



**ASHRAE 90.1
COMPLIANT**



21, 25, & 30 Tons
Net Cooling Capacity - 248,000 to 344,000 Btuh
Gas Input Heat Capacity - 260,000 to 480,000 Btuh

MODEL NUMBER IDENTIFICATION

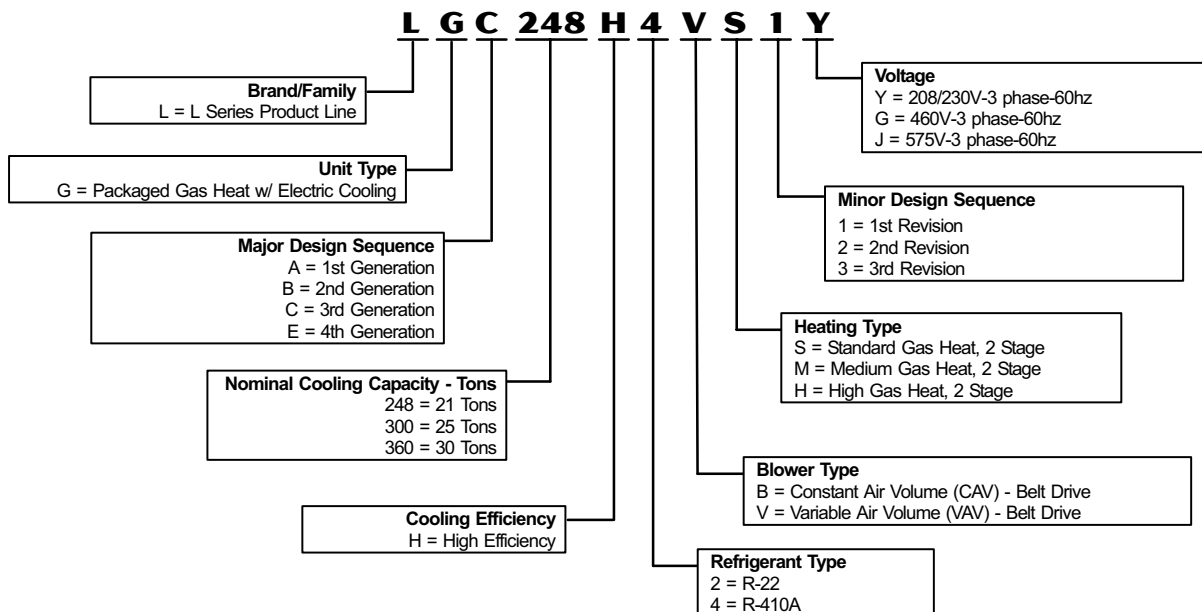


TABLE OF CONTENTS

Application Guide - Controls	Pages 62-64
Accessory Air Resistance	Page 26
Blower Data	Pages 24-28
Control Systems	Pages 37-45
Cooling Ratings	Pages 15-23
Dimensions	Pages 47-53
Electrical Data	Pages 29-34
Features and Benefits	Pages 2-6
Guide Specifications	Pages 54-61
High Altitude Information	Page 14
Model Number Identification	Page 1
Options / Accessories	Pages 7-10
Specifications	Pages 11-13
Specifications - Gas Heat	Page 14
Sound Data	Page 28
Unit Clearances	Page 35-36
Weight Data	Page 46

FEATURES AND BENEFITS

APPROVALS

ETL and CSA listed.

Heating efficiency ratings verified by CSA.

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

248 models are certified in accordance with the ULE certification program, which is based on ARI Standard 340/360-2004.

300 and 360 models are tested at conditions included in ARI Standard 340/360-2004.

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 Integrated Modular Control.

Limited one year all other covered components.

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.

1 Compressors

Resiliently mounted on rubber grommets for quiet operation.

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

Compressor Crankcase Heaters

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

2 Thermal Expansion Valves

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

3 Filter/Driers

High capacity filter/driers protect the system from dirt and moisture.

4 High Pressure Switches

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

Low Pressure Switches

Protects the compressor from low pressure conditions such as low refrigerant charge, or low/no air flow. Automatic reset

Freezestats

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

5 Coil Construction

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

Evaporator Coil

Cross row circuiting with rifled copper tubing optimizes both sensible and latent cooling capacity. Low fin per inch count minimizes air pressure drop. Constant air volume (CAV) models have face-split evaporator coils. Variable air volume (VAV) models have row-split evaporator coils designed to keep condensate water off of an inactive part of the coil so the condensate will not re-enter the air stream.

Condenser Coil

Angled, slab design helps protect coil from possible contact or hail damage.

Condensate Drain Pan

Drain connection extends outside unit. Painted, galvanized pan with positive slope.

Stainless steel drain pan available as a factory installed option.

Outdoor Coil Fan Motors

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

6 Outdoor Coil Fan

PVC coated fan guard furnished.

Refrigerant Choice

Can be ordered with R-22 or R-410A refrigerant.

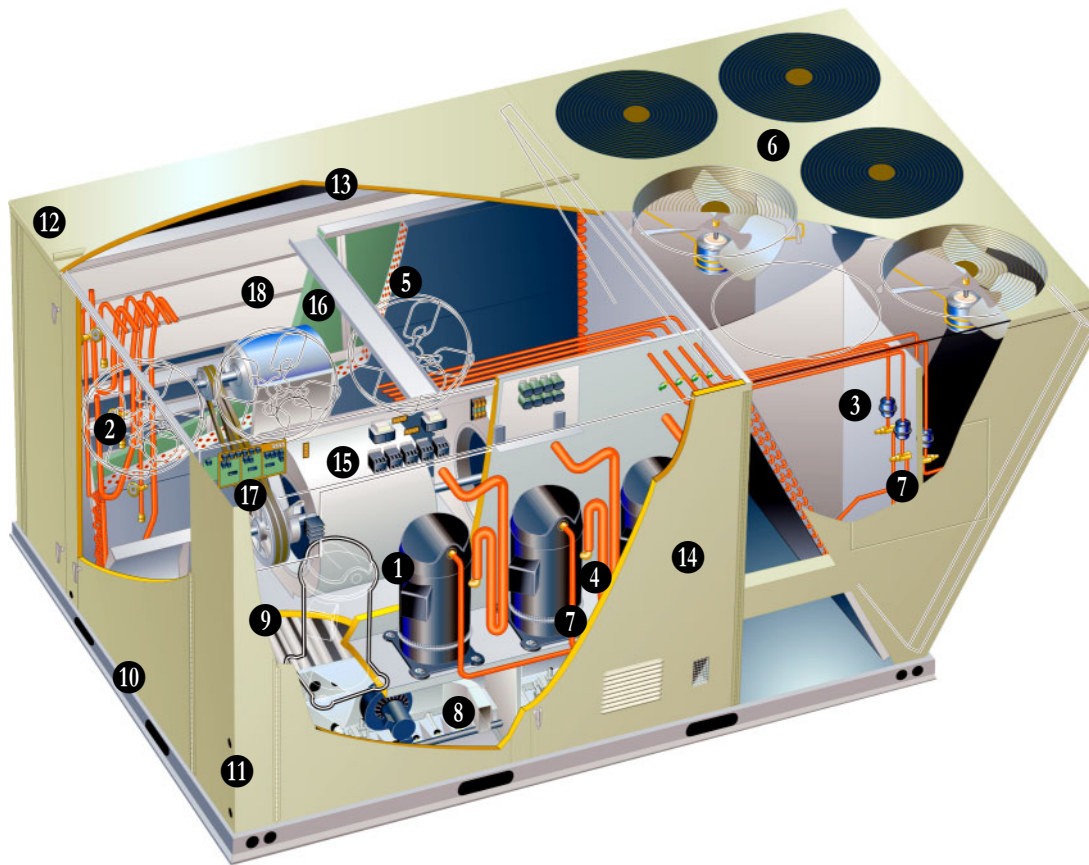
REQUIRED SELECTIONS

Cooling Capacity

Specify the nominal cooling capacity of the unit

Refrigerant Choice

Specify R-22 or R-410A refrigerant.



COOLING - CONTINUED

OPTIONS / ACCESSORIES

Factory Installed

Discharge Air Temperature Sensor

Sensor sends information to the IMC to cycle up to 4 stages of heating or cooling to maintain the discharge air setpoints for heating or cooling. Optional for CAV units (single zone or bypass zoning control). Automatically furnished with all Variable Air Volume (VAV) units. Sensor is shipped with the unit for remote field installation in the supply duct.

7 Service Valves

Fully serviceable brass valves installed in discharge & liquid lines.

Fresh Air Tempering

Provides heating and cooling as needed to maintain the supply air temperature within a comfort range, regardless of the thermostat demand. Sensor ships with unit but must be field installed in the supply air duct. Requires change to the IMC (Integrated Modular Controller) (ECTO) parameter in the field to activate this mode of operation.

Stainless Steel Condensate Drain Pan

Factory installed

Factory or Field Installed

Condensate Drain Trap

Field installed only, may be factory enclosed to ship with unit. Available in copper or PVC.

HEATING SYSTEM

- 8** 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.

9 Heat Exchanger

Tubular construction, aluminized steel, life cycle tested. Stainless Steel Heat Exchanger is required if mixed air temperature is less than 45°F.

Fan & Limit Controls

Factory installed with fixed temperature setting.

Heat limit controls protect against overheating.

Safety Switches

Flame roll-out switches, flame sensors and combustion air inducer proving switches protect system operation. All safety switches are monitored by the IMC unit controller and diagnostic errors are reported and recorded.

REQUIRED SELECTIONS

Gas Input - Order one:

169,000 / 260,000 Btuh low/high fire - Standard Heat Gas Input.
234,000 / 360,000 Btuh low/high fire - Medium Gas Heat Input.
312,000 / 480,000 Btuh low/high fire - High Gas Heat Input.

OPTIONS / ACCESSORIES

Factory Installed

Discharge Air Temperature Sensor

Sensor sends information to the IMC to cycle up to 4 stages of heating or cooling to maintain the discharge air setpoints for heating or cooling. Optional for CAV units (single zone or bypass zoning control). Automatically furnished with all Variable Air Volume (VAV) units. Sensor is shipped with the unit for remote field installation in the supply duct.

Low Temperature Vestibule Heater

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

Stainless Steel Heat Exchanger

Required if mixed air temperature is below 45°F.

FEATURES AND BENEFITS

HEATING SYSTEM - CONTINUED

Field Installed

Combustion Air Intake Extensions

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

LPG/Propane Kits

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

Vertical Vent Extension Kit

Exhausts flue gases vertically above unit.

CABINET

Construction

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

Air-Flow Choice

Units are available in down-flow (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 down-flow configured unit to horizontal air flow.

- 11 Power and Gas Entry

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

- 12 Exterior Panels

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

- 13 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.

- 14 Access Panels

Hinged access panels are provided for 2 compressor/controls/heating areas, blower access and air filter/economizer access.

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

REQUIRED SELECTIONS

Air Flow Configuration

Specify horizontal or down-flow.

OPTIONS / ACCESSORIES

Factory Installed

Corrosion Protection

Polymeric epoxy coating that is deposited by electrical transport (electrophoresis), using a process known as electrocoat (e-coat). Available for enhanced coil corrosion protection. Factory installed on the condenser coil, evaporator coil, or both.

Field Installed

Coil Guards

Painted, galvanized steel wire guards to protect outdoor coil. Not used with Hail Guards.

Grille Guards

Protects the space between outdoor coils and main cabinet.

Hail Guards

Constructed of heavy gauge steel, painted to match cabinet, helps protect outdoor coils from hail damage. Not used with Coil Guards.

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.

ELECTRICAL

REQUIRED SELECTIONS

Voltage Choice

Specify 208/230V, 460V or 575V 3-phase-60hz when ordering base unit.

OPTIONS / ACCESSORIES

Factory Installed

Circuit Breakers up to 250 Amp

HACR circuit breaker without power distribution lugs. Accessible from outside of unit, spring-loaded weatherproof cover furnished. Main power to the unit is field connected to the circuit breaker which allows all power to be shutoff for service. Circuit breaker is sized to the unit maximum overcurrent protection (MOCP) size.

Phase Monitor

Protects unit against premature equipment failure caused by phase loss, phase reversal, phase unbalance, undervoltage and overvoltage.

Field Installed

Disconnect Switch up to 250 Amp

Accessible from outside of unit, spring loaded weatherproof cover furnished. Main power to the unit is field connected to the disconnect which allows all power to be shut off for service. See Electrical Data tables, Pages 29-34 for field installed disconnect switches.

GFI Service Outlets (2)

115v ground fault circuit interrupter (GFCI) type, field wired or unit powered.

15 BLOWER

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

Motor

Overload protected, equipped with ball bearings.

Belt drive motors are offered in several different sizes to maximize air performance.

Motor Efficiency

Specify standard or high.

Supply Air Blower

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

Belt drive motors with adjustable pulley for speed change on CAV units.

Blower assembly slides out of unit for servicing.

Grease fittings furnished.

REQUIRED SELECTIONS

Supply Air Blower

Specify Constant Air Volume (CAV) or Variable Air Volume (VAV). Order Standard or High Efficiency Blower motor (See Blower Data Table for specifications).

NOTE - 575V VAV models are only available with high efficiency blower motors.

Order one drive kit, see Drive Kit Specifications Table.

OPTIONS / ACCESSORIES

Factory Installed

Supply Static Transducer

Transducer sends information to the IMC to control VFD blower speed. Automatically furnished with all VAV units. Transducer is shipped with the unit for remote field installation in the supply duct.

Supply VFD Blower Bypass Control

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

Field Installed

Supply Static Limit Switch

Field installed manual reset switch for supply static high pressure limit. Prevents exceeding pressure limit in supply air duct. Optional Mounting Kit includes tubing and adaptors.

FEATURES AND BENEFITS

INDOOR AIR QUALITY

16 Air Filters

Disposable 2 inch filters furnished as standard.

OPTIONS / ACCESSORIES

Factory or Field Installed

Healthy Climate® High Efficiency Air Filters

Disposable MERV 11 (Minimum Efficiency Reporting Value based on ASHRAE 52.2) efficiency 2 inch pleated filters.

Field Installed

Healthy Climate® UVC Germicidal Lamps



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

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

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

All necessary hardware for installation is included.

Lamps operate on 208/230V power supply. Step-down transformer furnished on models used with 460V and 575V rooftop units.

Magnetic safety interlock terminates power when access panels are removed.

Approved by ETL.

Healthy Climate® High Efficiency Air Filters

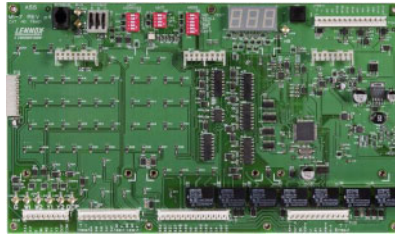
Disposable MERV 15 (Minimum Efficiency Reporting Value based on ASHRAE 52.2) efficiency 2 inch pleated filters.

Indoor Air Quality (CO₂) Sensor

Monitors CO₂ levels, reports to IMC board which adjusts economizer dampers as needed.

CONTROLS

17 INTELLIGENT UNIT CONTROLLER



The Integrated Modular Controller (IMC) is a solid-state microprocessor-based control board that provides flexible control of all unit functions.

All control voltage is provided via a 24V (secondary) transformer with built-in circuit breaker protection.

Built-in functions include:

Blower On/Off Delay - Adjustable time delay between blower on and off.

Blower Air Delivery Options - Three air delivery options; single zone CAV, bypass zoning with bypass dampers, and modulating VAV with VFD.

Built-in Control Parameter Defaults - No programming required for standard CAV models.

Compressor Time-Off Delay - Adjustable time delay between compressor shutoff and start up.

DDC Compatible - Various third party DDC controllers can be factory or field installed. Refer to the Unit Controllers section for details.

Dirty Filter Switch Input - When a Dirty Filter Switch is installed, the IMC will signal when the indoor blower static pressure increases, indicating a dirty filter condition. Switch is optional and can be factory or field installed.

Discharge Air Temperature Control - The IMC will cycle up to 4 stages of heating or cooling to maintain the discharge air setpoints for heating or cooling. Optional for CAV units (single zone or bypass zoning control). Sensor is automatically furnished with all Variable Air Volume (VAV) units. Sensor is shipped with the unit for remote field installation in the supply duct.

Display/Sensor Readout - Displays control parameters, diagnostic codes, and sensor readings. The IMC unit controller displays temperature readings from return air, supply air, and outdoor air sensors that are furnished as standard on all L Series units. IMC will also display readings from optional sensors such as zone sensors, CO₂ sensors or relative humidity sensors.

Economizer Control Choice - The economizer is controlled by an add-on board to the IMC. The economizer control board has several choices for controlling the economizer. See Economizer / Outdoor Air / Exhaust Options.

Fresh Air Tempering - Provides heating and cooling as needed to maintain the supply air temperature within a comfort range, regardless of the thermostat demand. Sensor ships with unit but must be field installed in the supply air duct. Requires change to IMC (ECTO) parameter in the field to activate this mode of operation.

Extensive Unit Diagnostics - The IMC monitors all sensors and functions related to unit operation to provide critical information. The IMC will display detailed diagnostic information with over 90 diagnostic codes to pinpoint any problems and reduce troubleshooting time. All diagnostic codes are listed inside control access panel for easy reference.

Exhaust Fan Control Modes - Fans controlled by fresh air damper position (non-VFD power exhaust) or building static differential pressure transducer.

Permanent Diagnostic Code Storage - Maintains diagnostic codes through a power failure.

Field Changeable Control Parameters - Over 200 different control parameters allow customization of the unit operation by changing delays, cooling stages, deadbands, and setpoints.

Indoor Air Quality Input - The IMC is Demand Control Ventilation ready from the factory (optional field installed CO₂ sensor required). Two modes of operation are available: setpoint and proportional.

1 - Setpoint - Opens the economizer dampers to full position when CO₂ setpoint level is reached.

2 - Proportional - Opens the dampers at the first set point and gradually increases it as the CO₂ level increases until the second setpoint is reached.

Low Ambient Controls - Allows unit cooling operation down to 0°F.

Gas Valve Time Delay Between First and Second Stage - Allows gradual increase of input rate.

Minimum Compressor Run Time - Ensures proper oil return to the compressor.

Network Capable - The IMC can be daisy chained to other L Series units or L Connection® Network controllers using twisted pair wire.

Night Setback Mode - Adjusts setpoints, closes outdoor air dampers and operates the blower on demand, may be customized for special requirements.

Return Air Temperature Limit Control - Allows the user to override the demands based upon the return air temperature during either heating or cooling operation. Helps protect against abnormal operating conditions in the event of a room sensor or thermostat failure.

FEATURES AND BENEFITS

CONTROLS - CONTINUED

Safety Switch Input - Normally-closed digital input allows the IMC to respond to a external safety switch trip (phase protector, low voltage, etc.) shutting down unit operation.

Service Relay Output - Digital output can indicate a critical error has occurred to an external control device. Can also be configured to energize based on relative humidity, indoor air quality, outdoor air temperature or unit operation.

Smoke Alarm Mode - Control board has four choices for responding to a smoke alarm.

1 - Unit Off - unit will turn off.

2 - Positive Pressure - blower is energized, exhaust fan is de-energized, and the outdoor air dampers are opened.

3 - Negative Pressure - blower is energized, exhaust fan is energized, and the outdoor air dampers are closed.

4 - Purge - blower is energized, exhaust fan is energized, and the outdoor air dampers are opened.

Staging - 2 heat/2 cool. Capable of up to 4 heat/4 cool with zone sensor or third party DDC control system.

"Strike Three" Protection - Ends cooling or heating operation when any of the following occurs three times (adjustable) within a thermostat cycle: low pressure trip, high pressure trip, heat limit trip, or freeze-stat trip.

Gas Reheat - Control parameter option that allows simultaneous heating and cooling operation on CAV gas units for controlling humidity for process air applications such as supermarkets. Field installed relative humidity sensor or dehumidistat can be used.

On-Demand Dehumidification - Monitors and controls condenser hot gas bypass operation with Humiditrol option. Prioritizes heat and cool demand with dehumidification demand. Reheat demand can be enabled by digital input or a field installed relative humidity sensor can be used. CAV models only.

Thermostat Bounce Delay - Protects compressor from short cycling when mechanical thermostat is used.

Warm-up Mode Delay - Adjustable time that the economizer dampers are kept in the closed position during morning warm-up.

On-Board User Interface - Push-button, DIP switches used with three-digit display readout for field adjustment of control parameters. LED indicators for L Connection Network (transmit and receive) and for each thermostat input.

PC Interface - PC with optional Unit Controller software may be used to field or remotely adjust parameters, read alarms, or display unit status.

VAV Control - Supports variable air volume (VAV) units with variable frequency drive or constant air volume units with bypass zoning control system. Constant air volume bypass zoning control units require add-on control board.

Zone Sensor Operation - Controls zone temperature with up to 4 stages of heating or cooling with optional zone sensor.

OPTIONS / ACCESSORIES

Factory or Field Installed

Blower Proving Switch

Monitors blower operation, shuts down unit if blower fails. Factory installed.

Dirty Filter Switch

Senses static pressure increase indicating dirty filter condition.

Fresh Air Tempering

Provides heating and cooling as needed to maintain the supply air temperature within a comfort range, regardless of the thermostat demand. Sensor ships with unit but must be field installed in the supply air duct. Requires change to IMC (ECTO) parameter in the field to activate this mode of operation.

Smoke Detector

Photoelectric type, installed in supply air section or return air section or both sections

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. See Page 41.

Commercial Control Systems

L Connection® Network

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

Sectra™ Commercial Zoning System

Control system to complement the IMC in bypass zoning applications and single zone control. Options include local interface, software for local or remote communication, and hardware for networking other control functions. See Page 37.

Aftermarket DDC

Novar® Unit Controller and options. See Page 40.

Thermostats

Control system and thermostat options. Aftermarket unit controller options. See Page 45.

SERVICEABILITY

Designed to streamline general maintenance and decrease troubleshooting time.

Diagnostics

IMC diagnostic codes pinpoint problems, minimizing troubleshooting time.

Marked & Color-Coded Wiring

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

Electrical Plugs

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

Tool-less, Hinged Access Panels

Large access panels are hinged and have quarter-turn, latching handles for quick and easy access to maintenance areas.

Filter access panels are hinged for easy access to the filters.

Blower Access

Blower assembly slides out of the unit for easy access.

Coil Cleaning

Slab condenser coils allow easier cleaning.

Standard Components

A large number of common maintenance parts are standard throughout the entire range of sizes (3-30 tons), reducing the need to carry a lot of different parts to the job or in inventory.

Compressor Compartment

Compressors are located near the perimeter of the unit for easier access. Compressors are isolated from the condenser air flow allowing system operation checks to be done without changing the air flow across the outdoor coils.

Thermal Expansion Valves

Thermal expansion valves are located near the perimeter of the unit for easier access.

Removable element head allows change out of element and bulb without removing the TXV.

Service Valves (optional)

Optional factory installed liquid and discharge service valves allow refrigerant to be isolated to the high side for service work on the low side of the refrigeration system.

OPTIONS / ACCESSORIES

ECONOMIZER/OUTDOOR AIR/EXHAUST

Factory or Field Installed

18 Economizer

Parallel gear driven action return air and outdoor air dampers, plug-in connections to unit, nylon bearings, neoprene seals, 24 volt fully modulating spring return motor, adjustable minimum damper position, damper assembly slides in unit, outdoor air hood must be ordered separately, optional down-flow barometric relief dampers available, choice of economizer controls. The IMC add-on board for economizer control is included with the economizer. Control board has four choices for controlling the economizer (DIP switch selections).

1 - Differential Sensible Control - Factory setting. Uses the outdoor air and return air sensors that are furnished with the unit. The IMC compares the 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.

2 - Global Control - The IMC 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.

3 - Single Enthalpy Control - Outdoor air enthalpy sensor enables economizer if the outdoor enthalpy is less than the setpoint of the board. Factory installed.

4 - Differential Enthalpy Control - Two solid-state enthalpy sensors allow the economizer control board to select between outdoor air or return air, whichever has lower enthalpy. Factory installed.

Outdoor Air Dampers (Manual or Motorized)

Linked mechanical dampers, 0 to 25% (fixed) outdoor air adjustable, installs in unit, outdoor air hood must be ordered separately. Motorized model features fully modulating spring return damper motor with plug-in connection. Manual model features a slide damper.

Minimum mixed air temperature in heating mode is 45°F with aluminized steel heat exchanger. Maximum mixed air temperature in cooling mode: 100°F.

Outdoor Air Hood

Required with LAREMD Economizer, LAOAD and LAOADM Outdoor Air Damper Sections, cleanable aluminum mesh fresh air filters furnished.

Down-Flow Barometric Relief Dampers

Allows relief of excess air, aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle, bird screen furnished. Dampers are required with Standard Static Power Exhaust Fans. Down-Flow Barometric Relief Damper Hood is available and must be ordered extra.

Field Installed

Down-Flow Barometric Relief Damper Hood

Field installed only. Use with Barometric Relief Dampers.

Horizontal Barometric Relief Dampers

Aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle, field installed in return air duct, bird screen furnished.

Outdoor Air CFM Control

Maintains constant outdoor air CFM levels for VAV units featuring variable frequency drives on the supply fan and varying unit airflows. Using information from a velocity sensor located in the units' outdoor air section, the Integrated Modular Controller changes the economizer position to help minimize the effect of supply fan speed changes on outdoor air CFM levels. Setpoint for outdoor air CFM is established by field testing. Requires Integrated Modular Controller hardware version M1-7 and firmware version 5.10 or higher.

NOTE - Not available with Demand Control Ventilation (CO₂Sensor).

Factory or Field Installed

Standard Static Power Exhaust Fans

Three, 1/3 hp motors with 20 in., five blade propeller-type fans with a total power input of 1125 Watts and a total air volume of 12,800 cfm at 0 in. w.g.

Motor is inherently protected and enclosed for maximum protection from weather, dust and corrosion. Installs internal to unit for down-flow applications only with economizer option, provides exhaust air pressure relief, interlocked to run when return air dampers are closed and supply air blower is operating, fan runs when outdoor air dampers are 50% open (adjustable), motor is overload protected, steel cabinet and hood painted to match unit, requires optional Down-flow Economizer Barometric Relief Dampers.

See Standard Static Power Exhaust Blower Tables.

High Static Power Exhaust Fans

Choice of 50% (two, 2 hp motors) or 100% (three, 2 hp motors) centrifugal-type power exhaust. Overload and sub-fuse protected, equipped with ball bearings. Forward curved blades, blower wheel is statically and dynamically balanced. Constant volume high static power exhaust fans have adjustable pulleys for

speed adjustments and are controlled by damper position.

Variable air volume units (with variable frequency drive) have 100% capacity and can be ordered with an optional VFD bypass. Fans feature solid-state analog pressure transducer control which senses differential pressure between conditioned space and outdoor air to regulate fan speed. See Power Exhaust Blower Tables

See High Static Power Exhaust Blower Tables.

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

Power Exhaust Control Options:

Damper Position Control

IMC controls exhaust fan based on economizer damper position. For Standard or High Static Power Exhaust (without VFD) Fans only.

Differential Pressure Transducer

Differential pressure transducer compares atmospheric pressure to conditioned space static pressure for controlling exhaust fan. Transducer is factory installed in the power exhaust section. For High Static Power Exhaust (with VFD) fans only.

CEILING DIFFUSERS

Field Installed

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.

ROOF CURBS

Field Installed

Nailer strip furnished, mates to unit, shipped knocked down.

Standard roof curb corners fasten together with furnished hardware.

Cliplock curbs use interlocking tabs to fasten together. No tools required.

Standard Down-Flow

US National Roofing Contractors Approved, available in 14 inch and 24 inch heights

Horizontal

Converts unit from down-flow 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. Available in 26 inch, 30 inch, 37 inch and 41 inch heights. Optional Insulation Kit is available to help prevent sweating.

Cliplock 1000 Full Perimeter

Down-Flow

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

OPTIONS / ACCESSORIES

Item			Catalog No.	248	300H	360
COOLING SYSTEM						
Condensate Drain Trap	PVC - LTACDKP09/36	76M18	⊗	⊗	⊗	
	Copper - LTACDKC09/36	76M19	⊗	⊗	⊗	
Corrosion Protection		Factory	○	○	○	
Efficiency	High	Factory	○	○	○	
Refrigerant Type	R-22	Factory	○	○	○	
	R-410A	Factory	○	○	○	
Service Valves		Factory	○	○	○	
Stainless Steel Condensate Drain Pan		Factory	○	○	○	
HEATING SYSTEM						
Combustion Air Intake Extensions	LTACAIK10/15	89L97	1x	1x	1x	
Gas Heat Input	Standard - 260 kBtuh input	Factory	○	○	○	
	Medium - 360 kBtuh input	Factory	○	○	○	
	High - 480 kBtuh input	Factory	○	○	○	
LPG/Propane Conversion Kits	260 (2 kits) kBtuh input - LTALPGK-130	72M94	1x	1x	1x	
	360 (2 kits) kBtuh input - LTALPGK-180	72M95	1x	1x	1x	
	480 (2 kits) kBtuh input - LTALPGK-240	72M96	1x	1x	1x	
Low Temperature Vestibule Heater		Factory	○	○	○	
Stainless Steel Heat Exchanger		Factory	○	○	○	
Vertical Vent Extension	C1EXTN20FF1	31W62	1x	1x	1x	
BLOWER - SUPPLY AIR						
Constant Air Volume	5 hp Standard or High Efficiency	Factory	○	○	○	
	7.5 hp Standard or High Efficiency	Factory	○	○	○	
	10 hp Standard or High Efficiency	Factory	○	○	○	
Variable Air Volume with Variable Frequency Drive	5 hp ² Standard or High Efficiency	Factory	○	○	○	
	7.5 hp ² Standard or High Efficiency	Factory	○	○	○	
	10 hp ² Standard or High Efficiency	Factory	○	○	○	
	Supply VFD Blower Bypass (VAV units w/VFD only)	Factory	○	○	○	
CABINET						
Coil Guards		88K53	x	x	x	
Grille Guards		86K30	x	x	x	
Hail Guards		88K26	x	x	x	
Horizontal Return Air Panel Kit		38K48	x	x	x	
CONTROLS						
Blower Proving Switch	C0SWCH01AE1-	30K49	⊗	⊗	⊗	
Commercial Controls	L Connection® Building Automation System	- - -	⊗	⊗	⊗	
	Novar® ETM-2051 Unit Controller	69K67	⊗	⊗	⊗	
	Sectra™ Zoning Sytem with VFD Control - C0CTRL05EA1L	83M58	⊗	⊗	⊗	
	Sectra™ Zoning Sytem with Bypass Control - C0CTRL04EA1L	34M41	⊗	⊗	⊗	
	Sectra™ Zoning Sytem Single Zone Control - C0CTRL03EA1L	23M51	⊗	⊗	⊗	
Dirty Filter Switch	C0SWCH00AE1-	30K48	⊗	⊗	⊗	
Discharge Air Temperature Sensor		Factory	○	○	○	
Fresh Air Tempering	C0SNC03AE-1	45L78	⊗	⊗	⊗	
Smoke Detector	Supply - LTASASDK10/36	70K87	⊗	⊗	⊗	
	Return - LTARASDK10/30	70K86	⊗	⊗	⊗	
Supply Static Limit Switch	C0SNSR11AE1	79M80	x	x	x	
	Mounting Kit - C0SNSR12AE1	79M81	x	x	x	
Supply Static Transducer	C0SNSR20AE1	78M19	x	x	x	

NOTE - The catalog and model numbers that appear here are for ordering field installed accessories only.

⊗ - Field Installed or Configure to Order (factory installed)

○ - Configure to Order (Factory Installed)

X - Field Installed.

² 575V models are available with high efficiency motors only.

OPTIONS / ACCESSORIES

Item			Catalog No.	248	300H	360
INDOOR AIR QUALITY						
Air Filters						
Healthy Climate® High Efficiency Air Filters 20 x 20 x 2 - order 12 per unit	MERV 11 - C1FTLR20D-1-	97L88	⊗	⊗	⊗	
	MERV 15 - C1FLTR50D-1-	28W06	x	x	x	
Germicidal Lamps						
Healthy Climate® UVC Germicidal Lamps	208/230V - C1UVCL10D	X7523	x	x	x	
	460V - C1UVCL10D	X7528	x	x	x	
	575V - C1UVCL10D	X7533	x	x	x	
Indoor Air Quality Sensors						
CO ₂ Sensor - white case w/ display	C0SNSR50AE1L	77N39	x	x	x	
CO ₂ Sensor - white case, no display	C0SNSR50AE1L	87N53	x	x	x	
CO ₂ Sensor - black case w/ display	C0SNSR50AE1L	87N52	x	x	x	
CO ₂ Sensor - black case, no display	C0SNSR50AE1L	87N54	x	x	x	
CO ₂ Sensor Duct Mounting Kit	C0MISC19AE1-	85L43	x	x	x	
Aspiration Box for duct mounting Sensor	C0MISC16AE1-	90N43	x	x	x	
Handheld CO ₂ Monitor	LTAIAQSHM03/36	70N93	x	x	x	
ELECTRICAL						
Voltage 60 hz	208/230V - 3 phase	Factory	○	○	○	
	460V - 3 phase	Factory	○	○	○	
	575V - 3 phase	Factory	○	○	○	
HACR Circuit Breakers		Factory	○	○	○	
Disconnect Switch	80A	84M13	⊗	⊗	⊗	
See Electrical / Electric Heat Tables for selection	150A	84M14	⊗	⊗	⊗	
	250A	84M15	⊗	⊗	⊗	
GFI Service Outlets	LTAGFIK10/15	74M70	⊗	⊗	⊗	
Phase Monitor		Factory	○	○	○	
ECONOMIZER						
Economizer						
Economizer (Order Hood Separately)	LAREMD30/36	33K72	⊗	⊗	⊗	
Economizer Controls						
Differential Enthalpy	C1SNSR07AE	86M32	⊗	⊗	⊗	
Single Enthalpy	C1SNSR06AE	86M33	⊗	⊗	⊗	
Global, Enthalpy	Sensor Field Provided	Factory	○	○	○	
Differential Sensible	Furnished	Factory	○	○	○	
Outdoor Air CFM Control	C0SNSR23DE1	98M61	x	x	x	
Barometric Relief						
Down-Flow Barometric Relief Dampers (Order Hood Separately)	LAGED30/36	33K77	⊗	⊗	⊗	
Hood for Down-Flow LAGED	LAGEH30H/36	88K81	⊗	⊗	⊗	
Horizontal Barometric Relief Dampers (Hood Furnished)	LAGEDH30/36	33K78	⊗	⊗	⊗	
OUTDOOR AIR						
Outdoor Air Dampers						
Damper Section (down-flow) Motorized (Order Hood Separately)	LAOADM30/36	33K70	⊗	⊗	⊗	
Damper Section (down-flow) - Manual (Order Hood Separately)	LAOAD30/36	33K69	⊗	⊗	⊗	
Outdoor Air Hoods						
Outdoor Air Hood (down-flow) Number of Filters - 16 x 25 x 1 in. (406 x 635 x 25 mm)	LAOAH30/36 (5)	33K71	⊗	⊗	⊗	

NOTE - The catalog and model numbers that appear here are for ordering field installed accessories only.

