LCT

ENLIGHT ROOFTOP UNITS

High Efficiency | Lennox® CORE Controller | Environ™ Coil | R-454B | 60Hz

COMMERCIAL
PRODUCT SPECIFICATIONS (EHB)

25 to 30 Tons
Net Cooling Capacity – 300,000 to 350,000 Btuh
Optional Electric Heat - 30 to 90 kW

ENLIGHT

LENNOX CORE CONTROL SYSTEM

Environ™ Coil System

MSAV™ MULTI-STAGE AIR VOLUME

Humiditrol

SmartWire™ System

ASHRAE Standard 90.1

MODEL NUMBER IDENTIFICATION

L C T 302 H 5 V N 1 Y

Brand
L = Lennox®

Unit Type
C = Packaged Electric Cooling with optional Electric Heat

Family
T = Enlight Series

Nominal Cooling Capacity - Tons
302 = 25 Tons
360 = 30 Tons

Cooling Efficiency
H = High Efficiency

Refrigerant Type
5 = R-454B

Blower Type
M = MSAV® Multi-Stage Air Volume, Belt Drive
V = Variable Air Volume, Belt Drive

Factory Installed Electric Heat
N = No Heat
J = 30 kW Electric Heat
K = 45 kW Electric Heat
L = 60 kW Electric Heat
P = 90 kW Electric Heat

Minor Design Sequence
1 = 1st Revision

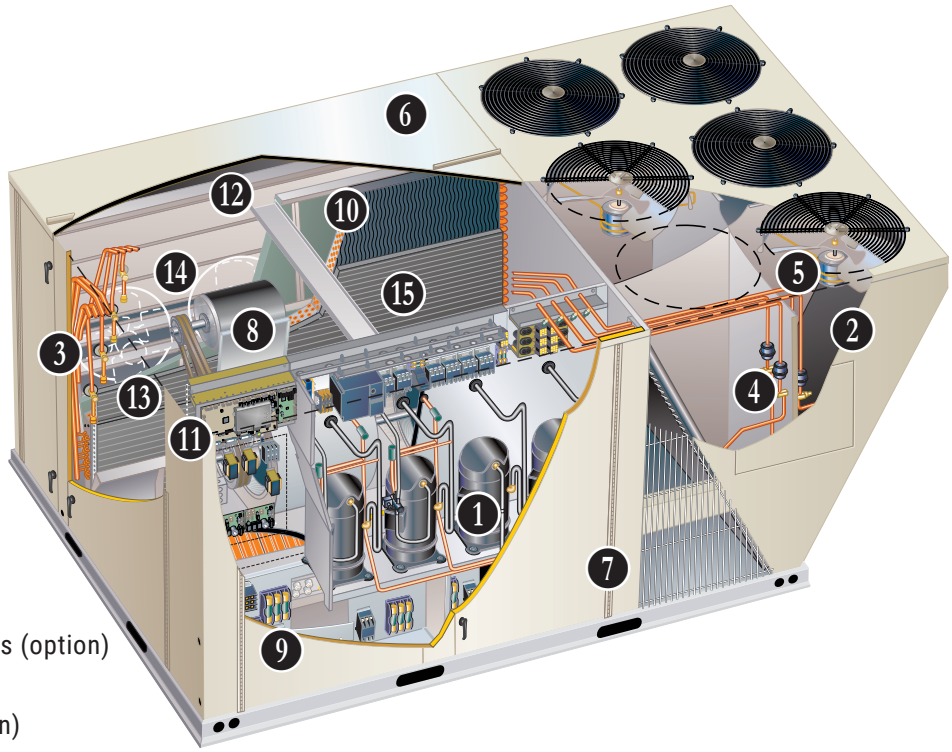
Voltage
Y = 208/230V-3 phase-60Hz
G = 460V-3 phase-60Hz
J = 575V-3 phase-60Hz

Form Number 211108 | September 2024
Supersedes all previous versions

FEATURE HIGHLIGHTS

Enlight rooftop units featuring the Lennox® CORE Control System create a bright future through a highly energy-efficient and environmentally sustainable design. Comprehensive configurations meet a wide range of applications, making it the most flexible product line Lennox has to offer.

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



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APPROVALS AND WARRANTY

APPROVALS

- Tested at conditions included in AHRI Standard 340/360-2023
- ETL and CSA listed
- Unit and components ETL, NEC and CEC bonded for grounding to meet safety standards for servicing
- All models are ASHRAE 90.1 compliant
- All models meet DOE 2023 energy efficiency standards and UL 60335-2-40 Refrigerant Detector Requirements
- MSAV® Multi-Stage Air Volume models meet California Code of Regulations, Title 24 and ASHRAE 90.1-2022 Section 6.4.3.10 requirements for staged airflow
- ISO 9001 Registered Manufacturing Quality System

WARRANTY

- Compressors - Limited five years
- Environ™ Coil System - Limited three years
- Lennox® CORE Unit Controller - Limited three years
- Variable-Frequency Drive (VFD) - Limited five years
- High Performance Economizers (optional) - Limited five year
- All other covered components - Limited one year

FEATURES AND BENEFITS

COOLING SYSTEM

- Designed to maximize sensible and latent cooling performance at design conditions
- System can operate from 0°F to 125°F without any additional controls

R-454B Refrigerant

- Low GWP (Global Warming Potential)
- Zero ODP (Ozone Depletion Potential)
- Low Toxicity/Lower Flammability - A2L
- Unit is factory pre-charged

1 Scroll Compressors

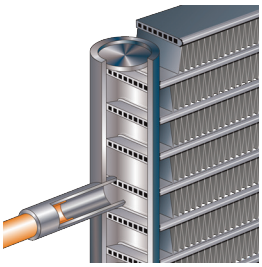
- Scroll compressors on all models for high performance, reliability and quiet operation
- Resiliently mounted on rubber grommets for quiet operation

Compressor Crankcase Heaters

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

2 Condenser Coil - Environ™ Coil System

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



Environ™ Coil System Features:

- Improved heat transfer performance due to high primary surface area (flat tubes) versus secondary surface (fins)
- Smaller internal volume (reduced refrigerant charge)
- High durability
- All aluminum construction
- Fewer brazed joints
- Compact design
- Reduced unit weight
- Easy maintenance/cleaning
- Mounting brackets with rubber inserts
- Angled cabinet design protects coil from damage

Evaporator Coil

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

3 Thermal Expansion Valves

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

4 Filter/Driers

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

FEATURES AND BENEFITS

COOLING SYSTEM (continued)

High Pressure Switches

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

Low Pressure Switches

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

Antimicrobial Condensate Drain Pan

- Composite pan, sloped to meet drainage requirements per ASHRAE 62.1
- Antimicrobial additive prevents growth of mold and mildew, which improves indoor air quality and reduces drain line blockage
- Side drain connections

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

Indoor Coil Freeze Protection

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

5 Outdoor Coil Fan Motors

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

Outdoor Coil Fans

- PVC coated fan guard furnished

Required Selections

Cooling Capacity

- Specify nominal cooling capacity

Options/Accessories

Factory or Field Installed

Drain Pan Overflow Switch

- Monitors condensate level in drain pan
- Shuts down unit if drain becomes clogged

Stainless Steel Drain Pan

- Non-corrosive drain pan

Field Installed

Condensate Drain Trap

- Available in copper or PVC

LOW GWP REFRIGERANT DETECTION SYSTEM (RDS)

- Complies with UL 60335-2-40 approved standard
- Required for all systems using R-454B refrigerant
- Factory installed on all units
- Consists of a refrigerant detection sensor(s) and a mitigation control
- Ensures safe operation for systems equipped with R-454B refrigerant
- Sensor(s) monitors indoor coil area for R-454B refrigerant
- If R-454B refrigerant is detected the refrigerant detection system will prevent compressor and heating operation until R-454B refrigerant is no longer detected
- Refrigeration detection system energizes blower if any R-454B refrigerant is detected to mitigate any concentrations of refrigerant from the unit and the system

CABINET

6 Construction

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

Airflow Choice

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

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

Power Entry

- Electrical lines can be routed through the unit base or through horizontal access knock-outs

Exterior Panels

- Constructed of heavy-gauge, galvanized steel
- Textured pre-paint with polyurethane finish
- Cyclic salt fog and UV exposure up to 1,680 hours per ASTM D5894

Insulation

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

7 Hinged Access Panels

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

FEATURES AND BENEFITS

CABINET (continued)

Options/Accessories

Factory Installed

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

Factory or Field Installed

Combination Coil/Hail Guards
- Heavy gauge steel frame
- Painted to match cabinet
- Expanded metal mesh protects outdoor coil

Field Installed

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

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

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

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

8 Supply Air Blower
- Forward curved blades
- Double inlet
- Blower wheel statically and dynamically balanced
- Ball bearings
- Adjustable pulley (allows speed change)
- Blower assembly slides out of unit for servicing
- Grease fittings furnished

Blower Proving Switch
- Monitors blower operation, shuts down unit if blower fails

Supply Static Pressure Transducer (VAV Models Only)
- Sends information to the Lennox® CORE unit controller to control VFD blower speed
- Shipped with the unit for remote field installation in the supply duct

Required Selections

Select VAV Variable Air Volume or MSAV® Multi-Stage Air Volume
- Variable Air Volume (VAV) variable frequency drive (VFD) varies the air volume to maintain a constant duct static pressure
- MSAV® Multi-Stage Air Volume models stage the amount of airflow according to compressor stages, heating demand, ventilation demand or smoke alarm
  - Utilizes a Variable Frequency Drive (VFD) to stage the supply air blower airflow
  - VFD alters the frequency and voltage of the power supply to the blower to control blower speed
- The amount of airflow for each stage can be set according to a parameter in the Lennox® CORE Unit Controller
  - Unit is shipped from the factory with preset airflows
  - The MSAV® Multi-Stage Air Volume supply air blower option can be ordered with or without an Electronic Bypass Control
  - If equipped with the bypass control the MSAV® Multi-Stage Air Volume features automatic electronic bypass control of the VFD
  - In case of a VFD malfunction, a VFD alarm is generated by the Lennox® CORE Unit controller
  - Unit controller will automatically switch to full blower speed if a VFD alarm is generated

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

BLOWER (Continued)

Ordering Information
- Specify motor horsepower and drive kit number when base unit is ordered

Options/Accessories

Factory Installed

Supply VFD Blower Bypass Control
- Allows unit to operate as a constant air volume (CAV) unit in case of variable frequency drive (VFD) failure

NOTE - Supply VFD Blower Bypass Control is not available with High Static Power Exhaust.

Field Installed

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

ELECTRICAL

NOTE - All units include terminal block and fuse block in power entry junction box for single power entry application.

SmartWire™ System
- Keyed and color-coded wiring connectors prevent miswiring
- Wire coloring scheme is standardized across all models
- Each connection is intuitively labeled to make troubleshooting and servicing quick and easy

Electrical Plugs
- Positive connection electrical plugs connect common accessories or maintenance parts for easy removal or installation

Phase/Voltage Detection
- Monitors power supply to assure phase is correct at unit start-up
- If phase is incorrect, the unit will not start and an alarm code is reported to the unit controller
- Protects unit from being started with incorrect phasing which could lead to issues such as compressors running backwards
- Voltage detection monitors power supply voltage to assure proper voltage
- If voltage is not correct (over/under voltage conditions) the unit will not start and an alarm code is reported to the unit controller

Required Selections

Voltage Choice
- Specify when ordering base unit

Options/Accessories

Factory Installed

Circuit Breakers
- HACR type
- Overload and short circuit protection
- Factory wired and mounted in the power entry panel
- Current sensitive and temperature activated
- Manual reset

Short-Circuit Current Rating (SCCR)
- Higher short-circuit protection up to 100kA

NOTE - Disconnect Switch not available with higher SCCR option. SCCR option only available with factory installed electric heat.

Factory or Field Installed

Disconnect Switch
- Accessible outside of unit
- Spring loaded weatherproof cover furnished

9 Electric Heat
- Helix wound nichrome elements
- Individual element limit controls
- Wiring harness
- Unit fuse block
- See Options/Accessories tables for ordering information

GFI Service Outlets (2)
- 115V ground fault circuit interrupter (GFCI) type options:
  - Factory installed and wired, unit powered
  - Factory installed, non-powered, field wired
  - Field installed, non-powered, field wired

Field Installed

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

FEATURES AND BENEFITS

INDOOR AIR QUALITY

10 Air Filters
- Disposable 2 inch MERV 4 filters furnished as standard

Options/Accessories

Factory or Field Installed

Healthy Climate® High Efficiency Air Filters
- Disposable MERV 8 or MERV 13 (Minimum Efficiency Reporting Value based on ASHRAE 52.2) efficiency 2-inch pleated filters
- Replacement Filter Media Kit With Frame
- Replaces existing pleated filter media
- Includes washable metal mesh screen and metal frame with clip for holding replaceable non-pleated filter

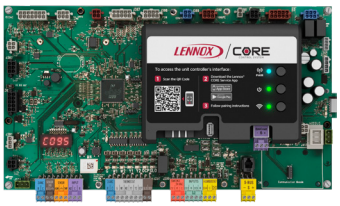
Field Installed

Healthy Climate® High Efficiency MERV 16 Air Filters
- Disposable MERV 16 (Minimum Efficiency Reporting Value based on ASHRAE 52.2) efficiency 2-inch pleated filters

Indoor Air Quality (CO_2) Sensors
- Monitors CO_2 levels
- Reports to the Lennox® CORE Control, which adjusts economizer dampers as needed

CONTROL SYSTEM

LENNOX® CORE CONTROL SYSTEM



11 The Lennox® CORE Control System is designed to accelerate equipment install and service. Standard with all Enlight rooftop units, control system integrates key technologies that lower installation costs, drive system efficiency, and protect your investments.

The Lennox® CORE Unit Controller is a microprocessor-based controller that provides flexible control of all unit functions.

CORE Mobile Service App

- Guided Setup with progress indicators, detailed help, and exportable summaries to manage simple, trouble-free setup, reducing commissioning times
- Enhanced Test Functionality provides real-time sensor readings, trending, and reports that enable easy troubleshooting
- Ability to set and configure parameters of the CORE Control System to manage sequence of operation
- Economizer test function ensures economizer is operating correctly

Download on the App Store | ANDROID APP ON Google play

Additional Features:

- Built-In 7-Segment Display shows Unit Status and active alarms for easy troubleshooting
- Buttons for test and clearing delays
- SmartWire™ System with keyed and removable screw terminals ensure correct field wiring
- Built-in BACnet MS/TP and IP allow open integration to building management systems.
- Two-port Ethernet Switch enables daisy chaining for BACnet IP and automatic firmware updates

NOTE - Unit Internet Connection required.

- Profile setup copies key settings between units with the same configuration to reduce setup time
- USB port allows a technician to download and transfer unit information to help verify service was performed
- USB software updates on the Lennox® CORE Unit Controller enhance functionality without the need to change components
- Unit Controller Software

Configurable Built-In Functions

- Discharge Air Cooling Control
- Up to three distinct Cooling Airflows in Thermostat Mode
- Programmable independent heating, ventilation and cooling blower speeds
- Discharge Air Heating Control
- Economizer Control Options (See Economizer / Exhaust Air / Outdoor Air sections)
- Exhaust Fan Control Modes for fresh air damper position
- Configurable Morning Warm-up
- Night Setback Mode
- Fresh Air Tempering for Improved Ventilation
- Demand Control Ventilation
- Low Ambient Controls for operation down to 0°F
- Humiditrol™ Operation
- Enhanced Dehumidification (Latent Demand Control without hot gas reheat)

Component Protection / Unit Safeguards:

- Compressor Time-Off Delay
- Adjustable Blower On/Off Delay
- Return Air Temperature Limit Control
- Safety Switch Input allows Controller to respond to a external safety switch trip
- Service Relay Output
- Thermostat Bounce Delay
- Smoke Alarm Mode has four choices (unit off, positive pressure, negative pressure, purge)
- “Strike Three” Protection
- Gas Valve Time Delay Between First and Second Stage
- Minimum Compressor Run Time

Control Methods / Interfaces:

- DDC and 24V Thermostat
- BACnet MS/TP and IP
- LONTalk (Factory and Field Option)
- Lennox S-BUS
- Zone Temperature Sensor Input
- Dehumidistat and Humidity Sensor Inputs
- Indoor Air Quality Inputs (2)
- Built-in Control Parameter Defaults
- Permanent Diagnostic Code Storage
- Field Adjustable Control Parameters (Over 200 settings)
- Multiple Configurable Digital Inputs
- LED Indicators
- PC Interface connects the Lennox® CORE Unit Controller to a PC with the Lennox Unit Controller Software

NOTE - Lennox® CORE Control System features vary with the type of rooftop unit in which the control is installed.

