LCT

ENLIGHT ROOFTOP UNITS

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

COMMERCIAL
PRODUCT SPECIFICATIONS (EHB)

7.5 to 12.5 Tons
Net Cooling Capacity – 92,000 to 138,000 Btuh
Optional Electric Heat - 7.5 to 60 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 120 H 5 E N 2 Y

Brand
L = Lennox®

Unit Type
C = Packaged Electric Cooling w/ optional Electric Heat

Family
T = Enlight Series

Nominal Cooling Capacity - Tons
092 = 7.5 Tons
102 = 8.5 Tons
120 = 10 Tons
150 = 12.5 Tons

Cooling Efficiency
H = High Efficiency

Refrigerant Type
5 = R-454B

Blower Type
E = MSAV® Multi-Zone Air Volume (DirectPlus™ ECM Direct Drive)
P = VAV Variable Air Volume (DirectPlus™ ECM Direct Drive)

Factory Installed Electric Heat
N = No Heat
C = 7.5 kW Electric Heat
E = 15 kW Electric Heat
G = 22.5 kW Electric Heat
J = 30 kW Electric Heat
K = 45 kW Electric Heat
L = 60 kW Electric Heat

Minor Design Sequence
2 = 2nd Revision

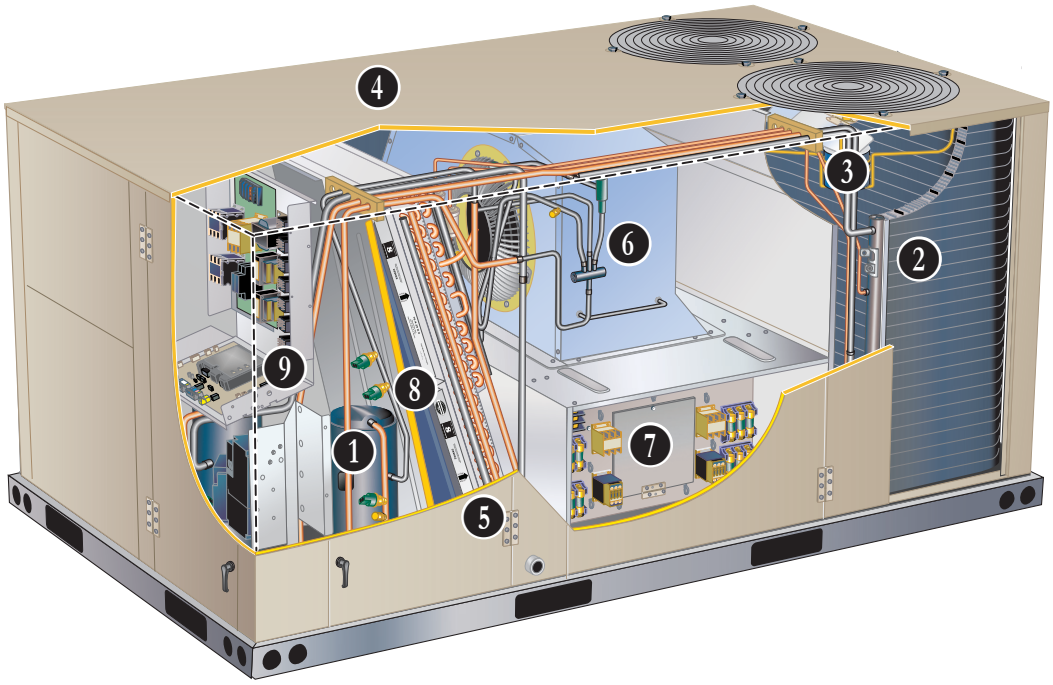
Voltage
Y = 208/230V-3 phase-60Hz
G = 460V-3 phase-60Hz
J = 575V-3 phase-60Hz

Form Number 211106 | September 2024
Supersedes all previous versions

FEATURE HIGHLIGHTS

Lennox' 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. Outdoor Coil Fan Motors
4. Heavy Gauge Steel Cabinet
5. Hinged Access Panels
6. DirectPlus™ Direct Drive ECM Blower System
7. Electric Heat (option)
8. Air Filters
9. Lennox® CORE Control System



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APPROVALS AND WARRANTY

APPROVALS

- AHRI Standard 340/360-2023 certified
- ETL and CSA listed
- Unit and components are 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
- All models have HCAI (formerly OSHPD) OSP and Special Seismic Certification (Number: OSP-0596), and meet 2021 International Building Code (IBC), 2022 California Building Code (CBC) ASCE 7, and ICC-ES AC156
- All models meet California Code of Regulations, Title 24 and ASHRAE 90.1 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 Control System - Limited three years
- High Performance Economizers (optional) - Limited five years
- 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 Compressor System
- System consists of one two-stage scroll compressor and one single-stage scroll compressor
- 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

Thermal Expansion Valves
- Ensures optimal performance throughout the application range
- Removable element head

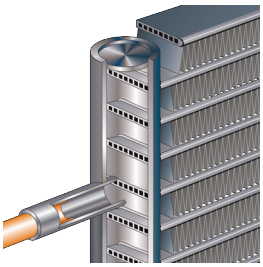
Filter/Driers
- High capacity filter/drier protects the system from dirt and moisture

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

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

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

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 secure coil to unit providing vibration dampening and corrosion protection

COOLING SYSTEM (continued)

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

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 or bottom drain connections
- Reversible to allow connection at back of unit

3 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

Condensate Drain Trap
- Constructed of PVC (factory or field) or copper (field only)

NOTE - Trap is field installed only; PVC version may be factory ordered to ship with unit.

Drain Pan Overflow Switch
- Monitors condensate level in drain pan
- Shuts down unit if drain becomes clogged

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

4 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 airflow with Horizontal Discharge Kit.

Duct Flanges
- Provided for horizontal duct attachment

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 1680 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

5 Hinged Access Panels
- Tool-less access
- Filter section
- Blower/heating section
- Compressor/controls section
- Panel seals and quarter-turn latching handles provide a tight air and water seal

FEATURES AND BENEFITS

CABINET (continued)

Required Selections

Airflow Configuration
- Specify downflow or horizontal

Options/Accessories

Factory or Field Installed

Return Air Adaptor Plate
- For same size LC/LG/LH and TC/TG/TH unit replacement
- Installs on return air opening in unit to match return air opening on existing roof curbs
- Also see Accessory Air Resistance table

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

Factory Installed

Corrosion Protection
- Completely flexible immersed coating
- Electrodeposited dry film process (AST ElectroFin E-Coat)
- ASTM B117 / DIN 53167 Salt Spray - 15,000+ hours
- ASTM G85 Annex A3 SWAAT Modified Salt Spray - 3,000 hours
- VA Master Construction Specification Division 23 for High Humidity Installations
- CID AA-52474A (GSA)
- Indoor Corrosion Protection:
  - Coated coil
  - Coated reheat coil
  - Painted blower housing
  - Painted base
- Outdoor Corrosion Protection:
  - Coated coil
  - Painted outdoor base

Field Installed

Horizontal Discharge Kit
- Consists of duct covers to block off downflow supply and return air openings for horizontal applications
- Also includes return air duct flanges for end return air when economizer is used in horizontal applications

NOTE - When configuring unit for horizontal application with economizer, a separate Horizontal Barometric Relief Damper with Hood must be ordered separately for installation in the return air duct.