⊗ - Field Installed or Configure to Order (factory installed)

○ - Configure to Order (Factory Installed)

x - Field Installed.

OPTIONS / ACCESSORIES

Item			Catalog No.	248	300H	360	
OUTDOOR AIR							
Power Exhaust Fans (Down-Flow Applications Only)							
Standard Static		208/230V - LAPEF30/36	33K73	⊗	⊗	⊗	
		460V - LAPEF30/36	33K74	⊗	⊗	⊗	
		575V - LAPEF30/36	33K75	⊗	⊗	⊗	
¹ High Static	50%	208/230V - Drive Kit #1 (405-533 rpm) - LAPEB30/36AY	83M83	⊗	⊗	⊗	
		208/230V - Drive Kit #2 (531-731 rpm) - LAPEB30/36BY	84M34	⊗	⊗	⊗	
		208/230V - Drive Kit #3 (731-932 rpm) - LAPEB30/36CY	84M35	⊗	⊗	⊗	
		460V - Drive Kit #1 (405-533 rpm) - LAPEB30/36AG	83M84	⊗	⊗	⊗	
		460V - Drive Kit #2 (531-731 rpm) - LAPEB30/36BG	84M36	⊗	⊗	⊗	
		460V - Drive Kit #3 (731-932 rpm) - LAPEB30/36CG	84M37	⊗	⊗	⊗	
		575V - Drive Kit #1 (405-533 rpm) - LAPEB30/36AJ	83M85	⊗	⊗	⊗	
		575V - Drive Kit #2 (531-731 rpm) - LAPEB30/36BJ	84M38	⊗	⊗	⊗	
		575V - Drive Kit #3 (731-932 rpm) - LAPEB30/36CJ	84M39	⊗	⊗	⊗	
		100%	208/230V - Drive Kit #1 (406-533 rpm) - LAPEB30/36DY	83M86	⊗	⊗	⊗
			208/230V - Drive Kit #2 (531-731 rpm) - LAPEB30/36EY	84M40	⊗	⊗	⊗
			208/230V - Drive Kit #3 (731-932 rpm) - LAPEB30/36FY	84M41	⊗	⊗	⊗
	460V - Drive Kit #1 (406-533 rpm) - LAPEB30/36DG		83M87	⊗	⊗	⊗	
	460V - Drive Kit #2 (531-731 rpm) - LAPEB30/36EG		84M42	⊗	⊗	⊗	
	460V - Drive Kit #3 (731-932 rpm) - LAPEB30/36FG		84M43	⊗	⊗	⊗	
	575V - Drive Kit #1 (406-533 rpm) - LAPEB30/36DJ		83M88	⊗	⊗	⊗	
	575V - Drive Kit #2 (531-731 rpm) - LAPEB30/36EJ		84M44	⊗	⊗	⊗	
	575V - Drive Kit #3 (731-932 rpm) - LAPEB30/36FJ		84M45	⊗	⊗	⊗	
	100% with VFD		208/230V - LAPEV30/36GY	83M89	⊗	⊗	⊗
			460V - LAPEV30/36GG	83M90	⊗	⊗	⊗
			575V - LAPEV30/36GJ	83M91	⊗	⊗	⊗
	100% with VFD and Bypass	208/230V - LAPEV30/36HY	83M92	⊗	⊗	⊗	
		460V - LAPEV30/36HG	83M93	⊗	⊗	⊗	
		575V - LAPEV30/36HJ	83M94	⊗	⊗	⊗	
ROOF CURBS - CLIPLOCK 1000							
Down-Flow							
14 in. (356 mm) height		LARMF30/36S-14	54K58	x	x	x	
18 in. (457 mm) height		LARMF30/36S-18	54K59	x	x	x	
24 in. (610 mm) height		LARMF30/36S-24	54K60	x	x	x	
Horizontal - Requires Horizontal Air Panel Kit, order separately - Canada Only							
30 in. (762 mm) height		LARMFH30/36S-30	45K71	x	x	x	
41 in. (1041 mm) height		LARMFH30/36S-41	45K72	x	x	x	
ROOF CURBS - STANDARD							
Down-Flow							
14 in. (356 mm) height		LARMF18/36-14	16K87	x	x	x	
24 in. (610 m) height		LARMF18/36-24	16K88	x	x	x	
Horizontal							
30 in. (762 mm) height - Rooftop applications		LARMFH30/36-30	33K79	x	x	x	
41 in. (1041 mm) height - Slab applications		LARMFH30/36-41	73K33	x	x	x	
Insulation Kits							
for LARMFH30/36-30			73K33	x	x	x	
for LARMFH30/36-41			73K35	x	x	x	
CEILING DIFFUSERS							
Step-Down - Order one		LARTD30/36	35K25	x	x	x	
	(Canada Only)	LARTD30/36S	45K74	x	x	x	
Flush - Order one		LAFD30/36	35K24	x	x	x	
	(Canada Only)	LAFD30/36S	45K75	x	x	x	
Transitions (Supply and Return) Order one		LASRT30/36	33K80	x	x	x	

NOTE - The catalog and model numbers that appear here are for ordering field installed accessories only.

⊗ - Field Installed or Configure to Order (factory installed)

X - Field Installed.

SPECIFICATIONS			21 TON			
General Data	Nominal Tonnage (kW)		21 Ton	21 Ton	21 Ton	21 Ton
	Model No.		LGA248H2B	LGA248H4B	LGA248H2V	LGA248H4V
	Efficiency Type		High	High	High	High
	Blower Type		Constant Air Volume (CAV)	Constant Air Volume (CAV)	Variable Air Volume (VAV)	Variable Air Volume (VAV)
Cooling Performance	Gross Cooling Capacity - Btuh (kW)		257,000 (75.3)	257,000 (75.3)	257,000 (75.3)	257,000 (75.3)
	¹ Net Cooling Capacity - Btuh (kW)		248,000 (72.6)	248,000 (72.6)	248,000 (72.6)	248,000 (72.6)
	ARI Rated Air Flow - cfm (L/s)		8,000 (3775)	8,000 (3775)	8,000 (3775)	8,000 (3775)
	Total Unit Power (kW)		21.2	21.2	21.2	21.8
	¹ EER (Btuh/Watt)		11.7	11.7	11.7	11.4
	² Integrated Part Load Value (Btuh/Watt)		12.3	12.7	14.0	14.2
	Refrigerant Type		R-22	R-410A	R-22	R-410A
	Refrigerant Charge Furnished	Circuit 1	12 lbs. 8 oz. (5.67 kg)	13 lbs. 0 oz. (5.90 kg)	12 lbs. 8 oz. (5.67 kg)	13 lbs. 0 oz. (5.90 kg)
		Circuit 2	12 lbs. 8 oz. (5.67 kg)	13 lbs. 0 oz. (5.90 kg)	12 lbs. 8 oz. (5.67 kg)	13 lbs. 0 oz. (5.90 kg)
		Circuit 3	12 lbs. 8 oz. (5.67 kg)	13 lbs. 0 oz. (5.90 kg)	12 lbs. 8 oz. (5.67 kg)	13 lbs. 0 oz. (5.90 kg)
Circuit 4		12 lbs. 8 oz. (5.67 kg)	13 lbs. 0 oz. (5.90 kg)	12 lbs. 8 oz. (5.67 kg)	13 lbs. 0 oz. (5.90 kg)	
Compressor Type (no.)			Scroll (4)	Scroll (4)	Scroll (4)	Scroll (4)
Gas Heating Options Available - See page 14			Standard (2 Stage), Medium (2 Stage), or High (2 Stage)			
Outdoor Coils	Net face area - sq. ft. (m ²) total		70.6 (6.6)	70.6 (6.6)	70.6 (6.6)	70.6 (6.6)
	Tube diameter - in. (mm)		3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
	Number of rows		2	2	2	2
	Fins per inch (m)		20 (787)	20 (787)	20 (787)	20 (787)
Outdoor Coil Fans	Motor horsepower (W)		(6) 1/3 (249)	(6) 1/3 (249)	(6) 1/3 (249)	(6) 1/3 (249)
	Motor rpm		1075	1075	1075	1075
	Total Motor watts		2500	2500	2500	2500
	Diameter - in. (mm)		(6) 24 (610)	(6) 24 (610)	(6) 24 (610)	(6) 24 (610)
	Number of blades		3	3	3	3
	Total Air volume - cfm (L/s)		21,500 (10,145)	21,500 (10,145)	21,500 (10,145)	21,500 (10,145)
Indoor Coils	Net face area - sq. ft. (m ²) total		33.3 (3.1)	33.3 (3.1)	33.3 (3.1)	33.3 (3.1)
	Tube diameter - in. (mm)		3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
	Number of rows		3	3	3	3
	Fins per inch (m)		14 (551)	14 (551)	14 (551)	14 (551)
	Condensate Drain - number & size		(1) 1 in. NPT coupling			
³ Indoor Blower and Drive Selection	Expansion device type		Balanced Port Thermostatic Expansion Valve, removeable power head			
	Nominal motor output		5 hp (3.7 kW) - 7.5 hp (5.6 kW) - 10 hp (7.5 kW)			
	Max. usable motor output (US Only)		5.75 hp (4.3 kW) - 8.63 hp (6.4 kW) - 11.5 hp (8.6 kW)			
	Motor - Drive kit		5 hp kit #1 - 660-810 rpm kit #2 - 770-965 rpm kit #6 - 560-710 rpm 7.5 hp kit #3 - 715-880 rpm kit #4 - 770-965 rpm 10 hp kit #3 - 715-880 rpm kit #5 - 850-1045 rpm		5 hp kit #7 - 965 rpm 7.5 hp kit #8 - 965 rpm 10 hp kit #9 - 1045 rpm	
	Blower wheel nominal dia. x width		(2) 18 x 15 in. (457 x 381 mm)			
Filters	Type of filter		Disposable, pleated MERV 7 (standard) or MERV 11 (optional)			
	Number and size - in. (mm)		(12) 20 x 20 x 2 (508 x 508 x 51)			
Electrical characteristics			208/230V, 460V or 575V - 60 hertz - 3 phase			

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

¹ Tested at conditions included in with ARI Standard 340/360; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air; minimum external duct static pressure.

² Integrated Part Load Value tested at 80°F (27°C) outdoor air temperature.

³ 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

25 TON

General Data		Nominal Tonnage (kW)	25 Ton LGC300H2B	25 Ton LGC300H4B	25 Ton LGC300H2V	25 Ton LGC300H4V
		Model No.				
		Efficiency Type	High	High	High	High
		Blower Type	Constant Air Volume (CAV)	Constant Air Volume (CAV)	Variable Air Volume (VAV)	Variable Air Volume (VAV)
Cooling Performance	Gross Cooling Capacity - Btuh (kW)		311,000 (91.1)	311,000 (91.1)	311,000 (91.1)	311,000 (91.1)
	¹ Net Cooling Capacity - Btuh (kW)		300,000 (87.9)	300,000 (87.9)	300,000 (87.9)	300,000 (87.9)
	ARI Rated Air Flow - cfm (L/s)		9500 (4484)	9500 (4484)	9500 (4484)	9500 (4484)
	Total Unit Power (kW)		27.3	27.3	27.3	27.3
	¹ EER (Btuh/Watt)		11.0	11.0	11.0	11.0
	² Integrated Part Load Value (Btuh/Watt)		11.5	11.8	13.4	14.0
	Refrigerant Type		R-22	R-410A	R-22	R-410A
	Refrigerant Charge Furnished		Circuit 1	11 lbs. 0 oz. (4.99 kg)	13 lbs. 0 oz. (5.9 kg)	12 lbs. 0 oz. (5.44 kg)
		Circuit 2	11 lbs. 0 oz. (4.99 kg)	13 lbs. 0 oz. (5.9 kg)	12 lbs. 0 oz. (5.44 kg)	13 lbs. 0 oz. (5.9 kg)
		Circuit 3	11 lbs. 0 oz. (4.99 kg)	13 lbs. 0 oz. (5.9 kg)	12 lbs. 0 oz. (5.44 kg)	13 lbs. 0 oz. (5.9 kg)
		Circuit 4	11 lbs. 0 oz. (4.99 kg)	13 lbs. 0 oz. (5.9 kg)	12 lbs. 0 oz. (5.44 kg)	13 lbs. 0 oz. (5.9 kg)
Gas Heating Options Available - See page 14			Standard (2 Stage), Medium (2 Stage), or High (2 Stage)			
Compressor Type (no.)			Scroll (4)	Scroll (4)	Scroll (4)	Scroll (4)
Outdoor Coils	Net face area - sq. ft. (m ²) total		70.6 (6.6)	70.6 (6.6)	70.6 (6.6)	70.6 (6.6)
	Tube diameter - in. (mm)		3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
	Number of rows		2	2	2	2
	Fins per inch (m)		20 (787)	20 (787)	20 (787)	20 (787)
Outdoor Coil Fans	Motor horsepower (W)		(6) 1/3 (249)	(6) 1/3 (249)	(6) 1/3 (249)	(6) 1/3 (249)
	Motor rpm		1075	1075	1075	1075
	Total Motor watts		2500	2500	2500	2500
	Diameter - in. (mm)		(6) 24 (610)	(6) 24 (610)	(6) 24 (610)	(6) 24 (610)
	Number of blades		3	3	3	3
	Total Air volume - cfm (L/s)		21,500 (10,145)	21,500 (10,145)	21,500 (10,145)	21,500 (10,145)
Evaporator Coils	Net face area - sq. ft. (m ²) total		33.3 (3.1)	33.3 (3.1)	33.3 (3.1)	33.3 (3.1)
	Tube diameter - in. (mm)		3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
	Number of rows		3	3	3	3
	Fins per inch (m)		14 (551)	14 (551)	14 (551)	14 (551)
	Condensate Drain - number and size		(1) 1 in. NPT coupling			
	Expansion device type		Balanced Port Thermostatic Expansion Valve, removeable power head			
³ Indoor Blower and Drive Selection	Nominal motor output		5 hp (3.7 kW) - 7.5 hp (5.6 kW) - 10 hp (7.5 kW)			
	Max. usable motor output (US Only)		5.75 hp (4.3 kW) - 8.63 hp (6.4 kW) - 11.5 hp (8.6 kW)			
	Motor - Drive kit		5 hp kit #1 - 660 - 810 rpm kit #2 - 770 - 965 rpm kit #6 - 560 - 710 rpm 7.5 hp kit# 3 - 715 - 880 rpm kit# 4 - 770 - 965 rpm 10 hp kit #3 - 715-880 rpm kit #5 - 850 - 1045 rpm		5 hp kit #7 - 965 rpm 7.5 hp kit #8 - 965 rpm 10 hp kit #9 - 1045 rpm	
	Blower wheel nominal diameter x width		(2) 18 x 15 in. (457 x 381 mm)			
Filters	Type of filter		Disposable, pleated MERV 7 (standard) or MERV 11 (optional)			
	Number and size - in. (mm)		(12) 20 x 20 x 2 (508 x 508 x 51)			
Electrical characteristics			208/230V, 460V or 575V - 60 hertz - 3 phase			

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

¹ Tested at conditions included in with ARI Standard 340/360; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air; minimum external duct static pressure.

² Integrated Part Load Value tested at 80°F (27°C) outdoor air temperature.

³ Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of CAV motors furnished are shown. For VAV models and 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

30 TON

General Data		Nominal Tonnage (kW)	30 Ton			
		Model No.	LGC360H2B	LGC360H4B	LGC360H2V	LGC360H4V
		Efficiency Type	High	High	High	High
		Blower Type	Constant Air Volume (CAV)	Constant Air Volume (CAV)	Variable Air Volume (VAV)	Variable Air Volume (VAV)
Cooling Performance	Gross Cooling Capacity - Btuh (kW)		351,000 (102.8)	359,000 (105.1)	351,000 (102.8)	359,000 (105.1)
	¹ Net Cooling Capacity - Btuh (kW)		336,000 (98.4)	344,000 (100.7)	336,000 (98.4)	344,000 (100.7)
	ARI Rated Air Flow - cfm (L/s)		10,500 (4955)	10,500 (4955)	10,500 (4955)	10,500 (4955)
	Total Unit Power (kW)		33.3	34.1	33.3	34.1
	¹ EER (Btuh/Watt)		10.1	10.1	10.1	10.1
	² Integrated Part Load Value (Btuh/Watt)		10.6	11.2	13.0	13.2
	Refrigerant Type		R-22	R-410A	R-22	R-410A
	Refrigerant Charge Furnished	Circuit 1	12 lbs. 8 oz. (5.67 kg)	13 lbs. 0 oz. (5.90 kg)	12 lbs. 8 oz. (5.67 kg)	13 lbs. 0 oz. (5.90 kg)
		Circuit 2	12 lbs. 8 oz. (5.67 kg)	13 lbs. 0 oz. (5.90 kg)	12 lbs. 8 oz. (5.67 kg)	13 lbs. 0 oz. (5.90 kg)
		Circuit 3	12 lbs. 8 oz. (5.67 kg)	13 lbs. 0 oz. (5.90 kg)	12 lbs. 8 oz. (5.67 kg)	13 lbs. 0 oz. (5.90 kg)
Circuit 4		12 lbs. 8 oz. (5.67 kg)	13 lbs. 0 oz. (5.90 kg)	12 lbs. 8 oz. (5.67 kg)	13 lbs. 0 oz. (5.90 kg)	
Gas Heating Options Available - See page 14			Standard (2 Stage), Medium (2 Stage), or High (2 Stage)			
Compressor Type (no.)			Scroll (4)	Scroll (4)	Scroll (4)	Scroll (4)
Outdoor Coils	Net face area - sq. ft. (m ²) total		70.6 (6.6)	70.6 (6.6)	70.6 (6.6)	70.6 (6.6)
	Tube diameter - in. (mm)		3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
	Number of rows		2	2	2	2
	Fins per inch (m)		20 (787)	20 (787)	20 (787)	20 (787)
Outdoor Coil Fans	Motor horsepower (W)		(6) 1/3 (249)	(6) 1/3 (249)	(6) 1/3 (249)	(6) 1/3 (249)
	Motor rpm		1075	1075	1075	1075
	Total Motor watts		2500	2500	2500	2500
	Diameter - in. (mm)		(6) 24 (610)	(6) 24 (610)	(6) 24 (610)	(6) 24 (610)
	Number of blades		3	3	3	3
	Total Air volume - cfm (L/s)		21,500 (10,145)	21,500 (10,145)	21,500 (10,145)	21,500 (10,145)
Evaporator Coils	Net face area - sq. ft. (m ²) total		33.3 (3.1)	33.3 (3.1)	33.3 (3.1)	33.3 (3.1)
	Tube diameter - in. (mm)		3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
	Number of rows		3	3	3	3
	Fins per inch (m)		14 (551)	14 (551)	14 (551)	14 (551)
	Condensate Drain - number & size		(1) 1 in. NPT coupling			
Expansion device type			Balanced Port Thermostatic Expansion Valve, removeable power head			
³ Indoor Blower and Drive Selection	Nominal motor output		5 hp (3.7 kW) - 7.5 hp (5.6 kW) - 10 hp (7.5 kW)			
	Max. usable motor output (US Only)		5.75 hp (4.3 kW) - 8.63 hp (6.4 kW) - 11.5 hp (8.6 kW)			
	Motor - Drive kit		5 hp kit #1 - 660 - 810 rpm kit #2 - 770 - 965 rpm kit #6 - 560 - 710 rpm 7.5 hp kit #3 - 715 - 880 rpm kit#4 - 770 - 965 rpm 10 hp kit #3 - 715 - 880 rpm kit #5 - 850 - 1045 rpm		5 hp kit #7 - 965 rpm 7.5 hp kit#8 - 965 rpm 10 hp kit #9 - 1045 rpm	
Blower wheel nominal diameter x width			(2) 18 x 15 in. (457 x 381 mm)			
Filters	Type of filter		Disposable, pleated MERV 7 (standard) or MERV 11 (optional)			
	Number and size - in. (mm)		(12) 20 x 20 x 2 (508 x 508 x 51)			
Electrical characteristics			208/230V, 460V or 575V - 60 hertz - 3 phase			

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

¹ Tested at conditions included in with ARI Standard 340/360; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air; minimum external duct static pressure.

² Integrated Part Load Value tested at 80°F (27°C) outdoor air temperature.

³ Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of CAV motors furnished are shown. On VAV models and in Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

SPECIFICATIONS - GAS HEAT

Gas Heating Performance	Heat Input Type		Standard (2 Stage)	Medium (2 Stage)	High (2 Stage)
	Input - Btuh (KW)	First Stage	169,000 (49.5)	234,000 (68.6)	312,000 (91.4)
		Second Stage	260,000 (76.2)	360,000 (105.5)	480,000 (140.6)
	Output - Btuh (kW)	First Stage	- - -	- - -	- - -
		Second Stage	208,000 (60.9)	288,000 (84.4)	384,000 (112.5)
	CSA Thermal Efficiency		80.0%		
Gas Supply Connections		1 in. npt			
Recommended Gas Supply Pressure - Natural		7 in. w.g. (1.7 kPa)			
LPG/Propane		11 in. w.g. (2.7 kPa)			

HIGH ALTITUDE DERATE

Units may be installed at altitudes up to 2000 feet (610 m) above sea level without any modification. At altitudes above 2000 feet (610 m), units must be derated to match gas manifold pressures shown in table below. NOTE - This is the only permissible derate for these units.

Altitude - ft. (m)	Natural Gas		LPG/Propane	
	in. w.g.	kPa	in. w.g.	kPa
2001 - 3000 (610 - 915)	3.6	0.90	10.2	2.54
3001 - 4000 (915 - 1220)	3.5	0.87	9.9	2.46
4001 - 5000 (1220 - 1525)	3.4	0.85	9.6	2.39
5001 - 6000 (1525 - 1830)	3.3	0.82	9.4	2.34
6001 - 7000 (1830 - 2135)	3.2	0.80	9.1	2.26
7001 - 8000 (2135 - 2440)	3.1	0.77	8.8	2.19

COOLING RATINGS

21 TON

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

21 TON HIGH EFFICIENCY (R-22/CAV) TWO COMPRESSORS OPERATING

LGA248H2B

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
	Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb				
				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C		
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW		
63°F (17°C)	6720	3170	123.2	36.1	5.56	.58	.74	.92	119.8	35.1	6.23	.59	.76	.94	116.1	34.0	7.00	.59	.77	.96	112.2	32.9	7.89	.60	.79	.98
	8400	3965	128.1	37.5	5.59	.63	.84	1.00	124.6	36.5	6.25	.64	.86	1.00	120.7	35.4	7.03	.66	.88	1.00	116.5	34.1	7.93	.67	.91	1.00
	10080	4760	132.0	38.7	5.63	.70	.93	1.00	128.3	37.6	6.29	.71	.95	1.00	124.6	36.5	7.06	.73	.97	1.00	120.5	35.3	7.95	.75	.99	1.00
67°F (19°C)	6720	3170	131.1	38.4	5.61	.46	.56	.69	127.5	37.4	6.29	.46	.56	.71	123.6	36.2	7.06	.46	.57	.72	119.3	35.0	7.95	.47	.58	.74
	8400	3965	135.6	39.7	5.65	.48	.60	.79	131.7	38.6	6.32	.48	.61	.81	127.5	37.4	7.09	.49	.62	.83	123.0	36.0	7.99	.50	.64	.86
	10080	4760	138.9	40.7	5.68	.50	.66	.89	134.8	39.5	6.34	.51	.68	.91	130.4	38.2	7.12	.52	.70	.93	125.7	36.8	8.01	.52	.72	.96
71°F (22°C)	6720	3170	139.9	41.0	5.69	.35	.44	.54	136.0	39.9	6.35	.35	.45	.54	131.7	38.6	7.13	.35	.45	.55	127.3	37.3	8.02	.35	.45	.56
	8400	3965	144.4	42.3	5.72	.35	.47	.58	140.3	41.1	6.39	.36	.47	.59	135.8	39.8	7.15	.36	.48	.60	130.9	38.4	8.06	.36	.49	.61
	10080	4760	147.5	43.2	5.75	.36	.49	.63	143.1	41.9	6.41	.37	.50	.65	138.5	40.6	7.19	.37	.51	.67	133.4	39.1	8.09	.37	.52	.69

21 TON HIGH EFFICIENCY (R-22/CAV) ALL COMPRESSORS OPERATING

LGA248H2B

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	75°F 24°C	80°F 27°C	85°F 29°C	75°F 24°C		80°F 27°C	85°F 29°C	75°F 24°C	80°F 27°C	85°F 29°C		75°F 24°C	80°F 27°C	85°F 29°C	75°F 24°C	80°F 27°C		85°F 29°C								
	cfm	L/s	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW
63°F (17°C)	6720	3170	244.2	71.6	14.08	.69	.84	.97	235.8	69.1	15.88	.70	.85	.99	227.2	66.6	17.94	.71	.87	1.00	217.8	63.8	20.30	.73	.89	1.00
	8400	3965	253.6	74.3	14.14	.75	.92	1.00	245.0	71.8	15.94	.76	.93	1.00	236.0	69.2	18.02	.78	.95	1.00	226.4	66.4	20.38	.80	.97	1.00
	10080	4760	261.8	76.7	14.22	.80	.98	1.00	253.2	74.2	16.02	.82	.99	1.00	244.4	71.6	18.06	.84	1.00	1.00	235.4	69.0	20.46	.86	1.00	1.00
67°F (19°C)	6720	3170	259.8	76.1	14.20	.54	.67	.80	250.8	73.5	16.00	.55	.68	.81	241.4	70.7	18.06	.56	.69	.83	231.2	67.8	20.42	.56	.70	.85
	8400	3965	268.2	78.6	14.26	.57	.72	.88	258.8	75.8	16.06	.58	.74	.90	248.8	72.9	18.14	.59	.75	.92	238.2	69.8	20.50	.60	.77	.94
	10080	4760	274.0	80.3	14.34	.61	.78	.95	264.4	77.5	16.12	.62	.80	.97	254.0	74.4	18.20	.63	.82	.99	243.2	71.3	20.56	.64	.84	1.00
71°F (22°C)	6720	3170	277.0	81.2	14.34	.41	.53	.64	267.4	78.4	16.14	.41	.53	.65	257.4	75.4	18.22	.41	.54	.67	246.8	72.3	20.58	.42	.55	.68
	8400	3965	285.4	83.6	14.42	.42	.56	.70	275.2	80.7	16.22	.42	.57	.71	264.6	77.5	18.28	.43	.58	.73	253.2	74.2	20.66	.43	.59	.75
	10080	4760	291.0	85.3	14.46	.43	.60	.76	280.4	82.2	16.26	.44	.60	.77	269.4	79.0	18.34	.44	.62	.79	257.8	75.6	20.70	.44	.63	.82

21 TON HIGH EFFICIENCY (R-410A/CAV) TWO COMPRESSORS OPERATING

LGA248H4B

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C		
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW		
63°F (17°C)	6720	3170	128.2	37.6	5.25	.54	.71	.91	123.4	36.2	6.08	.55	.74	.94	118.3	34.7	6.95	.56	.76	.97	112.9	33.1	7.91	.57	.80	1.00
	8400	3965	133.5	39.1	5.29	.59	.82	1.00	128.4	37.6	6.11	.61	.85	1.00	123.0	36.0	6.99	.63	.88	1.00	117.4	34.4	7.97	.66	.92	1.00
	10080	4760	137.6	40.3	5.33	.66	.92	1.00	132.5	38.8	6.15	.69	.95	1.00	127.2	37.3	7.03	.71	.98	1.00	121.7	35.7	7.99	.75	1.00	1.00
67°F (19°C)	6720	3170	136.6	40.0	5.31	.43	.52	.66	131.5	38.5	6.14	.43	.53	.68	126.0	36.9	7.02	.44	.54	.71	120.2	35.2	7.99	.44	.55	.74
	8400	3965	141.5	41.5	5.35	.45	.56	.77	136.0	39.9	6.17	.46	.57	.80	130.1	38.1	7.06	.46	.59	.83	123.9	36.3	8.03	.47	.62	.87
	10080	4760	144.8	42.4	5.38	.47	.63	.87	139.1	40.8	6.21	.48	.65	.91	133.0	39.0	7.09	.49	.68	.94	126.6	37.1	8.05	.50	.72	.98
71°F (22°C)	6720	3170	145.9	42.8	5.39	.33	.41	.50	140.4	41.1	6.22	.33	.42	.51	134.6	39.4	7.11	.33	.42	.52	128.3	37.6	8.07	.33	.43	.53
	8400	3965	150.7	44.2	5.43	.33	.44	.54	144.8	42.4	6.26	.33	.44	.55	138.6	40.6	7.15	.34	.45	.57	132.0	38.7	8.11	.34	.46	.59
	10080	4760	153.9	45.1	5.46	.34	.46	.59	147.8	43.3	6.29	.34	.47	.62	141.3	41.4	7.18	.35	.48	.65	134.4	39.4	8.15	.35	.49	.68

21 TON HIGH EFFICIENCY (R-410A/CAV) ALL COMPRESSORS OPERATING

LGA248H4B

Outdoor Air Temperature Entering Outdoor Coil																										
Entering Wet Bulb Temperature	Total Air Volume		85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C		
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW		
63°F (17°C)	6720	3170	247.6	72.6	13.94	.66	.82	.98	236.2	69.2	15.86	.68	.84	1.00	223.6	65.5	18.06	.69	.88	1.00	210.2	61.6	20.50	.71	.92	1.00
	8400	3965	257.2	75.4	14.02	.72	.92	1.00	245.4	71.9	15.98	.74	.94	1.00	232.8	68.2	18.14	.77	.97	1.00	219.8	64.4	20.58	.80	1.00	1.00
	10080	4760	266.0	78.0	14.10	.78	.99	1.00	254.4	74.6	16.02	.81	1.00	1.00	242.4	71.0	18.22	.84	1.00	1.00	229.4	67.2	20.66	.88	1.00	1.00
67°F (19°C)	6720	3170	263.4	77.2	14.08	.52	.64	.78	251.2	73.6	16.02	.53	.65	.80	237.8	69.7	18.18	.53	.67	.83	223.2	65.4	20.62	.55	.69	.87
	8400	3965	272.0	79.7	14.16	.55	.69	.87	259.0	75.9	16.10	.56	.71	.90	244.8	71.7	18.26	.57	.74	.94	229.8	67.3	20.70	.59	.77	.98
	10080	4760	278.2	81.5	14.22	.58	.76	.96	264.6	77.5	16.16	.59	.78	.98	250.0	73.3	18.30	.61	.82	1.00	234.6	68.8	20.74	.63	.86	1.00
71°F (22°C)	6720	3170	281.4	82.5	14.24	.39	.50	.62	268.2	78.6	16.18	.39	.51	.63	253.8	74.4	18.36	.39	.52	.65	238.4	69.9	20.80	.40	.53	.67
	8400	3965	289.8	84.9	14.34	.40	.54	.67	275.6	80.8	16.26	.40	.55	.69	260.8	76.4	18.42	.41	.56	.71	244.4	71.6	20.86	.41	.58	.74
	10080	4760	295.4	86.6	14.40	.41	.57	.73	280.8	82.3	16.34	.42	.58	.76	265.2	77.7	18.48	.42	.60	.79	248.4	72.8	20.90	.43	.62	.83

COOLING RATINGS

21 TON

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

21 TON HIGH EFFICIENCY (R-22/VAV) ONE COMPRESSOR OPERATING

LGA248H2V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
	Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb				
				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C		
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW		
63°F (17°C)	1680	795	49.3	14.4	4.32	.64	.72	.80	48.1	14.1	4.84	.64	.72	.80	46.7	13.7	5.45	.64	.73	.81	45.2	13.2	6.16	.64	.73	.82
	2100	990	52.9	15.5	4.36	.65	.74	.84	51.4	15.1	4.88	.65	.75	.84	49.9	14.6	5.49	.66	.76	.85	48.1	14.1	6.19	.66	.77	.87
	2520	1190	55.4	16.2	4.38	.67	.77	.88	53.8	15.8	4.91	.67	.78	.89	52.1	15.3	5.52	.68	.79	.90	50.2	14.7	6.22	.69	.80	.92
67°F (19°C)	1680	795	53.0	15.5	4.36	.53	.61	.68	51.7	15.2	4.88	.53	.61	.68	50.2	14.7	5.50	.53	.61	.69	48.6	14.2	6.20	.53	.61	.69
	2100	990	56.7	16.6	4.40	.53	.62	.71	55.1	16.1	4.92	.53	.62	.71	53.4	15.6	5.53	.54	.63	.72	51.6	15.1	6.24	.54	.63	.73
	2520	1190	59.3	17.4	4.43	.54	.64	.74	57.6	16.9	4.95	.54	.65	.75	55.7	16.3	5.56	.55	.65	.76	53.7	15.7	6.26	.55	.66	.77
71°F (22°C)	1680	795	56.9	16.7	4.40	.43	.50	.57	55.5	16.3	4.93	.43	.50	.58	53.9	15.8	5.54	.43	.50	.58	52.1	15.3	6.25	.43	.51	.58
	2100	990	60.8	17.8	4.45	.43	.51	.59	59.1	17.3	4.97	.43	.51	.59	57.3	16.8	5.58	.42	.51	.60	55.3	16.2	6.28	.42	.52	.60
	2520	1190	63.5	18.6	4.48	.42	.52	.61	61.7	18.1	5.00	.42	.52	.62	59.6	17.5	5.61	.42	.52	.62	57.5	16.9	6.32	.43	.53	.63