CONTROL SYSTEM

LENNOX® CORE CONTROL SYSTEM (continued)

Discharge Air Temperature Sensor (VAV Model Only)
- Sensor sends information to the unit controller to cycle up to 2 stages of heating or 4 stages of cooling to maintain the discharge air setpoints for heating or cooling

NOTE - Sensor is shipped with the VAV unit for remote field installation in the supply duct.

Controls Options

Factory or Field Installed

Dirty Filter Switch
- Senses static pressure increase and issues alarm if necessary

Fresh Air Tempering
- Used in applications with high outside air requirements
- Controller energizes the first stage heat as needed to maintain a minimum supply air temperature for comfort, regardless of the thermostat demand
- When ordered as a factory option, sensor ships with the unit for field installation

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

Commercial Control Systems

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

Field Installed

Thermostats and Room Sensors
- Control system and thermostat options, see page 15

OPTIONS / ACCESSORIES

ECONOMIZER

- Economizer operation is set and controlled by the Lennox® CORE unit controller
- Simple plug-in connections from economizer to unit controller for easy installation
- All Enlight rooftop units are equipped with factory installed CEC Title 24 approved sensors for outside, return and discharge air temperature monitoring

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

Factory or Field Installed

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

NOTE - Downflow or horizontal economizer applications require optional Downflow or Horizontal Barometric Relief Dampers with Exhaust Hood.
- Linked damper action
- High torque 24-volt fully-modulating spring return damper motor
- Return air and outdoor air dampers
- Plug-in connections to unit

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

NOTE - The Free Cooling setpoint for Title 24 applications must be set based on the Climate Zone where the system is installed. See Section 140.4 “Prescriptive Requirements for Space Conditioning Systems” of the California Energy Commission’s 2022 Building Energy Efficiency Standards.

NOTE - Refer to Installation Instructions for complete setup information.

ECONOMIZER (continued)

Differential Sensible Control
- Factory setting
- Uses outdoor air and return air sensors that are furnished with the unit
- The Lennox® CORE unit controller compares outdoor air temperature with return air
- When the outdoor air is below the configured setpoint and cooler than return air, the controller activates the economizer

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

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

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

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

Factory or Field Installed

Single Enthalpy Temperature Control (Not for Title 24)
- Outdoor air enthalpy sensor enables Economizer if the outdoor enthalpy is less than the setpoint of the control

Differential Enthalpy Control (Not for Title 24)
- Order two Single Enthalpy Controls
- One is field installed in the return air section
- One is installed in the outdoor air section
- Allows the economizer control to select between outdoor air or return air, whichever has lower enthalpy

Field Installed

Outdoor Air CFM Control
- Maintains constant outdoor air volume levels on the supply air fan and varying unit airflows
- Velocity sensor located in the rooftop unit outdoor air section, the Lennox® CORE unit controller changes the Economizer position to help minimize the effect of supply fan speed changes on outdoor air volume levels
- Setpoint for outdoor air volume is established by field testing

NOTE - Not available with Demand Control Ventilation (CO_2 Sensor) or Building Pressure Control.

Building Pressure Control
- Maintains constant building pressure level
- Includes a static pressure transducer and outdoor static pressure assembly

Using differential pressure information between the outdoor air and the building air, the Lennox® CORE unit controller changes the Economizer position to help maintain a constant building pressure

NOTE - Not available with Demand Control Ventilation (CO_2 Sensor) or Outdoor Air CFM Control.

EXHAUST

Factory or Field Installed

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

Horizontal Barometric Relief Dampers
- For use when unit is configured for horizontal applications requiring an economizer
- Allows relief of excess air
- Aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle
- Field installed in return air duct
- Bird screen and hood furnished

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

OPTIONS / ACCESSORIES

EXHAUST (continued)

Factory or Field Installed

14 Standard Static Power Exhaust

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

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

Field Installed

High Static Power Exhaust

- Centrifugal-type power exhaust blowers
- Overload and sub-fuse protected
- Ball bearings
- Forward curved blades
- Blower wheel is statically and dynamically balanced
- Adjustable pulleys for speed adjustments

NOTE - High Static Power Exhaust (with VFD) features a solid-state analog pressure transducer control which senses differential pressure between conditioned space and outdoor air to regulate exhaust blower speed. Also 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.

Control Choices

Damper Position Control

- For Standard Static Power Exhaust without VFD
- Lennox® CORE unit controller controls the power exhaust based on economizer damper position

Field Installed

Differential Pressure Transducer Control

- For Standard Static Power Exhaust or High Static Power Exhaust with VFD
- Lennox® CORE unit controller controls the power exhaust system based on a 0-10VDC signal from a differential pressure transducer, which compares atmospheric pressure to conditioned space static pressure

OUTDOOR AIR

Factory or Field Installed

Motorized Outdoor Air Dampers

- Linked mechanical dampers
- Fully modulating spring return damper motor with plug-in connection
- 0 to 25% (fixed) outdoor air adjustable
- Installs in unit
- Outdoor air hood with bird screen included

NOTE - Outdoor Air Hood is shipped separately in the unit with factory installed dampers for field installation.

Field Installed

Manual Outdoor Air Damper

- Adjustable slide damper
- Installed in unit
- Outdoor air hood with bird screen included

OPTIONS / ACCESSORIES

ROOF CURBS

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

Downflow

Hybrid Roof Curbs

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

Horizontal

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

NOTE - Requires Horizontal Return Air Panel Kit.

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

CEILING DIFFUSERS

Field Installed

Ceiling Diffusers
(Flush or Step-Down)

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

Transitions (Supply and Return)

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

HUMIDITROL® DEHUMIDIFICATION SYSTEM OPTION

15 OVERVIEW

NOTE - Available for 302H and 360H models with MSAV® Multi-Stage Air Volume option.

- Factory installed option designed to control humidity
- Provides dehumidification on demand using ASHRAE 90.1 recommended method for comfort conditioning humidity control
- Unit comes equipped with one row reheat coil, solenoid valve and humidity controller

BENEFITS

- Improves indoor air quality
- Helps prevents damage due to high humidity levels
- Improves comfort levels by reducing space humidity levels

OPERATION

No Dehumidification Demand

- The unit will operate conventionally whenever there is a demand for cooling or heating and no dehumidification demand
- Free cooling is only permitted when there is no demand for dehumidification

Dehumidification Demand Only

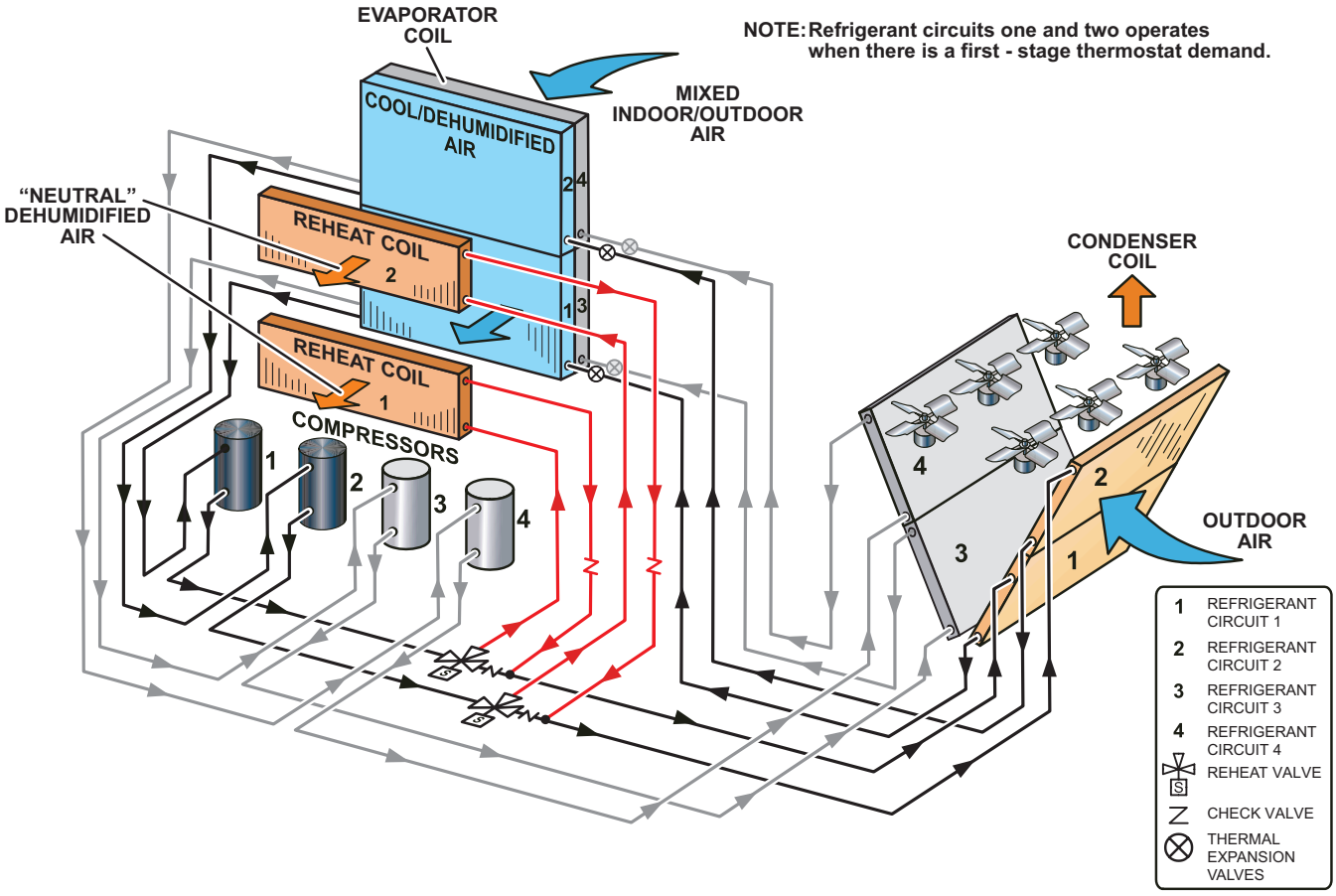
- Reheat operation will initiate on a dehumidification demand and does not require a cooling demand
- The unit will operate in the dehumidification mode until the relative humidity of the conditioned space is below the setpoint
- The reheat coil is sized to provide 68°F to 75°F supply air during reheat operation
- This reduces sensible cooling capacity and extends compressor run time to control humidity when the cooling load is low
- A solenoid valve diverts hot gas from the compressor to the reheat coil
- The cooled and dehumidified air from the evaporator is reheated as it passes through the reheat coil
- The de-superheated and partially condensed refrigerant continues to the outdoor condenser coil where condensing is completed
- The unit will continue to operate in this mode until the dehumidification demand is satisfied

NOTE - See Sequence of Operation for additional information.

Dehumidification and Cooling Demand (Thermostat/ Room Sensor Application)

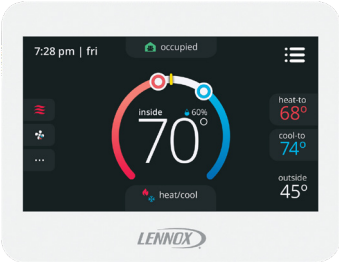
- If both a dehumidification and a full cooling demand occur, the system will operate in cooling until the cooling demand is satisfied
- Then the system will energize the dehumidification mode

REFRIGERANT SCHEMATIC



OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

CS8500 Commercial 7-Day Programmable Thermostat

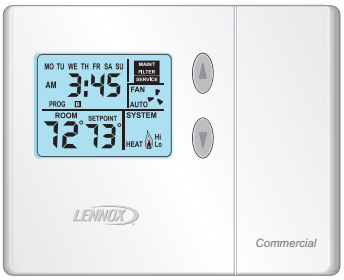


- Fully Communicating Sensor
- Full Color Touchscreen Interface
- Variable Speed System Control (On Compatible Units)
- Up To 4 Heat / 4 Cool
- Built-In Sensors For Temperature, Humidity And Optional CO_2
- Remote Sensor Options For Occupancy, Temperature
- BACnet Capable Options
- 5-2 or 7-Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-Changeover
- Four-Wire Installation
- FDD, ASHRAE, IECC Compliant

CS7500 Commercial 7-Day Programmable Thermostat

- Premium Universal Thermostat
- Full Color Touchscreen Interface
- Up To 4 Heat / 3 Cool
- Built-In Sensors For Temperature and Humidity
- Remote Sensors Options For Temperature, Discharge Air, Outdoor Air
- 5-2 or 7-Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-Changeover
- FDD, ASHRAE, IECC Compliant

CS3000 Commercial 5-2 Day Programmable Thermostat



- Conventional Multi-Stage Thermostat
- Intuitive Display
- Push-Button Operation
- Up To 2 Heat / 2 Cool
- Built-In Temperature Sensor
- Remote Temperature Sensing
- Up to 5-2 Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-changeover

Wired Temperature/Humidity Room Sensor (Non-Communicating)

- Terminal blocks for wiring connections
- Five-wire sensor connection
- Off-white plastic enclosure
- Non-adjustable
- Relative humidity range: 0 -100%
- +/- 3% Accuracy

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

Description		Order Number
CS8500 Commercial 7 Day Programmable Thermostat		
CS8500 7-Day Thermostat	No CO_2 Sensing	**24K55**
	With CO_2 Sensing	**24K53**
Sensors/Accessories	[1] Remote non-adjustable wall-mount 10k	**47W37**
	[1] Remote non-adjustable wall-mount 11k	**94L61**
Sysbus Network Cable (Yellow) for CS8500 and LCS-5030 Wired Room Sensor		
Twisted pair 100% shielded communication cable, Red and Black 22 AWG, yellow jacket, rated at 75°C, 300V, Plenum rated Insulation - Low smoke PVC, NEC, CMP	500 ft. box	**27M19**
	1000 ft. box	**94L63**
	2500 ft. roll	**68M25**
CS7500 Commercial 7-Day Programmable Thermostat		
CS7500 7-Day Thermostat		**24K41**
Sensors/Accessories	[2] Remote non-adjustable wall-mount 20k	**47W36**
	[2] Remote non-adjustable wall-mount 10k	**47W37**
	Remote non-adjustable discharge air (duct mount)	**19L22**
	Outdoor temperature sensor	**X2658**
CS3000 Commercial 5-2 Day Programmable Thermostat		
CS3000 5-2 Day Thermostat		**11Y05**
Sensors/Accessories	Remote non-adjustable wall mount 10k averaging	**47W37**
	Thermostat wall mounting plate	**X2659**
Universal Thermostat Guard with Lock (clear)		
	Inside Dimensions (H x W x D) 5-7/8 x 8-3/8 x 3 in.	**39P21**
Temperature/Humidity Room Sensor		
A335MT13AE1 Wired Temperature/Humidity Room Sensor (Non-Communicating)		**21W06**

[1] Up to nine of the same type remote temperature sensors can be connected in parallel.

[2] Remote wall-mount sensors can be applied in any of the following combinations:
One Sensor - (1) 47W36, Two Sensors - (2) 47W37, Three Sensors - (2) 47W36 and (1) 47W37
Four Sensors - (4) 47W36, Five Sensors - (3) 47W36 and (2) 47W37

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

SUPPLY AIR BLOWER SPEED

Unit has the following supply air blower speed settings:

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

COOLING (2 Cool)

[1] Unit Features An Economizer And Outdoor Air Is Suitable

Y1 Demand:

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

Y2 Demand:

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

NOTE - If economizer stays at maximum open for 3 minutes, 1st stage compressors (compressor 1 and 2) are energized while supply air blower stays on high cooling speed providing maximum cooling capacity.

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

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

Y1 Demand:

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

Y2 Demand:

All compressors operate and supply air blower is activated. The blower is set to the High Cooling Speed.

