

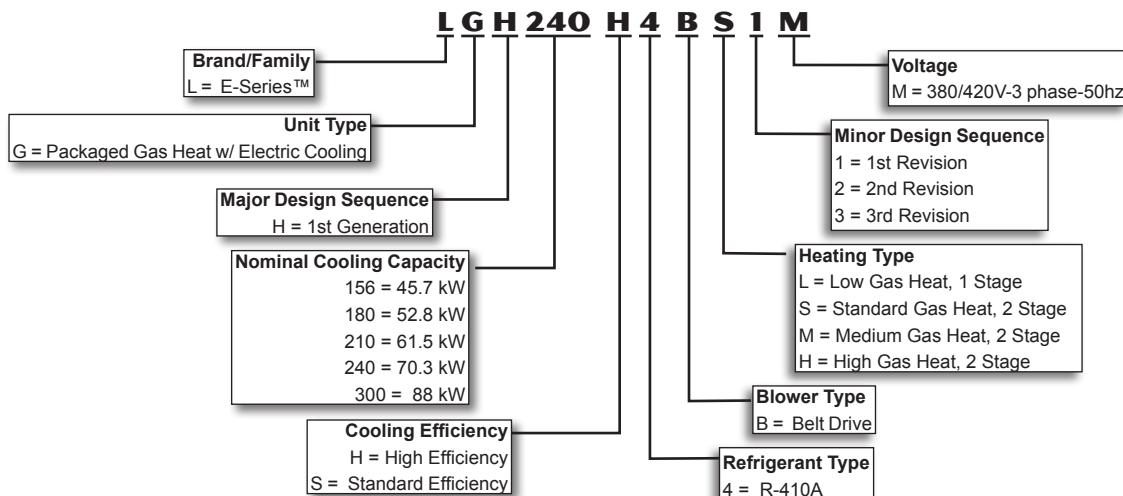


45.7 to 88 kW (13 to 25 Ton)

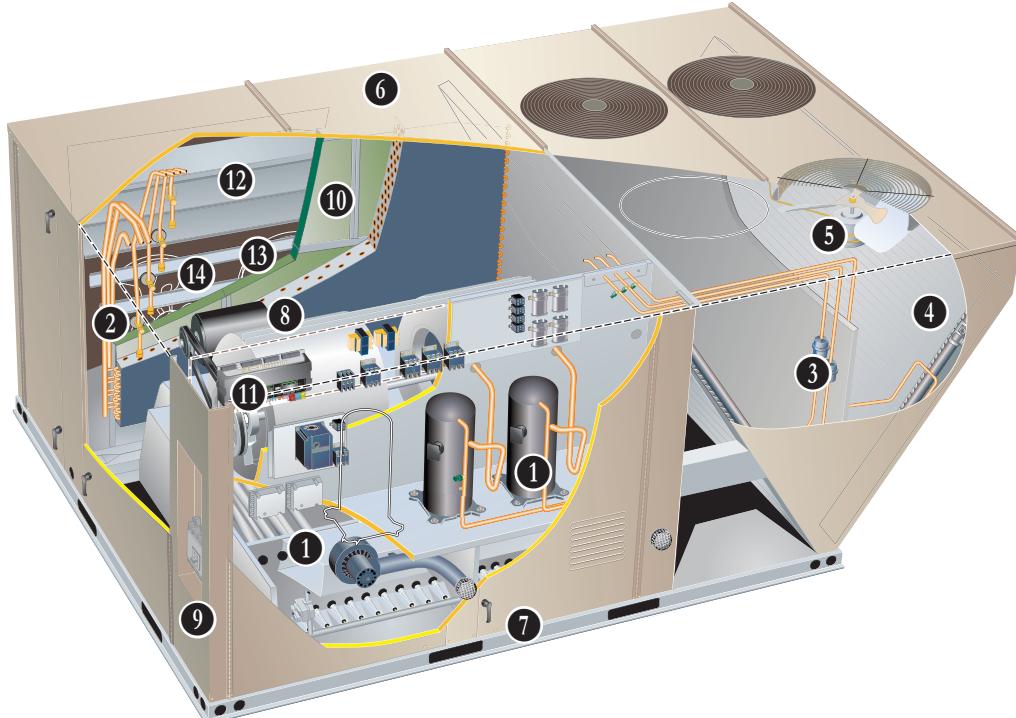
Net Cooling Capacity - 37.1 to 68.6 kW (127 000 to 234 000 Btuh)

Gas Input Heat Capacity - 49.5 to 123 kW (169 000 to 420 000 Btuh)

MODEL NUMBER IDENTIFICATION



FEATURES AND BENEFITS



E-Series™ 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 E-Series™ rooftop units perfect for business owners looking for an Heating, Ventilation and Air Conditioning (HVAC) product with the lowest total cost of ownership. E-Series™ rooftop units feature:

- **Hinged Access Panels** - Provide quick access to components and protect panels and roof from damage during servicing.
- **Isolated Compressor Compartment** - Allows performance check during normal compressor operation without disrupting airflow.
- **Corrosion-Resistant Removable Drain Pan** - End or bottom drain connection capability. Provides application flexibility, durability and improved serviceability.
- **Thermostatic Expansion Valves** - Provide peak cooling performance across the entire application range.
- **Scroll Compressors** - Standard on all units for reliable, long-term operation.
- **Eco-Last™ Coil System** - Smaller, lighter condenser coil.
- **Dehumidification System** - Patented system allows for independent control of temperature and humidity, providing enhanced comfort control.
- **Auto-Tensioner for Blower Belt** - Factory option ensures blower is delivering the proper airflow for comfort, while maximizing efficiency and belt life.
- **MERV 13 (Minimum Efficiency Rating Value) Filters** - Available as factory or field option, provides an enhanced level of indoor air quality.
- **Foil-Faced Insulation** - Insulation on all internal surfaces that have contact with airflow helps minimize airborne fibers and improve indoor air quality (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.

Intelli-Guide™ Control System

Standard on every E-Series™ rooftop unit, the new Intelli-Guide™ unit controller is the heart of the Allied controls offering. 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.



WireRight™ System

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

FEATURES AND BENEFITS

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PERFORMANCE/QUALITY

Components bonded for grounding to meet safety standards for servicing required by Underwriters Laboratories (UL) and the International Electrotechnical Commission (IEC).

Cooling performance is rated at test conditions included in Air-Conditioning, Heating and Refrigeration Institute (AHRI) Standard 340/360-2007 while operating at rated voltage and air volumes.

International Organization for Standardization (ISO) 9001 Registered Manufacturing Quality System.

CE MARK OPTION

The CE mark has been added to our rooftop product line as a configure to order (CTO) option. This optional construction allows units to be sold into countries requiring CE marking for rooftop products.



CE marked units meet the requirements of the Machinery Directive 2006/42/EC, Low Voltage Directive 73/23/EEC, EMC Directive 89/336/EEC, and Gas Directive 90/396/EEC. Declaration of conformity certificates will be provided for each CE marked unit on demand.

Key features of this option over and above standard product features are:

- Touch-proof electrical components meeting the requirements of EN 60529.
- Branch circuits over 0.5 kW load have overcurrent protection.
- Rotary style/finger safe disconnect switch with locking handle prevents disconnect door from being opened with the power on. Padlock can be applied to lock the disconnect switch in the OFF position.
- The factory wiring has been redesigned for separation of high and low voltage circuits.

HEATING SYSTEM

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

Heat Exchanger

Tubular construction, aluminized steel, life cycle tested.

Optional Stainless Steel Heat Exchanger is required if mixed air temperature is below 7°C.

Electronic Pilot Ignition

Solid-state electronic spark igniter provides positive direct ignition of burners on each operating cycle. The system permits main gas valve to stay open only when the burners are proven to be lit. Should a loss of flame occur, the gas valve closes, shutting off the gas to the burners. Ignition module has light emitting diodes (LED) to indicate status and aid in troubleshooting.

Ignition control is factory installed in the controls section.

Limit Controls

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

Safety Switches

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

Required Selections

Gas Input Choice - Order one:

Low Gas Heat, 1 Stage
(49.5 kW)

Standard Gas Heat, 2 Stage
(49.5/68.5 kW)

Medium Gas Heat, 2 Stage
(68.5/91.9 kW)

High Gas Heat, 2 Stage
(91.4/123 kW)

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

FEATURES AND BENEFITS

HEATING SYSTEM

(continued)

Options/Accessories

Factory Installed

Stainless Steel Heat Exchanger

Required if mixed air temperature is below 7°C.

Factory or Field Installed

Bottom Gas Piping Kit

Allows bottom gas entry. Field installed only, may be factory enclosed to ship with unit.

Field Installed

Combustion Air Intake Extensions

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

LPG/Propane Kits

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

Vertical Vent Extension Kit

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

Kit contains vent transition, vent tee, drain cap and installation hardware.

NOTE - Straight vent pipes (102 mm B-Vent) and caps are not furnished and must be field supplied. Refer to kit instructions for additional information.

COOLING SYSTEM

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

System can operate from -17°C to 52°C without any additional controls.

R-410A Refrigerant

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

② Scroll Compressors

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

Resiliently mounted on rubber grommets for quiet operation.

Compressor Crankcase Heaters

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

③ Thermal Expansion Valves

Assures optimal performance throughout the application range.

Removable element head.

④ Filter/Drier

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

High Pressure Switches

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

Low Pressure Switches

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

Freezestats

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

⑤ Eco-Last™ 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 tubes and two refrigerant manifolds.

Eco-Last™ 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.

Angled design in cabinet helps protect coil from possible contact or hail damage.

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.

Condensate Drain Pan

Plastic pan with positive slope.

Side or bottom drain connections.

⑥ Outdoor Coil Fan Motors

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

FEATURES AND BENEFITS

COOLING SYSTEM **(continued)**

Outdoor Coil Fans

Polyvinyl Chloride (PVC) coated fan guard furnished.

Required Selections

Cooling Capacity

Specify nominal cooling capacity of the unit.

Options/Accessories

Factory Installed

Conventional Fin/Tube

Condenser Coil

(replaces Eco-Last™ System)

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

Service Valves

Fully serviceable brass valves installed in discharge & liquid lines.

Not available for units equipped with Eco-Last™ Coil System or Dehumidification option.

Factory or Field Installed

Condensate Drain Trap

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

Available in copper or polyvinyl chloride (PVC).

Drain Pan Overflow Switch

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

CABINET

7 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 available in downflow (vertical) or horizontal return air flow configuration.

Horizontal air flow requires Horizontal Roof Curb.

Horizontal Return Air Panel Kit is also required if converting a downflow configured unit to horizontal air flow.

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.

8 Hinged Access Panels

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

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

Required Selections

Airflow Configuration

Specify downflow or horizontal.

Options/Accessories

Factory 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 Painted blower housing
- Painted indoor base

Outdoor Corrosion Protection:

- Coated coil
- Painted outdoor base

Field Installed

Combination Coil/Hail Guards

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

Horizontal Return Air Panel Kit

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

FEATURES AND BENEFITS

9 BLOWER

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

Motor

Overload protected, equipped with ball bearings.

Belt drive motors are offered on all models and are available in several different sizes to maximize air performance.

Supply Air Blower

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

Blower assembly slides out of unit for servicing.

Grease fittings furnished.

Required Selections

Specify motor output and drive kit number when base unit is ordered, 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

WireRight 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.

INDOOR AIR QUALITY

10 Air Filters

Disposable 51 mm filters furnished as standard.

Options/Accessories

Factory or Field Installed

High Efficiency Air Filters

Disposable MERV 8 or MERV 13 (Minimum Efficiency Reporting Value based on ASHRAE 52.2) efficiency 51 mm pleated filters.

Field Installed

UVC Germicidal Light Kit



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

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

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

All necessary hardware for installation is included.

Lamps operate on 220V single-phase power supply. Step-down transformer may be ordered separately for 380/420V primary to 220V secondary units. Alternately, 220V power supply may be used to directly power the UVC ballast(s).

Replacement Filter Media Kit With Frame

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

Indoor Air Quality (CO₂) Sensors

Monitors CO₂ levels, reports to the Intelli-Guide™ unit controller which adjusts economizer dampers as needed.

CONTROL SYSTEM

⑪ INTELLIGUIDE™ UNIT CONTROLLER



The Intelli-Guide™ unit controller is a microprocessor-based control board 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 Intelli-Guide™ 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 Intelli-Guide™ 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.

On Demand Dehumidification -

Monitors and controls condenser hot gas reheat operation with dehumidification option.

Thermostat Bounce Delay

Warm Up Mode Delay

LED Indicators

PC Interface - Connect to the Intelli-Guide™ unit controller from a PC with the unit controller software.

Room Sensor Operation - Controls temperature.

Controls Options

Factory or Field Installed

Fresh Air Tempering

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

Smoke Detector

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

Interoperability via BACnet® or LonTalk® Protocols

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

NOTE - Intelli-Guide™ Control System features shown vary with the type of rooftop unit the control is installed in.

NOTE - See separate Intelli-Guide™ Control System Product Specifications Bulletin for additional information.

OPTIONS / ACCESSORIES

INTELLIGUIDE™ UNIT CONTROLLER (Continued)

Controls Options (continued)

Commercial Control Systems

Aftermarket DDC

Novar® ETM modules 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 dehumidification option or Supermarket reheat field selectable option.

12 ECONOMIZER OPTIONS

Economizer operation is set and controlled by the Intelli-Guide™ unit controller.

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

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

High Performance Economizer

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

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

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

Differential Sensible Control

Factory setting. Uses outdoor air and return air sensors that are furnished with the unit. The Intelli-Guide™ unit controller compares outdoor air 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.

Factory or Field Installed

Single Enthalpy Temperature Control

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

Differential Enthalpy Control

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 Intelli-Guide™ 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 (CO₂ 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 Intelli-Guide™ unit controller changes the economizer position to help maintain a constant building pressure.

NOTE - Not available with Demand Control Ventilation (CO₂ Sensor) or Outdoor Air CFM Control.

OPTIONS / ACCESSORIES

EXHAUST OPTIONS

Factory or Field Installed

Downflow Barometric Relief Dampers

- (13) Allow relief of excess air, aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle, bird screen furnished.
Hood for downflow barometric relief dampers is factory installed when dampers are factory installed with economizer. Hood is furnished with dampers when ordered for field installation.

(14) Power Exhaust Fans

Install internal to unit for downflow applications only with economizer option. Provides exhaust air pressure relief. Interlocked to run when supply air blower is operating, fans run when outdoor air dampers are 50% open (adjustable), motor is overload protected. Requires Economizer with Outdoor Air Hood and Downflow Barometric Relief Dampers. Dual fans are 508 mm diameter with 5 blades with (2) 0.25 kW motors.

Field Installed

Horizontal Barometric Relief Dampers

For use when unit is configured for horizontal applications requiring an economizer.

Allows relief of excess air. Aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle.

Field installed in return air duct.

Bird screen and hood furnished.