BLOWER

6 DirectPlus™ Blower System
- High-efficiency, variable-speed ECM (electronically commutated) motor
- Eliminates the need for a separate variable-frequency drive
- MSAV® Multi-Stage Air Volume control modulates the amount of supply blower airflow according to cooling demand, heating demand, ventilation demand or smoke alarm
- 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
- Fully variable speed motor modulates to maximize system efficiency
- Combines the motor and electronics into one unit
- Aerodynamically optimized impeller
- Backward curved blades mounted directly onto the rotor

- Air inlet grill reduces indoor sound levels without affecting air performance

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 blower speed to the desired supply duct static pressure
- Shipped with the unit for remote field installation in the supply duct

Required Selections

Blower Selection
- MSAV® Multi-Stage Air Volume controls the speed of the blower based on the cooling and heating demands
- VAV (Variable Air Volume) blower varies the air volume to maintain a constant supply duct static pressure

FEATURES AND BENEFITS

ELECTRICAL

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

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

Phase/Voltage Detection
- Monitors power supply to ensure correct phase at unit start-up
  - If phase is incorrect, the unit will not start and an alarm code reports to the unit controller
- Prevents unit start-up if the unit is the incorrect phase; unit start-ups in the wrong phase could lead to issues such as compressors functioning in reverse
- Monitors power supply voltage to ensure proper voltage
  - If voltage is not correct (over/under voltage conditions) the unit will not start and an alarm code reports to the unit controller

Required Selections

Voltage Choice
- Specify when ordering base unit

Options/Accessories

Factory Installed

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

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

NOTE - Disconnect Switch is not available as an option with High 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

7 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, powered and wired
  - 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

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

Options/Accessories

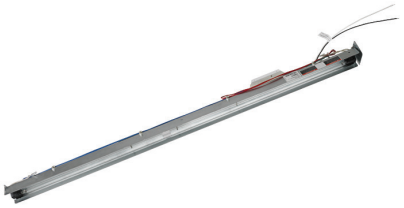
Factory or Field Installed

Healthy Climate® High Efficiency Air Filters
- Disposable MERV 8 and MERV 13 (Minimum Efficiency Reporting Value based on ASHRAE 52.2) efficiency 2 inch pleated filters

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

Healthy Climate® UVC Germicidal Light Kit



- Germicidal lamps emit ultra-violet (UV-C) energy, which has been proven to be effective in reducing microbes such as viruses, bacteria, yeasts, and molds
- UV-C energy greatly reduces the growth and proliferation of mold and other bioaerosols (bacteria and viruses) on illuminated surfaces (particularly coil and drain pan)
- Destroys the organism or controls its ability to reproduce
- Field installed in the blower/evaporator coil section
- Magnetic safety interlock terminates power when access panels are removed
- All necessary hardware for installation is included
- Lamps operate on 110/230V-1ph power supply

NOTE - Step-down transformer may be ordered separately for 460V and 575V units.

- Approved by ETL

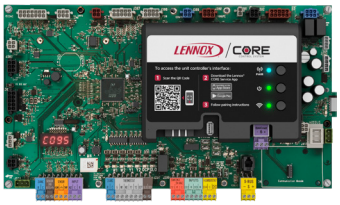
Needlepoint Bipolar Ionization (NPBI) Kit
- NPBI technology integrates with system controls for effective air treatment
- Ionization has been shown to effectively reduce harmful pathogens, pollutants and odors
- Brush-type ionizer introduces a high concentration of both positive and negative ions into the airstream
- The bipolar ions are then dispersed into the occupied space through the duct system proactively reducing the airborne contaminants
- Ions travel within the building air stream and attach to particles, pathogens, and gas molecules, making them larger and easier to capture in the filtration system
- UL 2998 certified for zero ozone emission

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

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

CONTROL SYSTEM

LENNOX® CORE CONTROL SYSTEM



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)

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 13

OPTIONS / ACCESSORIES

ECONOMIZER

- Economizer operation is set and controlled by the Lennox® CORE Control System
- Simple plug-in connections from economizer to control system 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 the Options/ Accessories table.

Factory or Field Installed

10 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 compliant
- Downflow or Horizontal with Outdoor Air Hood
- Outdoor Air Hood is included when economizer is factory installed and is furnished with economizer when ordered for field installation
- Linked damper action
- High torque 24-volt fully-modulating spring return damper motor
- Return air and outdoor air dampers
- Plug-in connections to unit
- 11 Barometric Relief Dampers with Exhaust Hood are also furnished

NOTE - Horizontal applications use furnished outdoor air hood and barometric relief dampers with exhaust hood. Requires optional Horizontal Discharge Kit. See dimension drawing on page 43.

Horizontal applications in reduced spaces requires optional Horizontal Low Profile Barometric Relief Dampers with Exhaust Hood and Horizontal Discharge Kit. See dimension drawing on page 44.

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)

Factory or Field Installed

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

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

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

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

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

Single Enthalpy 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 Control system 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 Control system 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

Power Exhaust Fan
- Installs internal to unit for downflow applications only with economizer option
- Provides exhaust air pressure relief
- Interlocked to run when supply air blower is operating
- Fan runs when outdoor air dampers are 50% open (adjustable)
- Motor is overload protected
- Fan is 20 in. diameter
- Five blades
- One 1/3 HP motor

NOTE - Requires Economizer and Downflow Barometric Relief Dampers.

Field Installed

Horizontal Low Profile Barometric Relief Dampers
- For use when unit is configured for horizontal applications requiring an economizer in a reduced space
- 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 - Requires Horizontal Discharge Kit.

OPTIONS / ACCESSORIES

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

ROOF CURBS

Field Installed

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

Hybrid Roof Curbs, Downflow
- Interlocking tabs fasten corners together
- No tools required for assembly
- Can also be fastened together with furnished hardware
- Available in 8, 14, 18, and 24 inch heights

Adjustable Pitch Curb
- Fully adjustable pitch curbs (3/4 in. per foot in any direction) provide a level platform for rooftop units allowing flexible installations on roofs with uneven or sloped angles
- Interlocking tabs fasten corners together
- No tools required for assembly
- Hardware is furnished to connect upper curb with lower curb
- Available in 14 inch height

Adaptor Curbs (not shown)
- Curbs are regionally sourced
- Dimensions vary based upon the source

NOTE - Contact your local sales representative for a detailed cut sheet with applicable dimensions.

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

OVERVIEW

- 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

NOTE - A dehumidification demand from a relative humidity sensor, dehumidistat, a DDC controller or building automation system is required to control humidity.

Controls are not furnished and must be ordered separately.

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

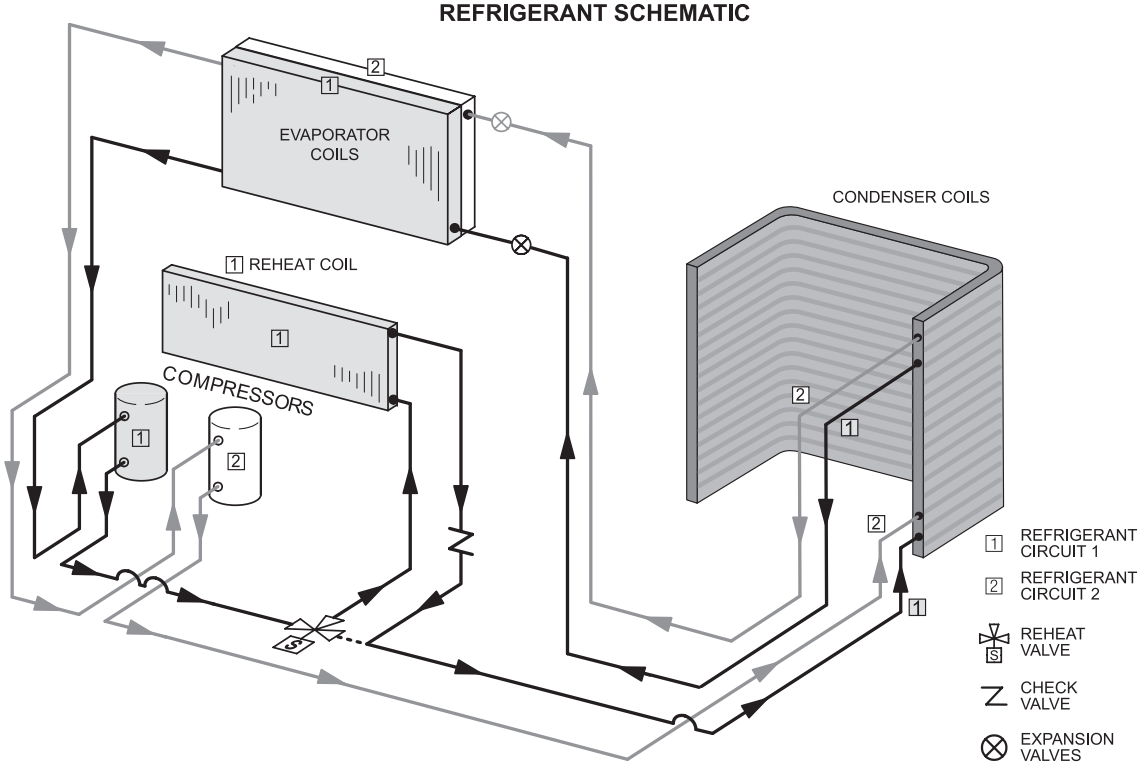
- Reheat operation will initiate on a dehumidification demand and does not require a cooling demand
- The unit will operate in the dehumidification mode until the relative humidity of the conditioned space is below the setpoint
- This reduces sensible cooling capacity and extends compressor run time 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
- 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)