Dehumidification Mode

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

Call For Dehumidification, No Y1, Y2 Demand:

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

Y1 Demand With A Call For Dehumidification:

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

Y2 Demand With A Call For Dehumidification:

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

HEATING (2 Heat)

W1 Demand:

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

W2 Demand:

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

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

SUPPLY AIR BLOWER SPEED

Unit has the following supply air blower speed settings:

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

COOLING (4 Cool)

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

[1] Unit Features An Economizer And Outdoor Air Is Suitable

Cooling Stage 1:

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

Cooling Stage 2:

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

Cooling Stage 3:

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

Cooling Stage 4:

All compressors are energized while supply air blower is on Cooling speed 4 to provide maximum cooling capacity. 1 Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the RTU via a network connection.

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

Cooling Stage 1:

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

Cooling Stage 2:

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

Cooling Stage 3:

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

Cooling Stage 4:

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

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

Dehumidification Mode

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

Call For Dehumidification, No Y1, Y2, Y3, Y4 Demand:

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

Y1 Demand With A Call For Dehumidification:

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

Y2 Demand With A Call For Dehumidification:

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

Y3 Demand With A Call For Dehumidification:

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

Y4 Demand With A Call For Dehumidification:

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

HEATING (4 Heat)

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

UNITS IN ZONING APPLICATIONS OPERATING WITH DISCHARGE AIR CONTROL (4 HEAT / 4 COOL)

SUPPLY AIR BLOWER SPEED

Unit has the following supply air blower speed settings:

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

COOLING (4 Cool)

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

[1] Unit Features An Economizer And Outdoor Air Is Suitable

Cooling Stage 1:

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

Cooling Stage 2:

All compressors are off, supply air blower operates to maintain duct static pressure, and economizer modulates to maintain 55°F supply air temperature. If economizer stays at maximum open for 3 minutes, compressor 1 is energized while supply air blower operates to maintain duct static pressure. After compressor 1 is energized, the economizer stays at maximum open.

Cooling Stage 3:

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

Cooling Stage 4:

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

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

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

Cooling Stage 1:

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

Cooling Stage 2:

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

Cooling Stage 3:

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

Cooling Stage 4:

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

UNIT IN ZONING APPLICATIONS OPERATING WITH DISCHARGE AIR CONTROL (4 HEAT / 4 COOL) (CONTINUED)

HEATING (4 Heat)

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

ACCESSORIES

Modulating Outdoor Air Damper

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

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

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

OPTIONS / ACCESSORIES

Item Description		Order Number	Size 302	Size 360
COOLING SYSTEM				
Condensate Drain Trap	PVC	**22H54**	X	X
	Copper	**76W27**	X	X
Drain Pan Overflow Switch		**21Z07**	OX	OX
Stainless Steel Condensate Drain Pan		**83W42**	OX	OX
BLOWER - SUPPLY AIR				
Blower Type	MSAV® Multi-Stage Air Volume	Factory	O	O
	VAV Variable Air Volume	Factory	O	O
Motors	Belt Drive (standard efficiency) - 5 HP	Factory	O	O
	Belt Drive (standard efficiency) - 7.5 HP	Factory	O	O
	Belt Drive (standard efficiency) - 10 HP	Factory	O	O
	Supply VFD Blower Bypass	Factory	O	O
Drive Kits See Blower Data Tables for usage and selection	Kit #1 740-895 rpm	Factory	O	O
	Kit #2 870-1045 rpm	Factory	O	O
	Kit #3 715-880 rpm	Factory	O	O
	Kit #4 770-965 rpm	Factory	O	O
	Kit #5 660-810 rpm	Factory	O	O
	Kit #6 770-965 rpm	Factory	O	O
	Kit #7 570-720 rpm	Factory	O	O
	Kit #8 480-630 rpm	Factory	O	O
	Kit #9 410-535 rpm	Factory	O	O
CABINET				
Combination Coil/Hail Guards		**13T16**	OX	OX
Corrosion Protection		Factory	O	O
Horizontal Return Air Panel Kit		**38K48**	X	X
CONTROLS				
Commercial Controls	LonTalk® Module	**54W27**	OX	OX
	Novar® LSE	Factory	O	O
Dirty Filter Switch		**53W68**	OX	OX
Fresh Air Tempering		**21Z08**	OX	OX
Smoke Detector - Supply or Return (Power board and one sensor)		**37G73**	OX	OX
Smoke Detector - Supply and Return (Power board and two sensors)		**37G74**	OX	OX

NOTE - Order numbers shown are for ordering field installed accessories.

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

O = Configure To Order (Factory Installed)

X = Field Installed

OPTIONS / ACCESSORIES

Item Description		Order Number	Size 302	Size 360
INDOOR AIR QUALITY				
Air Filters				
Healthy Climate® High Efficiency Air Filters 20 x 20 x 2 - order 12 per unit	MERV 8	**54W21**	OX	OX
	MERV 13	**52W39**	OX	OX
	MERV 16	**21U40**	X	X
Replaceable Media Filter with Metal Mesh Frame (includes Non-Pleated Filter Media) 20 x 20 x 2- order 12 per unit		**44N60**	X	X
Indoor Air Quality (CO_2) Sensors				
Sensor - Wall-mount, off-white plastic cover with LCD display		**77N39**	X	X
Sensor - Wall-mount, off-white plastic cover, no display		**23V86**	X	X
Sensor - Black plastic case, LCD display, rated for plenum mounting		**87N52**	X	X
Sensor - Black plastic case, no display, rated for plenum mounting		**23V87**	X	X
CO_2 Sensor Duct Mounting Kit - for downflow applications		**23Y47**	X	X
Aspiration Box - for duct mounting non-plenum rated CO_2 sensors (**77N39**)		**90N43**	X	X
Needlepoint Bipolar Ionization (NPBI)				
Needlepoint Bipolar Ionization (NPBI) Kit		**TBD**	X	X
UVC Germicidal Light Kit				
[1] Healthy Climate® UVC Light Kit (110/230v-1ph)		**TBD**	X	X
Step-Down Transformers	460V primary, 230V secondary	**10H20**	X	X
	575V primary, 230V secondary	**10H21**	X	X
ELECTRICAL				
Voltage 60 Hz	208/230V - 3 phase	Factory	O	O
	460V - 3 phase	Factory	O	O
	575V - 3 phase	Factory	O	O
HACR Circuit Breakers		Factory	O	O
[2] Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection)			O	O
[3] Disconnect Switch (See Electrical Accessories Table for usage, page 41)	80 amp	**54W85**	OX	OX
	150 amp	**54W86**	OX	OX
	250 amp	**54W87**	OX	OX
GFI Service Outlets	15 amp non-powered, field-wired (208/230V, 460V only)	**74M70**	OX	OX
	[4], [5] 15 amp factory-wired and powered (208/230V, 460V)	Factory	O	O
	[6] 20 amp non-powered, field-wired (208/230V, 460V, 575V)	**67E01**	X	X
	[6] 20 amp non-powered, field-wired (575V)	Factory	O	O
Weatherproof Cover for GFI		**10C89**	X	X
Phase/Voltage Detection		Factory	O	O
ELECTRIC HEAT				
30 kW	208/230V-3ph	**30U68**	OX	OX
	460V-3ph	**30U69**	OX	OX
	575V-3ph	**30U70**	OX	OX
45 kW	208/230V-3ph	**30U74**	OX	OX
	460V-3ph	**30U75**	OX	OX
	575V-3ph	**30U76**	OX	OX
60 kW	208/230V-3ph	**30U80**	OX	OX
	460V-3ph	**30U81**	OX	OX
	575V-3ph	**30U82**	OX	OX
90 kW	208/230V-3ph	**30U83**	OX	OX
	460V-3ph	**30U84**	OX	OX
	575V-3ph	**30U85**	OX	OX

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

[2] SCCR option is only available with factory installed electric heat or no electric heat.
SCCR option is not available if the MOCP of the configured unit is greater than 200A.

[3] Disconnect Switch is not available with the SCCR option.

[4] If a factory installed disconnect switch is ordered with a factory installed GFI, the default disconnect size is 150 amps.

[5] Unit powered GFI Service Outlets are not available with SCCR option.
Disconnect Switch or Circuit Breaker is required with unit powered GFI Service Outlets.

[6] Canada requires a minimum 20 amp circuit. Select 20 amp, non-powered, field wired GFI.

NOTE - Order numbers shown are for ordering field installed accessories.

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

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X = Field Installed

OPTIONS / ACCESSORIES

Item Description		Order Number	Size 302	Size 360
[7] HUMIDITROL® CONDENSER REHEAT OPTION				
Humiditrol® Dehumidification Option		Factory	O	O
ECONOMIZER				
High Performance Economizer (Approved for California Title 24 Building Standards / AMCA Class 1A Certified)				
High Performance Economizer (Downflow or Horizontal) Includes Economizer Dampers with Outdoor Air Hood Downflow Applications - Use furnished Outdoor Air Hood - Order Downflow Barometric Relief Dampers with Exhaust Hood separately Horizontal Applications - Use furnished Outdoor Air Hood - Order Horizontal Barometric Relief Dampers with Exhaust Hood separately		**18X87**	OX	OX
Economizer Controls				
Differential Enthalpy (Not for Title 24)	Order 2	**21Z09**	OX	OX
Sensible Control	Sensor is Furnished	Factory	O	O
Single Enthalpy (Not for Title 24)		**21Z09**	OX	OX
Global, Enthalpy	Sensor Field Provided	Factory	O	O
Building Pressure Control		**13J77**	X	X
Differential Sensible	Sensor is Furnished	Factory	O	O
Outdoor Air CFM Control		**13J76**	X	X
Barometric Relief Dampers With Exhaust Hood				
Downflow Barometric Relief Dampers		**76W17**	OX	OX
Horizontal Barometric Relief Dampers		**33K78**	OX	OX
OUTDOOR AIR				
Outdoor Air Dampers With Outdoor Air Hood				
Motorized		**18X89**	OX	OX
Manual		**18X88**	X	X
POWER EXHAUST				
Standard Static, SCCR Rated	208/230V	**74W21**	OX	OX
	460V	**74W22**	OX	OX
	575V	**74W23**	OX	OX
High Static with VFD 2 HP (731-932 rpm)	208/230V	**83M89**	X	X
	460V	**83M90**	X	X
	575V	**83M91**	X	X
Power Exhaust Control				
Pressure Transducer Control		**13J77**	X	X

[7] Available for 302H and 360H models only with MSAV® Multi-Stage Air Volume option.

NOTE - Order numbers shown are for ordering field installed accessories.

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

O = Configure To Order (Factory Installed)

X = Field Installed

OPTIONS / ACCESSORIES

Item Description		Order Number	Size	
			302	360
ROOF CURBS				
Hybrid Roof Curbs, Downflow				
14 in. height		**11F62**	X	X
18 in. height		**11F63**	X	X
24 in. height		**11F64**	X	X
Standard Roof Curbs, Horizontal - Requires Horizontal Return Air Panel Kit				
30 in. height - slab applications		**11T90**	X	X
41 in. height - rooftop applications		**11T97**	X	X
Horizontal Return Air Panel Kit				
Required for Horizontal Applications with Roof Curb		**38K48**	X	X
Insulation Kit For Standard Horizontal Curbs				
For 30 in. Curb		**73K33**	X	X
For 41 in. Curb		**73K35**	X	X
CEILING DIFFUSERS				
Step-Down - Order one	LARTD30/36S	**45K74**	X	X
Flush - Order one	LAFD30/36S	**45K75**	X	X
Transitions (Supply and Return) - Order one	LASRT30/36	**33K80**	X	X

NOTE - Order numbers shown are for ordering field installed accessories.

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

O = Configure To Order (Factory Installed)

X = Field Installed

SPECIFICATIONS — 25 TON

			LCT302H5V	LCT302H5M
Model			**LCT302H5V**	**LCT302H5M**
Nominal Tonnage			25 Ton	25 Ton
Efficiency Type			High	High
Blower Type			VAV Variable Air Volume	MSAV® Multi-Stage Air Volume
Cooling Performance		Gross Cooling Capacity - Btuh	309,000	309,000
		[1] Net Cooling Capacity (Btuh)	300,000	300,000
		[1] AHRI Rated Air Flow (cfm)	8200	8200
		Total Unit Power - kW	26.2	26.2
		[1] IEER (Btuh/Watt)	14.3	15.8
		[1] EER (Btuh/Watt)	11.4	11.4
Sound Rating Number		dBA	95	95
Refrigerant Charge		Refrigerant Type	R-454B	R-454B
	Without Reheat	Circuit 1	6 lbs. 12 oz.	6 lbs. 12 oz.
		Circuit 2	6 lbs. 8 oz.	6 lbs. 8 oz.
		Circuit 3	6 lbs. 11 oz.	6 lbs. 11 oz.
		Circuit 4	6 lbs. 13 oz.	6 lbs. 13 oz.
	With Reheat	Circuit 1	- - -	6 lbs. 12 oz.
		Circuit 2	- - -	6 lbs. 8 oz.
		Circuit 3	- - -	6 lbs. 11 oz.
		Circuit 4	- - -	6 lbs. 13 oz.
Electric Heat Available			See page 40	
Compressor Type (number)			Scroll (4)	Scroll (4)
Outdoor Coils		Net face area - ft.² (total)	68.3	68.3
		Number of rows	1	1
		Fins - in.	23	23
Outdoor Coil Fans		Motor HP (number and type)	1/3 (6 PSC)	1/3 (6 PSC)
		Rpm	1075	1075
		Watts (total)	2500	2500
		Diameter (Number) - in.	(6) 24	(6) 24
		Blades	3	3
		Total Air volume - cfm	21,500	21,500
Indoor Coils		Net face area - ft.² (total)	31.40	31.40
		Tube diameter - in.	3/8	3/8
		Rows	4	4
		Fins - in.	14	14
		Condensate drain size (NPT) - in.	(1) 1 in.	(1) 1 in.
		Expansion device type	Balanced Port Thermostatic Expansion Valve,removable power head	
[3] **Indoor Blower and Kit Selection**		Nominal motor HP	5, 7.5, 10	
		Maximum usable motor output (US Only)	5.75, 8.63, 11.5	
		Motor - Drive kit number	5 HP Kit 5 660-810 rpm Kit 6 770-965 rpm Kit 7 570-720 rpm Kit 8 480-630 rpm Kit 9 410-535 rpm 7.5 HP Kit 3 715-880 rpm Kit 4 770-965 rpm 10 HP Kit 1 740-895 rpm Kit 2 870-1045 rpm	
		Wheel (Number) diameter x width - in.	(2) 18 x 15	
Filters		Type of filter	Fiberglass, disposable	
		Number and size - in.	(12) 20 x 20 x 2	
Line voltage data (Volts-Phase-Hz)			208/230-3-60, 460-3-60, 575-3-60	

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 AHRI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

[2] 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 — 30 TON

			LCT360H5V	LCT360H5M
Model			**LCT360H5V**	**LCT360H5M**
Nominal Tonnage			30 Ton	30 Ton
Efficiency Type			High	High
Blower Type			VAV Variable Air Volume	MSAV® Multi-Stage Air Volume
Cooling Performance		Gross Cooling Capacity - Btuh	360,000	360,000
		[1] Net Cooling Capacity (Btuh)	350,000	350,000
		[1] AHRI Rated Air Flow (cfm)	8750	8750
		Total Unit Power - kW	32.5	32.5
		[1] IEER (Btuh/Watt)	13.5	14.2
		[1] EER (Btuh/Watt)	10.8	10.8
Sound Rating Number		dBA	95	95
Refrigerant Charge		Refrigerant Type	R-454B	R-454B
	Without Reheat Option	Circuit 1	6 lbs. 6 oz.	6 lbs. 6 oz.
		Circuit 2	6 lbs. 13 oz.	6 lbs. 13 oz.
		Circuit 3	6 lbs. 10 oz.	6 lbs. 10 oz.
		Circuit 4	6 lbs. 6 oz.	6 lbs. 6 oz.
	With Reheat Option	Circuit 1	- - -	7 lbs. 12 oz.
		Circuit 2	- - -	7 lbs. 8 oz.
		Circuit 3	- - -	6 lbs. 14 oz.
		Circuit 4	- - -	6 lbs. 12 oz.
Electric Heat Available			See page 40	
Compressor Type (number)			Scroll (4)	Scroll (4)
Outdoor Coils		Net face area - ft.² (total)	68.3	68.3
		Number of rows	1	1
		Fins - in.	23	23
Outdoor Coil Fans		Motor HP (number and type)	1/3 (6 PSC)	1/3 (6 PSC)
		Rpm	1075	1075
		Watts (total)	2500	2500
		Diameter (Number) - in.	(6) 24	(6) 24
		Blades	3	3
		Total Air volume - cfm	21,500	21,500
Indoor Coils		Net face area - ft.² (total)	31.40	31.40
		Tube diameter - in.	3/8	3/8
		Rows	4	4
		Fins - in.	14	14
		Condensate drain size (NPT) - in.	(1) 1 in.	(1) 1 in.
		Expansion device type	Balanced Port Thermostatic Expansion Valve,removable power head	
[3] **Indoor Blower and Kit Selection**		Nominal motor HP	5, 7.5, 10	
		Maximum usable motor output (US Only)	5.75, 8.63, 11.5	
		Motor - Drive kit number	5 HP Kit 5 660-810 rpm Kit 6 770-965 rpm Kit 7 570-720 rpm Kit 8 480-630 rpm Kit 9 410-535 rpm 7.5 HP Kit 3 715-880 rpm Kit 4 770-965 rpm 10 HP Kit 1 740-895 rpm Kit 2 870-1045 rpm	
		Wheel (Number) diameter x width - in.	(2) 18 x 15	
Filters		Type of filter	Fiberglass, disposable	
		Number and size - in.	(12) 20 x 20 x 2	
Line voltage data (Volts-Phase-Hz)			208/230-3-60, 460-3-60, 575-3-60	

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 AHRI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

[2] 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.

