked Rotor Amps	149			75			54		
Compressor 4	Rated Load Amps	22.4			10.6			7.7		
	Locked Rotor Amps	149			75			54		
Outdoor Fan Motors (6)	Full Load Amps	2.4			1.3			1		
	(total)	(14.4)			(7.8)			(6)		
Standard Power Exhaust (3) 0.33 HP	Full Load Amps	2.4			1.3			1		
	(total)	(7.2)			(3.9)			(3)		
50% High Static Power Exhaust (2) 2 HP	Full Load Amps	7.5			3.4			2.7		
	(total)	(15)			(6.8)			(5.4)		
100% High Static Power Exhaust (3) 2 HP	Full Load Amps	7.5			3.4			2.7		
	(total)	(22.5)			(10.2)			(8.1)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10
	Full Load Amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11
<sup>2</sup> Maximum Overcurrent Protection	Unit Only	150	150	150	70	70	80	50	50	60
	With (3) 0.33 HP Standard Power Exhaust	150	150	150	70	70	80	60	60	60
	With 50% High Static Power Exhaust (2) 2 HP	150	150	175	70	80	80	60	60	60
	With 100% High Static Power Exhaust (3) 2 HP	150	175	175	80	80	90	60	60	60
<sup>3</sup> Minimum Circuit Ampacity	Unit Only	127	135	143	61	64	68	45	49	51
	With (3) 0.33 HP Standard Power Exhaust	128	134	142	62	65	68	46	48	52
	With 50% High Static Power Exhaust (2) 2 HP	142	150	158	68	71	75	51	54	56
	With 100% High Static Power Exhaust (3) 2 HP	149	157	165	71	75	78	53	57	59

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 HIGH EFFICIENCY - VARIABLE/MULTI-STAGE AIR VOLUME - 25 TON**

Model No.		LGH300H4V, LGH300H4M								
<sup>1</sup> Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	22.4			10.6			7.7		
	Locked Rotor Amps	149			75			54		
Compressor 2	Rated Load Amps	22.4			10.6			7.7		
	Locked Rotor Amps	149			75			54		
Compressor 3	Rated Load Amps	22.4			10.6			7.7		
	Locked Rotor Amps	149			75			54		
Compressor 4	Rated Load Amps	22.4			10.6			7.7		
	Locked Rotor Amps	149			75			54		
Outdoor Fan Motors (6)	Full Load Amps	2.4			1.3			1		
	(total)	(14.4)			(7.8)			(6)		
Standard Power Exhaust (3) 0.33 HP	Full Load Amps	2.4			1.3			1		
	(total)	(7.2)			(3.9)			(3)		
50% High Static Power Exhaust (2) 2 HP	Full Load Amps	7.5			3.4			2.7		
	(total)	(15)			(6.8)			(5.4)		
100% High Static Power Exhaust (3) 2 HP	Full Load Amps	7.5			3.4			2.7		
	(total)	(22.5)			(10.2)			(8.1)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10
	Full Load Amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11
<sup>2</sup> Maximum Overcurrent Protection	Unit Only	150	150	150	70	70	80	50	50	60
	With (3) 0.33 HP Standard Power Exhaust	150	150	175	70	70	80	50	60	60
	With 50% High Static Power Exhaust (2) 2 HP	150	150	175	70	80	80	60	60	60
	With 100% High Static Power Exhaust (3) 2 HP	150	175	175	80	80	90	60	60	60
<sup>3</sup> Minimum Circuit Ampacity	Unit Only	127	135	143	61	64	68	45	49	51
	With (3) 0.33 HP Standard Power Exhaust	134	142	150	65	68	72	48	52	54
	With 50% High Static Power Exhaust (2) 2 HP	142	150	158	68	71	75	51	54	56
	With 100% High Static Power Exhaust (3) 2 HP	149	157	165	71	75	78	53	57	59

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**
**HIGH EFFICIENCY - CONSTANT AIR VOLUME - 30 TON**

Model No.		LGH360H4B								
		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
<sup>1</sup> Voltage - 60hz										
Compressor 1	Rated Load Amps	25			12.2			9		
	Locked Rotor Amps	164			100			78		
Compressor 2	Rated Load Amps	25			12.2			9		
	Locked Rotor Amps	164			100			78		
Compressor 3	Rated Load Amps	25			12.2			9		
	Locked Rotor Amps	164			100			78		
Compressor 4	Rated Load Amps	25			12.2			9		
	Locked Rotor Amps	164			100			78		
Outdoor Fan Motors (6)	Full Load Amps	2.4			1.3			1		
	(total)	(14.4)			(7.8)			(6)		
Standard Power Exhaust (3) 0.33 HP	Full Load Amps	2.4			1.3			1		
	(total)	(7.2)			(3.9)			(3)		
50% High Static Power Exhaust (2) 2 HP	Full Load Amps	7.5			3.4			2.7		
	(total)	(15)			(6.8)			(5.4)		
100% High Static Power Exhaust (3) 2 HP	Full Load Amps	7.5			3.4			2.7		
	(total)	(22.5)			(10.2)			(8.1)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10
	Full Load Amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11
<sup>2</sup> Maximum Overcurrent Protection	Unit Only	150	150	175	70	80	80	60	60	60
	With (3) 0.33 HP Standard Power Exhaust	150	175	175	80	80	90	60	60	60
	With 50% High Static Power Exhaust (2) 2 HP	175	175	175	80	80	90	60	60	70
	With 100% High Static Power Exhaust (3) 2 HP	175	175	200	80	90	90	60	70	70
<sup>3</sup> Minimum Circuit Ampacity	Unit Only	138	145	153	68	71	75	51	54	56
	With (3) 0.33 HP Standard Power Exhaust	145	153	161	72	75	78	54	57	59
	With 50% High Static Power Exhaust (2) 2 HP	153	160	168	75	78	81	56	59	62
	With 100% High Static Power Exhaust (3) 2 HP	160	168	176	78	81	85	59	62	64