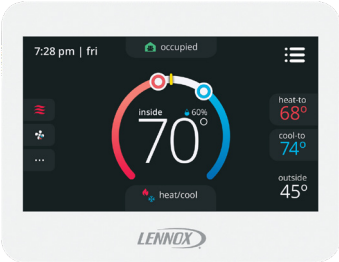
- If both a dehumidification and a full cooling load demand occur, the system will operate in cooling until the cooling demand is satisfied
- Then the system will energize the dehumidification mode

REFRIGERANT SCHEMATIC



OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

CS8500 Commercial 7-Day Programmable Thermostat

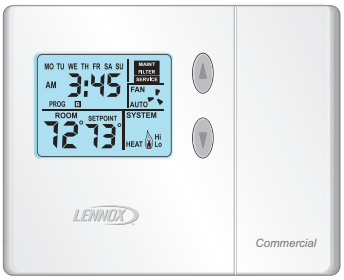


- Fully Communicating Sensor
- Full Color Touchscreen Interface
- Variable Speed System Control (On Compatible Units)
- Up To 4 Heat / 4 Cool
- Built-In Sensors For Temperature, Humidity And Optional CO_2
- Remote Sensor Options For Occupancy, Temperature
- BACnet Capable Options
- 5-2 or 7-Day Scheduling
- 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

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

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

UNIT OPERATION WITH 2-STAGE THERMOSTAT (2 COOL AND 2 HEAT STAGES, Y1, Y2, W1, W2)

SUPPLY AIR BLOWER SPEED

Unit has following supply air blower speed setting:

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

COOLING

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

Cooling - Thermostat Mode (Y1, Y2)

Y1 Demand:

All compressors are off, supply air blower is on low cooling speed to minimize blower power consumption, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

Y2 Demand:

All compressors are off, supply air blower is on high cooling speed providing higher cooling capacity, 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 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 rooftop unit via a network connection.

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

Cooling - Thermostat Mode (Y1, Y2)

Y1 Demand:

Compressor 1 operates and supply air blower operates at low cooling speed.

Y2 Demand:

All compressors operate and supply air blower operates at 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:

1st stage compressor operates, supply air blower operates at low cooling speed, and the reheat valve is energized.

Y1 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed and the reheat valve is energized.

Y2 Demand With A Call For Dehumidification:

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

UNIT OPERATION WITH 3-STAGE THERMOSTAT OR ZONE SENSOR (3 COOL AND 2 HEAT STAGES, Y1, Y2, Y3 AND W1, W2)

SUPPLY AIR BLOWER SPEED

Unit has following supply air blower speed setting:

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

COOLING

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

Cooling - Thermostat or Zone Sensor Mode (Y1, Y2, Y3)

Y1 Demand:

All compressors are off, supply air blower is on low cooling speed to minimize blower power consumption, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

Y2 Demand:

All compressors are off, supply air blower is on high cooling speed providing higher cooling capacity, 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 stays on high cooling speed providing maximum cooling capacity. After compressors are energized the economizer stays at maximum open.

Y3 Demand:

Compressors 1 and 2 are energized while supply air blower stays on high cooling speed.

[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 rooftop unit via a network connection.

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

Cooling - Thermostat or Zone Sensor Mode (Y1, Y2, Y3)

Y1 Demand:

Compressor 1 operates at part load and supply air blower operates at low cooling speed.

Y2 Demand:

Compressor 1 operates at part load with compressor 2 ON, and supply air blower operates at medium cooling speed.

Y3 Demand:

All compressors operate and supply air blower operates at 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:

1st stage compressor operates, supply air blower operates at low cooling speed, and the reheat valve is energized.

Y1 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at medium cooling speed and the reheat valve is energized.

Y2 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed and the reheat valve is energized.

Y3 Demand With A Call For Dehumidification:

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

HEATING MODE (ELECTRIC HEAT)

NOTE - HEATING MODE IS THE SAME FOR ALL CONTROL OPTIONS

W1 Demand:

1st stage electric heat is energized and the supply air blower operates at heating speed.

W2 Demand:

2nd stage electric heat is energized and the supply air blower operates at heating speed (22.5 through 60 kW electric heat option only).

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).

Power Exhaust Operation

NOTE - POWER EXHAUST OPERATION IS THE SAME FOR ALL CONTROL OPTIONS

Single-stage power exhaust fan is an option available to units with Economizer and for downflow applications only.

Power exhaust fan operates when economizer outdoor air dampers are 50% open (adjustable) and when supply air blower is ON.

UNITS IN ZONING APPLICATIONS OPERATING WITH DISCHARGE AIR CONTROL (2 HEAT / 3 COOL)

SUPPLY AIR BLOWER SPEED

Unit has the following supply air blower speed settings:

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

COOLING MODE

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

Y1 Demand:

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).

Y2 Demand:

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.

Y3 Demand:

Compressor 1 and 2 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 rooftop unit via a network connection.

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

Y1 Demand:

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

Y2 Demand:

Compressors 1 operates at part load with compressor 2 ON and supply air blower operates to maintain duct static pressure.

Y3 Demand:

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

HEATING MODE (2 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 operates to maintain Heating Static setpoint for all stages.

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 092	102	120	150
COOLING SYSTEM						
Condensate Drain Trap	PVC	**22H54**	OX	OX	OX	OX
	Copper	**76W27**	X	X	X	X
Drain Pan Overflow Switch		**21Z07**	OX	OX	OX	OX
BLOWER - SUPPLY AIR						
Blower Option	DirectPlus™ Blower System with MSAV®	Factory	O	O	O	O
	DirectPlus™ Blower System with VAV	Factory	O	O	O	O
CABINET						
Combination Coil/Hail Guards		**24C85**	OX	OX	OX	OX
Corrosion Protection		Factory	O	O	O	O
Horizontal Discharge Kit		**51W25**	X	X	X	X
Return Air Adaptor Plate (for same size LC/LG/LH and TC/TG/TH unit replacement)		**54W96**	OX	OX	OX	OX
CONTROLS						
Commercial Controls	LonTalk® Module	**54W27**	OX	OX	OX	OX
	Novar® LSE	Factory	O	O	O	O
Dirty Filter Switch		**53W67**	OX	OX	OX	OX
Fresh Air Tempering		**21Z08**	OX	OX	OX	OX
Smoke Detector - Supply or Return (Power board and one sensor)		**31A68**	OX	OX	OX	OX
Smoke Detector - Supply and Return (Power board and two sensors)		**31A69**	OX	OX	OX	OX
INDOOR AIR QUALITY						
Air Filters						
Healthy Climate® High Efficiency Air Filters	MERV 8	**50W61**	OX	OX	OX	OX
20 x 25 x 2 in. (Order 4 per unit)	MERV 13	**52W41**	OX	OX	OX	OX
	MERV 16	**21U41**	X	X	X	X
Replacement Media Filter With Metal Mesh Frame (includes non-pleated filter media)		**Y3063**	X	X	X	X
Indoor Air Quality (CO_2) Sensors						
Sensor - Wall-mount, off-white plastic cover with LCD display		**77N39**	X	X	X	X
Sensor - Wall-mount, off-white plastic cover, no display		**23V86**	X	X	X	X
Sensor - Black plastic case, LCD display, rated for plenum mounting		**87N52**	X	X	X	X
Sensor - Black plastic case, no display, rated for plenum mounting		**23V87**	X	X	X	X
CO_2 Sensor Duct Mounting Kit - for downflow applications		**23Y47**	X	X	X	X
Aspiration Box - for duct mounting non-plenum rated CO_2 sensors (**77N39**)		**90N43**	X	X	X	X
Needlepoint Bipolar Ionization (NPBI)						
Needlepoint Bipolar Ionization (NPBI) Kit		**22U15**	X	X	X	X
UVC Germicidal Lamps						
[1] Healthy Climate® UVC Light Kit (110/230v-1ph)		**21A93**	X	X	X	X
Step-Down Transformers	460V primary, 230V secondary	**10H20**	X	X	X	X
	575V primary, 230V secondary	**10H21**	X	X	X	X

[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).

