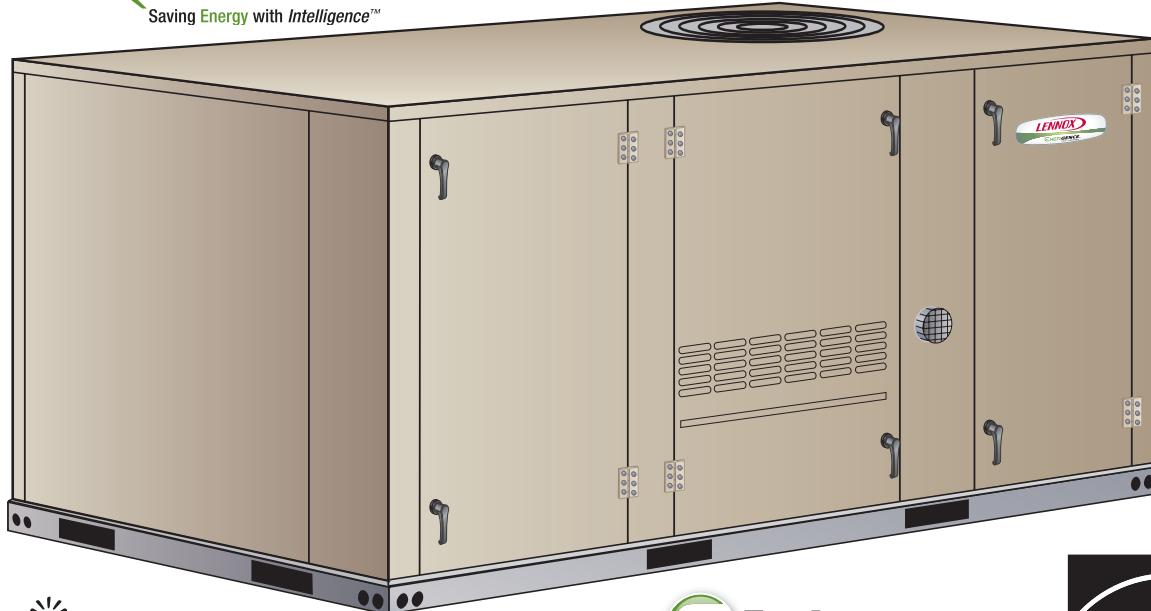
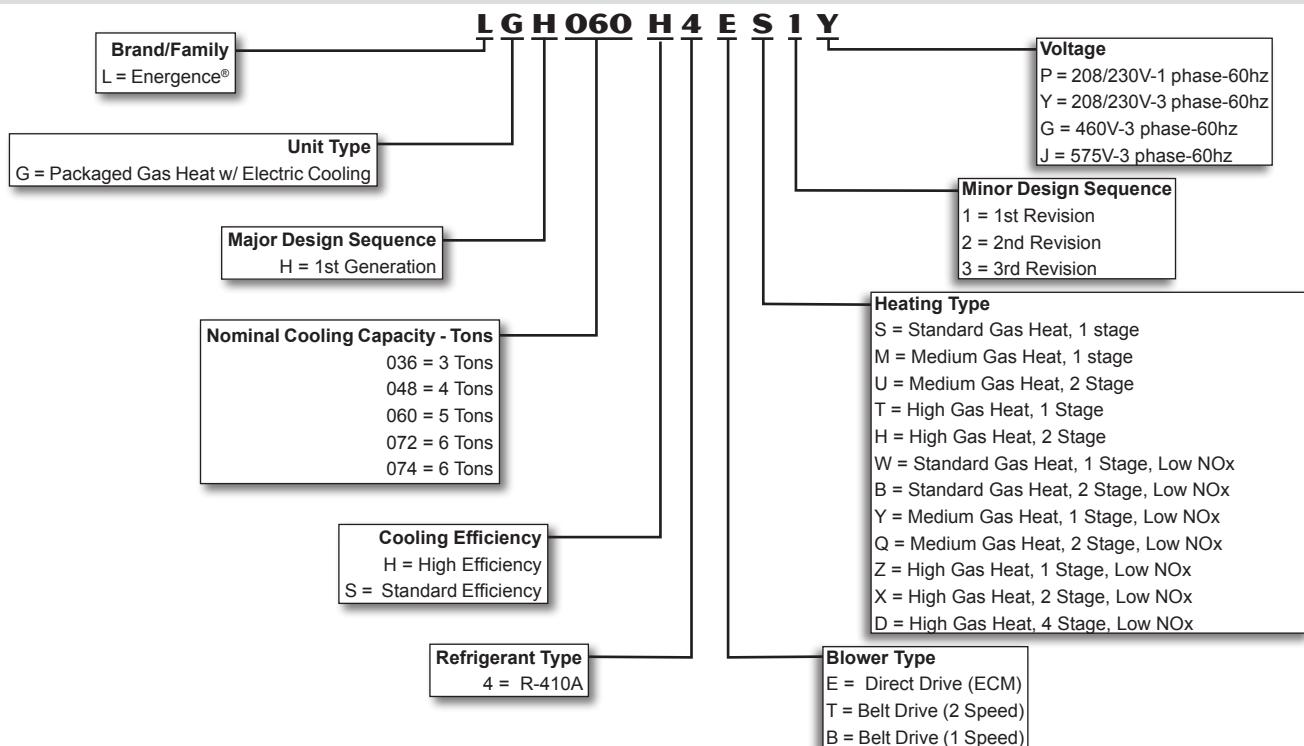
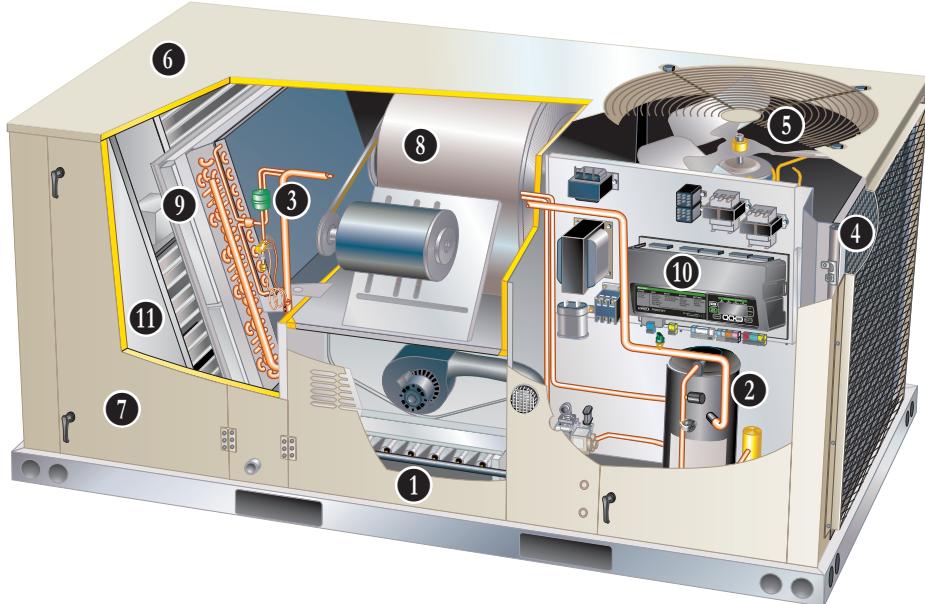




PACKAGED GAS ELECTRIC

**LGH****Energence® Rooftop Units  
60 HZ****PRODUCT SPECIFICATIONS****ENERGENCE®**Saving Energy with *Intelligence*™Bulletin No. 210540  
June 2016  
Supersedes May 2016**PRODIGY™  
CONTROL SYSTEM****SMARTWIRE™ SYSTEM****Environ™  
Coil System****L Connection®  
N E T W O R K****SUN SOURCE®  
Commercial Energy System****ASHRAE 90.1  
COMPLIANT****ENERGY STAR****3 to 6 Tons****Net Cooling Capacity - 34,800 to 72,000 Btuh  
Gas Input Heat Capacity - 65,000 to 150,000 Btuh****MODEL NUMBER IDENTIFICATION**

## FEATURES AND BENEFITS



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. Energence rooftop units feature:

- ECM Blower And Condenser Fan Motors** - Direct drive units features ECM blower and condenser fan motors to allow energy efficient MSAV® (multi-stage air volume) operation during all operating conditions. Blower setpoints can be easily set in the field through the Prodigy 2.0 Unit Controller reducing setup time.
- Two-Stage Scroll Compressor** - All 3 to 5 ton and 6 ton 074 models feature a two-stage scroll compressor which allows Energence rooftop units to deliver just the necessary amount of cooling needed to meet the space's demand. Single speed scroll compressor is furnished on 6 ton 072 models.
- Lennox' Environ™ Coil System** - Smaller, lighter condenser coil.
- Hinged Access Panels** - Provide quick access to components and protect panels and roof from damage during servicing.
- Isolated Compressor Compartment** - Allows performance check during normal compressor operation without disrupting airflow.
- Corrosion-Resistant Removable, Reversible Drain Pan** - Provides application flexibility, durability and improved serviceability.
- Thermostatic Expansion Valves** - Provide peak cooling performance across the entire application range.
- Humiditrol® Dehumidification System Option** - Patented system allows for independent control of temperature and humidity, providing enhanced comfort control.
- MERV 13 Filters** - Available as factory or field option, provide an enhanced level of indoor air quality, and can help the building qualify for additional LEED credits.
- Foil-Faced Insulation** - Insulation on all internal surfaces that have contact with airflow helps minimize airborne fibers and improve IAQ.
- Common Components** - Many maintenance items are standard throughout the entire product line, reducing the need to carry different parts to the job or maintain in inventory.

### Prodigy® Control System

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



### SmartWire™ System

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

## FEATURES AND BENEFITS

### CONTENTS

Accessory Dimensions . . . . .	.53
Blower Data . . . . .	.32
Cooling Ratings . . . . .	.26
Dimensions . . . . .	.52
Electrical Data. . . . .	.45
Features And Benefits . . . . .	2
High Altitude Derate . . . . .	.22
Humiditrol® Dehumidification System Ratings . . . . .	.30
Model Number Identification . . . . .	1
Optional Conventional Temperature Control Systems . . . . .	.49
Options / Accessories . . . . .	.15
Outdoor Sound Data . . . . .	.50
Prodigy® Control System . . . . .	7
Sequence Of Operation. . . . .	.23
Specifications - Belt Drive. . . . .	.21
Specifications - Direct Drive. . . . .	.20
Specifications - Gas Heat. . . . .	.22
Sunsource® Commercial Energy System . . . . .	.12
Unit Clearances. . . . .	.51
Weight Data. . . . .	.50

### APPROVALS

AHRI Certified to AHRI Standard 210/240-2008 (3 thru 5 ton models) and AHRI Standard 340/360-2007 (6 ton models).

ETL and CSA listed.

Efficiency rating certified by CSA.

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

All models are ASHRAE 90.1 compliant.

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

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

ISO 9001 Registered Manufacturing Quality System.

### Dealer Design Award

Lennox has received the Dealer Design Award from an independent panel of dealer-contractors selected by Air Conditioning, Heating & Refrigeration News ("The News") magazine. Their decision is based on "best in categories" of installation, maintenance and service as well as quality and performance.

### WARRANTY

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

Limited five years on compressors.

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

Limited three years on Prodigy® 2.0 Unit Controller.

Limited five years optional high performance economizers.

Limited one year all other covered components.

### HEATING SYSTEM

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

### Heat Exchanger

Tubular construction, aluminized steel, life cycle tested.

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

### Limit Controls

Factory installed, redundant limit controls with fixed temperature setting.

Heat limit controls protect heat exchanger and other components from overheating.

### Safety Switches

Flame roll-out switch, flame sensor and combustion air inducer proving switch protect system operation.

All safety switches are monitored by the Prodigy® 2.0 Unit Controller and diagnostic information is reported and recorded.

### Low NOx Models

All models are available in low NOx versions.

### Required Selections

#### Gas Input Choice - Order one:

- Standard Gas Heat (1 Stage) 65,000 Btuh
- Standard Gas Heat (2 Stage) 70,000/53,000 Btuh
- Medium Gas Heat (1 Stage) 108,000 Btuh
- Medium Gas Heat (2 Stage) 81,000/108,000 Btuh
- High Gas Heat (1 Stage) 150,000 Btuh
- High Gas Heat (2 Stage) 113,000/150,000 Btuh
- High Gas Heat (4 Stage) 28,000/81,000/113,000/ 150,000 Btuh

### Standard or Low NOx

Specify standard gas heat or low NOx option.

*NOTE - Standard Gas Heat (2 Stage) is only available with low NOx models.*

*NOTE - High Gas Heat (4 Stage) is only available with LGH060H4E high efficiency, direct drive, Low NOx, models.*

## FEATURES AND BENEFITS

### HEATING SYSTEM

(continued)

#### Options/Accessories

##### Factory Installed

###### **Stainless Steel Heat Exchanger**

Required if mixed air temperature is below 45 °F.

##### Factory or Field Installed

###### **Low Temperature Vestibule Heater**

Extends gas heat operation from -40°F (standard) down to -60°F.

Electric heater automatically controls minimum temperature in gas burner compartment when temperature falls below -40°F.

##### Field Installed

###### **Combustion Air Intake Extensions**

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

###### **LPG/Propane Kits**

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

###### **Vertical Vent Extension Kit**

Use to exhaust flue gases vertically above unit. Required when unit vent is too close to fresh air intakes per building codes. The vent kit also prevents ice formation on intake louvers.

Kit contains vent transition, drain cap and installation hardware.

*NOTE - Straight vent pipe (3 in. B-Vent), vent tee and vent cap are not furnished and must be field supplied. Refer to kit instructions for additional information.*

### COOLING SYSTEM

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

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

#### **R-410A Refrigerant**

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



#### **2 Copeland Scroll Ultra Tech™ Two-Stage Compressor (3 to 5 and 6 Ton 074 Models)**

Scroll compressors on all models for high performance, reliability and quiet operation. Two-stage scroll compressors are furnished on 3 to 5 ton and 6 ton 074 models for increased part load efficiency. Single speed scroll furnished on 6 ton 072 models.

Resiliently mounted on rubber grommets for quiet operation.

#### **Compressor Crankcase Heater**

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

#### **Thermal Expansion Valve**

Assures optimal performance throughout the application range.

Removable element head.

#### **3 Filter/Drier**

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

#### **High Pressure Switch**

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

#### **Low Pressure Switch**

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

#### **Freezestat**

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

#### **4 Lennox' Environ™ Coil System**

Condenser coil features lightweight, all aluminum brazed fin construction.

Constructed of three components:



a flat extrusion tube, fins in-between the flat extrusion tube and two refrigerant manifolds.

#### Environ™ Coil System Features:

- Improved heat transfer performance due to high primary surface area (flat tubes) versus secondary surface (fins).
- Smaller internal volume (reduced refrigerant charge).
- High durability (all aluminum construction).
- Fewer brazed joints.
- Compact design (reduces unit weight).
- Easy maintenance/cleaning.

Face-split design.

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

#### **Evaporator Coil**

Copper tube construction, enhanced rippled-edge aluminum fins, flared shoulder tubing connections, silver soldered construction for improved heat transfer. Factory leak tested. Cross row circuiting with rifled tubing optimizes both sensible and latent cooling capacity.

## FEATURES AND BENEFITS

### **COOLING SYSTEM**

#### **(continued)**

##### **Condensate Drain Pan**

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

Side or bottom drain connections.

Reversible to allow connection at back of unit.

#### **5 Variable Speed Outdoor Coil Fan**

##### **Motor (3, 4, 5 High Efficiency models only)**

Variable speed (ECM) fan motor for energy efficient MSAV® (multi-stage air volume) operation and quiet operation.

Thermal overload protected, totally enclosed, permanently lubricated ball bearings, shaft up, wire basket mount.

##### **Outdoor Coil Fan**

PVC coated fan guard furnished.

### **Required Selections**

#### **Cooling Capacity**

Specify nominal cooling capacity of the unit.

#### **Cooling Efficiency (3 to 5 Ton models only)**

Specify either standard or high efficiency.

### **Options/Accessories**

#### **Factory Installed**

##### **Conventional Fin/Tube**

##### **Condenser Coil**

##### **(replaces Environ Coil System)**

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

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

##### **Service Valves**

Fully serviceable brass valves installed in discharge & liquid lines.

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

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

##### **Condensate Drain Trap**

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

Available in copper or PVC.

##### **Drain Pan Overflow Switch**

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

### **CABINET**

#### **6 Construction**

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

Base rails have rigging holes.

Three sides of the base rail have forklift slots.

Raised edges around duct and power entry openings in the bottom of the unit provide additional protection against water entering the building.

##### **Airflow Choice**

Units are shipped in downflow (vertical) configuration, can be field converted to horizontal airflow configuration without any optional kits.

##### **Duct Flanges**

Provided for horizontal duct attachment.

##### **Power/Gas Entry**

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

##### **Exterior Panels**

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

##### **Insulation**

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

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

#### **7 Access Panels**

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

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

*NOTE - Optional Economizers, Power Exhaust, Outdoor Air Dampers and Barometric Relief Dampers for 060/072/074 models include a filler panel for proper cabinet fit.*

### **Required Selections**

#### **Airflow Configuration**

Specify horizontal or downflow.

### **Options/Accessories**

#### **Factory Installed**

##### **Corrosion Protection**

A completely flexible immersed coating with an electrodeposited dry film process. (AST ElectroFin E-Coat) Meets Mil Spec MIL-P-53084, ASTM B117 Standard Method Salt Spray Testing.

Indoor Corrosion Protection:

- Coated coil
- Coated reheat coil (Humiditrol)
- Painted blower housing
- Painted base

Outdoor Corrosion Protection:

- Coated coil
- Painted base

#### **Field Installed**

##### **Combination Coil/Hail Guards**

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

## FEATURES AND BENEFITS

### BLOWER

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

#### Blower Motor Choice

Overload protected, equipped with ball bearings.

Variable-speed ECM direct drive motors are offered on 036, 048 and 060 models.

Belt drive motors with two-speed capability (low static/high static) are available on 036, 048, 060 and 074 models in several different sizes to maximize air performance.

Single speed belt drive motors are available in different sizes to meet static requirements on 072 models.

### 8 Supply Air Blower

Forward curved blades, blower wheel is statically and dynamically balanced.

All belt drive motors have adjustable pulley for speed change.

#### Ordering Information

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

#### Required Selections

Order one drive kit, see Drive Kit Specifications Table.

#### Options/Accessories

##### Factory Installed

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

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

### ELECTRICAL

#### SmartWire™ System

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

#### Electrical Plugs

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

#### Required Selections

##### **Voltage Choice**

Specify when ordering base unit.

#### Options/Accessories

##### Factory Installed

###### **Circuit Breakers**

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

###### **Phase/Voltage Detection**

###### **(3 Phase models only)**

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

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

##### Factory or Field Installed

###### **Disconnect Switch**

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

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

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

### INDOOR AIR QUALITY

#### 9 Air Filters

Disposable 2 inch filters furnished as standard.

#### Options/Accessories

##### Factory or Field Installed

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

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

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



Helps eliminate mold and bacterial growth on the evaporator and drain pans. Improves indoor air quality and maintains efficiency of system by reducing fouling of evaporator coil.

###### **Indoor Air Quality (CO<sub>2</sub>) Sensors**

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

## PRODIGY® CONTROL SYSTEM

### ⑩ PRODIGY 2.0 UNIT CONTROLLER



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

#### Features:

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

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

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

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

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

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

**USB Port** - Allows a technician to download and transfer unit information to help verify service was performed. USB drive will also allow updating software on the Prodigy Control System to obtain enhanced functionality without the need to change components.