RATINGS

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 LCT302H5M (2 COMPRESSORS - PART LOAD) - MSAV® (MULTI-STAGE AIR VOLUME)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4000	161.9	6.75	0.69	0.81	0.92	156.9	7.79	0.7	0.82	0.94	151.4	8.89	0.7	0.83	0.96	145.7	10.1	0.72	0.85	0.98
	5000	171	6.76	0.72	0.86	0.99	165.6	7.82	0.73	0.88	1	159.6	8.94	0.74	0.89	1	153.3	10.16	0.76	0.92	1
	6000	178	6.76	0.76	0.92	1	171.9	7.83	0.77	0.94	1	165.5	8.98	0.79	0.96	1	158.8	10.21	0.81	0.98	1
67°F	4000	170	6.76	0.55	0.67	0.77	164.7	7.82	0.56	0.67	0.78	158.8	8.94	0.57	0.68	0.8	153	10.16	0.58	0.69	0.81
	5000	179.8	6.76	0.58	0.7	0.83	173.7	7.84	0.58	0.71	0.85	167.6	8.99	0.59	0.72	0.86	161	10.23	0.6	0.74	0.89
	6000	186.8	6.75	0.59	0.74	0.89	180.3	7.86	0.6	0.75	0.9	173.6	9.02	0.61	0.77	0.93	166	10.27	0.63	0.79	0.95
71°F	4000	177.6	6.76	0.44	0.54	0.65	171.8	7.83	0.44	0.55	0.65	166	8.98	0.44	0.56	0.66	159.4	10.21	0.45	0.56	0.67
	5000	187.7	6.75	0.45	0.57	0.68	182.2	7.86	0.45	0.57	0.69	175.2	9.03	0.45	0.58	0.71	168.3	10.29	0.45	0.59	0.72
	6000	195.9	6.75	0.45	0.58	0.72	189	7.87	0.45	0.59	0.73	181.4	9.06	0.45	0.6	0.75	173.5	10.33	0.46	0.62	0.77

25 TON HIGH EFFICIENCY LCT302H5M (4 COMPRESSORS - FULL LOAD) - MSAV® (MULTI-STAGE AIR VOLUME)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	8000	311.7	17.95	0.72	0.83	0.93	299.5	20.37	0.73	0.85	0.95	287.3	23.02	0.74	0.86	0.96	274.4	26.02	0.75	0.88	0.98
	10000	327.7	18.04	0.77	0.89	0.99	314.6	20.51	0.78	0.91	1	301.5	23.19	0.8	0.92	1	288	26.18	0.82	0.94	1
	12000	339	18.1	0.81	0.94	1	325.6	20.6	0.84	0.96	1	312.1	23.32	0.85	0.98	1	297.8	26.31	0.86	1	1
67°F	8000	326.9	18.02	0.57	0.69	0.81	312.7	20.47	0.57	0.71	0.82	299.4	23.19	0.59	0.72	0.84	284.5	26.12	0.6	0.73	0.86
	10000	337.9	18.1	0.61	0.74	0.87	324.3	20.59	0.61	0.76	0.89	309.7	23.29	0.63	0.78	0.9	294.1	26.23	0.64	0.81	0.92
	12000	347.6	18.16	0.64	0.8	0.92	332.6	20.65	0.65	0.81	0.94	318.1	23.37	0.65	0.84	0.96	303.2	26.35	0.66	0.86	0.98
71°F	8000	344.2	18.14	0.43	0.56	0.66	330.6	20.64	0.44	0.56	0.68	315.3	23.35	0.44	0.57	0.69	299.6	26.31	0.44	0.58	0.71
	10000	355.9	18.2	0.45	0.6	0.72	340.9	20.72	0.46	0.59	0.74	325.2	23.45	0.45	0.61	0.75	309.1	26.43	0.47	0.62	0.77
	12000	364.5	18.24	0.45	0.62	0.77	348.9	20.79	0.46	0.63	0.8	332.5	23.52	0.46	0.65	0.81	316.2	26.52	0.47	0.66	0.83

25 TON HIGH EFFICIENCY LCT302H5V (1 COMPRESSOR - PART LOAD) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	2000	63.6	3.43	0.63	0.71	0.79	61.9	3.9	0.63	0.71	0.79	60	4.43	0.63	0.71	0.8	58.5	5	0.63	0.72	0.81
	2500	69	3.44	0.63	0.73	0.81	67.2	3.93	0.64	0.73	0.82	65.2	4.46	0.64	0.74	0.83	63.2	5.05	0.65	0.75	0.85
	3000	73.6	3.47	0.65	0.75	0.85	71.9	3.96	0.66	0.76	0.86	69.3	4.49	0.66	0.77	0.87	66.9	5.09	0.67	0.78	0.88
67°F	2000	66	3.44	0.53	0.59	0.67	64.3	3.91	0.53	0.6	0.67	62.5	4.44	0.53	0.6	0.68	61.3	5.03	0.53	0.6	0.68
	2500	72.1	3.45	0.53	0.61	0.69	70.3	3.96	0.53	0.61	0.7	68.2	4.49	0.53	0.62	0.71	66	5.08	0.54	0.62	0.72
	3000	77.5	3.48	0.53	0.62	0.72	74.9	3.98	0.54	0.63	0.73	72.6	4.53	0.54	0.64	0.74	70.3	5.13	0.54	0.64	0.75
71°F	2000	69	3.44	0.43	0.5	0.57	67.7	3.94	0.42	0.5	0.57	66.1	4.48	0.42	0.5	0.58	63.4	5.06	0.42	0.51	0.58
	2500	76.2	3.47	0.42	0.51	0.58	74	3.98	0.42	0.51	0.58	71.7	4.51	0.42	0.51	0.59	69.1	5.11	0.42	0.52	0.6
	3000	80.6	3.47	0.42	0.52	0.6	78.6	3.99	0.42	0.52	0.61	75.7	4.55	0.42	0.53	0.61	73.3	5.16	0.42	0.53	0.62

25 TON HIGH EFFICIENCY LCT302H5V (2 COMPRESSORS - PART LOAD) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4000	161.9	6.75	0.69	0.81	0.92	156.9	7.79	0.7	0.82	0.94	151.4	8.89	0.7	0.83	0.96	145.7	10.1	0.72	0.85	0.98
	5000	171	6.76	0.72	0.86	0.99	165.6	7.82	0.73	0.88	1	159.6	8.94	0.74	0.89	1	153.3	10.16	0.76	0.92	1
	6000	178	6.76	0.76	0.92	1	171.9	7.83	0.77	0.94	1	165.5	8.98	0.79	0.96	1	158.8	10.21	0.81	0.98	1
67°F	4000	170	6.76	0.55	0.67	0.77	164.7	7.82	0.56	0.67	0.78	158.8	8.94	0.57	0.68	0.8	153	10.16	0.58	0.69	0.81
	5000	179.8	6.76	0.58	0.7	0.83	173.7	7.84	0.58	0.71	0.85	167.6	8.99	0.59	0.72	0.86	161	10.23	0.6	0.74	0.89
	6000	186.8	6.75	0.59	0.74	0.89	180.3	7.86	0.6	0.75	0.9	173.6	9.02	0.61	0.77	0.93	166	10.27	0.63	0.79	0.95
71°F	4000	177.6	6.76	0.44	0.54	0.65	171.8	7.83	0.44	0.55	0.65	166	8.98	0.44	0.56	0.66	159.4	10.21	0.45	0.56	0.67
	5000	187.7	6.75	0.45	0.57	0.68	182.2	7.86	0.45	0.57	0.69	175.2	9.03	0.45	0.58	0.71	168.3	10.29	0.45	0.59	0.72
	6000	195.9	6.75	0.45	0.58	0.72	189	7.87	0.45	0.59	0.73	181.4	9.06	0.45	0.6	0.75	173.5	10.33	0.46	0.62	0.77

RATINGS

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 LCT302H5V (3 COMPRESSORS - PART LOAD) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	6000	244.8	10.08	0.71	0.82	0.91	236.8	11.63	0.71	0.83	0.91	228.5	13.25	0.72	0.84	0.92	219.5	15.15	0.73	0.86	0.93
	7500	257	10.05	0.74	0.87	0.94	248.7	11.66	0.75	0.89	0.94	240.8	13.35	0.76	0.89	0.95	230.5	15.14	0.78	0.9	0.96
	9000	268.4	10.05	0.79	0.9	0.96	260	11.69	0.8	0.91	0.97	251.1	13.39	0.81	0.92	0.98	240.1	15.21	0.83	0.93	0.99
67°F	6000	258.3	10.05	0.57	0.68	0.79	249.8	11.63	0.57	0.69	0.8	240	13.32	0.58	0.7	0.82	230.7	15.14	0.58	0.71	0.83
	7500	271.4	10.07	0.59	0.72	0.85	261.4	11.68	0.59	0.73	0.86	251.7	13.38	0.61	0.74	0.87	240.8	15.23	0.61	0.75	0.88
	9000	280.3	10.06	0.61	0.76	0.89	269.8	11.69	0.63	0.77	0.9	258.5	13.43	0.64	0.79	0.91	248.2	15.28	0.64	0.8	0.92
71°F	6000	272.2	10.05	0.44	0.56	0.66	263.6	11.69	0.44	0.56	0.67	254	13.42	0.43	0.56	0.68	243.5	15.24	0.44	0.57	0.69
	7500	286.3	10.06	0.44	0.57	0.69	276	11.72	0.45	0.58	0.7	265.3	13.46	0.45	0.59	0.72	254	15.34	0.46	0.6	0.73
	9000	295.5	10.03	0.46	0.6	0.74	283.8	11.71	0.45	0.61	0.75	272.4	13.48	0.46	0.63	0.77	261.1	15.37	0.46	0.63	0.79

25 TON HIGH EFFICIENCY LCT302H5V (4 COMPRESSORS - FULL LOAD) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	8000	311.7	17.95	0.72	0.83	0.93	299.5	20.37	0.73	0.85	0.95	287.3	23.02	0.74	0.86	0.96	274.4	26.02	0.75	0.88	0.98
	10000	327.7	18.04	0.77	0.89	0.99	314.6	20.51	0.78	0.91	1	301.5	23.19	0.8	0.92	1	288	26.18	0.82	0.94	1
	12000	339	18.1	0.81	0.94	1	325.6	20.6	0.84	0.96	1	312.1	23.32	0.85	0.98	1	297.8	26.31	0.86	1	1
67°F	8000	326.9	18.02	0.57	0.69	0.81	312.7	20.47	0.57	0.71	0.82	299.4	23.19	0.59	0.72	0.84	284.5	26.12	0.6	0.73	0.86
	10000	337.9	18.1	0.61	0.74	0.87	324.3	20.59	0.61	0.76	0.89	309.7	23.29	0.63	0.78	0.9	294.1	26.23	0.64	0.81	0.92
	12000	347.6	18.16	0.64	0.8	0.92	332.6	20.65	0.65	0.81	0.94	318.1	23.37	0.65	0.84	0.96	303.2	26.35	0.66	0.86	0.98
71°F	8000	344.2	18.14	0.43	0.56	0.66	330.6	20.64	0.44	0.56	0.68	315.3	23.35	0.44	0.57	0.69	299.6	26.31	0.44	0.58	0.71
	10000	355.9	18.2	0.45	0.6	0.72	340.9	20.72	0.46	0.59	0.74	325.2	23.45	0.45	0.61	0.75	309.1	26.43	0.47	0.62	0.77
	12000	364.5	18.24	0.45	0.62	0.77	348.9	20.79	0.46	0.63	0.8	332.5	23.52	0.46	0.65	0.81	316.2	26.52	0.47	0.66	0.83

30 TON HIGH EFFICIENCY LCT360H5M (3 COMPRESSORS OPERATING) - MSAV® MULTI-STAGE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4800	196.2	9.17	0.71	0.82	0.93	187.1	10.38	0.71	0.83	0.94	178.5	11.7	0.72	0.84	0.96	169.2	13.14	0.73	0.86	0.98
	6000	207.1	9.26	0.74	0.87	0.99	197.9	10.48	0.75	0.89	1	188.6	11.82	0.76	0.9	1	178.8	13.27	0.77	0.92	1
	7200	215.7	9.32	0.78	0.93	1	206.1	10.56	0.79	0.94	1	196	11.91	0.8	0.96	1	185.4	13.37	0.82	0.98	1
67°F	4800	206	9.25	0.57	0.68	0.79	197.4	10.48	0.57	0.69	0.8	188.4	11.81	0.57	0.7	0.81	178.9	13.28	0.58	0.7	0.83
	6000	218.6	9.35	0.59	0.72	0.85	208.5	10.58	0.6	0.73	0.86	198	11.93	0.6	0.74	0.87	188.6	13.41	0.61	0.75	0.89
	7200	227.4	9.41	0.62	0.76	0.9	216.7	10.67	0.63	0.77	0.91	205.4	12.02	0.62	0.79	0.93	195.6	13.51	0.62	0.8	0.96
71°F	4800	216.4	9.33	0.45	0.56	0.66	207.4	10.57	0.44	0.56	0.67	197.6	11.93	0.44	0.56	0.68	187.7	13.39	0.42	0.56	0.68
	6000	229.4	9.43	0.44	0.58	0.7	218.5	10.69	0.46	0.59	0.71	208.4	12.05	0.43	0.59	0.72	198	13.55	0.46	0.6	0.74
	7200	238.1	9.49	0.47	0.61	0.74	227.6	10.77	0.47	0.61	0.75	215.8	12.14	0.45	0.62	0.77	205.1	13.64	0.47	0.62	0.79

30 TON HIGH EFFICIENCY LCT360H5M (ALL COMPRESSORS OPERATING) - MSAV® MULTI-STAGE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	9600	383.1	24.11	0.74	0.86	0.95	363.6	27.05	0.74	0.88	0.96	344.7	30.4	0.75	0.89	0.98	323.2	33.91	0.77	0.9	0.99
	12000	404.7	24.34	0.8	0.91	1	384.7	27.35	0.81	0.93	1	362.5	30.6	0.82	0.94	1	340.6	34.21	0.84	0.96	1
	14400	420.8	24.53	0.84	0.96	1	400	27.56	0.86	0.97	1	377.5	30.85	0.87	0.99	1	353.8	34.43	0.89	1	1
67°F	9600	403.9	24.34	0.58	0.72	0.84	383.4	27.33	0.57	0.73	0.85	361.2	30.59	0.59	0.74	0.87	337.4	34.14	0.59	0.75	0.88
	12000	422	24.55	0.61	0.77	0.9	399.9	27.55	0.62	0.78	0.91	376.2	30.83	0.63	0.8	0.92	351	34.38	0.64	0.83	0.94
	14400	435	24.71	0.65	0.83	0.94	411.1	27.71	0.68	0.84	0.96	386.8	30.99	0.68	0.86	0.97	361.6	34.56	0.7	0.88	0.99
71°F	9600	429.1	24.63	0.43	0.56	0.69	407.3	27.65	0.43	0.56	0.7	383.8	30.94	0.42	0.57	0.71	358	34.49	0.44	0.58	0.73
	12000	446.7	24.84	0.45	0.6	0.75	422.5	27.87	0.44	0.61	0.77	396.8	31.15	0.45	0.62	0.79	370.8	34.71	0.45	0.64	0.81
	14400	458.2	24.98	0.47	0.65	0.81	432.7	28.02	0.48	0.66	0.83	406.2	31.29	0.48	0.67	0.85	379.8	34.86	0.49	0.7	0.86