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 HIGH EFFICIENCY - VARIABLE/MULTI-STAGE AIR VOLUME - 30 TON**

Model No.		LGH360H4V, LGH360H4M								
<sup>1</sup> Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	25			12.2			9		
	Locked Rotor Amps	164			100			78		
Compressor 2	Rated Load Amps	25			12.2			9		
	Locked Rotor Amps	164			100			78		
Compressor 3	Rated Load Amps	25			12.2			9		
	Locked Rotor Amps	164			100			78		
Compressor 4	Rated Load Amps	25			12.2			9		
	Locked Rotor Amps	164			100			78		
Outdoor Fan Motors (6)	Full Load Amps	2.4			1.3			1		
	(total)	(14.4)			(7.8)			(6)		
Standard Power Exhaust (3) 0.33 HP	Full Load Amps	2.4			1.3			1		
	(total)	(7.2)			(3.9)			(3)		
50% High Static Power Exhaust (2) 2 HP		7.5			3.4			2.7		
		(15)			(6.8)			(5.4)		
100% High Static Power Exhaust (3) 2 HP		7.5			3.4			2.7		
		(22.5)			(10.2)			(8.1)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10
	Full Load Amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11
<sup>2</sup> Maximum Overcurrent Protection	Unit Only	150	150	175	70	80	80	60	60	60
	With (3) 0.33 HP Standard Power Exhaust	150	175	175	80	80	90	60	60	60
	With 50% High Static Power Exhaust (2) 2 HP	175	175	175	80	80	90	60	60	70
	With 100% High Static Power Exhaust (3) 2 HP	175	175	200	80	90	90	60	70	70
<sup>3</sup> Minimum Circuit Ampacity	Unit Only	138	145	153	68	71	75	51	54	56
	With (3) 0.33 HP Standard Power Exhaust	145	153	161	72	75	78	54	57	59
	With 50% High Static Power Exhaust (2) 2 HP	153	160	168	75	78	81	56	59	62
	With 100% High Static Power Exhaust (3) 2 HP	160	168	176	78	81	85	59	62	64

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 ACCESSORIES****HIGH EFFICIENCY - 20 TON**

Model No.		LGH242H4								
Voltage - 60hz - 3 phase		208/230V			460V			575V		
Indoor Blower Motor Horsepower		5	7.5	10	5	7.5	10	5	7.5	10
Disconnect	Unit Only	54W86	54W86	54W86	54W85	54W85	54W85	54W85	54W85	54W85
	Unit + Standard Power Exhaust (3) 0.33 HP	54W86	54W86	54W86	54W85	54W85	54W85	54W85	54W85	54W85
	Unit + 50% High Static Power Exhaust (2) 2 HP	54W86	54W86	54W86	54W85	54W85	54W85	54W85	54W85	54W85
	Unit + 100% High Static Power Exhaust (3) 2 HP	54W86	54W86	54W86	54W85	54W85	54W85	54W85	54W85	54W85
Terminal Block		30K75	30K75	30K75	30K75	30K75	30K75	30K75	30K75	30K75

**ELECTRICAL ACCESSORIES****HIGH EFFICIENCY - 25 TON**

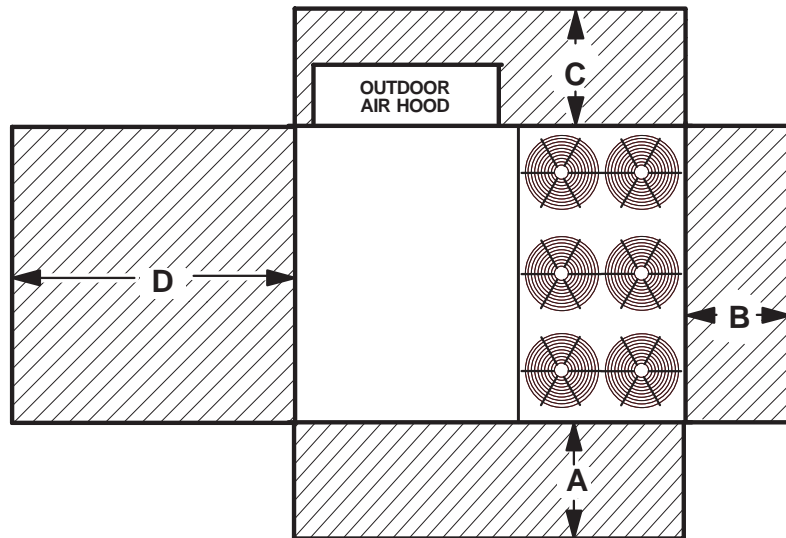
Model No.		LGH300H4								
Voltage - 60hz - 3 phase		208/230V			460V			575V		
Indoor Blower Motor Horsepower		5	7.5	10	5	7.5	10	5	7.5	10
Disconnect	Unit Only	54W86	54W86	54W87	54W85	54W85	54W85	54W85	54W85	54W85
	Unit + Standard Power Exhaust (3) 0.33 HP	54W86	54W87	54W87	54W85	54W85	54W85	54W85	54W85	54W85
	Unit + 50% High Static Power Exhaust (2) 2 HP	54W87	54W87	54W87	54W85	54W85	54W86	54W85	54W85	54W85
	Unit + 100% High Static Power Exhaust (3) 2 HP	54W7	54W87	54W87	54W85	54W86	54W86	54W85	54W85	54W85
Terminal Block		30K75	30K75	30K75	30K75	30K75	30K75	30K75	30K75	30K75