#### **Unit Controller Software**

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

**Time Clock with Run-time Information**

#### **Built-In Functions Include:**

**Adjustable Blower On/Off Delay**

**Built-in Control Parameter Defaults**

**Compressor Time-Off Delay**

**DDC Compatible**

**Dirty Filter Switch Input**

**Discharge Air Temperature Control**

**Display/Sensor Readout**

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

**Fresh Air Tempering**

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

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

**Permanent Diagnostic Code Storage**

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

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

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

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

**Minimum Compressor Run Time**

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

**Night Setback Mode**

**Return Air Temperature Limit Control**

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

**Service Relay Output**

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

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

**"Strike Three" Protection**

**Gas Reheat Control** -

Simultaneous heating and cooling operation for controlling humidity for process air applications such as supermarkets.

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

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

**On Demand Dehumidification** -

Monitors and controls condenser hot gas reheat operation with Humiditrol® option.

**Thermostat Bounce Delay**

**Warm Up Mode Delay**

**LED Indicators**

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

**Room Sensor Operation** - Controls temperature.

#### **Options/Accessories**

#### Factory or Field Installed

**Blower Proving Switch**

Monitors blower operation, shuts down unit if blower fails.

**Dirty Filter Switch**

Senses static pressure increase indicating dirty filter condition.

#### **Control Options**

#### Factory Installed

**SmartAirflow™ System**

(Available for 3, 4, and 5

Ton High Efficiency Models

Equipped With a Direct Drive Blower and Economizer)

Complete airflow management system that precisely controls the economizer damper for accurate ventilation. Allows the installer to directly enter the design-specified supply air (blower) and outdoor air volume (economizer minimum position) parameters without the need to manually take measurements and adjust settings. Also monitors supply air volume and outside air volume as well as customizable diagnostics.

#### Factory or Field Installed

**Fresh Air Tempering**

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

## OPTIONS / ACCESSORIES

### Controls Options (continued)

#### 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.

#### Aftermarket DDC

Novar® Unit Controller and options.

#### Thermostats

Control system and thermostat options. Aftermarket unit controller options.

#### Field Installed

#### General Purpose Control Kit

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

#### Humidity Sensor Kit

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

## 11 ECONOMIZER OPTIONS

Economizer operation is set and controlled by the Prodigy 2.0 Unit Controller.

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

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

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

#### Factory or Field Installed

#### Economizer

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

Outdoor Air Hood is furnished.

Factory installed Economizer can be ordered with three exhaust options:

- Barometric Relief Dampers and Exhaust Hood.
- Power Exhaust Fan (includes Exhaust Hood).  
*NOTE - See Power Exhaust Fan section for additional requirements.*
- No Exhaust.

Field installed Economizer includes Barometric Relief Dampers with Exhaust Hood.

Barometric Relief Dampers allow relief of excess air, aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle, bird screen furnished. Hood is furnished.

Required when Economizer is factory installed with field installed Power Exhaust Fan option. Required (less exhaust hood) when Economizer is factory installed with factory installed Power Exhaust Fan option

Demand Control Ventilation (DCV) ready using optional CO<sub>2</sub> sensors.

Horizontal Economizer Conversion kit is available for field installation.

#### Standard Economizer Features

#### (Not for Title 24)

Gear-driven action, return air and outdoor air dampers, plug-in connections to unit, neoprene blade edge seals, 24-volt, fully-modulating spring return motor.

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

#### High Performance Economizer Features

Approved for California Title 24 building standards.

ASHRAE 90.1 compliant.

Gear-driven action, high torque 24-volt fully-modulating spring return damper motor, return air and outdoor air dampers, plug-in connections to unit, nylon bearings, enhanced neoprene blade edge seals and flexible stainless steel jamb seals to minimize air leakage.

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

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

Refer to Installation Instructions for complete setup information.

## OPTIONS / ACCESSORIES

### ECONOMIZER OPTIONS

#### (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 and return air and using setpoints, enables the economizer when the outdoor air temperature is below the configured setpoint and cooler than return air.

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

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

*In Single Sensible Control mode, the economizer is enabled when outdoor air temperature falls below the configured setpoint.*

##### Global Control

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

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

### Factory or Field Installed

#### Single Enthalpy Temperature Control (Not for Title 24)

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

#### Differential Enthalpy Control (Not for Title 24)

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

### Field Installed

#### Outdoor Air CFM Control

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

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

#### Building Pressure Control

Maintains constant building pressure level.

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

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

#### Horizontal Economizer Conversion Kit

Insulated panel covers the bottom return air opening on the unit base to convert downflow economizer to horizontal air flow.

### EXHAUST OPTIONS

#### Factory or Field Installed

##### Power Exhaust Fan

Installs internal to unit for downflow applications with economizer option. Provides exhaust air pressure relief. Interlocked to run when supply air blower is operating, fan runs when outdoor air dampers are 50% open (adjustable), motor is overload protected.

Fan is 16 in. diameter with 4 fan blades and a 1/3 hp motor.

*NOTE - If Power Exhaust is field installed with a factory installed Economizer, the Economizer must be ordered with No Exhaust option and Barometric Relief Dampers and Exhaust Hood must also be ordered separately for field installation.*

*NOTE - If Power Exhaust is factory installed with a factory installed Economizer, the Barometric Relief Dampers without Exhaust Hood must also be ordered separately for field installation.*

## OPTIONS / ACCESSORIES

### OUTDOOR AIR OPTIONS

#### Factory or Field Installed

##### **Outdoor Air Dampers - Downflow or Horizontal**

Linked mechanical dampers, 0 to 25% (fixed) outdoor air adjustable, installs in unit.

Automatic model features fully modulating spring return damper motor with plug-in connection. Manual model features a slide damper. Maximum mixed air temperature in cooling mode: 100°F.

Outdoor Air Hood is furnished.

### ROOF CURBS

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

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

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

Curb can also be fastened together with furnished hardware.

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

See Options/Accessories table.

#### **Adjustable Pitch Curb**

Fully adjustable pitch curb provides a level platform for rooftop units allowing flexible installations on roofs with uneven or sloped angles.

Maximum slope is 3/4 in. per foot in any direction.

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

Hardware is furnished to connect upper curb with lower curb.

Available in 14 inch height.

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

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

### CEILING DIFFUSERS

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

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

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

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

## OPTIONS / ACCESSORIES

### HUMIDITROL DEHUMIDIFICATION® SYSTEM

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

Factory installed option designed to control humidity.

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

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

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

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

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

#### Benefits

Improves indoor air quality.

Helps prevent damage due to high humidity levels.

Improves comfort levels by reducing space humidity levels.

#### OPERATION

##### No Dehumidification Demand

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

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

##### Dehumidification Demand Only

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

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

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

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

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

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

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

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

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

See Sequence of Operation for additional information.

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

##### Two-stage compressor models (036, 048, 060, 074)

If both a dehumidification and a Y1 cooling demand occur, the system will operate in the full cooling mode at first stage indoor air flow. If a Y2 cooling demand occurs along with a dehumidification demand, the system operates in full cooling mode at full cooling airflow until the Y2 cooling demand is satisfied. Then the system will revert to the dehumidification mode if a dehumidification mode demand is present.

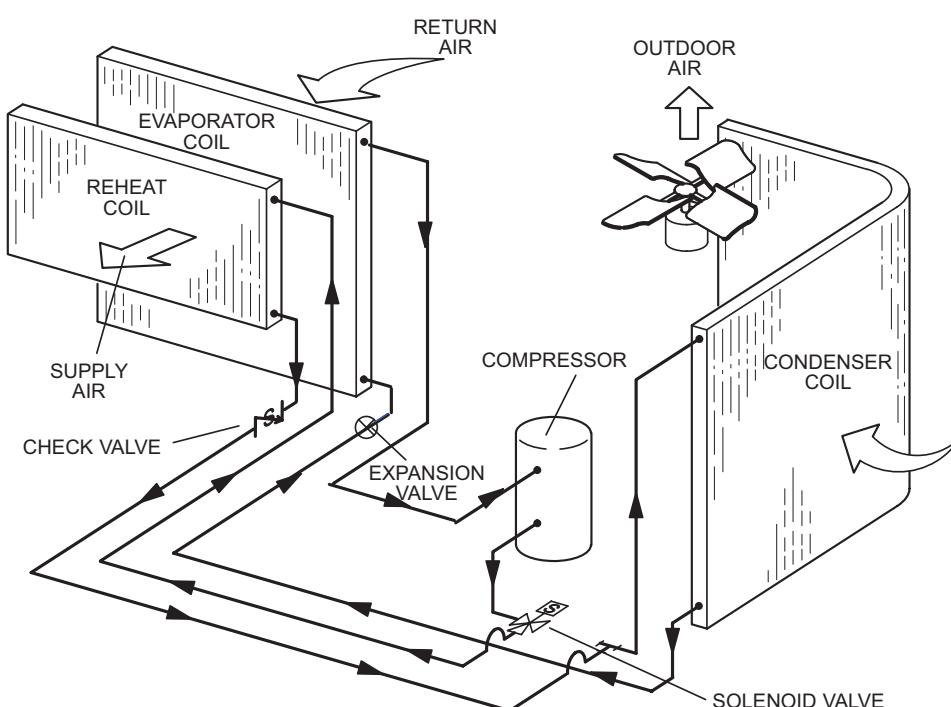
##### Single speed compressor model (072H)

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

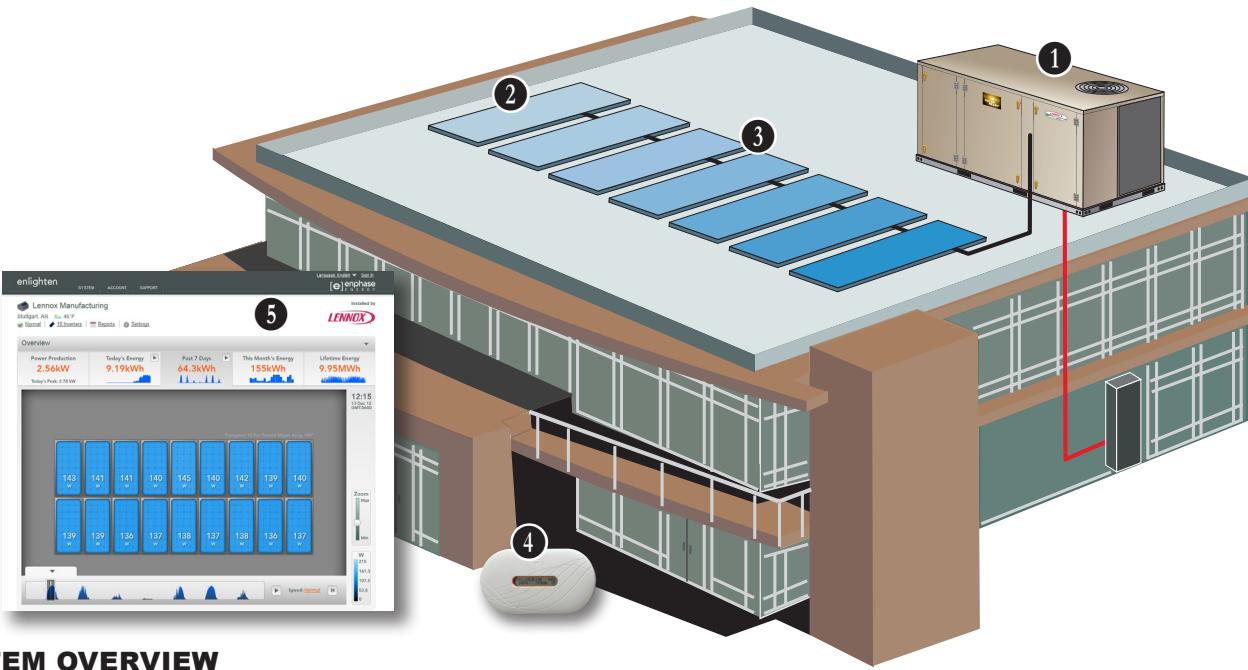
#### Options/Accessories

##### Humidity Sensor Kit

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



## SUNSOURCE® COMMERCIAL ENERGY SYSTEM



### SYSTEM OVERVIEW

All Energence® 3 through 6 ton commercial rooftop units are upgradable to the SunSource® Commercial Energy System.

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

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

1. Energence® 3 to 6 ton commercial rooftop units with factory installed Solar Power Entry Option (circuit protection for solar power and line voltage wiring).
2. Solarworld Solar Modules (up to 24 modules with three-phase power, up to 16 modules with single-phase power) may be used to vary the amount of electricity generated).
3. Enphase Microinverter, converts Direct Current to Alternating Current power.
4. Enphase Envoy Communications Gateway that monitors energy usage.
5. Enphase Enlighten™ Performance Monitoring Website

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

NOTE - Refer to separate Product Specifications

Bulletin for the **SunSource® Commercial Energy**

**System** for more detailed information.

See section *Solar - Kits/Accessories*.

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

### APPROVALS

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

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

### BASIC SYSTEM REQUIREMENTS

Sufficient south-facing open roof space.

Broadband Internet connection.

240V single-phase, 208V three-phase, or 460V three-phase.

*NOTE: Transformers must be ordered for voltages other than 240V single-phase or 208V three-phase WYE.*

Grid Interconnection Agreement.

### SOLAR POWER ENTRY OPTION

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

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

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

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

## SUNSOURCE® COMMERCIAL ENERGY SYSTEM

### SOLAR MODULES

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



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

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

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

#### Solar Module Frame

Clear anodized aluminum frame with cast aluminum corner keys.

Low profile with extended flange.

Compatible with "top-down" and "bottom-up" mounting methods.

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

Extended cable lengths for easier installation.

### ENPHASE MICROINVERTER



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

Installed beneath each solar module on the roof.

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

Supports low-light and low-voltage operation.

### FLAT ROOF MOUNTING SYSTEM

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



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

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

10 degree nominal tilt angle.

Fully ballasted or mechanically attached.

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

### ENPHASE ENGAGE CABLE SYSTEM

- **Enphase Engage Cable** - Enphase Engage Cable (shown with connector) is a 12 AWG cable with pre-installed connectors that plug into the Enphase Microinverter.



- Four wire cable (240V single-phase)
- Five wire cable (208V three-phase)

- **Enphase Engage Cable Terminator** - Each Enphase Engage Cable is terminated at a junction or combiner box. The opposite end of the cable must be terminated with an Enphase Engage Cable Terminator cap.



- **Enphase Engage Disconnect Tool** - Specialized tool that disconnects ble from an Enphase Microinverter or watertight sealing cap.



- **Enphase Water-tight Sealing Cap** - Use when open connections on the Enphase Engage Cable are not mated to an Enphase Microinverter.



## SUNSOURCE® COMMERCIAL ENERGY SYSTEM

### SYSTEM MONITORING

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

The Enphase Envoy Communications Gateway monitors Enphase Microinverter (on solar modules) performance and can be connected to a broadband internet

connection to send data to the Enphase Enlighten™ web site for online monitoring. The Enphase Envoy Communications Gateway is not required, but must be used if system performance monitoring is desired.

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

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

Connection options include:

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

NEMA 1 indoor enclosure.

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

CSA (US/C) listed.

#### Line Communications Filter

Envoy Communications Gateway mounted in a weatherproof NEMA 4 enclosure.

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

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

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



#### Enphase Enlighten™ Performance Monitoring Website



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

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

### SYSTEM ORDERING

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

Each kit includes:

- One Solarworld Solar Module
- One Enphase Microinverter
- One Enphase Engage Cable (no. of connectors are determined by total number of Solar Module Kits ordered)
- One PanelClaw® Polar Bear Mounting System for the Solar Module
- Hardware for mounting
- Custom engineering drawings and full design for solar system
- Emergence® 3 to 6 ton packaged rooftop unit must be ordered with the factory installed Solar Power Entry Option.
- Enphase Envoy Communications Gateway or Line Communications Filter must be ordered separately.
- Transformers must be ordered separately.  
See Options/Accessories table.

Contact your nearest Lennox Sales Representative for ordering information.

## OPTIONS / ACCESSORIES

Item		Model Number	Catalog Number	Unit Model Number				
				036	048	060	072	074
<b>COOLING SYSTEM</b>								
Condensate Drain Trap	PVC - C1TRAP20AD2	76W26		OX	OX	OX	OX	OX
	Copper - C1TRAP10AD2	76W27		OX	OX	OX	OX	OX
Conventional Fin/Tube Condenser Coil (replaces Environ Coil System)	Factory		O	O	O	O	O	O
Drain Pan Overflow Switch	E1SNSR71AD1	68W88		OX	OX	OX	OX	OX
Efficiency	Standard	Factory	O	O	O			
	High	Factory	O	O	O	O	O	O
Service valves (not for Environ™ Coil System or Humiditrol equipped units)	Factory		O	O	O	O	O	O
<b>HEATING SYSTEM</b>								
Bottom Gas Piping Kit	T1GPKT01AN1	19W50		OX	OX	OX	OX	OX
Combustion Air Intake Extensions	T1EXTN10AN1	19W51		X	X	X	X	X
Gas Heat Input	Standard One-Stage - 65 kBtuh input	Factory	O	O	O	O	O	O
	Standard Two-Stage - 53/70 kBtuh input	Factory	¹ O	¹ O	¹ O	¹ O	¹ O	¹ O
	Medium One-Stage - 108 kBtuh input	Factory	O	O	O	O	O	O
	Medium Two Stage - 81/108 kBtuh input	Factory	O	O	O	O	O	O
	High One-Stage - 150 kBtuh input	Factory	O	O	O	O	O	O
	High Two-Stage - 113/150 kBtuh input	Factory	O	O	O	O	O	O
	High Four-Stage - 28/81/113/150 kBtuh input	Factory			² O			
Low Temperature Vestibule Heater	208/230V-1 or 3ph - E1LTVH10A-1Y	54W23		OX	OX	OX	OX	OX
	460V-3ph - E1LTVH10A-1G	54W24		OX	OX	OX	OX	OX
	575V-3ph - E1LTVH10A-1J	54W25		OX	OX	OX	OX	OX
LPG/Propane Conversion Kits	For one-stage standard, medium and high models - C1PROP10AP2	14N20		X	X	X	X	X
	For two-stage standard models - C1PROP28A11	21A01		X	X	X	X	X
	For two-stage medium and high models - C1PROP20AP2	14N21		X	X	X	X	X
	For four-stage high models - C1PROP30A11	21A02				X		
Stainless Steel Heat Exchanger	Factory		O	O	O	O	O	O
Vertical Vent Extension	C1EXTN20FF1	31W62		X	X	X	X	X
<b>BLOWER - SUPPLY AIR</b>								
Motors	Direct Drive - 0.50 hp	Factory	O					
	Direct Drive - 0.75 hp	Factory	O					
	Direct Drive - 1 hp	Factory	O					
	Belt Drive - 0.75 hp (2 Speed)	Factory	O	O				
	Belt Drive - 1 hp (2 Speed)	Factory	O	O	O			
	Belt Drive - 2 hp (2 Speed)	Factory	O	O	O	O		
	Belt Drive - 1 hp Standard Efficiency	Factory			O			
	Belt Drive - 2 hp Standard Efficiency	Factory			O			
	Belt Drive - 1 hp High Efficiency	Factory			O			
	Belt Drive - 2 hp High Efficiency	Factory			O			
Drive Kits See Blower Data Tables for selection	Kit A01 - T1DRKT001-1 - 673-1010 rpm	Factory	O					
	Kit A02 - T1DRKT002-1 - 745-1117 rpm	Factory	O					
	Kit A03 - T1DRKT003-1 - 833-1250 rpm	Factory	O					
	Kit A05 - T1DRKT005-1 - 897-1346 rpm	Factory	O					
	Kit A06 - T1DRKT006-1 - 1071-1429 rpm	Factory	O					
	Kit A07 - T1DRKT007-1 - 1212-1548 rpm	Factory	O					
	Kit AA01 - T1DRKT001AP1 - 522-784 rpm	Factory			O	O		
	Kit AA02 - T1DRKT002AP1 - 632-875 rpm	Factory			O	O		
	Kit AA03 - T1DRKT003AP1 - 798-1105 rpm	Factory			O	O		
	Blower Belt Auto-Tensioner	Factory	O	O	O	O	O	O

<sup>1</sup> Standard Two-Stage Heat is only available with Low NOx Models.