RATINGS

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

30 TON HIGH EFFICIENCY LCT360H5V (1 COMPRESSOR - PART LOAD) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	2400	75.5	4.46	0.63	0.71	0.79	72	5.03	0.64	0.72	0.8	69	5.67	0.63	0.71	0.8	65.7	6.38	0.63	0.72	0.81
	3000	82.2	4.53	0.65	0.74	0.83	79.1	5.12	0.65	0.74	0.83	75.7	5.77	0.65	0.75	0.84	71.6	6.48	0.65	0.75	0.85
	3600	87.8	4.59	0.66	0.77	0.86	84.6	5.19	0.67	0.77	0.87	80.3	5.83	0.67	0.78	0.88	76.2	6.55	0.67	0.79	0.9
67°F	2400	78.6	4.49	0.54	0.6	0.68	76	5.08	0.52	0.61	0.68	72.7	5.72	0.52	0.61	0.68	68.9	6.43	0.52	0.6	0.68
	3000	86.5	4.57	0.54	0.62	0.71	83.4	5.17	0.54	0.62	0.71	79.8	5.83	0.53	0.63	0.72	75.4	6.54	0.53	0.63	0.72
	3600	92.4	4.63	0.55	0.64	0.74	89.1	5.24	0.55	0.64	0.74	84.2	5.88	0.55	0.65	0.75	80.6	6.62	0.55	0.65	0.76
71°F	2400	82.7	4.53	0.43	0.51	0.58	79.4	5.12	0.42	0.51	0.58	75.6	5.76	0.41	0.5	0.58	72.7	6.49	0.41	0.5	0.58
	3000	90.3	4.61	0.42	0.53	0.6	86.7	5.21	0.42	0.52	0.6	83.1	5.86	0.42	0.52	0.61	79.2	6.59	0.42	0.52	0.61
	3600	96.6	4.67	0.44	0.54	0.62	93.1	5.28	0.42	0.53	0.62	88.8	5.95	0.41	0.53	0.63	84.7	6.68	0.41	0.53	0.63

30 TON HIGH EFFICIENCY LCT360H5V (2 COMPRESSORS - PART LOAD) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4800	196.2	9.17	0.71	0.82	0.93	187.1	10.38	0.71	0.83	0.94	178.5	11.7	0.72	0.84	0.96	169.2	13.14	0.73	0.86	0.98
	6000	207.1	9.26	0.74	0.87	0.99	197.9	10.48	0.75	0.89	1	188.6	11.82	0.76	0.9	1	178.8	13.27	0.77	0.92	1
	7200	215.7	9.32	0.78	0.93	1	206.1	10.56	0.79	0.94	1	196	11.91	0.8	0.96	1	185.4	13.37	0.82	0.98	1
67°F	4800	206	9.25	0.57	0.68	0.79	197.4	10.48	0.57	0.69	0.8	188.4	11.81	0.57	0.7	0.81	178.9	13.28	0.58	0.7	0.83
	6000	218.6	9.35	0.59	0.72	0.85	208.5	10.58	0.6	0.73	0.86	198	11.93	0.6	0.74	0.87	188.6	13.41	0.61	0.75	0.89
	7200	227.4	9.41	0.62	0.76	0.9	216.7	10.67	0.63	0.77	0.91	205.4	12.02	0.62	0.79	0.93	195.6	13.51	0.62	0.8	0.96
71°F	4800	216.4	9.33	0.45	0.56	0.66	207.4	10.57	0.44	0.56	0.67	197.6	11.93	0.44	0.56	0.68	187.7	13.39	0.42	0.56	0.68
	6000	229.4	9.43	0.44	0.58	0.7	218.5	10.69	0.46	0.59	0.71	208.4	12.05	0.43	0.59	0.72	198	13.55	0.46	0.6	0.74
	7200	238.1	9.49	0.47	0.61	0.74	227.6	10.77	0.47	0.61	0.75	215.8	12.14	0.45	0.62	0.77	205.1	13.64	0.47	0.62	0.79

30 TON HIGH EFFICIENCY LCT360H5V (4 COMPRESSORS - PART LOAD) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	7200	309.2	14.07	0.74	0.85	0.93	296.4	15.94	0.75	0.86	0.93	282.9	17.98	0.75	0.87	0.94	267	20.16	0.76	0.88	0.94
	9000	325.7	14.22	0.78	0.89	0.95	311.6	16.1	0.79	0.9	0.96	296.8	18.17	0.79	0.92	0.96	282.1	20.38	0.8	0.92	0.97
	10800	338.8	14.33	0.81	0.93	0.98	324.3	16.23	0.82	0.93	0.98	309.7	18.32	0.83	0.94	0.99	294.4	20.57	0.84	0.95	1
67°F	7200	327.3	14.23	0.6	0.72	0.82	313.7	16.12	0.6	0.72	0.83	298.8	18.19	0.59	0.73	0.84	283.7	20.41	0.59	0.74	0.85
	9000	343.8	14.37	0.63	0.75	0.87	327.9	16.27	0.62	0.77	0.88	312.3	18.35	0.62	0.78	0.89	296.1	20.6	0.63	0.79	0.9
	10800	354.9	14.47	0.64	0.8	0.91	339	16.4	0.64	0.81	0.92	322.9	18.5	0.65	0.82	0.93	305.6	20.74	0.66	0.83	0.94
71°F	7200	345.2	14.39	0.47	0.58	0.69	330.5	16.29	0.46	0.57	0.7	315.5	18.4	0.44	0.57	0.71	299.6	20.65	0.43	0.58	0.71
	9000	363	14.54	0.46	0.6	0.73	346.9	16.49	0.45	0.61	0.75	330.6	18.59	0.45	0.6	0.76	313.2	20.85	0.44	0.61	0.77
	10800	374.7	14.63	0.47	0.62	0.78	357.9	16.6	0.46	0.63	0.79	340.7	18.72	0.46	0.64	0.8	322.7	21	0.46	0.65	0.81

30 TON HIGH EFFICIENCY LCT360H5V (4 COMPRESSORS - FULL LOAD) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	9600	383.1	24.11	0.74	0.86	0.95	363.6	27.05	0.74	0.88	0.96	344.7	30.4	0.75	0.89	0.98	323.2	33.91	0.77	0.9	0.99
	12000	404.7	24.34	0.8	0.91	1	384.7	27.35	0.81	0.93	1	362.5	30.6	0.82	0.94	1	340.6	34.21	0.84	0.96	1
	14400	420.8	24.53	0.84	0.96	1	400	27.56	0.86	0.97	1	377.5	30.85	0.87	0.99	1	353.8	34.43	0.89	1	1
67°F	9600	403.9	24.34	0.58	0.72	0.84	383.4	27.33	0.57	0.73	0.85	361.2	30.59	0.59	0.74	0.87	337.4	34.14	0.59	0.75	0.88
	12000	422	24.55	0.61	0.77	0.9	399.9	27.55	0.62	0.78	0.91	376.2	30.83	0.63	0.8	0.92	351	34.38	0.64	0.83	0.94
	14400	435	24.71	0.65	0.83	0.94	411.1	27.71	0.68	0.84	0.96	386.8	30.99	0.68	0.86	0.97	361.6	34.56	0.7	0.88	0.99
71°F	9600	429.1	24.63	0.43	0.56	0.69	407.3	27.65	0.43	0.56	0.7	383.8	30.94	0.42	0.57	0.71	358	34.49	0.44	0.58	0.73
	12000	446.7	24.84	0.45	0.6	0.75	422.5	27.87	0.44	0.61	0.77	396.8	31.15	0.45	0.62	0.79	370.8	34.71	0.45	0.64	0.81
	14400	458.2	24.98	0.47	0.65	0.81	432.7	28.02	0.48	0.66	0.83	406.2	31.29	0.48	0.67	0.85	379.8	34.86	0.49	0.7	0.86

25 TON HIGH EFFICIENCY LCT302H5M WITH HUMIDITROL® OPERATING (PART LOAD)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4000	78.6	8.24	0.48	0.72	0.94	57.1	8.89	0.37	0.71	1.00	35.4	9.59	0.12	0.69	1.00	13.6	10.40	-1.15	0.62	1.00
	5000	90.9	8.28	0.57	0.82	1.00	67.7	8.95	0.51	0.85	1.00	44.3	9.69	0.38	0.91	1.00	20.8	10.50	-0.12	1.00	1.00
	6000	100.5	8.31	0.65	0.91	1.00	75.7	9.00	0.62	0.97	1.00	50.8	9.75	0.56	1.00	1.00	25.9	10.58	0.33	1.00	1.00
67°F	4000	92.6	8.31	0.25	0.48	0.68	71.1	8.98	0.10	0.41	0.67	49.3	9.71	-0.17	0.27	0.64	27.4	10.53	-0.97	-0.10	0.59
	5000	105.8	8.33	0.32	0.57	0.78	82.5	9.02	0.21	0.53	0.79	59.0	9.78	0.00	0.44	0.81	35.1	10.62	-0.54	0.25	0.87
	6000	115.8	8.33	0.39	0.65	0.86	90.9	9.06	0.29	0.62	0.89	65.6	9.83	0.12	0.58	0.95	40.1	10.69	-0.30	0.48	1.00
71°F	4000	106.6	8.37	0.10	0.30	0.48	84.7	9.06	-0.07	0.20	0.43	63.0	9.82	-0.35	0.02	0.33	42.4	10.66	-0.95	-0.35	0.15
	5000	121.8	8.38	0.17	0.36	0.57	98.4	9.10	0.02	0.27	0.53	74.5	9.88	-0.23	0.14	0.48	50.1	10.73	-0.73	-0.13	0.37
	6000	131.7	8.37	0.19	0.42	0.63	106.9	9.11	0.06	0.35	0.62	81.4	9.91	-0.16	0.23	0.58	55.5	10.79	-0.61	0.02	0.53

25 TON HIGH EFFICIENCY LCT302H5M WITH HUMIDITROL® OPERATING (FULL LOAD)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	8000	235.5	14.49	0.58	0.75	0.89	203.2	16.18	0.56	0.76	0.91	168.4	18.08	0.53	0.77	0.95	135.0	20.16	0.49	0.79	1.00
	10,000	259.7	14.51	0.66	0.83	0.96	224.1	16.29	0.66	0.85	0.99	187.5	18.22	0.65	0.87	1.00	149.9	20.33	0.65	0.91	1.00
	12,000	276.6	14.57	0.73	0.89	1.00	240.3	16.37	0.73	0.91	1.00	201.8	18.32	0.73	0.95	1.00	163.7	20.42	0.75	1.00	1.00
67°F	8000	263.6	14.54	0.40	0.57	0.72	229.4	16.32	0.36	0.54	0.72	192.5	18.27	0.32	0.52	0.73	157.2	20.34	0.22	0.51	0.75
	10,000	282.2	14.59	0.46	0.64	0.80	244.1	16.40	0.43	0.63	0.82	206.7	18.35	0.39	0.63	0.83	167.2	20.51	0.33	0.62	0.86
	12,000	295.3	14.63	0.50	0.70	0.86	256.8	16.47	0.47	0.72	0.88	217.1	18.43	0.43	0.72	0.91	176.4	20.57	0.38	0.74	0.95
71°F	8000	293.3	14.63	0.25	0.41	0.55	258.3	16.44	0.20	0.36	0.54	221.3	18.40	0.13	0.32	0.51	183.5	20.54	0.03	0.27	0.49
	10,000	310.9	14.65	0.29	0.46	0.62	272.6	16.52	0.24	0.44	0.62	233.5	18.51	0.18	0.40	0.61	194.4	20.66	0.08	0.36	0.62
	12,000	323.4	14.67	0.33	0.51	0.69	283.6	16.59	0.27	0.48	0.69	242.5	18.59	0.21	0.46	0.70	202.5	20.77	0.09	0.43	0.70

30 TON HIGH EFFICIENCY LCT360H5M WITH HUMIDITROL® OPERATING (PART LOAD)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4800	88.3	11.38	0.42	0.68	0.92	64.3	12.09	0.29	0.64	0.97	41.7	12.87	0.01	0.58	1.00	19.3	13.80	-1.06	0.37	1.00
	6000	99.7	11.61	0.53	0.80	1.00	74.4	12.31	0.44	0.82	1.00	49.0	13.15	0.27	0.84	1.00	25.2	14.08	-0.27	0.93	1.00
	7200	108.1	11.78	0.62	0.91	1.00	81.8	12.49	0.57	0.96	1.00	54.7	13.33	0.46	1.00	1.00	28.4	14.32	0.17	1.00	1.00
67°F	4800	103.7	11.63	0.21	0.44	0.65	80.0	12.34	0.04	0.34	0.62	56.1	13.19	-0.27	0.17	0.57	33.9	14.12	-1.06	-0.21	0.46
	6000	115.6	11.86	0.29	0.53	0.76	90.7	12.57	0.16	0.47	0.77	65.1	13.42	-0.11	0.36	0.77	38.8	14.42	-0.71	0.12	0.80
	7200	124.3	12.03	0.35	0.62	0.87	98.3	12.74	0.24	0.58	0.89	71.0	13.61	0.03	0.52	0.95	43.1	14.64	-0.47	0.37	1.00
71°F	4800	117.9	11.88	0.04	0.25	0.45	94.6	12.60	-0.14	0.13	0.37	70.5	13.45	-0.47	-0.07	0.26	46.7	14.43	-1.10	-0.48	0.04
	6000	130.8	12.10	0.10	0.33	0.53	105.4	12.82	-0.06	0.23	0.48	79.5	13.69	-0.34	0.07	0.41	52.9	14.74	-0.92	-0.27	0.27
	7200	139.8	12.26	0.15	0.39	0.61	113.0	13.00	-0.01	0.30	0.58	85.7	13.88	-0.25	0.17	0.54	56.9	14.94	-0.78	-0.10	0.46

30 TON HIGH EFFICIENCY LCT360H5M WITH HUMIDITROL® OPERATING (FULL LOAD)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	9600	264.2	20.32	0.58	0.77	0.91	218.5	22.08	0.57	0.80	0.96	172.7	24.09	0.56	0.84	1.00	127.1	26.40	0.54	0.90	1.00
	12,000	292.4	20.63	0.66	0.84	0.98	244.6	22.41	0.66	0.88	1.00	196.1	24.50	0.69	0.93	1.00	148.0	26.82	0.70	1.00	1.00
	14,400	314.3	20.86	0.73	0.91	1.00	263.8	22.69	0.74	0.96	1.00	213.3	24.80	0.77	1.00	1.00	163.1	27.13	0.84	1.00	1.00
67°F	9600	298.0	20.66	0.40	0.56	0.73	251.2	22.44	0.35	0.56	0.75	203.8	24.52	0.29	0.54	0.78	156.4	26.86	0.20	0.53	0.83
	12,000	322.1	20.93	0.45	0.64	0.81	272.0	22.76	0.42	0.64	0.84	222.0	24.88	0.38	0.65	0.88	171.4	27.20	0.30	0.67	0.94
	14,400	339.4	21.14	0.49	0.71	0.87	287.9	23.00	0.46	0.72	0.91	235.8	25.16	0.44	0.74	0.97	184.2	27.48	0.39	0.78	1.00
71°F	9600	334.8	21.01	0.24	0.40	0.55	287.0	22.87	0.18	0.36	0.53	239.4	25.02	0.10	0.32	0.53	190.3	27.35	-0.01	0.26	0.50
	12,000	358.8	21.28	0.27	0.45	0.61	308.3	23.16	0.23	0.44	0.62	256.9	25.36	0.14	0.39	0.64	206.3	27.69	0.04	0.34	0.64
	14,400	376.3	21.47	0.30	0.49	0.69	324.8	23.39	0.25	0.47	0.70	270.0	25.57	0.18	0.46	0.72	216.5	27.94	0.08	0.43	0.73

BLOWER DATA

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

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

Then determine from blower table blower motor output and drive required.
See page 33 for wet coil and option/accessory air resistance data.
See page 33 for factory installed drive kit specifications.