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 092	102	120	150
ELECTRICAL						
Voltage 60 Hz	208/230V - 3 phase	Factory	O	O	O	O
	460V - 3 phase	Factory	O	O	O	O
	575V - 3 phase	Factory	O	O	O	O
HACR Circuit Breakers		Factory	O	O	O	O
Disconnect Switch - See Electrical/Electric Heat tables for selection	80 amp	**54W56**	OX	OX	OX	OX
	150 amp	**54W57**	OX	OX	OX	OX
[2] Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection)		Factory	O	O	O	O
GFI Service Outlets	15 amp non-powered, field-wired (208/230V, 460V only)	**74M70**	OX	OX	OX	OX
	15 amp factory-wired and powered (208/230V, 460V)	Factory	O	O	O	O
	[3] 20 amp non-powered, field-wired (208/230V, 460V, 575V)	**67E01**	X	X	X	X
	[2] 20 amp non-powered, field-wired (575V only)	Factory	O	O	O	O
Weatherproof Cover for GFI		**10C89**	X	X	X	X
ELECTRIC HEAT						
7.5 kW	208/240V-3ph	**30U33**	OX	OX		
	460V-3ph	**30U34**	OX	OX		
	575V-3ph	**30U35**	OX	OX		
15 kW	208/240V-3ph	**30U36**	OX	OX	OX	OX
	460V-3ph	**30U37**	OX	OX	OX	OX
	575V-3ph	**30U38**	OX	OX	OX	OX
22.5 kW	208/240V-3ph	**30U39**	OX	OX	OX	OX
	460V-3ph	**30U40**	OX	OX	OX	OX
	575V-3ph	**30U41**	OX	OX	OX	OX
30 kW	208/240V-3ph	**30U42**	OX	OX	OX	OX
	460V-3ph	**30U43**	OX	OX	OX	OX
	575V-3ph	**30U44**	OX	OX	OX	OX
45 kW	208/240V-3ph	**30U45**	OX	OX	OX	OX
	460V-3ph	**30U46**	OX	OX	OX	OX
	575V-3ph	**30U47**	OX	OX	OX	OX
60 kW	208/240V-3ph	**30U48**			OX	OX
	460V-3ph	**30U49**			OX	OX
	575V-3ph	**30U50**			OX	OX

[2] Disconnect Switch not available with SCCR option.
SCCR option is only available with factory installed electric heat or no electric.
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.
O = Configure To Order (Factory Installed).
X = Field Installed.

OPTIONS / ACCESSORIES

Item Description		Order Number	Size 092	102	120	150
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 and Barometric Relief Dampers with Exhaust Hood Downflow Applications - Use furnished Outdoor Air Hood and Barometric Relief Dampers with Exhaust Hood Horizontal Applications - Use furnished Outdoor Air Hood and Barometric Relief Dampers with Exhaust Hood - Order Horizontal Discharge Kit separately Horizontal Applications (reduced height) - Order Horizontal Low Profile Barometric Relief Dampers with Exhaust Hood and Horizontal Discharge Kit (**51W25**) separately		**20U80**	OX	OX	OX	OX
Horizontal Low Profile Barometric Relief Dampers						
Horizontal Low Profile Barometric Relief Dampers (Exhaust hood furnished)		**53K04**	X	X	X	X
Economizer Controls						
Differential Enthalpy (Not for Title 24)	Order 2	**21Z09**	OX	OX	OX	OX
Sensible Control	Sensor is Furnished	Factory	O	O	O	O
Single Enthalpy (Not for Title 24)		**21Z09**	OX	OX	OX	OX
Building Pressure Control		**13J77**	X	X	X	X
Outdoor Air CFM Control		**13J76**	X	X	X	X
Global Control	Sensor Field Provided	Factory	O	O	O	O
OUTDOOR AIR						
Outdoor Air Dampers With Outdoor Air Hood						
Motorized		**14G28**	OX	OX	OX	OX
Manual		**14G29**	X	X	X	X
POWER EXHAUST						
Standard Static	208/230V-3ph	**53W44**	OX	OX	OX	OX
	460V-3ph	**53W45**	OX	OX	OX	OX
	575V-3ph	**53W46**	OX	OX	OX	OX
HUMIDITROL® CONDENSER REHEAT OPTION						
Humiditrol Dehumidification Option		Factory	O	O	O	O
ROOF CURBS						
Hybrid Roof Curbs, Downflow						
8 in. height		**11F54**	X	X	X	X
14 in. height		**11F55**	X	X	X	X
18 in. height		**11F56**	X	X	X	X
24 in. height		**11F57**	X	X	X	X
Adjustable Pitch Curb						
14 in. height		**54W50**	X	X	X	X
CEILING DIFFUSERS						
Step-Down - Order one	RTD11-95S	**13K61**	X			
	RTD11-135S	**13K62**		X	X	
	RTD11-185S	**13K63**				X
Flush - Order one	FD11-95S	**13K56**	X			
	FD11-135S	**13K57**		X	X	
	FD11-185S	**13K58**				X
Transitions (Supply and Return) - Order one	C1DIFF30B-1	**12X65**	X			
	C1DIFF31B-1	**12X66**		X	X	
	C1DIFF32B-1	**12X67**				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 — MSAV MODELS

Model			LCT092H5E	LCT102H5E	LCT120H5E	LCT150H5E
Nominal Tonnage			7.5 Ton	8.5 Ton	10 Ton	12.5 Ton
Efficiency Type			High	High	High	High
Blower Type			DirectPlus™ ECM Direct Drive with MSAV®	DirectPlus™ ECM Direct Drive with MSAV®	DirectPlus™ ECM Direct Drive with MSAV®	DirectPlus™ ECM Direct Drive with MSAV®
Cooling Performance	Gross Cooling Capacity (Btuh)		94,000	103,000	121,000	142,000
	[1] Net Cooling Capacity (Btuh)		92,000	100,000	118,000	138,000
	[1] AHRI Rated Air Flow (cfm)		3000	3400	3400	4100
	[1] IEER (Btuh/Watt)		16.3	16.3	16.3	15.4
	[1] EER (Btuh/Watt)		12.5	12.3	12.3	11.0
	Total Unit Power (kW)		7.5	7.9	9.8	12.6
Sound Rating Number	dBA		88	88	89	89
Refrigerant Charge	Refrigerant Type		R-454B	R-454B	R-454B	R-454B
	Without Reheat Option	Circuit 1	6 lbs. 4 oz.	6 lbs. 4 oz.	5 lbs. 14 oz.	5 lbs. 12 oz.
		Circuit 2	5 lbs. 14 oz.	5 lbs. 14 oz.	5 lbs. 14 oz.	6 lbs. 4 oz.
	With Reheat Option	Circuit 1	6 lbs. 8 oz.	6 lbs. 8 oz.	6 lbs. 4 oz.	6 lbs. 2 oz.
		Circuit 2	5 lbs. 14 oz.	5 lbs. 14 oz.	5 lbs. 14 oz.	6 lbs. 4 oz.
Electric Heat Available - See page 21			7.5, 15, 22.5, 30 & 45 kW		15, 22.5, 30, 45 & 60 kW	
Compressor Type (number)			Two-Stage Scroll (1) Single-Stage Scroll (1)			
Outdoor Coil	Net face area - ft.² (total)		27.5	27.5	27.5	27.5
	Rows		1	1	1	1
	Fins - in.		20	20	20	20
Outdoor Coil Fans	Motor HP (number and type)		1/3 (2 PSC)	1/3 (2 PSC)	1/2 (2 PSC)	1/2 (2 PSC)
	Rpm		1075	1075	1075	1075
	Watts (total)		860	860	1000	1000
	Diameter (Number) - in.		(2) 24	(2) 24	(2) 24	(2) 24
	Blades		3	3	3	3
	Total Air volume - cfm		9000	9000	9700	9700
Indoor Coil	Net face area - ft.² (total)		13.54	13.54	13.54	13.54
	Tube diameter - in.		3/8	3/8	3/8	3/8
	Rows		4	4	4	4
	Fins - in.		14	14	14	14
	Condensate drain size (NPT) - in.		(1) 1			
	Expansion device type		Balanced Port Thermostatic Expansion Valve,removable power element			
Indoor Blower	Motor HP (number and type)		3.75 (1 ECM)	3.75 (1 ECM)	3.75 (1 ECM)	3.75 (1 ECM)
	Wheel (Number) diameter x width - in.		(1) 22 x 9	(1) 22 x 9	(1) 22 x 9	(1) 22 x 9
Filters	Type of filter		MERV 4, Disposable			
	Number and size - in.		(4) 20 x 25 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] AHRI Certified to AHRI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