**ELECTRICAL ACCESSORIES****HIGH EFFICIENCY - 30 TON**

Model No.		LGH360H4								
Voltage - 60hz - 3 phase		208/230V			460V			575V		
Indoor Blower Motor Horsepower		5	7.5	10	5	7.5	10	5	7.5	10
Disconnect	Unit Only	54W87	54W87	54W87	54W85	54W85	54W86	54W85	54W85	54W85
	Unit + Standard Power Exhaust (3) 0.33 HP	54W87	54W87	54W87	54W85	54W86	54W86	54W85	54W85	54W85
	Unit + 50% High Static Power Exhaust (2) 2 HP	54W87	54W87	54W87	54W86	54W86	54W86	54W85	54W85	54W85
	Unit + 100% High Static Power Exhaust (3) 2 HP	54W87	54W87	54W87	54W86	54W86	54W86	54W85	54W85	54W85
Terminal Block		30K75	30K75	30K75	30K75	30K75	30K75	30K75	30K75	30K75

# UNIT CLEARANCES

## Unit With Economizer



<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	914	66	1676	Unobstructed
<b>Clearance to Combustibles</b>	36	914	1	25	1	25	1	25	
<b>Minimum Operation Clearance</b>	45	1143	36	914	36	914	41	1041	

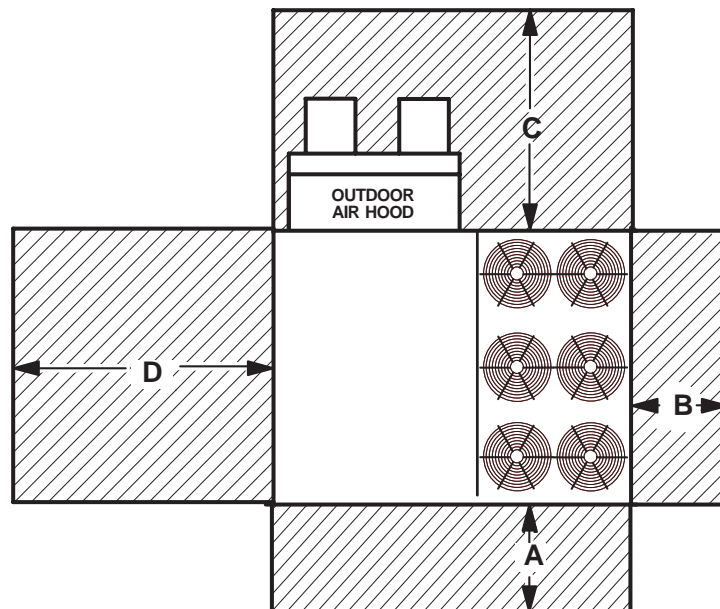
NOTE - Entire perimeter of unit base requires support when elevated above the mounting surface.

<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.

## Unit With High Static Power Exhaust Fans



<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	80	2032	66	1676	Unobstructed
<b>Clearance to Combustibles</b>	36	914	1	25	1	25	1	25	
<b>Minimum Operation Clearance</b>	45	1143	36	914	80	2032	41	1041	

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.

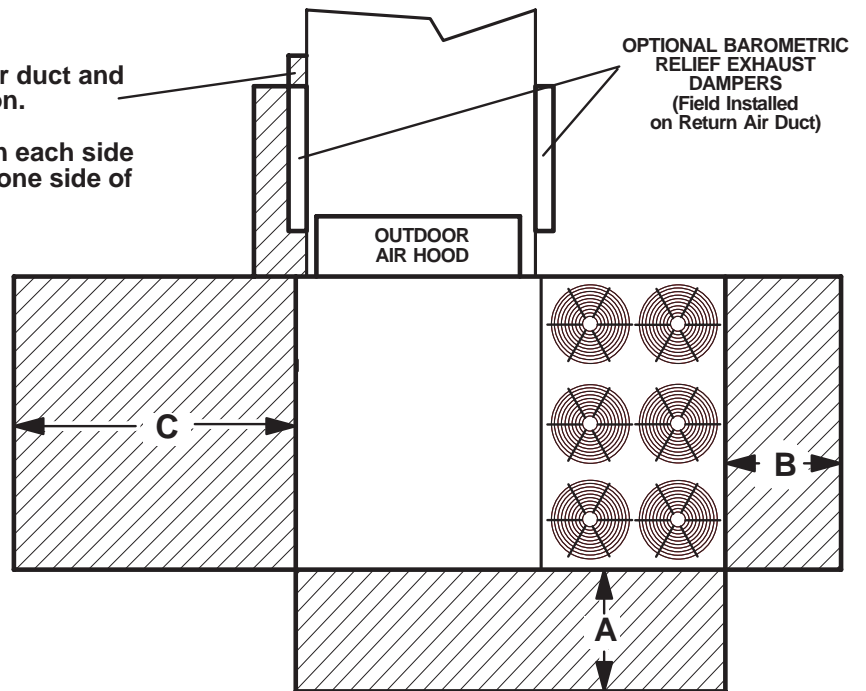


## UNIT CLEARANCES

### Unit With Horizontal Barometric Relief Dampers

**NOTE** Allow adequate clearance for duct and barometric relief damper installation.

**NOTE** Dampers may be installed on each side of return air duct or end to end on one side of return air duct.



<sup>1</sup> Unit Clearance	A		B		C		Top Clearance
	in.	mm	in.	mm	in.	mm	
<b>Service Clearance</b>	60	1524	36	914	66	1676	Unobstructed
<b>Clearance to Combustibles</b>	36	914	1	25	1	25	
<b>Minimum Operation Clearance</b>	45	1143	36	914	41	1041	

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 Sound Power Levels dBA, re 10 <sup>-12</sup> Watts - Center Frequency - Hz							<sup>1</sup> Sound Rating Number (dBA)
	125	250	500	1000	2000	4000	8000	
242, 300, 360	84	85	90	90	85	80	72	95

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

<sup>1</sup> Sound Rating Number according to ARI Standard 370-2001 (includes pure tone penalty).