OUTDOOR AIR OPTIONS

Factory or Field Installed

Outdoor Air Damper - Downflow or Horizontal With Air Hood

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

Automatic model features fully modulating spring return damper motor with plug-in connection.

Manual model features parallel blade, gear-driven dampers with adjustable fixed position

ROOF CURBS

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

Downflow

Hybrid Roof Curbs

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 203, 356, 457, and 610 mm 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 19 mm per 300 mm 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 356 mm height.

Horizontal

Converts unit from downflow to horizontal (side) air flow, return air is on unit, supply air is on curb, see dimension drawings. Curbs for rooftop applications meet National Roofing Code requirements.

Requires Horizontal Return Air Panel Kit.

Available in 660, 762, 940 and 1041 mm heights.

Optional Insulation Kit is available to help prevent sweating.

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)

Aluminum grilles, large center grille, insulated diffuser box with flanges, hanging rings furnished, interior transition (even air flow), internally sealed (prevents recirculation), 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

DEHUMIDIFICATION SYSTEM

Factory installed option designed to control humidity.

Provides dehumidification on demand using American Society of Heating, Refrigeration and Air Conditioning Engineers (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.

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 20°C to 24°C 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)

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

Then the system will energize the dehumidification mode.

Options/Accessories

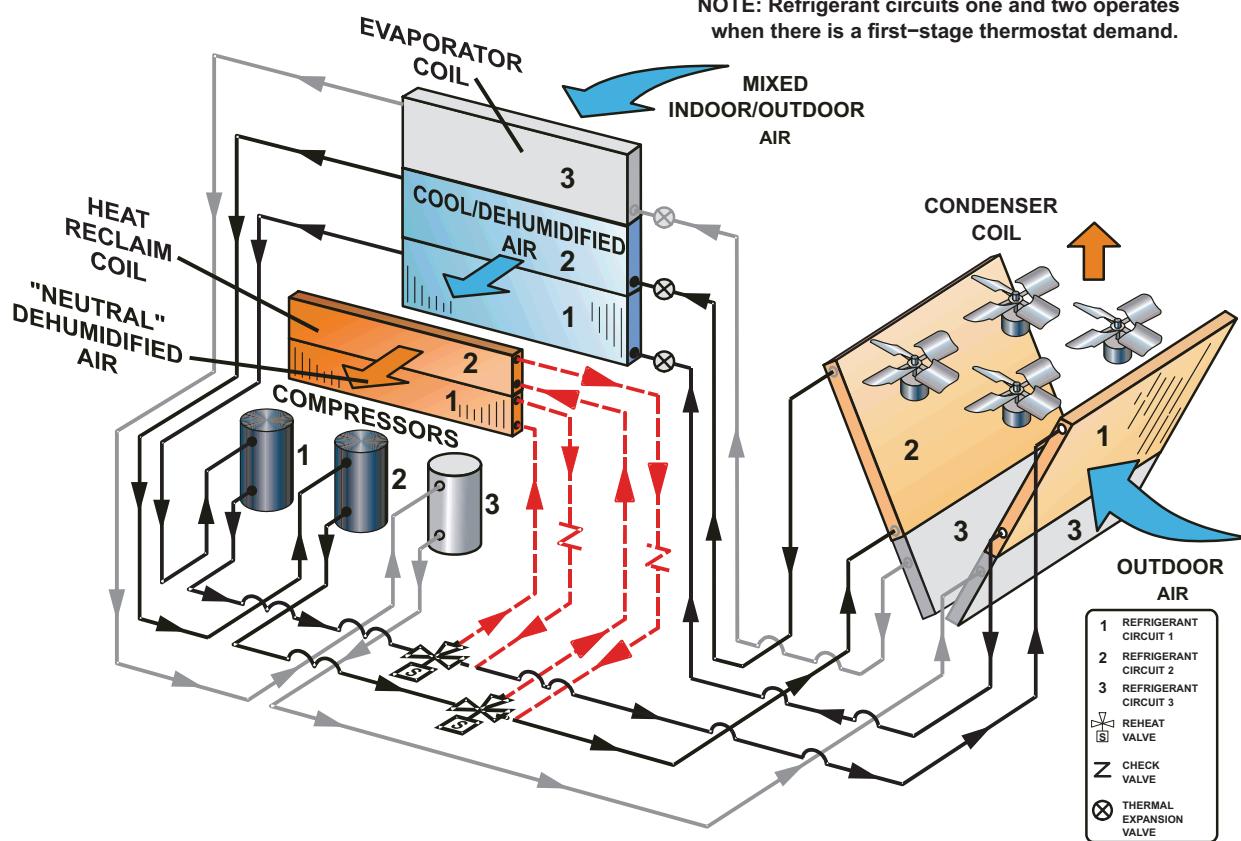
Humidity Sensor Kit

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

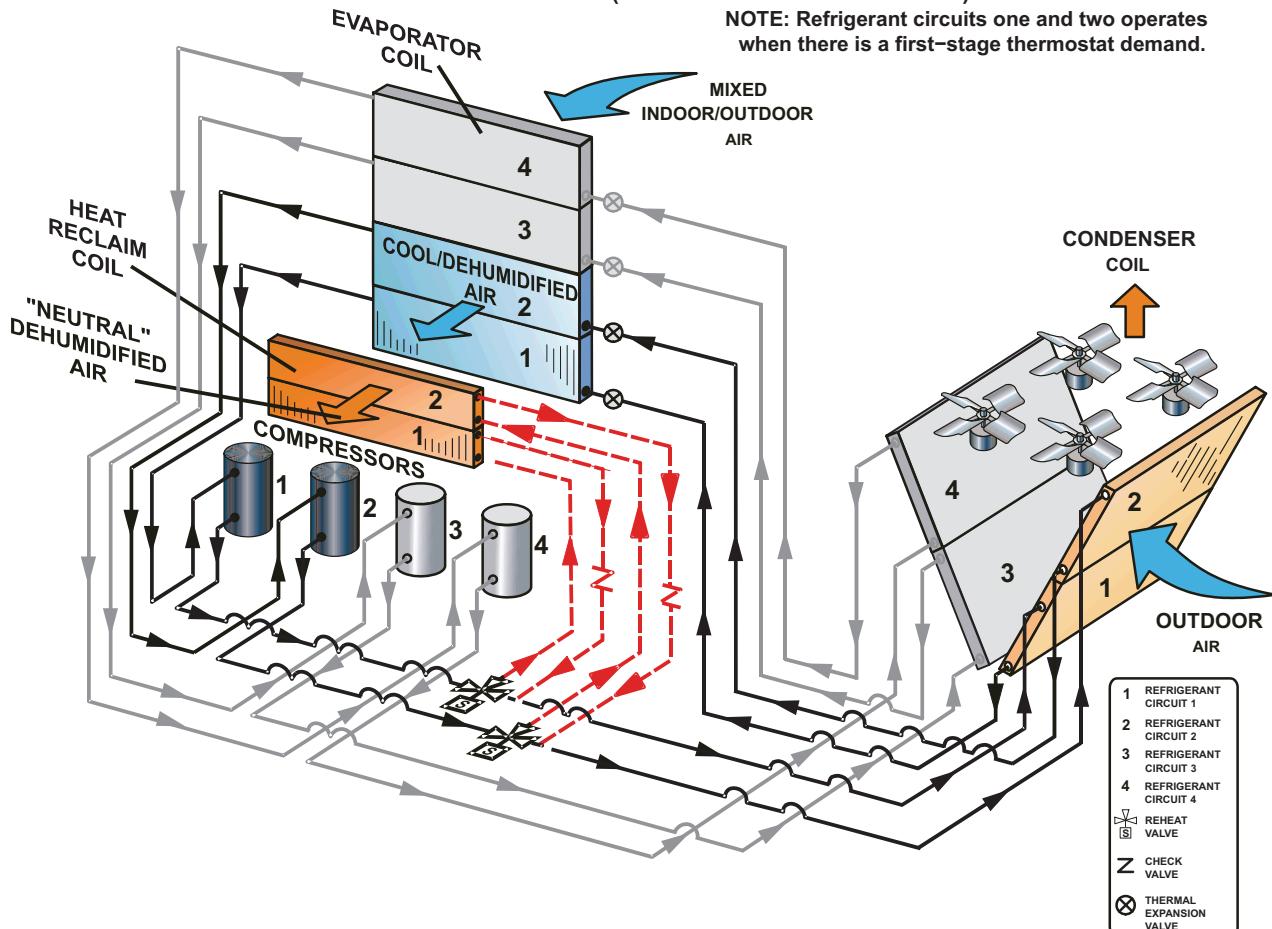
OPTIONS / ACCESSORIES

DEHUMIDIFICATION SYSTEM (continued)

REFRIGERANT SCHEMATIC (156H, 180H and 210H MODELS ONLY)



REFRIGERANT SCHEMATIC (240H and 300S MODELS ONLY)



OPTIONS / ACCESSORIES

Item Description	Model Number	Catalog Number	Unit Model No				
			156	180	210	240	300
CE MARK							
CE Marked Unit		Factory	O	O	O	O	O
COOLING SYSTEM							
Condensate Drain Trap	Polyvinyl Chloride (PVC) - C1TRAP20AD2 Copper - C1TRAP10AD2	76W26 76W27	OX OX	OX OX	OX OX	OX OX	OX OX
Conventional Fin/Tube Condenser Coil (replaces Eco-Last™ Coil System)	Factory	O	O	O	O	O	O
Corrosion Protection	Factory	O	O	O	O	O	O
Drain Pan Overflow Switch	E1NSR71AD1	68W88	OX	OX	OX	OX	OX
Efficiency	High Standard	O O	O O	O O	O O	O O	O O
Refrigerant Type	R-410A	O	O	O	O	O	O
Service Valves (not for Eco-Last™ Coil System or Dehumidification equipped units)	Factory	O	O	O	O	O	O
HEATING SYSTEM							
Bottom Gas Piping Kit	C1GPKT01C-1	85M31	OX	OX	OX	OX	OX
Combustion Air Intake Extensions (order two)	LTACAIK10/15	89L97	X	X	X	X	X
Gas Heat Input	Low - 49.5 kW Standard - 68.5 kW Medium - 94.9 kW High - 123 kW	Factory Factory Factory Factory	O O O O	O O O O	O O O O	O O O O	O O O O
LPG/Propane Conversion Kits (Order 2 kits)	Low Heat - C1PROP25C11 Standard Heat - C1PROP25C11 Medium Heat - C1PROP26C11 High Heat - C1PROP27C11	14N28 14N28 14N29 14N30	X X X X	X X X X	X X X X	X X X X	X X X X
Stainless Steel Heat Exchanger	Factory	O	O	O	O	O	O
Vertical Vent Extension Kit	C1EXTN2021	42W16	X	X	X	X	X
BLOWER - SUPPLY AIR							
Motors	Belt Drive - 1.5 kW Belt Drive - 2.2 kW Belt Drive - 3.7 kW Belt Drive - 5.6 kW Belt Drive - 7.5 kW	Factory Factory Factory Factory Factory	O O O O O	O O O O O	O O O O O	O O O O O	O O O O O
Drive Kits	Kit #1 446-604 rev/min Kit #2 571-721 rev/min Kit #3 571-721 rev/min Kit #4 708-871 rev/min Kit #5 788-988 rev/min Kit #6 708-871 rev/min Kit #7 788-988 rev/min Kit #8 871-1071 rev/min Kit #10 871-1071 rev/min Kit #11 945-1138 rev/min Blower Belt Auto-Tensioner	Factory Factory Factory Factory Factory Factory Factory Factory Factory Factory Factory Factory	O O O O O O O O O O O	O O O O O O O O O O O	O O O O O O O O O O O	O O O O O O O O O O O	O O O O O O O O O O O
CABINET							
Combination Coil/Hail Guards	Eco-Last™ Coil System - C1GARD52C12 Eco-Last™ Coil System - C1GARD52C22	15T92 15T93	X X	X	X	X	X
Conventional Fin/Tube Condenser Coil - C1GARD51C11	13T08	X					
Conventional Fin/Tube Condenser Coil - C1GARD51C21	13T12		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

OPTIONS / ACCESSORIES

Item Description	Model Number	Catalog Number	Unit Model No				
			156	180	210	240	300
CONTROLS							
Blower Proving Switch	C1SNSR35FF1	53W65	OX	OX	OX	OX	OX
Commercial Controls	Intelli-Guide™ Control System - BACnet® Module - C0CTRL60AE1L		59W51	OX	OX	OX	OX
	Intelli-Guide™ Control System - LonTalk® Module - C0CTRL65FF1		54W27	OX	OX	OX	OX
	Novar® LSE		Factory	O	O	O	O
Dirty Filter Switch	E1SNSR55C-1	53W68	OX	OX	OX	OX	OX
General Purpose Control Kit	E1GPBK30C1	13J78	X	X	X	X	X
Fresh Air Tempering	C1SNSR75AD1	58W63	OX	OX	OX	OX	OX
Smoke Detector - Supply or Return (Power board and one sensor)	C1SNSR44C-1	83W40	OX	OX	OX	OX	OX
Smoke Detector - Supply and Return (Power board and two sensors)	C1SNSR43C-1	83W41	OX	OX	OX	OX	OX
INDOOR AIR QUALITY							
Air Filters							
High Efficiency Air Filters 610 x 610 x 51 mm (Order 6 per unit)	MERV 8 - C1FLTR15C-1- MERV 13 - C1FLTR40C-1-		54W67	OX	OX	OX	OX
			52W40	OX	OX	OX	OX
Replacement Media Filter With Metal Mesh Frame (includes non-pleated filter media)	C1FLTR30C-1-	44N61	OX	OX	OX	OX	OX
Indoor Air Quality (CO2) Sensors							
Sensor - Wall-mount, off-white plastic cover with LCD display	C0SNSR50AE1L	77N39	X	X	X	X	X
Sensor - Wall-mount, off-white plastic cover, no display	C0SNSR52AE1L	87N53	X	X	X	X	X
Sensor - Black plastic case with LCD display, rated for plenum mounting	C0SNSR51AE1L	87N52	X	X	X	X	X
Sensor - Wall-mount, black plastic case, no display, rated for plenum mounting	C0MISC19AE1	87N54	X	X	X	X	X
CO2 Sensor Duct Mounting Kit - for downflow applications	C0MISC19AE1-	85L43	X	X	X	X	X
Aspiration Box - for duct mounting non-plenum rated CO2 sensors (87N53 or 77N39)	C0MISC16AE1-	90N43	X	X	X	X	X
UVC Germicidal Light Kit							
¹ UVC Light Kit (220V-1ph)	C1UVCL10C-1	54W65	X	X	X	X	X
ELECTRICAL							
Voltage 50 hz with neutral (No neutral on CE marked models)	380/420V - 3 phase	Factory	O	O	O	O	O
ECONOMIZER							
High Performance Economizer							
High Performance Economizer Downflow or Horizontal - Includes Outdoor Air Hood and Downflow Barometric Relief Dampers with Exhaust Hood Order Horizontal Barometric Relief Dampers separately	E1ECON17C-1	10U60	OX	OX	OX	OX	OX
Economizer Controls							
Differential Enthalpy	Order 2 - C1SNSR64FF1	53W64	OX	OX	OX	OX	OX
Sensible Control	Sensor is Furnished	Factory	O	O	O	O	O
Single Enthalpy	C1SNSR64FF1	53W64	OX	OX	OX	OX	OX
Building Pressure Control	E1GPBK20C1	13J77	X	X	X	X	X
Outdoor Air CFM Control	E1GPBK10C1	13J76	X	X	X	X	X
Global Control	Sensor Field Provided	Factory	O	O	O	O	O
Barometric Relief Dampers With Exhaust Hood							
Downflow Barometric Relief Dampers	C1DAMP50C	54W78	OX	OX	OX	OX	OX
Horizontal Barometric Relief Dampers	LAGEDH18/24	16K99	X	X	X	X	X