<sup>2</sup> High Four-Stage Heat is only available with LGH060H4E high efficiency, direct drive, Low NOx, models only.

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	Model Number	Catalog Number	Unit Model Number					
			036	048	060	072	074	
<b>CABINET</b>								
Combination Coil/Hail Guards	C1GARD51A-1	<b>13R98</b>	X	X				
		<b>13T03</b>			X	X	X	
Corrosion Protection (indoor coil / outdoor coil)			Factory	O	O	O	O	
<b>CONTROLS</b>								
Blower Proving Switch	C1SNSR35FF1	<b>53W65</b>	OX	OX	OX	OX	OX	
Commercial Controls	CPC Einstein Integration Prodigy® Control System - BACnet® Module - C0CTRL60AE1L Prodigy® Control System - LonTalk® Module - C0CTRL65FF1 Novar® 2051 - E0CTRL30A1 Novar® LSE L Connection® Building Automation System	Factory	O	O	O	O	OX	
		<b>59W51</b>	OX	OX	OX	OX	OX	
		<b>54W27</b>	OX	OX	OX	OX	OX	
		<b>64W72</b>	OX	OX	OX	OX	OX	
		Factory	O	O	O	O	O	
		---	X	X	X	X	X	
Dirty Filter Switch	E1SNSR55AP1	<b>53W66</b>	OX	OX	OX	OX	OX	
General Purpose Control Kit	E1GPBK30C1	<b>13J78</b>	X	X	X	X	X	
Fresh Air Tempering	C1SNSR75AD1	<b>58W63</b>	OX	OX	OX	OX	OX	
¹ SmartAirflow™ System (Supply and Ventilation Airflow Control)			Factory	O	O	O		
Smoke Detector - Supply or Return (Power board and one sensor)	C1SNSR44AP1	<b>53W78</b>	OX	OX	OX	OX	OX	
Smoke Detector - Supply and Return (Power board and two sensors)	C1SNSR43AP1	<b>53W79</b>	OX	OX	OX	OX	OX	
<b>ELECTRICAL</b>								
Voltage	208/230V - 1 phase	Factory	<sup>2</sup> O	<sup>2</sup> O	<sup>2</sup> O			
		Factory	O	O	O	O	O	
		Factory	O	O	O	O	O	
		Factory	O	O	O	O	O	
HACR Circuit Breakers			Factory	O	O	O	O	
Disconnect Switch	80 amp - T1DISC080AH1	<b>20W23</b>	OX	OX				
		<b>20W26</b>			OX	OX	OX	
GFI Service Outlets	15 amp non-powered, field-wired (208/230V, 460V only) - LTAGFIK10/15 20 amp non-powered, field-wired (575V only) - C1GFCI20FF1	<b>74M70</b>	OX	OX	OX	OX	OX	
		<b>67E01</b>	OX	OX	OX	OX	OX	
Weatherproof Cover for GFI	C1GFCI99FF1	<b>10C89</b>	X	X	X	X	X	
Phase/Voltage Detection - 3 Phase Models Only			Factory	O	O	O	O	

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X = Field Installed

## OPTIONS / ACCESSORIES

Item	Model Number	Catalog Number	Unit	Model Number			
			036	048	060	072	074
<b>ECONOMIZER</b>							
<b>Standard Economizer With Outdoor Air Hood (Sensible Control) (Not for Title 24)</b>							
Standard Economizer - Includes Barometric Relief Dampers and Exhaust Hood	E1ECON30A-2-	<b>90W59</b>	OX	OX	OX	OX	OX
Standard Economizer - Includes Barometric Relief Dampers and Exhaust Hood and Power Exhaust	Factory	O	O	O	O	O	O
Standard Economizer - No Exhaust Option	Factory	O	O	O	O	O	O
<b>High Performance Economizer With Outdoor Air Hood (Sensible Control) (Approved for California Title 24 Building Standards)</b>							
High Performance Economizer - Includes Barometric Relief Dampers with Exhaust Hood and Power Exhaust	E1ECON17A-1	<b>10U54</b>	OX	OX	OX	OX	OX
High Performance Economizer - No Exhaust Option	Factory	O	O	O	O	O	O
<b>Economizer Accessories</b>							
Horizontal Economizer Conversion Kit	T1HECK00AN1	<b>17W45</b>	X	X	X	X	X
<b>Economizer Controls (Not for Title 24)</b>							
Differential Enthalpy	Order 2 - C1SNSR64FF1	<b>53W64</b>	OX	OX	OX	OX	OX
Sensible Control	Sensor is Furnished	Factory	O	O	O	O	O
Single Enthalpy	C1SNSR64FF1	<b>53W64</b>	OX	OX	OX	OX	OX
Global Control	Sensor Field Provided	Factory	O	O	O	O	O
Building Pressure Control	E1GPBK20C1	<b>13J77</b>	X	X	X	X	X
Outdoor Air CFM Control	E1GPBK10C1	<b>13J76</b>	X	X	X	X	X
<b>OUTDOOR AIR</b>							
<b>Outdoor Air Dampers With Outdoor Air Hood</b>							
Motorized	E1DAMP21A-1-	<b>53W35</b>	OX	OX	OX	OX	OX
Manual	C1DAMP11A-1-	<b>53W34</b>	OX	OX	OX	OX	OX
<b>POWER EXHAUST FAN</b>							
Standard Static	208/230V-1 or 3ph - C1PWRE10A-1P	<b>79W87</b>	OX	OX	OX	OX	OX
<i>Note: Factory installed Power Exhaust Fan includes Exhaust Hood. Barometric Relief Dampers without Exhaust Hood are required (order separately).</i>	460V-3ph - C1PWRE10A-1G	<b>79W88</b>	OX	OX	OX	OX	OX
	575V-3ph - C1PWRE10A-1J	<b>79W89</b>	OX	OX	OX	OX	OX
<i>Note: Field installed Power Exhaust Fans do not include Exhaust Hood. Barometric Relief Dampers with Exhaust Hood are required (order separately).</i>							
<b>BAROMETRIC RELIEF</b>							
<sup>1</sup> Barometric Relief Dampers with Exhaust Hood	C1DAMP50A-1-	<b>74W38</b>	X	X	X	X	X
<sup>2</sup> Barometric Relief Dampers without Exhaust Hood	C1DAMP50A-2-	<b>72W89</b>	X	X	X	X	X
<b>HUMIDITROL® CONDENSER REHEAT OPTION</b>							
Humiditrol	Factory	O	O	O	O	O	O
Humidity Sensor Kit, Remote mounted (required)	C0SNSR31AE-1	<b>17M50</b>	X	X	X	X	X

<sup>1</sup> Available for 3, 4 and 5 ton high efficiency models equipped with direct drive blower and Economizer.

<sup>2</sup> 208/230-1ph not available on belt drive units.

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

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## OPTIONS / ACCESSORIES

Item	Model Number	Catalog Number	Unit Model Number						
			036	048	060	072	074		
<b>INDOOR AIR QUALITY</b>									
<b>Air Filters</b>									
Healthy Climate® High Efficiency Air Filters	MERV 8 (16 x 20 x 2 in.) - C1FLTR15A-1-	<b>54W20</b>	OX	OX					
Order 4 per unit	MERV 13 (16 x 20 x 2 in.) - T1FLTR40A-1-	<b>52W37</b>	OX	OX					
	MERV 8 (20 x 20 x 2 in.) - C1FLTR15D-1-	<b>54W21</b>			OX	OX	OX		
	MERV 13 (20 x 20 x 2 in.) - C1FLTR40D-1-	<b>52W39</b>			OX	OX	OX		
Replaceable Media Filter With Metal Mesh Frame (includes non-pleated filter media)	16 x 20 x 2 in. (Order 4) - K1FLTR30A-1	<b>39W09</b>	X	X					
	20 x 20 x 2 in. (Order 4) - K1FLTR30A-2	<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	X	X		
Sensor - Wall-mount, off-white plastic cover, no display	C0SNSR52AE1L	<b>87N53</b>	X	X	X	X	X		
Sensor - Black plastic case with LCD display, rated for plenum mounting	C0SNSR51AE1L	<b>87N52</b>	X	X	X	X	X		
Sensor - Wall-mount, black plastic case, no display, rated for plenum mounting	C0MISC19AE1	<b>87N54</b>	X	X	X	X	X		
CO <sub>2</sub> Sensor Duct Mounting Kit - for downflow applications	C0MISC19AE1-	<b>85L43</b>	X	X	X	X	X		
Aspiration Box - for duct mounting non-plenum rated CO <sub>2</sub> sensors ( <b>87N53</b> or <b>77N39</b> )	C0MISC16AE1-	<b>90N43</b>	X	X	X	X	X		
<b>UVC Germicidal Lamps</b>									
<sup>3</sup> Healthy Climate® UVC Light Kit (208/230v-1ph)	C1UVCL10AN1-	<b>50W90</b>	OX	OX	OX	OX	OX		
<b>ROOF CURBS</b>									
<b>Hybrid Roof Curbs, Downflow</b>									
8 in. height	C1CURB70A-1	<b>11F50</b>	X	X	X	X	X		
14 in. height	C1CURB71A-1	<b>11F51</b>	X	X	X	X	X		
18 in. height	C1CURB72A-1	<b>11F52</b>	X	X	X	X	X		
24 in. height	C1CURB73A-1	<b>11F53</b>	X	X	X	X	X		
<b>Adjustable Pitched Curb</b>									
14 in. height	C1CURB55AT1	<b>43W27</b>	X	X	X	X	X		
<b>Transition Curb</b>									
Matches Emergence® 036-074 Units to existing L Series® Curbs	E1CURB60A-1	<b>20W06</b>	X	X	X	X	X		
<b>CEILING DIFFUSERS</b>									
Step-Down - Order one	RTD9-65S	<b>13K60</b>	X	X	X				
	RTD11-95S	<b>13K61</b>				X	X		
Flush - Order one	FD9-65S	<b>13K55</b>	X	X	X				
	FD11-95S	<b>13K56</b>				X	X		
Transitions (Supply and Return) - Order one	T1TRAN10AN1	<b>17W53</b>	X	X	X				
	T1TRAN20N-1	<b>17W54</b>				X	X		

<sup>1</sup> Required when Economizer is factory installed (no exhaust option) with field installed Power Exhaust Fan option.

<sup>2</sup> Required when Economizer is factory installed with factory installed Power Exhaust Fan option.

<sup>3</sup> Lamps operate on 110-230V single-phase power supply. Step-down transformer may be ordered separately for 460V and 575V units. Alternately, 110V power supply may be used to directly power the UVC ballast(s).

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		Model Number	Catalog Number	Unit Model Number				
				036	048	060	072	074
<b>SUNSOURCE® COMMERCIAL ENERGY SYSTEM</b>								
Solar Module CE Kit	One 285W Solar Module (silver frame), One PanelClaw Polar Bear III Mounting System and One Enphase M250 Microinverter	<b>10U67</b>		X	X	X	X	X
Solar Power Entry with Disconnect	Factory		O	O	O	O	O	O
Enphase Envoy Communications Gateway with Communications Booster (internal)		<b>13L89</b>		X	X	X	X	X
Line Communication Filter (external)	C1C400D11A	<b>10F93</b>		X	X	X	X	X
Transformer (5 kW)	E1TRFM15AD3Y (208Y to 208 VAC Delta)	<b>11H71</b>		X	X	X	X	X
	E1TRFM15AD2Y (230 VAC Delta)	<b>11H28</b>		X	X	X	X	X
	E1TRFM15AD3G (460 VAC Delta or Wye)	<b>11H29</b>		X	X	X	X	X

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

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

O = Configure To Order (Factory Installed)

X = Field Installed

## SPECIFICATIONS - DIRECT DRIVE

General Data	Nominal Tonnage Model Number Efficiency Type Blower Type	3 Ton	4 Ton	5 Ton
		LGH036H4E	LGH048H4E	LGH060H4E
		High	High	High
		Multi-Speed Direct Drive	Multi-Speed Direct Drive	Multi-Speed Direct Drive
Cooling Performance	Gross Cooling Capacity - Btuh	35,800	50,100	61,600
	<sup>1</sup> Net Cooling Capacity - Btuh	35,200	49,000	60,000
	AHRI Rated Air Flow - cfm	1200	1600	1750
	Total Unit Power - kW	2.8	3.8	4.7
	<sup>1</sup> SEER (Btuh/Watt) - 208/230V-1ph, 3ph	18.0	17.6	17.1
	<sup>1</sup> SEER (Btuh/Watt) - 460V-3ph, 575V-3ph	17.0	17.0	17.0
	<sup>1</sup> EER (Btuh/Watt) - 208/230V-1ph, 3ph	12.7	12.8	12.7
	<sup>1</sup> EER (Btuh/Watt) - 460V-3ph, 575V-3ph	12.5	12.8	12.7
	Refrigerant Type	R-410A	R-410A	R-410A
	Refrigerant Charge	4 lbs. 5 oz.	5 lbs. 4 oz.	7 lbs. 2 oz.
Gas Heating Options Available - See page 22	Conventional Fin/Tube Coil	8 lbs. 8 oz.	11 lbs. 2 oz.	14 lbs. 0 oz.
	Conventional Fin/Tube With Humiditrol® Option	9 lbs. 3 oz.	12 lbs. 4 oz.	16 lbs. 0 oz.
		Standard (1 or 2 stage), Medium (1 or 2 stage)	Standard (1 or 2 stage), Medium (1 or 2 stage) High (1 or 2 stage)	Standard (1 or 2 stage), Medium (1 or 2 stage), High (1, 2 or 4 Stage)
Compressor Type (one per unit)		Two-Stage Scroll	Two-Stage Scroll	Two-Stage Scroll
Outdoor Coil Environ (Fin/Tube)	Net face area (total) - sq. ft.	11.70 (15.60)	14.50 (15.60)	17.80 (19.30)
	Tube diameter - in.	0.71 (3/8)	0.71 (3/8)	0.71 (3/8)
	Number of rows	1 (1.5)	1 (2)	1 (2)
	Fins per inch	20 (20)	20 (20)	20 (20)
Outdoor Coil Fans	Motor - (No.) horsepower	(1) 1/3 (ECM)	(1) 1/3 (ECM)	(1) 1/3 (ECM)
	Motor rpm	715-810	645-810	930-1100
	Total Motor Input - watts	112-160	89-165	230-350
	Diameter - (No.) in.	(1) 24	(1) 24	(1) 24
	Number of blades	3	3	3
	Total air volume - cfm	3400-3795	2910-3675	4315-4980
Indoor Coil	Net face area (total) - sq. ft.	7.78	7.78	9.72
	Tube diameter - in.	3/8	3/8	3/8
	Number of rows	3	4	4
	Fins per inch	14	14	14
	Drain connection (Number) and size - in.	(1) 1 NPT	(1) 1 NPT	(1) 1 NPT
	Expansion device type	Balanced Port Thermostatic Expansion Valve,removable power head		
<sup>2</sup> Indoor Blower	Nominal motor HP	0.50 (ECM)	0.75 (ECM)	1 (ECM)
	Blower wheel nominal diameter x width - in.	(1) 10 X 10	(1) 10 X 10	(1) 11 X 10
Filters	Type of filter	disposable		
	Number and size - in.	(4) 16 X 20 X 2		(4) 20 x 20 x 2
Electrical characteristics		208/230V - 60 hz - 1 phase 208/230V, 460V, or 575V - 60 hz -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 210/240: 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

<sup>2</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 - BELT DRIVE**

General Data		Nominal Tonnage	3 Ton	4 Ton	5 Ton	6 Ton	6 Ton
		Model Number	LGH036S4T	LGH048S4T	LGH060S4T	LGH072H4B	LGH074H4T
		Efficiency Type	Standard	Standard	Standard	High	High
		Blower Type	Two Speed Belt Drive	Two Speed Belt Drive	Two Speed Belt Drive	Single Speed Belt Drive	Two Speed Belt Drive
Cooling Performance	Gross Cooling Capacity - Btuh	35,800	50,100	61,600	73,500	72,000	
	Net Cooling Capacity - Btuh	<sup>1</sup> 34,800	<sup>1</sup> 49,000	<sup>1</sup> 60,000	<sup>2</sup> 72,000	<sup>2</sup> 69,000	
	AHRI Rated Air Flow - cfm	1200	1600	1750	1920	2100	
	Total Unit Power - kW	3.0	3.9	4.8	6.0	5.7	
	SEER (Btuh/Watt)	<sup>1</sup> 15.0	<sup>1</sup> 15.0	<sup>1</sup> 15.5	- - -	- - -	
	EER (Btuh/Watt)	<sup>1</sup> 11.6	<sup>1</sup> 12.5	<sup>1</sup> 12.5	<sup>2</sup> 12.0	<sup>2</sup> 12.0	
	IEER (Btuh/Watt)	- - -	- - -	- - -	<sup>2</sup> 13.5	<sup>2</sup> 16.0	
	Refrigerant Type	R-410A	R-410A	R-410A	R-410A	R-410A	
Refrigerant Charge	Environ™ Coil System	4 lbs. 3 oz.	5 lbs. 4 oz.	7 lbs. 3 oz.	7 lbs. 8 oz.	7 lbs. 2 oz.	
	Conventional Fin/Tube Coil	8 lbs. 8 oz.	11 lbs. 2 oz.	14 lbs. 0 oz.	13 lbs. 12 oz.	13 lbs. 11oz	
	Conventional Fin/Tube With Humiditrol® Option	9 lbs. 3 oz.	12 lbs. 4 oz.	16 lbs. 0 oz.	15 lbs. 3 oz.	15 lbs. 11oz	
<b>Gas Heating Options Available - See page 22</b>		<b>Standard (1 or 2 stage), Medium (1 or 2 stage)</b>	<b>Standard (1 or 2 stage), Medium (1 or 2 stage)</b>	<b>Standard (1 or 2 stage), Medium (1 or 2 stage)</b>	<b>Standard (1 or 2 stage), Medium (1 or 2 stage)</b>	<b>Standard (1 or 2 stage), Medium (1 or 2 stage)</b>	<b>Standard (1 or 2 stage), Medium (1 or 2 stage)</b>
<b>Compressor Type (one per unit)</b>		Two-Stage Scroll	Two-Stage Scroll	Two-Stage Scroll	Scroll	Two-Stage Scroll	
Outdoor Coil Environ (Fin/Tube)	Net face area (total) - sq. ft.	11.70 (15.60)	14.5 (15.60)	17.80 (19.30)	17.80 (19.30)	17.80 (19.30)	
	Tube diameter - in.	0.71 (3/8)	0.71 (3/8)	0.71 (3/8)	0.71 (3/8)	0.71 (3/8)	
	Number of rows	1 (1.5)	1 (2)	1 (2)	1 (2)	1 (2)	
	Fins per inch	20 (20)	20 (20)	20 (20)	20 (20)	20 (20)	
Outdoor Coil Fans	Motor - (No.) horsepower	(1) 1/6 (PSC)	(1) 1/4 (PSC)	(1) 1/3 (PSC)	(1) 1/3 (PSC)	(1) 1/3 (PSC)	
	Motor rpm	825	825	1075	1075	1075	
	Total Motor Input - watts	168	230	410	410	375	
	Diameter - (No.) in.	(1) 24	(1) 24	(1) 24	(1) 24	(1) 24	
	Number of blades	3	3	3	3	3	
	Total air volume - cfm	3000	3300	4800	4800	4800	
Indoor Coil	Net face area (total) - sq. ft.	7.78	7.78	9.72	9.72	9.72	
	Tube diameter - in.	3/8	3/8	3/8	3/8	3/8	
	Number of rows	3	4	4	4	4	
	Fins per inch	14	14	14	14	14	
	Drain connection (Number) and size - in.	(1) 1 NPT	(1) 1 NPT	(1) 1 NPT	(1) 1 NPT	(1) 1 NPT	
	Expansion device type	Balanced Port Thermostatic Expansion Valve, removable power head					
<sup>3</sup> Indoor Blower and Drive Selection	No. of Speeds	2	2	2	1	2	
	Nominal motor HP	Low static	0.75	0.75	1	1	
		High static	1	2	2	2	
	Maximum usable motor output (US Only)	Low static	0.86	0.86	1.15	1.15	1.15
		High static	1.15	2.3	2.3	2.30	2.30
	Motor - Drive kit number	A01 low 449-673 high 673-1010 A05 low 598-897 high 897-1346	A02 low 497-673 high 745-1117 A06 low 714-953 high 1071-1429	A03 low 555-833 high 833-1250 A07 low 808-1032 high 1212-1548	AA01 522 - 784 rpm AA02 632 - 875 rpm AA03 798 - 1105 rpm	AA01 522 - 784 rpm AA02 632 - 875 rpm AA03 798 - 1105 rpm	AA01 522 - 784 rpm AA02 632 - 875 rpm AA03 798 - 1105 rpm
		Blower wheel nominal diameter x width - in.	(1) 10 X 10	(1) 10 X 10	(1) 10 X 10	(1) 15 X 9	(1) 15 X 9
Filters		Type of filter	disposable				
		Number and size - in.	(4) 16 X 20 X 2		(4) 20 X 20 X 2		
<b>Electrical characteristics</b>			208/230V, 460V, or 575V - 60 hz -3 phase				

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

<sup>1,2</sup> AHRI Certified to AHRI Standard 1 210/240 or <sup>2</sup> 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 - STANDARD GAS HEAT - THREE PHASE MODELS

Model No.	036 048 060	072	036 048 060	072	036 048 060	072	048 060	072	048 060	072								
Heat Input Type	Standard (1 Stage)		Medium (1 Stage)		Medium (2 Stage)		High (1 Stage)		High (2 Stage)									
Input Btuh	1st Stage 2nd Stage		65,000 ---		108,000 ---		81,000 108,000		150,000 ---									
Output Btuh	1st Stage 2nd Stage		52,000 ---		86,000 ---		65,000 86,000		120,000 ---									
Temperature Rise Range - °F	1st stage 2nd Stage		15-45 ---	5-35	30-70 ---	15-45 ---	25-55 30-70	10-40 15-45	45-75 ---	25-55 45-75								
<sup>1</sup> Thermal Efficiency	80%		80%		80%		80%		80%									
Gas Supply Connections	1/2 in. NPT																	
Rec. Gas Supply Pressure - Nat./ LPG	7 in.w.g. / 11 in.w.g.																	