21 TON HIGH EFFICIENCY (R-22/VAV) TWO COMPRESSORS OPERATING

LGA248H2V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
	63°F (17°C)	3570	1685	135.1	39.6	7.45	.73	.87	.99	131.2	38.5	8.33	.74	.88	1.00	127.0	37.2	9.36	.75	.89	1.00	122.4	35.9	10.54	.76	.91
4200		1980	139.0	40.7	7.49	.76	.91	1.00	134.9	39.5	8.36	.77	.93	1.00	130.5	38.2	9.39	.79	.94	1.00	125.8	36.9	10.58	.80	.96	1.00
4830		2280	142.2	41.7	7.52	.80	.96	1.00	138.1	40.5	8.40	.81	.97	1.00	133.5	39.1	9.43	.83	.99	1.00	128.8	37.7	10.61	.84	1.00	1.00
67°F (19°C)	3570	1685	144.3	42.3	7.54	.57	.70	.83	140.0	41.0	8.41	.58	.71	.84	135.4	39.7	9.44	.58	.72	.86	130.3	38.2	10.62	.59	.73	.87
	4200	1980	147.9	43.3	7.57	.59	.74	.88	143.4	42.0	8.45	.60	.75	.89	138.6	40.6	9.48	.61	.76	.91	133.4	39.1	10.66	.61	.78	.93
	4830	2280	150.7	44.2	7.60	.62	.78	.93	146.0	42.8	8.47	.62	.79	.94	141.0	41.3	9.50	.63	.80	.96	135.6	39.7	10.68	.64	.82	.98
71°F (22°C)	3570	1685	154.0	45.1	7.62	.43	.56	.68	149.4	43.8	8.50	.43	.56	.68	144.4	42.3	9.53	.44	.57	.70	139.2	40.8	10.72	.44	.57	.71
	4200	1980	157.8	46.2	7.67	.44	.58	.71	152.9	44.8	8.55	.44	.58	.73	147.7	43.3	9.57	.45	.59	.74	142.1	41.6	10.75	.45	.60	.75
	4830	2280	160.6	47.1	7.69	.45	.60	.75	155.5	45.6	8.57	.45	.61	.77	150.1	44.0	9.60	.46	.62	.78	144.4	42.3	10.78	.46	.63	.80

21 TON HIGH EFFICIENCY (R-22/VAV) THREE COMPRESSORS OPERATING

LGA248H2V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																											
			65°F (18°C)							75°F (24°C)							85°F (29°C)							95°F (35°C)						
			Total Cooling Capacity	Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity	Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity	Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity	Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb										
	75°F 24°C	80°F 27°C			85°F 29°C	75°F 24°C	80°F 27°C			85°F 29°C	75°F 24°C	80°F 27°C			85°F 29°C	75°F 24°C	80°F 27°C			85°F 29°C										
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW						
63°F (17°C)	5040	2380	197.1	57.8	11.48	.69	.89	1.00	191.5	56.1	12.83	.70	.91	1.00	185.6	54.4	14.41	.71	.93	1.00	179.2	52.5	16.23	.73	.95	1.00				
	6300	2975	205.0	60.1	11.55	.75	.97	1.00	199.5	58.5	12.90	.77	.98	1.00	193.5	56.7	14.47	.79	.99	1.00	187.2	54.9	16.32	.81	1.00	1.00				
	7560	3570	212.2	62.2	11.62	.83	1.00	1.00	206.5	60.5	12.98	.85	1.00	1.00	200.3	58.7	14.56	.87	1.00	1.00	193.9	56.8	16.38	.89	1.00	1.00				
67°F (19°C)	5040	2380	208.9	61.2	11.59	.53	.67	.85	202.7	59.4	12.93	.54	.68	.86	195.9	57.4	14.52	.54	.69	.89	188.7	55.3	16.34	.55	.71	.91				
	6300	2975	214.3	62.8	11.64	.57	.73	.95	207.7	60.9	12.99	.57	.74	.96	200.7	58.8	14.57	.58	.76	.97	193.3	56.7	16.39	.59	.78	.99				
	7560	3570	218.3	64.0	11.68	.60	.80	.99	211.6	62.0	13.03	.61	.82	1.00	204.5	59.9	14.62	.62	.84	1.00	196.9	57.7	16.45	.63	.87	1.00				
71°F (22°C)	5040	2380	222.5	65.2	11.73	.39	.52	.65	215.7	63.2	13.07	.39	.52	.66	208.4	61.1	14.65	.39	.53	.67	200.8	58.8	16.48	.39	.54	.69				
	6300	2975	227.5	66.7	11.78	.40	.56	.71	220.5	64.6	13.13	.40	.57	.72	212.9	62.4	14.70	.41	.57	.74	204.9	60.1	16.53	.41	.59	.76				
	7560	3570	231.1	67.7	11.82	.42	.60	.78	223.8	65.6	13.17	.42	.60	.80	216.1	63.3	14.75	.42	.62	.82	207.8	60.9	16.57	.43	.63	.84				

21 TON HIGH EFFICIENCY (R-22/VAV) FOUR COMPRESSORS OPERATING

LGA248H2V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
	Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb				
				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C		
	cfm	L/s	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW
63°F (17°C)	6720	3170	244.4	71.6	17.92	.71	.98	1.00	236.4	69.3	20.18	.72	1.00	1.00	228.2	66.9	22.77	.73	1.00	1.00	219.5	64.3	25.76	.75	1.00	1.00
	8400	3965	254.7	74.6	18.02	.76	1.00	1.00	246.4	72.2	20.28	.80	1.00	1.00	237.6	69.6	22.89	.85	1.00	1.00	228.2	66.9	25.86	.89	1.00	1.00
	10080	4760	262.3	76.9	18.09	.89	1.00	1.00	253.6	74.3	20.37	.92	1.00	1.00	244.5	71.7	22.98	.95	1.00	1.00	234.8	68.8	25.93	.99	1.00	1.00
67°F (19°C)	6720	3170	253.0	74.1	18.00	.53	.69	.93	243.8	71.5	20.28	.54	.71	.96	234.0	68.6	22.87	.55	.72	.99	224.0	65.6	25.84	.56	.74	1.00
	8400	3965	258.7	75.8	18.09	.58	.75	1.00	249.3	73.1	20.35	.59	.76	1.00	239.7	70.2	22.94	.60	.81	1.00	229.7	67.3	25.91	.62	.85	1.00
	10080	4760	264.1	77.4	18.14	.62	.85	1.00	254.8	74.7	20.39	.63	.89	1.00	245.3	71.9	23.00	.65	.93	1.00	235.2	68.9	25.93	.66	.97	1.00
71°F (22°C)	6720	3170	268.2	78.6	18.17	.37	.53	.68	258.2	75.7	20.44	.37	.54	.69	247.8	72.6	23.04	.38	.55	.71	236.9	69.4	26.01	.38	.56	.72
	8400	3965	272.7	79.9	18.23	.39	.57	.74	262.3	76.9	20.49	.39	.59	.75	251.6	73.7	23.11	.40	.60	.77	246.0	70.5	26.07	.41	.61	.82
	10080	4760	276.0	80.9	18.27	.41	.62	.82	265.6	77.8	20.54	.41	.63	.86	254.7	74.6	23.11	.42	.65	.90	243.4	71.3	26.09	.43	.66	.94

COOLING RATINGS

21 TON

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

21 TON HIGH EFFICIENCY (R-410A/VAV) ONE COMPRESSOR OPERATING

LGA248H4V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
	Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb				
				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C		
	cfm	L/s	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW
63°F (17°C)	1680	795	50.2	14.7	2.85	.63	.71	.79	48.3	14.2	3.30	.63	.72	.80	46.3	13.6	3.78	.64	.73	.81	44.1	12.9	4.31	.64	.74	.83
	2100	990	53.7	15.7	2.87	.64	.74	.83	51.6	15.1	3.32	.65	.75	.85	49.4	14.5	3.80	.66	.76	.86	46.8	13.7	4.34	.67	.78	.88
	2520	1190	56.3	16.5	2.89	.66	.77	.88	54.0	15.8	3.34	.67	.78	.89	51.5	15.1	3.82	.68	.80	.91	48.8	14.3	4.35	.69	.82	.93
67°F (19°C)	1680	795	53.9	15.8	2.87	.52	.60	.68	52.0	15.2	3.32	.53	.60	.68	49.8	14.6	3.81	.53	.61	.69	47.4	13.9	4.34	.53	.61	.70
	2100	990	57.7	16.9	2.90	.53	.62	.70	55.4	16.2	3.35	.53	.62	.71	53.0	15.5	3.84	.53	.63	.72	50.3	14.7	4.37	.54	.64	.74
	2520	1190	60.4	17.7	2.92	.54	.64	.74	57.9	17.0	3.37	.54	.64	.75	55.2	16.2	3.86	.54	.65	.76	52.3	15.3	4.39	.55	.67	.78
71°F (22°C)	1680	795	58.0	17.0	2.90	.43	.50	.57	55.9	16.4	3.36	.43	.50	.57	53.5	15.7	3.85	.42	.50	.58	51.0	14.9	4.38	.42	.50	.58
	2100	990	61.9	18.1	2.93	.42	.50	.59	59.5	17.4	3.39	.42	.51	.59	56.8	16.6	3.88	.42	.51	.60	53.9	15.8	4.41	.42	.51	.61
	2520	1190	64.7	19.0	2.95	.42	.51	.61	62.0	18.2	3.41	.42	.52	.61	59.1	17.3	3.90	.42	.52	.63	56.0	16.4	4.43	.42	.53	.64

21 TON HIGH EFFICIENCY (R-410A/VAV) TWO COMPRESSORS OPERATING

LGA248H4V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																																			
			65°F (18°C)									75°F (24°C)									85°F (29°C)									95°F (35°C)								
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb														
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C														
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW														
63°F (17°C)	3570	1685	128.2	37.6	5.46	.75	.85	.95	123.8	36.3	6.31	.76	.86	.96	119.0	34.9	7.24	.76	.87	.97	113.7	33.3	8.25	.77	.88	.99												
	4200	1980	134.7	39.5	5.49	.77	.88	.98	129.8	38.0	6.35	.77	.89	1.00	124.6	36.5	7.27	.78	.90	1.00	118.9	34.8	8.30	.79	.91	1.00												
	4830	2280	140.0	41.0	5.52	.78	.90	1.00	134.7	39.5	6.38	.79	.91	1.00	129.0	37.8	7.31	.80	.93	1.00	122.9	36.0	8.33	.81	.95	1.00												
67°F (19°C)	3570	1685	137.8	40.4	5.51	.63	.72	.81	133.1	39.0	6.37	.63	.72	.82	128.0	37.5	7.31	.63	.73	.83	122.4	35.9	8.33	.63	.73	.84												
	4200	1980	144.8	42.4	5.55	.63	.73	.83	139.5	40.9	6.41	.63	.74	.84	133.9	39.2	7.35	.63	.74	.85	127.8	37.5	8.37	.64	.75	.87												
	4830	2280	150.2	44.0	5.58	.63	.75	.86	144.6	42.4	6.45	.64	.76	.87	138.6	40.6	7.38	.64	.76	.89	132.0	38.7	8.39	.65	.78	.91												
71°F (22°C)	3570	1685	148.3	43.5	5.57	.51	.59	.68	143.1	41.9	6.45	.51	.60	.68	137.6	40.3	7.38	.50	.60	.69	131.6	38.6	8.40	.50	.60	.70												
	4200	1980	155.4	45.5	5.61	.50	.60	.70	149.8	43.9	6.49	.50	.60	.70	143.7	42.1	7.43	.50	.61	.71	137.1	40.2	8.45	.50	.61	.72												
	4830	2280	161.1	47.2	5.65	.50	.61	.71	155.0	45.4	6.53	.50	.61	.72	148.4	43.5	7.47	.50	.62	.73	141.4	41.4	8.49	.50	.62	.74												

21 TON HIGH EFFICIENCY (R-410A/VAV) THREE COMPRESSORS OPERATING

LGA248H4V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																																			
			65°F (18°C)									75°F (24°C)									85°F (29°C)									95°F (35°C)								
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb														
	kBtuh	kW	75°F 24°C	80°F 27°C		85°F 29°C	kBtuh	kW	75°F 24°C	80°F 27°C		85°F 29°C	kBtuh	kW	75°F 24°C	80°F 27°C		85°F 29°C	kBtuh	kW	75°F 24°C	80°F 27°C		85°F 29°C														
	cfm	L/s																																				
63°F (17°C)	5040	2380	192.6	56.4	8.95	.72	.84	.97	185.5	54.4	10.35	.73	.86	.98	178.0	52.2	11.85	.74	.87	1.00	169.7	49.7	13.52	.75	.89	1.00												
	6300	2975	202.3	59.3	9.01	.76	.90	1.00	194.5	57.0	10.42	.77	.92	1.00	186.3	54.6	11.92	.78	.93	1.00	177.5	52.0	13.58	.79	.96	1.00												
	7560	3570	209.3	61.3	9.06	.79	.95	1.00	201.1	58.9	10.47	.81	.97	1.00	192.3	56.4	11.99	.82	1.00	1.00	183.1	53.7	13.65	.84	1.00	1.00												
67°F (19°C)	5040	2380	206.5	60.5	9.04	.59	.69	.80	199.0	58.3	10.44	.59	.70	.81	190.9	55.9	11.96	.59	.71	.83	182.1	53.4	13.63	.60	.72	.85												
	6300	2975	216.3	63.4	9.10	.60	.73	.86	208.1	61.0	10.53	.61	.73	.87	199.3	58.4	12.04	.61	.75	.89	189.7	55.6	13.71	.62	.76	.91												
	7560	3570	223.3	65.4	9.16	.62	.76	.91	214.6	62.9	10.58	.63	.77	.93	205.1	60.1	12.10	.63	.79	.95	195.1	57.2	13.76	.65	.81	.98												
71°F (22°C)	5040	2380	221.2	64.8	9.15	.46	.56	.66	213.1	62.5	10.56	.46	.56	.67	204.5	59.9	12.08	.46	.57	.68	195.0	57.1	13.76	.46	.58	.69												
	6300	2975	231.4	67.8	9.22	.46	.58	.69	222.5	65.2	10.66	.46	.59	.71	213.0	62.4	12.17	.47	.59	.72	202.9	59.5	13.84	.47	.60	.73												
	7560	3570	238.4	69.9	9.28	.47	.60	.73	229.1	67.1	10.70	.47	.61	.75	219.1	64.2	12.24	.47	.62	.76	208.4	61.1	13.90	.48	.63	.78												

21 TON HIGH EFFICIENCY (R-410A/VAV) FOUR COMPRESSORS OPERATING

LGA248H4V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																											
			85°F (29°C)							95°F (35°C)							105°F (41°C)							115°F (46°C)						
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb						
	kBtuh	kW	75°F 24°C	80°F 27°C		85°F 29°C	kBtuh	kW	75°F 24°C	80°F 27°C		85°F 29°C	kBtuh	kW	75°F 24°C	80°F 27°C		85°F 29°C	kBtuh	kW	75°F 24°C	80°F 27°C		85°F 29°C						
	cfm	L/s																												
63°F (17°C)	6720	3170	246.0	72.1	14.17	.73	.89	1.00	234.6	68.8	16.16	.74	.91	1.00	222.0	65.1	18.37	.76	.94	1.00	208.5	61.1	20.89	.78	.98	1.00				
	8400	3965	255.3	74.8	14.26	.78	.97	1.00	243.3	71.3	16.24	.80	1.00	1.00	230.4	67.5	18.47	.82	1.00	1.00	217.0	63.6	20.97	.85	1.00	1.00				
	10080	4760	262.9	77.0	14.32	.83	1.00	1.00	251.0	73.6	16.31	.86	1.00	1.00	238.5	69.9	18.52	.89	1.00	1.00	225.2	66.0	21.00	.92	1.00	1.00				
67°F (19°C)	6720	3170	262.9	77.0	14.31	.57	.70	.84	250.6	73.4	16.29	.58	.71	.87	237.1	69.5	18.50	.59	.73	.90	222.7	65.3	21.00	.60	.75	.93				
	8400	3965	277.1	79.6	14.39	.60	.75	.93	258.6	75.8	16.37	.61	.77	.96	244.7	71.7	18.57	.62	.79	.99	229.2	67.2	21.07	.64	.82	1.00				
	10080	4760	271.8	81.4	14.44	.63	.80	1.00	264.3	77.5	16.43	.64	.83	1.00	249.7	73.2	18.63	.65	.86	1.00	234.1	68.6	21.11	.67	.90	1.00				
71°F (22°C)	6720	3170	280.9	82.3	14.47	.43	.55	.67	267.9	78.5	16.45	.43	.56	.69	253.7	74.4	18.66	.44	.57	.70	238.2	69.8	21.14	.44	.58	.73				
	8400	3965	289.8	84.9	14.54	.44	.58	.72	275.8	80.8	16.53	.44	.59	.74	260.9	76.5	18.73	.45	.61	.76	244.6	71.7	21.23	.46	.62	.79				
	10080	4760	295.8	86.7	14.61	.45	.61	.78	281.5	82.5	16.58	.46	.63	.80	265.8	77.9	18.81	.46	.64	.83	249.2	73.0	21.28	.47	.66	.87				

COOLING RATINGS

25 TON

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

25 TON HIGH EFFICIENCY (R-22/CAV) TWO COMPRESSORS OPERATING

LGC300H2B

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C		
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW		
63°F (17°C)	8000	3775	157.5	46.2	8.00	.58	.73	.90	152.7	44.8	9.01	.59	.75	.92	147.9	43.3	10.09	.60	.77	.94	143.0	41.9	11.28	.60	.79	.96
	10000	4720	163.6	47.9	8.08	.63	.83	.99	158.6	46.5	9.11	.64	.85	1.00	153.6	45.0	10.20	.65	.87	1.00	148.4	43.5	11.39	.67	.89	1.00
	12000	5665	168.5	49.4	8.14	.69	.91	1.00	163.4	47.9	9.17	.71	.93	1.00	158.4	46.4	10.28	.72	.95	1.00	153.1	44.9	11.49	.74	.97	1.00
67°F (19°C)	8000	3775	167.5	49.1	8.12	.46	.56	.69	162.4	47.6	9.16	.46	.57	.70	157.1	46.0	10.26	.47	.57	.72	151.8	44.5	11.46	.47	.58	.74
	10000	4720	173.2	50.8	8.19	.48	.60	.78	167.7	49.1	9.25	.49	.61	.80	162.2	47.5	10.36	.49	.62	.82	156.5	45.9	11.57	.50	.64	.85
	12000	5665	177.2	51.9	8.25	.51	.66	.87	171.5	50.3	9.31	.51	.67	.89	165.8	48.6	10.43	.52	.69	.91	160.0	46.9	11.64	.53	.71	.94
71°F (22°C)	8000	3775	178.5	52.3	8.27	.35	.44	.54	173.0	50.7	9.33	.35	.45	.55	167.5	49.1	10.45	.35	.45	.55	161.7	47.4	11.67	.35	.46	.56
	10000	4720	184.2	54.0	8.34	.36	.47	.58	178.3	52.3	9.41	.36	.47	.59	172.4	50.5	10.55	.36	.48	.60	166.3	48.7	11.77	.36	.49	.61
	12000	5665	187.9	55.1	8.39	.37	.49	.63	181.8	53.3	9.48	.37	.50	.65	175.7	51.5	10.61	.37	.51	.66	169.5	49.7	11.85	.37	.52	.69

25 TON HIGH EFFICIENCY (R-22/CAV) ALL COMPRESSORS OPERATING

LGC300H2B

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C		
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW		
63°F (17°C)	8000	3775	294.0	86.2	18.94	.67	.82	.96	284.2	83.3	21.18	.68	.83	.97	274.0	80.3	23.66	.69	.85	.99	262.6	77.0	26.46	.70	.87	1.00
	10000	4720	305.2	89.4	19.16	.72	.90	1.00	295.2	86.5	21.38	.74	.91	1.00	284.4	83.3	23.88	.75	.93	1.00	272.8	79.9	26.74	.77	.96	1.00
	12000	5665	314.8	92.3	19.30	.78	.96	1.00	304.2	89.2	21.56	.80	.98	1.00	293.6	86.0	24.06	.82	.99	1.00	282.2	82.7	26.98	.84	1.00	1.00
67°F (19°C)	8000	3775	312.4	91.6	19.26	.53	.65	.78	301.8	88.4	21.52	.53	.66	.79	290.6	85.2	24.06	.54	.67	.81	278.4	81.6	26.88	.55	.68	.83
	10000	4720	322.4	94.5	19.46	.56	.70	.86	311.2	91.2	21.70	.56	.71	.88	299.4	87.7	24.22	.57	.73	.90	286.6	84.0	27.08	.58	.75	.92
	12000	5665	329.6	96.6	19.58	.59	.76	.93	318.0	93.2	21.84	.59	.77	.95	305.6	89.6	24.40	.60	.79	.97	292.4	85.7	27.28	.62	.81	.99
71°F (22°C)	8000	3775	332.8	97.5	19.62	.40	.51	.62	321.4	94.2	21.90	.40	.52	.63	309.4	90.7	24.48	.40	.52	.65	296.4	86.9	27.34	.40	.53	.66
	10000	4720	342.6	100.4	19.80	.41	.54	.68	330.6	96.9	22.10	.41	.55	.69	318.0	93.2	24.66	.41	.56	.70	304.4	89.2	27.54	.42	.57	.72
	12000	5665	349.4	102.4	19.94	.42	.57	.73	337.0	98.8	22.24	.42	.58	.75	323.6	94.8	24.82	.43	.59	.77	309.8	90.8	27.70	.43	.61	.79

25 TON HIGH EFFICIENCY (R-410A/CAV) TWO COMPRESSORS OPERATING

LGC300H4B

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C		
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW		
63°F (17°C)	8000	3775	149.5	43.8	7.35	.60	.76	.92	144.3	42.3	8.21	.61	.77	.94	138.7	40.6	9.19	.62	.79	.96	132.6	38.9	10.31	.63	.82	.99
	10000	4720	155.2	45.5	7.44	.65	.84	1.00	149.8	43.9	8.31	.66	.87	1.00	144.0	42.2	9.29	.68	.89	1.00	137.7	40.4	10.40	.70	.92	1.00
	12000	5665	159.8	46.8	7.52	.71	.93	1.00	154.4	45.3	8.39	.73	.95	1.00	148.5	43.5	9.37	.75	.97	1.00	142.2	41.7	10.49	.78	.99	1.00
67°F (19°C)	8000	3775	158.8	46.5	7.50	.48	.58	.71	153.3	44.9	8.38	.48	.59	.73	147.3	43.2	9.36	.49	.60	.75	140.7	41.2	10.47	.49	.61	.77
	10000	4720	164.0	48.1	7.60	.50	.62	.80	158.2	46.4	8.46	.51	.64	.83	151.9	44.5	9.44	.51	.65	.85	145.0	42.5	10.56	.52	.68	.88
	12000	5665	167.7	49.1	7.66	.53	.68	.89	161.7	47.4	8.54	.53	.70	.91	155.2	45.5	9.51	.54	.72	.94	148.1	43.4	10.62	.55	.75	.97
71°F (22°C)	8000	3775	169.1	49.6	7.68	.36	.46	.56	163.3	47.9	8.56	.36	.47	.57	156.9	46.0	9.54	.37	.47	.58	149.9	43.9	10.66	.37	.48	.59
	10000	4720	174.3	51.1	7.78	.37	.49	.60	168.1	49.3	8.65	.37	.49	.62	161.4	47.3	9.64	.37	.50	.63	154.2	45.2	10.74	.38	.51	.65
	12000	5665	177.7	52.1	7.85	.38	.52	.66	171.5	50.3	8.72	.38	.52	.67	164.5	48.2	9.70	.39	.53	.70	157.0	46.0	10.81	.39	.54	.72

25 TON HIGH EFFICIENCY (R-410A/CAV) ALL COMPRESSORS OPERATING

LGC300H4B

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C		
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW		
63°F (17°C)	8000	3775	299.2	87.7	18.72	.70	.84	.97	286.2	83.9	20.99	.71	.86	.99	272.0	79.7	23.56	.72	.88	1.00	256.6	75.2	26.58	.74	.91	1.00
	10000	4720	310.8	91.1	18.92	.75	.92	1.00	297.2	87.1	21.18	.77	.94	1.00	282.4	82.8	23.80	.79	.97	1.00	267.0	78.2	26.80	.82	.99	1.00
	12000	5665	320.4	93.9	19.08	.81	.98	1.00	307.0	90.0	21.34	.83	.99	1.00	292.8	85.8	23.98	.85	1.00	1.00	278.2	81.5	27.02	.88	1.00	1.00
67°F (19°C)	8000	3775	317.8	93.1	19.06	.55	.67	.80	303.6	89.0	21.32	.55	.69	.82	288.6	84.6	23.90	.56	.70	.85	271.8	79.7	26.91	.57	.72	.88
	10000	4720	327.8	96.1	19.22	.58	.73	.88	313.0	91.7	21.50	.59	.74	.91	296.8	87.0	24.10	.60	.77	.93	279.6	81.9	27.08	.61	.79	.96
	12000	5665	335.0	98.2	19.36	.61	.78	.95	319.6	93.7	21.62	.62	.81	.97	303.2	88.9	24.24	.63	.83	.99	285.4	83.6	27.22	.65	.86	1.00
71°F (22°C)	8000	3775	338.6	99.2	19.42	.41	.53	.65	323.6	94.8	21.72	.41	.54	.66	307.6	90.1	24.32	.41	.55	.68	290.2	85.0	27.30	.42	.56	.70
	10000	4720	348.4	102.1	19.62	.42	.56	.70	332.8	97.5	21.87	.42	.57	.72	315.8	92.6	24.49	.43	.59	.74	297.4	87.2	27.49	.43	.60	.77
	12000	5665	355.0	104.0	19.74	.43	.60	.76	339.0	99.4	22.00	.44	.61	.78	321.4	94.2	24.62	.44	.62	.81	302.4	88.6	27.60	.45	.64	.84

COOLING RATINGS

25 TON

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

25 TON HIGH EFFICIENCY (R-22/VAV) ONE COMPRESSOR OPERATING

LGC300H2V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C		
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW		
63°F (17°C)	2000	945	59.8	17.5	5.10	.60	.68	.76	58.2	17.1	5.75	.61	.69	.77	56.7	16.6	6.45	.61	.69	.77	55.0	16.1	7.22	.61	.70	.78
	2500	1180	64.2	18.8	5.19	.61	.71	.80	62.4	18.3	5.85	.62	.71	.81	60.6	17.8	6.55	.62	.72	.82	58.7	17.2	7.33	.63	.73	.83
	3000	1415	67.4	19.8	5.25	.63	.73	.84	65.4	19.2	5.92	.64	.74	.85	63.4	18.6	6.63	.64	.75	.86	61.4	18.0	7.42	.65	.76	.88
67°F (19°C)	2000	945	64.3	18.8	5.20	.50	.57	.64	62.6	18.3	5.86	.50	.57	.65	60.9	17.8	6.57	.50	.58	.65	59.1	17.3	7.35	.50	.58	.66
	2500	1180	68.9	20.2	5.28	.50	.58	.67	67.0	19.6	5.96	.51	.59	.67	65.0	19.0	6.68	.51	.59	.68	63.0	18.5	7.47	.51	.59	.69
	3000	1415	72.2	21.2	5.34	.51	.60	.70	70.1	20.5	6.03	.51	.61	.71	67.9	19.9	6.76	.51	.61	.71	65.7	19.3	7.55	.52	.62	.72
71°F (22°C)	2000	945	69.0	20.2	5.29	.41	.48	.54	67.2	19.7	5.97	.41	.48	.54	65.5	19.2	6.70	.41	.48	.55	63.5	18.6	7.49	.41	.48	.55
	2500	1180	73.8	21.6	5.38	.41	.48	.56	71.8	21.0	6.08	.41	.48	.56	69.7	20.4	6.81	.40	.48	.56	67.5	19.8	7.62	.40	.48	.57
	3000	1415	77.2	22.6	5.44	.40	.49	.57	75.0	22.0	6.15	.40	.49	.58	72.7	21.3	6.89	.40	.49	.58	70.3	20.6	7.70	.40	.50	.59

25 TON HIGH EFFICIENCY (R-22/VAV) TWO COMPRESSORS OPERATING

LGC300H2V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C		
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW		
63°F (17°C)	4000	1890	156.1	45.7	9.43	.71	.84	.97	151.3	44.3	10.63	.72	.85	.98	146.5	42.9	11.92	.73	.87	1.00	141.5	41.5	13.32	.74	.88	1.00
	5000	2360	162.4	47.6	9.54	.75	.91	1.00	157.4	46.1	10.74	.77	.92	1.00	152.2	44.6	12.03	.78	.94	1.00	147.0	43.1	13.44	.79	.95	1.00
	6000	2830	167.4	49.1	9.61	.80	.97	1.00	162.0	47.5	10.84	.82	.98	1.00	156.8	46.0	12.15	.83	1.00	1.00	151.4	44.4	13.56	.84	1.00	1.00
67°F (19°C)	4000	1890	166.8	48.9	9.59	.57	.68	.81	161.5	47.3	10.83	.57	.69	.82	156.3	45.8	12.13	.57	.70	.83	150.9	44.2	13.55	.58	.71	.85
	5000	2360	172.7	50.6	9.70	.59	.73	.87	167.2	49.0	10.95	.60	.74	.89	161.6	47.4	12.25	.60	.75	.90	155.9	45.7	13.69	.61	.76	.92
	6000	2830	177.0	51.9	9.76	.62	.78	.94	171.2	50.2	11.02	.62	.79	.95	165.3	48.4	12.35	.63	.80	.97	159.4	46.7	13.78	.64	.82	.99
71°F (22°C)	4000	1890	177.9	52.1	9.77	.43	.55	.66	172.4	50.5	11.04	.43	.55	.66	166.8	48.9	12.36	.44	.56	.67	161.0	47.2	13.81	.44	.56	.68
	5000	2360	184.0	53.9	9.87	.44	.57	.70	178.1	52.2	11.15	.44	.58	.71	172.2	50.5	12.49	.44	.59	.72	166.1	48.7	13.94	.45	.59	.74
	6000	2830	188.4	55.2	9.94	.45	.60	.75	182.2	53.4	11.22	.45	.61	.76	175.9	51.6	12.59	.46	.62	.78	169.4	49.6	14.04	.46	.63	.80

25 TON HIGH EFFICIENCY (R-22/VAV) THREE COMPRESSORS OPERATING

LGC300H2V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																									
			65°F (18°C)							75°F (24°C)							85°F (29°C)							95°F (35°C)				
	Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb						
				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				
	cfm	L/s	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW		
63°F (17°C)	6000	2830	238.8	70.0	14.71	.69	.88	1.00	231.3	67.8	16.58	.70	.90	1.00	224.0	65.6	18.58	.71	.92	1.00	216.5	63.4	20.76	.72	.94	1.00		
	7500	3540	247.2	72.4	14.83	.74	.97	1.00	239.8	70.3	16.74	.76	.99	1.00	232.5	68.1	18.77	.78	1.00	1.00	225.2	66.0	20.97	.80	1.00	1.00		
	9000	4250	255.4	74.9	14.97	.82	1.00	1.00	247.9	72.7	16.91	.84	1.00	1.00	240.4	70.5	18.95	.86	1.00	1.00	232.9	68.3	21.19	.88	1.00	1.00		
67°F (19°C)	6000	2830	252.9	74.1	14.93	.53	.67	.83	244.9	71.8	16.85	.54	.68	.85	236.8	69.4	18.88	.54	.69	.88	228.5	67.0	21.08	.55	.70	.90		
	7500	3540	259.5	76.1	15.04	.56	.72	.93	251.0	73.6	16.98	.57	.73	.95	242.5	71.1	19.02	.58	.75	.97	233.8	68.5	21.23	.59	.77	.99		
	9000	4250	264.2	77.4	15.12	.59	.79	1.00	256.6	74.9	17.07	.60	.81	1.00	246.9	72.4	19.12	.61	.83	1.00	238.2	69.8	21.34	.62	.85	1.00		
71°F (22°C)	6000	2830	269.0	78.8	15.19	.39	.52	.64	260.5	76.3	17.15	.39	.52	.65	251.8	73.8	19.23	.39	.53	.67	242.8	71.2	21.47	.40	.54	.68		
	7500	3540	275.3	80.7	15.31	.40	.55	.70	266.3	78.0	17.28	.40	.56	.71	257.3	75.4	19.36	.41	.57	.73	247.9	72.7	21.60	.41	.58	.75		
	9000	4250	279.8	82.0	15.38	.42	.59	.76	270.5	79.3	17.37	.42	.60	.78	261.0	76.5	19.45	.42	.61	.80	251.5	73.7	21.71	.43	.62	.83		

25 TON HIGH EFFICIENCY (R-22/VAV) FOUR COMPRESSORS OPERATING

LGC300H2V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C		
	cfm	L/s	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW
63°F (17°C)	8000	3775	304.1	89.1	23.84	.70	.97	1.00	294.7	86.4	26.66	.71	.99	1.00	284.6	83.4	29.78	.73	1.00	1.00	273.8	80.2	33.35	.74	1.00	1.00
	10000	4720	316.2	92.7	24.12	.76	1.00	1.00	306.4	89.8	26.98	.80	1.00	1.00	296.0	86.7	30.11	.84	1.00	1.00	284.8	83.5	33.70	.88	1.00	1.00
	12000	5665	325.9	95.5	24.36	.88	1.00	1.00	315.7	92.5	27.19	.91	1.00	1.00	304.7	89.3	30.37	.94	1.00	1.00	292.9	85.8	33.98	.97	1.00	1.00
67°F (19°C)	8000	3775	316.5	92.8	24.13	.53	.69	.93	305.4	89.5	26.94	.54	.70	.95	293.8	86.1	30.07	.55	.71	.98	281.3	82.4	33.61	.56	.73	1.00
	10000	4720	323.5	94.8	24.29	.57	.74	1.00	312.1	91.5	27.12	.58	.76	1.00	300.1	88.0	30.25	.59	.80	1.00	287.6	84.3	33.83	.61	.85	1.00
	12000	5665	329.3	96.5	24.42	.61	.85	1.00	317.9	93.2	27.22	.62	.88	1.00	306.4	89.8	30.44	.63	.92	1.00	294.0	86.2	34.00	.65	.95	1.00
71°F (22°C)	8000	3775	335.4	98.3	24.57	.37	.52	.67	323.5	94.8	27.41	.38	.53	.68	310.9	91.1	30.58	.38	.54	.70	297.5	87.2	34.12	.38	.55	.71
	10000	4720	341.3	100.0	24.71	.39	.57	.73	328.8	96.4	27.56	.39	.58	.74	316.1	92.6	30.72	.40	.59	.76	302.0	88.5	34.31	.41	.60	.81
	12000	5665	345.2	101.2	24.79	.41	.61	.81	332.8	97.5	27.66	.41	.62	.85	319.6	93.7	30.84	.42	.63	.89	305.5	89.5	34.43	.43	.65	.93