¹ Lamps operate on 220V single-phase power supply. Step-down transformer may be ordered separately for 380/420V primary to 220V secondary units. Alternately, 220V 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 Description	Model Number	Catalog Number	Unit Model No				
			156	180	210	240	300
OUTDOOR AIR							
Outdoor Air Dampers With Outdoor Air Hood							
Motorized	C1DAMP20C-1	13U04	OX	OX	OX	OX	OX
Manual	C1DAMP10C-2	13U05	OX	OX	OX	OX	OX
POWER EXHAUST							
Standard Static	380/420V - C1PWRE11C-1M	75W93	OX	OX	OX	OX	OX
CONDENSER REHEAT OPTION							
Dehumification Option		Factory	O	O	O	O	O
Humidity Sensor Kit, Remote mounted (required)	COSNSR31AE-1	17M50	X	X	X	X	X
ROOF CURBS							
Hybrid Roof Curbs, Downflow							
203 mm height	C1CURB70C-1	11F58	X	X	X	X	X
356 mm height	C1CURB71C-1	11F59	X	X	X	X	X
457 mm height	C1CURB72C-1	11F60	X	X	X	X	X
610 mm height	C1CURB73C-1	11F61	X	X	X	X	X
Adjustable Pitch Curb, Downflow							
356 mm height	L1CURB55C	43W26	X	X	X	X	X
Standard Roof Curbs, Horizontal - Requires Horizontal Return Air Panel Kit							
660 mm height - slab applications	C1CURB14C-1	11T89	X	X	X	X	
940 mm height - rooftop applications	C1CURB15C-1	11T96	X	X	X	X	
762 mm height - slab applications	C1CURB16C-1	11T90					X
1041 mm height - rooftop applications	C1CURB17C-1	11T97					X
Insulation Kit For Standard Horizontal Curbs							
for C1CURB14C-1 (660 mm)	C1INSU11C-1-	73K32	X	X	X	X	
for C1CURB15C-1 (762 mm)	C1INSU12C-1-	73K33					X
for C1CURB16C-1 (940 mm)	C1INSU13C-1-	73K34	X	X	X	X	
for C1CURB17C-1 (1041 mm)	C1INSU14C-1-	73K35					X
Horizontal Return Air Panel Kit							
Required for Horizontal Applications with Roof Curb	C1HRAP10C-1-	87M00	X	X	X	X	X
CEILING DIFFUSERS							
Step-Down - Order one	RTD11-185S	13K63	X	X			
	RTD11-275S	13K64			X	X	X
Flush - Order one	FD11-185S	13K58	X	X			
	FD11-275S	13K59			X	X	X
Transitions (Supply and Return) - Order one	C1DIFF33C-1	12X68	X	X			
	C1DIFF34C-1	12X70			X	X	X

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

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

O = Configure To Order (Factory Installed)

X = Field Installed

SPECIFICATIONS

General Data		Nominal kW (Tons)	46 kW	53 kW	61.5 kW
		Model Number	LGH156H4B	LGH180H4B	LGH210H4B
		Efficiency Type	High	High	High
		Blower Type	CAV (Constant Air Volume)	CAV (Constant Air Volume)	CAV (Constant Air Volume)
Cooling Performance	Gross Cooling Capacity - kW (Btuh)	38.7 (132 000)	44.8 (153 000)	51.3 (175 000)	
	¹ Net Cooling Capacity - kW (Btuh)	37.1 (127 000)	43.4 (148 000)	49.5 (169 000)	
	Rated Air Flow - L/s (cfm)	2360 (5000)	2475 (5250)	2890 (6125)	
	Total Unit Power - kW	10.4	12.1	13.9	
	¹ EER (Btuh/Watt) at 35°C (95°F)	12.2	12.2	12.2	
	² EER (Btuh/Watt) at 46°C (115°F)	8.1	8.2	8.2	
	¹ IEER (Btuh/Watt)	13.2	13.5	13.0	
Refrigerant Charge	Refrigerant Type	R-410A	R-410A	R-410A	
	Eco-Last™ Coil System	Circuit 1 Circuit 2 Circuit 3	2.61 kg (5 lbs. 12 oz.) 2.49 kg (5 lbs. 4 oz.) 2.55 kg (5 lbs. 10 oz.)	2.72 kg (6 lbs. 0 oz.) 2.55 kg (5 lbs. 10 oz.) 2.66 kg (5 lbs. 14 oz.)	3.06 kg (6 lbs. 12 oz.) 3.12 kg (6 lbs. 14 oz.) 3.12 kg (6 lbs. 14 oz.)
	Eco-Last™ Coil With	Circuit 1 Circuit 2 Circuit 3	2.66 kg (5 lbs. 14 oz.) 2.27 kg (5 lbs. 8 oz.) 2.61 kg (5 lbs. 12 oz.)	2.95 kg (6 lbs. 8 oz.) 2.61 kg (5 lbs. 12 oz.) 2.98 kg (6 lbs. 9 oz.)	3.29 kg (7 lbs. 4 oz.) 3.18 kg (7 lbs. 0 oz.) 2.83 kg (6 lbs. 4 oz.)
	Conventional Fin/Tube Coil Option	Circuit 1 Circuit 2 Circuit 3	4.54 kg (10 lbs. 0 oz.) 4.54 kg (10 lbs. 0 oz.) 4.31 kg (9 lbs. 8 oz.)	5.67 kg (12 lbs. 8 oz.) 5.67 kg (12 lbs. 8 oz.) 5.67 kg (12 lbs. 8 oz.)	5.90 kg (13 lbs. 0 oz.) 5.90 kg (13 lbs. 0 oz.) 5.90 kg (13 lbs. 0 oz.)
	Conventional Fin/Tube With Dehumidification Option	Circuit 1 Circuit 2 Circuit 3	5.44 kg (12 lbs. 0 oz.) 5.44 kg (12 lbs. 0 oz.) 4.31 kg (9 lbs. 8 oz.)	6.58 kg (14 lbs. 8 oz.) 6.58 kg (14 lbs. 8 oz.) 5.67 kg (12 lbs. 8 oz.)	6.80 kg (15 lbs. 0 oz.) 6.80 kg (15 lbs. 0 oz.) 5.90 kg (13 lbs. 0 oz.)
	Gas Heating Options Available	See page 17			
	Compressor Type (number)	Scroll (3)			
	Outdoor Coils	Net face area (total) - m ² (sq. ft.)	3.85 (41.4)	5.13 (55.2)	5.13 (55.2)
	Eco-Last™ Fin/Tube	No. of rows Eco-Last™ (Fin/Tube)	1 (2)	1 (2)	1 (2)
		Fins per meter (Fins per inch)	906 (23)/787 (20)	906 (23)/787 (20)	906 (23)/787 (20)
	Outdoor Coil Fans	Motor - (No.) W (HP)	(3) 250 (1/3)	(4) 250 (1/3)	(6) 250 (1/3)
		Motor rev/min	896	896	896
		Total Motor watts	840	1146	1490
		Diameter - (No.) mm (in.)	(3) 610 (24)	(4) 610 (24)	(6) 610 (24)
		Number of blades	3	3	3
		Total Air volume - L/s (cfm)	4720 (10 000)	6293 (13 333)	7866 (16 666)
	Indoor Coils	Net face area (total) - m ² (sq. ft.)	1.99 (21.4)	1.99 (21.4)	1.99 (21.4)
		Tube diameter - in.	9.5 (3/8)	9.5 (3/8)	9.5 (3/8)
		Number of rows	3	3	4
		Fins per meter (Fins per inch)	551 (14)	551 (14)	551 (14)
		Drain connection - No. and size	(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT
		Expansion device type	Balance port TXV, removable head		
³ Indoor Blower and Drive Selection	Nominal Motor kW (HP)	1.5 (2)	2.2 (3)	2.2 (3)	
	Maximum usable motor kW (HP)	1.7 (2.3)	2.6 (3.45)	2.6 (3.45)	
	Kit # (rev/min range)	#1 (446-604) #2 (571-721)	#3 (571-721) #4 (708-871)	#3 (571-721) #4 (708-871)	#3 (571-721) #4 (708-871)
	Nominal Motor kW (HP)	2.2 (3)	3.7 (5)	3.7 (5)	
	Maximum usable motor kW (HP)	2.6 (3.45)	4.3 (5.75)	4.3 (5.75)	
	Kit # (rev/min range)	#3 (571-721) #4 (708-871)	#3 (571-721) #4 (708-871) #5 (788-988)	#3 (571-721) #4 (708-871) #5 (788-988)	#3 (571-721) #4 (708-871) #5 (788-988)
	Nominal Motor kW (HP)	3.7 (5)	5.6 (7.5)	5.6 (7.5)	
	Maximum usable motor kW (HP)	4.3 (5.75)	6.4 (8.6)	6.4 (8.6)	
	Kit # (rev/min range)	#3 (571-721) #4 (708-871) #5 (788-988)	#6 (708-871) #7 (788-988) #8 (871-1071)	#6 (708-871) #7 (788-988) #8 (871-1071)	#6 (708-871) #7 (788-988) #8 (871-1071)
	Blower wheel nominal diameter x width - mm (in.)	(2) 381 x 381 (15 x 15)			
Filters	Type of filter - Number and size - mm (in.)	Fiberglass, disposable - (6) 610 x 610 x 51 (24 x 24 x 2)			
Electrical Characteristics	380/420V - 50 hertz - 3 phase with neutral (No neutral on CE marked models)				

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

¹ Tested at conditions which are based on AHRI Standard 340/360; 35°C (95°F) outdoor air temperature and 27°C (80°F) db/19°C (67°F) wb entering evaporator air; minimum external duct static pressure while operating at rated voltage and air volumes.

² Rated at 46°C (115°F) outdoor air temperature and 27°C (80°F) db/19°C (67°F) wb entering evaporator air (T3 Conditions).

³ Using total air volume and system static pressure requirements determine from blower performance tables rev/min and motor output required. Maximum usable output of motors furnished are shown. See Belt Drive Specification Table for maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

SPECIFICATIONS

General Data		Nominal kW (Tons)	70.3 kW LGH240H4B High CAV (Constant Air Volume)	88 kW LGH300S4B Standard CAV (Constant Air Volume)
Cooling Performance	Gross Cooling Capacity - kW (Btu/h)	60.1 (205 000)	71.8 (245 000)	
	¹ Net Cooling Capacity - kW (Btu/h)	58.0 (198 000)	68.6 (234 000)	
	Rated Air Flow - L/s (cfm)	3020 (6400)	3965 (8400)	
	Total Unit Power - kW	16.2	21.9	
	¹ EER (Btuh/Watt) at 35°C (95°F)	12.2	10.7	
	² EER (Btuh/Watt) at 46°C (115°F)	8.2	7.7	
	¹ IEER (Btuh/Watt)	13.2	11.2	
	Refrigerant Type	R-410A	R-410A	
	Eco-Last™ Coil System	Circuit 1 Circuit 2 Circuit 3 Circuit 4	2.84 kg (6 lbs. 4 oz.) 2.78 kg (6 lbs. 2 oz.) 2.66 kg (5 lbs. 14 oz.) 2.44 kg (5 lbs. 6 oz.)	2.84 kg (6 lbs. 4 oz.) 2.55 kg (5 lbs. 10 oz.) 2.89 kg (6 lbs. 6 oz.) 2.72 kg (6 lbs. 0 oz.)
	Eco-Last™ Coil With Dehumidification	Circuit 1 Circuit 2 Circuit 3 Circuit 4	2.84 kg (6 lbs. 4 oz.) 2.55 kg (5 lbs. 10 oz.) 2.21 kg (4 lbs. 14 oz.) 2.21 kg (4 lbs. 14 oz.)	3.40 kg (7 lbs. 8 oz.) 2.84 kg (6 lbs. 4 oz.) 2.78 kg (6 lbs. 2 oz.) 2.66 kg (5 lbs. 14 oz.)
Refrigerant Charge	Conventional Fin/Tube Coil Option	Circuit 1 Circuit 2 Circuit 3 Circuit 4	4.54 kg (10 lbs. 0 oz.) 4.54 kg (10 lbs. 0 oz.) 4.54 kg (10 lbs. 0 oz.) 3.97 kg (8 lbs. 12 oz.)	4.76 kg (10 lbs. 8 oz.) 4.53 kg (10 lbs. 0 oz.) 4.42 kg (9 lbs. 12 oz.) 4.42 kg (9 lbs. 12 oz.)
	Conventional Fin/Tube With Dehumidification Option	Circuit 1 Circuit 2 Circuit 3 Circuit 4	5.44 kg (12 lbs. 0 oz.) 5.44 kg (12 lbs. 0 oz.) 4.54 kg (10 lbs. 0 oz.) 3.97 kg (8 lbs. 12 oz.)	5.78 kg (12 lbs. 12 oz.) 5.32 kg (11 lbs. 12 oz.) 4.42 kg (9 lbs. 12 oz.) 4.42 kg (9 lbs. 12 oz.)
	Gas Heating Options Available	See page 17		
	Compressor Type (number)	Scroll (4)		
	Outdoor Coils	Net face area (total) - m ² (sq. ft.)	5.13 (55.2)	5.13 (55.2)
	Eco-Last™ Fin/Tube	No. of rows Eco-Last™ (Fin/Tube)	1 (2)	1 (2)
		Fins per meter (Fins per inch)	906 (23)/787 (20)	787 (20)/787 (20)
	Outdoor Coil Fans	Motor - (No.) W (HP)	(6) 250 (1/3)	(6) 250 (1/3)
		Motor rev/min	896	896
		Total Motor watts	1490	1490
Indoor Coils	Diameter - (No.) mm (in.)	(6) 610 (24)	(6) 610 (24)	
	Number of blades	3	3	
	Total Air volume - L/s (cfm)	7866 (16 666)	7866 (16 666)	
	Net face area (total) - m ² (sq. ft.)	1.99 (21.4)	1.99 (21.4)	
	Tube diameter - in.	9.5 (3/8)	9.5 (3/8)	
	Number of rows	4	4	
	Fins per meter (Fins per inch)	551 (14)	551 (14)	
	Drain connection - No. and size	(1) 1 in. FPT	(1) in. FPT	
	Expansion device type	Balance port TXV, removable head		
	Indoor Blower and Drive Selection	Nominal Motor kW (HP)	3.7 (5)	3.7 (5)
Indoor Blower and Drive Selection	Maximum usable motor kW (HP)	4.3 (5.75)	4.3 (5.75)	
	Kit # (rev/min range)	#3 (571-721) #4 (708-871) #5 (788-988)	#3 (571-721) #4 (708-871) #5 (788-988)	
	Nominal Motor kW (HP)	5.6 (7.5)	5.6 (7.5)	
	Maximum usable motor kW (HP)	6.4 (8.6)	6.4 (8.6)	
	Kit # (rev/min range)	#6 (708-871) #7 (788-988) #8 (871-1071)	#6 (708-871) #7 (788-988) #8 (871-1071)	
	Nominal Motor kW (HP)	7.5 (10)	7.5 (10)	
	Maximum usable motor kW (HP)	8.6 (11.5)	8.6 (11.5)	
	Kit # (rev/min range)	#7 (788-988) #10 (871-1071) #11 (945-1138)	#7 (788-988) #10 (871-1071) #11 (945-1138)	
	Blower wheel nominal diameter x width - mm (in.)	(2) 381 x 381 (15 x 15)		
	Filters	Type of filter - Number and size - mm (in.)	Fiberglass, disposable - (6) 610 x 610 x 51 (24 x 24 x 2)	
Electrical Characteristics		380/420V - 50 hertz - 3 phase with neutral (No neutral on CE marked models)		

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

¹ Tested at conditions which are based on AHRI Standard 340/360; 35°C (95°F) outdoor air temperature and 27°C (80°F) db/19°C (67°F) wb entering evaporator air; minimum external duct static pressure while operating at rated voltage and air volumes.