<sup>1</sup> Thermal Efficiency at full input.

## SPECIFICATIONS - LOW NOX GAS HEAT - SINGLE AND THREE PHASE MODELS

Model No.	036 048 060	072 074	036 , 048 060, 072 074	036 048 060	072 074	036 048 060	072 074	048 060	072 074	048 060	072 074	060								
Heat Input Type	Standard (1 Stage)		<sup>3</sup> Standard (2 Stage) Low NOx only		Medium (1 Stage)		Medium (2 Stage)		High (1 Stage)		High (2 Stage)									
Input Btuh	1st Stage 2nd Stage 3rd Stage 4th Stage		65,000 70,000 ---		53,000 108,000 ---		81,000 108,000 ---		150,000 ---		113,000 150,000 ---									
Output Btuh	1st Stage 2nd Stage 3rd Stage 4th Stage		52,000 57,000 ---		43,000 87,000 ---		66,000 87,000 ---		121,000 ---		92,000 121,000 ---									
Temperature Rise Range - °F	1st stage 2nd Stage 3rd Stage 4th Stage		15-45 ---	5-35	30-70 ---	15-45	25-55 30-70	10-40 15-45	45-75 ---	25-55 ---	30-60 ---	15-45 35-65								
<sup>1</sup> AFUE (Single Phase)	81%		81%		81%		81%		81%		81%									
<sup>2</sup> Thermal Efficiency (Three Phase)	81%		81%		81%		81%		81%		81%									
Gas Supply Connections	1/2 in. NPT																			
Rec. Gas Supply Pressure - Nat./ LPG	7 in.w.g. / 11 in.w.g.																			

<sup>1</sup> Annual Fuel Utilization Efficiency based on U.S. DOE test procedures and FTC labeling regulations.

<sup>2</sup> Thermal Efficiency at full input.

<sup>3</sup> Two-Stage Standard Heat is only available with Low NOx Models.

<sup>4</sup> Four-Stage High Heat is only available with LGH060H4E high efficiency, direct drive, Low NOx, models only.

<sup>5</sup> Stainless Steel Heat Exchanger is furnished as Standard when Four-Stage Heat is Ordered.

## HIGH ALTITUDE DERATE

NOTE - Units may be installed at altitudes up to 2000 ft. above sea level without any modifications. At altitudes above 2000 ft. units must be derated to match information in the table shown. At altitudes above 4500 ft. unit must be derated 2% for each 1000 ft. above sea level.

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

Heat Input Type	Altitude Feet	Gas Manifold Pressure in. w.g.		Input Rate (Btuh)
		Natural Gas	LPG/ Propane	
Standard (1 stage)	2001 - 4500	3.0	9.0	60,000
Standard (2 stage)	2001 - 4500	3.0/1.7	9.0/5.1	65,000 / 49,000
Medium (1 stage)	2001 - 4500	3.0	9.0	100,000
Medium (2 stage)	2001 - 4500	3.0/1.7	9.0/5.1	100,000 / 75,000
High (1 stage)	2001 - 4500	3.0	9.0	139,000
High (2 stage)	2001 - 4500	3.0/1.7	9.0/5.1	139,000 / 104,000
High (4 stage)	2001 - 4500	3.0/1.7	9.0/5.1	139,000 / 104,000 / 75,000 / 26,000

## SEQUENCE OF OPERATION

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

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

### **DIRECT DRIVE AND BELT DRIVE SYSTEM OPERATION (3 THROUGH 5 TONS AND 6 TON 074 MODELS):**

*Note: Direct drive units feature ECM condenser fans that are staged to match the compressor's capacity. When the compressor is operating at first stage, the condenser fan is operating at low speed. The condenser fan switches to high speed when the compressor switches to second stage to match operation.*

#### **Modulating Outdoor Air Damper:**

*Damper minimum positions #1 and 2 are adjusted during unit setup to provide minimum fresh air requirements at the indicated supply fan speeds per ASHRAE 62.1.*

- Supply fan is off and the outdoor air damper is closed
- Supply fan is on low speed and the outdoor air damper is at minimum position 1
- Supply fan is on high speed and the outdoor air damper is at minimum position 2

#### **<sup>1</sup>Unit Features an Economizer and Outdoor Air is Suitable**

Cooling - Thermostat or Zone Sensor Mode (Up to 3 stages Y1, Y2, Y3)

Y1 demand:

1<sup>st</sup>: Compressor is off, supply fan is on low speed, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting)

2<sup>nd</sup>: After 5 minutes (default unit controller setting), supply fan switches to high speed. Economizer continues modulating with supply fan on high speed to maintain 55°F supply air temperature

Y2 demand:

1<sup>st</sup>: Compressor is off, supply fan is on high speed, and economizer modulates to maintain 55°F supply air temperature

2<sup>nd</sup>: Economizer opens to maximum. If economizer stays at maximum open for 3 minutes (default unit controller setting) compressor is energized and operates at first stage while supply fan stays on high speed

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

Y3 demand:

1<sup>st</sup>: Economizer is at maximum open and compressor operates at first stage. If economizer stays at maximum open for 3 minutes (default unit controller setting) compressor switches to second stage operation while supply fan stays on high speed

#### **Unit Does not Feature an Economizer (or Outdoor Air Is Not Suitable)**

Cooling - Thermostat or Zone Sensor (Up to 2 stages Y1, Y2)

Y1 demand:

1<sup>st</sup>: Compressor operates at first stage and supply fan operates at low speed

Y2 demand:

1<sup>st</sup>: Compressor operates at second stage and supply fan operates at high speed

**(Continued on Next Page)**

## **SEQUENCE OF OPERATION**

### **DIRECT DRIVE AND BELT DRIVE SYSTEM OPERATION (3 THROUGH 5 TONS AND 6 TON 074 MODELS)** **(Continued):**

#### **Dehumidification Mode (economizer free cooling is locked out):**

Unit features the Humiditrol® dehumidification system.

No Y1, Y2 demand but a call for dehumidification:

1<sup>st</sup>: Compressor operates at second stage, supply fan operates at low speed, and the reheat valve is energized.

Y1 demand:

1<sup>st</sup>: Compressor operates at second stage, outdoor fan operates at high speed, supply fan operates at low speed and the reheat valve is de-energized.

Y2 demand:

1<sup>st</sup>: Compressor operates at second stage, supply fan operates at high speed, and the reheat valve is de-energized.

#### **Heating Mode: Thermostat or Zone Sensor (Up to 2 stages W1, W2)**

W1 demand:

1<sup>st</sup>: Gas valve is open (stage 1 on units with 2 stage gas valve) and the supply fan operates at high speed.

W2 demand:

1<sup>st</sup>: Gas valve is open (stage 2 on units with 2 stage gas valve) and the supply fan operates at high speed.

#### **Heating Mode: Thermostat or Zone Sensor (Up to 4 stages W1, W2) (LGH060H4E High Efficiency, Direct Drive, Low NOx, Model Only)**

W1 demand:

1<sup>st</sup> Gas valve is open in low and the supply fan operates at low speed.

After ten minutes the 1<sup>st</sup> gas valve closes, 2<sup>nd</sup> Gas valve opens in low and the supply fan operates at low speed.

W2 demand:

1<sup>st</sup> and 2<sup>nd</sup> Gas valves open in low and the supply fan operates at high speed.

After ten minutes the 1<sup>st</sup> and 2<sup>nd</sup> Gas valves open in high and the supply fan operates at high speed.

If W2 demand is satisfied, but W1 is still present, 1<sup>st</sup> Gas valve is open in low and the supply fan operates at low speed.

## **SEQUENCE OF OPERATION**

### **SINGLE STAGE UNIT OPERATION (6 TON 072 MODELS)**

#### **Modulating Outdoor Air Damper:**

*Damper minimum positions are adjusted during unit setup to provide minimum fresh air requirements at the indicated supply fan speeds per ASHRAE 62.1.*

- 1) Supply fan is off and the outdoor air damper is closed.
- 2) Supply fan is on and the outdoor air damper is at minimum position.

#### **<sup>1</sup> Unit Features an Economizer and Outdoor Air is Suitable**

Cooling - Thermostat or Zone Sensor (Up to 2 stages Y1, Y2).

Y1 demand:

1<sup>st</sup>: Compressor is off, supply fan is on, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

Y2 demand:

1<sup>st</sup>: Economizer goes to maximum open position and if the damper stays open for three minutes (default unit controller setting) the compressor is energized.

#### **Unit Does Not Feature an Economizer (or outdoor air is not suitable)**

Cooling - Thermostat or Zone Sensor (Up to 1 stage Y1).

Y1 demand:

1<sup>st</sup>: Compressor is operating and supply fan is on.

#### **Dehumidification Mode (economizer free cooling is locked out):**

Unit features the Humiditrol® dehumidification system.

No Y1 demand but a call for dehumidification:

1<sup>st</sup>: Compressor is operating, supply fan is on, and the reheat valve is energized.

Y1 demand:

1<sup>st</sup>: Compressor is operating, supply fan is on, and the reheat valve is de-energized.

Y2 demand:

1<sup>st</sup>: Compressor is operating, supply fan is on, and the reheat valve is de-energized.

#### **Heating Mode Thermostat or Zone Sensor (Up to 2 stages W1, W2)**

W1 demand:

1<sup>st</sup>: Gas valve is open (stage 1 on units with 2 stage gas valve), supply fan is on.

W2 demand:

1<sup>st</sup>: Gas valve is open (stage 2 on units with 2 stage gas valve), supply fan is on













**BLOWER DATA - DIRECT DRIVE - 3 TON**
**BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.**

FOR ALL UNITS ADD:

- 1 - Any factory installed options air resistance (heat section, economizer, etc.).  
 2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

See page 43 for wet coil and options/accessory air resistance data.

**DOWNFLOW**

External Static Press. in. w.g.	Percentage of Total Motor Torque																					
	20%	30%	40%	50%	60%	70%	80%	90%	100%													
Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	
0	796	39	407	975	69	451	1154	98	494	1298	140	567	1442	181	639	1570	236	692	1697	292	744	1807
0.1	719	44	482	915	76	523	1110	108	564	1257	151	626	1404	193	687	1537	248	733	1670	304	779	1784
0.2	663	49	538	864	83	585	1064	117	633	1220	160	679	1375	203	725	1508	259	770	1641	316	815	1754
0.3	593	55	607	806	91	651	1018	126	695	1174	171	737	1330	216	780	1471	272	815	1612	328	850	1724
0.4	527	60	665	749	97	708	971	135	751	1136	180	783	1300	225	815	1435	285	858	1569	344	900	1689
0.5	460	65	722	692	104	761	924	143	801	1090	190	833	1256	238	866	1398	296	899	1540	355	932	1662
0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**HORIZONTAL**

External Static Press. in. w.g.	Percentage of Total Motor Torque																					
	20%	30%	40%	50%	60%	70%	80%	90%	100%													
Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	
0	807	44	372	982	65	431	1157	86	490	1299	126	546	1441	167	602	1565	214	647	1688	262	692	1795
0.1	708	50	468	906	77	513	1103	104	559	1247	143	612	1391	183	666	1522	231	704	1652	280	742	1766
0.2	634	56	541	841	88	583	1048	120	625	1206	156	663	1363	192	701	1491	243	742	1619	294	783	1731
0.3	523	63	648	759	98	669	994	134	690	1150	171	729	1306	209	769	1446	258	796	1585	307	823	1696
0.4	437	69	732	688	107	742	939	146	752	1101	183	785	1263	221	818	1399	273	849	1535	326	881	1653
0.5	344	75	823	615	116	817	885	156	812	1053	194	838	1220	232	865	1361	285	892	1502	339	918	1614
0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

## BLOWER DATA - DIRECT DRIVE - 4 TON

**BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.**

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (heat section, economizer, etc.).

2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

See page 43 for wet coil and options/accessory air resistance data.

### DOWNTIME

External Static Press. in. w.g.	Percentage of Total Motor Torque							
	20%				30%			
	40%		50%		60%		70%	
Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM
0	1048	80	507	1261	135	582	1473	190
0.1	1000	88	560	1218	146	633	1436	204
0.2	944	97	624	1177	156	683	1409	214
0.3	906	104	666	1139	166	728	1372	228
0.4	849	113	728	1093	177	783	1336	241
0.5	793	121	790	1047	188	837	1300	254
0.6	---	---	---	---	---	1263	267	929
0.7	---	---	---	---	---	1226	280	974
0.8	---	---	---	---	---	1195	291	1012
0.9	---	---	---	---	---	1162	304	1060
1.0	---	---	---	---	---	1133	316	1104
1.1	---	---	---	---	---	---	---	---
1.2	---	---	---	---	---	---	---	---

### HORIZONTAL

External Static Press. in. w.g.	Percentage of Total Motor Torque							
	20%				30%			
	40%		50%		60%		70%	
Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM
0	1025	80	472	1238	131	552	1450	182
0.1	978	85	546	1199	138	610	1420	191
0.2	927	89	602	1157	145	661	1387	201
0.3	851	98	684	1098	156	731	1344	214
0.4	801	105	738	1051	166	785	1300	227
0.5	725	118	817	991	179	850	1256	239
0.6	---	---	---	---	---	1212	251	931
0.7	---	---	---	---	---	1169	263	975
0.8	---	---	---	---	---	1114	277	1027
0.9	---	---	---	---	---	1062	290	1077
1.0	---	---	---	---	---	1007	304	1127
1.1	---	---	---	---	---	---	---	---
1.2	---	---	---	---	---	---	---	---

## BLOWER DATA - DIRECT DRIVE - 5 TON

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (heat section, economizer, etc.).

2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

See page 43 for wet coil and options/accessory air resistance data.

### DOWNTIME

External Static Press. in. w.g.	Percentage of Total Motor Torque										
	20%		30%		40%		50%		60%		
Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM
0	1132	79	438	1353	146	524	1575	212	610	1765	300
0.1	1061	86	494	1305	155	568	1548	223	641	1743	315
0.2	990	94	550	1253	165	614	1516	236	678	1716	330
0.3	920	102	606	1202	175	659	1484	248	713	1687	345
0.4	849	111	662	1151	185	705	1452	260	747	1658	360
0.5	779	121	718	1094	198	754	1410	275	790	1626	374
0.6	---	---	---	---	---	---	---	1368	289	830	1589
0.7	---	---	---	---	---	---	---	1325	303	868	1552
0.8	---	---	---	---	---	---	---	1261	321	920	1504
0.9	---	---	---	---	---	---	---	1211	337	964	1462
1.0	---	---	---	---	---	---	---	1151	354	1013	1412
1.1	---	---	---	---	---	---	---	---	---	---	---
1.2	---	---	---	---	---	---	---	---	---	---	---

### HORIZONTAL

External Static Press. in. w.g.	Percentage of Total Motor Torque										
	20%		30%		40%		50%		60%		
Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM
0	1127	82	426	1367	141	504	1607	200	582	1806	296
0.1	1071	86	476	1326	148	543	1580	210	610	1781	311
0.2	1010	91	529	1268	160	598	1525	229	668	1735	332
0.3	930	100	597	1214	169	647	1497	239	696	1707	345
0.4	869	109	646	1156	184	699	1442	258	751	1665	364
0.5	813	119	689	1114	193	734	1414	267	778	1637	376
0.6	---	---	---	---	---	---	---	1358	286	831	1595
0.7	---	---	---	---	---	---	---	1330	296	857	1560
0.8	---	---	---	---	---	---	---	1275	315	908	1518
0.9	---	---	---	---	---	---	---	1233	329	946	1483
1.0	---	---	---	---	---	---	---	1192	343	982	1441
1.1	---	---	---	---	---	---	---	---	---	---	---
1.2	---	---	---	---	---	---	---	---	---	---	---

## BLOWER DATA - BELT DRIVE - 3 TON

**BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.**

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (heat section, economizer, etc.).

2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

See page 43 for wet coil and options/accessory air resistance data.

### DOWNFLOW

Air Volume (cfm)	External Static (in.w.g.)																			
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.9		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
700	453	0.07	523	0.11	596	0.14	679	0.17	762	0.18	828	0.21	878	0.24	927	0.26	979	0.29	1029	0.31
800	471	0.09	542	0.13	614	0.16	696	0.19	777	0.21	841	0.23	889	0.26	938	0.29	990	0.31	1042	0.34
900	493	0.11	563	0.15	634	0.19	715	0.21	793	0.23	854	0.26	902	0.29	950	0.32	1002	0.34	1054	0.36
1000	517	0.14	587	0.18	657	0.21	736	0.24	811	0.26	869	0.29	916	0.32	964	0.35	1015	0.37	1067	0.4
1100	544	0.17	613	0.21	683	0.24	759	0.27	831	0.3	886	0.32	931	0.36	978	0.38	1028	0.41	1078	0.43
1200	574	0.2	643	0.24	711	0.27	784	0.3	852	0.33	904	0.36	947	0.39	993	0.42	1042	0.45	1091	0.47
1300	608	0.24	676	0.28	743	0.31	812	0.34	875	0.37	923	0.4	964	0.44	1010	0.46	1057	0.49	1104	0.51
1400	645	0.28	711	0.31	776	0.35	842	0.38	898	0.41	942	0.44	983	0.48	1028	0.51	1074	0.53	1120	0.56
Air Volume (cfm)	External Static (in.w.g.)																			
	1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
700	1078	0.33	1124	0.36	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
800	1091	0.36	1137	0.39	1180	0.41	1221	0.44	1260	0.47	---	---	---	---	---	---	---	---	---	---
900	1105	0.39	1150	0.42	1192	0.45	1232	0.47	1270	0.5	1307	0.53	1345	0.56	1382	0.59	1420	0.62	---	---
1000	1117	0.42	1162	0.45	1203	0.48	1242	0.51	1279	0.54	1316	0.57	1353	0.6	1390	0.63	1427	0.66	1465	0.7
1100	1126	0.46	1171	0.49	1212	0.52	1251	0.56	1288	0.59	1325	0.62	1361	0.65	1397	0.68	1433	0.71	1470	0.75
1200	1137	0.5	1180	0.54	1222	0.57	1260	0.6	1298	0.64	1334	0.67	1369	0.7	1404	0.73	1440	0.77	1477	0.8
1300	1149	0.55	1191	0.58	1232	0.62	1270	0.65	1307	0.69	1343	0.72	1378	0.76	1413	0.79	1449	0.82	1486	0.86
1400	1163	0.6	1204	0.63	1243	0.67	1281	0.71	1317	0.74	1353	0.78	1388	0.82	1423	0.85	1459	0.89	1496	0.92

## BLOWER DATA - BELT DRIVE - 3 TON

**BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.**

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (heat section, economizer, etc.).