SPECIFICATIONS — VAV MODELS

Model			LCT092H5P	LCT102H5P	LCT120H5P	LCT150H5P
Nominal Tonnage			7.5 Ton	8.5 Ton	10 Ton	12.5 Ton
Efficiency Type			High	High	High	High
Blower Type			DirectPlus™ ECM Direct Drive with VAV	DirectPlus™ ECM Direct Drive with VAV	DirectPlus™ ECM Direct Drive with VAV	DirectPlus™ ECM Direct Drive with VAV
Cooling Performance	Gross Cooling Capacity (Btuh)		94,000	103,000	121,000	142,000
	[1] Net Cooling Capacity (Btuh)		92,000	100,000	118,000	138,000
	[1] AHRI Rated Air Flow (cfm)		3000	3400	3400	4100
	[1] IEER (Btuh/Watt)		15.7	15.7	15.7	14.6
	[1] EER (Btuh/Watt)		12.5	12.3	12.3	11.0
	Total Unit Power (kW)		7.5	7.9	9.8	12.6
Sound Rating Number	dBA		88	88	89	89
Refrigerant Charge	Refrigerant Type		R-454B	R-454B	R-454B	R-454B
	Without Reheat Option	Circuit 1	6 lbs. 4 oz.	6 lbs. 4 oz.	5 lbs. 14 oz.	5 lbs. 12 oz.
		Circuit 2	5 lbs. 14 oz.	5 lbs. 14 oz.	5 lbs. 14 oz.	6 lbs. 4 oz.
Electric Heat Available - See page 21			7.5, 15, 22.5, 30 & 45 kW		15, 22.5, 30, 45 & 60 kW	
Compressor Type (number)			Two-Stage Scroll (1) Single-Stage Scroll (1)			
Outdoor Coil	Net face area - ft.² (total)		27.5	27.5	27.5	27.5
	Rows		1	1	1	1
	Fins - in.		20	20	20	20
Outdoor Coil Fans	Motor (number) HP (type)		(2) 1/3 (PSC)	(2) 1/3 (PSC)	(2) 1/2 (PSC)	(2) 1/2 (PSC)
	Rpm		1075	1075	1075	1075
	Watts (total)		860	860	1000	1000
	Diameter (Number) - in.		(2) 24	(2) 24	(2) 24	(2) 24
	Blades		3	3	3	3
	Total Air volume - cfm		9000	9000	9700	9700
Indoor Coil	Net face area - ft.² (total)		13.54	13.54	13.54	13.54
	Tube diameter - in.		3/8	3/8	3/8	3/8
	Rows		4	4	4	4
	Fins - in.		14	14	14	14
	Condensate drain size (NPT) - in.		(1) 1			
	Expansion device type		Balanced Port Thermostatic Expansion Valve,removable power element			
Indoor Blower	Motor HP (number and type)		3.75 (1 ECM)	3.75 (1 ECM)	3.75 (1 ECM)	3.75 (1 ECM)
	Wheel (Number) diameter x width - in.		(1) 22 x 9	(1) 22 x 9	(1) 22 x 9	(1) 22 x 9
Filters	Type of filter		MERV 4, Disposable			
	Number and size - in.		(4) 20 x 25 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] AHRI Certified to AHRI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

RATINGS

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

7.5 TON - LCT092H5E/P (1 COMPRESSOR - 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	1440	40.6	1.15	0.78	0.96	1	38.2	1.4	0.8	1	1	35.7	1.69	0.82	1	1	33	2.02	0.84	1	1
	1800	43.4	1.07	0.85	1	1	41	1.34	0.87	1	1	38.4	1.65	0.9	1	1	35.6	1.99	0.95	1	1
	2160	45.7	1	0.91	1	1	43.2	1.29	0.96	1	1	40.5	1.62	1	1	1	37.5	1.97	1	1	1
67°F	1440	42.7	1.09	0.62	0.77	0.91	40.2	1.36	0.62	0.78	0.95	37.4	1.67	0.63	0.8	1	34.4	2	0.63	0.82	1
	1800	44.9	1.03	0.66	0.83	1	42.2	1.31	0.67	0.85	1	39.3	1.64	0.68	0.88	1	36.1	1.99	0.69	0.91	1
	2160	46.4	0.98	0.7	0.9	1	43.6	1.28	0.71	0.93	1	40.6	1.62	0.73	0.98	1	37.5	1.97	0.75	1	1
71°F	1440	45.2	1.02	0.46	0.61	0.75	42.6	1.31	0.46	0.61	0.76	39.7	1.63	0.45	0.62	0.78	36.6	1.98	0.45	0.63	0.8
	1800	47.3	0.95	0.49	0.65	0.81	44.5	1.26	0.48	0.66	0.83	41.5	1.6	0.48	0.68	0.86	38.3	1.97	0.48	0.69	0.89
	2160	48.8	0.9	0.51	0.7	0.88	45.9	1.23	0.51	0.71	0.9	42.8	1.58	0.51	0.73	0.95	39.4	1.95	0.51	0.75	1

7.5 TON - LCT092H5E/P (2 COMPRESSORS - PART LOAD / FULL LOAD)

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	1920	74.2	4.4	0.66	0.8	0.91	68.7	5.02	0.67	0.81	0.93	62.9	5.72	0.67	0.83	0.96	56.3	6.47	0.7	0.86	1
	2400	80.1	4.37	0.72	0.86	0.98	74.4	5	0.74	0.88	1	68.5	5.71	0.76	0.91	1	61.5	6.47	0.79	0.95	1
	2880	85.1	4.34	0.78	0.92	1	78.9	4.99	0.79	0.95	1	72.4	5.7	0.82	0.98	1	65.7	6.47	0.85	1	1
67°F	1920	79.8	4.36	0.52	0.65	0.76	74.1	4.99	0.52	0.65	0.78	67.7	5.69	0.51	0.65	0.8	60.5	6.45	0.51	0.67	0.83
	2400	85.1	4.32	0.56	0.7	0.83	78.5	4.97	0.55	0.71	0.85	71.7	5.69	0.56	0.72	0.88	64.4	6.47	0.56	0.76	0.91
	2880	88.7	4.29	0.59	0.75	0.89	81.9	4.96	0.6	0.78	0.92	74.9	5.67	0.59	0.81	0.95	67.8	6.46	0.62	0.83	1
71°F	1920	86.3	4.32	0.4	0.51	0.62	80	4.97	0.38	0.5	0.63	73.5	5.68	0.37	0.51	0.64	66.4	6.46	0.35	0.51	0.65
	2400	91.5	4.27	0.41	0.54	0.68	84.7	4.94	0.4	0.55	0.68	77.7	5.67	0.39	0.55	0.71	70.3	6.45	0.39	0.56	0.73
	2880	94.8	4.25	0.43	0.58	0.73	88.1	4.91	0.42	0.58	0.74	80.9	5.66	0.41	0.6	0.78	73	6.45	0.41	0.6	0.8