² Rated at 46°C (115°F) outdoor air temperature and 27°C (80°F) db/19°C (67°F) wb entering evaporator air (T3 Conditions).

³ Using total air volume and system static pressure requirements determine from blower performance tables rev/min and motor output required. Maximum usable output of motors furnished are shown. See Belt Drive Specification Table for maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

SPECIFICATIONS - GAS HEAT

Usage Data	Model Number	LGH156	LGH156	LGH180
		LGH180	LGH180	LGH210
		LGH210	LGH210	LGH240
Gas Heating Performance (Two-Stage)	Input - kW (Btuh)	First Stage	49.5 (169 000)	49.5 (169 000)
		Second Stage	---	68.5 (234 000)
Gas Heating Performance (Two-Stage)	Output - kW (Btuh)	First Stage	39.5 (135 000)	---
		Second Stage	---	54.8 (187 000)
¹ Gas Heating Performance (Two-Stage)	Input - kW (Btuh)	First Stage	N/A	24.7 (84,500)
		Second Stage	N/A	49.5 (169,000)
		Third Stage	N/A	62.7 (214,000)
		Fourth Stage	N/A	76.2 (260,000)
	Output - kW (Btuh)	First Stage	39.5 (135,000)	---
		Second Stage	N/A	---
		Third Stage	N/A	---
		Fourth Stage	N/A	60.9 (208,000)
Temperature Rise Range - °C (°F)		8 - 25 (15 - 45)	8 - 25 (15 - 45)	17 - 33 (30 - 60)
Thermal Efficiency		80.0%	80.0%	80.0%
Gas Supply Connections		1 in. npt	1 in. npt	1 in. npt
Recommended Gas Supply Pressure - kPa (in. w.g.)	Natural	1.7 (7)	1.7 (7)	1.7 (7)
	LPG/Propane	2.7 (11)	2.7 (11)	2.7 (11)

^¹ Four-stage gas heating is enabled when zone sensor, Discharge Air Control, or fresh air tempering mode is selected. (Available when using the CS8500 thermostat or when connected to Building Automation Systems using BACnet, LonTalk, or S-Bus protocols.

HIGH ALTITUDE DERATE

Units may be installed at altitudes up to 610 m (2000 feet) above sea level without any modification.

At altitudes above 610 m (2000 feet), units must be derated to match gas manifold pressures shown in table below.

At altitudes above 1372 m (4500 feet) unit must be derated 2% for each 305 m (1000 feet) above sea level.

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

Gas Heat Type	Altitude - m (ft.)	Gas Manifold Pressure kPa (in. w.g.)		Input Rate Natural Gas or LPG/Propane - kW (Btuh)	
		Natural Gas	LPG/Propane Gas	First Stage	Second Stage
Low (L)		No adjustment required			
Standard (S)	610 - 1372 (2001 - 4500)	0.52 (2.6)	1.82 (7.3)	49.5 (169 000)	66.0 (225 500)
Medium (M)	6110 - 1372 (2001 - 4500)	0.52 (2.6)	1.82 (7.3)	68.5 (233 000)	88.7 (303 400)
High (H)	6110 - 1372 (2001 - 4500)	0.52 (2.6)	1.82 (7.3)	91.4 (311 000)	118.6 (405 000)

DEHUMIDIFICATION SYSTEM RATINGS

88 kW - LGH300S4 (1ST STAGE)

Entering Wet Bulb Temper- ature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																							
		18.3°C						23.9°C						29.4°C						35°C					
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)						
				Dry Bulb	24°C	27°C			Dry Bulb	24°C	27°C			Dry Bulb	24°C	27°C			Dry Bulb	24°C	27°C				
L/s	kW	kW	24°C	27°C	29°C		kW	kW	24°C	27°C	29°C		kW	kW	24°C	27°C	29°C		kW	kW	24°C	27°C	29°C		
17.2°C	3775	26.9	6.38	0.56	0.77	0.97	22.4	7.00	0.48	0.74	1.00	17.8	7.63	0.39	0.71	1.00	13.3	8.26	0.30	0.68	1.00				
	4485	28.5	6.45	0.60	0.80	0.99	23.9	7.06	0.52	0.79	1.00	19.3	7.66	0.43	0.77	1.00	14.8	8.28	0.35	0.76	1.00				
	5195	30.0	6.52	0.63	0.85	1.00	25.4	7.11	0.55	0.84	1.00	20.9	7.70	0.47	0.82	1.00	16.2	8.29	0.40	0.82	1.00				
19.4°C	3775	31.1	6.52	0.38	0.56	0.74	26.6	7.16	0.28	0.49	0.73	21.8	7.80	0.17	0.44	0.72	17.1	8.45	0.07	0.38	0.71				
	4485	32.8	6.57	0.40	0.58	0.77	27.9	7.20	0.30	0.52	0.77	22.9	7.84	0.19	0.48	0.78	17.9	8.47	0.08	0.44	0.79				
	5195	34.6	6.62	0.41	0.60	0.81	29.3	7.25	0.31	0.56	0.82	24.0	7.87	0.20	0.52	0.83	18.7	8.49	0.09	0.48	0.85				
21.7°C	3775	35.4	6.65	0.19	0.35	0.51	30.5	7.32	0.07	0.25	0.46	25.7	7.99	-0.04	0.17	0.40	21.0	8.65	-0.16	0.09	0.35				
	4485	37.2	6.69	0.19	0.35	0.53	31.9	7.35	0.07	0.27	0.48	26.6	8.01	-0.05	0.19	0.44	21.2	8.67	-0.17	0.11	0.40				
	5195	39.1	6.74	0.19	0.36	0.55	33.2	7.38	0.07	0.29	0.51	27.3	8.04	-0.07	0.21	0.49	21.4	8.70	-0.19	0.13	0.46				

88 kW - LGH300S4 (2ND STAGE)

Entering Wet Bulb Temper- ature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																							
		18.3°C						23.9°C						29.4°C						35°C					
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)						
				Dry Bulb	24°C	27°C			Dry Bulb	24°C	27°C			Dry Bulb	24°C	27°C			Dry Bulb	24°C	27°C				
L/s	kW	kW	24°C	27°C	29°C		kW	kW	24°C	27°C	29°C		kW	kW	24°C	27°C	29°C		kW	kW	24°C	27°C	29°C		
17.2°C	3775	68.3	12.69	0.68	0.86	1.00	62.0	14.12	0.67	0.88	1.00	55.6	15.55	0.67	0.90	1.00	49.3	16.96	0.66	0.91	1.00				
	4485	69.8	12.76	0.72	0.91	1.00	63.1	14.19	0.73	0.93	1.00	56.4	15.62	0.73	0.95	1.00	49.8	17.04	0.74	0.97	1.00				
	5195	71.5	12.84	0.76	0.95	1.00	64.3	14.26	0.78	0.97	1.00	57.3	15.71	0.79	0.98	1.00	50.3	17.13	0.82	0.99	1.00				
19.4°C	3775	72.5	12.91	0.49	0.67	0.85	67.0	14.38	0.49	0.67	0.86	61.3	15.86	0.47	0.67	0.87	55.6	17.31	0.44	0.66	0.89				
	4485	73.3	13.04	0.52	0.70	0.89	67.5	14.48	0.51	0.71	0.91	61.8	15.93	0.50	0.72	0.94	56.0	17.37	0.49	0.72	0.96				
	5195	74.0	13.17	0.54	0.73	0.92	68.1	14.59	0.54	0.75	0.96	62.2	16.01	0.54	0.78	0.98	56.4	17.43	0.52	0.79	0.99				
21.7°C	3775	76.8	13.12	0.33	0.48	0.63	71.9	14.63	0.29	0.47	0.63	67.2	16.17	0.26	0.44	0.62	62.2	17.70	0.23	0.41	0.62				
	4485	76.9	13.31	0.34	0.50	0.67	72.0	14.78	0.30	0.49	0.67	67.3	16.24	0.26	0.47	0.68	62.5	17.72	0.23	0.47	0.69				
	5195	76.8	13.50	0.34	0.52	0.70	72.1	14.92	0.31	0.52	0.72	67.5	16.33	0.27	0.51	0.75	62.9	17.74	0.24	0.50	0.77				

BLOWER DATA

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL & AIR FILTERS IN PLACE
FOR ALL UNITS ADD:

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

Then determine from blower table blower motor output and drive required.

See page 28 for wet coil and option/accessory air resistance data.

See page 28 for factory installed drive kit specifications.

Air Volume		TOTAL STATIC PRESSURE - Pa (Inches Water Gauge)																	
		100 (0.40)			150 (0.60)			200 (0.80)			250 (1.00)			300 (1.20)			350 (1.40)		
L/s	cfm	rev/min	kW	BHP	rev/min	kW	BHP	rev/min	kW	BHP	rev/min	kW	BHP	rev/min	kW	BHP	rev/min	kW	BHP
1890	4000	545	0.63	0.85	635	0.82	1.10	715	1.04	1.40	785	1.27	1.70	850	1.49	2.00	910	1.72	2.30
2005	4250	555	0.67	0.90	645	0.93	1.25	725	1.16	1.55	795	1.38	1.85	855	1.60	2.15	915	1.83	2.45
2125	4500	565	0.75	1.00	655	1.01	1.35	730	1.23	1.65	800	1.49	2.00	865	1.75	2.35	925	1.98	2.65
2240	4750	575	0.82	1.10	660	1.08	1.45	740	1.34	1.80	810	1.60	2.15	870	1.86	2.50	930	2.13	2.85
2360	5000	585	0.93	1.25	670	1.19	1.60	750	1.45	1.95	815	1.72	2.30	880	2.01	2.70	940	2.27	3.05
2480	5250	595	1.01	1.35	680	1.27	1.70	755	1.57	2.10	825	1.86	2.50	890	2.16	2.90	945	2.42	3.25
2595	5500	605	1.08	1.45	690	1.38	1.85	765	1.68	2.25	835	1.98	2.65	895	2.27	3.05	955	2.57	3.45
2715	5750	615	1.19	1.60	700	1.49	2.00	775	1.83	2.45	840	2.13	2.85	905	2.42	3.25	960	2.72	3.65
2830	6000	630	1.30	1.75	710	1.60	2.15	785	1.94	2.60	850	2.27	3.05	910	2.57	3.45	970	2.91	3.90
2950	6250	640	1.42	1.90	720	1.75	2.35	795	2.09	2.80	860	2.42	3.25	920	2.76	3.70	975	3.09	4.15
3070	6500	650	1.53	2.05	730	1.86	2.50	805	2.24	3.00	870	2.57	3.45	930	2.95	3.95	985	3.28	4.40
3185	6750	665	1.64	2.20	745	2.01	2.70	815	2.39	3.20	880	2.76	3.70	940	3.13	4.20	995	3.47	4.65
3305	7000	675	1.75	2.35	755	2.16	2.90	825	2.54	3.40	890	2.95	3.95	950	3.32	4.45	1005	3.69	4.95
3420	7250	690	1.94	2.60	765	2.31	3.10	835	2.72	3.65	900	3.09	4.15	955	3.47	4.65	1015	3.91	5.25
3540	7500	700	2.05	2.75	775	2.46	3.30	845	2.87	3.85	910	3.32	4.45	965	3.69	4.95	1020	4.10	5.50
3660	7750	715	2.24	3.00	790	2.65	3.55	855	3.06	4.10	920	3.50	4.70	975	3.91	5.25	1030	4.33	5.80
3775	8000	725	2.39	3.20	800	2.83	3.80	865	3.24	4.35	930	3.69	4.95	985	4.10	5.50	1040	4.55	6.10
3895	8250	740	2.54	3.40	810	2.98	4.00	880	3.47	4.65	940	3.91	5.25	995	4.36	5.85	1050	4.81	6.45
4010	8500	750	2.72	3.65	825	3.21	4.30	890	3.65	4.90	950	4.14	5.55	1005	4.59	6.15	1060	5.07	6.80
4130	8750	765	2.91	3.90	835	3.39	4.55	900	3.88	5.20	960	4.36	5.85	1015	4.81	6.45	1070	5.33	7.15
4250	9000	780	3.13	4.20	850	3.62	4.85	910	4.10	5.50	970	4.59	6.15	1025	5.07	6.80	1080	5.59	7.50
4365	9250	790	3.32	4.45	860	3.84	5.15	925	4.36	5.85	985	4.88	6.55	1040	5.37	7.20	1090	5.85	7.85
4485	9500	805	3.54	4.75	875	4.06	5.45	935	4.59	6.15	995	5.15	6.90	1050	5.67	7.60	1100	6.15	8.25
4600	9750	820	3.77	5.05	885	4.29	5.75	950	4.88	6.55	1005	5.37	7.20	1060	5.93	7.95	1110	6.45	8.65
4720	10,000	835	4.03	5.40	900	4.59	6.15	960	5.11	6.85	1015	5.67	7.60	1070	6.23	8.35	1120	6.75	9.05
4835	10,250	845	4.21	5.65	910	4.81	6.45	970	5.37	7.20	1030	5.97	8.00	1080	6.52	8.75	1135	7.12	9.55
4955	10,500	860	4.47	6.00	925	5.11	6.85	985	5.70	7.65	1040	6.26	8.40	1095	6.86	9.20	1145	7.46	10.00
5075	10,750	875	4.77	6.40	940	5.41	7.25	1000	6.00	8.05	1055	6.60	8.85	1105	7.20	9.65	1155	7.79	10.45
5190	11,000	890	5.07	6.80	950	5.67	7.60	1010	6.30	8.45	1065	6.94	9.30	1115	7.49	10.05	1165	8.13	10.90

CONTINUED ON NEXT PAGE

BLOWER DATA

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL & AIR FILTERS IN PLACE
FOR ALL UNITS ADD:

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

Then determine from blower table blower motor output and drive required.