COOLING RATINGS

25 TON

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

25 TON HIGH EFFICIENCY (R-410A/VAV) ONE COMPRESSOR OPERATING

LGC300H4V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																											
			65°F (18°C)							75°F (24°C)							85°F (29°C)							95°F (35°C)						
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb						
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C						
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW						
63°F (17°C)	2000	945	62.4	18.3	3.63	.60	.68	.77	60.4	17.7	4.09	.61	.69	.77	58.3	17.1	4.59	.61	.70	.78	56.0	16.4	5.17	.61	.70	.79				
	2500	1180	66.8	19.6	3.70	.62	.71	.80	64.6	18.9	4.15	.62	.72	.82	62.2	18.2	4.66	.63	.73	.83	59.6	17.5	5.24	.63	.74	.84				
	3000	1415	70.0	20.5	3.75	.63	.74	.85	67.6	19.8	4.21	.64	.75	.86	65.0	19.0	4.71	.65	.76	.87	62.2	18.2	5.29	.65	.78	.89				
67°F (19°C)	2000	945	66.9	19.6	3.71	.50	.57	.65	64.9	19.0	4.16	.50	.58	.65	62.7	18.4	4.67	.50	.58	.66	60.2	17.6	5.26	.50	.58	.66				
	2500	1180	71.6	21.0	3.79	.50	.59	.67	69.3	20.3	4.24	.51	.59	.68	66.7	19.5	4.75	.51	.59	.69	63.9	18.7	5.33	.51	.60	.70				
	3000	1415	74.9	22.0	3.84	.51	.60	.70	72.4	21.2	4.30	.51	.61	.71	69.6	20.4	4.80	.52	.62	.72	66.6	19.5	5.38	.52	.63	.74				
71°F (22°C)	2000	945	71.8	21.0	3.79	.41	.48	.54	69.7	20.4	4.25	.41	.48	.55	67.2	19.7	4.76	.41	.48	.55	64.6	18.9	5.35	.41	.48	.55				
	2500	1180	76.6	22.4	3.88	.41	.48	.56	74.2	21.7	4.33	.40	.48	.56	71.5	21.0	4.84	.40	.48	.57	68.6	20.1	5.42	.40	.49	.57				
	3000	1415	80.1	23.5	3.94	.40	.49	.58	77.4	22.7	4.39	.40	.49	.58	74.5	21.8	4.90	.40	.50	.59	71.3	20.9	5.48	.40	.50	.60				

25 TON HIGH EFFICIENCY (R-410A/VAV) TWO COMPRESSORS OPERATING

LGC300H4V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C		
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW		
63°F (17°C)	4000	1890	154.5	45.3	7.33	.73	.84	.95	149.5	43.8	8.23	.73	.85	.97	143.8	42.1	9.22	.74	.86	.98	137.8	40.4	10.35	.75	.88	1.00
	5000	2360	163.2	47.8	7.46	.76	.89	1.00	157.7	46.2	8.34	.77	.90	1.00	151.5	44.4	9.34	.78	.92	1.00	145.0	42.5	10.47	.79	.94	1.00
	6000	2830	169.7	49.7	7.55	.79	.94	1.00	163.7	48.0	8.44	.80	.95	1.00	157.4	46.1	9.43	.82	.97	1.00	150.5	44.1	10.57	.83	.99	1.00
67°F (19°C)	4000	1890	165.4	48.5	7.49	.60	.70	.80	160.0	46.9	8.38	.60	.70	.81	154.1	45.2	9.39	.60	.71	.82	147.6	43.3	10.53	.60	.72	.84
	5000	2360	174.2	51.1	7.63	.61	.73	.85	168.2	49.3	8.51	.61	.74	.86	161.8	47.4	9.52	.62	.75	.88	154.6	45.3	10.65	.62	.76	.90
	6000	2830	180.4	52.9	7.72	.62	.76	.90	174.1	51.0	8.61	.63	.77	.92	167.2	49.0	9.60	.64	.79	.93	159.7	46.8	10.74	.65	.80	.95
71°F (22°C)	4000	1890	176.9	51.8	7.69	.47	.57	.66	171.2	50.2	8.58	.47	.57	.67	164.9	48.3	9.58	.47	.58	.68	158.0	46.3	10.72	.47	.58	.69
	5000	2360	186.0	54.5	7.82	.47	.59	.70	179.8	52.7	8.71	.47	.59	.70	172.9	50.7	9.71	.47	.59	.71	165.3	48.4	10.85	.48	.60	.73
	6000	2830	192.3	56.4	7.92	.48	.60	.73	185.7	54.4	8.82	.48	.61	.74	178.4	52.3	9.81	.48	.62	.76	170.5	50.0	10.94	.48	.63	.77

25 TON HIGH EFFICIENCY (R-410A/VAV) THREE COMPRESSORS OPERATING

LGC300H4V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity	Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity	Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity	Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity	Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb						
	75°F 24°C	80°F 27°C			85°F 29°C	75°F 24°C	80°F 27°C			85°F 29°C	75°F 24°C	80°F 27°C			85°F 29°C	75°F 24°C	80°F 27°C			85°F 29°C						
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW		
63°F (17°C)	6000	2830	240.9	70.6	11.15	.68	.87	.99	232.3	68.1	12.45	.69	.89	1.00	223.3	65.4	13.92	.71	.91	1.00	213.6	62.6	15.59	.72	.94	1.00
	7500	3540	249.4	73.1	11.30	.74	.95	1.00	241.2	70.7	12.60	.76	.96	1.00	232.4	68.1	14.07	.78	.98	1.00	222.9	65.3	15.77	.81	.99	1.00
	9000	4250	257.6	75.5	11.44	.81	.99	1.00	249.4	73.1	12.75	.83	.99	1.00	240.3	70.4	14.24	.85	1.00	1.00	230.5	67.6	15.93	.88	1.00	1.00
67°F (19°C)	6000	2830	254.7	74.6	11.39	.52	.66	.82	245.8	72.0	12.70	.53	.67	.85	235.8	69.1	14.14	.54	.69	.87	225.1	66.0	15.82	.55	.70	.90
	7500	3540	261.1	76.5	11.50	.56	.72	.92	251.7	73.8	12.81	.57	.73	.94	241.4	70.7	14.25	.58	.75	.96	230.2	67.5	15.93	.59	.78	.97
	9000	4250	265.7	77.9	11.59	.59	.78	.97	256.2	75.1	12.89	.60	.80	.98	245.8	72.0	14.35	.61	.83	.99	234.6	68.8	16.01	.63	.86	1.00
71°F (22°C)	6000	2830	270.8	79.4	11.66	.38	.51	.64	261.1	76.5	12.98	.39	.52	.65	250.7	73.5	14.44	.39	.53	.67	239.3	70.1	16.11	.39	.54	.68
	7500	3540	276.9	81.2	11.79	.40	.55	.70	267.0	78.2	13.08	.40	.56	.71	255.9	75.0	14.55	.40	.57	.73	244.3	71.6	16.21	.41	.58	.75
	9000	4250	281.2	82.4	11.88	.41	.58	.76	270.8	79.4	13.16	.42	.59	.78	259.6	76.1	14.62	.42	.61	.81	247.7	72.6	16.29	.43	.62	.84

25 TON HIGH EFFICIENCY (R-410A/VAV) FOUR COMPRESSORS OPERATING

LGC300H4V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																								
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)						
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C			
	cfm	L/s	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh
63°F (17°C)	8000	3775	307.8	90.2	19.13	.70	.95	1.00	295.8	86.7	21.42	.72	.98	1.00	283.2	83.0	24.01	.73	.99	1.00	269.8	79.1	26.97	.76	1.00	1.00	
	10000	4720	319.8	93.7	19.38	.76	1.00	1.00	307.6	90.1	21.66	.80	1.00	1.00	294.6	86.3	24.25	.85	1.00	1.00	280.4	82.2	27.24	.88	1.00	1.00	
	12000	5665	329.4	96.5	19.57	.87	1.00	1.00	316.9	92.9	21.84	.90	1.00	1.00	303.1	88.8	24.46	.93	1.00	1.00	288.3	84.5	27.44	.97	1.00	1.00	
67°F (19°C)	8000	3775	319.3	93.6	19.36	.53	.69	.91	305.8	89.6	21.62	.54	.70	.94	291.1	85.3	24.19	.55	.72	.97	275.4	80.7	27.15	.57	.74	.99	
	10000	4720	326.3	95.6	19.50	.57	.74	.99	312.5	91.6	21.76	.58	.76	1.00	297.9	87.3	24.35	.60	.81	1.00	282.5	82.8	27.32	.62	.86	1.00	
	12000	5665	332.5	97.4	19.62	.61	.84	1.00	319.0	93.5	21.90	.63	.88	1.00	304.5	89.2	24.50	.64	.91	1.00	289.2	84.8	27.45	.66	.95	1.00	
71°F (22°C)	8000	3775	338.5	99.2	19.74	.37	.52	.67	323.9	94.9	22.00	.38	.53	.69	308.2	90.3	24.59	.38	.55	.71	291.2	85.3	27.53	.39	.56	.73	
	10000	4720	344.1	100.8	19.85	.39	.57	.73	329.2	96.5	22.12	.39	.58	.75	313.1	91.8	24.70	.40	.60	.77	295.9	86.7	27.67	.41	.62	.83	
	12000	5665	348.2	102.0	19.93	.41	.61	.81	332.8	97.5	22.19	.41	.63	.85	316.7	92.8	24.77	.42	.64	.89	299.2	87.7	27.72	.43	.66	.93	

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

30 TON HIGH EFFICIENCY (R-22/CAV) TWO COMPRESSORS OPERATING

LGC360H2B

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
	Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb				
				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C		
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW		
63°F (17°C)	9000	4250	168.9	49.5	8.62	.60	.75	.92	163.9	48.0	9.56	.61	.77	.94	158.7	46.5	10.64	.61	.79	.96	153.1	44.9	11.88	.62	.81	.97
	11200	5285	175.5	51.4	8.74	.64	.84	.93	170.0	49.8	9.70	.66	.86	.93	164.5	48.2	10.77	.67	.88	.93	158.8	46.5	12.01	.69	.90	.92
	13400	6325	180.2	52.8	8.86	.71	.92	.93	175.0	51.3	9.79	.72	.94	.93	169.5	49.7	10.88	.74	.96	.93	163.7	48.0	12.12	.76	.98	.93
67°F (19°C)	9000	4250	179.5	52.6	8.83	.47	.58	.71	174.0	51.0	9.77	.48	.59	.72	168.4	49.4	10.84	.48	.59	.74	162.4	47.6	12.08	.49	.60	.76
	11200	5285	185.1	54.2	8.95	.50	.62	.80	179.4	52.6	9.88	.50	.63	.82	173.4	50.8	10.97	.51	.64	.84	167.1	49.0	12.21	.51	.66	.86
	13400	6325	189.2	55.4	9.03	.52	.68	.88	183.3	53.7	9.97	.53	.69	.90	177.0	51.9	11.06	.53	.71	.92	170.6	50.0	12.30	.54	.73	.95
71°F (22°C)	9000	4250	191.1	56.0	9.07	.36	.46	.56	185.3	54.3	10.02	.36	.46	.56	179.3	52.5	11.10	.36	.47	.57	172.8	50.6	12.35	.36	.47	.58
	11200	5285	196.7	57.6	9.19	.37	.48	.60	190.5	55.8	10.13	.37	.49	.61	184.1	54.0	11.22	.37	.50	.62	177.4	52.0	12.47	.37	.50	.63
	13400	6325	200.4	58.7	9.28	.38	.51	.65	194.2	56.9	10.22	.38	.52	.67	187.5	55.0	11.30	.38	.52	.68	180.6	52.9	12.55	.38	.53	.71

30 TON HIGH EFFICIENCY (R-22/CAV) ALL COMPRESSORS OPERATING

LGC360H2B

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																																			
			85°F (29°C)									95°F (35°C)									105°F (41°C)									115°F (46°C)								
			Total Cooling Capacity			Comp Motor kW Input			Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity			Comp Motor kW Input			Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity			Comp Motor kW Input			Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity			Comp Motor kW Input			Sensible To Total Ratio (S/T) Dry Bulb		
cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C							
63°F (17°C)	9000	4250	336.2	98.5	23.20	.72	.85	.97	324.2	95.0	25.88	.73	.87	.98	312.0	91.4	29.00	.74	.88	.99	298.8	87.6	32.46	.75	.90	.94	.75	.90	.94									
	11200	5285	348.6	102.2	23.48	.77	.92	.95	336.2	98.5	26.16	.78	.94	.95	323.4	94.8	29.26	.79	.95	.95	310.0	90.9	32.80	.81	.97	.95	.81	.97	.95									
	13400	6325	359.0	105.2	23.70	.82	.97	.95	346.6	101.6	26.40	.83	.99	.95	334.0	97.9	29.54	.85	1.00	.95	327.0	95.8	33.36	.87	.94	.95	.87	.94	.95									
67°F (19°C)	9000	4250	356.6	104.5	23.62	.56	.69	.82	344.0	100.8	26.34	.57	.70	.83	330.4	96.8	29.46	.57	.71	.85	316.2	92.7	33.00	.58	.73	.87	.58	.73	.87									
	11200	5285	367.4	107.7	23.90	.59	.74	.89	353.8	103.7	26.62	.60	.76	.91	340.0	98.6	29.72	.61	.77	.92	325.0	95.2	33.30	.62	.79	.95	.62	.79	.95									
	13400	6325	375.0	109.9	24.10	.62	.80	.95	361.4	105.9	26.80	.63	.81	.96	346.8	101.6	29.92	.64	.83	.98	331.4	97.1	33.52	.66	.85	.99	.66	.85	.99									
71°F (22°C)	9000	4250	379.6	111.2	24.18	.42	.54	.67	366.0	110.3	26.90	.42	.55	.68	351.6	103.0	30.04	.43	.56	.69	336.4	98.6	33.66	.43	.57	.70	.43	.57	.70									
	11200	5285	390.0	114.3	24.44	.43	.58	.72	375.6	110.1	27.16	.43	.59	.73	360.8	105.7	30.34	.44	.59	.75	344.8	101.1	33.90	.44	.61	.77	.44	.61	.77									
	13400	6325	397.0	116.3	24.62	.44	.61	.78	382.4	112.1	27.36	.45	.62	.79	366.6	107.4	30.50	.45	.63	.81	350.4	102.7	34.12	.46	.65	.83	.46	.65	.83									

30 TON HIGH EFFICIENCY (R-410A/CAV) TWO COMPRESSORS OPERATING

LGC360H4B

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																																			
			65°F (18°C)									75°F (24°C)									85°F (29°C)									95°F (35°C)								
			Total Cooling Capacity			Comp Motor kW Input			Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity			Comp Motor kW Input			Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity			Comp Motor kW Input			Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity			Comp Motor kW Input			Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW				75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW				75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW				75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW				75°F 24°C	80°F 27°C	85°F 29°C				
63°F (17°C)	9300	4390	192.6	56.4	9.52	.60	.75	.91	186.0	54.5	10.60	.61	.77	.93	178.9	52.4	11.82	.61	.79	.95	171.2	50.2	13.22	.62	.81	.98	164.5	48.0	14.63	.63	.83	.99	157.8	45.8	16.04	.64	.85	1.00
	11600	5475	199.3	58.4	9.64	.64	.84	.93	192.5	56.4	10.73	.66	.86	.93	185.1	54.2	11.95	.67	.88	.93	177.2	51.9	13.35	.70	.91	.93	169.3	49.7	14.76	.71	.93	.96	162.4	47.5	16.17	.72	.95	1.00
	13900	6560	204.6	60.0	9.75	.70	.92	.94	197.7	57.9	10.82	.72	.94	.93	190.3	55.8	12.05	.74	.96	.93	182.4	53.5	13.46	.77	.98	.93	174.5	51.3	14.87	.78	1.00	.99	167.6	49.3	16.28	.80	1.00	1.00
67°F (19°C)	9300	4390	203.7	59.7	9.72	.47	.58	.71	196.6	57.6	10.80	.48	.59	.72	189.1	55.4	12.03	.48	.59	.74	180.8	53.0	13.43	.49	.61	.77	172.5	50.7	14.84	.50	.73	.90	165.2	48.5	16.25	.51	.75	0.98
	11600	5475	209.7	61.5	9.83	.50	.62	.80	202.4	59.3	10.91	.50	.63	.82	194.4	57.0	12.15	.51	.65	.84	185.8	54.5	13.55	.52	.67	.87	177.5	52.2	14.96	.53	.77	.94	170.0	50.0	16.36	.54	.79	0.99
	13900	6560	213.9	62.7	9.93	.52	.68	.88	206.4	60.5	11.01	.53	.69	.90	198.3	58.1	12.23	.54	.72	.93	189.5	55.5	13.63	.55	.74	.96	181.0	53.2	15.04	.56	.80	.97	173.5	51.0	16.45	.57	.81	1.00
71°F (22°C)	9300	4390	215.7	63.2	9.96	.36	.46	.56	208.4	61.1	11.05	.36	.46	.56	200.5	58.8	12.28	.36	.47	.57	191.8	56.2	13.68	.36	.47	.59	184.0	54.0	14.69	.37	.50	.62	176.2	51.8	16.20	.38	.52	.64
	11600	5475	221.7	65.0	10.09	.37	.48	.60	213.9	62.7	11.17	.37	.49	.61	205.6	60.3	12.40	.37	.50	.62	196.5	57.6	13.81	.38	.51	.64	188.7	55.5	14.91	.39	.53	.66	180.0	53.3	16.31	.40	.55	.68
	13900	6560	225.7	66.1	10.18	.38	.51	.65	217.8	63.8	11.26	.38	.52	.67	209.1	61.3	12.49	.38	.53	.69	199.8	58.6	13.90	.39	.54	.72	191.0	56.4	15.41	.40	.56	.70	182.2	54.2	16.82	.41	.57	.71

30 TON HIGH EFFICIENCY (R-410A/CAV) ALL COMPRESSORS OPERATING

LGC360H4B

Entering Wet Bulb Temperature	Total Air Volume cfm L/s		Outdoor Air Temperature Entering Outdoor Coil																										
			85°F (29°C)									95°F (35°C)									105°F (41°C)								
			Total Cooling Capacity kBtuh kW			Comp Motor kW Input			Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity kBtuh kW			Comp Motor kW Input			Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity kBtuh kW			Comp Motor kW Input			Sensible To Total Ratio (S/T) Dry Bulb		
63°F (17°C)	9300	4390	349.8	102.5	23.94	.70	.84	.97	334.6	98.1	26.78	.71	.86	.98	318.6	93.4	30.02	.72	.88	1.00	301.4	88.3	33.74	.74	.91	.94			
	11600	5475	361.8	106.0	24.20	.75	.91	.95	346.2	101.5	27.04	.76	.93	.94	329.8	96.7	30.28	.79	.96	.94	312.2	91.5	34.04	.81	.98	.94			
	13900	6560	371.8	109.0	24.40	.80	.97	.95	356.4	104.5	27.26	.82	.99	.95	340.2	99.7	30.56	.85	1.00	.94	329.2	96.5	34.56	.87	.94	.94			
67°F (19°C)	9300	4390	369.4	108.3	24.36	.55	.67	.80	353.4	103.6	27.20	.55	.69	.82	336.2	98.5	30.46	.56	.70	.85	317.6	93.4	34.22	.57	.72	.87			
	11600	5475	380.0	111.4	24.62	.58	.73	.88	363.2	106.4	27.46	.59	.74	.90	345.0	101.1	30.72	.60	.76	.93	325.6	95.1	34.46	.61	.79	.96			
	13900	6560	387.4	113.5	24.80	.61	.78	.95	370.4	108.6	27.62	.62	.80	.97	351.8	103.1	30.88	.63	.83	.99	331.8	97.2	34.66	.65	.86	.97			
71°F (22°C)	9300	4390	391.8	114.8	24.86	.41	.53	.65	374.8	109.8	27.72	.41	.54	.66	356.6	104.5	31.00	.42	.55	.68	336.8	98.7	34.78	.42	.56	.70			
	11600	5475	401.8	117.8	25.10	.42	.56	.71	384.2	112.6	27.98	.42	.57	.72	365.0	107.0	31.26	.43	.59	.74	344.2	100.9	35.02	.43	.60	.77			
	13900	6560	408.6	119.7	25.30	.43	.60	.76	390.4	114.4	28.16	.44	.61	.78	370.6	108.6	31.42	.44	.63	.81	349.8	102.5	35.17	.45	.64	.84			

COOLING RATINGS

30 TON

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

30 TON HIGH EFFICIENCY (R-22/VAV) ONE COMPRESSOR OPERATING

LGC360H2V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C		
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW		
63°F (17°C)	2250	1060	67.5	19.8	5.73	.67	.76	.84	65.8	19.3	6.40	.67	.76	.85	63.8	18.7	7.16	.68	.77	.85	61.9	18.1	8.02	.68	.77	.86
	2800	1320	72.2	21.2	5.86	.68	.78	.88	70.2	20.6	6.52	.69	.79	.89	68.0	19.9	7.28	.69	.80	.90	65.7	19.3	8.14	.70	.80	.91
	3350	1580	75.5	22.1	5.96	.70	.81	.92	73.3	21.5	6.62	.71	.82	.93	70.9	20.8	7.37	.71	.83	.94	68.4	20.0	8.24	.72	.84	.96
67°F (19°C)	2250	1060	72.5	21.2	5.87	.56	.64	.72	70.6	20.7	6.54	.56	.64	.72	68.6	20.1	7.31	.56	.64	.73	66.4	19.5	8.17	.56	.65	.73
	2800	1320	77.4	22.7	6.01	.56	.65	.74	75.2	22.0	6.68	.56	.66	.75	72.9	21.4	7.43	.57	.66	.76	70.4	20.6	8.31	.57	.67	.77
	3350	1580	80.8	23.7	6.12	.57	.67	.77	78.4	23.0	6.78	.57	.68	.78	75.9	22.2	7.53	.57	.68	.79	73.2	21.5	8.40	.58	.69	.81
71°F (22°C)	2250	1060	77.9	22.8	6.03	.46	.53	.61	75.8	22.2	6.70	.46	.53	.61	73.6	21.6	7.47	.45	.53	.61	71.3	20.9	8.34	.45	.53	.61
	2800	1320	82.8	24.3	6.18	.45	.54	.62	80.5	23.6	6.85	.45	.54	.63	78.0	22.9	7.61	.45	.54	.63	75.4	22.1	8.49	.45	.54	.64
	3350	1580	86.4	25.3	6.29	.45	.54	.64	83.8	24.6	6.95	.45	.55	.65	81.1	23.8	7.71	.45	.55	.65	78.3	22.9	8.59	.45	.55	.66

30 TON HIGH EFFICIENCY (R-22/VAV) TWO COMPRESSORS OPERATING

LGC360H2V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C		
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW		
63°F (17°C)	4500	2125	174.1	51.0	10.78	.71	.84	.96	168.8	49.5	11.95	.71	.85	.98	163.1	47.8	13.28	.72	.87	.99	157.1	46.0	14.81	.73	.88	1.00
	5400	2550	179.7	52.7	10.93	.74	.89	1.00	174.0	51.0	12.09	.75	.91	1.00	168.2	49.3	13.42	.76	.92	.98	162.0	47.5	14.94	.78	.94	.98
	6300	2975	184.2	54.0	11.03	.78	.94	.98	178.5	52.3	12.20	.79	.96	.98	172.3	50.5	13.54	.81	.98	.98	166.0	48.6	15.08	.82	.99	.98
67°F (19°C)	4500	2125	185.7	54.4	11.08	.56	.68	.80	179.9	52.7	12.23	.56	.69	.82	173.8	50.9	13.57	.57	.70	.83	167.3	49.0	15.12	.57	.71	.85
	5400	2550	191.0	56.0	11.21	.58	.72	.86	184.8	54.2	12.38	.58	.73	.87	178.3	52.3	13.70	.59	.74	.89	171.6	50.3	15.24	.60	.75	.91
	6300	2975	194.9	57.1	11.32	.60	.75	.91	188.5	55.2	12.47	.61	.77	.93	181.8	53.3	13.81	.61	.78	.95	174.8	51.2	15.36	.62	.80	.96
71°F (22°C)	4500	2125	197.9	58.0	11.40	.43	.54	.65	191.8	56.2	12.55	.43	.54	.66	185.1	54.2	13.90	.43	.55	.67	178.2	52.2	15.47	.43	.56	.68
	5400	2550	203.3	59.6	11.54	.43	.56	.69	196.7	57.6	12.70	.43	.57	.70	189.8	55.6	14.06	.44	.58	.71	182.6	53.5	15.59	.44	.58	.73
	6300	2975	207.2	60.7	11.65	.44	.58	.73	200.3	58.7	12.80	.44	.59	.74	193.3	56.7	14.14	.45	.60	.76	185.7	54.4	15.71	.45	.61	.77

30 TON HIGH EFFICIENCY (R-22/VAV) THREE COMPRESSORS OPERATING

LGC360H2V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																										
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)								
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb					
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C					
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW					
63°F (17°C)	6750	3185	258.7	75.8	16.85	.69	.88	1.00	250.6	73.4	18.68	.70	.90	1.00	242.4	71.0	20.76	.71	.93	1.00	233.7	68.5	23.15	.72	.95	1.00			
	8400	3965	267.6	78.4	17.10	.74	.97	1.00	259.7	76.1	18.92	.76	.98	1.00	251.6	73.7	21.02	.78	.99	1.00	243.1	71.2	23.44	.81	1.00	1.00			
	10050	4745	276.2	80.9	17.34	.82	1.00	1.00	268.2	78.6	19.16	.84	1.00	1.00	259.7	76.1	21.27	.86	1.00	1.00	251.0	73.6	23.69	.88	1.00	1.00			
67°F (19°C)	6750	3185	273.3	80.1	17.27	.53	.67	.84	264.7	77.6	19.06	.54	.68	.86	255.5	74.9	21.15	.54	.69	.88	245.8	72.0	23.54	.55	.70	.91			
	8400	3965	279.9	82.0	17.46	.56	.72	.94	270.8	79.4	19.24	.57	.73	.96	261.4	76.6	21.33	.58	.75	.97	251.3	73.6	23.72	.59	.78	.99			
	10050	4745	284.8	83.5	17.60	.59	.79	.99	275.4	80.7	19.39	.60	.81	1.00	265.7	77.9	21.48	.61	.83	1.00	255.8	75.0	23.86	.63	.86	1.00			
71°F (22°C)	6750	3185	290.3	85.1	17.74	.39	.52	.65	281.0	82.4	19.54	.39	.52	.66	271.3	79.5	21.64	.39	.53	.67	261.0	76.5	24.05	.39	.54	.68			
	8400	3965	296.7	87.0	17.94	.40	.55	.70	287.0	84.1	19.73	.40	.56	.72	276.6	81.1	21.81	.41	.57	.73	266.0	78.0	24.22	.41	.58	.75			
	10050	4745	301.0	88.2	18.06	.41	.59	.76	291.1	85.3	19.85	.42	.60	.78	280.6	82.2	21.94	.42	.61	.81	269.5	79.0	24.34	.43	.62	.84			

30 TON HIGH EFFICIENCY (R-22/VAV) FOUR COMPRESSORS OPERATING

LGC360H2V

Entering Wet Bulb Temperature		Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
				85°F (29°C)					95°F (35°C)					105°F (41°C)					115°F (46°C)								
				Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
							75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C
cfm	L/s	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW		
63°F (17°C)	9000	4250	343.5	100.7	27.98	.70	.97	1.00	331.9	97.3	31.20	.71	.99	1.00	319.7	93.7	34.92	.72	1.00	1.00	307.0	90.0	39.18	.74	1.00	1.00	
	11200	5285	356.5	104.5	28.36	.75	1.00	1.00	344.5	101.0	31.61	.79	1.00	1.00	331.9	97.3	35.32	.84	1.00	1.00	318.6	93.4	39.59	.88	1.00	1.00	
	13400	6325	366.8	107.5	28.67	.88	1.00	1.00	354.5	103.9	31.90	.91	1.00	1.00	341.1	100.0	35.63	.94	1.00	1.00	327.0	95.8	39.93	.98	1.00	1.00	
67°F (19°C)	9000	4250	356.2	104.4	28.35	.53	.68	.93	342.7	100.4	31.55	.53	.70	.96	328.8	96.4	35.21	.55	.71	.98	314.0	92.0	39.42	.56	.73	1.00	
	11200	5285	363.7	106.6	28.56	.57	.74	1.00	350.1	102.6	31.77	.58	.75	1.00	335.7	98.4	35.49	.59	.80	1.00	320.8	94.0	39.74	.60	.85	1.00	
	13400	6325	370.1	108.5	28.76	.60	.84	1.00	356.6	104.5	31.99	.62	.88	1.00	342.7	100.4	35.71	.63	.92	1.00	327.8	96.1	39.99	.65	.95	1.00	
71°F (22°C)	9000	4250	377.2	110.5	28.96	.37	.52	.67	362.7	106.3	32.18	.37	.53	.68	347.6	101.9	35.89	.38	.54	.70	331.5	97.2	40.10	.38	.55	.71	
	11200	5285	383.1	112.3	29.15	.39	.56	.73	368.2	107.9	32.37	.39	.57	.74	352.6	103.3	36.07	.40	.59	.76	336.3	98.6	40.31	.40	.60	.82	
	13400	6325	387.1	113.4	29.29	.40	.60	.81	372.3	109.1	32.51	.41	.62	.85	356.4	104.5	36.23	.41	.63	.89	339.8	99.6	40.47	.42	.65	.93	

COOLING RATINGS

30 TON

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

30 TON HIGH EFFICIENCY (R-410A/VAV) ONE COMPRESSOR OPERATING

LGC360H4V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C	75°F 24°C	80°F 27°C				85°F 29°C		
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW		
63°F (17°C)	2325	1095	70.0	20.5	4.46	.62	.70	.78	67.8	19.9	4.99	.62	.70	.78	65.4	19.2	5.59	.63	.71	.80	62.6	18.3	6.28	.63	.72	.80
	2900	1370	74.5	21.8	4.55	.63	.72	.81	72.0	21.1	5.08	.64	.73	.83	69.3	20.3	5.68	.64	.74	.84	66.3	19.4	6.36	.65	.75	.85
	3475	1640	77.8	22.8	4.62	.65	.75	.85	75.1	22.0	5.15	.66	.76	.87	72.1	21.1	5.74	.66	.77	.88	68.8	20.2	6.42	.67	.79	.90
67°F (19°C)	2325	1095	74.8	21.9	4.55	.52	.59	.66	72.4	21.2	5.09	.52	.59	.67	69.8	20.5	5.69	.52	.60	.67	67.0	19.6	6.38	.52	.60	.68
	2900	1370	79.5	23.3	4.65	.52	.60	.69	76.8	22.5	5.19	.52	.61	.70	73.9	21.7	5.79	.52	.62	.71	70.7	20.7	6.47	.53	.62	.72
	3475	1640	82.8	24.3	4.72	.53	.62	.72	79.9	23.4	5.26	.53	.63	.73	76.8	22.5	5.86	.53	.64	.74	73.3	21.5	6.54	.54	.65	.76
71°F (22°C)	2325	1095	79.9	23.4	4.66	.42	.49	.56	77.4	22.7	5.20	.42	.49	.56	74.6	21.9	5.81	.42	.49	.57	71.6	21.0	6.50	.42	.50	.57
	2900	1370	84.7	24.8	4.77	.42	.50	.58	81.8	24.0	5.30	.42	.50	.58	78.7	23.1	5.91	.42	.50	.59	75.4	22.1	6.60	.42	.50	.59
	3475	1640	88.0	25.8	4.84	.42	.51	.59	85.0	24.9	5.38	.42	.51	.60	81.7	23.9	5.98	.42	.51	.61	78.0	22.9	6.67	.42	.52	.62

30 TON HIGH EFFICIENCY (R-410A/VAV) TWO COMPRESSORS OPERATING

LGC360H4V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																																	
			65°F (18°C)									75°F (24°C)									85°F (29°C)									95°F (35°C)						
	Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb														
				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C												
	cfm	L/s	kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW				kBtuh	kW												
63°F (17°C)	4650	2195	186.2	54.6	9.53	.69	.82	.94	179.5	52.6	10.60	.70	.83	.95	172.2	50.5	11.81	.71	.85	.97	164.3	48.2	13.19	.73	.87	.99										
	5800	2740	192.8	56.5	9.67	.74	.88	.99	186.0	54.5	10.74	.75	.90	.95	178.3	52.3	11.93	.76	.91	.95	169.9	49.8	13.33	.78	.94	.95										
	6950	3280	198.2	58.1	9.77	.78	.94	.96	191.0	56.0	10.84	.79	.95	.96	183.1	53.7	12.05	.81	.97	.96	174.9	51.3	13.43	.83	.99	.95										
67°F (19°C)	4650	2195	197.6	57.9	9.75	.55	.67	.79	190.5	55.8	10.82	.56	.68	.80	182.6	53.5	12.04	.56	.69	.82	174.0	51.0	13.43	.57	.70	.84										
	5800	2740	203.9	59.8	9.89	.57	.71	.85	196.2	57.5	10.96	.58	.73	.87	188.0	55.1	12.16	.59	.74	.89	179.0	52.5	13.54	.60	.76	.91										
	6950	3280	208.2	61.0	9.98	.60	.76	.91	200.3	58.7	11.05	.61	.78	.93	191.7	56.2	12.27	.62	.79	.95	182.4	53.5	13.64	.63	.81	.97										
71°F (22°C)	4650	2195	209.6	61.4	10.01	.42	.53	.64	202.1	59.2	11.09	.42	.54	.65	193.8	56.8	12.30	.42	.54	.66	184.8	54.2	13.70	.43	.55	.68										
	5800	2740	215.9	63.3	10.15	.43	.56	.69	207.8	60.9	11.23	.43	.57	.70	199.1	58.4	12.44	.43	.58	.72	189.7	55.6	13.82	.44	.59	.74										
	6950	3280	220.2	64.5	10.26	.44	.59	.74	211.8	62.1	11.33	.44	.60	.75	202.8	59.4	12.55	.44	.61	.77	193.0	56.6	13.92	.45	.62	.79										

30 TON HIGH EFFICIENCY (R-410A/VAV) THREE COMPRESSORS OPERATING

LGC360H4V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
	Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb				
				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C		
	cfm	L/s	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW
63°F (17°C)	6975	3290	276.6	81.1	14.08	.68	.86	.96	266.7	78.2	15.65	.69	.88	.96	256.0	75.0	17.43	.70	.91	.93	244.5	71.7	19.46	.72	.93	.92
	8700	4105	285.5	83.7	14.26	.73	.94	.93	277.5	81.3	15.91	.75	.93	.93	268.0	78.5	17.71	.77	.94	.93	256.5	75.2	19.78	.80	.95	.93
	10425	4920	296.7	87.0	14.51	.80	.95	.94	286.7	84.0	16.11	.82	.96	.93	277.5	81.3	17.95	.84	.93	.93	265.8	77.9	20.02	.87	.92	.93
67°F (19°C)	6975	3290	291.1	85.3	14.37	.52	.66	.82	280.6	82.2	15.95	.53	.67	.84	268.8	78.8	17.73	.54	.68	.87	256.1	75.1	19.75	.55	.70	.90
	8700	4105	297.7	87.2	14.53	.55	.71	.91	286.6	84.0	16.10	.56	.73	.93	274.5	80.4	17.85	.57	.75	.95	261.4	76.6	19.89	.59	.78	.94
	10425	4920	302.5	88.7	14.64	.59	.78	.94	291.2	85.3	16.21	.60	.80	.95	278.9	81.7	17.98	.61	.83	.96	265.8	77.9	20.01	.62	.86	.93
71°F (22°C)	6975	3290	307.8	90.2	14.75	.38	.51	.64	296.5	86.9	16.32	.38	.52	.65	284.2	83.3	18.12	.39	.53	.67	270.7	79.3	20.13	.39	.54	.68
	8700	4105	314.0	92.0	14.90	.39	.55	.70	302.3	88.6	16.46	.40	.56	.71	289.5	84.8	18.23	.40	.57	.73	275.6	80.8	20.27	.41	.58	.75
	10425	4920	318.4	93.3	14.99	.41	.58	.75	306.5	89.8	16.56	.41	.59	.78	293.2	85.9	18.34	.42	.61	.80	279.0	81.8	20.36	.42	.62	.84

30 TON HIGH EFFICIENCY (R-410A/VAV) FOUR COMPRESSORS OPERATING

LGC360H4V

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
	Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb				
				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C		
	cfm	L/s	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW
63°F (17°C)	9300	4390	362.8	106.3	24.23	.70	.93	.87	347.5	101.8	27.06	.72	.96	.87	334.5	98.0	30.41	.74	.85	.86	316.6	92.8	34.15	.77	.84	.85
	11600	5475	379.1	111.1	24.61	.75	.87	.87	363.3	106.5	27.45	.79	.86	.87	346.1	101.4	30.72	.82	.86	.86	327.0	95.8	34.46	.87	.85	.86
	13900	6560	389.2	114.1	24.84	.83	.87	.88	372.7	109.2	27.68	.87	.87	.87	354.4	103.9	30.94	.91	.86	.87	334.6	98.1	34.66	.95	.85	.86
67°F (19°C)	9300	4390	372.6	109.2	24.44	.53	.69	.89	355.1	104.1	27.23	.54	.71	.92	336.3	98.6	30.43	.56	.73	.95	315.6	92.5	34.14	.57	.75	.85
	11600	5475	379.6	111.2	24.63	.57	.74	.88	362.2	106.2	27.43	.59	.76	.87	343.2	100.6	30.64	.60	.82	.86	325.6	95.4	34.40	.62	.85	.86
	13900	6560	386.5	113.3	24.78	.61	.83	.88	371.3	108.8	27.64	.63	.85	.87	352.5	103.3	30.88	.65	.90	.87	332.2	97.4	34.58	.67	.94	.86
71°F (22°C)	9300	4390	392.9	115.1	24.93	.37	.53	.68	374.1	109.6	27.72	.38	.54	.69	354.1	103.8	30.91	.38	.55	.71	332.1	97.3	34.58	.39	.57	.74
	11600	5475	398.5	116.8	25.08	.39	.57	.73	379.3	111.2	27.87	.40	.59	.75	358.9	105.2	31.05	.40	.60	.79	336.8	98.6	34.75	.41	.63	.83
	13900	6560	402.6	118.0	25.19	.41	.61	.81	383.2	112.3	27.98	.41	.63	.83	362.5	106.2	31.17	.42	.65	.88	339.4	99.6	34.86	.43	.67	.93

BLOWER DATA

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

FOR ALL UNITS ADD:

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

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

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

See page 25 for factory installed drive kit specifications.