7.5 TON - LCT092H5E/P (2 COMPRESSORS - FULL LOAD)

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	2400	90.9	5.32	0.68	0.8	0.91	85.2	6.03	0.68	0.82	0.93	79.5	6.94	0.69	0.83	0.96	72.9	7.86	0.71	0.86	0.99
	3000	97.4	5.3	0.73	0.87	0.99	91.3	6.02	0.74	0.88	1	85	6.91	0.76	0.91	1	78.2	7.83	0.78	0.94	1
	3600	102.6	5.29	0.79	0.92	1	96.2	6.01	0.8	0.95	1	89.4	6.88	0.82	0.98	1	82.2	7.8	0.85	1	1
67°F	2400	96.2	5.3	0.53	0.66	0.78	89.8	6.02	0.54	0.66	0.79	83.2	6.91	0.53	0.68	0.8	76.2	7.81	0.54	0.69	0.83
	3000	101.6	5.28	0.56	0.71	0.84	94.7	6	0.57	0.72	0.86	88.1	6.88	0.58	0.73	0.88	81	7.78	0.58	0.76	0.91
	3600	105.9	5.27	0.6	0.76	0.9	99.3	5.99	0.61	0.78	0.92	92.3	6.86	0.62	0.8	0.95	84.9	7.77	0.64	0.82	0.99
71°F	2400	103.2	5.26	0.41	0.52	0.63	96.4	6	0.39	0.53	0.64	89.7	6.87	0.39	0.52	0.65	82.3	7.78	0.38	0.52	0.67
	3000	108.5	5.26	0.42	0.56	0.69	101.3	5.98	0.42	0.57	0.7	94.2	6.84	0.41	0.57	0.72	86.3	7.75	0.4	0.58	0.73
	3600	111.9	5.19	0.43	0.59	0.75	105.1	5.97	0.43	0.6	0.76	97.5	6.8	0.43	0.61	0.77	89.5	7.73	0.43	0.63	0.79

RATINGS

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

8.5 TON - LCT102H5E/P (1 COMPRESSOR - 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	1600	41.7	1.11	0.81	1	1	39.4	1.36	0.83	1	1	36.9	1.66	0.85	1	1	34.1	1.99	0.88	1	1
	2000	44.6	1.02	0.88	1	1	42.1	1.3	0.9	1	1	39.5	1.62	0.93	1	1	36.6	1.96	1	1	1
	2400	46.8	0.96	0.95	1	1	44.2	1.25	1	1	1	41.4	1.59	1	1	1	38.4	1.95	1	1	1
67°F	1600	43.7	1.05	0.63	0.79	0.94	41.1	1.33	0.64	0.81	1	38.2	1.64	0.65	0.83	1	35.1	1.98	0.66	0.86	1
	2000	45.7	0.99	0.68	0.86	1	43	1.28	0.69	0.89	1	40	1.61	0.7	0.91	1	36.7	1.96	0.72	0.95	1
	2400	47.2	0.94	0.72	0.93	1	44.3	1.25	0.74	0.99	1	41.4	1.59	0.75	1	1	38.4	1.95	0.78	1	1
71°F	1600	46	0.99	0.47	0.63	0.77	43.3	1.28	0.47	0.64	0.79	40.4	1.61	0.47	0.64	0.81	37.2	1.96	0.46	0.66	0.84
	2000	47.9	0.93	0.5	0.68	0.84	45	1.24	0.5	0.69	0.87	42	1.58	0.5	0.7	0.9	38.7	1.94	0.5	0.72	0.93
	2400	49.5	0.87	0.52	0.72	0.91	46.5	1.2	0.52	0.74	0.94	43.4	1.56	0.52	0.75	1	40	1.93	0.53	0.78	1

8.5 TON - LCT102H5E/P (2 COMPRESSORS - PART LOAD / FULL LOAD)

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	2160	79.1	4.54	0.67	0.83	0.93	73.3	5.19	0.69	0.83	0.96	67.2	5.91	0.7	0.86	0.99	60.8	6.69	0.71	0.89	1
	2700	85.4	4.52	0.74	0.88	1	79.3	5.18	0.75	0.91	1	72.8	5.9	0.78	0.94	1	66	6.71	0.8	0.98	1
	3240	90.2	4.48	0.8	0.95	1	83.8	5.16	0.82	0.98	1	77.2	5.9	0.85	1	1	70.4	6.7	0.88	1	1
67°F	2160	85	4.5	0.53	0.65	0.78	78.5	5.16	0.53	0.67	0.8	71.8	5.89	0.53	0.68	0.83	64.6	6.68	0.53	0.69	0.86
	2700	89.9	4.47	0.56	0.71	0.86	83.3	5.14	0.57	0.73	0.88	76.1	5.88	0.58	0.74	0.91	68.5	6.69	0.58	0.78	0.95
	3240	93.1	4.45	0.61	0.78	0.92	86.4	5.13	0.62	0.8	0.95	79.4	5.88	0.62	0.82	0.99	72	6.69	0.64	0.86	1
71°F	2160	91.4	4.46	0.4	0.52	0.63	84.9	5.13	0.39	0.52	0.64	78	5.88	0.37	0.52	0.65	70.8	6.69	0.37	0.52	0.67
	2700	96.1	4.44	0.42	0.56	0.7	89.4	5.12	0.4	0.56	0.71	82.4	5.87	0.4	0.57	0.73	74.5	6.68	0.39	0.58	0.77
	3240	99.7	4.37	0.44	0.59	0.76	92.6	5.1	0.43	0.6	0.77	85.5	5.81	0.42	0.62	0.79	77.3	6.69	0.43	0.63	0.82

8.5 TON - LCT102H5E/P (2 COMPRESSORS - FULL LOAD)

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	2720	99.7	5.43	0.7	0.82	0.94	93.7	6.16	0.7	0.84	0.96	87.1	7.01	0.72	0.86	0.99	80.4	8.08	0.73	0.88	1
	3400	106.3	5.42	0.75	0.89	1	99.8	6.15	0.77	0.91	1	93	6.99	0.78	0.94	1	85.9	8.03	0.81	0.98	1
	4080	111.1	5.36	0.81	0.96	1	104.5	6.14	0.83	0.99	1	97.6	6.99	0.85	1	1	90.5	7.96	0.88	1	1
67°F	2720	104.6	5.41	0.54	0.67	0.79	97.7	6.14	0.54	0.68	0.81	90.9	6.98	0.55	0.69	0.83	83.5	8.04	0.54	0.72	0.85
	3400	110.1	5.35	0.58	0.73	0.86	103.1	6.13	0.59	0.76	0.89	96.1	6.95	0.6	0.76	0.91	88.8	7.99	0.6	0.78	0.95
	4080	114.2	5.41	0.62	0.79	0.93	107.3	6.15	0.63	0.81	0.96	100.3	6.97	0.64	0.83	0.99	92.6	7.93	0.66	0.85	1
71°F	2720	111.7	5.42	0.41	0.53	0.66	104.7	6.12	0.4	0.54	0.67	97.8	6.95	0.4	0.54	0.67	90.1	7.98	0.38	0.54	0.7
	3400	116.8	5.4	0.43	0.58	0.72	109.7	6.08	0.41	0.57	0.73	101.9	6.95	0.42	0.59	0.74	94.3	7.91	0.42	0.61	0.75
	4080	120.7	5.38	0.44	0.61	0.76	113.2	6.13	0.45	0.63	0.78	105.3	6.96	0.45	0.64	0.8	96.8	7.88	0.45	0.66	0.82