The Sound Rating Number is the overall A-Weighted Sound Power Level, (LWA), dB (100 Hz to 10,000 Hz)

## WEIGHT DATA

Model Number	Net		Shipping	
	lbs.	kg	lbs.	kg
242 Base Unit	3107	1435	3317	1505
242 Max. Unit	3485	1581	3695	1676
300 Base Unit	3107	1435	3317	1505
300 Max. Unit	3585	1626	3795	1721
360 Base Unit	3107	1435	3317	1505
360 Max. Unit	3585	1626	3795	1721

## OPTIONS / ACCESSORIES

Description	Shipping Weight		
	lbs.	kg	
<b>CEILING DIFFUSERS</b>			
Step-Down	LARTD30/36S	625	283
Flush	LAFD30/36S	625	283
Transitions	LASRT30/36	85	39
<b>ECONOMIZER / OUTDOOR AIR / EXHAUST</b>			
<b>Economizer</b>		138	63
<b>Barometric Relief</b>			
Downflow Barometric Relief Dampers		45	20
Horizontal Barometric Relief Dampers		20	9
<b>Outdoor Air Dampers</b>			
Damper Section (downflow)	Motorized	72	33
Damper Section (downflow)	Manual	68	31
<b>Outdoor Air Hood (downflow)</b>		76	34
<b>Power Exhaust</b>			
Standard Static		99	45
50% High Static		460	209
100% High Static with or without VFD		525	238
<b>GAS HEAT EXCHANGER (NET WEIGHT)</b>			
Medium Heat (adder over standard heat)		18	8
High Heat (adder over standard heat)		64	29
<b>HUMIDITROL® DEHUMIDIFICATION SYSTEM</b>			
Humiditrol® Dehumification Option (Net Weight)		100	45
<b>PACKAGING</b>			
LTL Packaging (less than truck load)		300	136
<b>ROOF CURBS</b>			
<b>Hybrid Roof Curbs, Downflow</b>			
14 in. height		115	52
18 in. height		140	64
24 in. height		170	77
<b>Standard Curbs, Horizontal</b>			
30 in. height		445	202
41 in. height		725	329

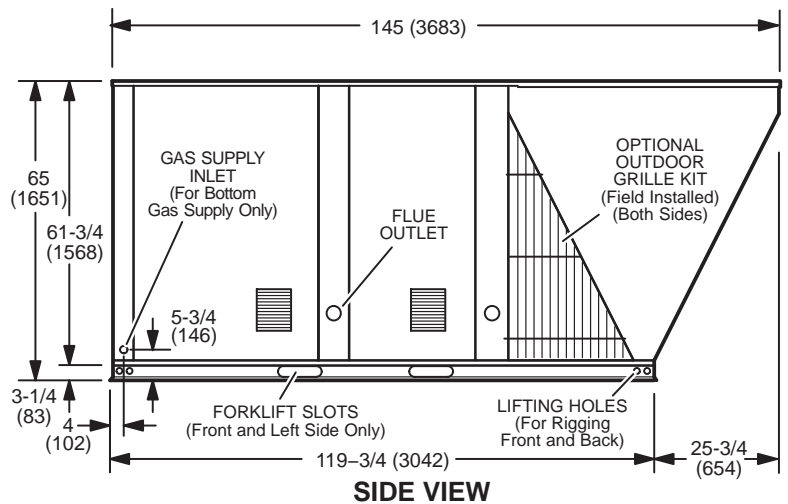
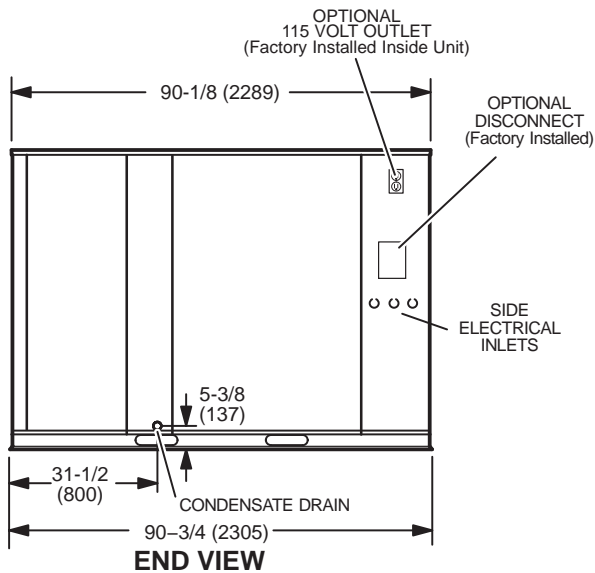
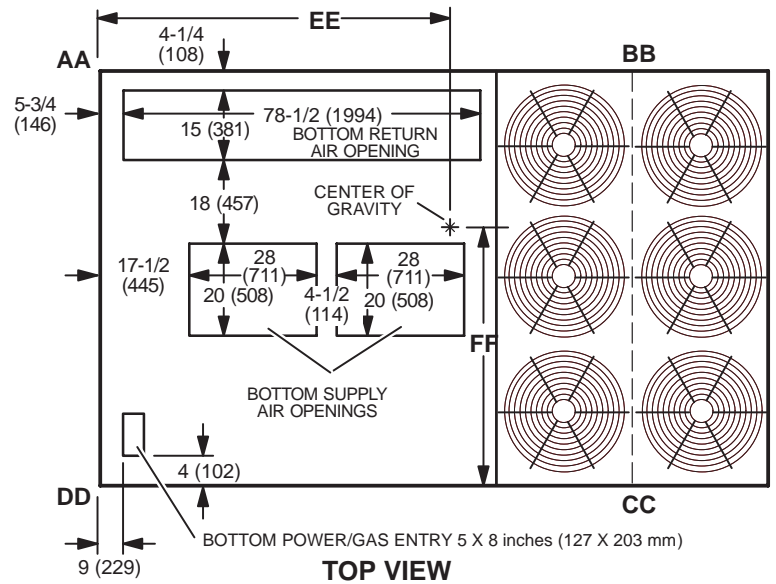
# DIMENSIONS - UNIT