2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

See page 43 for blower motors and drives and wet coil and options/accessory air resistance data.

### HORIZONTAL

Air Volume (cfm)	External Static (in.w.g.)																			
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.9		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
700	440	0.07	510	0.1	585	0.12	657	0.14	726	0.17	793	0.2	856	0.23	915	0.25	967	0.28	1016	0.31
800	456	0.08	526	0.11	600	0.14	672	0.16	739	0.19	804	0.22	866	0.25	923	0.28	975	0.31	1025	0.34
900	474	0.1	544	0.13	617	0.16	688	0.18	754	0.21	818	0.24	877	0.27	932	0.3	984	0.33	1034	0.36
1000	495	0.12	565	0.15	637	0.18	707	0.21	771	0.23	832	0.27	889	0.3	943	0.33	993	0.36	1043	0.39
1100	518	0.14	588	0.18	659	0.21	727	0.23	789	0.26	848	0.3	903	0.33	954	0.37	1003	0.4	1052	0.43
1200	544	0.17	613	0.21	682	0.24	748	0.27	809	0.29	866	0.33	918	0.37	967	0.4	1014	0.43	1062	0.46
1300	572	0.21	640	0.24	707	0.27	771	0.3	830	0.33	884	0.37	934	0.41	981	0.44	1027	0.47	1073	0.5
1400	602	0.24	669	0.28	733	0.31	795	0.34	851	0.37	903	0.41	950	0.45	995	0.49	1040	0.52	1086	0.55

Air Volume (cfm)	External Static (in.w.g.)																			
	1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
700	1065	0.33	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
800	1075	0.36	1122	0.39	1164	0.42	1203	0.45	1241	0.47	---	---	---	---	---	---	---	---	---	---
900	1086	0.39	1133	0.42	1174	0.45	1213	0.48	1250	0.51	1286	0.54	1322	0.57	1357	0.6	1392	0.64	---	---
1000	1094	0.43	1142	0.46	1183	0.49	1222	0.52	1259	0.55	1295	0.58	1330	0.62	1365	0.65	1400	0.68	1435	0.71
1100	1102	0.46	1148	0.49	1191	0.53	1230	0.56	1267	0.6	1303	0.63	1338	0.66	1373	0.69	1408	0.73	1444	0.76
1200	1110	0.5	1156	0.53	1198	0.57	1238	0.61	1275	0.64	1311	0.68	1346	0.71	1381	0.74	1416	0.78	1452	0.81
1300	1120	0.54	1164	0.58	1207	0.62	1246	0.65	1283	0.69	1319	0.73	1354	0.76	1389	0.79	1424	0.83	1460	0.86
1400	1131	0.59	1175	0.63	1216	0.67	1255	0.7	1292	0.74	1327	0.78	1362	0.81	1397	0.84	1432	0.88	1468	0.91

## BLOWER DATA - BELT DRIVE - 4 TON

**BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.**

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (heat section, economizer, etc.).

2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

See page 43 for blower motors and drives and wet coil and options/accessory air resistance data.

### DOWNFLOW

Air Volume (cfm)	External Static (in.w.g.)																			
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.9		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	502	0.12	573	0.15	644	0.19	725	0.22	802	0.24	861	0.26	908	0.29	957	0.32	1009	0.34	1061	0.37
1000	528	0.14	598	0.18	668	0.22	747	0.24	821	0.27	877	0.3	923	0.33	971	0.35	1022	0.38	1074	0.4
1100	557	0.17	626	0.21	695	0.25	772	0.28	841	0.3	894	0.33	939	0.36	986	0.39	1037	0.41	1087	0.44
1200	589	0.21	657	0.25	725	0.28	798	0.31	864	0.33	913	0.37	956	0.4	1003	0.43	1052	0.45	1100	0.48
1300	625	0.25	692	0.28	759	0.32	827	0.34	887	0.37	933	0.41	975	0.44	1021	0.47	1068	0.49	1115	0.52
1400	665	0.29	730	0.32	794	0.35	857	0.38	911	0.42	953	0.45	995	0.49	1040	0.52	1086	0.54	1131	0.57
1500	706	0.33	768	0.36	829	0.39	886	0.43	934	0.46	974	0.5	1015	0.54	1060	0.56	1105	0.59	1149	0.62
1600	746	0.37	805	0.4	862	0.44	914	0.48	957	0.52	996	0.55	1037	0.59	1081	0.62	1126	0.64	1167	0.68
1700	784	0.42	840	0.45	893	0.49	940	0.53	980	0.57	1019	0.61	1060	0.64	1104	0.67	1147	0.7	1187	0.74
1800	821	0.47	874	0.51	923	0.55	967	0.59	1006	0.63	1044	0.67	1085	0.7	1128	0.73	1170	0.77	1208	0.82
1900	857	0.53	906	0.57	952	0.62	994	0.66	1032	0.7	1071	0.73	1112	0.76	1154	0.8	1194	0.85	1230	0.9
Air Volume (cfm)	External Static (in.w.g.)																			
	1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	1111	0.39	1156	0.42	1197	0.45	1236	0.48	1275	0.51	1312	0.54	1349	0.56	1387	0.59	1424	0.62	---	---
1000	1124	0.43	1168	0.46	1209	0.49	1247	0.52	1285	0.55	1322	0.58	1358	0.61	1395	0.64	1432	0.67	1470	0.7
1100	1134	0.47	1178	0.5	1219	0.53	1258	0.56	1295	0.6	1331	0.63	1367	0.66	1403	0.69	1439	0.72	1477	0.75
1200	1146	0.51	1189	0.54	1230	0.58	1268	0.61	1305	0.65	1341	0.68	1376	0.71	1411	0.74	1447	0.77	1485	0.81
1300	1159	0.55	1201	0.59	1241	0.63	1279	0.66	1315	0.7	1351	0.73	1386	0.77	1421	0.8	1457	0.83	1495	0.87
1400	1173	0.61	1214	0.64	1253	0.68	1290	0.72	1327	0.75	1362	0.79	1397	0.82	1432	0.86	1468	0.89	1506	0.93
1500	1189	0.66	1228	0.7	1266	0.74	1303	0.78	1339	0.81	1374	0.85	1409	0.89	1445	0.92	1481	0.96	1519	1
1600	1206	0.72	1244	0.76	1281	0.8	1317	0.84	1353	0.88	1388	0.92	1423	0.96	1459	1	1496	1.04	1535	1.08
1700	1224	0.79	1261	0.83	1298	0.87	1334	0.91	1369	0.95	1404	0.99	1440	1.03	1476	1.07	1513	1.12	1552	1.16
1800	1244	0.86	1280	0.91	1316	0.95	1352	0.99	1387	1.03	1422	1.07	1457	1.11	1494	1.16	1532	1.2	1570	1.24
1900	1265	0.95	1301	1	1336	1.04	1371	1.08	1406	1.12	1441	1.16	1477	1.2	1515	1.24	1553	1.29	1592	1.33

## BLOWER DATA - BELT DRIVE - 4 TON

**BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.**

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (heat section, economizer, etc.).

2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

See page 43 for blower motors and drives and wet coil and options/accessory air resistance data.

### HORIZONTAL

Air Volume (cfm)	External Static (in.w.g.)																			
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.9		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	483	0.1	554	0.13	627	0.16	699	0.19	765	0.22	826	0.24	882	0.27	935	0.3	986	0.33	1039	0.36
1000	505	0.12	576	0.16	648	0.19	719	0.21	784	0.24	842	0.27	896	0.3	947	0.33	998	0.37	1050	0.4
1100	530	0.15	601	0.18	671	0.21	741	0.24	804	0.27	860	0.3	912	0.34	961	0.37	1010	0.4	1060	0.43
1200	558	0.18	627	0.22	696	0.25	764	0.28	824	0.3	878	0.34	928	0.37	975	0.41	1023	0.44	1072	0.47
1300	588	0.22	656	0.25	723	0.28	788	0.31	846	0.34	897	0.38	945	0.42	990	0.45	1037	0.48	1084	0.51
1400	621	0.25	687	0.29	752	0.32	814	0.35	868	0.38	916	0.42	962	0.46	1006	0.5	1052	0.53	1098	0.56
1500	655	0.29	719	0.33	781	0.36	839	0.39	890	0.43	936	0.47	979	0.51	1023	0.55	1068	0.58	1113	0.61
1600	690	0.33	751	0.37	810	0.4	865	0.44	912	0.48	955	0.52	997	0.56	1041	0.6	1086	0.63	1129	0.66
1700	725	0.38	784	0.41	839	0.45	891	0.49	935	0.53	975	0.58	1017	0.62	1060	0.65	1104	0.68	1147	0.72
1800	761	0.42	816	0.46	868	0.5	916	0.55	957	0.59	997	0.64	1038	0.68	1081	0.71	1124	0.74	1165	0.79
1900	795	0.48	848	0.52	897	0.56	942	0.61	981	0.66	1020	0.7	1060	0.74	1103	0.77	1145	0.81	1183	0.85

Air Volume (cfm)	External Static (in.w.g.)																			
	1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	1091	0.4	1138	0.43	1180	0.46	1220	0.49	1257	0.53	1293	0.56	1329	0.59	1364	0.62	1400	0.65	1435	0.69
1000	1101	0.43	1149	0.46	1190	0.5	1229	0.53	1266	0.57	1302	0.6	1338	0.63	1373	0.66	1408	0.7	1444	0.73
1100	1110	0.46	1156	0.5	1199	0.54	1238	0.57	1275	0.61	1311	0.64	1346	0.67	1381	0.71	1416	0.74	1452	0.78
1200	1119	0.5	1165	0.54	1207	0.58	1247	0.62	1284	0.65	1319	0.69	1355	0.72	1389	0.75	1425	0.79	1460	0.82
1300	1130	0.55	1175	0.59	1216	0.63	1255	0.66	1292	0.7	1328	0.74	1363	0.77	1398	0.8	1433	0.84	1469	0.87
1400	1143	0.6	1186	0.63	1226	0.67	1265	0.71	1302	0.75	1337	0.79	1372	0.82	1406	0.85	1441	0.89	1477	0.93
1500	1156	0.65	1198	0.69	1237	0.73	1275	0.77	1311	0.8	1346	0.84	1381	0.88	1415	0.91	1450	0.95	1486	0.98
1600	1171	0.7	1211	0.74	1249	0.78	1286	0.82	1321	0.86	1356	0.9	1390	0.93	1425	0.97	1460	1.01	1496	1.05
1700	1186	0.76	1225	0.8	1262	0.84	1298	0.88	1333	0.92	1367	0.96	1401	1	1436	1.03	1471	1.07	1507	1.12
1800	1202	0.83	1240	0.87	1276	0.91	1311	0.95	1345	0.99	1380	1.03	1413	1.07	1448	1.11	1483	1.15	1520	1.19
1900	1220	0.9	1256	0.94	1291	0.99	1326	1.03	1360	1.07	1393	1.1	1427	1.14	1462	1.18	1497	1.22	1534	1.27

## BLOWER DATA - BELT DRIVE - 5 TON

**BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.**

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (heat section, economizer, etc.).

2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

See page 43 for blower motors and drives and wet coil and options/accessory air resistance data.

### DOWNGLOW

Air Volume (cfm)	External Static (in.w.g.)																			
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.9		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1100	529	0.17	591	0.21	653	0.24	724	0.26	810	0.26	886	0.26	942	0.28	982	0.32	1022	0.36	1064	0.40
1200	553	0.20	615	0.24	677	0.27	747	0.30	829	0.30	902	0.30	955	0.33	994	0.36	1034	0.40	1075	0.44
1300	579	0.23	640	0.27	701	0.31	770	0.33	850	0.34	918	0.35	969	0.37	1007	0.41	1047	0.45	1088	0.49
1400	609	0.27	669	0.31	729	0.34	796	0.37	871	0.38	936	0.39	983	0.41	1022	0.45	1061	0.49	1102	0.53
1500	658	0.28	715	0.32	771	0.36	832	0.39	898	0.41	955	0.43	999	0.46	1037	0.50	1077	0.54	1117	0.58
1600	720	0.28	769	0.33	819	0.37	871	0.41	926	0.44	975	0.47	1016	0.51	1054	0.55	1093	0.60	1133	0.63
1700	779	0.30	822	0.35	864	0.39	908	0.44	953	0.48	995	0.52	1034	0.57	1072	0.61	1111	0.65	1150	0.69
1800	828	0.34	864	0.39	901	0.43	938	0.48	977	0.53	1015	0.58	1053	0.63	1091	0.67	1130	0.71	1169	0.75
1900	857	0.41	892	0.45	927	0.50	962	0.55	999	0.60	1036	0.65	1074	0.69	1112	0.73	1150	0.77	1188	0.81
2000	879	0.47	913	0.52	948	0.56	984	0.61	1020	0.67	1058	0.72	1096	0.76	1134	0.80	1172	0.84	1210	0.88
2100	900	0.53	935	0.58	970	0.63	1007	0.69	1044	0.74	1081	0.79	1119	0.84	1157	0.88	1195	0.91	1233	0.95
2200	922	0.60	958	0.65	994	0.71	1031	0.76	1068	0.82	1106	0.87	1143	0.91	1180	0.95	1218	0.99	1255	1.03
2300	947	0.67	983	0.73	1020	0.79	1057	0.85	1094	0.90	1131	0.95	1168	1.00	1205	1.03	1242	1.07	1277	1.13
2400	974	0.76	1010	0.82	1047	0.88	1084	0.94	1120	0.99	1157	1.04	1193	1.08	1230	1.12	1267	1.16	1300	1.23
Air Volume (cfm)	External Static (in.w.g.)																			
	1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1100	1106	0.44	1151	0.47	1197	0.49	1238	0.52	1272	0.56	---	---	---	---	---	---	---	---	---	---
1200	1117	0.48	1161	0.51	1206	0.53	1245	0.57	1278	0.60	1312	0.64	1346	0.67	1380	0.71	---	---	---	---
1300	1129	0.52	1172	0.55	1216	0.58	1254	0.61	1287	0.65	1320	0.69	1354	0.72	1388	0.76	1421	0.79	1455	0.82
1400	1143	0.57	1185	0.60	1227	0.63	1264	0.66	1296	0.70	1329	0.74	1363	0.77	1397	0.81	1430	0.85	1464	0.88
1500	1157	0.62	1199	0.65	1239	0.68	1275	0.71	1306	0.75	1339	0.79	1373	0.83	1406	0.87	1440	0.90	1473	0.94
1600	1173	0.67	1214	0.70	1253	0.73	1288	0.77	1318	0.81	1351	0.85	1384	0.89	1417	0.93	1451	0.96	1484	1.00
1700	1190	0.72	1230	0.76	1268	0.79	1301	0.83	1331	0.87	1363	0.92	1396	0.95	1429	0.99	1462	1.03	1495	1.07
1800	1208	0.78	1247	0.82	1285	0.86	1317	0.90	1345	0.94	1377	0.98	1410	1.02	1442	1.06	1475	1.10	1508	1.14
1900	1227	0.85	1267	0.88	1303	0.92	1333	0.97	1360	1.02	1392	1.06	1424	1.10	1457	1.14	1489	1.18	1522	1.22
2000	1248	0.92	1286	0.96	1321	1.00	1350	1.05	1377	1.10	1409	1.14	1441	1.18	1473	1.22	1505	1.26	1537	1.30
2100	1269	1.00	1306	1.04	1339	1.09	1367	1.14	1395	1.19	1426	1.23	1458	1.27	1490	1.31	1522	1.35	1554	1.39
2200	1290	1.09	1324	1.14	1356	1.19	1385	1.24	1413	1.28	1444	1.32	1476	1.36	1508	1.41	1540	1.45	1572	1.49
2300	1310	1.20	1343	1.26	1374	1.30	1403	1.34	1432	1.38	1464	1.42	1495	1.46	1527	1.51	1559	1.55	1591	1.59
2400	1332	1.31	1364	1.37	1394	1.41	1423	1.45	1453	1.48	1484	1.53	1516	1.57	1547	1.61	1579	1.65	1612	1.70



## BLOWER DATA - BELT DRIVE - 6 TON

**BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.**

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (heat section, economizer, etc.).

2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

See page 43 for blower motors and drives and wet coil and options/accessory air resistance data.

### DOWNTIME

Air Volume (cfm)	External Static (in.w.g.)																			
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.9		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1900	510	0.45	544	0.5	579	0.55	614	0.6	649	0.65	684	0.7	718	0.74	752	0.79	784	0.83	812	0.88
2000	526	0.49	560	0.55	595	0.6	629	0.65	663	0.7	697	0.75	730	0.79	763	0.84	794	0.88	820	0.93
2100	542	0.54	576	0.59	610	0.65	644	0.7	678	0.75	711	0.8	743	0.84	775	0.89	804	0.94	830	0.98
2200	560	0.59	593	0.64	627	0.7	660	0.75	693	0.8	725	0.85	757	0.9	787	0.94	814	0.99	840	1.03
2300	578	0.64	610	0.7	644	0.75	676	0.81	709	0.86	740	0.91	770	0.95	799	1	826	1.05	851	1.09
2400	597	0.7	629	0.75	661	0.81	693	0.86	725	0.91	755	0.96	784	1.01	812	1.06	838	1.11	862	1.15
2500	617	0.76	648	0.81	679	0.87	710	0.92	741	0.97	770	1.03	799	1.08	825	1.13	850	1.17	875	1.22
2600	637	0.82	667	0.87	698	0.93	728	0.98	758	1.04	786	1.09	814	1.15	839	1.2	864	1.24	887	1.28
2700	658	0.88	687	0.94	717	1	746	1.05	775	1.11	802	1.16	829	1.22	853	1.27	877	1.31	901	1.36
2800	679	0.95	708	1.01	736	1.07	764	1.12	792	1.18	819	1.24	844	1.3	868	1.35	892	1.39	915	1.43
2900	701	1.02	728	1.08	756	1.14	783	1.2	809	1.26	835	1.32	860	1.38	884	1.43	907	1.47	930	1.52
Air Volume (cfm)	External Static (in.w.g.)																			
	1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1900	837	0.92	861	0.96	886	1	913	1.04	939	1.07	966	1.11	992	1.16	1017	1.21	1041	1.27	1065	1.33
2000	845	0.97	870	1.01	895	1.05	921	1.09	948	1.12	974	1.17	999	1.22	1023	1.27	1047	1.33	1070	1.39
2100	855	1.02	879	1.06	904	1.1	930	1.14	956	1.18	982	1.22	1006	1.28	1030	1.34	1053	1.4	1075	1.46
2200	865	1.08	889	1.12	914	1.15	940	1.19	966	1.24	990	1.29	1014	1.34	1037	1.41	1059	1.47	1081	1.54
2300	875	1.13	900	1.17	925	1.21	951	1.25	976	1.3	999	1.35	1022	1.41	1044	1.48	1066	1.55	1087	1.62
2400	887	1.19	912	1.23	936	1.27	961	1.32	986	1.37	1009	1.43	1031	1.49	1052	1.57	1073	1.64	1094	1.71
2500	899	1.25	923	1.29	948	1.34	973	1.39	996	1.44	1018	1.51	1039	1.58	1060	1.65	1080	1.73	1101	1.8
2600	912	1.32	936	1.36	960	1.41	984	1.46	1007	1.52	1028	1.59	1049	1.67	1069	1.75	1089	1.82	1109	1.89
2700	925	1.4	949	1.44	973	1.49	996	1.55	1018	1.61	1038	1.69	1058	1.76	1078	1.84	1098	1.92	1118	1.99
2800	939	1.47	962	1.52	985	1.57	1008	1.64	1029	1.71	1049	1.79	1069	1.87	1088	1.94	1107	2.02	1127	2.09
2900	953	1.56	976	1.61	998	1.67	1020	1.73	1041	1.81	1060	1.89	1079	1.98	1098	2.06	1117	2.13	1137	2.21

## BLOWER DATA - BELT DRIVE - 6 TON

**BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.**

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (heat section, economizer, etc.).