BOLD INDICATES FIELD FURNISHED DRIVE

Air Volume cfm (L/s)	TOTAL STATIC PRESSURE — Inches Water Gauge (Pa)													
	.20 (50)	.40 (100)	.60 (150)	.80 (200)	1.00 (250)	1.20 (300)	1.40 (350)	1.60 (400)	1.80 (450)	2.00 (495)	2.20 (545)	2.40 (595)	2.60 (645)	
	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	
6000 (2830)	---	435 1.20 (0.90)	525 1.45 (1.08)	570 1.60 (1.19)	630 2.00 (1.49)	700 2.35 (1.75)	750 2.80 (2.09)	795 3.15 (2.35)	840 3.40 (2.54)	880 3.80 (2.83)	920 4.20 (3.13)	960 4.65 (3.47)	995 5.10 (3.80)	
6500 (3065)	---	445 1.30 (0.97)	530 1.60 (1.19)	580 1.80 (1.34)	640 2.20 (1.64)	705 2.60 (1.94)	755 3.05 (2.28)	800 3.40 (2.54)	845 3.70 (2.76)	885 4.15 (3.10)	925 4.60 (4.43)	965 5.00 (3.73)	1000 5.45 (4.07)	
7000 (3305)	---	455 1.40 (1.04)	535 1.75 (1.31)	590 2.05 (1.53)	650 2.45 (1.83)	710 2.85 (2.13)	760 3.30 (2.46)	805 3.70 (2.76)	850 4.05 (3.02)	890 4.50 (3.36)	930 4.95 (3.69)	970 5.40 (4.03)	1005 5.85 (4.36)	
7500 (3540)	380 1.05 (0.78)	465 1.50 (1.12)	540 1.90 (1.42)	600 2.30 (1.72)	660 2.70 (2.01)	715 3.15 (2.35)	765 3.60 (2.69)	810 4.00 (2.98)	855 4.45 (3.32)	895 4.90 (3.66)	935 5.35 (3.99)	975 5.85 (4.36)	1010 6.30 (4.70)	
8000 (3775)	390 1.25 (0.93)	475 1.65 (1.23)	545 2.10 (1.57)	610 2.55 (1.90)	665 2.95 (2.20)	720 3.45 (2.57)	770 3.90 (2.91)	815 4.35 (3.25)	860 4.85 (3.62)	900 5.30 (3.95)	940 5.75 (4.29)	980 6.30 (4.70)	1015 6.75 (5.04)	
8500 (4010)	405 1.40 (1.04)	485 1.90 (1.42)	555 2.35 (1.75)	620 2.80 (2.09)	675 3.30 (2.46)	725 3.75 (2.80)	775 4.20 (3.13)	820 4.70 (3.51)	865 5.20 (3.88)	905 5.70 (4.25)	945 6.20 (4.63)	985 6.75 (5.04)	1020 7.25 (5.41)	
9000 (4245)	415 1.60 (1.19)	495 2.10 (1.57)	565 2.60 (1.94)	625 3.10 (2.31)	685 3.60 (2.69)	735 4.10 (3.06)	785 4.60 (3.43)	830 5.10 (3.80)	870 5.60 (4.18)	915 6.15 (4.59)	955 6.70 (5.00)	990 7.20 (5.37)	1025 7.70 (5.74)	
9500 (4485)	430 1.85 (1.38)	505 2.35 (1.75)	575 2.90 (2.16)	635 3.40 (2.54)	690 3.90 (2.91)	745 4.50 (3.36)	790 4.95 (3.69)	835 5.50 (4.10)	880 6.05 (4.51)	920 6.60 (4.92)	960 7.15 (5.33)	995 7.70 (5.74)	1035 8.30 (6.19)	
10,000 (4720)	445 2.10 (1.57)	520 2.65 (1.98)	585 3.20 (2.39)	645 3.75 (2.80)	700 4.30 (3.21)	750 4.85 (6.49)	800 5.40 (4.03)	845 5.95 (4.44)	885 6.50 (4.85)	925 7.05 (5.26)	965 7.65 (5.71)	1000 8.20 (6.12)	1040 8.85 (6.60)	
10,500 (4955)	455 2.35 (1.75)	530 2.95 (2.20)	595 3.50 (2.61)	655 4.10 (3.06)	710 4.70 (3.03)	760 5.25 (3.92)	805 5.80 (4.33)	850 6.40 (4.77)	895 7.00 (5.22)	935 7.60 (5.67)	970 8.15 (6.08)	1010 8.80 (6.56)	1045 9.40 (7.01)	
11,000 (5190)	470 2.60 (1.94)	545 3.25 (2.42)	605 3.85 (2.87)	665 4.45 (3.32)	720 5.10 (3.80)	765 5.66 (4.22)	815 6.30 (4.70)	860 6.90 (5.15)	900 7.50 (5.60)	940 8.10 (6.04)	980 8.75 (6.53)	1015 9.35 (6.98)	---	
11,500 (5425)	485 2.95 (2.20)	555 3.60 (2.69)	620 4.25 (3.17)	675 4.85 (3.62)	730 5.55 (4.14)	775 6.10 (4.55)	820 6.70 (5.00)	865 7.40 (5.52)	910 8.05 (6.01)	945 8.65 (6.45)	985 9.30 (6.94)	1020 9.95 (7.42)	---	
12,000 (5665)	500 3.30 (2.46)	570 4.00 (2.98)	630 4.65 (3.47)	685 5.30 (3.95)	740 6.00 (4.48)	785 6.60 (4.92)	830 7.25 (5.41)	875 7.95 (5.93)	915 8.60 (6.42)	955 9.25 (6.90)	995 9.95 (7.42)	1030 10.60 (7.91)	---	
12,500 (5900)	515 3.65 (2.72)	580 4.35 (3.25)	640 5.05 (3.77)	695 5.75 (4.29)	750 6.50 (4.85)	795 7.10 (5.30)	840 7.80 (5.82)	885 8.55 (6.38)	925 9.20 (6.86)	965 9.90 (7.39)	1000 10.55 (7.87)	1035 11.25 (8.39)	---	
13,000 (6135)	530 4.05 (3.02)	595 4.80 (3.58)	655 5.55 (4.14)	710 6.25 (4.66)	760 7.00 (5.22)	805 7.65 (5.71)	850 8.40 (6.27)	890 9.05 (6.75)	930 9.75 (7.27)	970 10.50 (7.83)	1010 11.30 (8.43)	---	---	
13,500 (6370)	545 4.45 (3.32)	610 5.25 (3.92)	665 6.00 (4.48)	720 6.75 (5.04)	770 7.50 (5.60)	815 8.25 (6.15)	860 9.00 (6.71)	900 9.70 (7.24)	940 10.45 (7.80)	980 11.20 (8.36)	---	---	---	
14,000 (6605)	560 4.90 (3.66)	620 5.70 (4.25)	680 6.55 (4.89)	730 7.30 (5.45)	780 8.10 (6.04)	825 8.85 (6.60)	870 9.65 (7.20)	910 10.40 (7.76)	950 11.15 (8.31)	---	---	---	---	
14,500 (6845)	575 5.40 (4.03)	635 6.25 (4.66)	690 7.05 (5.26)	745 7.90 (5.89)	790 8.65 (6.45)	835 9.45 (7.05)	880 10.30 (7.68)	920 11.10 (8.28)	---	---	---	---	---	
15,000 (7080)	590 5.90 (4.40)	650 6.80 (5.07)	705 7.65 (5.71)	755 8.50 (6.340)	800 9.30 (6.94)	845 10.10 (7.53)	890 11.00 (8.21)	---	---	---	---	---	---	

BLOWER DATA

CONSTANT AIR VOLUME (CAV) BELT DRIVE KIT SPECIFICATIONS

Motor Efficiency	Nominal hp	Maximum hp	Nominal kW	Maximum kW	Drive Kit Number	RPM Range
Standard or High	5 hp	5.75	3.7	4.3	1 2 6	660 - 810 770 - 965 560 - 710
Standard or High	7.5 hp	8.63	5.6	6.4	3 4	715 - 880 770 - 965
Standard or High	10 hp	11.5	7.5	8.6	3 5	715 - 880 850 - 1045

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

VARIABLE AIR VOLUME (VAV) DRIVE KIT SPECIFICATIONS

Motor Efficiency	Nominal hp	Nominal kW	Drive Kit Number	Maximum RPM @ 60Hz VFD Output (Fixed Pulley)
Standard or High	5 hp	3.7	7	965
Standard or High	7.5 hp	5.6	8	965
Standard or High	10 hp	7.5	9	1045

NOTE - Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. For VFD applications, nominal motor output is also maximum usable motor output.

BLOWER DATA

Air Volume		Wet Indoor Coil		Gas Heat Exchanger						Economizer		Horizontal Roof Curb		Filters			
				Standard Heat		Medium Heat		High Heat						MERV 11		MERV 15	
cfm	L/s	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.	Pa	in. w.g.	Pa
6000	2830	0.04	10	0.12	30	0.16	40	0.19	47	0.01	3	0.08	20	0.01	2	0.03	7
6500	3070	0.05	13	0.13	32	0.18	45	0.21	52	0.01	3	0.09	22	0.01	2	0.04	10
7000	3305	0.06	15	0.14	35	0.20	50	0.24	59	0.02	5	0.10	25	0.01	2	0.04	10
7500	3540	0.07	17	0.15	37	0.21	52	0.25	62	0.02	5	0.11	27	0.02	5	0.04	10
8000	3775	0.08	20	0.17	42	0.24	59	0.28	70	0.02	5	0.13	32	0.02	5	0.05	12
8500	4010	0.08	20	0.20	50	0.27	67	0.31	77	0.03	7	0.15	37	0.02	5	0.05	12
9000	4245	0.09	22	0.22	55	0.29	72	0.34	85	0.04	10	0.17	42	0.02	5	0.05	12
9500	4485	0.10	25	0.24	60	0.32	80	0.38	94	0.04	10	0.19	47	0.03	7	0.06	15
10,000	4720	0.11	27	0.27	67	0.36	90	0.42	104	0.05	12	0.21	52	0.03	7	0.06	15
10,500	4955	0.12	30	0.30	75	0.40	99	0.46	114	0.06	15	0.24	60	0.03	7	0.06	15
11,000	5190	0.12	30	0.33	92	0.43	107	0.50	137	0.07	17	0.27	67	0.04	10	0.07	17
11,500	5425	0.13	32	0.37	92	0.48	119	0.55	137	0.08	20	0.30	75	0.04	10	0.07	17
12,000	5665	0.14	35	0.40	99	0.52	129	0.60	149	0.10	25	0.33	82	0.04	10	0.08	20
12,500	5900	0.15	37	0.44	109	0.57	142	0.65	162	0.11	27	0.37	92	0.05	12	0.08	20
13,000	6135	0.16	40	0.48	119	0.61	152	0.70	174	0.13	32	0.40	99	0.05	12	0.08	20
13,500	6370	0.17	42	0.53	132	0.67	167	0.76	189	0.14	35	0.44	109	0.06	15	0.09	22
14,000	6605	0.18	45	0.57	142	0.72	179	0.82	204	0.16	40	0.49	122	0.06	15	0.09	22
14,500	6845	0.19	47	0.62	154	0.78	194	0.89	221	0.18	45	0.53	132	0.06	15	0.10	25
15,000	7080	0.20	50	0.68	169	0.84	209	0.95	236	0.21	52	0.58	144	0.07	17	0.10	25

BLOWER DATA

CEILING DIFFUSER AIR RESISTANCE

Air Volume		Step-Down Diffuser LARTD30/36						Flush Diffuser LAFD30/36	
		2 Ends Open		1 Side/2 Ends Open		All Ends & Sides Open			
cfm	L/s	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa
7500	3540	.37	92	.31	77	.25	62	.29	72
8000	3775	.42	104	.36	90	.29	72	.34	85
8500	4010	.48	119	.41	102	.34	85	.39	97
9000	4245	.55	137	.47	117	.39	97	.44	109
9500	4485	.62	154	.53	132	.45	112	.51	127
10,000	4720	.70	174	.60	149	.51	127	.57	142
10,500	4955	.78	194	.68	169	.58	144	.65	162
11,000	5190	.87	216	.76	190	.65	162	.72	179
11,500	5425	.97	241	.85	211	.73	182	.81	201
12,000	5665	1.08	269	.94	234	.82	204	.90	223
12,500	5900	1.19	296	1.04	259	.91	226	.99	246
13,000	6135	1.30	323	1.15	286	1.00	249	1.10	274
13,500	6370	1.43	356	1.26	313	1.10	274	1.20	298
14,000	6605	1.56	388	1.38	343	1.20	298	1.31	326
14,500	6845	1.69	420	1.50	373	1.31	326	1.43	356
15,000	7080	1.84	457	1.63	405	1.43	356	1.56	388

BLOWER DATA

POWER EXHAUST FANS 50% HIGH STATIC OPERATION

BOLD INDICATES FIELD FURNISHED DRIVE

Air Volume cfm (L/s)	Return Duct Negative Static Pressure - Inches Water Gauge (Pa)													
	0 (0)		.10 (25)		.20 (50)		.30 (75)		.40 (100)		.50 (125)		.60 (150)	
	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)
4000 (1890)	335	0.30 (0.22)	380	0.35 (0.26)	430	0.40 (0.30)	475	0.45 (0.34)	520	0.50 (0.37)	570	0.55 (0.41)	615	0.65 (0.48)
4500 (2125)	375	0.40 (0.30)	415	0.45 (0.34)	460	0.55 (0.41)	500	0.60 (0.45)	545	0.65 (0.48)	585	0.70 (0.52)	625	0.80 (0.60)
5000 (2360)	415	0.55 (0.41)	455	0.65 (0.48)	490	0.70 (0.52)	530	0.75 (0.56)	570	0.85 (0.63)	605	0.90 (0.67)	645	1.00 (0.75)
5500 (2595)	460	0.75 (0.56)	495	0.85 (0.63)	525	0.90 (0.67)	560	0.95 (0.71)	595	1.05 (0.78)	630	1.10 (0.82)	665	1.20 (0.90)
6000 (2830)	500	1.00 (0.75)	530	1.05 (0.78)	565	1.15 (0.86)	595	1.20 (0.90)	625	1.30 (0.97)	660	1.40 (1.04)	690	1.45 (1.08)
6500 (3065)	540	1.25 (0.93)	570	1.30 (0.97)	600	1.40 (1.04)	630	1.50 (1.12)	660	1.60 (1.19)	685	1.65 (1.23)	715	1.75 (1.31)
7000 (3305)	585	1.55 (1.16)	610	1.65 (1.23)	635	1.70 (1.27)	665	1.85 (1.38)	690	1.90 (1.42)	720	2.00 (1.49)	745	2.10 (1.57)
7500 (3540)	625	1.90 (1.42)	650	2.00 (1.49)	675	2.10 (1.57)	700	2.20 (1.64)	725	2.30 (1.72)	750	2.40 (1.79)	775	2.50 (1.87)
8000 (3775)	665	2.30 (1.72)	690	2.40 (1.79)	715	2.55 (1.90)	735	2.60 (1.94)	760	2.70 (2.01)	785	2.85 (2.13)	810	2.95 (2.20)
8500 (4010)	710	2.80 (2.09)	730	2.90 (2.16)	755	3.00 (2.24)	775	3.10 (2.31)	795	3.20 (2.39)	820	3.35 (2.50)	840	3.45 (2.57)

POWER EXHAUST FANS 100% HIGH STATIC OPERATION

BOLD INDICATES FIELD FURNISHED DRIVE

Air Volume cfm (L/s)	Return Duct Negative Static Pressure - Inches Water Gauge (Pa)													
	0 (0)		.10 (25)		.20 (50)		.30 (75)		.40 (100)		.50 (125)		.60 (150)	
	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)
8500 (4010)	475	1.30 (0.97)	500	1.30 (0.97)	525	1.40 (1.04)	550	1.50 (1.12)	585	1.60 (1.19)	625	1.75 (1.31)	670	1.90 (1.42)
9000 (4245)	520	1.55 (1.16)	535	1.60 (1.19)	550	1.65 (1.23)	570	1.70 (1.27)	605	1.85 (1.38)	640	1.95 (1.45)	685	2.15 (1.60)
9500 (4485)	550	1.80 (1.34)	560	1.85 (1.38)	575	1.90 (1.42)	600	2.00 (1.49)	620	2.10 (1.57)	655	2.20 (1.64)	695	2.40 (1.79)
10,000 (4720)	575	2.10 (1.57)	590	2.15 (1.60)	605	2.20 (1.64)	620	2.30 (1.72)	645	2.40 (1.79)	675	2.50 (1.87)	710	2.65 (1.98)
10,500 (4955)	605	2.45 (1.83)	615	2.45 (1.83)	625	2.50 (1.87)	645	2.60 (1.94)	670	2.75 (2.05)	690	2.80 (2.09)	725	3.00 (2.24)
11,000 (5190)	630	2.80 (2.09)	645	2.85 (2.13)	660	2.95 (2.20)	675	3.00 (2.24)	685	3.05 (2.28)	715	3.20 (2.39)	740	3.30 (2.46)
11,500 (5425)	665	3.25 (2.42)	675	3.30 (2.46)	680	3.30 (2.46)	695	3.40 (2.54)	715	3.50 (2.61)	735	3.60 (2.69)	755	3.70 (2.76)
12,000 (5665)	685	3.60 (2.69)	700	3.70 (2.76)	710	3.75 (2.80)	725	3.85 (2.87)	740	3.95 (2.95)	755	4.00 (2.98)	780	4.15 (3.10)
12,500 (5900)	720	4.10 (3.06)	730	4.20 (3.13)	740	4.25 (3.17)	750	4.30 (3.21)	765	4.40 (3.28)	780	4.50 (3.36)	800	4.60 (3.43)
13,000 (6135)	745	4.60 (3.43)	750	4.65 (3.47)	765	4.75 (3.54)	780	4.85 (3.62)	790	4.90 (3.66)	805	5.00 (3.73)	820	5.10 (3.80)
13,500 (6370)	775	5.15 (3.84)	785	5.25 (3.92)	795	5.35 (3.99)	805	5.40 (4.03)	815	5.50 (4.10)	830	5.60 (4.18)	845	5.70 (4.25)
14,000 (6605)	805	5.80 (4.33)	810	5.80 (4.33)	820	5.90 (4.40)	830	6.00 (4.48)	845	6.10 (4.55)	855	6.20 (4.63)	870	6.30 (4.70)

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

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

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

BLOWER DATA

POWER EXHAUST FANS STANDARD STATIC OPERATION

Return Duct Negative Static Pressure		Air Volume	
in. w.g.	Pa	cfm	L/s
0	0	12,800	6040
0.05	12	12,200	5760
0.10	25	11,500	5430
0.15	37	10,800	5100
0.20	50	9900	4670
0.25	62	9000	4250
0.30	75	7900	3730
0.35	87	6750	3190
0.40	100	5450	2570
0.45	112	4150	1960
0.50	125	2900	1370

CEILING DIFFUSER AIR THROW DATA

Air Volume		1 Effective Throw Range			
		Step-Down		Flush	
		cfm	L/s	ft.	m
Diffuser Model		LARTD30/36		LAFD30/36	
9000	4245	40 - 47	12 - 14	29 - 35	8 - 11
9500	4485	43 - 50	13 - 15	33 - 41	10 - 12
10,000	4720	46 - 54	14 - 16	37 - 46	11 - 14
10,500	4955	50 - 58	15 - 18	42 - 51	13 - 15
11,000	4190	53 - 61	16 - 19	46 - 56	14 - 17
11,500	5425	55 - 64	17 - 20	50 - 61	15 - 19
12,000	5665	58 - 67	18 - 20	54 - 66	16 - 20
12,500	5900	61 - 71	19 - 22	58 - 71	18 - 22
13,000	6135	64 - 74	20 - 23	62 - 75	19 - 23
13,500	6370	67 - 77	20 - 23	66 - 79	20 - 24

¹ Throw is the horizontal or vertical distance an airstream travels on leaving the outlet or diffuser before the maximum velocity is reduced to 50 ft. (15 m) per minute. Four sides open.

OUTDOOR SOUND DATA

*Unit Model No.	Octave Band Sound Power Levels dBA, re 10 ⁻¹² Watts							¹ Sound Rating Number (dB)
	Center Frequency - HZ							
	125	250	500	1000	2000	4000	8000	
248H, 300H	95	93	92	88	84	81	75	94
360H	94	93	93	90	86	81	75	95

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

¹ Tested according to ARI Standard 270-95 test conditions and ANSI Standard S1.32-1981.

ELECTRICAL DATA								21 TON		
21 TON HIGH EFFICIENCY (R-22)								LGA248H2		
Voltage - 60hz - 3 phase		208/230V			460V			575V		
Compressors (4)	Rated Load Amps (total)	17.3 (69.2)			9 (36)			7.1 (28.4)		
	Locked Rotor Amps (total)	123 (492)			62 (248)			50 (200)		
Outdoor Fan Motors (6)	Full Load Amps (total)	2.4 (14.4)			1.3 (7.8)			1 (6)		
	Locked Rotor Amps (total)	4.7 (28.2)			2.4 (14.4)			1.9 (11.4)		
Standard PEF (3)	Horsepower (W)	1/3 (249)			1/3 (249)			1/3 (249)		
	Full Load Amps(total)	2.4 (7.2)			1.3 (3.9)			1 (3)		
	Locked Rotor Amps (total)	14.1 (42.3)			7.2 (21.6)			5.7 (17.1)		
50% High Static PEF (2)	Horsepower (W)	2 (1491)			2 (1491)			2 (1491)		
	Full Load Amps(total)	7.5 (15)			3.4 (6.8)			2.7 (5.4)		
	Locked Rotor Amps (total)	69.4 (138.8)			31.4 (62.8)			20.1 (40.2)		
100% High Static PEF (3)	Horsepower (W)	2 (1491)			2 (1491)			2 (1491)		
	Full Load Amps(total)	7.5 (22.5)			3.4 (10.2)			2.7 (8.1)		
	Locked Rotor Amps (total)	69.4 (208.2)			31.4 (94.2)			20.1 (60.3)		
Service Outlet 115V GFI		15 Amps			15 Amps			15 Amps		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10
	Rated Load Amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11
	Locked Rotor Amps	105	152	193	45.6	66	84	36.6	54	66
¹ Maximum Overcurrent Protection	Unit only	110	125	150	60	60	70	45	50	50
	with Standard PEF	125	125	150	60	70	70	50	50	60
	with 50% High Static PEF	125	150	150	70	70	80	50	60	60
	with 100% High Static PEF	150	150	175	70	70	80	60	60	60
² Minimum Circuit Ampacity	Unit only	105	113	119	54	58	61	43	46	48
	with Standard PEF	112	120	126	58	61	64	46	49	51
	with 50% High Static PEF	120	128	134	61	64	67	48	51	53
	with 100% High Static PEF	128	135	142	64	68	71	51	54	56
Disconnect	Unit only	84M14	84M14	84M14	84M13	84M13	84M13	84M13	84M13	84M13
	with Standard PEF	84M14	84M14	84M14	84M13	84M13	84M13	84M13	84M13	84M13
	with 50% High Static PEF	84M14	84M14	84M14	84M13	84M13	84M13	84M13	84M13	84M13
	with 100% High Static PEF	84M14	84M14	84M15	84M13	84M13	84M13	84M13	84M13	84M13
Terminal Block		LTB2-175			LTB2-175			LTB2-175		

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

¹ HACR type breaker or fuse.

² Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA**21 TON****21 TON HIGH EFFICIENCY (R-410A)****LGA248H4**

Voltage - 60hz - 3 phase		208/230V			460V			575V		
Compressors (4)	Rated Load Amps (total)	18.1 (72.4)			9 (36)			6.8 (27.2)		
	Locked Rotor Amps (total)	137 (548)			62 (248)			50 (200)		
Outdoor Fan Motors (6)	Full Load Amps (total)	2.4 (14.4)			1.3 (7.8)			1 (6)		
	Locked Rotor Amps (total)	4.7 (28.2)			2.4 (14.4)			1.9 (11.4)		
Standard PEF (3)	Horsepower (W)	1/3 (249)			1/3 (249)			1/3 (249)		
	Full Load Amps (total)	2.4 (7.2)			1.3 (3.9)			1 (3)		
	Locked Rotor Amps (total)	14.1 (42.3)			7.2 (21.6)			5.7 (17.1)		
50% High Static PEF (2)	Horsepower (W)	2 (1491)			2 (1491)			2 (1491)		
	Full Load Amps (total)	7.5 (15)			3.4 (6.8)			2.7 (5.4)		
	Locked Rotor Amps (total)	69.4 (138.8)			31.4 (62.8)			20.1 (40.2)		
100% High Static PEF (3)	Horsepower (W)	2 (1491)			2 (1491)			2 (1491)		
	Full Load Amps (total)	7.5 (22.5)			3.4 (10.2)			2.7 (8.1)		
	Locked Rotor Amps (total)	69.4 (208.2)			31.4 (94.2)			20.1 (60.3)		
Service Outlet 115V GFI		15 Amps			15 Amps			15 Amps		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10
	Rated Load Amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11
	Locked Rotor Amps	105	152	193	45.6	66	84	36.6	54	66
¹ Maximum Overcurrent Protection	Unit only	125	125	150	60	60	70	45	50	50
	with Standard PEF	125	125	150	60	70	70	50	50	60
	with 50% High Static PEF	125	150	150	70	70	80	50	50	60
	with 100% High Static PEF	150	150	175	70	70	80	50	60	60
² Minimum Circuit Ampacity	Unit only	109	116	123	54	58	61	41	44	46
	with Standard PEF	116	123	130	58	61	64	44	47	49
	with 50% High Static PEF	124	131	138	61	64	67	47	50	52
	with 100% High Static PEF	131	139	145	64	68	71	50	52	54
Disconnect	Unit only	84M14	84M14	84M14	84M13	84M13	84M13	84M13	84M13	84M13
	with Standard PEF	84M14	84M14	84M14	84M13	84M13	84M13	84M13	84M13	84M13
	with 50% High Static PEF	84M14	84M14	84M15	84M13	84M13	84M13	84M13	84M13	84M13
	with 100% High Static PEF	84M14	84M15	84M15	84M13	84M13	84M13	84M13	84M13	84M13
Terminal Block		LTB2-175			LTB2-175			LTB2-175		

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

¹ HACR type breaker or fuse.² Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA								25 TON		
25 TON HIGH EFFICIENCY (R-22)								LGC300H2		
Voltage - 60hz - 3 phase		208/230V			460V			575V		
Compressors (4)	Rated Load Amps (total)	18.6 (74.4)			9 (36)			7.4 (29.6)		
	Locked Rotor Amps (total)	156 (624)			75 (300)			54 (216)		
Outdoor Fan Motors (6)	Full Load Amps (total)	2.4 (14.4)			1.3 (7.8)			1 (6)		
	Locked Rotor Amps (total)	4.7 (28.2)			2.4 (14.4)			1.9 (11.4)		
Standard PEF (3)	Horsepower (W)	1/3 (249)			1/3 (249)			1/3 (249)		
	Full Load Amps(total)	2.4 (7.2)			1.3 (3.9)			1 (3)		
	Locked Rotor Amps (total)	14.1 (42.3)			7.2 (21.6)			5.7 (17.1)		
50% High Static PEF (2)	Horsepower (W)	2 (1491)			2 (1491)			2 (1491)		
	Full Load Amps(total)	7.5 (15)			3.4 (6.8)			2.7 (5.4)		
	Locked Rotor Amps (total)	69.4 (138.8)			31.4 (62.8)			20.1 (40.2)		
100% High Static PEF (3)	Horsepower (W)	2 (1491)			2 (1491)			2 (1491)		
	Full Load Amps(total)	7.5 (22.5)			3.4 (10.2)			2.7 (8.1)		
	Locked Rotor Amps (total)	69.4 (208.2)			31.4 (94.2)			20.1 (60.3)		
Service Outlet 115V GFI		15 Amps			15 Amps			15 Amps		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10
	Rated Load Amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11
	Locked Rotor Amps	105	152	193	45.6	66	84	36.6	54	66
¹ Maximum Overcurrent Protection	Unit only	125	125	150	60	60	70	50	50	60
	with Standard PEF	125	150	150	60	70	70	50	50	60
	with 50% High Static PEF	150	150	150	70	70	80	50	60	60
	with 100% High Static PEF	150	150	175	70	70	80	60	60	60
² Minimum Circuit Ampacity	Unit only	111	118	125	54	58	61	44	47	49
	with Standard PEF	118	125	132	58	61	64	47	50	52
	with 50% High Static PEF	126	133	140	61	64	67	49	52	54
	with 100% High Static PEF	133	141	147	64	68	71	52	55	57
Disconnect	Unit only	84M14	84M14	84M14	84M13	84M13	84M13	84M13	84M13	84M13
	with Standard PEF	84M14	84M14	84M14	84M13	84M13	84M13	84M13	84M13	84M13
	with 50% High Static PEF	84M14	84M14	84M15	84M13	84M13	84M13	84M13	84M13	84M13
	with 100% High Static PEF	84M14	84M15	84M15	84M13	84M13	84M13	84M13	84M13	84M13
Terminal Block		LTB2-175			LTB2-175			LTB2-175		

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

¹ HACR type breaker or fuse.

² Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA**25 TON****25 TON HIGH EFFICIENCY (R-410A)****LGC300H4**

Voltage - 60hz - 3 phase		208/230V			460V			575V		
Compressors (4)	Rated Load Amps (total)	22.4 (89.6)			10.6 (42.4)			7.7 (30.8)		
	Locked Rotor Amps (total)	149 (596)			75 (300)			54 (216)		
Outdoor Fan Motors (6)	Full Load Amps (total)	2.4 (14.4)			1.3 (7.8)			1 (6)		
	Locked Rotor Amps (total)	4.7 (28.2)			2.4 (14.4)			1.9 (11.4)		
Standard PEF (3)	Horsepower (W)	1/3 (249)			1/3 (249)			1/3 (249)		
	Full Load Amps (total)	2.4 (7.2)			1.3 (3.9)			1 (3)		
	Locked Rotor Amps (total)	14.1 (42.3)			7.2 (21.6)			5.7 (17.1)		
50% High Static PEF (2)	Horsepower (W)	2 (1491)			2 (1491)			2 (1491)		
	Full Load Amps (total)	7.5 (15)			3.4 (6.8)			2.7 (5.4)		
	Locked Rotor Amps (total)	69.4 (138.8)			31.4 (62.8)			20.1 (40.2)		
100% High Static PEF (3)	Horsepower (W)	2 (1491)			2 (1491)			2 (1491)		
	Full Load Amps (total)	7.5 (22.5)			3.4 (10.2)			2.7 (8.1)		
	Locked Rotor Amps (total)	69.4 (208.2)			31.4 (94.2)			20.1 (60.3)		
Service Outlet 115V GFI		15 Amps			15 Amps			15 Amps		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10
	Rated Load Amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11
	Locked Rotor Amps	105	152	193	45.6	66	84	36.6	54	66
¹ Maximum Overcurrent Protection	Unit only	150	150	150	70	70	80	50	50	60
	with Standard PEF	150	150	175	70	70	80	50	60	60
	with 50% High Static PEF	150	150	175	70	80	80	60	60	60
	with 100% High Static PEF	150	175	175	80	80	90	60	60	60
² Minimum Circuit Ampacity	Unit only	127	134	141	61	64	67	45	48	50
	with Standard PEF	134	141	148	65	68	71	48	51	53
	with 50% High Static PEF	142	149	156	68	71	74	51	54	56
	with 100% High Static PEF	149	157	163	71	75	78	53	56	58
Disconnect	Unit only	84M14	84M15	84M15	84M13	84M13	84M13	84M13	84M13	84M13
	with Standard PEF	84M14	84M15	84M15	84M13	84M13	84M13	84M13	84M13	84M13
	with 50% High Static PEF	84M15	84M15	84M15	84M13	84M13	84M14	84M13	84M13	84M13
	with 100% High Static PEF	84M15	84M15	84M15	84M13	84M14	84M14	84M13	84M13	84M13
Terminal Block		LTB2-175			LTB2-175			LTB2-175		

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

¹ HACR type breaker or fuse.² Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA**30 TON****30 TON HIGH EFFICIENCY (R-22)****LGC360H2**

Voltage - 60hz - 3 phase		208/230V			460V			575V		
Compressors (4)	Rated Load Amps (total)	22.4 (89.6)			10.9 (43.6)			8.3 (33.2)		
	Locked Rotor Amps (total)	164 (656)			100 (400)			78 (312)		
Outdoor Fan Motors (6)	Full Load Amps (total)	2.4 (14.4)			1.3 (7.8)			1 (6)		
	Locked Rotor Amps (total)	4.7 (28.2)			2.4 (14.4)			1.9 (11.4)		
Standard PEF (3)	Horsepower (W)	1/3 (249)			1/3 (249)			1/3 (249)		
	Full Load Amps (total)	2.4 (7.2)			1.3 (3.9)			1 (3)		
	Locked Rotor Amps (total)	14.1 (42.3)			7.2 (21.6)			5.7 (17.1)		
50% High Static PEF (2)	Horsepower (W)	2 (1491)			2 (1491)			2 (1491)		
	Full Load Amps (total)	7.5 (15)			3.4 (6.8)			2.7 (5.4)		
	Locked Rotor Amps (total)	69.4 (138.8)			31.4 (62.8)			20.1 (40.2)		
100% High Static PEF (3)	Horsepower (W)	2 (1491)			2 (1491)			2 (1491)		
	Full Load Amps (total)	7.5 (22.5)			3.4 (10.2)			2.7 (8.1)		
	Locked Rotor Amps (total)	69.4 (208.2)			31.4 (94.2)			20.1 (60.3)		
Service Outlet 115V GFI		15 Amps			15 Amps			15 Amps		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10
	Full Load Amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11
	Locked Rotor Amps	105	152	193	45.6	66	84	36.6	54	66
¹ Maximum Overcurrent Protection	Unit only	150	150	150	70	70	80	50	60	60
	with Standard PEF	150	150	175	70	80	80	60	60	60
	with 50% High Static PEF	150	150	175	70	80	80	60	60	60
	with 100% High Static PEF	150	175	175	80	80	90	60	60	70
² Minimum Circuit Ampacity	Unit only	127	134	141	62	66	69	48	51	53
	with Standard PEF	134	141	148	66	70	73	51	54	56
	with 50% High Static PEF	142	149	156	69	72	75	53	56	58
	with 100% High Static PEF	149	157	163	72	76	79	56	59	61
Disconnect	Unit only	84M14	84M15	84M15	84M13	84M13	84M13	84M13	84M13	84M13
	with Standard PEF	84M14	84M15	84M15	84M13	84M13	84M13	84M13	84M13	84M13
	with 50% High Static PEF	84M15	84M15	84M15	84M13	84M13	84M14	84M13	84M13	84M13
	with 100% High Static PEF	84M15	84M15	84M15	84M13	84M14	84M14	84M13	84M13	84M13
Terminal Block		LTB2-175			LTB2-175			LTB2-175		

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

¹ HACR type breaker or fuse.² Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.³ Factory installed circuit breaker not available.

ELECTRICAL DATA**30 TON****30 TON HIGH EFFICIENCY (R-410A)****LGC360H4**

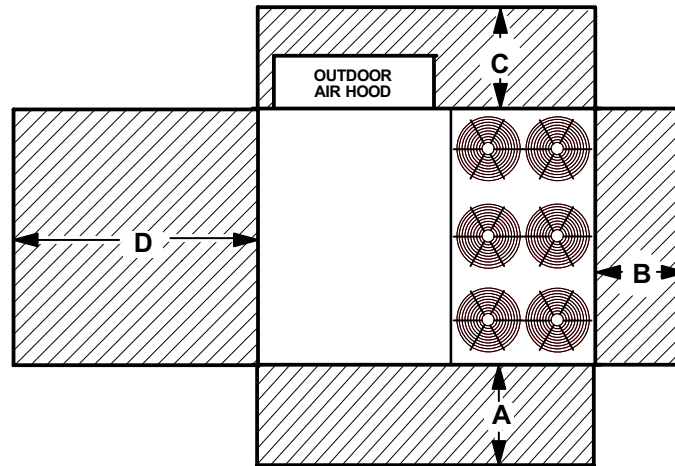
Voltage - 60hz - 3 phase		208/230V			460V			575V		
Compressors (4)	Rated Load Amps (total)	25 (100)			12.2 (48.8)			9 (36)		
	Locked Rotor Amps (total)	164 (656)			100 (400)			78 (312)		
Outdoor Fan Motors (6)	Full Load Amps (total)	2.4 (14.4)			1.3 (7.8)			1 (6)		
	Locked Rotor Amps (total)	4.7 (28.2)			2.4 (14.4)			1.9 (11.4)		
Standard PEF (3)	Horsepower (W)	1/3 (249)			1/3 (249)			1/3 (249)		
	Full Load Amps(total)	2.4 (7.2)			1.3 (3.9)			1 (3)		
	Locked Rotor Amps(total)	14.1 (42.3)			7.2 (21.6)			5.7 (17.1)		
50% High Static PEF (2)	Horsepower (W)	2 (1491)			2 (1491)			2 (1491)		
	Full Load Amps(total)	7.5 (15)			3.4 (6.8)			2.7 (5.4)		
	Locked Rotor Amps(total)	69.4 (138.8)			31.4 (62.8)			20.1 (40.2)		
100% High Static PEF (3)	Horsepower (W)	2 (1491)			2 (1491)			2 (1491)		
	Full Load Amps(total)	7.5 (22.5)			3.4 (10.2)			2.7 (8.1)		
	Locked Rotor Amps(total)	69.4 (208.2)			31.4 (94.2)			20.1 (60.3)		
Service Outlet 115V GFI		15 Amps			15 Amps			15 Amps		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10
	Full Load Amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11
	Locked Rotor Amps	105	152	193	45.6	66	84	36.6	54	66
¹ Maximum Overcurrent Protection	Unit only	150	150	175	70	80	80	60	60	60
	with Standard PEF	150	175	175	80	80	90	60	60	60
	with 50% High Static PEF	175	175	175	80	80	90	60	60	70
	with 100% High Static PEF	175	175	200	80	90	90	60	70	70
² Minimum Circuit Ampacity	Unit only	138	145	152	68	71	74	51	54	56
	with Standard PEF	145	153	159	72	75	78	54	57	59
	with 50% High Static PEF	153	160	167	75	78	81	56	59	61
	with 100% High Static PEF	160	168	174	78	81	84	59	62	64
Disconnect	Unit only	84M15	84M15	84M15	84M13	84M14	84M14	84M13	84M13	84M13
	with Standard PEF	84M15	84M15	84M15	84M13	84M14	84M14	84M13	84M13	84M13
	with 50% High Static PEF	84M15	84M15	84M15	84M14	84M14	84M14	84M13	84M13	84M13
	with 100% High Static PEF	84M15	84M15	84M15	84M14	84M14	84M14	84M13	84M13	84M13
Terminal Block		LTB2-175			LTB2-175			LTB2-175		

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

¹ HACR type breaker or fuse.² Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

UNIT CLEARANCES - INCHES (MM)

Unit With Economizer



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

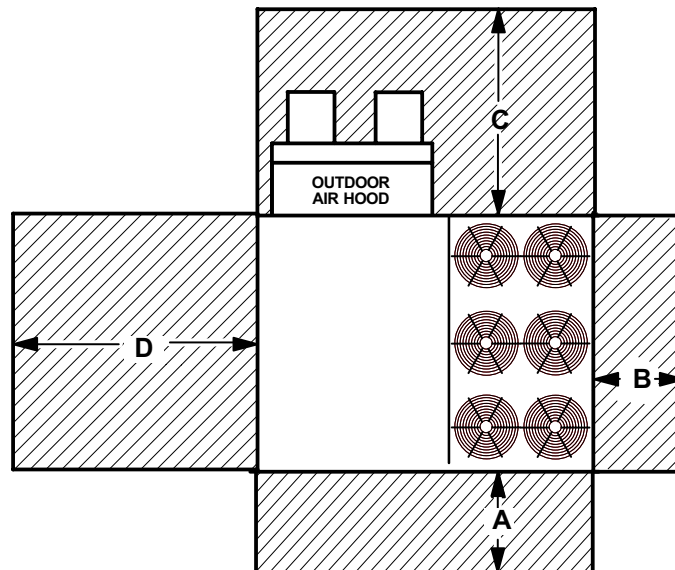
NOTE - Entire perimeter of unit base requires support when elevated above the mounting surface.

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.

Unit With High Static Power Exhaust Fans



¹ Unit Clearance	A		B		C		D		Top Clearance
	in.	mm	in.	mm	in.	mm	in.	mm	
Service Clearance	60	1524	36	914	80	2032	66	1676	Unobstructed
Clearance to Combustibles	36	914	1	25	1	25	1	25	
Minimum Operation Clearance	45	1143	36	914	80	2032	41	1041	

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.

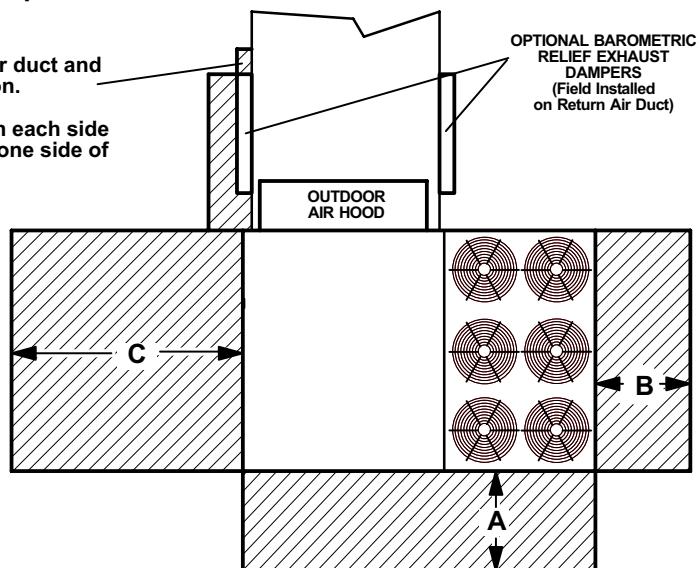
Minimum Operation Clearance - Required clearance for proper unit operation.

UNIT CLEARANCES - INCHES (MM)

Unit With Horizontal Barometric Relief Dampers

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

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



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

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.

SECTRA™ COMMERCIAL ZONING SYSTEM - FACTORY INSTALLED

SECTRA SINGLE ZONE CONTROL

Module monitors and controls heating, cooling and economizer functions of Lennox' S-Class™ and L Series® rooftop equipment configured for single-zone applications. Up to 50 zoned (bypass or VFD) and single zone (DDC or communicating thermostat) units can be combined on a single Sectra Commercial Zoning System network (maximum of 120 LonWorks® nodes). Allows 2 stage heat/3 stage cool demands to operate four stages of cooling and heating by grouping compressors/heat stages in the factory IMC configuration. Uses LonTalk protocol, conforming with LonMark® Rooftop Unit Functional Profile. Occupied, unoccupied, standby, override, start-up and wait, cooling, heating, emergency heat, off, disabled, freeze protect, manual position, and fan-only modes. Factory installed complete with return air temperature sensor and blower proving switch. Controls economizer damper via minimum position, proportional free cooling (sensible, single enthalpy, or differential enthalpy), or demand control ventilation using an optional carbon dioxide sensor. Supports modulating hydronic valves for heating and/or cooling. A total of one resistive analog input, two binary inputs, and six relay outputs are available.

SECTRA BYPASS CONTROL

Module monitors and controls heating, cooling and economizer functions of Lennox' S-Class™ and L Series® rooftop equipment configured for pressure dependent constant volume bypass applications. Controls up to 18 zones per rooftop unit, with up to 50 combined zoned (bypass or VFD) and single zone (DDC or communicating thermostat) units on a single Sectra Commercial Zoning System network (maximum of 120 LonWorks nodes). Allows 2 stage heat/3 stage cool demands to operate four stages of cooling and heating by grouping compressors/heat stages in the factory IMC configuration. Modulates bypass damper to maintain constant static pressure input as zone dampers modulate. Occupied, unoccupied, vent and shutdown modes. Factory installed complete with return air temperature sensor, discharge air temperature sensor, and blower proving switch. Controls economizer damper via minimum position, proportional free cooling (sensible, single enthalpy, or differential enthalpy), or demand control ventilation using an optional carbon dioxide sensor. Supports modulating hydronic valves for heating and/or cooling. A total of eight analog inputs, eight binary inputs, eight binary outputs, and six analog outputs are available.

SECTRA VFD CONTROL

Module works with the Integrated Modular Controller (IMC) control module to monitor and control heating and cooling functions of Lennox' S-Class™ and L Series® rooftop equipment configured for pressure dependent, variable air volume applications with a factory mounted variable frequency drive (VFD). Controls up to 18 zones per rooftop unit, with up to 50 combined zoned (bypass or VFD) and single zone (DDC or communicating thermostat) units on a single Sectra Commercial Zoning System network (maximum of 120 LonWorks nodes). Module communicates with IMC using blower enable (G), occupied (OCP), discharge cooling enable (Y1), and discharge heating enable (W1) digital outputs. IMC modulates VFD to maintain constant static pressure input as zone dampers modulate. IMC controls 4 stage heat/4 stage cool individually based on discharge air temperature input. Economizer, demand control ventilation, power exhaust, and other unit functionality are controlled directly by the IMC.

AFTERMARKET ZONING SYSTEMS

See "Aftermarket Zoning System Interface" in the Controls Application Guide section of this document.

SECTRA™ COMMERCIAL ZONING SYSTEM - FIELD INSTALLED

SECTRA ROOFTOP UNIT CONTROL KITS

Single Zone Control - Includes controller, blower proving switch, return air temperature sensors, mounting bracket, and wiring harness

Sectra Single Zone Control - L Series® 7.5 to 30 ton (CAV Models) C0CTRL03BD1L

Sectra Single Zone Control - L Series® 3 to 6 ton, S-Class™ 35 to 50 ton (CAV Models) C0CTRL03EA1L

Bypass Control - Includes controller, blower proving switch, return and discharge air temperature sensors, mounting bracket, and wiring harness

Sectra Bypass Control - L Series® 7.5 to 30 ton C0CTRL04BD1L

Sectra Bypass Control - L Series® 3 to 6 ton, S-Class™ 35 to 50 ton C0CTRL04EA1L

Sectra VFD Control -- Includes controller and wiring harness to communicate with IMC controller

Sectra VFD Control - L Series® 25-30 ton (300H - 360H) (VFD Models) C0CTRL05BD1L

Sectra VFD Control - S-Class™ 35 to 50 ton (VFD Models) C0CTRL05EA1L

NOTE - All Rooftop Unit Control Kits require 75VA transformer (C0MISC31AE1-)

SECTRA ROOFTOP UNIT CONTROL SENSORS



Temperature -- Wall mount, three hour override button, override status LED, and setpoint adjust C0SNAJ00AE1-

Temperature -- Wall mount, without override or setpoint adjust C0SNZN01AE1-



Temperature -- Wallplate, without override or setpoint adjust C0SNZN05AE1-

Temperature - Duct mount, discharge air C0SNDC00AE1-

CO₂ - Wall mount white case, no display C0SNSR52AE1L

CO₂ - Wall mount, black case, no display (UL rated for interior duct and plenum mounting) C0SNSR53AE1L

CO₂ - Wall mount, white case, digital display C0SNSR50AE1L

CO₂ - Duct Kit - Aspiration box to mount any CO₂ sensor in duct C0MISC16AE1-

Switch - Dirty Filter C0SWCH00AE1-

Relay - Baseboard auxiliary heat C0MISC91AE1-

SECTRA™ COMMERCIAL ZONING SYSTEM - FIELD INSTALLED

SECTRA SCHEDULER



Scheduler - Maintains schedules for up to four rooftop unit controllers C0CTRL12AE1L
NOTE - 75VA transformer (C0MISC31AE1-) required

SECTRA NETWORK DISPLAY



Network Display - Local interface to monitor and control Sectra network setpoints, schedules and alarms C0CTRL20AE1L
NOTE - 75VA transformer (C0MISC31AE1-) required

SECTRA NETWORK MODEM

Modem - allows remote telephone communications to network, includes transformer C0MISC40AE1L
Modem cable -- DB9 to DB25 serial cable to connect modem to Serial Lontalk Adaptor C0MISC42AE1-
NOTE: Serial Lontalk Adaptor (C0MISC45AE1-) required to connect modem to Sectra network

SECTRA SERIAL LONTALK® ADAPTOR



Serial Lontalk Adaptor - Provides communication between Sectra network and PC or modem . . . C0MISC45AE1-
Operations Kit - Cable to connect Serial Lontalk Adaptor to PC, 120/24VAC transformer for Serial Lontalk Adaptor with power cord, instructions C0MISC44AE1-
NOTE: Modem (C0MISC40AE1L) and modem cable (C0MISC42AE1-) required for remote communication

SECTRA SOFTWARE

Lennox Commercial Controls Selection Software - Includes Sectra® (and L Connection®) Estimator Software for product selection and submittal information C0SOFT40AE1-
Sectra™ Configurator - Windows® based PC software to configure, monitor and control Sectra system C0SOFT10AE1-

SECTRA ZONE CONTROLLER



Zone Controller - Combined controller/actuator modulates zone damper based on signal from zone sensor, reports demand to rooftop unit controller C0CTRL60AE1L
NOTE - 75VA transformer (C0MISC31AE1-) required
- Compatible with Sectra Bypass and Sectra VFD applications

SECTRA BYPASS DAMPER ACTUATOR



Bypass Damper Actuator - Modulates bypass damper based on signal from rooftop unit controller C0MISC0AE1L
NOTE - 75VA transformer (C0MISC31AE1-) required

Static Pressure Transducer - Sends pressure signal to Sectra rooftop unit controller for bypass control C0SNSR20AE1-

SECTRA TRANSFORMER

Transformer - 75VA, 120/208/220V primary, 24V secondary at rated power output C0MISC31AE1-
NOTE - Transformer can be used with unit controllers, Sectra Network Display, etc.

SECTRA LONWORKS® NETWORK WIRING

LonWorks Wire - 1000 feet, 22AWG, unshielded twisted pair, plenum rated, daisy chain on free topology transceiver (FTT) network C0MISC03AE1-
Four Way Repeater - Required for Sectra networks exceeding 4600 ft. (1400 m) in length or a combined 60 LonWorks nodes C0MISC50AE1L
Termination Module - Required at each non-repeater termination point (typically two per Sectra network) C0MISC90AE1-
NOTE - If repeater is present, one termination module is required per subnet - maximum four subnets.

OPTIONAL UNIT CONTROLLERS AND SYSTEMS INTEGRATION

FACTORY OR FIELD INSTALLED

NOVAR ETM-2051

Electronic Thermostat Module (ETM)/Blower Proving Switch/Return Air Sensor/Discharge Air Sensor/Wiring Harness -

Module monitors unit operation from different sensors installed in unit and monitors unit diagnostic codes of the IMC. The ETM has outputs for 2 stage heat/2 stage cool, 7 relay outputs: fan Cool 1, Cool 2. Heat 1, Heat 2, Economizer, Night Mode, automatic or continuous blower operation, economizer damper operation and night setback, features: day/occupied mode with low enthalpy (outdoor air damper open), high enthalpy (outdoor air damper closed) or night/unoccupied mode (outdoor air damper closed), network communication (RS-485, shielded pair twisted wire), local override (1 to 255 minutes), watchdog function, fail-safe operation, ETM allows units to be "daisy chained" together (up to 31 units) to be operated from one central location with an "executive" type control processor (on-site or off-site), built-in time delays, built-in unit operating defaults, diagnostic LED's indicate various operating functions, surge suppression protects ETM against lightning or voltage spikes, Blower Proving Switch monitors blower operation and locks out unit in case of blower failure, Return Air Sensor provides input to ETM module to determine heating or cooling operation and number of stages required, Discharge Air Sensor monitors leaving air temperature during unit operation.

C0CTRL35EA1L

FIELD INSTALLED

Room Temperature Sensor with Adjustable Temperature Setpoint and Built-in Night Setback Override Button - Provides

input to ETM module to determine heating or cooling operation and number of stages required. Temperature setpoint adjustment. Override button allows momentary override of night setback during unoccupied mode. Status LED.

C0SNZN75AE1-

Room Temperature Sensor - Provides input to ETM module to determine heating or cooling operation and number of stages required.

C0SNZN74AE1-

Room Temperature Sensor with Switchover - Used to sense indoor space temperatures in commercial and industrial environments. In programmable "fall-back" configuration, provides capability to switch over control to a secondary sensor if the signal is lost from this sensor.

C0SNZN76AE1-

Averaging Sensor - Used for temperature averaging in a large room.

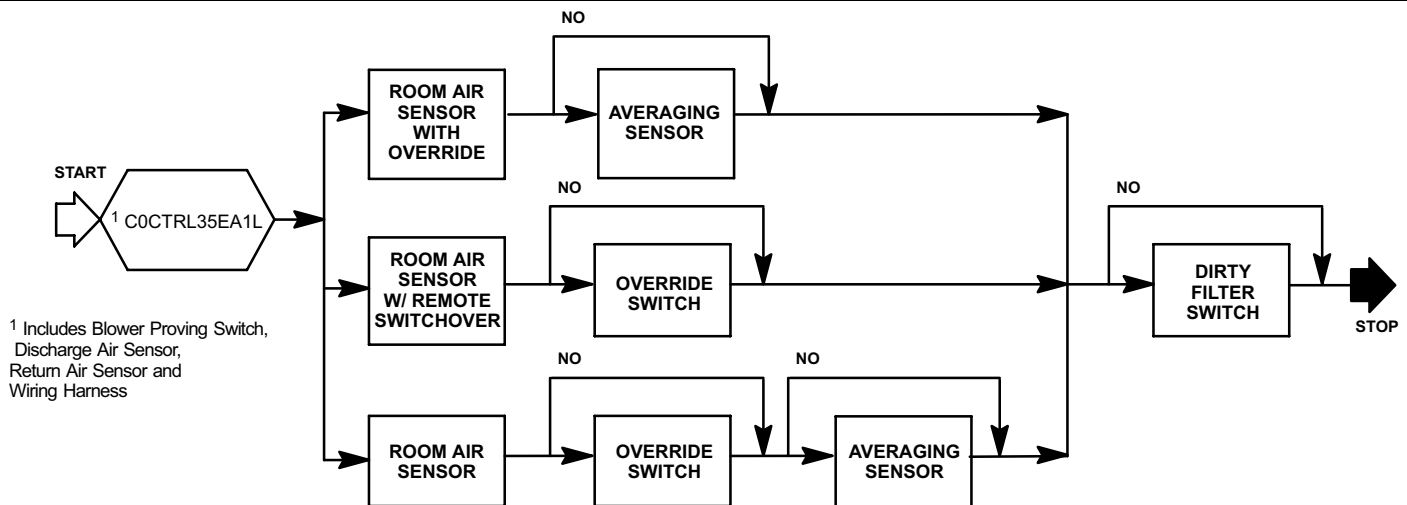
C0SNZN74AE1-

Override Switch - After Hours Remote Override Button - Wall Plate furnished.

C0SWCH20AE1-

Dirty Filter Switch - Senses static pressure increase indicating a dirty filter condition.

C0SWCH00AE1-



OPTIONAL UNIT CONTROLLERS AND SYSTEMS INTEGRATION

FACTORY OR FIELD INSTALLED

IMC LONTALK® MODULE

The IMC LonTalk module allows communication between the Lennox IMC (M1-7, v5.10+) controller and a LonWorks® network. The module translates input and output variables between the Lennox protocol and the LonTalk protocol. The IMC LonTalk Module has been developed to communicate with building automation systems that support the LonMark® Space Comfort Controller (SCC) or Discharge Air Controller (DAC) functional profiles. A Lennox zone sensor, a LonTalk network zone sensor, or a LonTalk thermostat or DDC controller may be used to send the zone temperature or thermostat demands to the IMC.

The IMC LonTalk Module utilizes an FTT-10A free topology transceiver communicating at 78.8 kbps. It is compatible with Echelon® qualified twisted pair cable such as Lennox model no. C0MISC03AE1-, Belden 8471 or NEMA Level 4 cables. The Module can communicate up to 1640 ft. (500m) with no repeater and up to 3200 ft. (1000m) with one repeater. The LonWorks limit of 64 nodes per segment applies to this device. One termination module, Lennox model no. C0MISC90AE1- is required for free topology segments and two are required for doubly terminated bus topology segments. Termination modules must be field provided.

C0CTRL51AE1L

NOTE: A qualified systems integrator with adequate training and experience is required to integrate and commission the IMC LonTalk Module into a third-party LonTalk building automation system. A LonWorks network configuration software tool such as LonMaker® (or equivalent) is required to commission the LonWorks network. An external interface file (XIF) will be made available upon request.

LONWORKS NETWORK VARIABLES - INPUTS

LonMark Name	Variable Type	Description
nviApplicMode	SNVT_hvac_mode	Unit application mode
0-Auto		Auto (unit-defined operation)
1-Heat		Demand for full heating
3-Cool		Demand for full cooling
6-Off		Unit off (IMC standby)
9-Fan only		Main fan (blower) on
254-Reset		Force controller reset
255-Null		Same as auto.
nviOAMinPos	SNVT_lev_percent	Min economizer damper position
nviOccManCmd	SNVT_occupancy	Zone occupied status
nviOccSchedule	SNVT_tod_event	Occupancy scheduler input used to put controller unit into different occupancy modes
nviOccSensor	SNVT_occupancy	Occupancy sensor input. Used to indicate the presence of occupants
nviSpaceDehumSP	SNVT_lev_percent	Zone relative humidity set point
nviSetpoint	SNVT_temp_p	Zone temperature setpoint
nviSetptOffset	SNVT_temp_p	Zone temp setpoint offset
nviSpaceTemp	SNVT_temp_p	Remote zone temp.
nviEmergOverride	SNVT_hvac_emerg	Emergency smoke override
nviComprEnable	SNVT_switch	Compressor enable
nviPriHeatEnable	SNVT_switch	Primary heat enable
nviAuxHeatEnable	SNVT_switch	Auxiliary heat enable

OPTIONAL UNIT CONTROLLERS AND SYSTEMS INTEGRATION

IMC LONTALK® MODULE (Continued)

LONWORKS NETWORK VARIABLES - OUTPUTS

LonMark Name	Variable Type	Description
snvoIMCVersion	Manufacturer defined	IMC firmware version. D0-D3 (ASCII)
snvoUnitID	Manufacturer defined	Unit ID. \$3x-Gas/Elect \$4x-Elect/Elect \$5x-Heat Pump
nvoUnitStatus:	SNVT_hvac_status	Unit operation mode (i.e. cool, heat, etc)
1 - HVAC heat		
2 - HVAC morning warmup		
3 - HVAC cool		
5 - HVAC pre-cool		
6 - HVAC off		
7 - HVAC test		
8 - HVAC emergency heat		
9 - HVAC fan only		
12 - HVAC max heat		
14 - HVAC dehumidification		
129 - HVAC fresh air heating		
131 - HVAC fresh air cooling		
145 - HVAC defrost 1		
161 - HVAC defrost 2		
177 - HVAC defrost 1 2		
nvoSpaceTemp	SNVT_temp_p	Zone Temperature, effective
nvoDischAirTemp	SNVT_temp_p	Supply air temperature
nvoEffectOccup	SNVT_occupancy	Zone occupied status
nvoLocalOATemp	SNVT_temp_p	Outdoor air temperature
nvoLocalSpaceTemp	SNVT_temp_p	Zone Temperature, local
nvoOADamper	SNVT_lev_percent	Economizer damper position
nvoHeatPrimary	SNVT_lev_percent	Primary heating status
nvoHeatSecondary	SNVT_lev_percent	Heat pump electric strip heating status
nvoCoolPrimary	SNVT_lev_percent	Cooling compressor 1-4 status (on/off)
nvoEconEnabled	SNVT_switch	Economizer outdoor air suitable
nvoSupFanStatus	SNVT_switch	Supply fan status
nvoEffectSetpt	SNVT_temp_p	Zone temperature set points
snvoCurrentError	Manufacturer defined	Currently displayed error code
snvoCommStatus	Manufacturer defined	IMC Communicating
snvoErrorPointer	Manufacturer defined	Error pointer. This value points to the next available alarm code location. It runs from 0 to 83 and then returns to 0. Tracking this value and using the ten most recent IMC error codes (next variable) allows an application to 1) determine when new errors are logged by the IMC, 2) what those errors are, and 3) if any errors have been missed due to network delays or other reasons.
snvoMostRecErr1-10	Manufacturer defined	Alarm codes listed in the IMC manual
nvoSpaceCO2	SNVT_ppm	Zone CO ₂ level (PPM), local
nvoSpaceRHEff	SNVT_lev_percent	Zone relative humidity, effective
nvoSpaceRH	SNVT_lev_percent	Zone relative humidity, local
nvoEffSpaceDHSP	SNVT_lev_percent	Zone relative humidity set point
nvoDehumidifier	SNVT_switch	Dehumidification status
nvoRATemp	SNVT_temp_p	Return air temperature
nvoBldgStatPress	SNVT_press_p	Analog Input 2 (GP1 - VAV Bldg Static)
nvoDuctStatPress	SNVT_press_p	Analog Input 1 (GP1 - VAV Supply Static)
nvoExhFanStatus	SNVT_switch	Exhaust fan status

OPTIONAL UNIT CONTROLLERS AND SYSTEMS INTEGRATION

FACTORY OR FIELD INSTALLED

IMC BACNET® MODULE

The IMC BACnet module allows communication between the Lennox IMC (M1-7, v5.10+) controller and a BACnet MSTP network. The module translates input and output variables between the Lennox protocol and the BACnet protocol. The IMC BACnet Module has been developed to communicate with building automation systems that support the BACnet Application Specific Controller (B-ASC) device profile. A Lennox zone sensor, a BACnet network zone sensor, or a BACnet thermostat or DDC controller may be used to send the zone temperature or thermostat demands to the IMC.

The IMC BACnet Module is compatible with MSTP EIA-485 daisy-chain networks communicating at 38.4 kbps. It is compatible with twisted pair, shielded cable such as Lennox model nos. C0MISC00AE1-, C0MISC04AE1- or C0MISC01AE1- or Belden 8761, 88761. A maximum of 31 IMC BACnet Modules can be included per network. The BACnet MSTP maximum total bus length (without repeater) of 850 ft. (260m) applies to this device. A 120 ohm resistor must be added to the last module in the daisy chain (included in field kit).

C0CTRL50AE1L

NOTE: A qualified systems integrator with adequate training and experience is required to integrate and commission the IMC BACnet Module into a third-party BACnet building automation system. A BACnet network configuration software tool is required to commission the BACnet network.

INPUTS TO IMC

BACnet Object Name	Object Type: ID: Units	Description
Application Mode Control	AO: 101:95 (No_Units)	Unit application
0 - Auto		Auto (unit-defined operation)
1 - Heat		Demand for full Heating
3 - Cool		Demand for full Cooling
6 - Off		Unit Off (IMC stand by)
9 - Fan only		Main fan (blower) on
228 - Cool 1		Thermostat input Y1
232 - Cool 2		Thermostat input Y2
236 - Cool 3		Thermostat input Y1 & Y2
225 - Heat 1		Thermostat input W1
226 - Heat 2 (heat pump only)		Thermostat input W2 (heat pump emergency heat)
227 - Heat 3		Thermostat input W1 & W2
229 - Supermarket Reheat Lo		Thermostat input Y1 & W1
230 - Supermarket Reheat Hi		Thermostat input Y1 & W2
254 - Reset		Force controller reset
255 - Null		Same as auto.
Outdoor Air Min Pos Control	AO: 102 : 98 (Percent)	Min economizer damper position
Occupancy Override Control	AO: 103: 95 (No_Units)	Zone occupied status
Occupancy Scheduler Control	AO: 104: 95 (No_Units)	Occupancy scheduler input used to put controller unit into different occupancy modes.
Occupancy Sensor Input	AO: 107: 95 (No_Units)	Occupancy sensor input. Used to indicate the presence of occupants
Space Dehumidification Setpt	AO: 108: 98 (Percent)	Zone relative humidity set point
Temperature Setpoint (abs)	AO: 109: 64 (Degrees - Fahrenheit)	Zone temperature setpoint
Temperature Setpoint Offset	AO: 110: 64 (Degrees - Fahrenheit)	Zone temp setpoint offset
Space Temperature Input	AO: 113: 64 (Degrees - Fahrenheit)	Remote zone temp.
Emergency Override Control	AO: 114: 95 (No_Units)	Emergency smoke override
Compressor Enable Control	AO: 115: 98 (Percent)	Compressor enable
Primary Heat Enable Control	AO: 117: 98 (Percent)	Primary heat enable
Auxiliary Heat Enable Control	AO: 119: 98 (Percent)	Auxiliary heat enable

OPTIONAL UNIT CONTROLLERS AND SYSTEMS INTEGRATION

IMC BACNET® MODULE (Continued)

OUTPUTS FROM IMC

OUTPUTS FROM IMC

IMC Version [00].....[07]	AI: 200-207 : 95 (No_Units)	IMC firmware version. (null terminated ASCII)
Unit ID	AI: 231 : 95 (No_Units)	Unit ID \$3x-Gas/Elect. \$4x-Elect/Elect. \$5x-Heat Pump
Unit Status	AI :232 : 95 (No_Units)	Unit operation mode (i.e. cool, heat, etc.)
1 - HVAC heat		
2 - HVAC morning warm-up		
3 - HVAC cool		
5 - HVAC pre-cool		
6 - HVAC off		
7 - HVAC test		
8 - HVAC emergency heat		
9 - HVAC fan only		
12 - HVAC max heat		
14 - HVAC dehumidification		
129 - HVAC fresh air heating		
131 - HVAC fresh air cooling		
145 - HVAC defrost 1		
161 - HVAC defrost 2		
177 - HVAC defrost 1, 2		
Space Temperature	AI: 239 : 64 : 95 (Degrees - Fahrenheit))	
Discharge Air Temperature	AI: 240 : 64 (Degrees - Fahrenheit)	Supply air temperature
Effective Occupancy	AI : 241 : 95 (No_ Unit)	Zone occupied status
Local Outside Air Temperature	AI 242 : 64 (Degrees - Fahrenheit)	Outdoor air temperature
Local Space Temperature	AI: 243 :64 (Degrees Fahrenheit)	Zone Temperature, local
Outside Air Damper	AI: 244 : 98 (Percent)	Economizer damper position
Heat Primary	AI: 245 :98 (Percent)	Primary heating status
Heat Secondary	AI: 246 : 98 (Percent)	Heat pump electric strip heating status
Cool Primary	AI: 247 : 98 (Percent)	Cooling compressor 1-4 status (on/off)
Economizer Enabled	AI: 248 : 95 (Percent)	Economizer outdoor air suitable
Supply Fan Status	AI: 250 : 98 (Percent)	Supply fan status
Space Temperature Set Point (Eff)	AI: 252 :64 (Degrees Fahrenheit)	Zone temperature set points
Current Error	AI: 253 : 95 (No_Units)	Currently displayed error code
Error Pointer	AI: 254 : 95 (No_Units)	Error pointer. This value points to the next available alarm code location. It runs from 0 to 83 and then rolls-over to 0. Tracking this value and using the ten most recent error codes (below) allows an application to determine when new errors are logged by the IMC, what those errors are, and if any errors have been missed due to network delays or for any other reason.
Most recent Error 1..10	AI: 255-264 : 95 (No _Units)	IMC alarm codes as listed in the IMC manual.
Space CO2 Sensor (Local)	AI : 274 :96 (Parts per million)	Zone CO ₂ level (PPM), local
Space Humidity (Local)	AI: 276 : 98 (Percent)	Zone relative humidity, local
Dehumidification Set Point (Eff)	AI: 278 : 98 (Percent)	Zone relative humidity set point
Dehumidification Status	AI: 279 : 95 (No_Units)	Dehumidification status
Return Air Temperature	AI: 281 :64 (Degrees Fahrenheit))	Return air temperature
Building Static Pressure	AI: 282 : 64 (Inches of water)	Analog Input 2 (GP1 - VAV Bldg Static)
Duct Static Pressure	AI: 282 : 64 (Inches of water)	Analog Input 1 (GP1 - VAV Supply Static)
Exhaust Fan Status	AI: 285 :98 (Percent)	Exhaust fan status
Controller Online	B1:100 :95 (No_Units)	IMC Communicating

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS - FIELD INSTALLED

COMMERCIAL TOUCHSCREEN THERMOSTAT



Intuitive Touchscreen Interface - **Two Stage Heating / Two Stage Cooling Conventional or Heat Pump** - Seven Day Programmable - Four Time Periods/Day - Economizer Output - Title 24 Compliant - ENERGY STAR® Qualified - Backlit Display - Automatic Changeover

C0STAT02AE1L

Sensors For Touchscreen Thermostat

1 Remote non-adjustable wall mount 20k temperature sensor	C0SNZN01AE1-
1 Remote non-adjustable wall mount 10k averaging temperature sensor	C0SNZN73AE1-
1 Remote non-adjustable duct mount temperature sensor	C0SNDC00AE1-
Outdoor temperature sensor	C0SNSR03AE1-

Accessories For Touchscreen Thermostat

Locking cover (clear)	C0MISC15AE1-
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¹ Remote sensors for C0STAT02AE1L can be applied in the following combinations: (1) C0SNZN01AE1-, (2) C0SNZN73AE1-, (2) C0SNZN01AE1- and (1) C0SNZN73AE1-, (4) C0SNZN01AE1-, (3) C0SNZN01AE1- and (2) C0SNZN73AE1.