## CORNER WEIGHTS

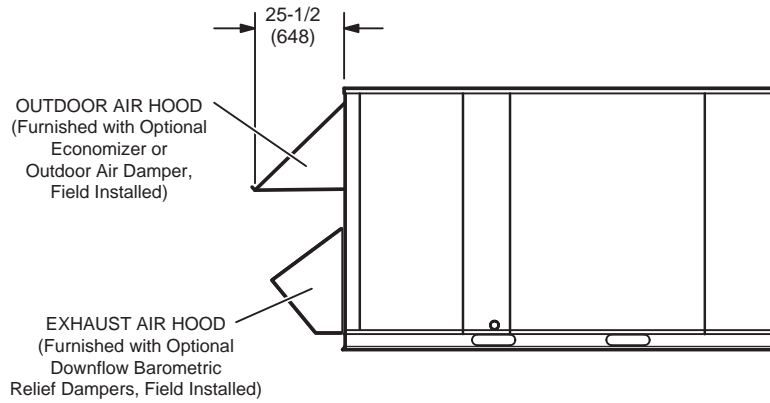
Model No.	CORNER WEIGHTS								CENTER OF GRAVITY			
	AA		BB		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
LGH242 Base Unit	632	287	635	288	912	414	928	421	60	1524	37	940
LGH242 Max. Unit	709	322	712	323	1023	464	1041	472	60	1524	37	940
LGH300 Base Unit	632	287	635	288	912	414	928	421	60	1524	37	940
LGH300 Max. Unit	709	322	712	323	1023	464	1041	472	60	1524	37	940
LGH360 Base Unit	632	287	635	288	912	414	928	421	60	1524	37	940
LGH360 Max. Unit	709	322	712	323	1023	464	1041	472	60	1524	37	940

Base Unit - The unit with NO INTERNAL OPTIONS.

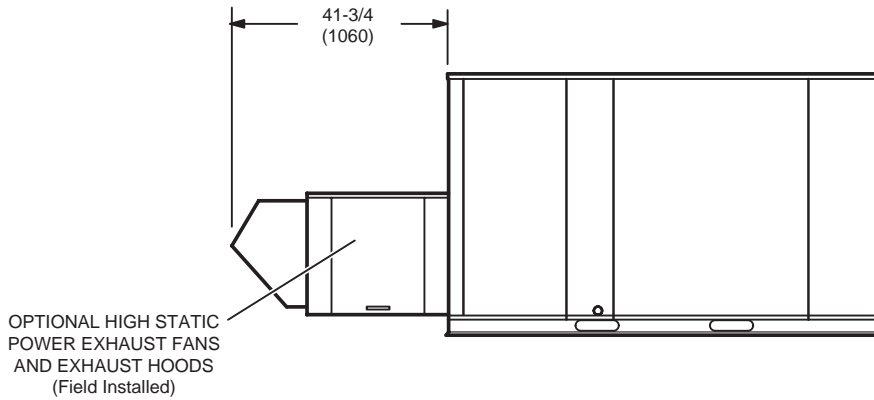
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust, Controls, etc.). Does not include accessories external to unit or high static power exhaust.