See page 28 for wet coil and option/accessory air resistance data.

See page 28 for factory installed drive kit specifications.

Air Volume		TOTAL STATIC PRESSURE - Pa (Inches Water Gauge)																	
		400 (1.60)			450 (1.80)			500 (2.00)			550 (2.20)			600 (2.40)			650 (2.60)		
L/s	cfm	rev/min	kW	BHP	rev/min	kW	BHP	rev/min	kW	BHP	rev/min	kW	BHP	rev/min	kW	BHP	rev/min	kW	BHP
1890	4000	965	1.94	2.60	1020	2.16	2.90	1070	2.42	3.25	1115	2.65	3.55	1160	2.87	3.85	1205	3.09	4.15
2005	4250	970	2.09	2.80	1025	2.31	3.10	1075	2.57	3.45	1120	2.80	3.75	1165	3.06	4.10	1210	3.32	4.45
2125	4500	980	2.24	3.00	1030	2.46	3.30	1080	2.72	3.65	1130	3.02	4.05	1175	3.24	4.35	1215	3.50	4.70
2240	4750	985	2.39	3.20	1040	2.65	3.55	1085	2.91	3.90	1135	3.17	4.25	1180	3.47	4.65	1225	3.73	5.00
2360	5000	995	2.54	3.40	1045	2.83	3.80	1095	3.09	4.15	1140	3.36	4.50	1185	3.65	4.90	1230	3.95	5.30
2480	5250	1000	2.72	3.65	1050	2.98	4.00	1100	3.28	4.40	1150	3.58	4.80	1195	3.88	5.20	1235	4.18	5.60
2595	5500	1010	2.87	3.85	1060	3.17	4.25	1110	3.50	4.70	1155	3.80	5.10	1200	4.10	5.50	1240	4.40	5.90
2715	5750	1015	3.06	4.10	1065	3.36	4.50	1115	3.69	4.95	1160	3.99	5.35	1205	4.33	5.80	1250	4.66	6.25
2830	6000	1025	3.24	4.35	1075	3.58	4.80	1120	3.88	5.20	1170	4.21	5.65	1215	4.55	6.10	1255	4.88	6.55
2950	6250	1030	3.43	4.60	1080	3.77	5.05	1130	4.10	5.50	1175	4.44	5.95	1220	4.81	6.45	1265	5.15	6.90
3070	6500	1040	3.62	4.85	1090	3.99	5.35	1140	4.36	5.85	1185	4.70	6.30	1225	5.03	6.75	1270	5.41	7.25
3185	6750	1045	3.80	5.10	1095	4.18	5.60	1145	4.55	6.10	1190	4.92	6.60	1235	5.29	7.10	1275	5.67	7.60
3305	7000	1055	4.03	5.40	1105	4.44	5.95	1155	4.81	6.45	1200	5.18	6.95	1240	5.56	7.45	1285	5.97	8.00
3420	7250	1065	4.29	5.75	1115	4.66	6.25	1160	5.03	6.75	1205	5.44	7.30	1250	5.85	7.85	1290	6.23	8.35
3540	7500	1075	4.51	6.05	1125	4.92	6.60	1170	5.33	7.15	1215	5.70	7.65	1260	6.15	8.25	1300	6.52	8.75
3660	7750	1080	4.74	6.35	1130	5.15	6.90	1180	5.59	7.50	1225	6.00	8.05	1265	6.41	8.60	1305	6.82	9.15
3775	8000	1090	5.00	6.70	1140	5.41	7.25	1185	5.85	7.85	1230	6.26	8.40	1275	6.71	9.00	1315	7.16	9.60
3895	8250	1100	5.26	7.05	1150	5.70	7.65	1195	6.15	8.25	1240	6.60	8.85	1280	7.01	9.40	1325	7.49	10.05
4010	8500	1110	5.52	7.40	1160	6.00	8.05	1205	6.45	8.65	1250	6.90	9.25	1290	7.35	9.85	1330	7.79	10.45
4130	8750	1120	5.78	7.75	1165	6.23	8.35	1215	6.75	9.05	1255	7.20	9.65	1300	7.68	10.30	1340	8.13	10.90
4250	9000	1130	6.08	8.15	1175	6.52	8.75	1220	7.01	9.40	1265	7.53	10.10	1310	8.05	10.80	1350	8.50	11.40
4365	9250	1140	6.38	8.55	1185	6.86	9.20	1230	7.35	9.85	1275	7.87	10.55	1315	8.35	11.20	---	---	---
4485	9500	1150	6.67	8.95	1195	7.16	9.60	1240	7.68	10.30	1285	8.24	11.05	---	---	---	---	---	---
4600	9750	1160	7.01	9.40	1205	7.49	10.05	1250	8.05	10.80	1295	8.58	11.50	---	---	---	---	---	---
4720	10 000	1170	7.31	9.80	1215	7.83	10.50	1260	8.39	11.25	---	---	---	---	---	---	---	---	---
4835	10 250	1180	7.64	10.25	1225	8.20	11.00	---	---	---	---	---	---	---	---	---	---	---	---
4955	10 500	1190	7.98	10.70	1235	8.54	11.45	---	---	---	---	---	---	---	---	---	---	---	---
5075	10 750	1200	8.35	11.20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
5190	11 000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

BLOWER DATA

FACTORY INSTALLED BELT DRIVE KIT SPECIFICATIONS

Nominal kW	Nominal hp	Maximum kW	Maximum hp	Drive Kit Number	Rev/min Range
1.5	2	1.7	2.30	1	446 - 604
1.5	2	1.7	2.30	2	571 - 721
2.2	3	2.6	3.45	3	571 - 721
2.2	3	2.6	3.45	4	708 - 871
3.7	5	4.3	5.75	3	571 - 721
3.7	5	4.3	5.75	4	708 - 871
3.7	5	4.3	5.75	5	788 - 988
5.6	7.5	6.4	8.63	6	708 - 871
5.6	7.5	6.4	8.63	7	788 - 988
5.6	7.5	6.4	8.63	8	871 - 1071
7.5	10	8.6	11.50	7	788 - 988
7.5	10	8.6	11.50	10	871 - 1071
7.5	10	8.6	11.50	11	945 - 1138

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

FACTORY INSTALLED OPTIONS/FIELD INSTALLED ACCESSORY AIR RESISTANCE

Air Volume	Wet Indoor Coil			Condenser Reheat Coil		Gas Heat Exchanger			Economizer		Filters			Horizontal Roof Curb				
	156H, 180H		210H, 240H, 300S			Low/ Standard Heat	Medium Heat	High Heat			MERV 8	MERV 13	156H thru 240H	300S				
	L/s	cfm	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.		
1890 4000	5	0.02	10	0.04	5	0.02	10	0.04	15	0.06	17	0.07	---	---	2	0.01	10	0.04
2005 4250	5	0.02	10	0.04	5	0.02	10	0.04	15	0.06	20	0.08	---	---	2	0.01	12	0.05
2125 4500	5	0.02	12	0.05	5	0.02	12	0.05	17	0.07	22	0.09	---	---	2	0.01	12	0.05
2240 4750	5	0.02	12	0.05	5	0.02	12	0.05	20	0.08	25	0.10	---	---	5	0.02	12	0.05
2360 5000	5	0.02	12	0.05	5	0.02	12	0.05	22	0.09	27	0.11	---	---	5	0.02	15	0.06
2475 5250	5	0.02	15	0.06	7	0.03	15	0.06	25	0.10	30	0.12	---	---	5	0.02	15	0.06
2595 5500	5	0.02	17	0.07	7	0.03	15	0.06	25	0.10	32	0.13	---	---	5	0.02	15	0.06
2715 5750	7	0.03	17	0.07	7	0.03	15	0.06	27	0.11	35	0.14	---	---	5	0.02	17	0.07
2830 6000	7	0.03	20	0.08	7	0.03	17	0.07	30	0.12	37	0.15	---	---	7	0.03	17	0.07
2950 6250	7	0.03	20	0.08	7	0.03	17	0.07	30	0.12	40	0.16	2	0.01	7	0.03	17	0.07
3065 6500	7	0.03	22	0.09	10	0.04	20	0.08	32	0.13	42	0.17	5	0.02	7	0.03	20	0.08
3185 6750	10	0.04	25	0.10	10	0.04	20	0.08	35	0.14	45	0.18	7	0.03	7	0.03	20	0.08
3305 7000	10	0.04	25	0.10	10	0.04	22	0.09	37	0.15	47	0.19	10	0.04	10	0.04	20	0.08
3420 7250	10	0.04	27	0.11	10	0.04	22	0.09	40	0.16	50	0.20	12	0.05	10	0.04	22	0.09
3540 7500	12	0.05	30	0.12	12	0.05	25	0.10	42	0.17	52	0.21	15	0.06	10	0.04	22	0.09
3775 8000	12	0.05	32	0.13	12	0.05	27	0.11	47	0.19	60	0.24	22	0.09	12	0.05	25	0.10
4010 8500	15	0.06	37	0.15	12	0.05	30	0.12	50	0.20	65	0.26	27	0.11	12	0.05	25	0.10
4245 9000	17	0.07	40	0.16	15	0.06	32	0.13	57	0.23	72	0.29	35	0.14	15	0.06	27	0.11
4485 9500	20	0.08	45	0.18	17	0.07	35	0.14	62	0.25	80	0.32	40	0.16	17	0.07	30	0.12
4720 10 000	20	0.08	50	0.20	17	0.07	40	0.16	67	0.27	87	0.35	47	0.19	17	0.07	30	0.12
4955 10 500	22	0.09	55	0.22	20	0.08	42	0.17	75	0.30	94	0.38	55	0.22	20	0.08	32	0.13
5191 11 000	27	0.11	60	0.24	20	0.08	45	0.18	77	0.31	99	0.40	62	0.25	22	0.09	35	0.14

ELECTRICAL DATA

		LGH156H	LGH180H			LGH210H			LGH240H			LGH300S				
¹ Voltage - 50hz - 3 phase with neutral		380/420V	380/420V			380/420V			380/420V			380/420V				
Compressor 1	Rated Load Amps	6.3	6.3			7.8			6.3			8				
	Locked Rotor Amps	55	55			51.5			55			67.1				
Compressor 2	Rated Load Amps	6.3	6.3			7.8			6.3			8				
	Locked Rotor Amps	55	55			51.5			55			67.1				
Compressor 3	Rated Load Amps	6.3	6.3			8			6.3			10.6				
	Locked Rotor Amps	55	55			67.1			55			74				
Compressor 4	Rated Load Amps	---	---			---			6.3			10.6				
	Locked Rotor Amps	---	---			---			55			74				
Outdoor Fan Motors	Number of motors	3	4			6			6			6				
	Full Load Amps	1.3	1.3			1.3			1.3			1.3				
	(total)	(3.9)	(5.2)			(7.8)			(7.8)			(7.8)				
Power Exhaust With (2) 0.25 kW	Full Load Amps	1.3	1.3			1.3			1.3			1.3				
	(total)	(2.6)	(2.6)			(2.6)			(2.6)			(2.6)				
Indoor Blower Motor	kW	1.5	2.2	3.7	2.2	3.7	5.6	2.2	3.7	5.6	3.7	5.6	7.5	3.7	5.6	7.5
	Full Load Amps	3.6	5.3	8.2	5.3	8.2	11.7	5.3	8.2	11.7	8.2	11.7	16	8	12	16
² Maximum Overcurrent Protection	Unit Only	30	35	40	35	40	50	45	45	50	50	50	60	60	70	80
	With (2) 0.25 kW Power Exhaust	35	35	40	35	45	50	45	50	60	50	60	70	60	70	80
³ Minimum Circuit Ampacity	Unit Only	28	30	34	31	35	39	39	42	47	44	48	54	56	60	66
	With (2) 0.25 kW Power Exhaust	31	33	36	34	37	42	42	44	49	46	51	56	59	66	68

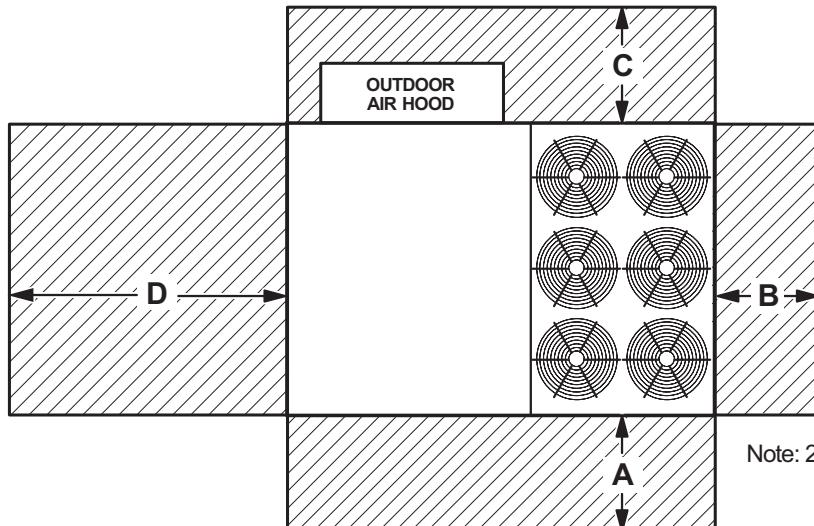
¹ Extremes of operating range are plus and minus 10% of line voltage.

² Heating / Air Conditioning / Refrigeration (HACR) type breaker or fuse.

³ Refer to local codes to determine wire, fuse and disconnect size requirements.

UNIT CLEARANCES

Unit With Economizer



Note: 210-240-300 sizes shown

¹ Unit Clearance	A		B		C		D		Top Clearance
	mm	in.	mm	in.	mm	in.	mm	in.	
Service Clearance	1524	60	914	36	914	36	1676	66	
Clearance to Combustibles	914	36	25	1	25	1	25	1	
Minimum Operation Clearance	1143	45	914	36	914	36	1041	41	

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.