MINIMUM AIR VOLUME REQUIRED FOR USE WITH OPTIONAL ELECTRIC HEAT

All units require 10,500 cfm minimum air with electric heat.

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

BLOWER DATA

DRIVE KIT SPECIFICATIONS

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

NOTES

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.

For VFD applications, nominal motor output is also maximum usable motor output.

FACTORY INSTALLED OPTIONS/FIELD INSTALLED ACCESSORY AIR RESISTANCE

Air Volume cfm	Wet Indoor Coil	Reheat Coil	Electric Heat	Economizer	Filters			Horizontal Roof Curb
					MERV 8	MERV 13	MERV 16	
	in. w.g.	in. w.g.	in. w.g.	in. w.g.	in. w.g.	in. w.g.	in. w.g.	in. w.g.
4000	0.04	0.04	0.01	0.00	0.00	0.00	0.06	0.04
4500	0.04	0.04	0.01	0.00	0.00	0.00	0.07	0.05
5000	0.05	0.04	0.01	0.00	0.00	0.00	0.08	0.06
5500	0.06	0.06	0.02	0.01	0.00	0.01	0.09	0.07
6000	0.07	0.06	0.02	0.01	0.00	0.02	0.10	0.08
6500	0.08	0.08	0.02	0.01	0.01	0.02	0.11	0.09
7000	0.09	0.08	0.03	0.02	0.01	0.03	0.12	0.10
7500	0.10	0.10	0.03	0.02	0.01	0.04	0.13	0.11
8000	0.11	0.10	0.03	0.02	0.01	0.04	0.14	0.13
8500	0.12	0.10	0.04	0.03	0.01	0.04	0.15	0.15
9000	0.13	0.12	0.04	0.04	0.01	0.04	0.16	0.17
9500	0.14	0.14	0.05	0.04	0.02	0.06	0.17	0.19
10,000	0.15	0.16	0.05	0.05	0.02	0.06	0.18	0.21
10,500	0.16	0.17	0.06	0.06	0.02	0.06	0.19	0.24
11,000	0.18	0.18	0.06	0.07	0.02	0.07	0.20	0.27
11,500	0.19	0.19	0.07	0.08	0.02	0.08	0.22	0.30
12,000	0.20	0.20	0.07	0.10	0.02	0.08	0.23	0.33
12,500	0.21	0.22	0.08	0.11	0.03	0.10	0.24	0.37
13,000	0.23	0.23	0.08	0.13	0.03	0.10	0.25	0.40
13,500	0.24	0.25	0.09	0.14	0.03	0.11	0.26	0.44
14,000	0.26	0.26	0.10	0.16	0.03	0.12	0.27	0.49
14,500	0.27	0.27	0.10	0.18	0.04	0.13	0.28	0.53
15,000	0.29	0.29	0.11	0.21	0.04	0.13	0.29	0.58

BLOWER DATA

POWER EXHAUST PERFORMANCE - STANDARD STATIC

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

POWER EXHAUST - HIGH STATIC

Air Volume cfm	Return Duct Negative Static Pressure - In. w.g.																					
	0		0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8500	487	0.43	501	0.44	521	0.46	548	0.49	584	0.53	625	0.58	667	0.64	708	0.70	746	0.75	783	0.81	818	0.87
9000	515	0.51	528	0.52	547	0.54	570	0.57	601	0.61	638	0.66	678	0.71	717	0.77	755	0.83	791	0.90	826	0.96
9500	544	0.60	556	0.61	573	0.63	594	0.66	620	0.69	652	0.74	689	0.80	727	0.86	765	0.93	800	0.99	834	1.05
10,000	572	0.70	584	0.71	599	0.73	618	0.76	641	0.79	669	0.83	702	0.89	738	0.95	774	1.02	810	1.09	843	1.15
10,500	601	0.81	612	0.82	626	0.84	643	0.87	663	0.90	688	0.94	718	0.99	750	1.05	785	1.12	819	1.19	853	1.27
11,000	629	0.93	640	0.95	653	0.97	668	0.99	687	1.02	709	1.06	735	1.11	764	1.16	796	1.23	830	1.31	862	1.38
11,500	658	1.06	668	1.08	680	1.10	694	1.12	711	1.15	731	1.19	754	1.24	780	1.29	810	1.36	841	1.43	872	1.50
12,000	686	1.21	696	1.22	707	1.24	721	1.27	736	1.30	754	1.34	774	1.38	798	1.43	825	1.49	853	1.56	883	1.64

BLOWER DATA

CEILING DIFFUSER AIR RESISTANCE - in. w.g.

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

CEILING DIFFUSER AIR THROW DATA - ft.

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

[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. per minute. Four sides open.

ELECTRICAL DATA — 25 TON

Model		LCT302H5M, LCT302H5V								
[1] Voltage - 60Hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	22.4			9.1			7.2		
	Locked Rotor Amps	166.2			74.6			54		
Compressor 2	Rated Load Amps	22.4			9.1			7.2		
	Locked Rotor Amps	166.2			74.6			54		
Compressor 3	Rated Load Amps	22.4			9.1			7.2		
	Locked Rotor Amps	166.2			74.6			54		
Compressor 4	Rated Load Amps	22.4			9.1			7.2		
	Locked Rotor Amps	166.2			74.6			54		
Outdoor Fan Motors (6)	Full Load Amps (6 Non-ECM)	2.4			1.3			1		
	Total	14.4			7.8			6		
Standard Power Exhaust (3) 0.33 HP	Full Load Amps	2.4			1.3			1		
	Total	7.2			3.9			3		
High Static Power Exhaust (3) 2 HP	Full Load Amps	7.5			3.4			2.7		
	Total	22.5			10.2			8.1		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	HP	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
[2] Maximum Overcurrent Protection (MOCP)	Unit Only	150	150	150	60	60	70	45	50	50
	With (3) 0.33 HP Standard Power Exhaust	150	150	175	60	70	70	50	50	60
	With High Static Power Exhaust (3) 2 HP	150	175	175	70	70	80	60	60	60
[3] Minimum Circuit Ampacity (MCA)	Unit Only	127	135	143	55	58	62	43	47	49
	With (3) 0.33 HP Standard Power Exhaust	134	142	150	58	62	66	46	50	52
	With High Static Power Exhaust (3) 2 HP	149	157	165	65	69	72	51	55	57

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

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

[2] HACR type breaker or fuse.

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

ELECTRIC HEAT DATA — 25 TON

Model			LCT302H5M, LCT302H5V											
[1] Voltage - 60Hz			208/230V - 3 Ph						460V - 3 Ph			575V - 3 Ph		
Indoor Blower Motor - HP			5		7.5		10		5	7.5	10	5	7.5	10
	Electric Heat Voltage		208V	240V	208V	240V	208V	240V	480V	480V	480V	600V	600V	600V
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	30 kW	150	150	150	150	150	150	60	60	70	45	50	50
		45 kW	[4] 150	175	[4] 150	175	175	175	80	90	90	70	70	70
		60 kW	[4] 150	175	175	175	[4] 175	200	90	90	90	70	70	80
		90 kW	[4] 225	250	[4] 225	250	[4] 250	[4] 300	125	125	150	100	100	110
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	30 kW	127	127	135	135	143	143	55	59	63	44	48	50
		45 kW	139	157	148	166	156	174	78	82	86	62	66	68
		60 kW	146	166	156	175	164	183	82	86	90	66	69	72
		90 kW	209	238	218	247	227	256	118	123	126	95	98	101
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and Standard Power Exhaust (3) 0.33 HP	30 kW	150	150	150	150	175	175	60	70	70	50	60	60
		45 kW	[4] 150	175	175	175	[4] 175	200	90	90	100	70	70	80
		60 kW	175	175	[4] 175	200	[4] 175	200	90	100	100	70	80	80
		90 kW	[4] 225	250	[4] 250	[4] 300	[4] 250	[4] 300	125	150	150	100	110	110
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and Standard Power Exhaust (3) 0.33 HP	30 kW	134	134	142	142	150	150	60	64	68	48	52	54
		45 kW	148	166	157	175	165	183	83	87	91	66	70	72
		60 kW	155	175	165	184	173	192	87	91	95	70	73	76
		90 kW	218	247	227	256	236	265	123	127	131	98	102	105
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and High Static Power Exhaust (3) 2 HP	30 kW	150	150	175	175	175	175	70	80	80	60	60	60
		45 kW	[4] 175	200	200	200	[4] 200	225	90	100	100	80	80	80
		60 kW	[4] 175	200	[4] 200	225	[4] 200	225	100	100	110	80	80	90
		90 kW	[4] 250	[4] 300	[4] 250	[4] 300	300	[4] 300	150	150	150	110	110	125
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and High Static Power Exhaust (3) 2 HP	30 kW	149	149	157	157	165	165	68	72	76	54	58	60
		45 kW	167	185	176	194	184	202	90	95	98	72	76	79
		60 kW	175	194	184	203	192	211	95	99	103	76	80	82
		90 kW	237	266	247	275	255	284	131	135	139	105	108	111

[1] Extremes of operating range are plus and minus 10% of line voltage.
[2] HACR type breaker or fuse.
[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.
[4] Factory installed circuit breaker not available.

ELECTRICAL DATA — 30 TON

Model		LCT360H5M, LCT360H5V								
[1] Voltage - 60Hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	30.9			12.8			10.1		
	Locked Rotor Amps	178.5			103			78		
Compressor 2	Rated Load Amps	30.9			12.8			10.1		
	Locked Rotor Amps	178.5			103			78		
Compressor 3	Rated Load Amps	30.9			12.8			10.1		
	Locked Rotor Amps	178.5			103			78		
Compressor 4	Rated Load Amps	30.9			12.8			10.1		
	Locked Rotor Amps	178.5			103			78		
Outdoor Fan Motors (6)	Full Load Amps (6 Non-ECM)	2.4			1.3			1		
	Total	14.4			7.8			6		
Standard Power Exhaust (3) 0.33 HP	Full Load Amps	2.4			1.3			1		
	Total	7.2			3.9			3		
High Static Power Exhaust (3) 2 HP	Full Load Amps	7.5			3.4			2.7		
	Total	22.5			10.2			8.1		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	HP	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
[2] Maximum Overcurrent Protection (MOCP)	Unit Only	175	200	200	80	80	90	60	60	70
	With (3) 0.33 HP Standard Power Exhaust	200	200	200	80	80	90	60	70	70
	With High Static Power Exhaust (3) 2 HP	200	200	225	90	90	100	70	70	70
[3] Minimum Circuit Ampacity (MCA)	Unit Only	163	170	177	70	74	77	56	58	61
	With (3) 0.33 HP Standard Power Exhaust	170	178	184	74	78	81	59	61	64
	With High Static Power Exhaust (3) 2 HP	185	193	200	80	84	87	64	67	69

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

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

[2] HACR type breaker or fuse.

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

ELECTRIC HEAT DATA — 30 TON

Model			LCT360H5M, LCT360H5V											
[1] Voltage - 60Hz			208/230V - 3 Ph						460V - 3 Ph			575V - 3 Ph		
Indoor Blower Motor - HP			5		7.5		10		5	7.5	10	5	7.5	10
	Electric Heat Voltage		208V	240V	208V	240V	208V	240V	480V	480V	480V	600V	600V	600V
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	30 kW	175	175	200	200	200	200	80	80	90	60	60	70
		45 kW	175	175	200	200	200	200	80	90	90	70	70	70
		60 kW	175	175	200	200	200	200	90	90	90	70	70	80
		90 kW	[4] 225	250	[4] 225	250	[4] 250	[4] 300	125	125	150	100	100	110
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	30 kW	163	163	170	170	177	177	70	74	77	56	58	61
		45 kW	163	163	170	170	177	177	78	82	86	62	66	68
		60 kW	163	166	170	175	177	183	82	86	90	66	69	72
		90 kW	209	238	218	247	227	256	118	123	126	95	98	101
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and Standard Power Exhaust (3) 0.33 HP	30 kW	200	200	200	200	200	200	80	80	90	60	70	70
		45 kW	200	200	200	200	200	200	90	90	100	70	70	80
		60 kW	200	200	200	200	200	200	90	100	100	70	80	80
		90 kW	[4] 225	250	[4] 250	[4] 300	[4] 250	[4] 300	125	150	150	100	110	110
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and Standard Power Exhaust (3) 0.33 HP	30 kW	170	170	178	178	184	184	74	78	81	59	61	64
		45 kW	170	170	178	178	184	184	83	87	91	66	70	72
		60 kW	170	175	178	184	184	192	87	91	95	70	73	76
		90 kW	218	247	227	256	236	265	123	127	131	98	102	105
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and High Static Power Exhaust (3) 2 HP	30 kW	200	200	200	200	225	225	90	90	100	70	70	70
		45 kW	200	200	200	200	225	225	90	100	100	80	80	80
		60 kW	200	200	[4] 200	225	225	225	100	100	110	80	80	90
		90 kW	[4] 250	[4] 300	[4] 250	[4] 300	300	[4] 300	150	150	150	110	110	125
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and High Static Power Exhaust (3) 2 HP	30 kW	185	185	193	193	200	200	80	84	87	64	67	69
		45 kW	185	185	193	194	200	202	90	95	98	72	76	79
		60 kW	185	194	193	203	200	211	95	99	103	76	80	82
		90 kW	237	266	247	275	255	284	131	135	139	105	108	111

[1] Extremes of operating range are plus and minus 10% of line voltage.
[2] HACR type breaker or fuse.
[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.
[4] Factory installed circuit breaker not available.

ELECTRIC HEAT CAPACITIES

Volts Input	30 kW			45 kW			60 kW			90 kW		
	kW Input	Btuh Output	Stages	kW Input	Btuh Output	Stages	kW Input	Btuh Output	Stages	kW Input	Btuh Output	Stages
208	22.5	76,800	1	33.8	115,300	2	45.0	153,600	2	67.6	230,700	2
220	25.2	86,000	1	37.8	129,000	2	50.4	172,000	2	75.6	258,000	2
230	27.5	93,900	1	41.3	141,000	2	55.1	188,000	2	82.7	282,200	2
240	30.0	102,400	1	45.0	153,600	2	60.0	204,800	2	90.0	307,100	2
440	25.2	86,000	1	37.8	129,000	2	50.4	172,000	2	75.6	258,000	2
460	27.5	93,900	1	41.3	141,000	2	55.1	188,000	2	82.7	282,200	2
480	30.0	102,400	1	45.0	153,600	2	60.0	204,800	2	90.0	307,100	2
550	25.2	86,000	1	37.8	129,000	2	50.4	172,000	2	75.6	258,000	2
575	27.5	93,900	1	41.3	141,000	2	55.1	188,000	2	82.7	282,200	2
600	30.0	102,400	1	45.0	153,600	2	60.0	204,800	2	90.0	307,100	2

ELECTRICAL ACCESSORIES — 25 TON

Model			LCT302H5								
Voltage - 60Hz - 3 phase			208/230V			460V			575V		
Indoor Blower Motor		HP	5	7.5	10	5	7.5	10	5	7.5	10
Disconnect		Unit Only	54W86	54W87	54W87	54W85	54W85	54W85	54W85	54W85	54W85
	Unit+ Electric Heat and Standard Power Exhaust (3) 0.33 HP	0 kW	54W86	54W87	54W87	54W85	54W85	54W85	54W85	54W85	54W85
		30 kW	54W86	54W87	54W87	54W85	54W85	54W85	54W85	54W85	54W85
		45 kW	54W87	54W87	54W87	54W85	54W85	54W86	54W85	54W85	54W85
		60 kW	54W87	54W87	54W87	54W86	54W86	54W86	54W85	54W86	54W86
		90 kW	N/A	N/A	N/A	54W86	54W86	54W86	54W86	54W86	54W86
	Unit+ Electric Heat and High Static Power Exhaust (3) 2 HP	0 kW	54W87	54W87	54W87	54W85	54W86	54W86	54W85	54W85	54W85
		30 kW	54W87	54W87	54W87	54W85	54W86	54W86	54W85	54W85	54W85
		45 kW	54W87	54W87	54W87	54W86	54W86	54W86	54W85	54W85	54W85
		60 kW	54W87	54W87	54W87	54W86	54W86	54W86	54W86	54W86	54W86
		90 kW	N/A	N/A	N/A	54W86	54W86	54W87	54W86	54W86	54W86