**OUTDOOR AIR HOOD DETAIL**

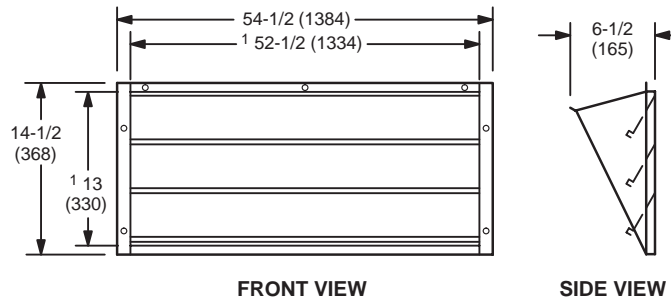


**OPTIONAL HIGH STATIC POWER EXHAUST FANS DETAIL**



**OPTIONAL HORIZONTAL BAROMETRIC RELIEF DAMPERS WITH HOOD**

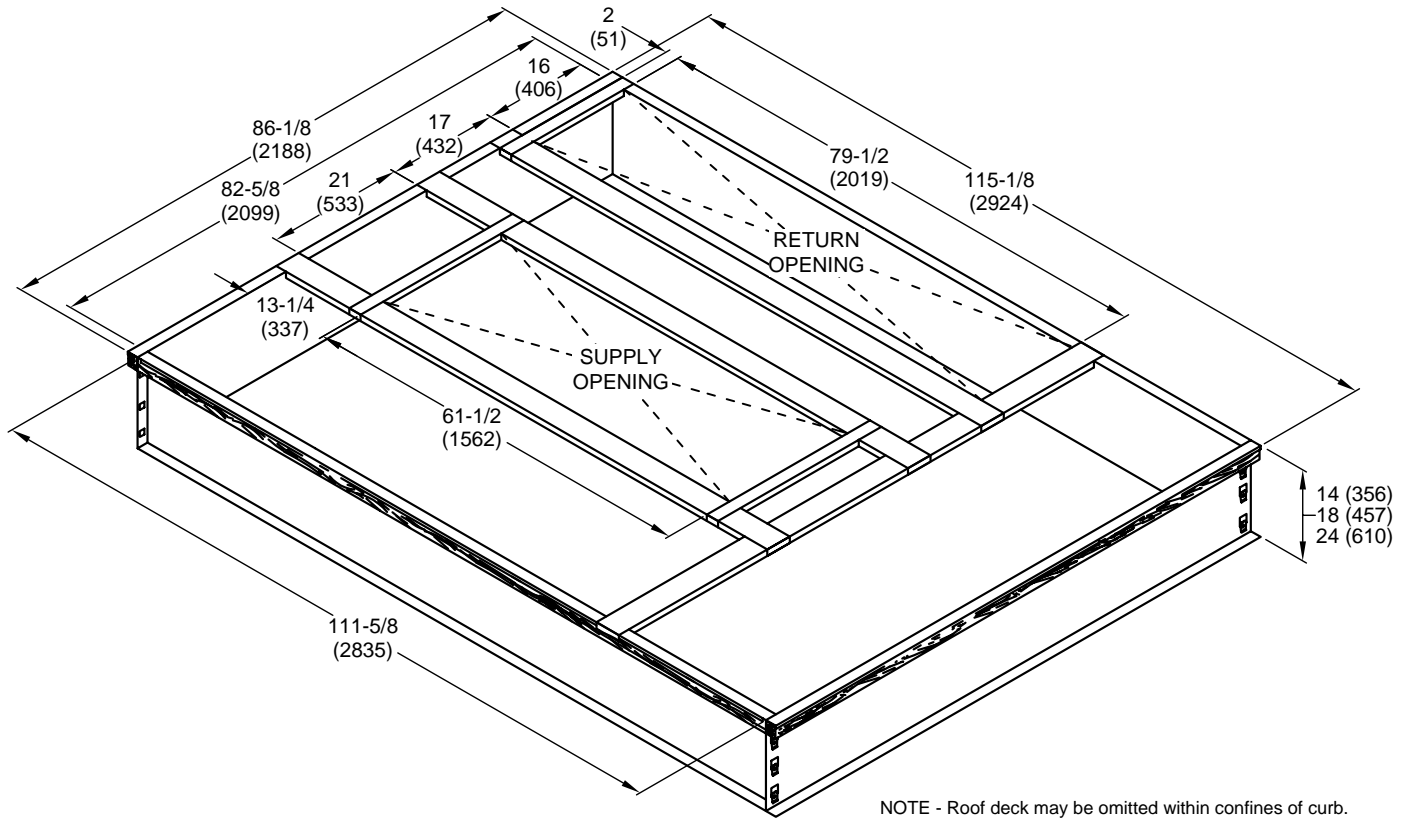
(Field installed in horizontal return air duct adjacent to unit)



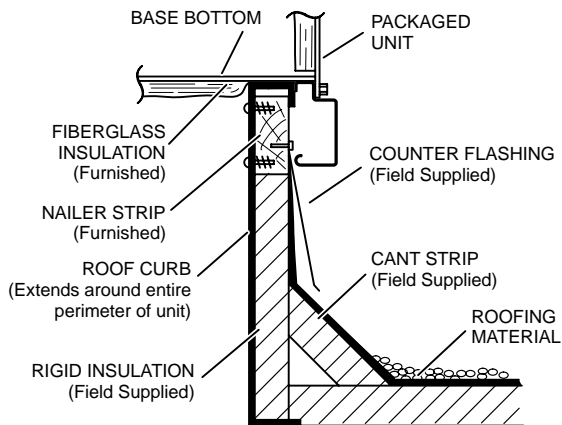
NOTE - Two furnished per order no.  
<sup>1</sup> NOTE - Opening size required in return air duct.

# DIMENSIONS - ACCESSORIES

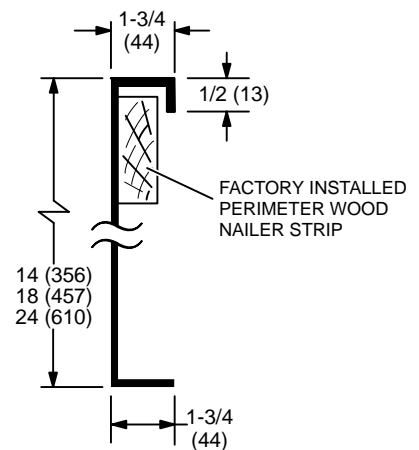
## HYBRID ROOF CURBS - DOUBLE DUCT OPENING