OUTDOOR SOUND DATA

Unit Model Number	Octave Band Linear Sound Power Levels dB, re 10 ⁻¹² Watts - Center Frequency - Hz							¹ Sound Rating Number (SRN) (dBA)
	125	250	500	1000	2000	4000	8000	
156	71	78	81	81	76	71	63	86
180	80	83	87	88	84	80	71	93
210, 240, 300	79	84	88	89	85	82	73	94

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

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

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WEIGHT DATA

Model Number	Outdoor Coil	Net		Shipping		Outdoor Coil	Net		Shipping	
		kg	lbs.	kg	lbs.		kg	lbs.	kg	lbs.
156 Base Unit	Eco-Last™	878	1935	968	2135	Fin/Tube	907	2000	998	2200
156 Max. Unit	Eco-Last™	1000	2205	1091	2405	Fin/Tube	1030	2270	1120	2470
180 Base Unit	Eco-Last™	959	2115	1050	2315	Fin/Tube	1007	2220	1098	2420
180 Max. Unit	Eco-Last™	1089	2400	1179	2600	Fin/Tube	1136	2505	1227	2705
210 Base Unit	Eco-Last™	1016	2240	1107	2440	Fin/Tube	1057	2330	1148	2530
210 Max. Unit	Eco-Last™	1145	2525	1236	2725	Fin/Tube	1186	2615	1277	2815
240 Base Unit	Eco-Last™	1055	2325	1145	2525	Fin/Tube	1102	2430	1193	2630
240 Max. Unit	Eco-Last™	1184	2610	1275	2810	Fin/Tube	1232	2715	1322	2915
300 Base Unit	Eco-Last™	1112	2452	1203	2652	Fin/Tube	1142	2517	1232	2717
300 Max. Unit	Eco-Last™	1241	2737	1332	2937	Fin/Tube	1271	2802	1362	3002

OPTIONS / ACCESSORIES

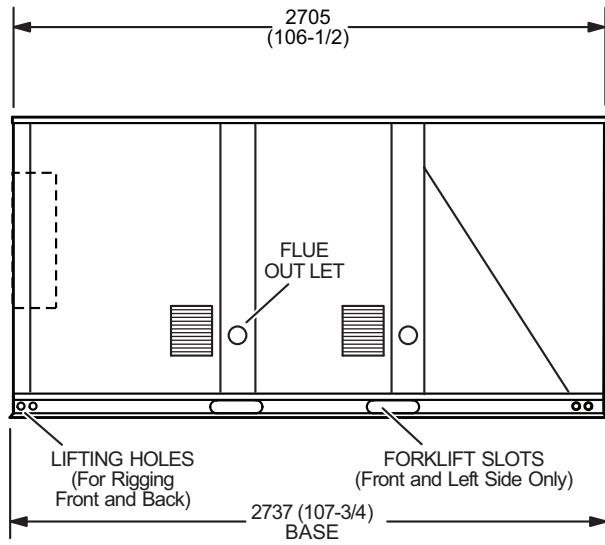
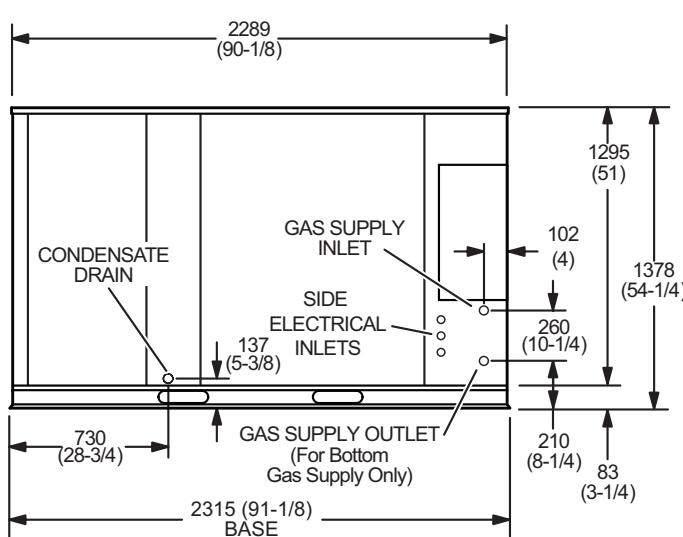
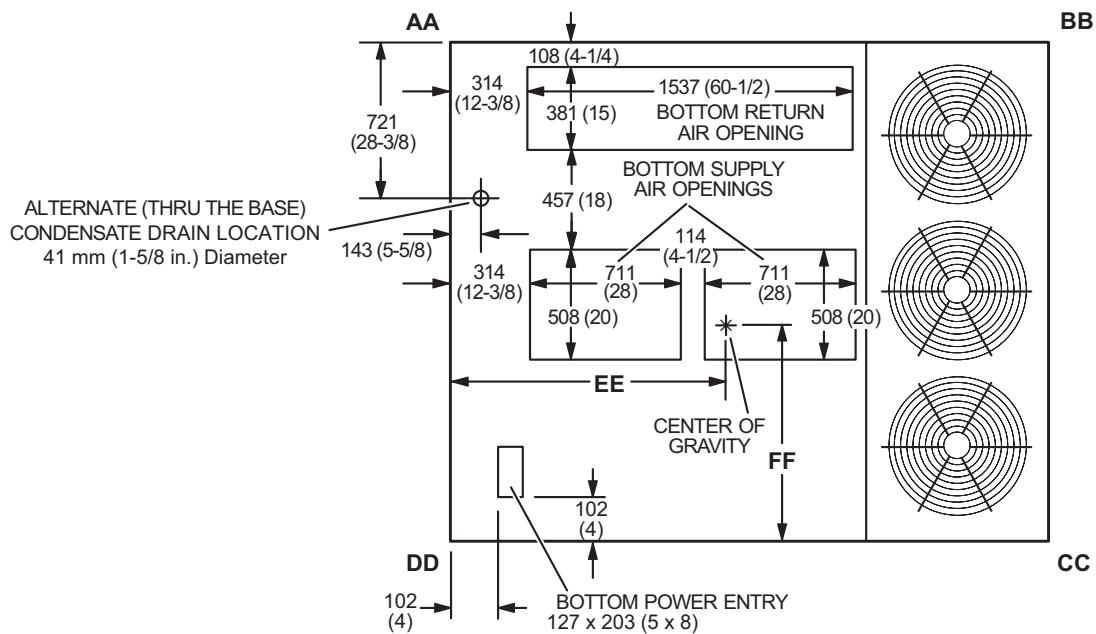
Description	Shipping Weight				
	kg	lbs.			
ECONOMIZER / OUTDOOR AIR / EXHAUST					
Economizer					
Economizer Dampers	46	102			
Barometric Relief Dampers (downflow)	14	30			
Barometric Relief Dampers (horizontal)	9	20			
Outdoor Air Damper Hood (downflow)	29	65			
Outdoor Air Dampers					
Outdoor Air Damper Section (downflow) - Automatic (including Hood)	39	18			
Outdoor Air Damper Section (downflow) - Manual (including Hood)	22	10			
Power Exhaust	28	62			
GAS HEAT EXCHANGER (NET WEIGHT)					
Medium Heat (adder over standard heat)	8	18			
High Heat (adder over standard heat)	29	64			
DEHUMIDIFICATION SYSTEM					
Dehumidification System (Net Weight)	23	50			
ROOF CURBS					
Hybrid Roof Curbs, Downflow					
203 mm height	34	75			
356 mm height	48	105			
457 mm height	57	125			
610 mm height	70	155			
Adjustable Pitch Roof, Downflow					
356 mm height	119	262			
Horizontal Roof Curbs, Standard					
660 mm height	231	470			
940 mm height	229	505			
762 mm height	261	575			
1041 mm height	277	610			
CEILING DIFFUSERS					
Step-Down					
RTD11-185S	168	76			
RTD11-275S	238	108			
Flush					
FD11-185S	168	76			
FD11-275S	238	108			
Transitions					
C1DIFF33C-1	36	80			
C1DIFF34C-1	34	75			
PACKAGING					
LTL Packaging (less than truck load)	141	310			

DIMENSIONS - UNIT
LGH156
CORNER WEIGHTS
CENTER OF GRAVITY

Model No.	AA		BB		CC		DD		EE		FF	
	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	mm	in.	mm	in.
LGH156 Base Unit (Eco-Last™ Coil)	215	473	167	367	219	483	278	612	1200	47-1/4	1003	39-1/2
LGH156 Max. Unit (Eco-Last™ Coil)	266	586	203	447	232	510	301	663	1187	46-3/4	1086	42-3/4
LGH156 Base Unit (Fin/Tube Coil)	216	476	180	397	233	513	279	615	1245	49	1010	39-3/4
LGH156 Max. Unit (Fin/Tube Coil)	267	588	216	477	245	540	302	665	1226	48-1/4	1086	42-3/4

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.

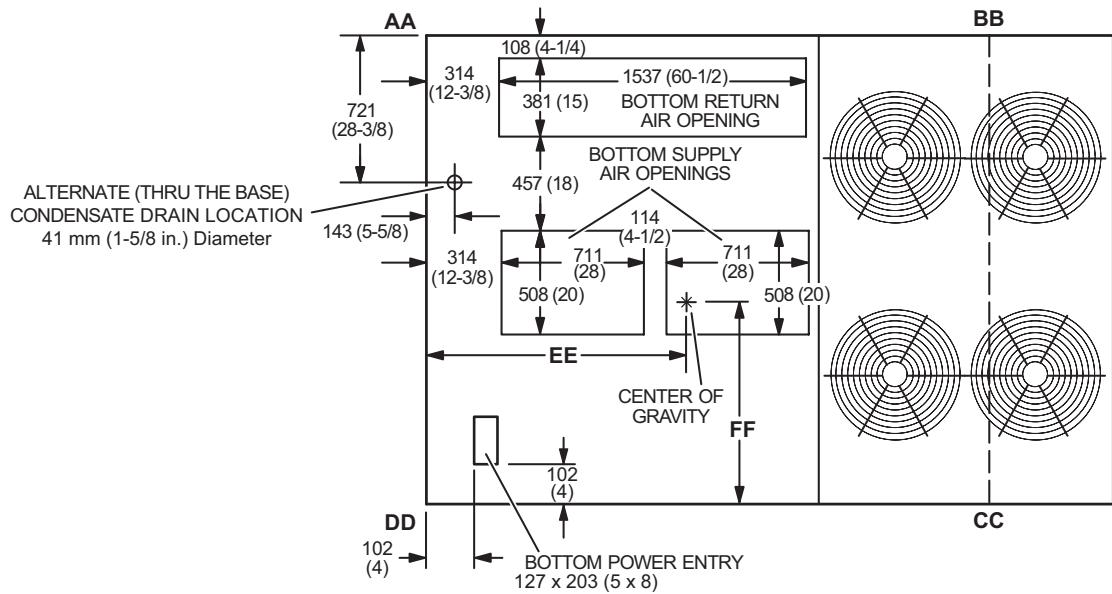
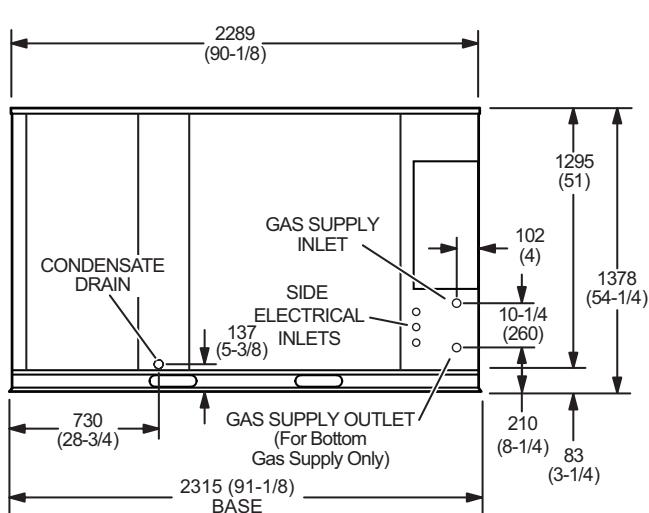
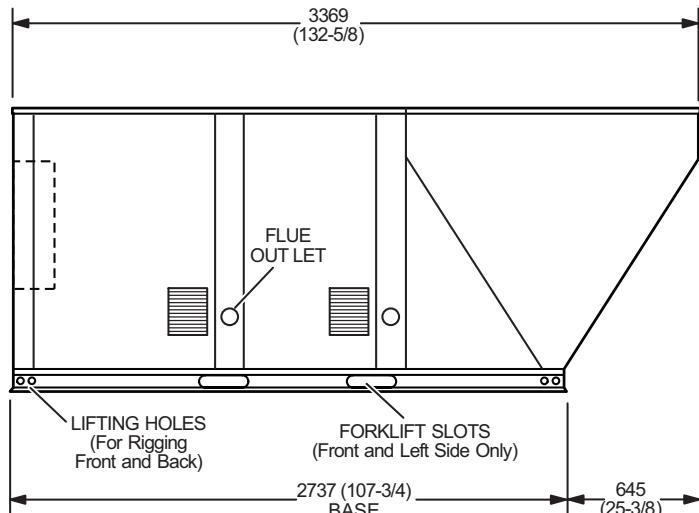


DIMENSIONS - UNIT
LGH180
CORNER WEIGHTS

Model No.	AA				BB		CC		DD		EE		FF	
	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	mm	in.	mm	in.
LGH180 Base Unit (Eco-Last™ Coil)	221	487	192	423	259	569	289	636	1289	50-3/4	997	39-1/4		
LGH180 Max. Unit (Eco-Last™ Coil)	272	597	229	505	272	599	318	699	1264	49-3/4	1067	42		
LGH180 Base Unit (Fin/Tube)	221	487	216	476	282	622	288	636	1353	53-4/	1003	39-1/2		
LGH180 Max. Unit (Fin/Tube)	271	597	253	557	296	652	317	699	1321	52	1067	42		

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.