RATINGS

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

10 TON - LCT120H5E/P (1 COMPRESSOR - 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	1920	51.5	1.56	0.79	1	1	48.9	1.87	0.81	1	1	46.2	2.2	0.83	1	1	43	2.58	0.86	1	1
	2400	55.1	1.55	0.86	1	1	52.2	1.85	0.88	1	1	49.3	2.19	0.91	1	1	45.9	2.57	1	1	1
	2880	57.8	1.53	0.92	1	1	54.7	1.84	1	1	1	51.7	2.19	1	1	1	48.1	2.56	1	1	1
67°F	1920	54	1.55	0.62	0.77	0.92	51	1.86	0.63	0.79	1	47.9	2.2	0.63	0.81	1	44.3	2.57	0.65	0.84	1
	2400	56.6	1.54	0.66	0.84	1	53.3	1.85	0.68	0.87	1	50	2.19	0.69	0.89	1	46.2	2.57	0.7	0.93	1
	2880	58.4	1.53	0.71	0.91	1	55	1.84	0.72	0.97	1	51.7	2.18	0.74	1	1	48.1	2.56	0.76	1	1
71°F	1920	57.3	1.54	0.46	0.61	0.76	54.1	1.85	0.46	0.62	0.77	50.8	2.19	0.46	0.63	0.79	47.1	2.56	0.46	0.64	0.82
	2400	59.7	1.53	0.48	0.66	0.82	56.3	1.84	0.48	0.67	0.85	52.9	2.18	0.49	0.69	0.87	48.9	2.56	0.49	0.7	0.91
	2880	61.4	1.52	0.51	0.71	0.89	57.9	1.83	0.51	0.72	0.92	54	2.18	0.52	0.74	1	50.1	2.56	0.52	0.77	1

10 TON - LCT120H5E/P (2 COMPRESSORS - PART LOAD / FULL LOAD)

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	2560	98	5.68	0.66	0.81	0.92	91.8	6.54	0.68	0.82	0.95	85.4	7.51	0.68	0.84	0.98	78.5	8.59	0.7	0.87	1
	3200	104.9	5.7	0.72	0.88	1	98.6	6.55	0.74	0.9	1	92.3	7.5	0.77	0.92	1	84.7	8.6	0.77	0.96	1
	3840	110.5	5.69	0.78	0.94	1	103.9	6.51	0.8	0.97	1	96.9	7.53	0.83	1	1	89.6	8.6	0.86	1	1
67°F	2560	104.6	5.68	0.53	0.64	0.77	98	6.54	0.52	0.66	0.79	91.1	7.48	0.53	0.66	0.81	83.5	8.57	0.52	0.68	0.84
	3200	110.3	5.67	0.55	0.69	0.85	103.3	6.51	0.56	0.71	0.87	95.8	7.51	0.57	0.74	0.89	88.1	8.56	0.58	0.77	0.93
	3840	114.5	5.67	0.59	0.76	0.91	107.4	6.55	0.6	0.78	0.94	99.5	7.5	0.62	0.82	0.97	91.7	8.58	0.62	0.84	1
71°F	2560	112.2	5.67	0.4	0.51	0.62	105.3	6.55	0.39	0.52	0.63	98.1	7.45	0.37	0.51	0.65	90.4	8.57	0.37	0.52	0.66
	3200	118	5.68	0.42	0.56	0.68	110.8	6.54	0.4	0.55	0.69	102.9	7.47	0.4	0.56	0.72	94.8	8.59	0.39	0.57	0.74
	3840	122.1	5.69	0.42	0.59	0.74	114.3	6.53	0.42	0.59	0.76	106.5	7.53	0.43	0.6	0.79	97.6	8.54	0.43	0.61	0.8

10 TON - LCT120H5E/P (2 COMPRESSORS - FULL LOAD)

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	3200	121.5	7.07	0.68	0.8	0.92	114.3	8.03	0.69	0.82	0.95	107	9.14	0.7	0.84	0.98	99.7	10.38	0.72	0.87	1
	4000	128.7	7.1	0.74	0.88	1	121.5	8.06	0.75	0.9	1	113.8	9.18	0.77	0.92	1	105.4	10.43	0.79	0.96	1
	4800	134.4	7.11	0.79	0.94	1	126.9	8.09	0.81	0.97	1	118.9	9.22	0.83	1	1	110.3	10.45	0.86	1	1
67°F	3200	127.5	7.1	0.53	0.66	0.78	119.8	8.05	0.53	0.66	0.79	111.5	9.16	0.54	0.68	0.81	103.7	10.4	0.54	0.7	0.84
	4000	133.4	7.13	0.56	0.71	0.85	125.7	8.09	0.57	0.73	0.87	117.3	9.2	0.58	0.74	0.9	108.9	10.45	0.59	0.77	0.93
	4800	138.1	7.2	0.6	0.77	0.92	130.1	8.13	0.61	0.79	0.95	122.1	9.23	0.62	0.81	0.98	112.8	10.46	0.63	0.84	1
71°F	3200	135.5	7.17	0.4	0.52	0.63	127.9	8.1	0.39	0.53	0.65	119.5	9.21	0.39	0.53	0.66	110.6	10.45	0.38	0.53	0.67
	4000	141.6	7.18	0.42	0.56	0.7	133	8.16	0.41	0.57	0.71	124.7	9.26	0.41	0.58	0.73	114.7	10.47	0.42	0.59	0.74
	4800	145.9	7.22	0.43	0.6	0.74	137	8.16	0.43	0.61	0.76	128.3	9.29	0.44	0.62	0.78	118.4	10.51	0.44	0.63	0.81

RATINGS

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

12.5 TON - LCT150H5E/P (1 COMPRESSOR - 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	2080	57.9	2.15	0.77	0.95	1	55	2.48	0.78	0.99	1	51.7	2.84	0.8	1	1	48.5	3.26	0.82	1	1
	2600	61.6	2.14	0.82	1	1	58.8	2.47	1	1	1	55.6	2.84	0.87	1	1	52	3.26	0.92	1	1
	3120	64.9	2.14	0.89	1	1	61.5	2.46	0.94	1	1	58.2	2.84	0.99	1	1	54.6	3.26	1	1	1
67°F	2080	60.8	2.14	0.6	0.75	0.89	56.5	2.47	0.61	0.61	0.61	54	2.84	0.62	0.78	0.98	50.6	3.26	0.62	0.8	1
	2600	64	2.14	0.64	0.81	1	60.5	2.47	0.65	0.83	1	57.1	2.84	0.66	0.85	1	52.9	3.26	0.68	0.88	1
	3120	66.4	2.13	0.68	0.87	1	62.4	2.46	0.69	0.9	1	58.6	2.83	0.71	0.95	1	54.7	3.26	0.73	1	1
71°F	2080	64.6	2.14	0.45	0.6	0.73	66.2	2.45	1	1	1	57.6	2.84	0.45	0.61	0.77	53.8	3.26	0.45	0.62	0.78
	2600	67.8	2.13	0.48	0.64	0.79	63.9	2.46	0.47	0.65	0.81	60.1	2.83	0.47	0.66	0.83	56.2	3.25	0.48	0.67	0.86
	3120	70	2.12	0.5	0.68	0.85	65.9	2.45	0.49	0.69	0.87	61.8	2.82	0.5	0.71	0.92	57.9	3.25	0.5	0.72	0.98

12.5 TON - LCT150H5E/P (2 COMPRESSORS - PART LOAD / FULL LOAD)

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	3200	120.5	7.74	0.66	0.81	0.93	113.7	8.78	0.67	0.83	0.95	106.3	9.89	0.69	0.84	0.98	98.7	11.27	0.69	0.87	1
	4000	128.6	7.77	0.7	0.88	1	121.3	8.81	0.72	0.9	1	113.6	9.96	0.76	0.93	1	105.2	11.25	0.79	0.97	1
	4800	135.2	7.81	0.78	0.94	1	127.4	8.85	0.8	0.97	1	119.3	10.07	0.83	1	1	110.8	11.38	0.86	1	1
67°F	3200	129.1	7.76	0.52	0.64	0.77	121.4	8.83	0.51	0.64	0.79	112.6	9.97	0.52	0.67	0.81	104.2	11.23	0.52	0.68	0.84
	4000	135.4	7.8	0.55	0.69	0.85	127	8.84	0.56	0.71	0.87	118.5	9.99	0.56	0.72	0.9	109.1	11.34	0.58	0.76	0.93
	4800	140.2	7.83	0.58	0.76	0.92	131.7	8.87	0.59	0.78	0.95	122.5	10.03	0.61	0.82	0.98	113.2	11.33	0.62	0.84	1
71°F	3200	137.9	7.81	0.39	0.51	0.62	129.9	8.86	0.38	0.51	0.62	121.4	10.05	0.38	0.51	0.63	112.1	11.37	0.38	0.52	0.65
	4000	144.9	7.86	0.41	0.54	0.66	136.2	8.9	0.4	0.55	0.69	127.2	10.06	0.41	0.55	0.7	117.2	11.33	0.4	0.56	0.74
	4800	149.8	7.88	0.42	0.57	0.74	140.2	8.92	0.42	0.59	0.75	130.9	10.08	0.42	0.59	0.78	120.8	11.35	0.43	0.61	0.8