Disconnects - 54W85 - 80A
54W86 - 150A
54W87 - 250A

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

ELECTRICAL ACCESSORIES — 30 TON

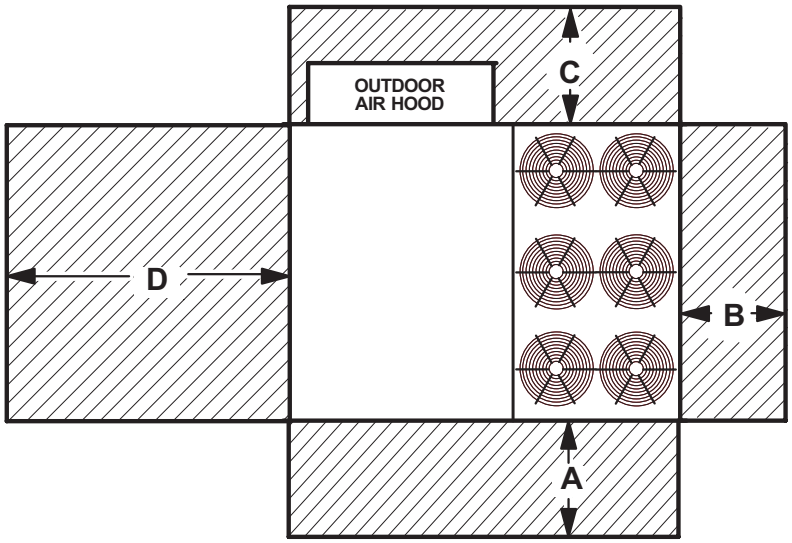
Model			LCT360H5								
Voltage - 60Hz - 3 phase			208/230V			460V			575V		
Indoor Blower Motor		HP	5	7.5	10	5	7.5	10	5	7.5	10
Disconnect		Unit Only	54W87	54W87	54W87	54W85	54W86	54W86	54W85	54W85	54W85
	Unit+ Electric Heat and Standard Power Exhaust (3) 0.33 HP	0 kW	54W87	54W87	54W87	54W85	54W86	54W86	54W85	54W85	54W85
		30 kW	54W87	54W87	54W87	54W85	54W86	54W86	54W85	54W85	54W85
		45 kW	54W87	54W87	54W87	54W85	54W86	54W86	54W85	54W85	54W85
		60 kW	54W87	54W87	54W87	54W86	54W86	54W86	54W85	54W86	54W86
		90 kW	N/A	N/A	N/A	54W86	54W86	54W86	54W86	54W86	54W86
	Unit+ Electric Heat and High Static Power Exhaust (3) 2 HP	0 kW	54W87	54W87	54W87	54W86	54W86	54W86	54W85	54W85	54W85
		30 kW	54W87	54W87	54W87	54W86	54W86	54W86	54W85	54W85	54W85
		45 kW	54W87	54W87	54W87	54W86	54W86	54W86	54W85	54W85	54W85
		60 kW	54W87	54W87	54W87	54W86	54W86	54W86	54W86	54W86	54W86
		90 kW	N/A	N/A	N/A	54W86	54W86	54W87	54W86	54W86	54W86

Disconnects - 54W85 - 80A
54W86 - 150A
54W87 - 250A

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

UNIT CLEARANCES

Unit With Economizer

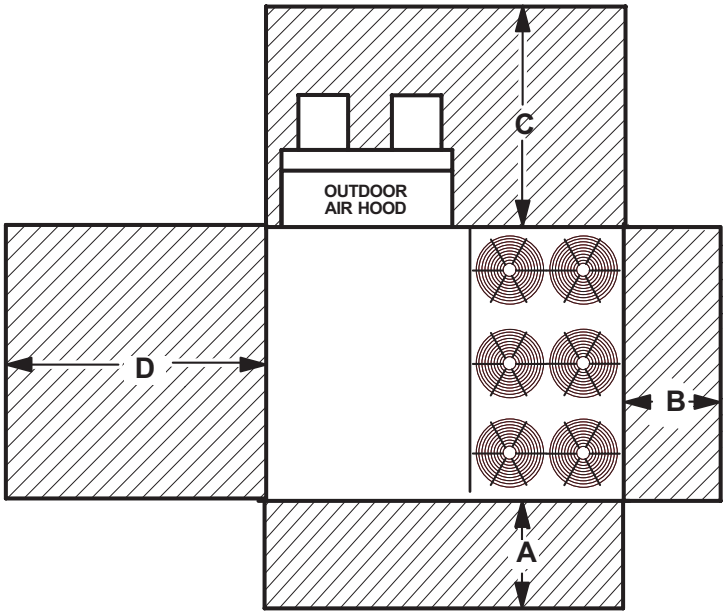


[1] Unit Clearance	A		B		C		D		Top Clearance
	in.	mm	in.	mm	in.	mm	in.	mm	
Service Clearance	60	1524	36	914	36	914	66	1676	Unobstructed
Minimum Operation Clearance	45	1143	36	914	36	914	41	1041	

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

[1] Service Clearance - Required for removal of serviceable parts.
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
Minimum Operation Clearance	45	1143	36	914	80	2032	41	1041	

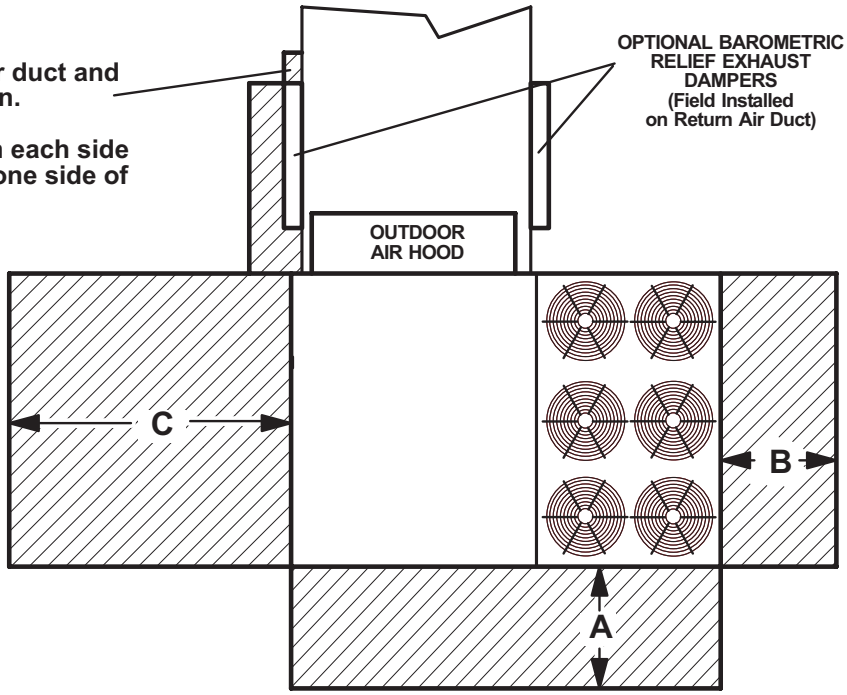
NOTE - Entire perimeter of unit base requires support when elevated above the mounting surface.

[1] Service Clearance - Required for removal of serviceable parts.
Minimum Operation Clearance - Required clearance for proper unit operation.

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
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.
Minimum Operation Clearance - Required clearance for proper unit operation.

OUTDOOR SOUND DATA

Size	Octave Band Sound Power Levels dBA, re 10^{-12} Watts - Center Frequency - Hz							[1] Sound Rating Number (dBA)
	125	250	500	1000	2000	4000	8000	
302, 360	84	85	90	90	85	80	72	95

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

[1] Tested according to AHRI Standard 370-2001 test conditions (includes pure tone penalty).
Sound Rating Number is the overall A-Weighted Sound Power Level, (LWA), dB (100 Hz to 10,000 Hz).

WEIGHT DATA

Size	Net		Shipping	
	lbs.	kg	lbs.	kg
302 Base Unit	2997	1359	3207	1455
302 Max. Unit	3509	1592	3719	1687
360 Base Unit	2997	1359	3207	1455
360 Max. Unit	3509	1592	3719	1687

FACTORY / FIELD INSTALLED OPTIONS AND ACCESSORIES - NET WEIGHTS

Description		lbs.	kg
ECONOMIZER / OUTDOOR AIR / EXHAUST			
Economizer		138	63
Barometric Relief			
Downflow Barometric Relief Dampers		45	20
Horizontal Barometric Relief Dampers		20	9
Outdoor Air Dampers			
Damper Section (downflow)	Motorized	72	33
Damper Section (downflow)	Manual	68	31
Outdoor Air Hood (downflow)		76	34
Power Exhaust			
	Standard Static	99	45
	High Static with or without VFD	525	238
ELECTRIC HEAT			
30 KW		59	27
45 KW		76	34
60 KW		76	34
90 KW		84	38
COMBINATION COIL/HAIL GUARDS			
All models		63	29
ROOF CURBS			
Hybrid Roof Curbs, Downflow			
14 in. height		205	93
18 in. height		235	107
24 in. height		270	123
Standard Curbs, Horizontal			
30 in. height		495	225
41 in. height		575	261
Insulation Kit for Horizontal Curbs			
30 in. height		45	21
41 in. height		55	25
CEILING DIFFUSERS			
Step-Down	LARTD30/36S	625	283
Flush	LAFD30/36S	625	283
Transitions	LASRT30/36	85	39
HUMIDITROL® DEHUMIDIFICATION SYSTEM			
Humiditrol® Dehumidification Option		100	45

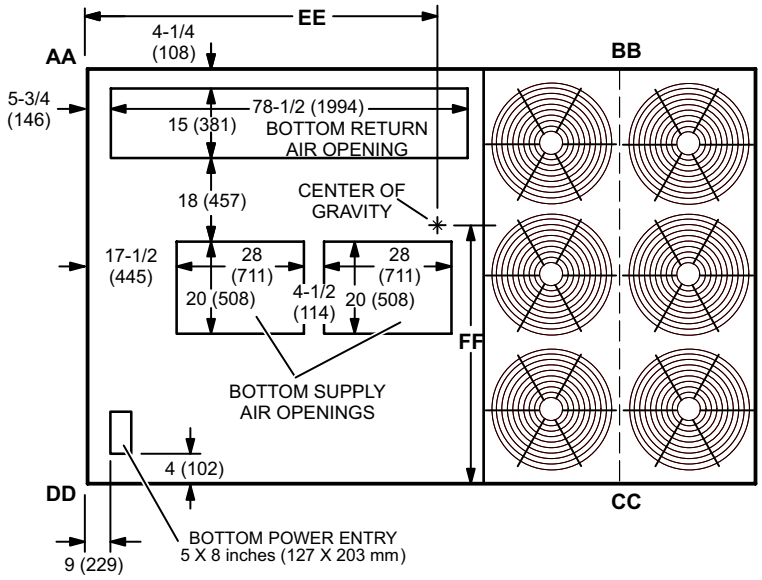
DIMENSIONS - UNIT

CORNER WEIGHTS | **CENTER OF GRAVITY**

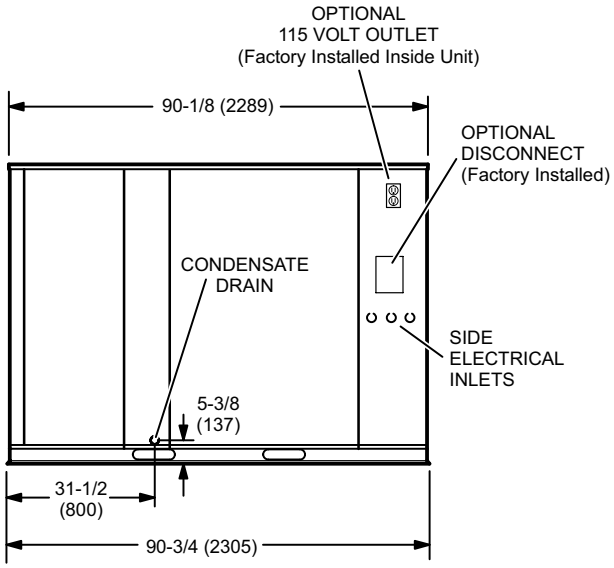
Model	AA		BB		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
LCT302 Base Unit	610	277	612	278	880	399	895	406	60	1524	37	940
LCT302 Max. Unit	693	315	696	316	1001	454	1018	462	60	1524	37	940
LCT360 Base Unit	610	277	612	278	880	399	895	406	60	1524	37	940
LCT360 Max. Unit	693	315	696	316	1001	454	1018	462	60	1524	37	940

Base Unit - The unit with NO INTERNAL OPTIONS.

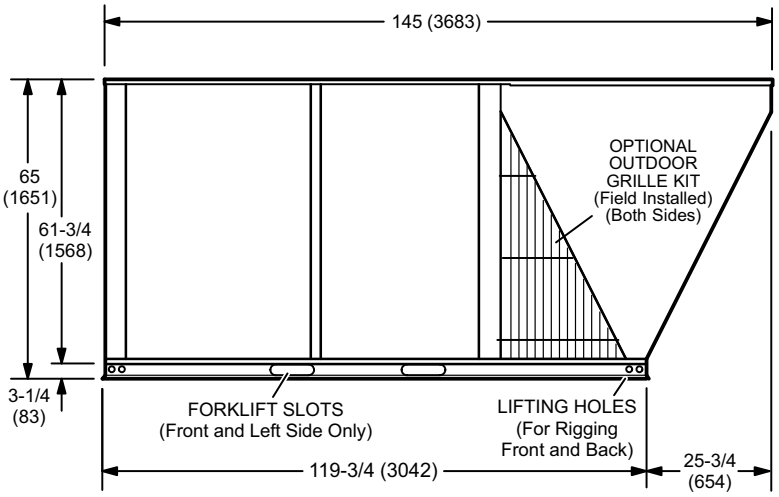
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust, Controls, etc.). Does not include accessories external to unit or high static power exhaust.