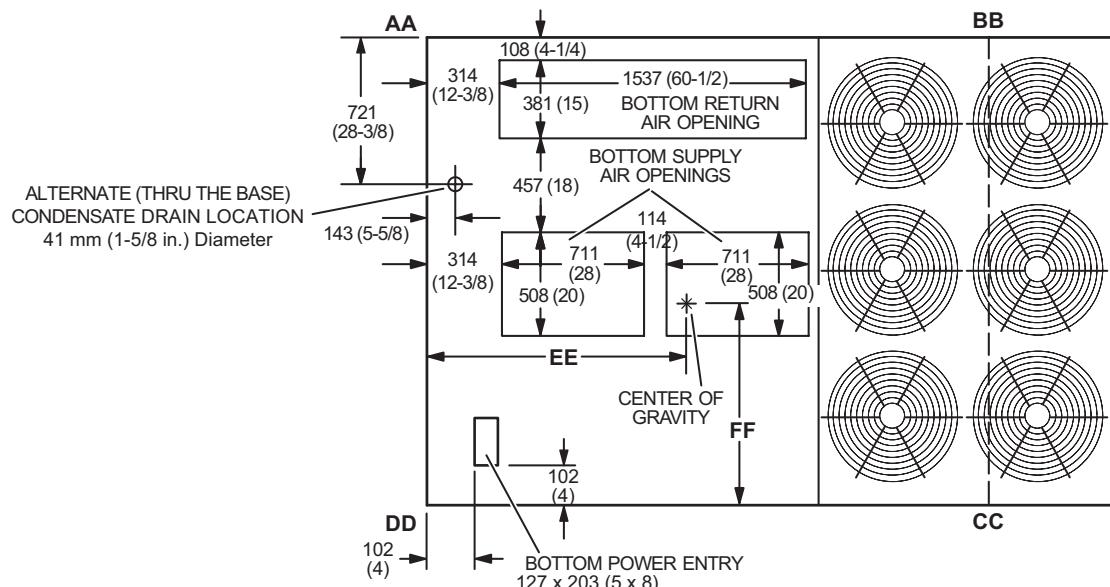
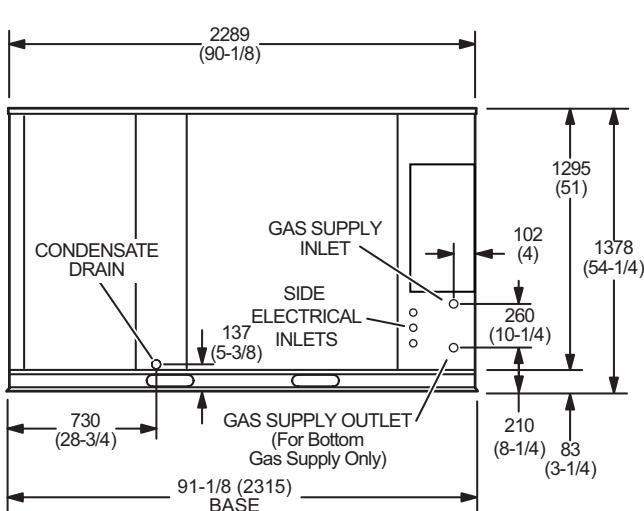
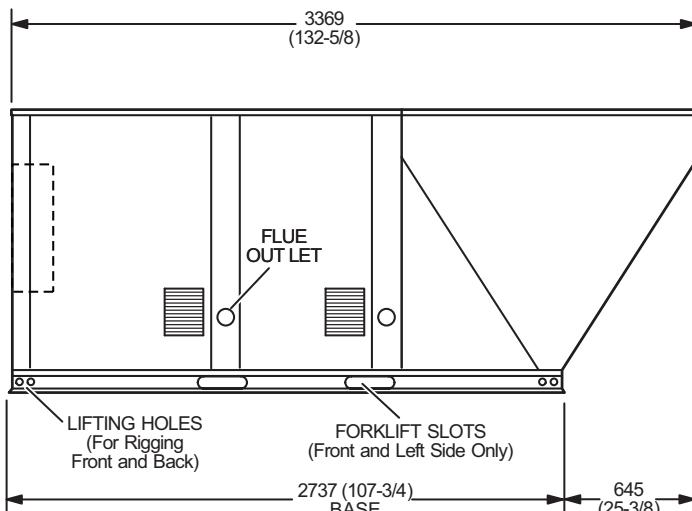

TOP VIEW

END VIEW

SIDE VIEW

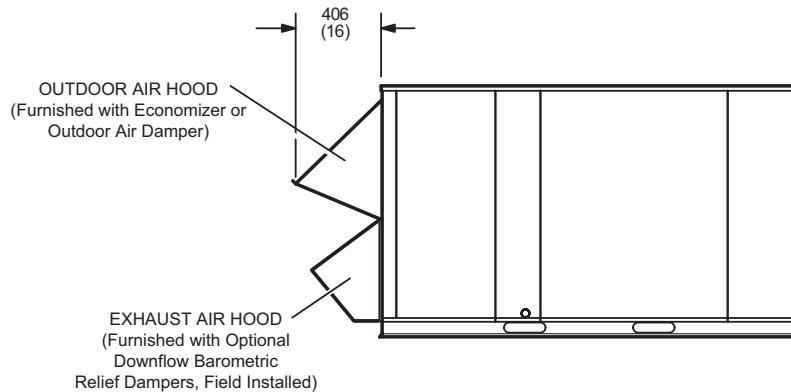
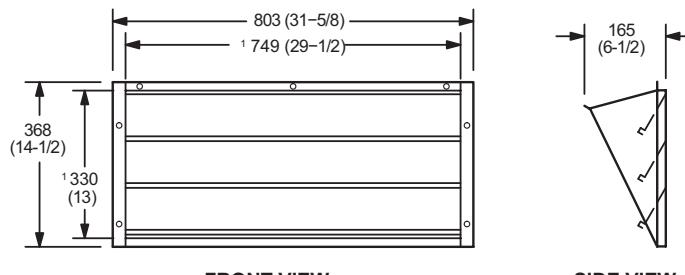
DIMENSIONS - UNIT
LGH210, LGH240, LGH300
CORNER WEIGHTS
CENTER OF GRAVITY

Model No.	AA		BB		CC		DD		EE		FF	
	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	mm	in.	mm	in.
LGH210 Base Unit (Eco-Last™ Coil)	226	497	213	468	284	626	295	649	1340	52-3/4	997	39-1/4
LGH210 Max. Unit (Eco-Last™ Coil)	276	607	252	553	298	655	323	710	1308	51-1/2	1067	42
LGH210 Base Unit (Fin/Tube Coil)	225	497	233	513	304	671	294	649	1391	54-3/4	1003	39-1/2
LGH210 Max. Unit (Fin/Tube Coil)	275	607	271	598	318	700	322	710	1359	53-1/2	1067	42
LGH240 Base Unit (Eco-Last™ Coil)	230	507	219	481	300	660	308	677	1346	53	984	38-3/4
LGH240 Max. Unit (Eco-Last™ Coil)	280	617	258	567	313	688	335	738	1321	52	1054	41-1/2
LGH240 Base Unit (Fin/Tube Coil)	230	507	242	533	323	713	307	677	1403	55-1/4	991	39
LGH240 Max. Unit (Fin/Tube Coil)	280	617	281	620	336	741	335	738	1372	54	1054	41-1/2
LGH300 Base Unit (Eco-Last™ Coil)	227	500	237	522	332	731	318	699	1398	55	965	38
LGH300 Max. Unit (Eco-Last™ Coil)	277	609	276	607	345	759	346	761	1367	53 4/5	1029	40 1/2
LGH300 Base Unit (Fin/Tube Coil)	238	524	236	518	333	733	337	741	1361	53 4/7	959	37 3/4
LGH300 Max. Unit (Fin/Tube Coil)	290	638	276	608	345	759	362	797	1335	52 4/7	1029	40 1/2

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.

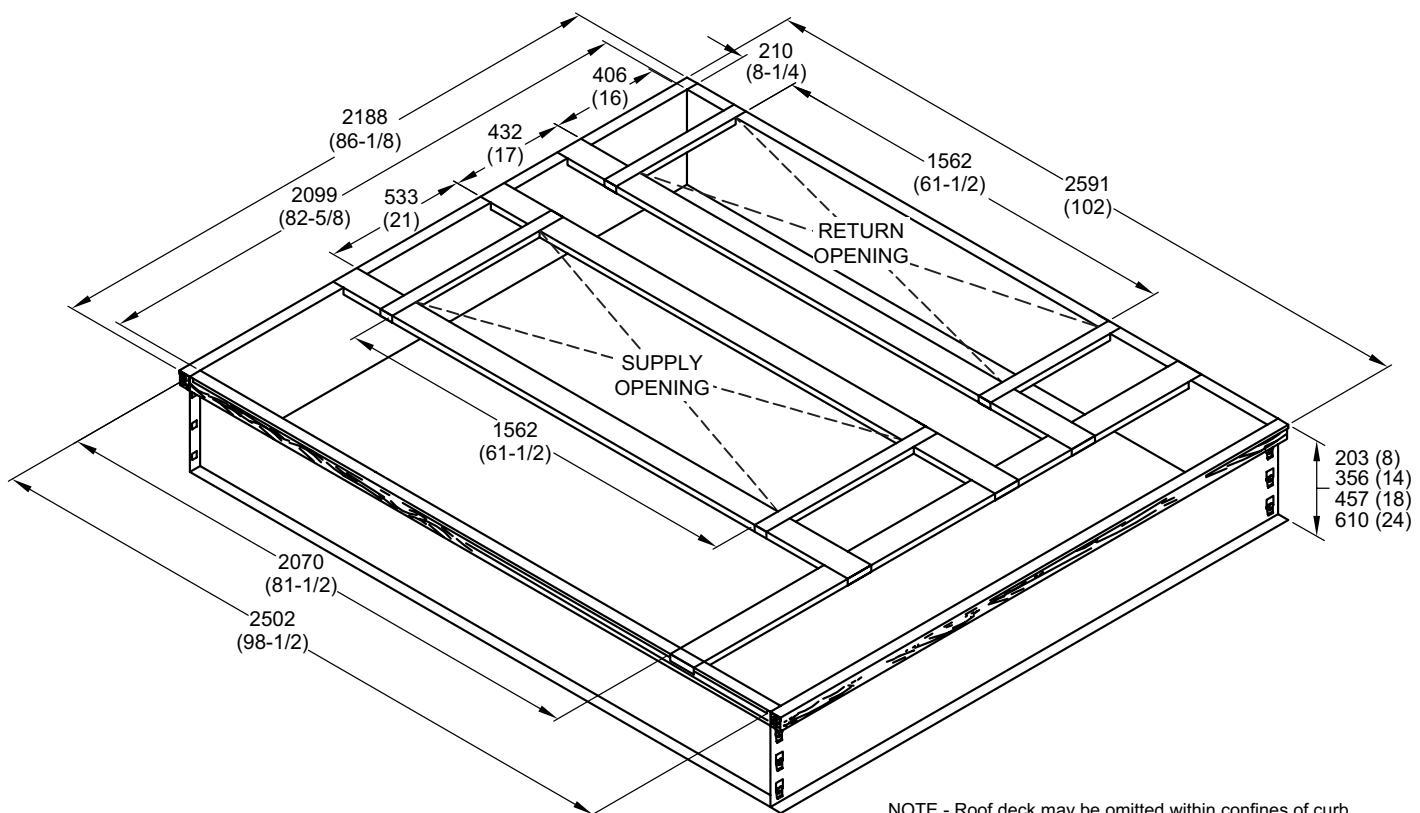

TOP VIEW

END VIEW

SIDE VIEW

OUTDOOR AIR HOOD DETAIL**OPTIONAL HORIZONTAL BAROMETRIC RELIEF DAMPERS WITH HOOD**
(Field installed in horizontal return air duct adjacent to unit)

NOTE – Two furnished per order number.
1 NOTE – Opening size required in return air duct.

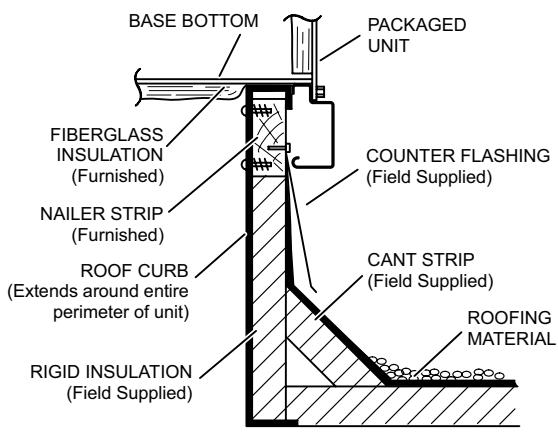
DIMENSIONS - ACCESSORIES

HYBRID ROOF CURBS - DOUBLE DUCT OPENING

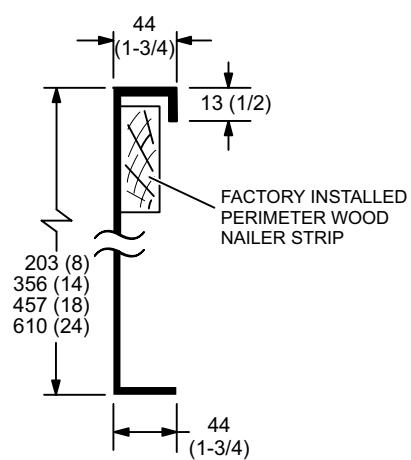


NOTE - Roof deck may be omitted within confines of curb.