2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

See page 43 for blower motors and drives and wet coil and options/accessory air resistance data.

### HORIZONTAL

Air Volume (cfm)	External Static (in.w.g.)																			
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.9		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1900	485	0.55	516	0.57	549	0.59	583	0.62	618	0.65	654	0.69	689	0.73	724	0.77	758	0.82	790	0.86
2000	499	0.59	531	0.61	563	0.63	597	0.66	631	0.7	666	0.73	701	0.77	734	0.82	767	0.86	798	0.91
2100	514	0.63	546	0.65	578	0.68	611	0.71	645	0.74	679	0.78	712	0.82	745	0.86	777	0.91	806	0.96
2200	530	0.68	562	0.7	594	0.73	627	0.76	660	0.79	693	0.83	725	0.87	757	0.92	787	0.96	816	1.01
2300	548	0.73	579	0.75	610	0.78	643	0.81	675	0.85	707	0.88	738	0.93	769	0.97	798	1.02	826	1.06
2400	566	0.78	596	0.81	628	0.84	659	0.87	691	0.9	722	0.94	752	0.98	782	1.03	810	1.08	837	1.12
2500	585	0.84	615	0.86	645	0.9	676	0.93	707	0.96	737	1	767	1.05	795	1.09	822	1.14	848	1.19
2600	604	0.9	634	0.93	664	0.96	694	0.99	724	1.03	753	1.07	781	1.11	809	1.15	835	1.2	861	1.25
2700	624	0.96	653	0.99	682	1.02	712	1.06	741	1.09	769	1.13	796	1.18	823	1.22	849	1.27	873	1.32
2800	645	1.02	673	1.05	701	1.09	730	1.12	758	1.16	785	1.2	812	1.25	838	1.29	862	1.34	886	1.39
2900	665	1.09	693	1.12	721	1.16	748	1.19	775	1.23	802	1.27	827	1.32	852	1.36	877	1.41	900	1.46
Air Volume (cfm)	External Static (in.w.g.)																			
	1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1900	819	0.9	846	0.94	871	0.98	897	1.02	922	1.05	948	1.09	974	1.13	999	1.18	1025	1.23	1050	1.28
2000	826	0.95	852	0.99	877	1.03	902	1.06	928	1.1	953	1.14	979	1.18	1004	1.23	1029	1.28	1054	1.34
2100	834	1	859	1.04	884	1.08	909	1.12	934	1.15	960	1.2	985	1.24	1010	1.29	1034	1.35	1058	1.4
2200	842	1.05	868	1.1	892	1.13	917	1.17	942	1.21	967	1.26	992	1.3	1016	1.36	1040	1.41	1063	1.47
2300	852	1.11	877	1.15	901	1.19	926	1.23	950	1.27	975	1.32	999	1.37	1023	1.42	1046	1.48	1069	1.54
2400	862	1.17	887	1.21	911	1.25	935	1.3	959	1.34	983	1.39	1007	1.44	1030	1.5	1053	1.56	1075	1.62
2500	873	1.23	897	1.28	921	1.32	945	1.36	969	1.41	992	1.46	1016	1.52	1038	1.58	1060	1.64	1082	1.7
2600	885	1.3	909	1.34	932	1.39	955	1.43	979	1.49	1002	1.54	1025	1.6	1047	1.66	1069	1.73	1090	1.79
2700	897	1.37	920	1.41	944	1.46	967	1.51	990	1.57	1012	1.62	1034	1.69	1056	1.75	1077	1.82	1098	1.89
2800	910	1.44	933	1.49	955	1.54	978	1.6	1001	1.65	1023	1.72	1044	1.78	1066	1.85	1086	1.92	1107	1.99
2900	923	1.52	945	1.57	968	1.63	990	1.68	1012	1.75	1034	1.81	1055	1.88	1076	1.95	1096	2.02	1116	2.09

## BLOWER DATA

### BELT DRIVE KIT SPECIFICATIONS - 036-060

Model No.	Motor HP		No. of Speeds	Drive Kits and RPM Range					
	Nominal	Maximum		A01	A02	A03	A05	A06	A07
036	0.75	0.86	2	low 449-673 high 673-1010	---	---	---	---	---
	1	1.15	2	---	---	---	low 598-897 high 897-1346	---	---
048	0.75	0.86	2	---	low 497-673 high 745-1117	---	---	---	---
	2	2.3	2	---	---	---	---	low 714-953 high 1071-1429	---
060	1	1.15	2	---	---	low 555-833 high 833-1250	---	---	---
	2	2.3	2	---	---	---	---	---	low 808-1032 high 1212-1548

### BELT DRIVE KIT SPECIFICATIONS - 072-074

Model No.	Motor HP		No. of Speeds	Drive Kits and RPM Range		
	Nominal	Maximum		AA01	AA02	AA03
072	1	1.15	1	522-784	---	---
	2	2.3	1	---	632-875	798-1105
074	1	1.15	2	522-784	---	---
	2	2.3	2	---	632-875	798-1105

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

Air Volume cfm	Wet Indoor Coil			Humiditrol Dehumidification Coil	Gas Heating		Economizer	Filters	
	036	048	060, 072, 074		Medium Heat	High Heat		MERV 8	MERV 13

#### 036-048 MODELS

800	0.01	0.01	---	0.00	0.02	0.02	0.04	0.04	0.05
1000	0.02	0.02	---	0.00	0.02	0.02	0.04	0.04	0.07
1200	0.03	0.04	---	0.01	0.02	0.02	0.04	0.04	0.07
1400	0.04	0.05	---	0.02	0.02	0.03	0.04	0.04	0.07
1600	0.05	0.06	---	0.03	0.03	0.04	0.04	0.04	0.07
1800	0.06	0.07	---	0.04	0.04	0.05	0.05	0.04	0.07
2000	0.08	0.09	---	0.04	0.04	0.06	0.05	0.05	0.08

#### 060, 072, 074 MODELS

1000	---	---	0.02	0.00	0.02	0.02	0.04	0.03	0.05
1200	---	---	0.04	0.00	0.02	0.02	0.04	0.03	0.07
1400	---	---	0.05	0.01	0.02	0.03	0.04	0.04	0.07
1600	---	---	0.07	0.02	0.03	0.04	0.04	0.04	0.07
1800	---	---	0.08	0.02	0.03	0.05	0.05	0.05	0.07
2000	---	---	0.10	0.03	0.04	0.06	0.05	0.05	0.07
2200	---	---	0.11	0.04	0.04	0.07	0.05	0.05	0.08
2400	---	---	0.13	0.04	0.05	0.08	0.05	0.05	0.08
2600	---	---	0.15	0.05	0.05	0.09	0.06	0.05	0.08
2800	---	---	0.16	0.05	0.06	0.10	0.06	0.05	0.08
3000	---	---	0.18	0.06	0.07	0.11	0.06	0.05	0.08

### POWER EXHAUST FAN PERFORMANCE

Return Air System Static Pressure in. w.g.	Air Volume Exhausted cfm
0.00	2000
0.05	1990
0.10	1924
0.15	1810
0.20	1664
0.25	1507
0.30	1350
0.35	1210

## BLOWER DATA

### CEILING DIFFUSERS AIR RESISTANCE (in. w.g.)

Air Volume cfm	RTD9-65S Step-Down Diffuser			FD9-65S Flush Diffuser	RTD11-95S Step-Down Diffuser			FD11-95S Flush Diffuser
	2 Ends Open	1 Side & 2 Ends Open	All Ends & Sides Open		2 Ends Open	1 Side & 2 Ends Open	All Ends & Sides Open	
800	0.15	0.13	0.11	0.11	---	---	---	---
1000	0.19	0.16	0.14	0.14	---	---	---	---
1200	0.25	0.20	0.17	0.17	---	---	---	---
1400	0.33	0.26	0.20	0.20	---	---	---	---
1600	0.43	0.32	0.20	0.24	---	---	---	---
1800	0.56	0.40	0.30	0.30	0.13	0.11	0.09	0.09
2000	0.73	0.50	0.36	0.36	0.15	0.13	0.11	0.10
2200	0.95	0.63	0.44	0.44	0.18	0.15	0.12	0.12
2400	---	---	---	---	0.21	0.18	0.15	0.14
2600	---	---	---	---	0.24	0.21	0.18	0.17
2800	---	---	---	---	0.27	0.24	0.21	0.20
3000	---	---	---	---	0.32	0.29	0.25	0.25

### CEILING DIFFUSER AIR THROW DATA

Air Volume - cfm	<sup>1</sup> Effective Throw - ft.	
Model No.	RTD9-65S	FD9-65S
800	10 - 17	14 - 18
1000	10 - 17	15 - 20
1200	11 - 18	16 - 22
1400	12 - 19	17 - 24
1600	12 - 20	18 - 25
1800	13 - 21	20 - 28
2000	14 - 23	21 - 29
2200	16 - 25	22 - 30
Model No.	RTD11-95S	FD11-95S
2600	24 - 29	19 - 24
2800	25 - 30	20 - 28
3000	27 - 33	21 - 29

<sup>1</sup> Effective throw based on terminal velocities of 75 ft. per minute.

**ELECTRICAL DATA****3 TON****3 TON HIGH EFFICIENCY (R-410A)****LGH036H4**

<sup>1</sup> Voltage - 60hz		208/230V - 1 Ph	208/230V - 3 Ph	460V - 3 Ph	575V - 3 Ph
Compressor	Rated Load Amps	15.3	11.6	5.7	4
	Locked Rotor Amps	83	73	38	25.6
Outdoor Fan Motor	Full Load Amps	4.1	4.1	2.1	1.6
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4	2.4	1.3	1
Service Outlet 115V GFI (amps)		15	15	15	20
Indoor Blower Motor	Horsepower	0.5	0.5	0.5	0.5
	Full Load Amps	4.3	4.3	2.2	1.7
<sup>2</sup> Maximum Overcurrent Protection	Unit Only	40	30	15	15
	With (1) 0.33 HP Power Exhaust	45	35	15	15
<sup>3</sup> Minimum Circuit Ampacity	Unit Only	28	23	12	9
	With (1) 0.33 HP Power Exhaust	30	26	13	10

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.**3 TON STANDARD EFFICIENCY (R-410A)****LGH036S4**

<sup>1</sup> Voltage - 60hz		208/230V - 3 Ph		460V - 3 Ph		575V - 3 Ph	
Compressor	Rated Load Amps	11.6		5.7		4	
	Locked Rotor Amps	73		38		25.6	
Outdoor Fan Motor	Full Load Amps	0.9		0.6		0.5	
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4		1.3		1	
Service Outlet 115V GFI (amps)		15		15		20	
Indoor Blower Motor	Horsepower	0.75	1	0.75	1	0.75	1
	Full Load Amps	3.5	4.6	1.6	2.1	1.3	1.7
<sup>2</sup> Maximum Overcurrent Protection	Unit Only	30	30	15	15	15	15
	With (1) 0.33 HP Power Exhaust	30	30	15	15	15	15
<sup>3</sup> Minimum Circuit Ampacity	Unit Only	19	20	10	10	7	8
	With (1) 0.33 HP Power Exhaust	22	23	11	12	8	9

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****4 TON****4 TON HIGH EFFICIENCY (R-410A)****LGH048H4**

1 Voltage - 60hz		208/230V - 1 Ph	208/230V - 3 Ph	460V - 3 Ph	575V - 3 Ph
Compressor	Rated Load Amps	21.2	14	6.4	4.6
	Locked Rotor Amps	104	83.1	41	33
Outdoor Fan Motor	Full Load Amps	4.1	4.1	2.1	1.6
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4	2.4	1.3	1
Service Outlet 115V GFI (amps)		15	15	15	20
Indoor Blower Motor	Horsepower	0.75	0.75	0.75	0.75
	Full Load Amps	6.1	6.1	3.1	2.4
2 Maximum Overcurrent Protection	Unit Only	50	40	15	15
	With (1) 0.33 HP Power Exhaust	60	40	20	15
3 Minimum Circuit Ampacity	Unit Only	37	28	14	10
	With (1) 0.33 HP Power Exhaust	40	31	15	11

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.**4 TON STANDARD EFFICIENCY (R-410A)****LGH048S4**

1 Voltage - 60hz		208/230V - 3 Ph		460V - 3 Ph		575V - 3 Ph	
Compressor	Rated Load Amps	14		6.4		4.6	
	Locked Rotor Amps	83.1		41		33	
Outdoor Fan Motor	Full Load Amps	1.7		1.1		0.7	
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4		1.3		1	
Service Outlet 115V GFI (amps)		15		15		20	
Indoor Blower Motor	Horsepower	0.75	2	0.75	2	0.75	2
	Full Load Amps	3.5	7.5	1.6	3.4	1.3	2.7
2 Maximum Overcurrent Protection	Unit Only	35	40	15	15	15	15
	With (1) 0.33 HP Power Exhaust	35	40	15	20	15	15
3 Minimum Circuit Ampacity	Unit Only	23	27	11	13	8	10
	With (1) 0.33 HP Power Exhaust	26	30	12	14	9	11

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****5 TON****5 TON HIGH EFFICIENCY (R-410A)****LGH060H4**

1 Voltage - 60hz		208/230V - 1 Ph	208/230V - 3 Ph	460V - 3 Ph	575V - 3 Ph
Compressor	Rated Load Amps	27.1	16.5	7.2	5.5
	Locked Rotor Amps	152.9	110	52	38.9
Outdoor Fan Motor	Full Load Amps	4.1	4.1	2.1	1.6
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4	2.4	1.3	1
Service Outlet 115V GFI (amps)		15	15	15	20
Indoor Blower Motor	Horsepower	1	1	1	1
	Full Load Amps	7.4	7.4	3.7	3
2 Maximum Overcurrent Protection	Unit Only	70	45	20	15
	With (1) 0.33 HP Power Exhaust	70	50	20	15
3 Minimum Circuit Ampacity	Unit Only	46	33	15	12
	With (1) 0.33 HP Power Exhaust	48	35	17	13

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.**5 TON STANDARD EFFICIENCY (R-410A)****LGH060S4**

1 Voltage - 60hz		208/230V - 3 Ph		460V - 3 Ph		575V - 3 Ph	
Compressor	Rated Load Amps	16.5		7.2		5.5	
	Locked Rotor Amps	110		52		38.9	
Outdoor Fan Motor	Full Load Amps	2.4		1.3		1	
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4		1.3		1	
Service Outlet 115V GFI (amps)		15		15		20	
Indoor Blower Motor	Horsepower	1	2	1	2	1	2
	Full Load Amps	4.6	7.5	2.1	3.4	1.7	2.7
2 Maximum Overcurrent Protection	Unit Only	40	45	15	20	15	15
	With (1) 0.33 HP Power Exhaust	45	45	20	20	15	15
3 Minimum Circuit Ampacity	Unit Only	28	31	13	14	10	11
	With (1) 0.33 HP Power Exhaust	31	33	14	16	11	12

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****6 TON****6 TON HIGH EFFICIENCY (R-410A)****LGH072H4**

<sup>1</sup> Voltage - 60hz		208/230V - 3 Ph		460V - 3 Ph		575V - 3 Ph	
Compressor	Rated Load Amps		19.6		8.2		6.6
	Locked Rotor Amps		136		66.1		55.3
Outdoor Fan Motor	Full Load Amps		2.4		1.3		1
Power Exhaust	Full Load Amps		2.4		1.3		1
(1) 0.33 HP							
Service Outlet 115V GFI (amps)		15		15		20	
Indoor Blower Motor	Horsepower	1	2	1	2	1	2
	Full Load Amps	4.6	7.5	2.1	3.4	1.7	2.7
<sup>2</sup> Maximum Overcurrent Protection	Unit Only	50	50	20	20	15	15
	With (1) 0.33 HP Power Exhaust	50	50	20	20	15	15
<sup>3</sup> Minimum Circuit Ampacity	Unit Only	32	35	14	15	11	12
	With (1) 0.33 HP Power Exhaust	34	37	15	17	12	13

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****6 TON****6 TON HIGH EFFICIENCY (R-410A)****LGH074H4**

<sup>1</sup> Voltage - 60hz		208/230V - 3 Ph		460V - 3 Ph		575V - 3 Ph	
Compressor	Rated Load Amps		17.6		8.5		6.3
	Locked Rotor Amps		136		66.1		55.3
Outdoor Fan Motor	Full Load Amps		2.4		1.3		1
Power Exhaust	Full Load Amps		2.4		1.3		1
(1) 0.33 HP							
Service Outlet 115V GFI (amps)		15		15		20	
Indoor Blower Motor	Horsepower	1	2	1	2	1	2
	Full Load Amps	4.6	7.5	2.1	3.4	1.7	2.7
<sup>2</sup> Maximum Overcurrent Protection	Unit Only	45	45	20	20	15	15
	With (1) 0.33 HP Power Exhaust	45	50	20	25	15	15
<sup>3</sup> Minimum Circuit Ampacity	Unit Only	29	32	15	16	11	12
	With (1) 0.33 HP Power Exhaust	32	35	16	17	12	13

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.

## OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

Item	Model No.	Catalog No.
<b>COMFORTSENSE® 7500 COMMERCIAL 7-DAY PROGRAMMABLE THERMOSTAT</b>		
 <ul style="list-style-type: none"> <li>• Four-Stage Heating / Two-Stage Cooling Universal Multi-Stage</li> <li>• Intuitive Touchscreen Interface</li> <li>• Remote Indoor Temperature Sensing with Averaging</li> <li>• Outside or Discharge Air Temperature Display</li> <li>• Full Seven-Day Programming</li> <li>• Four Time Periods Per Day</li> <li>• Occupancy Scheduling with Economizer Relay Control</li> <li>• Away Mode</li> <li>• Holiday Scheduling</li> <li>• Smooth Setback Recovery (SSR)</li> <li>• Performance Reports</li> <li>• Notifications/Reminders</li> <li>• Dehumidification/Humiditrol® Control for Split Systems and Rooftop Units</li> <li>• Economizer Relay Control</li> <li>• Backlit Display</li> <li>• Wallplate Furnished</li> </ul>	C0STAT06FF1L	13H15
<b>Optional Accessories</b>		
1 Remote non-adjustable wall mount 20k temperature sensor	C0SNZN01AE2-	47W36
1 Remote non-adjustable wall mount 10k temperature sensor	C0SNZN73AE1-	47W37
Remote non-adjustable discharge air (duct mount) temperature sensor	C0SNDC00AE1-	19L22
Outdoor temperature sensor	C0SNSR03AE1-	X2658
Locking cover (clear)	C0MISC15AE1-	39P21
<small><sup>1</sup> Remote sensors can be applied in any of the following combinations:</small> <ul style="list-style-type: none"> <li>One Sensor - (1) 47W36</li> <li>Two Sensors - (2) 47W37</li> <li>Three Sensors - (2) 47W36 and (1) 47W37</li> <li>Four Sensors - (4) 47W36</li> <li>Five Sensors - (3) 47W36 and (2) 47W37</li> </ul>		
<b>COMFORTSENSE® 3000 COMMERCIAL 5-2 DAY PROGRAMMABLE THERMOSTAT</b>		
 <ul style="list-style-type: none"> <li>• Two-Stage Heating / Two-Stage Cooling Conventional Systems</li> <li>• Intuitive Interface</li> <li>• 5-2 Day Programming</li> <li>• Program Hold</li> <li>• Remote Indoor Temperature Sensing</li> <li>• Smooth Setback Recovery (SSR)</li> <li>• Economizer Relay Control</li> <li>• Maintenance/Filter/Service Reminders</li> <li>• Backlit Display</li> <li>• Wallplate Furnished</li> <li>• Simple Up and Down Temperature Control.</li> </ul>	C0STAT05FF1L	11Y05
<b>Optional Accessories</b>		
Remote non-adjustable wall mount 10k averaging temperature sensor	C0SNZN73AE1-	47W37
Optional wall mounting plate	C0MISC17AE1-	X2659
<b>DIGITAL NON-PROGRAMMABLE THERMOSTAT</b>		
 <ul style="list-style-type: none"> <li>• One-Stage Heating / Cooling Conventional Systems</li> <li>• Intuitive Interface</li> <li>• Automatic Changeover</li> <li>• Backlit Display</li> <li>• Simple Up and Down Temperature Control.</li> </ul>	C0STAT12AE1L	51M32
<b>Optional Accessories</b>		
Outdoor temperature sensor	C0SNSR04AE1-	X2658
Optional wall mounting plate	C0MISC17AE1-	X2659

## OUTDOOR SOUND DATA

1 Unit Model No.	Octave Band Linear Sound Power Levels dB, re 10 <sup>-12</sup> Watts Center Frequency - Hz							1 Sound Rating Number (SRN) dBA
	125	250	500	1000	2000	4000	8000	
036, 048	63	66	70	71	68	62	53	75
060, 072, 074	67	72	77	76	73	68	61	82

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

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

## WEIGHT DATA

Model Number	Outdoor Coil	Net		Shipping		Outdoor Coil	Net		Shipping	
		Ibs.	kg	Ibs.	kg		Ibs.	kg	Ibs.	kg
036 Base Unit	Environ	549	249	610	277	Fin/Tube	568	257	629	285
036 Max. Unit	Environ	743	337	804	365	Fin/Tube	762	346	823	373
048 Base Unit	Environ	565	256	626	284	Fin/Tube	598	271	659	299
048 Max. Unit	Environ	754	342	834	378	Fin/Tube	806	366	867	393
060 Base Unit	Environ	643	292	704	319	Fin/Tube	685	311	746	338
060 Max. Unit	Environ	871	395	932	423	Fin/Tube	913	414	974	442
072 Base Unit	Environ	720	327	781	354	Fin/Tube	762	346	823	373
072 Max. Unit	Environ	918	416	979	444	Fin/Tube	960	436	1021	463
074 Base Unit	Environ	720	327	781	354	Fin/Tube	762	346	823	373
074 Max. Unit	Environ	918	416	979	444	Fin/Tube	960	436	1021	463

## OPTIONS / ACCESSORIES

	Shipping Weight	
	Ibs.	kg.

### ECONOMIZER / OUTDOOR AIR / EXHAUST

#### Economizer

Economizer, Includes Outdoor Air Hood and Barometric Relief Dampers with Hood	131	59
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#### Outdoor Air Dampers

Outdoor Air Damper Motorized Kit	25	12
Damper Section Manual	18	9

#### Power Exhaust

Standard Static	35	17
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### GAS HEAT

Medium Heat (adder over standard heat)	8	4
High Heat (adder over standard heat)	19	9

### PACKAGING

LTL Packaging (less than truck load)	60	27
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### ROOF CURBS

#### Hybrid Roof Curbs, Downflow

8 in. height	C1CURB70A-1	50	23
14 in. height	C1CURB71A-1	70	32
18 in. height	C1CURB72A-1	80	36
24 in. height	C1CURB73A-1	100	45

#### Adjustable Pitch Curb, Downflow

14 in. height	113	51
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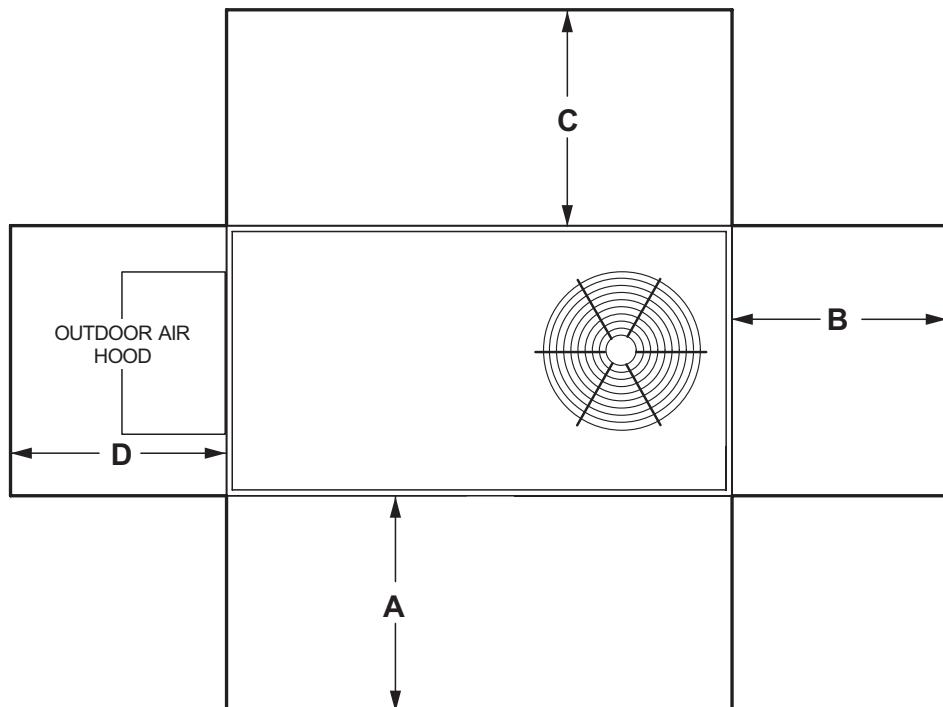
### CEILING DIFFUSERS

Step-Down	RTD9-65S	80	36
	RTD11-95S	118	54
Flush	FD9-65S	80	36
	FD11-95S	118	54
Transitions	T1TRAN10AN1	22	10
	T1TRAN20N-1	21	10

### HUMIDITROL® DEHUMIDIFICATION SYSTEM

Humiditrol	27	12
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## UNIT CLEARANCES - INCHES (MM)



¹ Unit Clearance	A		B		C		D		Top Clearance
	in.	mm	in.	mm	in.	mm	in.	mm	
Service Clearance	48	1219	36	914	36	934	36	914	
Clearance to Combustibles	36	914	1	25	1	25	1	25	
Minimum Operation Clearance	36	914	36	914	36	914	36	914	Unobstructed

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

¹ Service Clearance - Required for removal of serviceable parts.

Clearance to Combustibles - Required clearance to combustible material.

Minimum Operation Clearance - Required clearance for proper unit operation.

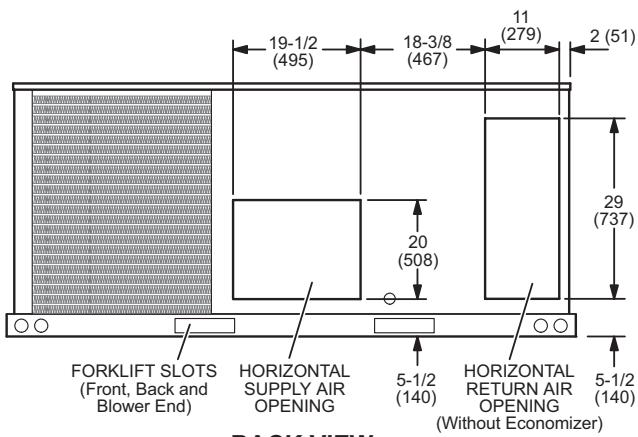
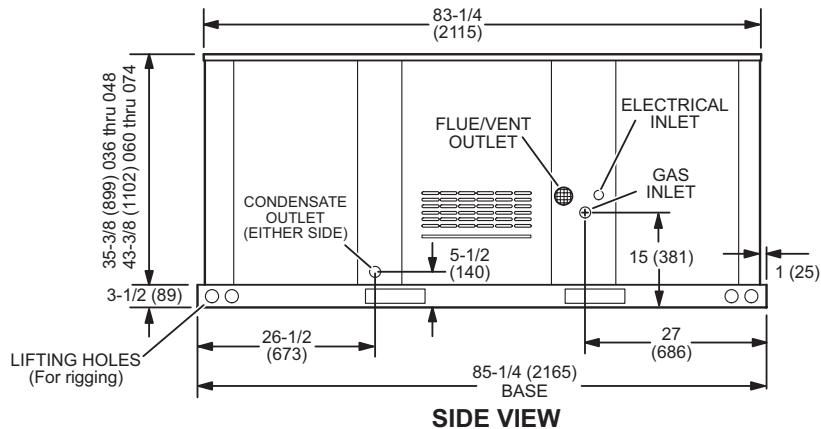
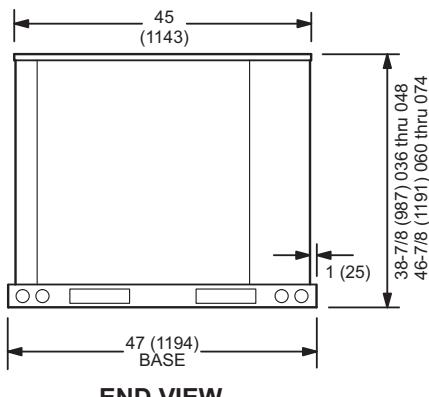
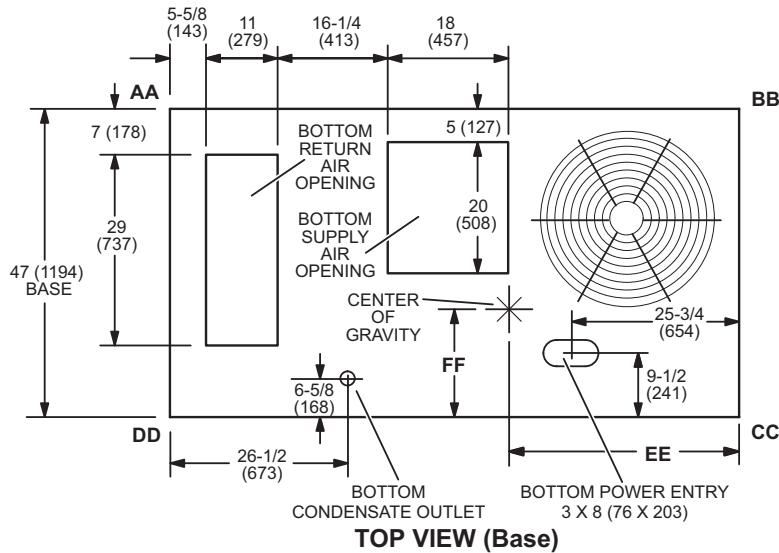
## DIMENSIONS - INCHES (MM)

### CORNER WEIGHTS

Model No.	AA		BB		CC		DD		CENTER OF GRAVITY			
	Lbs.	kg	Lbs.	kg	Lbs.	kg	Lbs.	kg	in.	mm	in.	mm
LGH036 Base Unit	98	45	119	54	192	87	158	72	38.5	978	18	457
LGH036 Max. Unit	137	62	155	70	250	113	221	100	40	1016	18	457
LGH048 Base Unit	104	47	126	57	202	92	167	76	38.5	978	18	457
LGH048 Max. Unit	145	66	164	74	264	120	233	106	40	1016	18	457
LGH060 Base Unit	118	54	144	65	232	105	191	87	38.5	978	18	457
LGH060 Max. Unit	164	75	186	84	299	136	264	120	40	1016	18	457
LGH072 Base Unit	132	60	160	73	258	117	212	96	38.5	978	18	457
LGH072 Max. Unit	173	78	195	89	314	143	278	126	40	1016	18	457
LGH074 Base Unit	132	60	160	73	258	117	212	96	38.5	978	18	457
LGH074 Max. Unit	173	78	195	89	314	143	278	126	40	1016	18	457

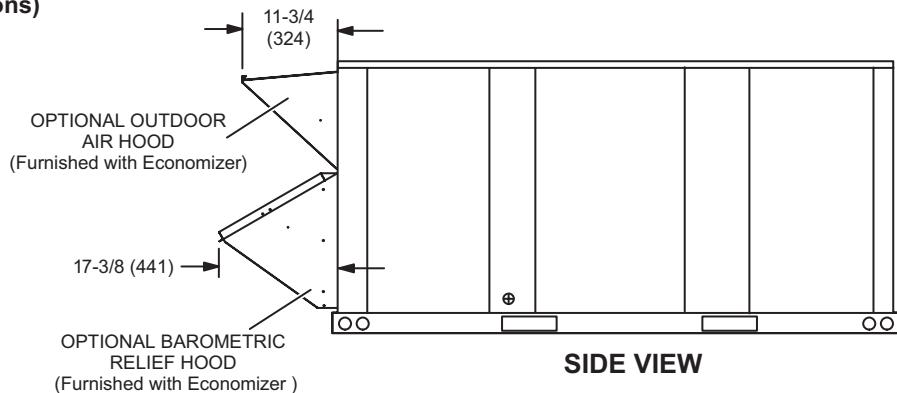
Base Unit - The unit with NO INTERNAL OPTIONS.

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

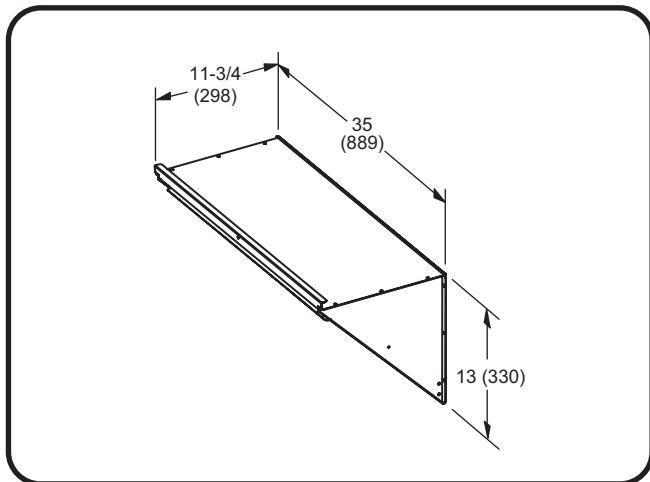


## ACCESSORY DIMENSIONS - INCHES (MM)

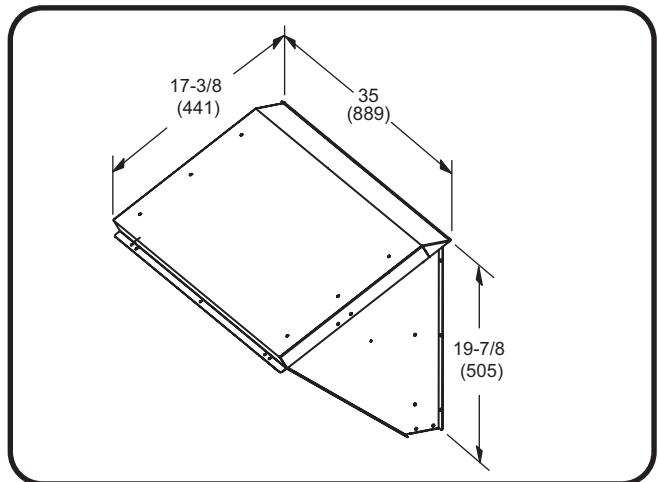
### OUTDOOR AIR HOOD DETAIL FOR OPTIONAL ECONOMIZER AND BAROMETRIC RELIEF DAMPERS (Downflow Applications)



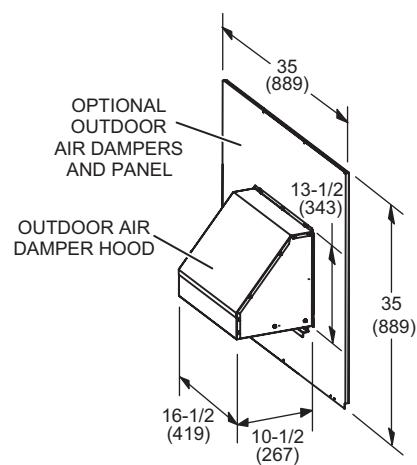
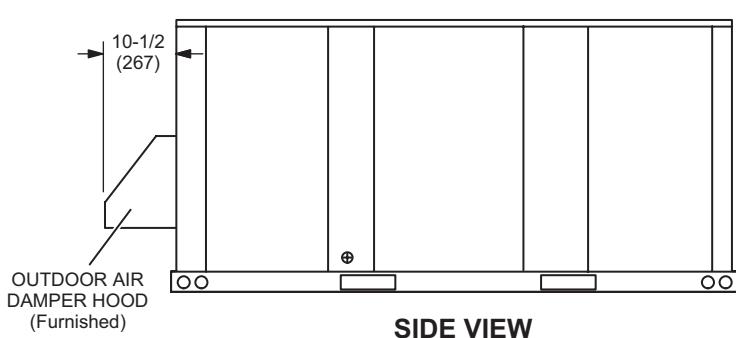
### OUTDOOR AIR HOOD FOR ECONOMIZER (Furnished)



### BAROMETRIC RELIEF HOOD FOR ECONOMIZER (Furnished)

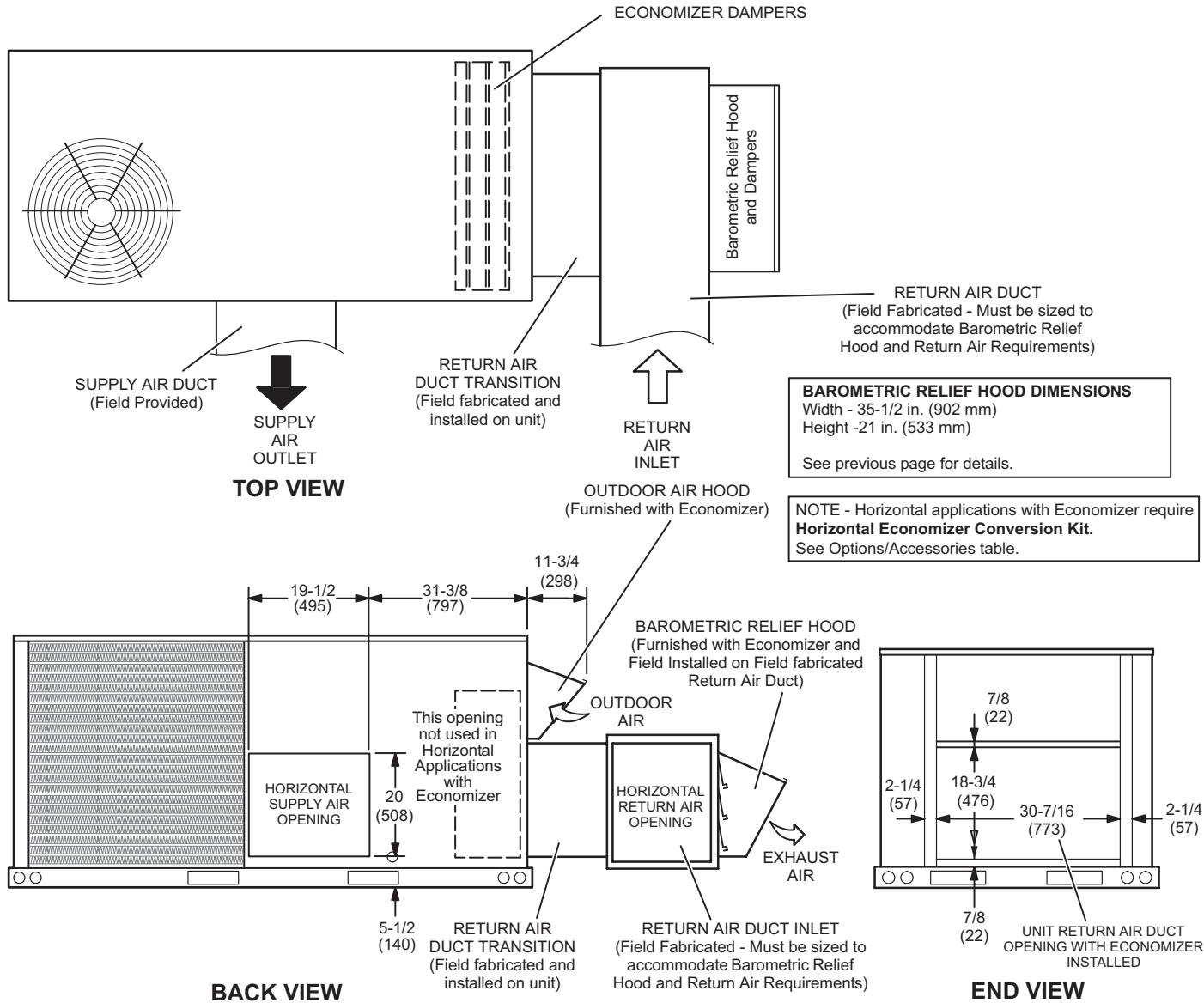


### OUTDOOR AIR DAMPER HOOD DETAIL FOR OPTIONAL MANUAL OR MOTORIZED OUTDOOR AIR DAMPERS (Downflow or Horizontal Applications)