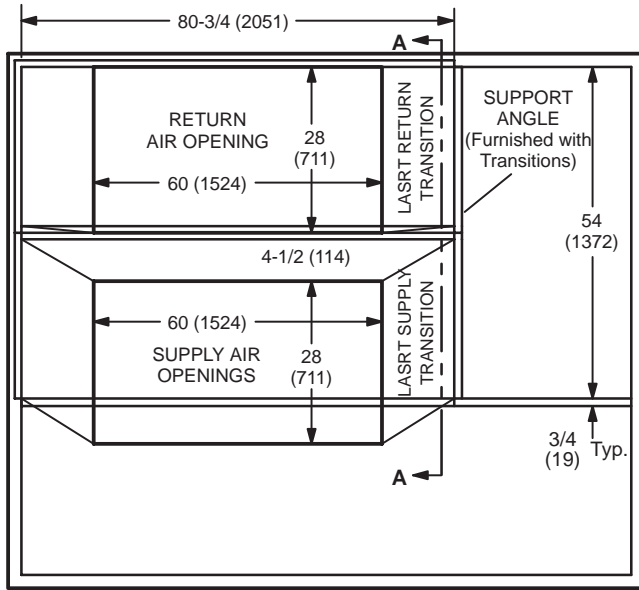
**TYPICAL FLASHING DETAIL FOR ROOF CURB**



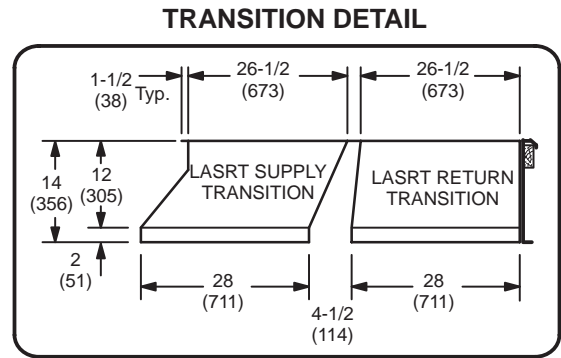
**DETAIL ROOF CURB**



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



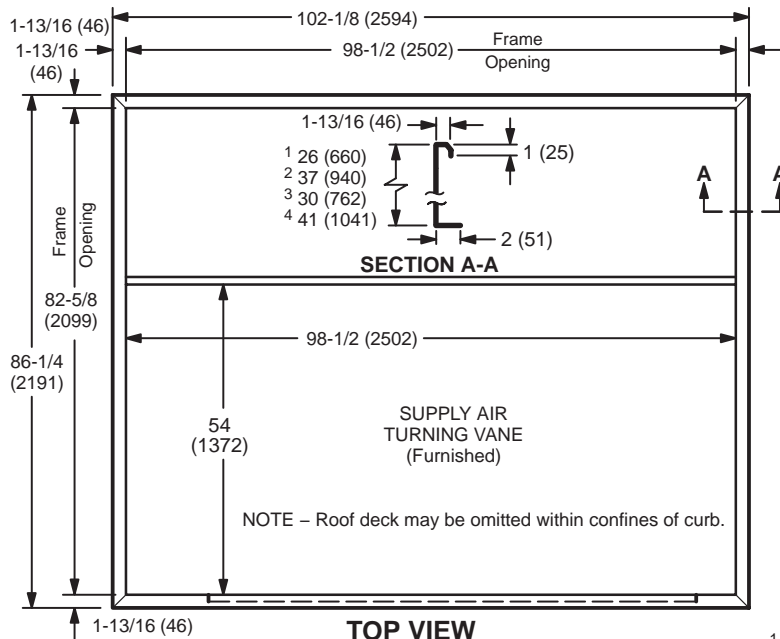
**TOP VIEW**



**SECTION B-B**

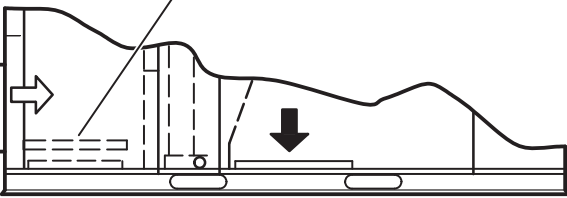
# DIMENSIONS - ACCESSORIES

## HORIZONTAL ROOF CURBS – Requires Optional Horizontal Return Air Panel Kit

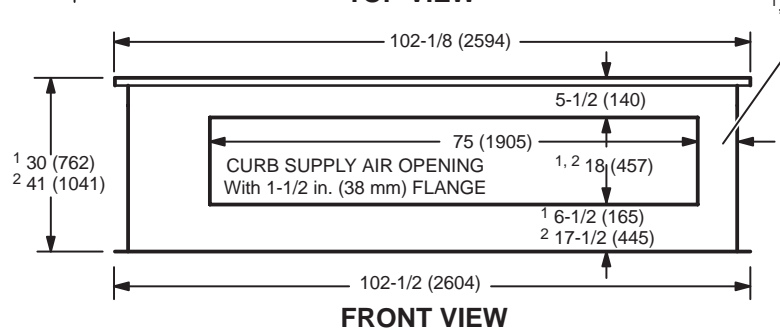


NOTE - C1CURB15C-1 is designed for horizontal discharge when unit is mounted on a slab.  
C1CURB17C-1 is designed for horizontal discharge when unit is mounted on a rooftop.

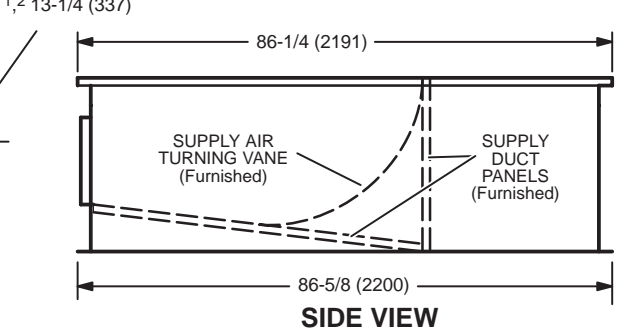
PANEL TO COVER RETURN AIR OPENING IN BOTTOM OF UNIT (Furnished With Optional Horizontal Return Air Panel Kit)