DIGITAL NON-PROGRAMMABLE THERMOSTATS



Intuitive Interface - Automatic Changeover - Simple Up and Down Temperature Control

Two-stage heating / cooling conventional systems	C0STAT10AE1L
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Sensor For Digital Non-Programmable Thermostats Above

Remote wall mounted temperature sensor	C0SNZN00AE1-
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Intuitive Interface - Automatic Changeover - Backlit Display - Simple Up and Down Temperature Control

One-stage heating / cooling conventional systems	C0STAT12AE1L
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Sensor For Digital Non-Programmable Thermostats Above

Outdoor temperature sensor	C0SNSR04AE1-
--------------------------------------	--------------

Accessories For Digital Non-Programmable Thermostats Above

Optional wall mounting plate	C0MISC17AE1-
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WEIGHT DATA

Model Number	Net		Shipping	
	lbs.	kg	lbs.	kg
All - Base Unit	3020	1370	3230	1465
All - Max. Unit	3340	1515	3450	1565

OPTIONS / ACCESSORIES

		Weight	
		lbs.	kg.
CEILING DIFFUSERS			
Step-Down	LARTD30/36	437	198
Flush	LAFD30/36	414	188
Transitions	LASRT30/36	85	39
ECONOMIZER/OUTDOOR AIR			
Economizer	LAREMD30/36	119	54
Barometric Relief			
Down-Flow Barometric Relief Dampers	LAGED30/36	45	20
Horizontal Barometric Relief Dampers	LAGEDH30/36	20	9
Outdoor Air Dampers			
Damper Section (down-flow)	Motorized - LAOADM30/36	72	33
	Manual - LAOAD30/36	68	31
Outdoor Air Hood (down-flow)	LAOAH30/36	76	34
Power Exhaust			
Power Exhaust	LAPEF30/36	99	45
	50% High Static - LAPEB30/36	460	209
	100% High Static with or without VFD - LAPEB30/36 or LAPEV30/36	525	238
HEAT EXCHANGER			
High Fire Heat Exchanger		80	36
PACKAGING			
LTL Packaging (less than truck load)		300	136
ROOF CURBS - STANDARD			
Down-Flow			
14 in. (356 mm) height	LARMF18/36-14	160	73
24 in. (610 mm) height	LARMF18/36-24	220	100
Horizontal			
30 in. (762 mm) height	LARMFH30/36-30	445	202
41 in. (1041 mm) height	LARMFH30/36-41	725	329
ROOF CURBS - CLIPLOCK 1000			
Down-Flow			
14 in. (356 mm) height	LARMF30/36S-14	149	68
18 in. (457 mm) height	LARMF30/36S-18	204	93
24 in. (610 mm) height	LARMF30/36S-24	248	112
Horizontal			
30 in. (762 mm) height	LARMFH30/36S-30	456	207
41 in. (1041 mm) height	LARMFH30/36S-41	480	218

Base Unit - The unit with low fire heat exchanger NO OPTIONS.

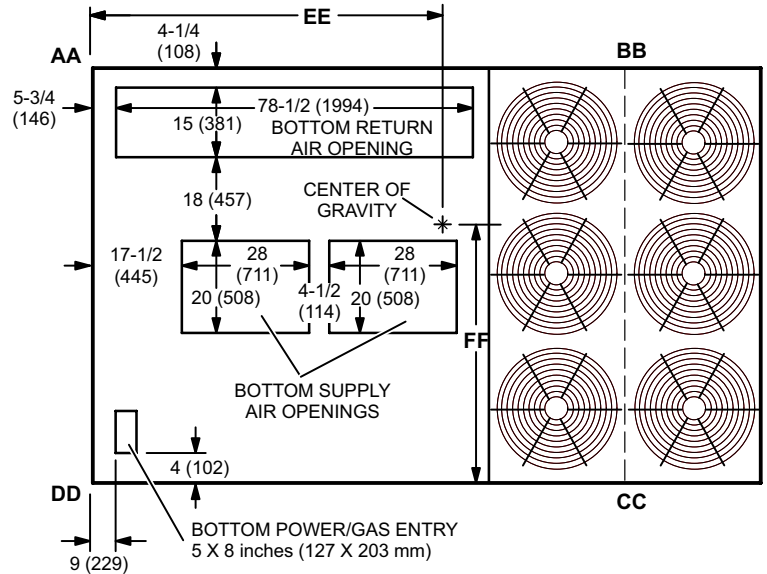
Max. Unit - The unit with ALL OPTIONS Installed. (High Input Heat Exchanger, Economizer, Power Exhaust Fans, Controls)

DIMENSIONS - INCHES (MM)

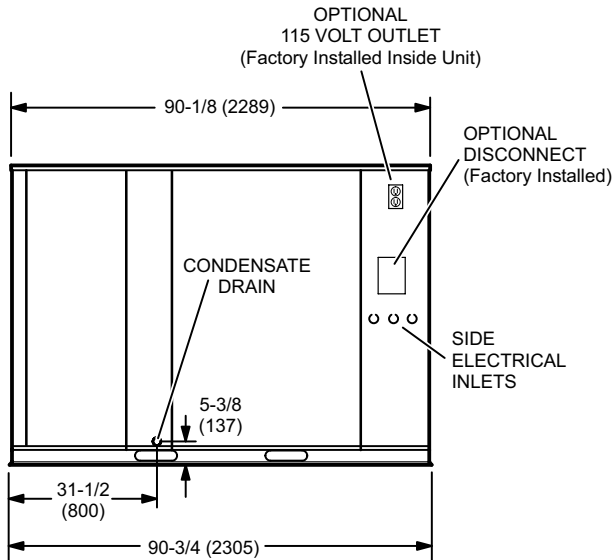
Model Number	CORNER WEIGHTS								CENTER OF GRAVITY			
	AA		BB		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	inch	mm	inch	mm
All - Base Unit	588	267	630	286	932	423	870	395	62-5/8	1591	36-3/4	933
All - Max. Unit	716	325	743	337	958	335	923	419	61-1/4	1556	39-3/4	1010

Base Unit - The unit with low fire heat exchanger NO OPTIONS.

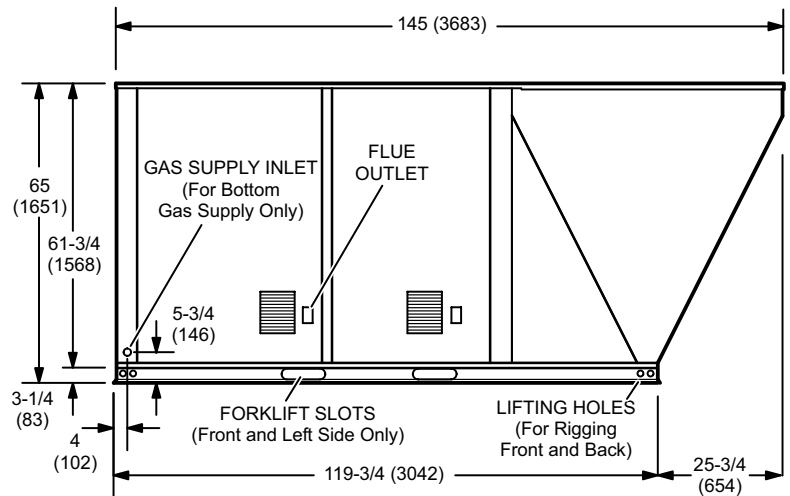
Max. Unit - The unit with ALL OPTIONS Installed. (High Input Heat Exchanger, Economizer, Standard Power Exhaust Fans, Controls)



TOP VIEW



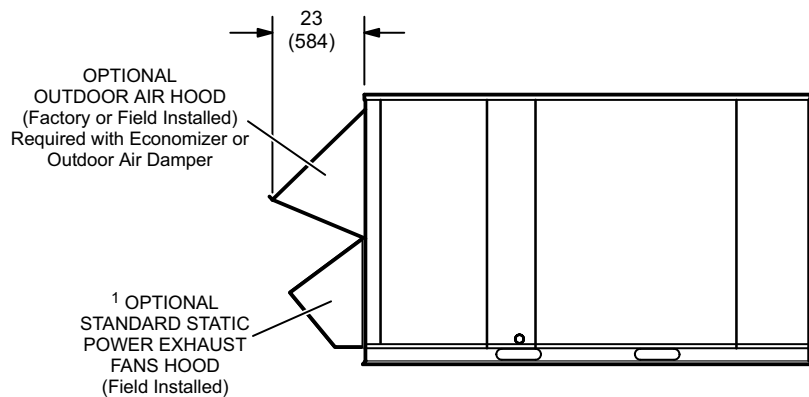
END VIEW



SIDE VIEW

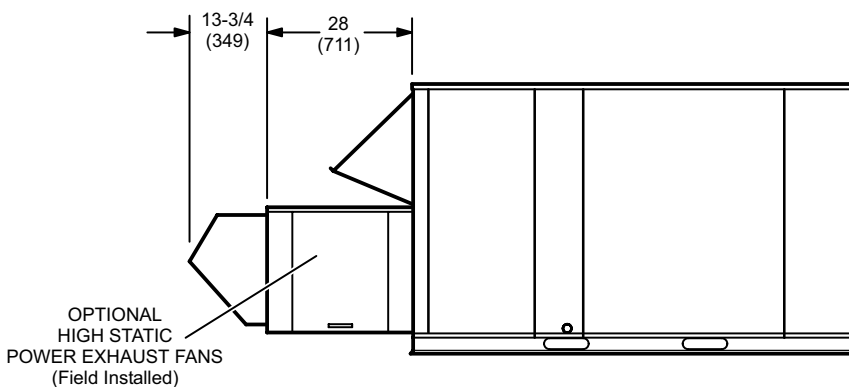
ACCESSORY DIMENSIONS - INCHES (MM)

OPTIONAL OUTDOOR AIR HOOD DETAIL WITH STANDARD STATIC POWER EXHAUST FANS



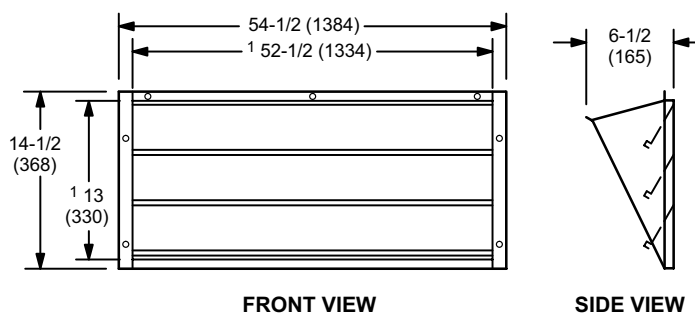
¹ Field Installed in Return Air Duct for Horizontal Applications.

OPTIONAL HIGH STATIC POWER EXHAUST FANS DETAIL



HORIZONTAL BAROMETRIC RELIEF DAMPERS

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



FRONT VIEW

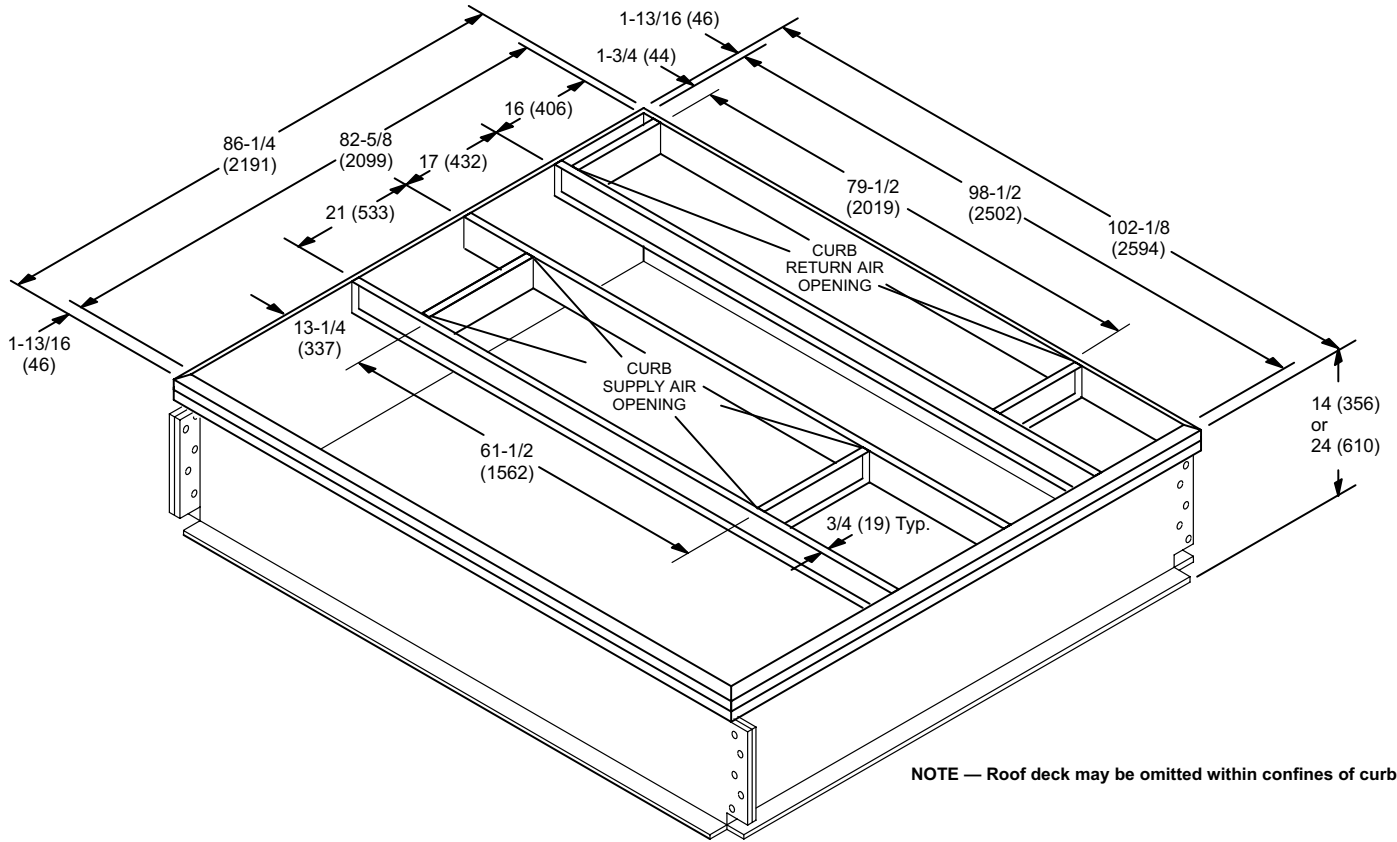
SIDE VIEW

NOTE - Two furnished per order no.

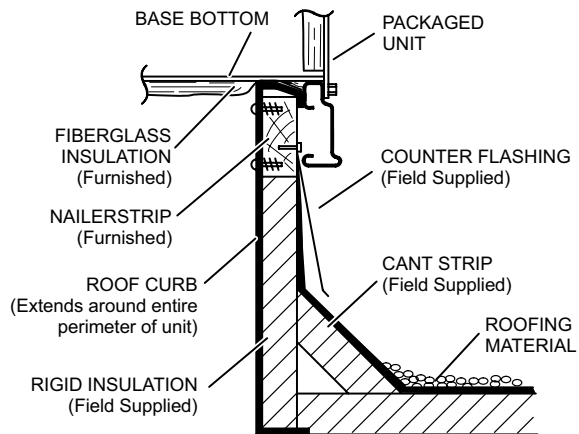
¹ NOTE - Opening size required in return air duct.

ACCESSORY DIMENSIONS - INCHES (MM)

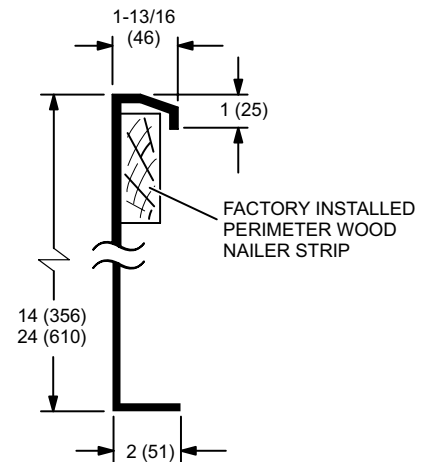
STANDARD ROOF CURBS - DOUBLE DUCT OPENING



TYPICAL FLASHING DETAIL FOR ROOF CURB

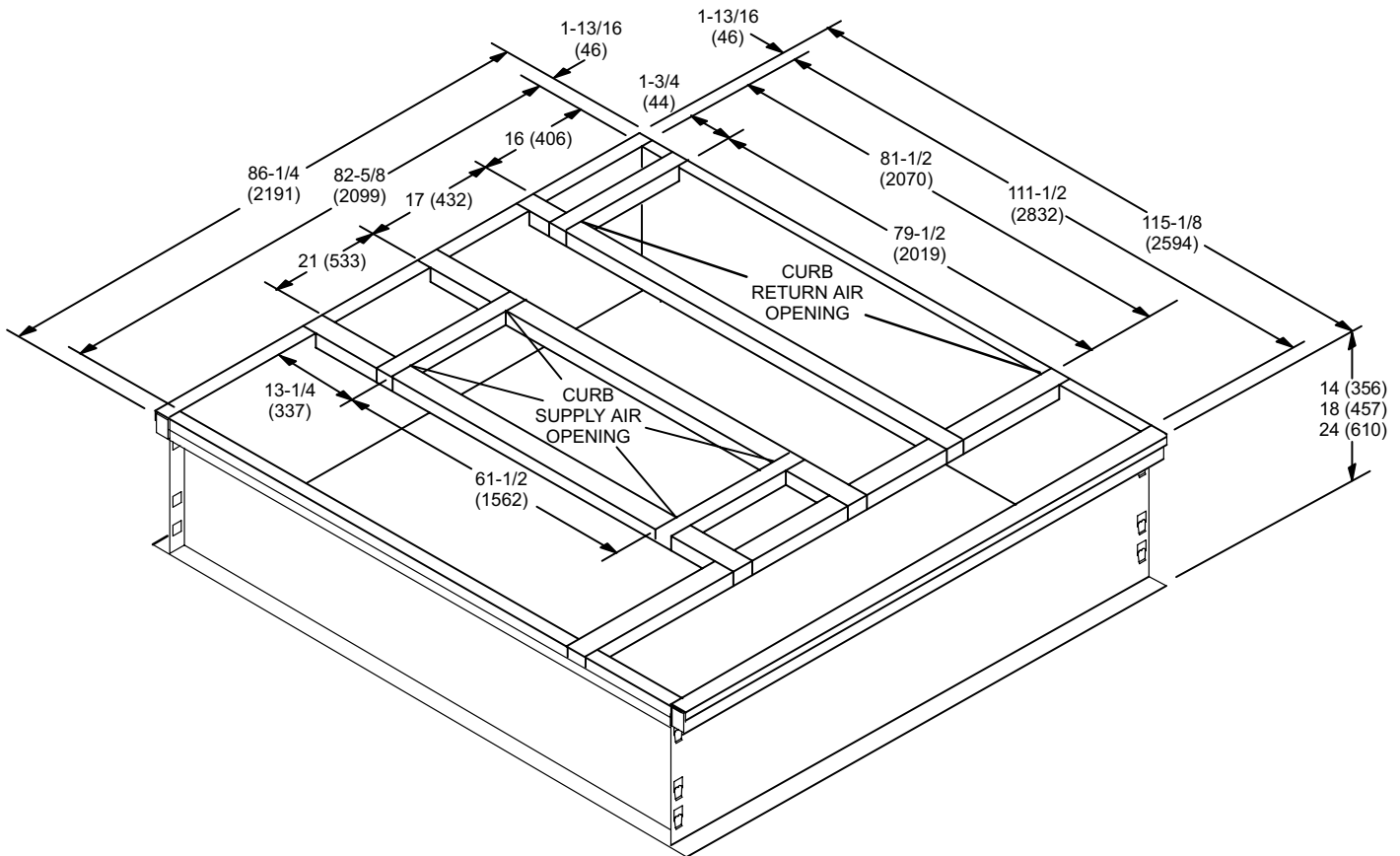


DETAIL ROOF CURB

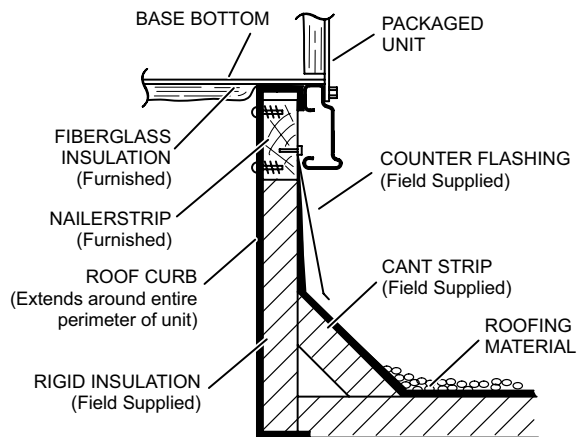


ACCESSORY DIMENSIONS - INCHES (MM)

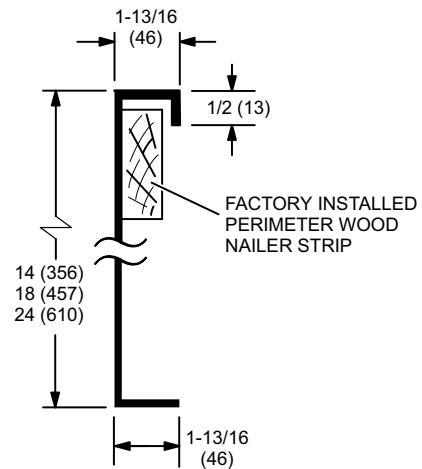
CLIPLOCK 1000 ROOF CURBS - DOUBLE DUCT OPENING



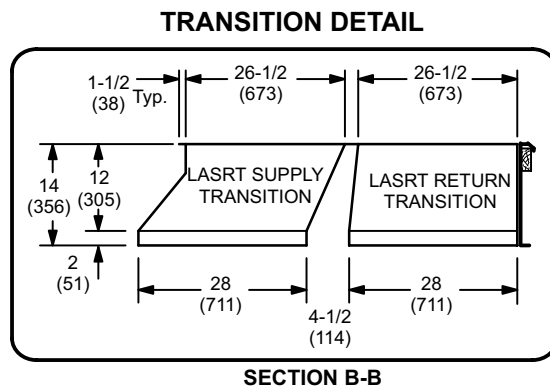
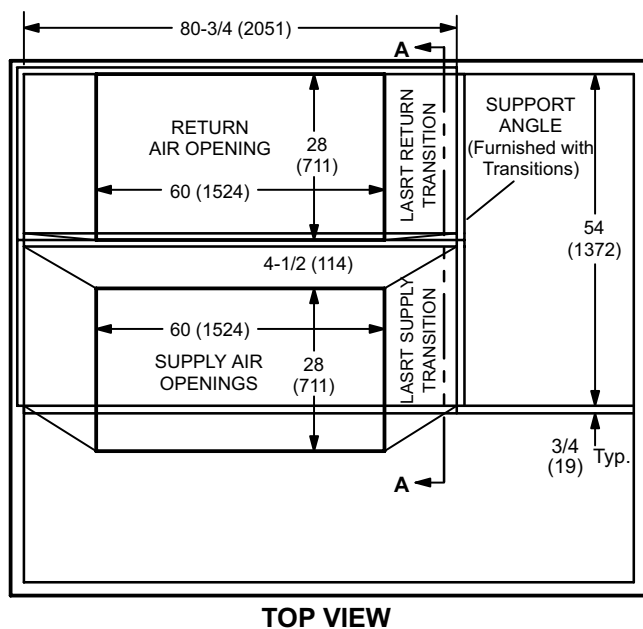
TYPICAL FLASHING DETAIL FOR ROOF CURB



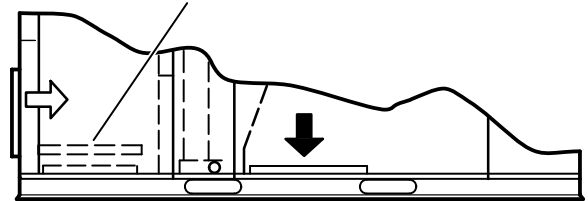
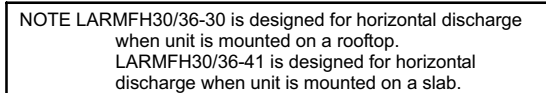
DETAIL ROOF CURB



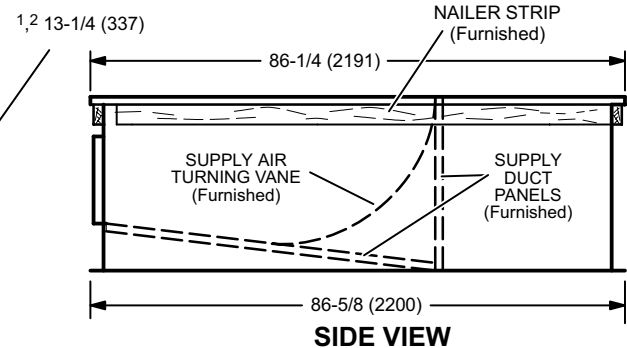
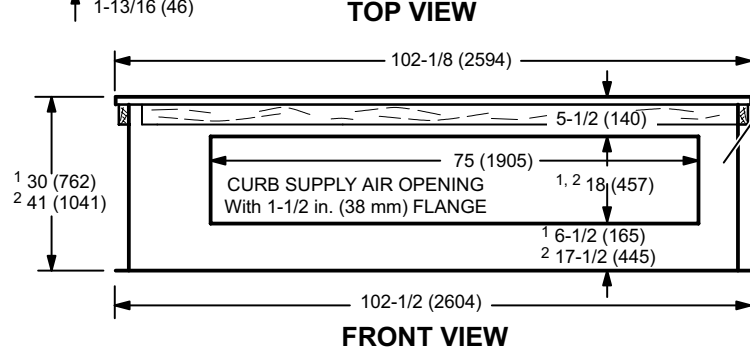
STANDARD ROOF CURBS WITH SUPPLY & RETURN AIR TRANSITIONS FOR CEILING DIFFUSERS



HORIZONTAL ROOF CURBS - Requires Optional Horizontal Return Air Panel Kit



SIDE VIEW
(PACKAGED UNIT)

¹ LARMFH30/36-30 ² LARMFH30/36-41

91 (2311)
LARMFH30/36-30
102 (2591)
LARMFH30/36-41

65 (1651)

1 26 (660)
LARMFH30/36-30
1 37 (940)
LARMFH30/36-41

42-7/8 (1089)

OPTIONAL RETURN AIR PANEL KIT
(Required For Horizontal Applications)

78-1/2 (1994)

15 (381)

2 (51)

HORIZONTAL RETURN AIR OPENING

5-1/4 (133)

75 (1905)

18 (457)

HORIZONTAL SUPPLY AIR OPENING

13-1/4 (337)

6-1/2 (165)
LARMFH30/36-30
17-1/2 (445)
LARMFH30/36-41

HORIZONTAL ROOF CURB
(Required For Horizontal Applications)

rb extends 4 inch (102 mm) inside

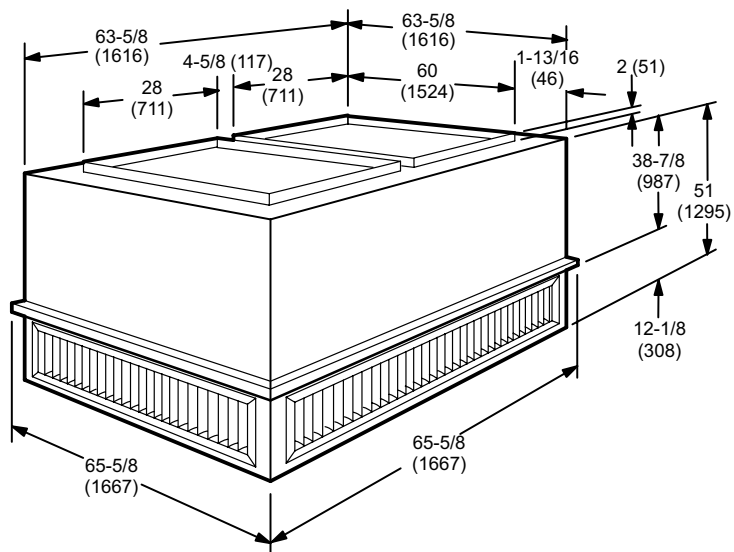
¹ NOTE - Top of Curb extends 4 inch (102 mm) inside bottom of unit base. See Typical Flashing Detail.

SIDE VIEW (Horizontal Openings)

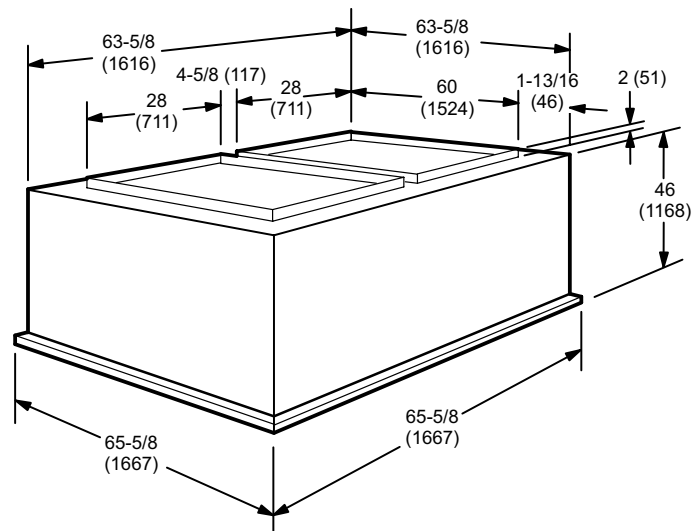
ACCESSORY DIMENSIONS - INCHES (MM)

COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

LARTD30/36 STEP-DOWN CEILING DIFFUSER



LAFD30/36 FLUSH CEILING DIFFUSER



GUIDE SPECIFICATIONS

This specification is for **[Lennox Industries L Series®]** rooftop units. Revise specification section number and title below to suit project requirements, specification practices and section content. Refer to CSI *MasterFormat™* for other section numbers and titles.

Optional text and text that requires a decision are indicated by **bold brackets []** and proprietary information is indicated by **bold italic brackets []**; delete text that is not needed in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

Specifying Engineer Please Note - These Guide Specifications cover all L Series units (3 thru 30 tons). Please edit to accurately identify the options selected for the job.

SECTION 23 74 33 UNITARY AIR CONDITIONING EQUIPMENT

PART 1 GENERAL

PART 1.01 SUMMARY

- A. Section Includes: Packaged rooftop units and commercial packaged, gas/electric and electric/electric heat pumps.

Specifier Note: Revise paragraph below to suit project requirements. Add section numbers and titles per CSI MasterFormat and specifier's practice.

- B. Related Sections:

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Division 1 References Section may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section. Retain only those reference standards to be used within the text of this Section. Add and delete as required for specific project.

PART 1.02 REFERENCES

- A. American National Standards Institute (ANSI):
1. ANSI/ASHRAE 15 Safety Standard for Refrigeration Systems.
 2. ANSI/ASHRAE/IESNA 90.1 Energy Efficient Design of New Buildings Except Low-Rise Residential Buildings.
 3. ANSI Z21.47 Gas-Fired Central Furnaces.
- B. Air-Conditioning and Refrigeration Institute (ARI):
1. ARI 210/240 Unitary Air-Conditioning and Air-Source Heat Pump Equipment.
 2. ARI 270 Sound Rating of Outdoor Unitary Equipment.
 3. ARI 340/360 Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment.
 4. ARI 370 Sound Rating of Large Outdoor Refrigerating and Air Conditioning Equipment.
- C. American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE):
1. ASHRAE 52.2 Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size (ANSI approved).
 2. ASHRAE 62.1 Ventilation for Acceptable Indoor Air Quality.
- D. U.S. Energy Policy Act of 1992 (EPACT).
- E. U.S. National Appliance Energy Conservation Act (NAECA):
1. NAECA 1988.
- F. National Fire Protection Association (NFPA):
1. NFPA 90A Installation of Air Conditioning and Ventilation Systems.
- G. Underwriters Laboratories, Inc. (UL):
1. UL 1995 Standard for Safety for Heating and Cooling Equipment.