## ACCESSORY DIMENSIONS - INCHES (MM)

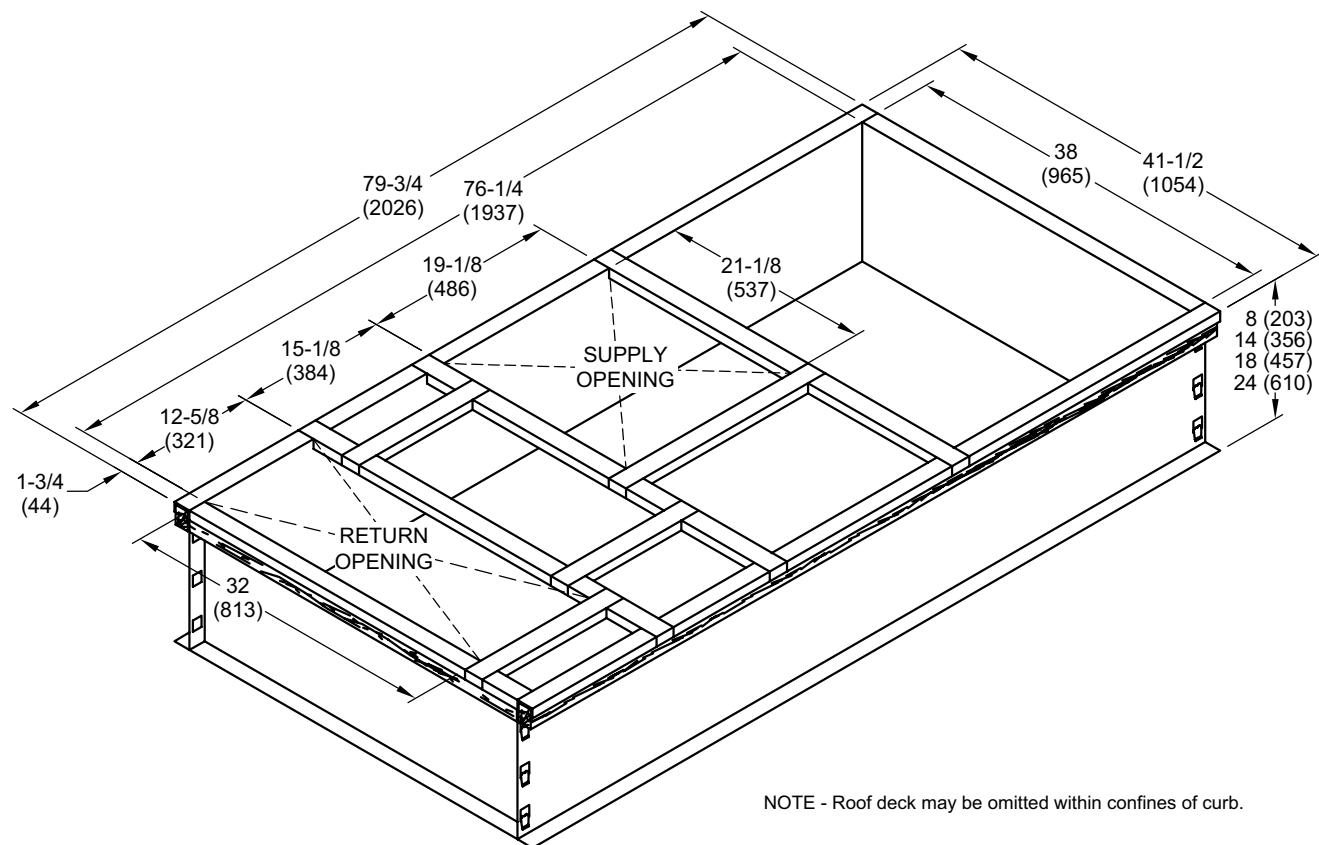
### OUTDOOR AIR HOOD DETAIL WITH OPTIONAL ECONOMIZER AND BAROMETRIC RELIEF DAMPERS (Horizontal Applications)



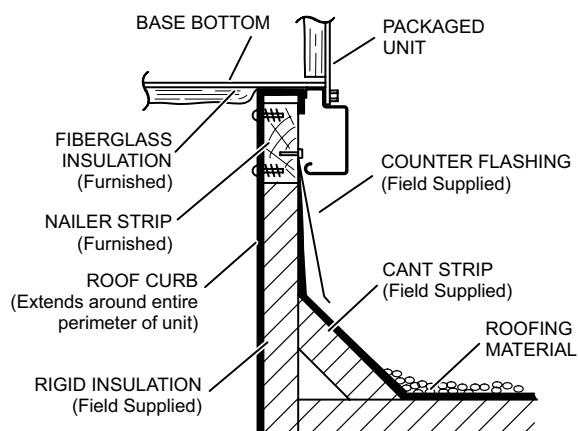
**NOTE** - Return Air Duct and Transition must be supported.

## ACCESSORY DIMENSIONS - INCHES (MM)

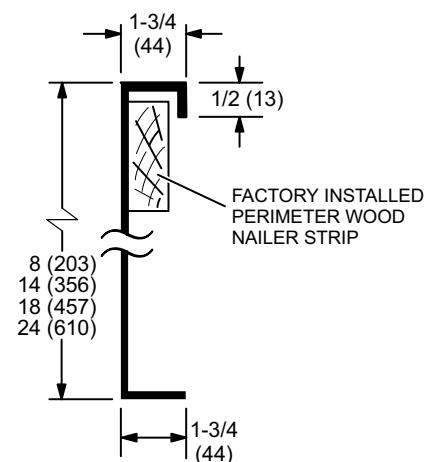
### HYBRID ROOF CURBS - DOUBLE DUCT OPENING



### TYPICAL FLASHING DETAIL FOR ROOF CURB

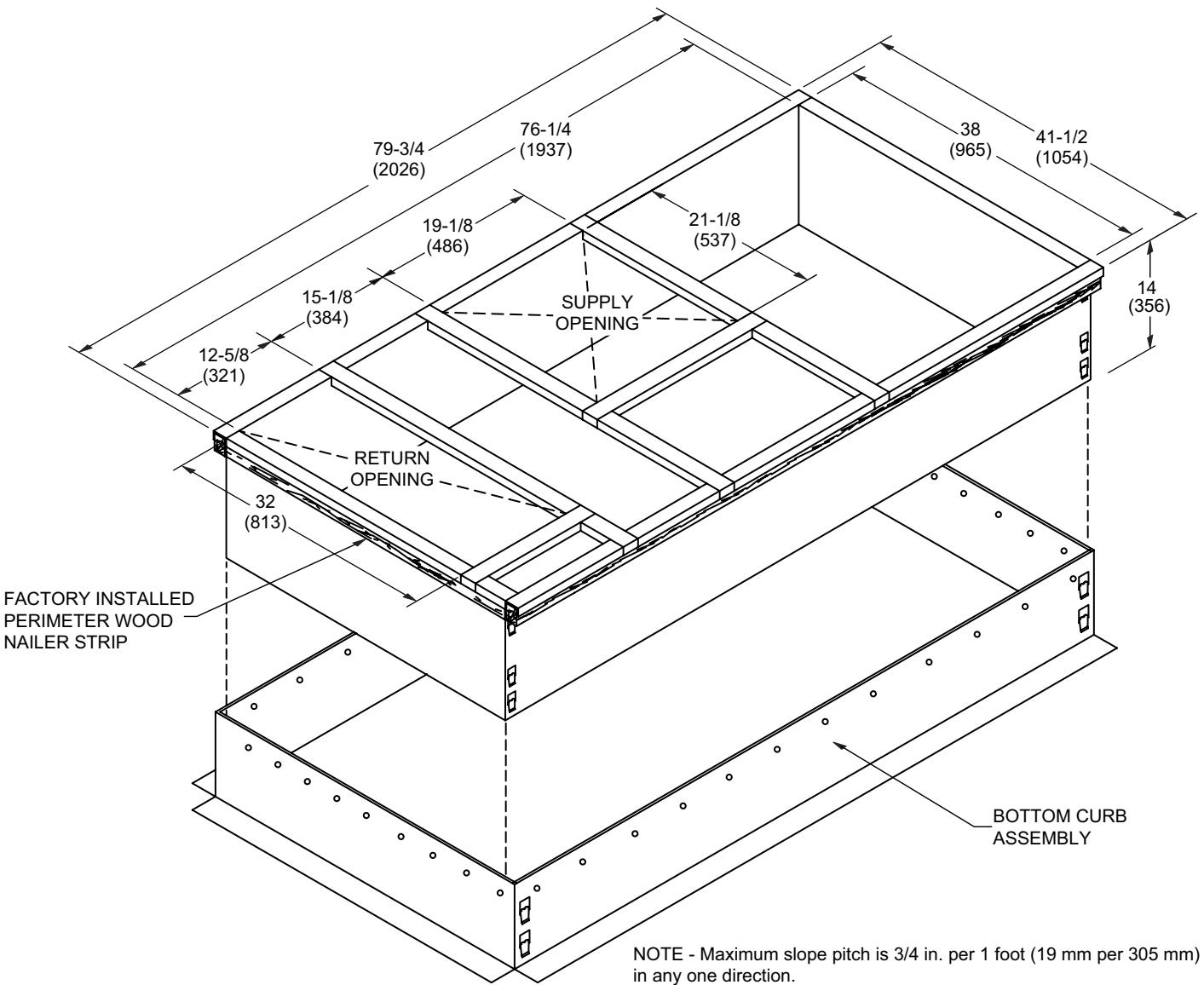


### DETAIL ROOF CURB

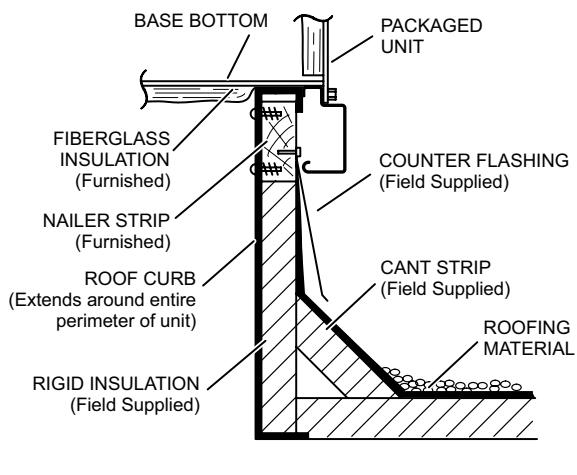


## ACCESSORY DIMENSIONS - INCHES (MM)

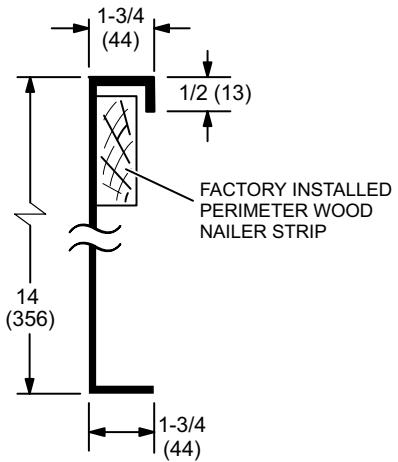
### ADJUSTABLE PITCH CURBS - DOUBLE DUCT OPENING



TYPICAL FLASHING DETAIL FOR ROOF CURB

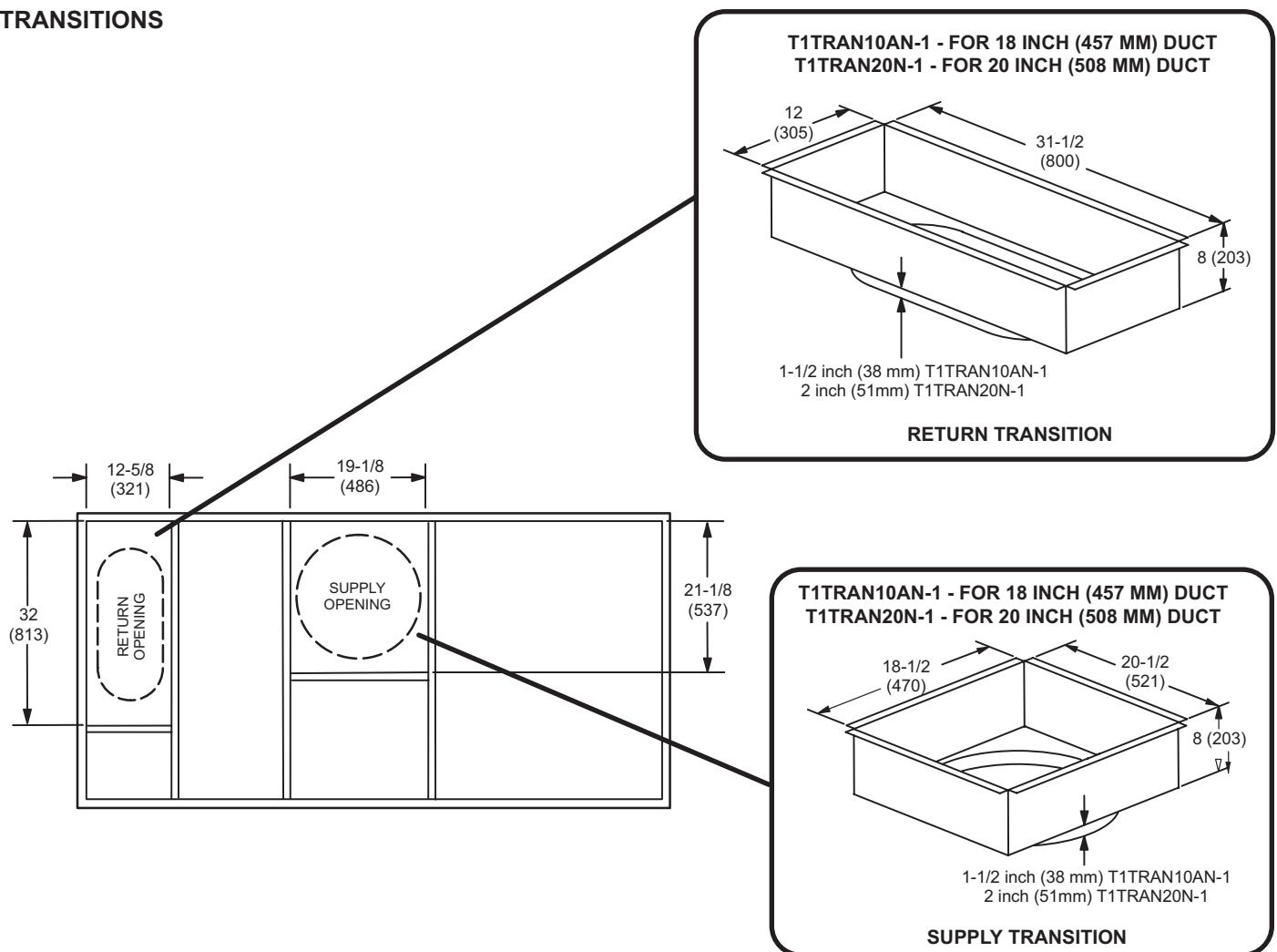


DETAIL ROOF CURB



## ACCESSORY DIMENSIONS - INCHES (MM)

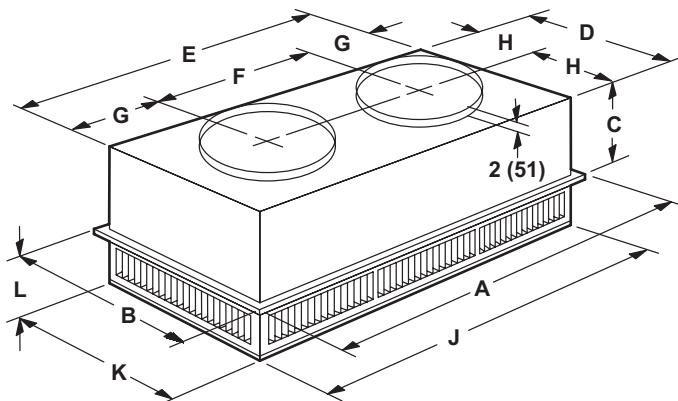
### TRANSITIONS



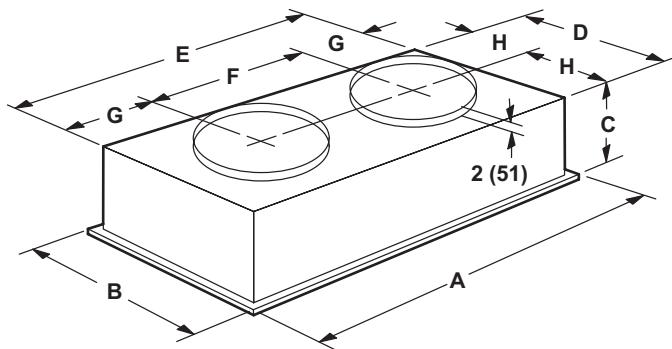
## ACCESSORY DIMENSIONS - INCHES (MM)

### COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

#### STEP-DOWN CEILING DIFFUSER



#### FLUSH CEILING DIFFUSER



Model Number		RTD9-65S	RTD11-95S
<b>A</b>	in.	47-5/8	47-5/8
	mm	1159	1159
<b>B</b>	in.	23-5/8	29-5/8
	mm	600	752
<b>C</b>	in.	11-3/8	14-3/8
	mm	289	365
<b>D</b>	in.	21-1/2	27-1/2
	mm	546	699
<b>E</b>	in.	45-1/2	45-1/2
	mm	1156	1158
<b>F</b>	in.	22-1/2	22-1/2
	mm	572	572
<b>G</b>	in.	11-1/2	11-1/2
	mm	292	292
<b>H</b>	in.	10-3/4	13-3/4
	mm	273	349
<b>J</b>	in.	45-1/2	45-1/2
	mm	1156	1156
<b>K</b>	in.	21-1/2	27-1/2
	mm	546	699
<b>L</b>	in.	7-1/8	8-1/8
	mm	181	206
<b>Duct Size</b>	in.	18 round	20 round
	mm	457 round	508 round

Model Number		FD9-65S	FD11-95S
<b>A</b>	in.	47-5/8	47-5/8
	mm	1159	1159
<b>B</b>	in.	23-5/8	29-5/8
	mm	600	752
<b>C</b>	in.	13-1/2	16-5/8
	mm	343	422
<b>D</b>	in.	21	27
	mm	533	686
<b>E</b>	in.	45	45
	mm	1143	1143
<b>F</b>	in.	22-1/2	22-1/2
	mm	572	572
<b>G</b>	in.	11-1/4	11-1/4
	mm	286	286
<b>H</b>	in.	10-1/2	13-1/2
	mm	267	343
<b>Duct Size</b>	in.	18 round	20 round
	mm	457 round	508 round



## REVISIONS

Section	Description
Options / Accessories	New Diffuser model and catalog numbers
Weight Data	New diffuser weights



Intertek



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