**SIDE VIEW (PACKAGED UNIT)**



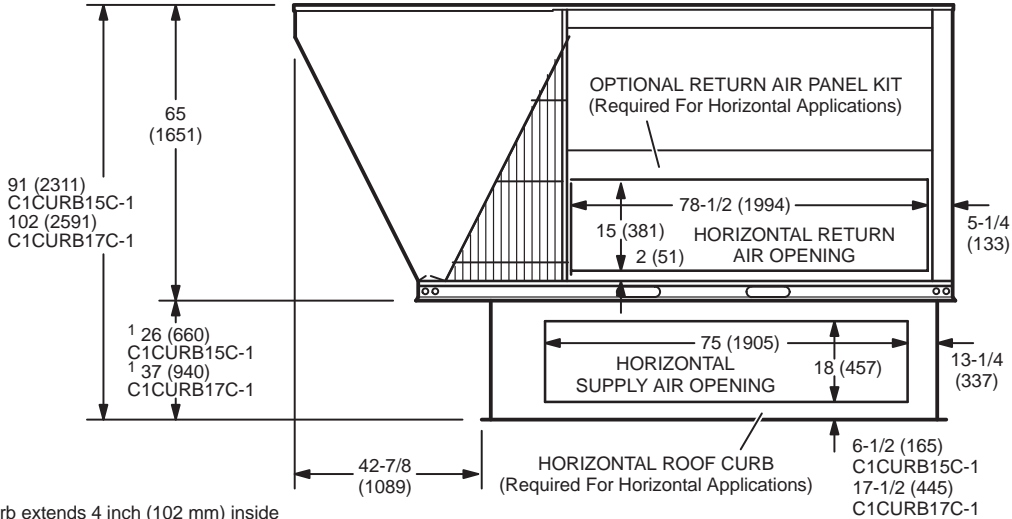
**FRONT VIEW**



**SIDE VIEW**

<sup>1</sup> C1CURB15C-1    <sup>2</sup> C1CURB17C-1

## HORIZONTAL SUPPLY AND RETURN AIR OPENINGS ROOFTOP UNIT WITH HORIZONTAL ROOF CURB



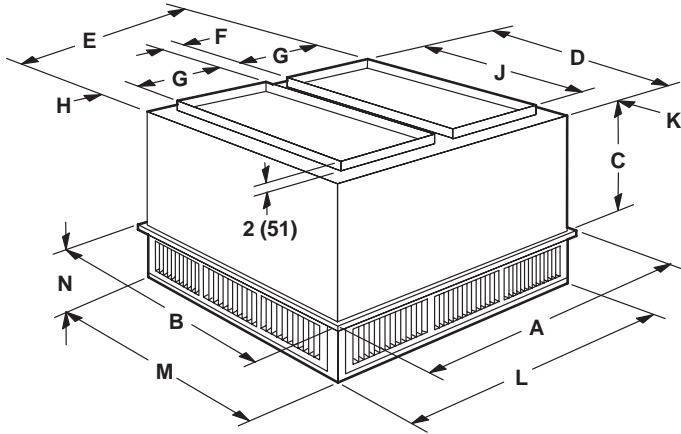
**SIDE VIEW (Horizontal Openings)**

<sup>1</sup> NOTE – Top of Curb extends 4 inch (102 mm) inside bottom of unit base. See Typical Flashing Detail.

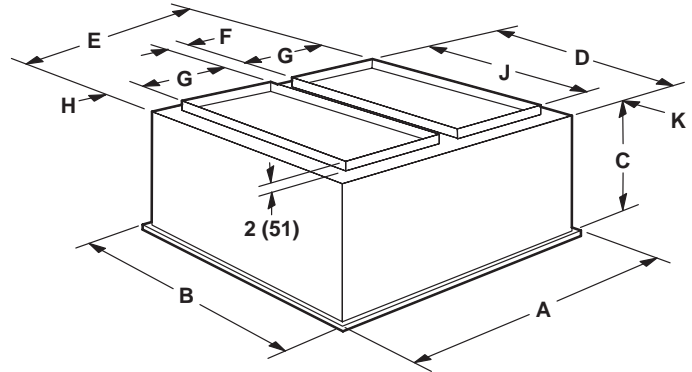
## DIMENSIONS - ACCESSORIES

### COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

#### STEP-DOWN CEILING DIFFUSER



#### FLUSH CEILING DIFFUSER



Model Number		LARTD30/36S
A	in.	65-5/8
	mm	1667
B	in.	65-5/8
	mm	1667
C	in.	40-1/2
	mm	1029
D	in.	63-1/2
	mm	1613
E	in.	63-1/2
	mm	1613
F	in.	4-1/2
	mm	114
G	in.	28
	mm	711
H	in.	1-1/2
	mm	38
J	in.	60
	mm	1524
K	in.	1-3/4
	mm	44
L	in.	63-1/2
	mm	1613
M	in.	63-1/2
	mm	1613
N	in.	12-1/8
	mm	308
Duct Size	in.	28 x 60
	mm	711 x 1524

Model Number		LAFD30/36S
A	in.	65-5/8
	mm	1667
B	in.	65-5/8
	mm	1667
C	in.	40
	mm	1016
D	in.	63-1/2
	mm	1613
E	in.	63-1/2
	mm	1613
F	in.	4-1/4
	mm	108
G	in.	28
	mm	711
H	in.	1-5/8
	mm	32
J	in.	60
	mm	1524
K	in.	1-3/4
	mm	44
Duct Size	in.	28 x 60
	mm	711 x 1524









## REVISIONS

Section	Description
Options/Accessories	Added Humiditro® Dehumidification Option (300H and 360H models only).



**Intertek**

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