GUIDE SPECIFICATIONS

Specifier Note: Article below should be restricted to statements describing design or performance requirements and functional (not dimensional) tolerances of a complete system. Limit descriptions to composite and operational properties required to link components of a system together and to interface with other systems.

PART 1.03 SYSTEM DESCRIPTION

- A. Design Requirements: Provide products and systems that have been manufactured, fabricated and installed to following criteria:
 - 1. ANSI/ASHRAE/IESNA 90.1.
 - 2. ANSI Z21.47.
 - 3. UL 1995.
- B. Performance Requirements:
 - 1. Packaged Gas Electric:
 - a. Natural Gas Supply Pressure: 7 in. w.c. (1.7 kPa).

Specifier Note: For belt drive blowers from models LGC036S, LGA036H, LGC042S, LGA042H, LGC048S, LGA048H, LGC060S, LGA060H, LGC072S, LGA072H, LGC090S, LGA090H, LGC102S, LGA102H, LGC120S, LGA120H, LGC150S, LGC156H, LGC180S, LGC180H, LGC210S, LGC210H, LGC240S, LGA240H, LGA248H, LGC300S, LGC300H and LGC360H single phase is not an option.

- b. LPG/Propane Supply Pressure: 11 in. w.c. (2.7 kPa).

Specifier Note: Specify 208/230V or 460V or 575V, 3-phase for L Series units from 6 - 30 ton (21.1 - 105.6 kW). Specify 208/230V, 1-phase, 208/230V, 460V or 575V, 3-phase for L Series units from 3 - 5 ton (10.6 - 17.6 kW).

- 2. Packaged Cooling:
 - a. Electrical Requirements for Direct Drive Blowers: 60 hz, [208/230 V, 1-phase] [208/230 V, 3-phase] [460 V, 3-phase] [575 V, 3-phase].

Specifier Note: For belt drive blowers from models LCC036S, LCA036H, LCC042S, LCA042H, LCC048S, LCA048H, LCC060S, LCA060H, LCC072S, LCA072H, LCC090S, LCA090H, LCC102S, LCA102H, LCC120S, LCA120H, LCC150S, LCC156H, LCC180S, LCC180H, LCC210S, LCC210H, LCC240S, LCA240H, LCA248H, LCC300S, LCC300H and LCC360H single phase is not an option.

- b. Electrical Requirements for Belt Drive Blowers: 60 hz, [208/230 V, 3-phase] [460 V, 3-phase] [575 V, 3-phase].

Specifier Note: Available Heat Pump units include LHA090, LHA102, LHA120, LHA150, LHA180 and LHA240 only.

- 3. Packaged Heat Pumps:
 - a. Electrical Requirements: 60 hz, [208/230 V, 3-phase] [460 V, 3-phase] [575 V, 3-phase].
 - 4. ARI Rated Net Cooling Efficiency: To meet or exceed ASHRAE Standard 90.1 at rated airflow not less than 350 cfm/ton.

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 1 Submittal Procedures Section.

PART 1.04 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures.
- B. Product Data: Submit product data for specified products.
- C. Shop Drawings:
 - 1. Submit shop drawings in accordance with Section 01 33 23 - Submittal Procedures.
 - 2. Indicate:
 - a. Equipment, piping and connections, together with valves, strainers, control assemblies, thermostatic controls, auxiliaries and hardware, and recommended ancillaries which are mounted, wired and piped ready for final connection to building system, its size and recommended bypass connections.
 - b. Piping, valves and fittings shipped loose showing final location in assembly.
 - c. Control equipment shipped loose, showing final location in assembly.
 - d. Dimensions, internal and external construction details, recommended method of installation with proposed structural steel support, mounting curb details, sizes and location of mounting bolt holes; include mass distribution drawings showing point loads.

GUIDE SPECIFICATIONS

- e. Detailed composite wiring diagrams for control systems showing factory installed wiring and equipment on packaged equipment or required for controlling devices or ancillaries, accessories and controllers.
 - f. Details of vibration isolation.
 - g. Estimate of sound levels to be expected across individual octave bands in dB.
 - h. Type of refrigerant used.
- D. Quality Assurance:
- 1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
 - 2. Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
 - 3. Manufacturer's Instructions: Manufacturer's installation instructions.

Specifier Note: Coordinate paragraph below with Part 3 Field Quality Requirements Article herein. Retain or delete as applicable.

- E. Manufacturer's Field Reports: Manufacturer's field reports specified.
- F. Closeout Submittals: Submit the following:
- 1. Warranty: Warranty documents specified.
 - 2. Operation and Maintenance Data: Operation and maintenance data for installed products in accordance with Division 1 Closeout Submittals (Maintenance Data and Operation Data) Section. Include methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance. Include names and addresses of spare part suppliers.
 - 3. Provide brief description of unit, with details of function, operation, control and component service.
 - 4. Commissioning Report: Submit commissioning reports, report forms and schematics in accordance with Section 01 91 00 - Commissioning.

PART 1.05 QUALITY ASSURANCE

- A. Qualifications:
- 1. Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.
 - 2. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction and approving application method.

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Division 1 Regulatory Requirements Section. Repetitive statements should be avoided. Current data on building code requirements and product compliance may be obtained from filter manufacturer technical support specialists.

- B. Regulatory Requirements: Provide **[Packaged gas electric] [Packaged cooling] [Packaged heat pump]** that complies with the following requirements:
- 1. ARI 210/240.
 - 2. ARI 270.
 - 3. ARI 340/360.
 - 4. ASHRAE 52.2.
 - 5. NFPA 90A.
- C. Preinstallation Meetings: Conduct preinstallation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with Division 1 Project Management and Coordination (Project Meetings).

PART 1.06 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirements.
- B. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- C. Packing, Shipping, Handling and Delivery:
- 1. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
 - 2. Ship, handle and unload units according to manufacturer's instructions.
- D. Storage and Protection:
- 1. Store materials protected from exposure to harmful weather conditions.

GUIDE SPECIFICATIONS

2. Factory shipping covers to remain in place until installation.

PART 1.07 PROJECT CONDITIONS

- A. Installation Location: **[Confirm design conditions and temperature.]**

Specifier Note: Coordinate article below with Conditions of the Contract and with Division 1 Closeout Submittals (Warranty).

PART 1.08 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

Specifier Note: Coordinate paragraph below with manufacturer's warranty requirements.

- C. Warranty: Commencing on Date of Installation.
 1. Compressors: 5 years (limited).
 2. Integrated Modular Control: 3 years (limited).
 3. Other System Components: 1 year (limited).
 4. Aluminized Heat Exchangers: 10 years (limited).
 5. Stainless Steel Heat Exchangers: 15 years (limited).

PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

PART 2.01 ROOFTOP UNITS

- A. Manufacturer: Lennox Industries Inc.
 1. Contact: 2100 Lake Park Blvd., Richardson, TX 75080; Telephone: (800) 453-6669; website: www.lennox.com.
- B. Proprietary Products/Systems: Lennox L Series Unitary Air Conditioning Equipment, including the following equipment:
 1. Cabinet: Weatherproofing tested and certified to AGA **[Rain test standards]** and soundproofing tested to ARI 270, **[]** dbA at **[]** m (**[]**) ft. free field.
 - a. Heavy gauge steel panels and full perimeter heavy gauge galvanized steel base rails.
 - b. Raised edges around duct and power entry openings in bottom of unit.
 - c. Airflow Configuration: **[Down-flow (vertical) return air] [Horizontal return airflow with Horizontal Roof Mounting Frame] [And Horizontal Return Air Panel Kit (required when converting down-flow configured unit to horizontal airflow)]**.
 - d. Power Entry: Electrical **[And gas]** lines brought through unit base or through horizontal access knockouts.
 - e. Exterior Panels: Constructed of heavy gauge, galvanized steel with 2-layer enamel paint finish.
 - f. Insulation: All panels adjacent to conditioned air fully insulated with non-hygroscopic fiberglass insulation. Unit base fully insulated.
 - g. Base Rail: Full perimeter base rail with rigging holes; 3 sides with fork slots.
 - h. Access Panels: Hinged for compressor/controls/heating areas, blower access and air filter/economizer access; and, sealed with quarter-turn latching handles and tight air and water seal.
 2. Compressor:
 - a. Copeland scroll type, hermetically sealed.
 3. Fans, General: Centrifugal, forward curved impellers, statically and dynamically balanced. **[Multi]** V-belt drive with adjustable variable pitch motor pulley.
 - a. Condenser Fan: Low sound operating, PVC coated fan guard, direct drive propeller type fans to discharge vertically.
 - b. Condenser Fan Motor: Permanently lubricated, permanent split capacitor; totally enclosed from weather, dust and corrosion; permanently lubricated ball bearings; resiliently mounted; overload protected.
 4. Evaporator Coils: Pressure and leak tested to 500 psi (3445 kPa), nonferrous coils with enhanced aluminum fins mechanically bonded to durable copper tubes.

GUIDE SPECIFICATIONS

5. Condenser Coils:
 - a. Pressure and leak tested to 500 psi (3445 kPa), nonferrous coils with enhanced aluminum fins mechanically bonded to durable copper tubes.

Specifier Note: Specify slab construction for L Series over 6 tons (21.1 kW), excluding heat pumps.

- b. **[Formed construction] [Slab construction].**
6. Air Distribution:
 - a. Equipment capable of down-flow (vertical) or side (horizontal) handling of conditioned air.
 - b. Optional Equipment:

Specifier Note: The following kit is required for horizontal air handling for L Series 3 - 12 ton (10.6 - 42.2 kW) models.

- 1) Horizontal conversion kit for horizontal air handling.

Specifier Note: The following kit is required for horizontal air handling for L Series, 13 - 30 ton (45.8 - 105.6 kW) models.

- 2) Horizontal return air panel kit and horizontal roof mounting frame for horizontal air handling.
7. Filters: To meet NFPA 90A, air filter requirements **[Type Class 1] [Type Class 2]; [_____] % efficiency, metal framed, [Replaceable media] [Throwaway] [Standard to unit manufacturer].**
 - a. Disposable 2 inch (51 mm).
 - b. Disposable 2 inch (51 mm) pleated MERV 11 rated.
 - c. Disposable 2 inch (51 mm) pleated MERV 15 rated.
8. Heat Exchanger: Removable for servicing; stainless steel optional for applications where mixed air temperature below 45 degrees F (7 degrees C); E.T.L./C.S.A. design certified for outdoor installation.
9. Gas Heating System:
 - a. Tubular heat exchanger and inshot type gas burners constructed of aluminized steel.
 - b. Direct spark ignition; electronic flame sensor controls; flame rollout switch; limit controls and automatic redundant dual gas valve with staging control and combustion air proving switch on combustion air inducer.

Specifier Note: When LPG/propane is required, specify optional kit.

- c. Able to use LPG/propane **[With optional kit].**
 - d. Complete service access provided for controls and wiring.
10. Electric Heating System:
 - a. Available for factory or field installation.
 - b. Heating elements of Nichrome bare wire exposed directly to airstream.
11. Refrigeration System:
 - a. Self-sealing, discharge, suction and liquid line service gauge ports, freeze-stats, expansion valves and full refrigerant charge.

Specifier Note: R-22 is available on all models with 3 - 30 ton (10.6 - 105.6 kW) capacities. R-410 is available on all high efficiency units and on the 6, 12.5 and 25 ton (21.1, 44 and 87.9 kW) standard efficiency models. Variable air volume with R-410a is available on 21, 25 and 30 ton (74, 88 and 105.6 kW) units.

- b. **[R22] [R-410a] [Variable air volume] [Variable air volume with R-410a].**
 - c. Copper tubing not to touch sharp metal surfaces.
 - d. Compressor Circuits: Automatic reset, high pressure switch; automatic reset, low pressure switch; liquid line filter-drier.
 - e. Capable of operating down to 0 degrees F (-17 degrees C) without installation of additional controls.
12. Supply Air Blower:
 - a. **[Constant air volume with adjustable pulleys] [Variable air volume with fixed pulleys and variable frequency drive] [Variable air volume with fixed pulleys and variable frequency drive with bypass]** with motor/drive combinations and optional drive kits.
 - b. Centrifugal supply air blower with **[Permanently lubricated ball bearings and adjustable belt drive] [Sleeve bearings and multi-speed direct drive motor].**
 - c. Blower assembly **[Slides out of unit] [Is accessible]** for servicing.
 - d. Blower wheel statically and dynamically balanced.

13. Integrated Modular Control (IMC):
 - a. Solid state control board to operate unit.
 - b. Built-in functions include: Blower on/off delay; built-in control parameter defaults; service relay output; dirty filter switch input; dehumidistat input, economizer control; **[Gas valve delay between stages]; [ETM compatible]; [DDC compatible];** unit diagnosis; diagnostics code storage; indoor air quality input; low ambient controls; minimum run time; night setback mode; smoke alarm mode; low pressure control; thermostat bounce delay; 3-digit display; degrees F or degrees C display, 2-stage heat/4-stage cool thermostat compatible and warm-up mode; **[Electric heat staging with optional 4-stage board]**.
14. Gas Heating Controls:
 - a. Remote thermostat[s] as indicated.
 - b. Built-in **[Un]** fused disconnect switch.
 - c. **[Four]** stages of heating control from **[Thermostat with optional four stage board] [DDC with room sensor]**.
 - d. Supply fan to turn on **[40]** seconds after heating demand is received with 8 - 60 second adjustable time delay.
 - e. Supply fan to turn off **[120]** seconds after heating demand has ended with 80 - 300 second adjustable time delay.
 - f. Adjustable delay time of **[30] [Value between 30 - 160]** seconds between low and high fire of 2-stage gas valve system.
 - g. Heat off delay of **[100] [Value between 30 - 300]** seconds after thermostat heating demand has ended.
 - h. To turn off heat and keep supply air fan running if overheat limit occurs.
 - i. Adjustable maximum overheat limit trip count during heating cycle of **[3] [Value between 1 - 15]**, with digital output, limit indicator.
 - j. To report error with each occurrence of overheat limit trip and to identify limit that tripped. Error code stored in nonvolatile memory.
 - k. To shut off gas heat if flame rollout occurs and to report error identifying rollout switch.
 - l. Maximum flame rollout switch trip count of **[3]** during heating cycle, with digital output, limit indicator. Maximum count limit adjustable from 1 - 6 counts.
 - m. To turn off heat if induced airflow is too low and to report error identifying pressure switch.
 - n. Maximum induced airflow pressure switch trip count of **[3]** during heating cycle, with digital output, limit indicator. Maximum count limit adjustable from 1 - 6 counts.
 - o. Error reported if gas valve not energized 2 minutes after heating demand; gas valve identified.
 - p. Maximum ignition failure count of **[3]** with digital output, limit indicator. Maximum count limit adjustable from 1 - 6 counts.
 - q. To shut off gas valve if flame not sensed. Error reported and stored in nonvolatile memory.
 - r. Delay between stages on gas valve.
 - s. To shut off unit if gas valve is energized with no demand for heat. Error reported and stored in nonvolatile memory.
15. Electric Heating Controls:
 - a. Panel board with **[]** stage controller.
 - b. Remote thermostat[s] as indicated.
 - c. Built-in **[Un]** fused disconnect switch.
 - d. Supply Fan: Start before electric elements are energized and continue operating until bonnet temperature reaches minimum setting. Include switch for continuous fan operation.
 - e. Two stages of heating control from **[Thermostat] [DDC]**.
 - f. Supply fan to turn off **[20]** seconds after heating demand has ended. Time delay adjustable from 0 - 300 seconds.
 - g. With delay time of **[12]** seconds between low and high heat stages. Time delay adjustable from 12 - 60 seconds.
 - h. To turn off heat and keep supply air fan running if overheat limit occurs.
 - i. Adjustable maximum overheat limit trip count of **[3]** during heating cycle with digital output, limit indicator. Maximum count limit adjustable from 1 - 15 counts.
 - j. Error reported and identified if overheat limit tripped. Error code stored in nonvolatile memory.
16. Cooling Controls:
 - a. Provide **[Smoke detectors in return] [Smoke detectors in supply]**.

GUIDE SPECIFICATIONS

Specifier Note: Specify b, c or d below.

- b. **[Manual] [Automatic]** outside **[And return]** air dampers for fixed outside air quantity.
- c. Remote controlled outside **[And return]** air dampers with damper operator and means for adjusting outside air quantity.
- d. Motorized outside, return and **[Automatic] [Power exhaust] [Gravity]** relief dampers with spring return damper operator and control package to automatically vary outside air quantity. Outside air and exhaust air dampers, normally closed.
- e. Tight-fitting parallel blade dampers with neoprene or suitable gaskets, synthetic bushings and 1% maximum leakage.
- f. Damper Operation: 24 V, spring return motor with gear train sealed in oil.
- g. Mixed Air Controls: **[Maintain 55 degrees F (13 degrees C)] [Indicated]** mixed air temperature (adjustable).
- h. Up to 2 stages of cooling from **[Thermostat] [External DDC controller]** without need for additional controls.
- i. Up to 3 stages of cooling when used with relay and **[3-stage thermostat] [DDC controller]**.
- j. Up to 4 stages of cooling standard with room sensor.

Specifier Note: Specify article "j" when used with Lennox L Connection Network Building Automation System.

- k. Up to 4 stages of cooling.
- l. To allow blower on delay of up to 60 seconds after cooling demand is received. Default value of zero.
- m. To allow blower off delay of up to 240 seconds after cooling demand has ended. Default value of zero.
- n. Minimum compressor on time of **[240]** seconds on 3-phase units, adjustable between 60 - 510 seconds.
- o. Minimum compressor off time of **[300]** seconds on single-phase units, adjustable from 60 - 510 seconds.
- p. Default maximum high pressure switch trip occurrence during cooling or dehumidification cycle of **[3]**. Trip occurrence limit adjustable from 1 - 8 occurrences. If maximum limit reached, compressor locked out and digital output for service activated.
- q. Default maximum low pressure switch trip occurrence during cooling or dehumidification cycle of **[3]**. Trip occurrence limit adjustable from 1 - 8 occurrences. If maximum limit reached, compressor locked out and digital output for service activated.
- r. Low pressure trip read delay of **[5]** minutes if compressor off time has been less than 4 hours and outdoor temperature is less than 70 degrees F (21 degrees C). Delay adjustable from 0 - 34 minutes. Temperature set point adjustable from 10 degrees F (-12 degrees C) to 100 degrees F (38 degrees C). Compressor off time adjustable from 1 - 6 hours.
- s. Low pressure trip read delay of **[15]** minutes if compressor off time has been 4 hours or greater and outdoor temperature is less than 70 degrees F (21 degrees C). Delay adjustable from 0 - 34 minutes. Temperature set point adjustable from 10 degrees F (-12 degrees C) to 100 degrees F (38 degrees C). Compressor off time adjustable from 1 - 6 hours.
- t. Low pressure trip read delay of **[2]** minutes if compressor off time has been less than 4 hours and outdoor temperature is 70 degrees F (21 degrees C) or greater. Delay adjustable from 0 - 34 minutes.
- u. Temperature set point adjustable from 10 degrees F (-12 degrees C) to 100 degrees F (38 degrees C). Compressor off time adjustable from 1 - 6 hours.
- v. Low pressure trip read delay of **[8]** minutes if compressor off time has been 4 hours or greater and outdoor temperature is 70 degrees F (21 degrees C) or greater. Delay adjustable from 0 - 34 minutes.
- w. Temperature set point adjustable from 10 degrees F (-12 degrees C) to 100 degrees F (38 degrees C). Compressor off time adjustable from 1 - 6 hours.
- x. Each pressure switch trip occurrence (either high or low) to record error in nonvolatile memory and identify compressor circuit.
- y. Low outdoor air temperature compressor lockout set point of 0 degrees F (-18 degrees C) for each compressor circuit. Low outdoor temperature limit set point individually adjustable for each compressor circuit from 80 degrees F (27 degrees C) to -30 degrees F (-34 degrees C).
- z. Maximum allowable evaporator freeze-stat trip occurrence of **[3]** during cooling demand with limit adjustable from 1 - 4 occurrences. Control to shut off compressor each time freeze-stat trip occurs and record error code in nonvolatile memory. If maximum limit reached, compressor locked out and digital output for service activated.
- aa. Condenser Fan Control:
 - 1) On units with multiple condenser fans, **[6]** second time delay between condenser fan shutoff and restart to prevent reverse rotation of fan. Time delay adjustable between 0 - 16 seconds.
 - 2) On units with 4 condenser fans, first stage low outdoor temperature set point of 55 degrees F (13 degrees C) that reduces airflow through condenser by turning off some fans. Set point adjustable between 60 degrees F (16 degrees C) and 10 degrees F (-12 degrees C).

GUIDE SPECIFICATIONS

- 3) On units with 6 condenser fans, second stage low outdoor temperature set point of 40 degrees F (4 degrees C) to reduce airflow through condenser by turning off all fans. Set point adjustable between 60 degrees F (16 degrees C) and 10 degrees F (-12 degrees C).
- 4) On units with 6 condenser fans, condenser fan on delay of **[2]** seconds. Adjustable between 0 - 240 seconds.

Specifier Note: Edit article below to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Division 1 Project Requirements (Product Substitutions Procedures) Section.

PART 2.02 PRODUCT SUBSTITUTIONS

- A. Substitutions: No substitutions permitted.

PART 3 EXECUTION

PART 3.01 MANUFACTURER'S INSTRUCTIONS

Specifier Note: Article below is an addition to the CSI SectionFormat and a supplement to MANU-SPEC. Revise article below to suit project requirements and specifier's practice.

- A. Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalog installation instructions, and product carton installation instructions.

PART 3.02 EXAMINATION

- A. Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.

PART 3.03 INSTALLATION

- A. Install **[Packaged rooftop units] [And] [Commercial packaged, gas/electric and electric/electric heat pumps]** in accordance with manufacturer's instructions, on roof curbs **[Provided by manufacturer] [As indicated]**.
- B. Run drain line from cooling coil condensation drain pan to discharge **[Over roof drain]**.

PART 3.04 COMPLETION AND CLEANUP

- A. Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION

AFTERMARKET ZONING SYSTEM INTERFACE

Introduction

Lennox' seventh generation premium rooftop unit (RTU) controller, the Integrated Modular Controller (IMC) version M1-7, along with a variable frequency drive (VFD) option on certain L Series® and S-Class™ RTUs, increases the ability of premium Lennox RTUs to be applied to a variety of zoning systems. The type of zoning system to be used dictates the type of RTU and the requirements for the zoning control system. The following explains each basic system and how the IMC must interface with an aftermarket zoning control system to meet the requirements of each application.

Lennox units in single zone and constant volume bypass applications may utilize an aftermarket unit controller as supervisory controller for the RTU. The IMC runs in thermostat mode and is primarily useful for diagnostic purposes, allowing the aftermarket controller to directly monitor and control heat/cool staging, the bypass damper, zone dampers, etc. When the IMC is used in thermostat mode, a maximum of two stage heating and three stage cooling are available.

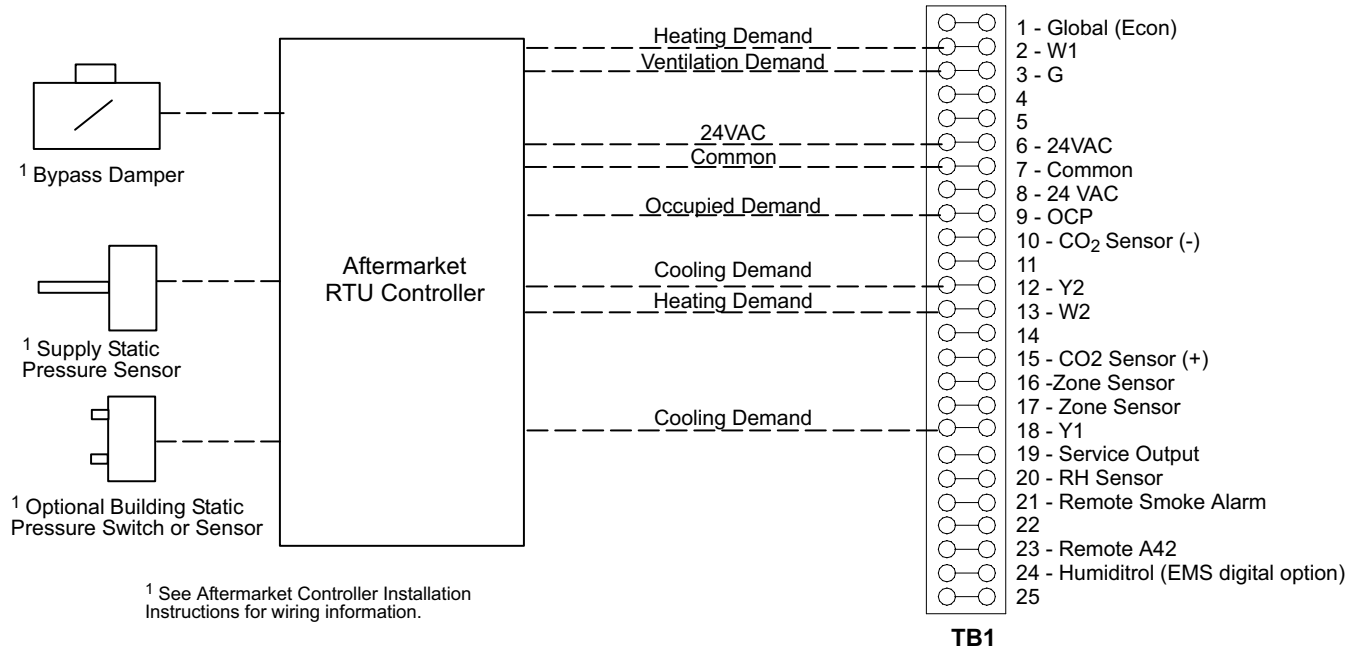
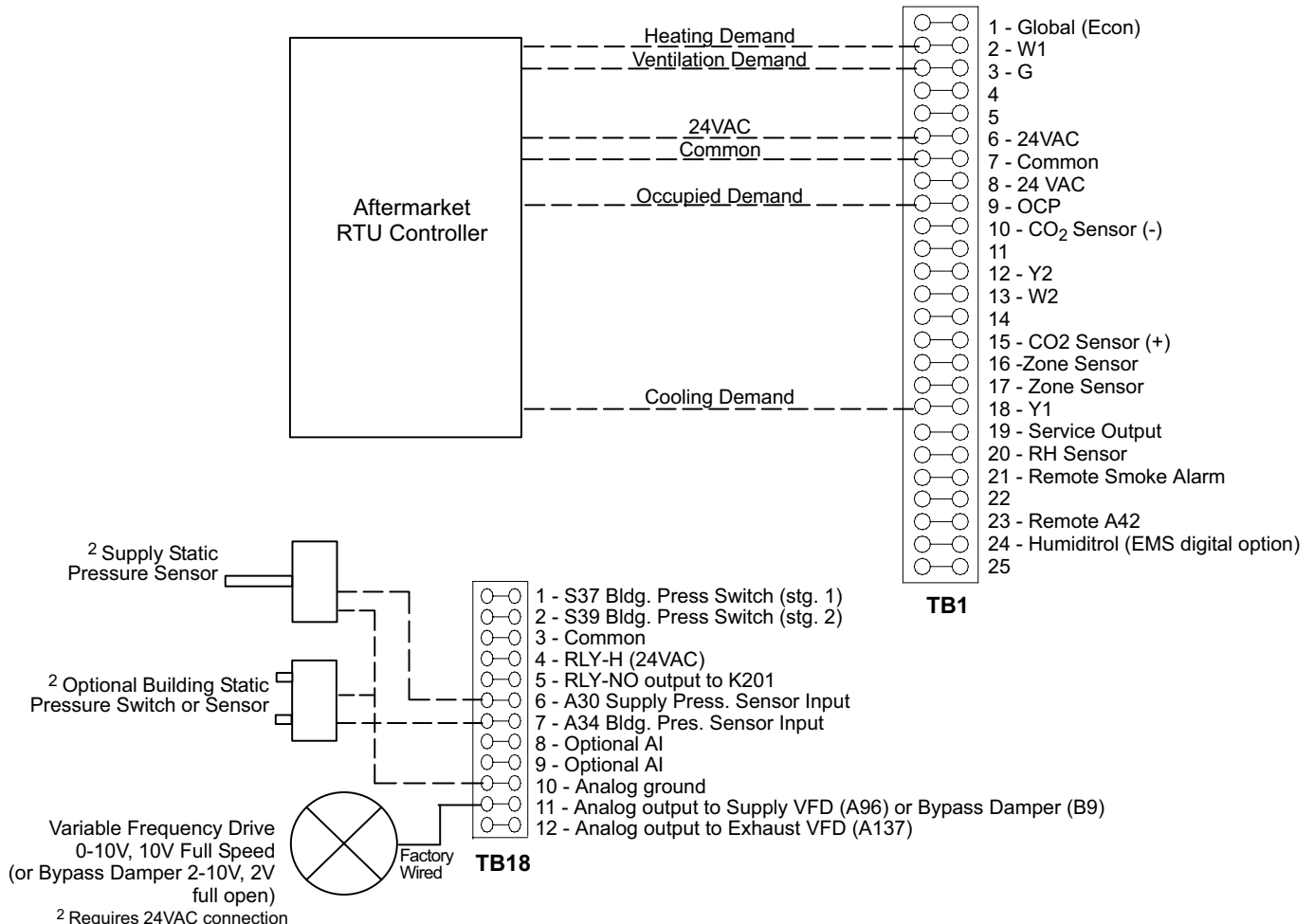
Supervisory control must be provided by the Lennox IMC to minimize complication and standardize control on Lennox VFD-controlled variable air volume (VAV) RTUs. In this configuration, the IMC controls the VFD based on static pressure in the supply duct. It controls the economizer, and stages compressors based on discharge air temperature. The aftermarket controller simply sends calls for cooling or heating based on setpoint and schedule conditions. The IMC also has many options for controlling single-stage, 50% power exhaust fans; two-stage, 100% Power exhaust fans; or modulating power exhaust fans.

NOTE - Please refer to the IMC Manual (M1-7 Version 5.0x) for additional details.

Interface Definition

With an aftermarket control system interface, the IMC requires four digital inputs to control the rooftop unit: G (blower enable), OCP (occupied), Y1 (enables discharge cooling), W1 (enables discharge heating) and Y2 (second stage call for cooling) and W2 (second stage call for heating) should be added in constant volume applications.

These configurations minimize the controls expertise required to create a viable interface. Further, they create a consistent, standardized approach conducive to support and trouble-shooting on a broad basis without the need for substantial knowledge of the IMC, VFD, bypass, or aftermarket controllers or systems.

AFTERMARKET ZONING SYSTEM INTERFACE**Constant Volume Bypass RTU Wiring Summary for units equipped with M1-6 or M1-7 (Aftermarket Supervisory Control)****Variable Air Volume RTU Wiring Summary - for units equipped with M1-7 (IMC Supervisory Control)**

AFTERMARKET ZONING SYSTEM INTERFACE

Sequence of Operation

IMC Supervisory Control

Operation when IMC blower (G) input is energized

When a G signal is present, the IMC controls the VFD or bypass damper to hold a constant supply duct static pressure based on the input from the IMC pressure sensor, using a PID control loop. For increased flexibility, the IMC has separate, adjustable static pressure setpoints for ventilation, cooling, heating and smoke alarms. These set points reside in the memory of the IMC, have factory default settings, and may be adjusted in the field prior to start-up.

Operation when IMC occupied (OCP) input is energized

When an OCP signal is present, the IMC adjusts the fresh air damper to either a fixed minimum position or allows it to modulate based on a CO₂ sensor. The CO₂ sensor can be wired directly to the IMC, to another controller that can monitor the sensor and pass a signal to the IMC for damper control, or to both the IMC and another device for monitoring through the desired man-machine interface while the IMC maintains damper control. During morning warm-up/cool-down the IMC keeps the fresh air damper closed based on the IMC configuration settings selected. The set points for minimum and maximum damper position setting and CO₂ control reside in the memory of the IMC, have factory default settings, and may be adjusted at start up. They cannot be adjusted using the aftermarket controls system.

Operation when IMC first stage cooling (Y1) input is energized

When a Y1 signal is present the IMC controls up to 4 stages of cooling (depending on RTU configuration) to maintain a cooling discharge air temperature setpoint. These stages include mechanical cooling, or outdoor air for cooling with an economizer. The discharge air temperature setpoint resides in the IMC, has a factory default setting, and may be adjusted at start up. It cannot be adjusted using the aftermarket controls system. The IMC has advanced discharge-air cooling reset options selected at start up based on return air temperature and/or outside air temperature. Outside air reset saves energy by gradually increasing the discharge air set point as outside air temperature decreases. Return air reset reduces potential for overcooling if the zoning system is misapplied, has an abnormal condition, or a dominant zone. The reset gradually increases discharge air temperature as return air temperature decreases.

NOTE - Y2 signal is recommended for constant volume applications.

Operation when IMC first stage heating (W1) input is energized

When a W1 signal is present, the IMC controls up to 4 stages of heating (depending on RTU configuration) to maintain a heating discharge air temperature. The heating discharge air temperature set point resides in the IMC, has a factory default setting, and may be adjusted at start up. It cannot be adjusted using the aftermarket controls system. The IMC has advanced discharge air heating reset options based on return air temperature and/or outside air temperature. Outside air reset saves energy by gradually decreasing the discharge air set point as outside air temperature increases. Return air reset reduces the potential for overheating if the zoning system is misapplied, has an abnormal condition, or a dominant zone. The reset gradually decreases discharge air temperature as return air temperature increases.

NOTE - W2 signal is recommended for constant volume applications.

Power Exhaust Fan Operation

The IMC has many power exhaust fan control options that include single-stage, two-stage and modulating control, depending on how the unit is equipped. Stage control options can be triggered based on fresh air damper positions, pressure switches, or a analog pressure sensor. Modulating control for units with VFD powered exhaust fans are typically modulated to maintain return or building static pressure, but can be staged. Set-points and operation settings for controlling power exhaust fans reside in the IMC, have factory default settings, and may be adjusted at start up. They cannot be adjusted using the aftermarket controls system.

REVISIONS

Sections	Description of Change
Options/Accessories	Added MERV 11 and MERV 15 Filter options.
Blower Data	Added Optional Air Resistance for MERV 11 and MERV 15 Filter options.



ARI Standard
340/360



VERIFIED
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ENERGETIQUE



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

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