TOP VIEW

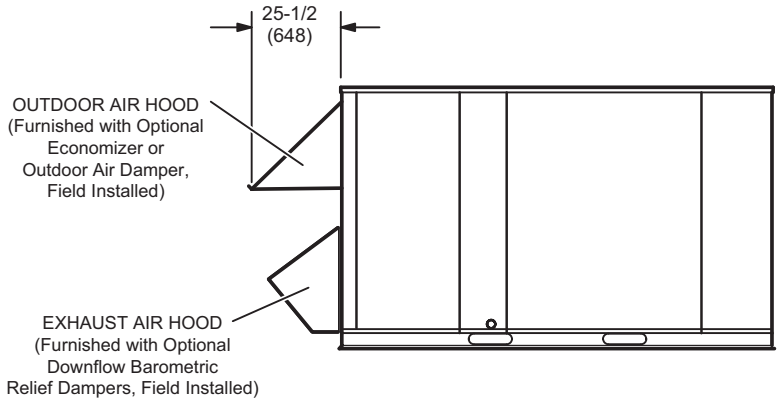


END VIEW

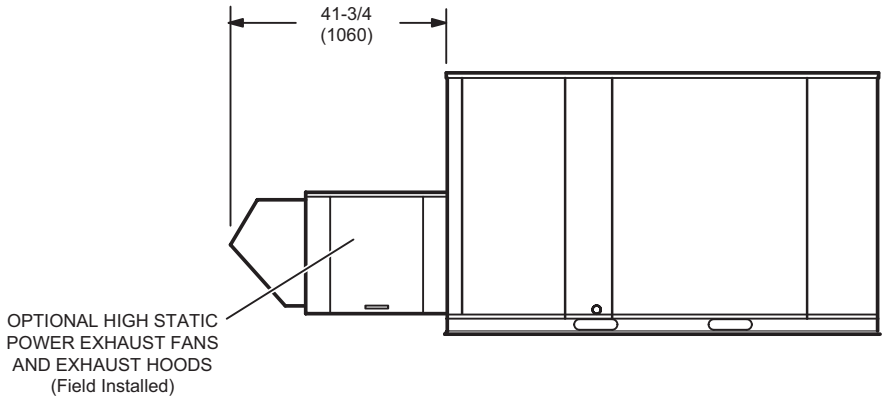


SIDE VIEW

OUTDOOR AIR HOOD DETAIL

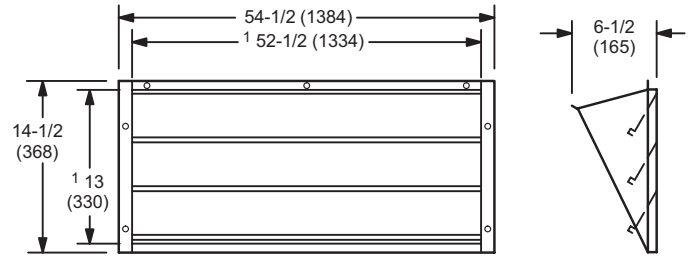


OPTIONAL HIGH STATIC POWER EXHAUST FANS DETAIL



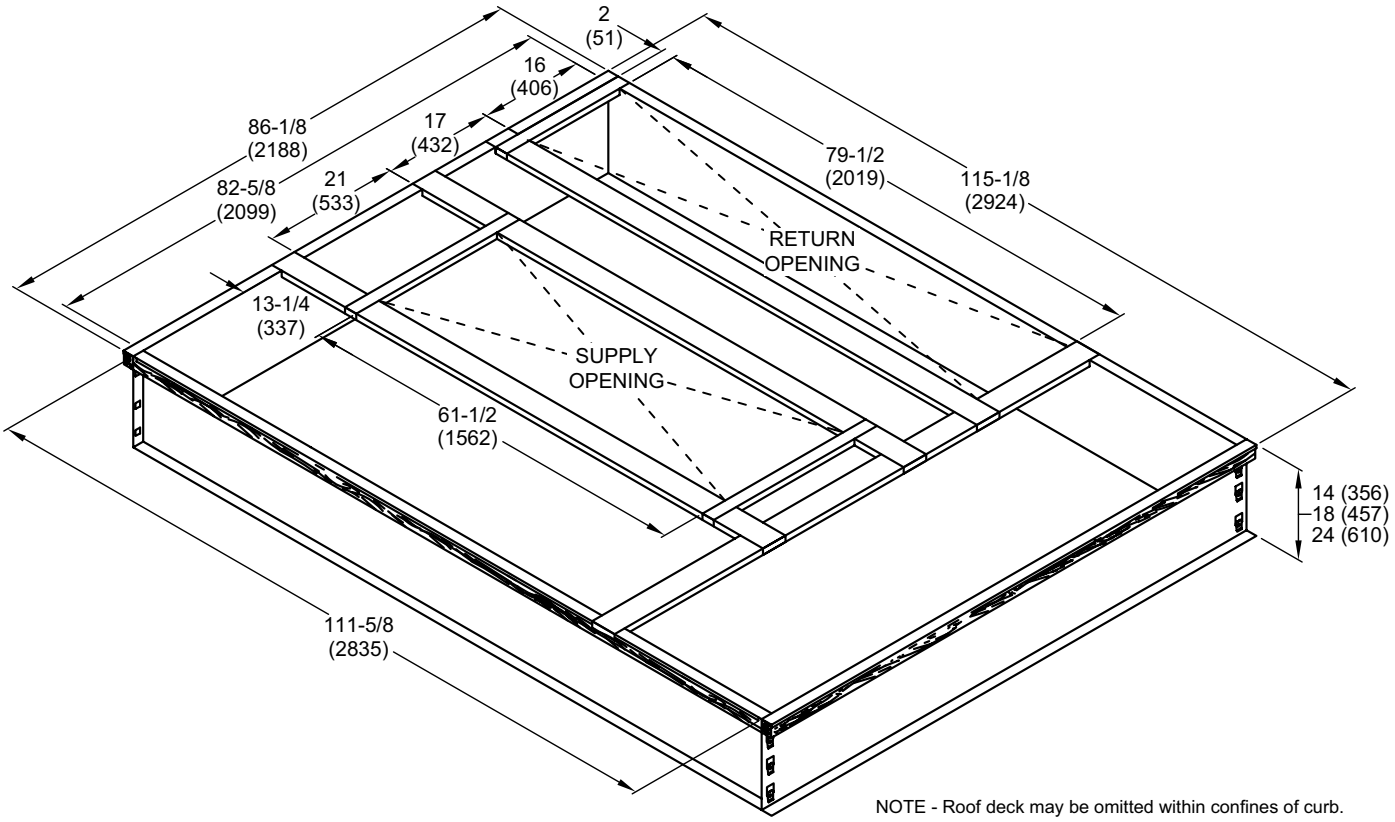
OPTIONAL HORIZONTAL BAROMETRIC RELIEF DAMPERS WITH HOOD

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



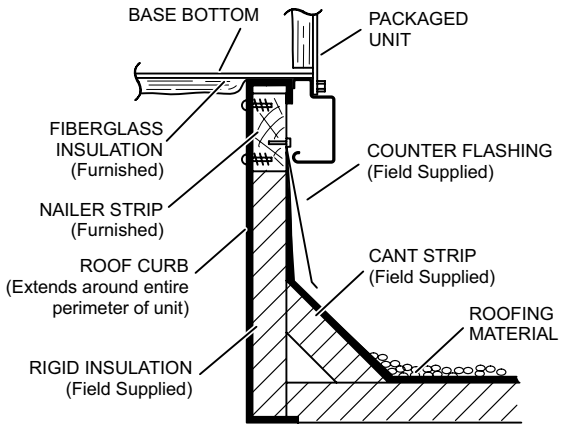
NOTE - Two furnished per order no.
[1] NOTE - Opening size required in return air duct.

HYBRID ROOF CURBS - DOUBLE DUCT OPENING

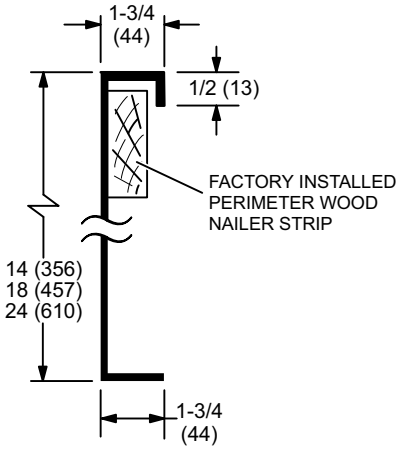


NOTE - Roof deck may be omitted within confines of curb.

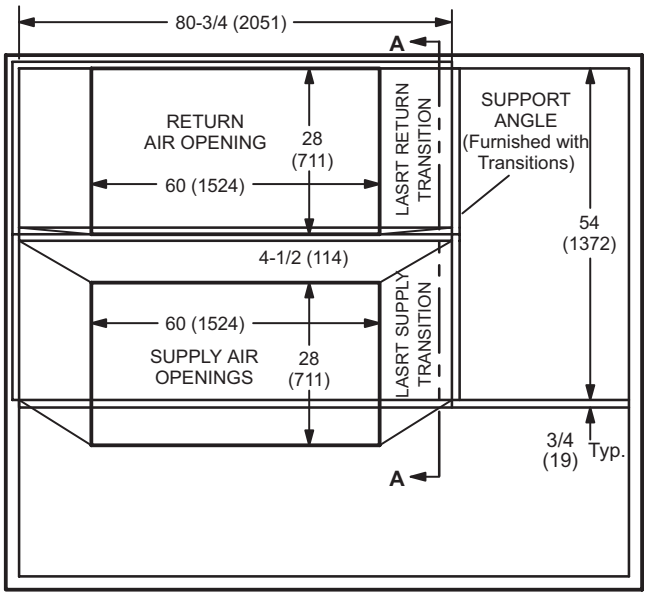
TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB

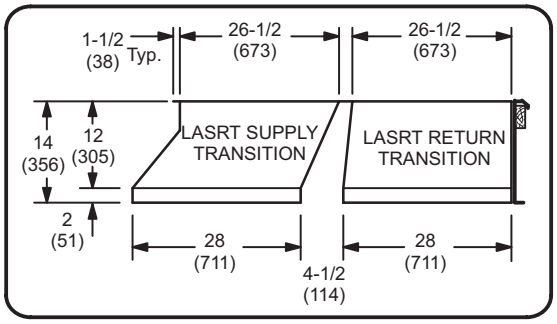


ROOF CURBS WITH SUPPLY & RETURN AIR TRANSITIONS FOR CEILING DIFFUSERS



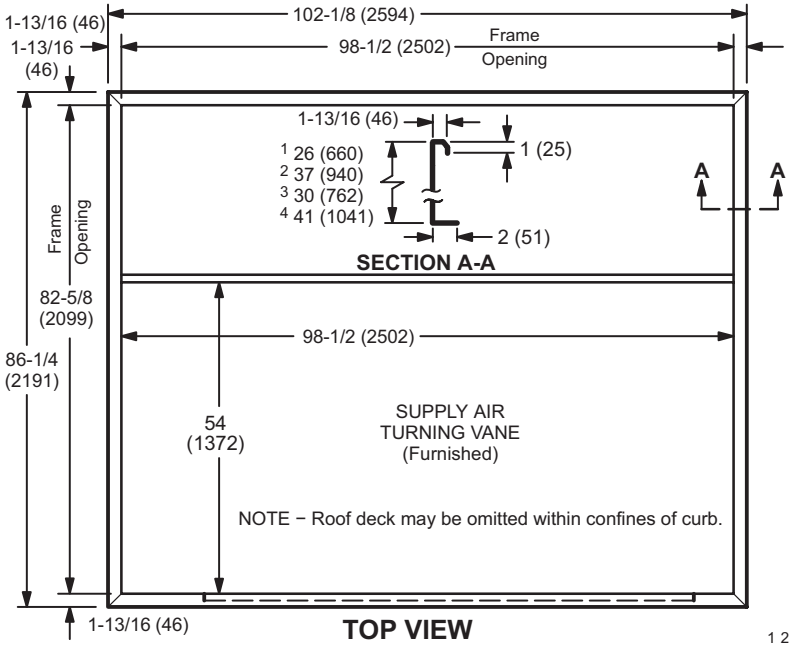
TOP VIEW

TRANSITION DETAIL

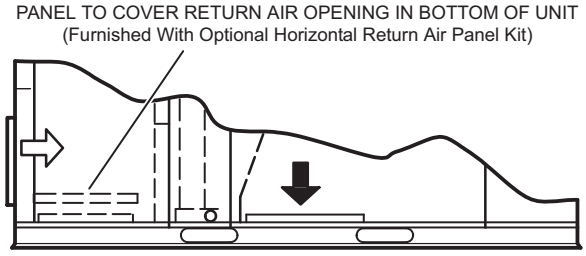


SECTION B-B

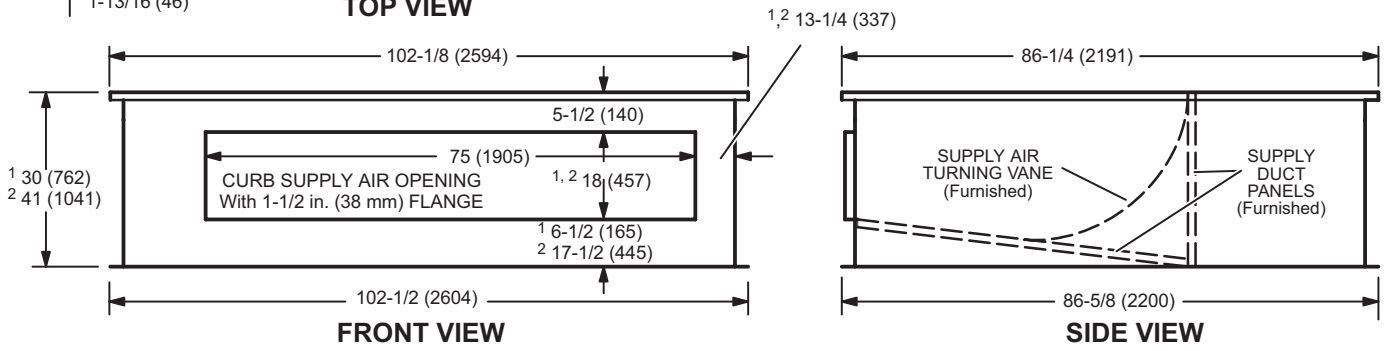
HORIZONTAL ROOF CURBS − Requires Optional Horizontal Return Air Panel Kit



NOTE - 30 in. (762 mm) height Curb is designed for horizontal discharge when unit is mounted on a slab.
41 in. (1041 mm) height Curb is designed for horizontal discharge when unit is mounted on a rooftop.

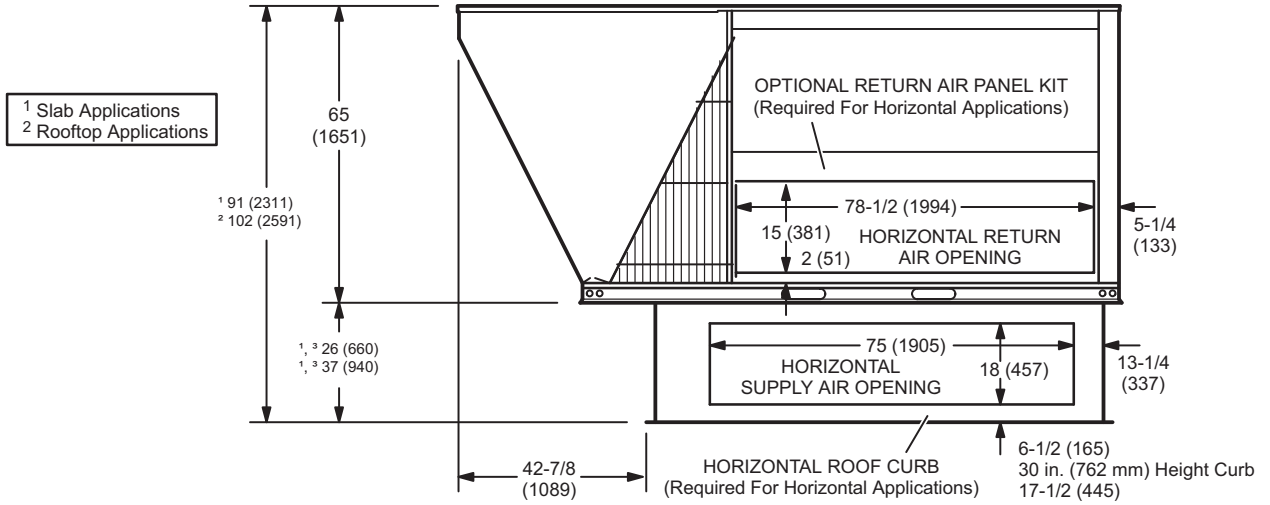


SIDE VIEW
(PACKAGED UNIT)



1 Slab Applications 2 Rooftop Applications

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

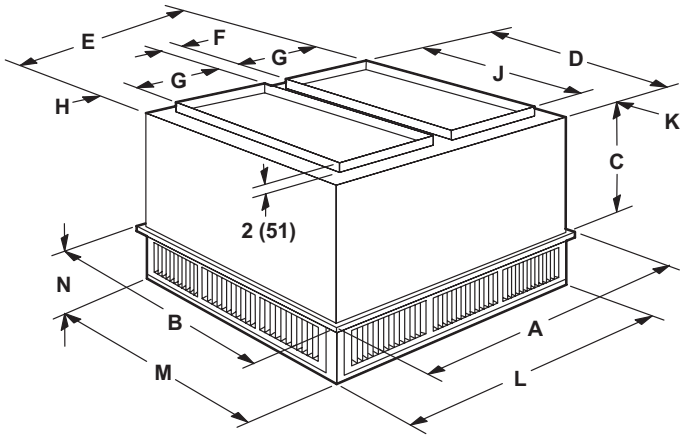


3 NOTE − Top of Curb extends 4 inch (102 mm) inside bottom of unit base. See Typical Flashing Detail.

SIDE VIEW
(Horizontal Openings)

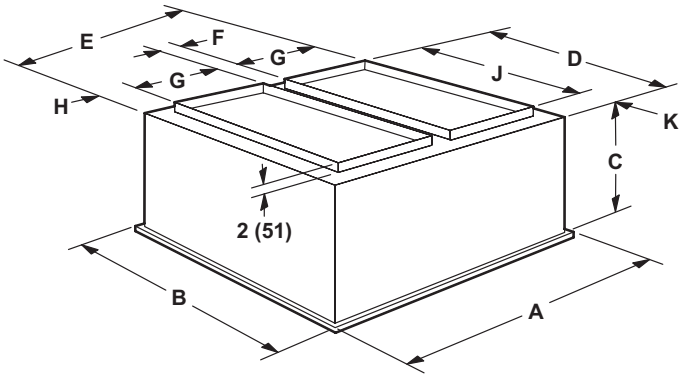
COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



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

FLUSH CEILING DIFFUSER



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

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