TYPICAL FLASHING DETAIL FOR ROOF CURB

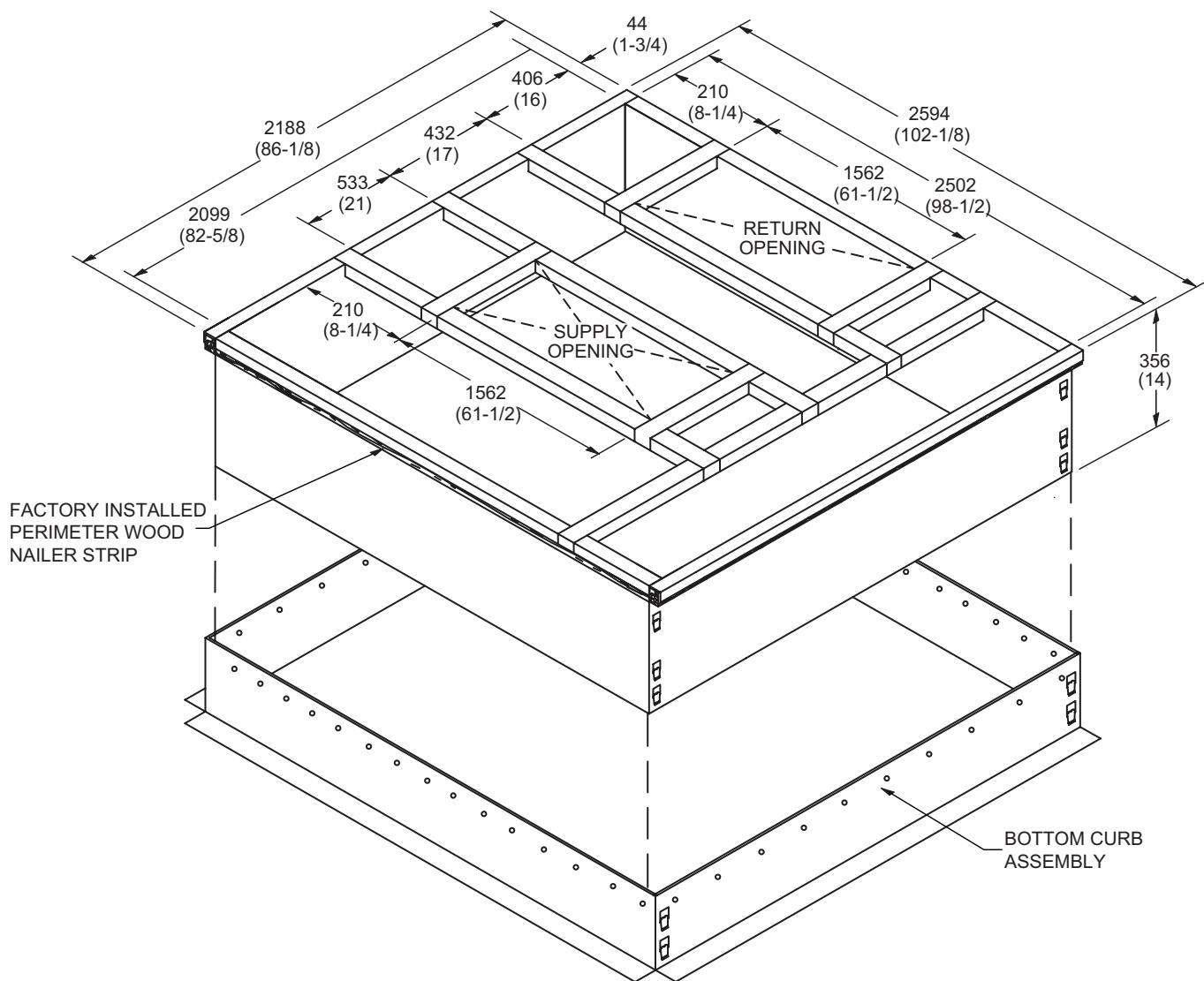


DETAIL ROOF CURB



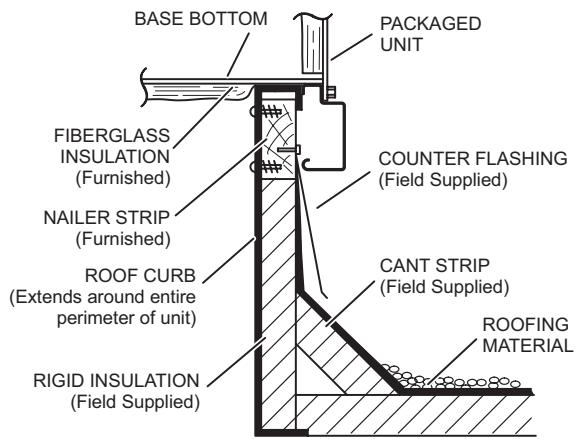
DIMENSIONS - ACCESSORIES

ADJUSTABLE PITCH CURB - DOUBLE DUCT OPENING

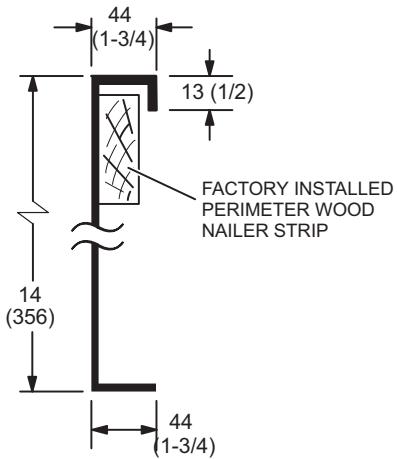


NOTE - Maximum slope pitch is 19 mm per 305 mm (3/4 inch per foot) in any one direction.

TYPICAL FLASHING DETAIL FOR ROOF CURB

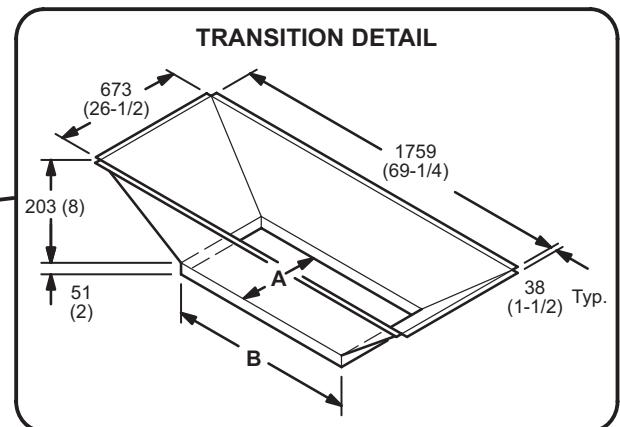
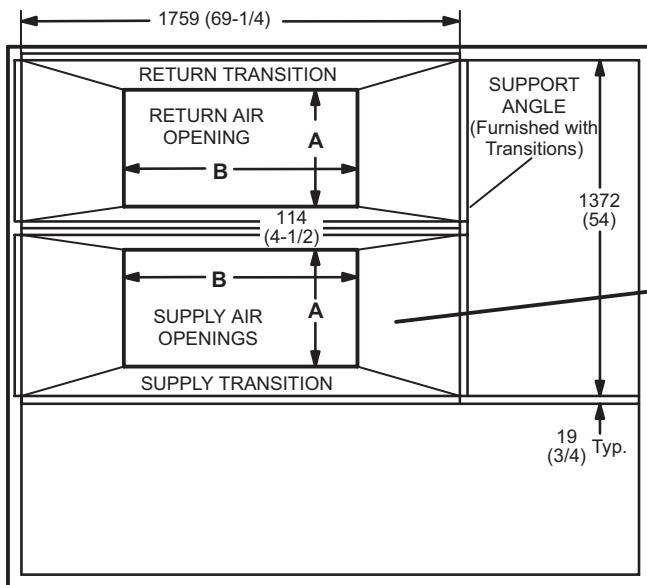


DETAIL ROOF CURB



DIMENSIONS - ACCESSORIES

ROOF CURBS WITH SUPPLY & RETURN AIR TRANSITIONS FOR CEILING DIFFUSERS



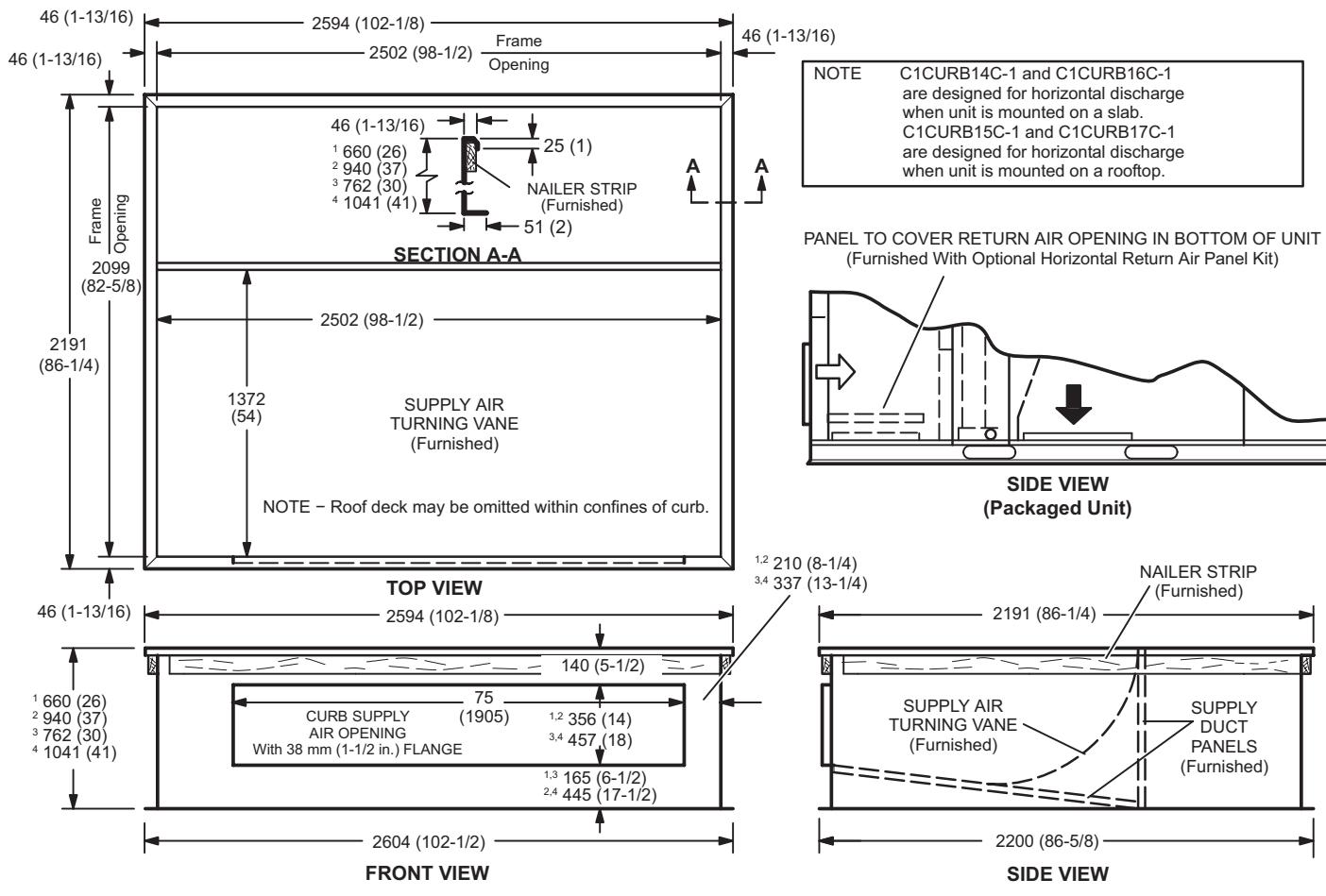
TOP VIEW

TRANSITION OPENING SIZES

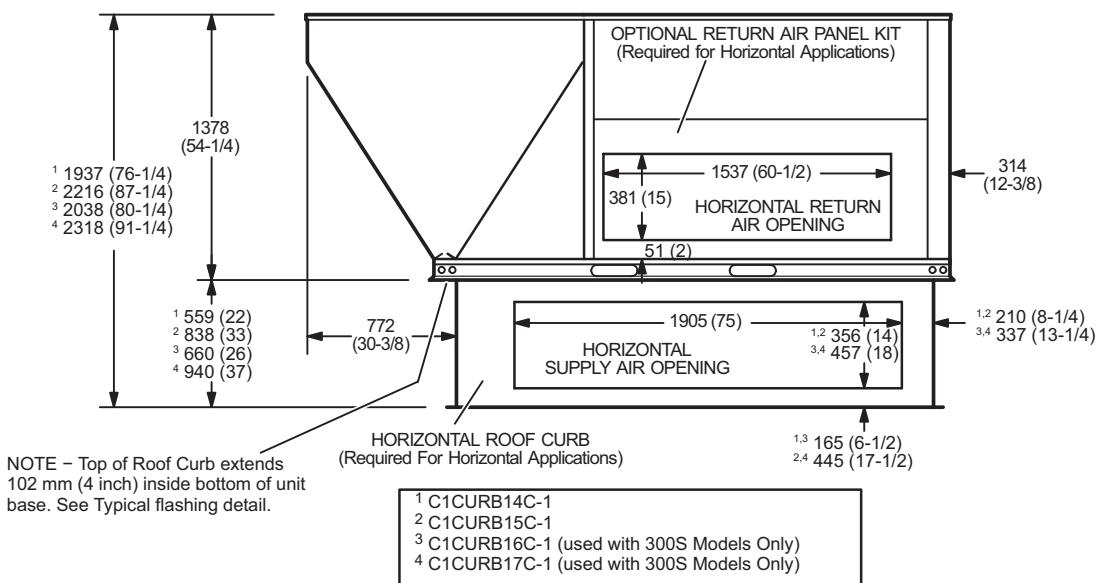
Model Number	A		B	
	mm	inch	mm	inch
C1DIFF33C-1	457	18	914	36
C1DIFF34C-1	610	24	1219	48

DIMENSIONS - ACCESSORIES

HORIZONTAL ROOF CURBS – Requires Optional Horizontal Return Air Panel Kit



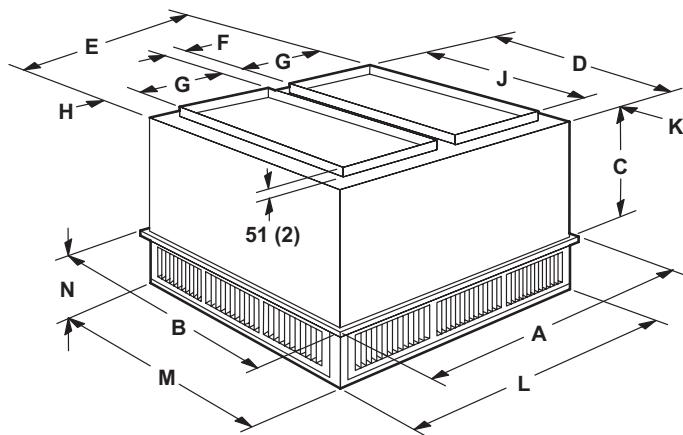
HORIZONTAL SUPPLY AND RETURN AIR OPENINGS WITH HORIZONTAL ROOF CURB



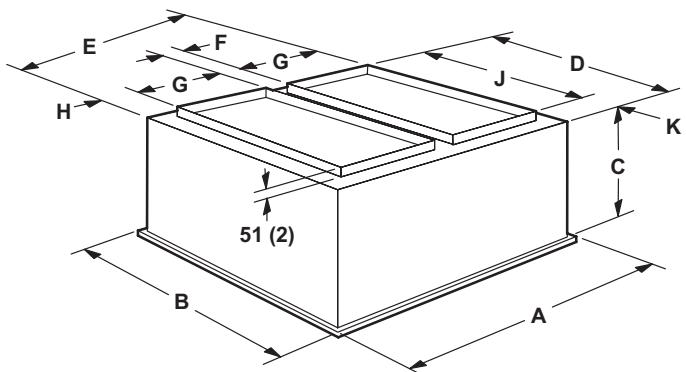
DIMENSIONS - ACCESSORIES

COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



FLUSH CEILING DIFFUSER



Model Number		RTD11-185S	RTD11-275S
A	mm	1210	1514
	in.	47-5/8	59-5/8
B	mm	1210	1514
	in.	47-5/8	59-5/8
C	mm	625	778
	in.	24-5/8	30-5/8
D	mm	1156	1461
	in.	45-1/2	57-1/2
E	mm	1156	1461
	in.	45-1/2	57-1/2
F	mm	114	114
	in.	4-1/2	4-1/2
G	mm	457	610
	in.	18	24
H	mm	64	64
	in.	2-1/2	2-1/2
J	mm	914	1219
	in.	36	48
K	mm	121	121
	in.	4-3/4	4-3/4
L	mm	1156	1461
	in.	45-1/2	57-1/2
M	mm	1156	1461
	in.	45-1/2	57-1/2
N	mm	257	283
	in.	10-1/8	11-1/8
Duct Size	mm	457 x 914	610 x 1219
	in.	18 x 36	24 x 48

Model Number		FD11-185S	FD11-275S
A	mm	1210	1514
	in.	47-5/8	59-5/8
B	mm	1210	1514
	in.	47-5/8	59-5/8
C	mm	743	895
	in.	29-1/4	35-1/4
D	mm	1143	1148
	in.	45	57
E	mm	1143	1448
	in.	45	57
F	mm	114	114
	in.	4-1/2	4-1/2
G	mm	457	610
	in.	18	24
H	mm	57	57
	in.	2-1/4	2-1/4
J	mm	914	1219
	in.	36	48
K	mm	114	114
	in.	4-1/2	4-1/2
Duct Size	mm	457 x 914	610 x 1219
	in.	18 x 36	24 x 48

REVISIONS

Section	Description
Options / Accessories	Removed Standard Economizer option.
Specifications	Updated LGH156H4B specifications data.
Electrical Data	Updated for LGH156H4B.



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