12.5 TON - LCT150H5E/P (2 COMPRESSORS - FULL LOAD)

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	145.5	9.17	0.68	0.82	0.95	137.5	10.32	0.7	0.83	0.97	128.6	11.65	0.72	0.86	1	119.3	13.09	0.73	0.89	1
	5000	153.7	9.26	0.74	0.89	1	145.2	10.44	0.76	0.92	1	136.2	11.76	0.78	0.95	1	126.2	13.19	0.81	0.99	1
	6000	160.4	9.32	0.8	0.96	1	151.4	10.51	0.82	1	1	141.8	11.81	0.85	1	1	132.1	13.36	0.88	1	1
67°F	4000	153	9.24	0.54	0.66	0.79	144	10.4	0.55	0.68	0.81	134.1	11.69	0.54	0.69	0.83	123.6	13.21	0.56	0.72	0.86
	5000	159.3	9.31	0.58	0.72	0.87	149.6	10.47	0.58	0.74	0.89	139.9	11.77	0.59	0.76	0.92	129.8	13.32	0.61	0.79	0.96
	6000	164.2	9.37	0.62	0.78	0.94	155	10.55	0.61	0.81	0.97	144.9	11.84	0.63	0.83	1	134.4	13.29	0.65	0.86	1
71°F	4000	162.3	9.35	0.41	0.53	0.65	153.2	10.52	0.4	0.54	0.66	143.1	11.82	0.4	0.54	0.67	132.7	13.27	0.39	0.55	0.69
	5000	169	9.43	0.43	0.56	0.71	159.1	10.6	0.43	0.58	0.72	148.5	11.9	0.42	0.59	0.75	137.5	13.34	0.43	0.6	0.76
	6000	174.2	9.5	0.44	0.61	0.75	163.2	10.66	0.44	0.62	0.77	152.7	11.96	0.45	0.64	0.8	141.1	13.5	0.45	0.64	0.83

HUMIDITROL® DEHUMIDIFICATION SYSTEM RATINGS

7.5 TON - LCT092H5E 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	1440	33.1	2.3	.55	.73	.92	25.4	2.5	.50	.73	.97	21.0	2.5	.39	.72	1.00	13.1	2.8	.13	.70	1.00
	1800	39.9	2.1	.62	.82	.96	30.8	2.3	.58	.84	.99	22.5	2.5	.50	.87	1.00	13.9	2.8	.31	.94	1.00
	2160	42.0	2.1	.68	.91	.96	28.7	2.5	.65	.96	.97	23.6	2.5	.61	.99	.99	14.8	2.9	.48	1.00	1.00
67°F	1440	41.0	2.1	.38	.56	.71	33.2	2.3	.29	.51	.69	25.6	2.6	.15	.44	.69	17.7	2.9	-.13	.30	.67
	1800	44.5	2.1	.43	.62	.79	31.8	2.5	.35	.56	.80	27.0	2.6	.21	.53	.82	18.4	2.9	-.06	.43	.85
	2160	46.7	2.1	.43	.68	.87	33.3	2.5	.40	.64	.90	27.7	2.5	.27	.63	.95	18.8	2.9	.00	.56	1.00
71°F	1440	46.2	2.1	.25	.40	.55	34.5	2.5	.15	.29	.51	30.2	2.6	-.02	.24	.46	22.5	2.9	-.30	.06	.37
	1800	49.4	2.1	.22	.45	.62	36.8	2.5	.18	.34	.59	31.5	2.6	.01	.29	.55	23.4	2.9	-.29	.13	.49
	2160	51.9	2.1	.29	.49	.67	38.4	2.5	.19	.39	.66	33.1	2.6	.02	.35	.64	23.8	2.9	-.27	.19	.59

7.5 TON - LCT092H5E 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	2400	80.3	3.8	.55	.69	.81	68.5	4.2	.51	.68	.82	56.7	4.7	.46	.67	.83	43.9	5.3	.39	.65	.85
	3000	87.0	3.8	.61	.75	.88	74.3	4.2	.58	.75	.90	61.6	4.7	.56	.75	.95	48.4	5.3	.49	.75	.96
	3600	91.9	3.8	.65	.81	.94	78.4	4.2	.65	.82	.95	64.8	4.7	.63	.83	.96	50.6	5.3	.59	.85	.97
67°F	2400	88.6	3.8	.40	.54	.67	76.8	4.2	.35	.52	.67	64.2	4.7	.28	.48	.65	52.3	5.3	.18	.43	.64
	3000	94.4	3.8	.43	.59	.74	81.3	4.2	.38	.59	.74	67.9	4.7	.31	.56	.74	54.8	5.3	.24	.52	.73
	3600	98.1	3.8	.47	.66	.80	84.4	4.2	.42	.64	.80	70.4	4.7	.38	.63	.81	56.5	5.3	.28	.60	.82
71°F	2400	91.7	3.9	.25	.38	.51	86.1	4.2	.21	.36	.51	74.0	4.7	.14	.31	.48	61.0	5.3	.02	.23	.44
	3000	103.8	3.9	.29	.44	.59	90.6	4.2	.20	.40	.57	77.5	4.7	.15	.36	.56	63.4	5.3	.04	.28	.52
	3600	106.4	3.9	.31	.49	.65	88.5	4.4	.21	.43	.64	78.8	4.7	.16	.41	.62	64.8	5.3	.04	.34	.59

8.5 TON - LCT102H5E 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	1600	35.7	2.2	.56	.73	.91	30.8	2.2	.49	.73	.93	22.4	2.5	.36	.70	.92	13.5	2.7	.04	.64	.92
	2000	43.1	2.1	.63	.84	.93	29.0	2.4	.58	.85	.93	23.9	2.5	.47	.87	.93	14.5	2.8	.23	.89	.92
	2400	45.6	2.1	.70	.92	.93	31.1	2.4	.67	.93	.93	25.9	2.5	.60	.93	.93	16.2	2.8	.45	.93	.93
67°F	1600	44.9	2.1	.40	.57	.72	31.9	2.4	.30	.47	.69	27.2	2.5	.13	.42	.68	18.4	2.8	-.20	.25	.64
	2000	47.9	2.1	.40	.64	.81	33.9	2.4	.36	.56	.83	28.7	2.5	.20	.53	.83	19.2	2.8	-.12	.40	.85
	2400	50.4	2.1	.45	.70	.90	35.5	2.4	.41	.65	.92	29.4	2.5	.27	.64	.94	19.5	2.8	-.04	.56	.94
71°F	1600	49.9	2.1	.26	.42	.57	36.9	2.4	.15	.28	.53	32.3	2.5	-.04	.23	.46	23.5	2.8	-.36	.02	.35
	2000	53.3	2.1	.22	.47	.64	39.2	2.4	.18	.35	.61	34.0	2.5	-.01	.30	.56	24.4	2.8	-.34	.11	.48
	2400	55.7	2.0	.32	.52	.70	40.7	2.4	.21	.41	.68	35.0	2.5	.02	.36	.66	24.7	2.8	-.31	.19	.61

8.5 TON - LCT102H5E 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	2720	86.4	4.2	.57	.72	.84	72.2	4.5	.55	.73	.87	57.4	5.2	.52	.74	.91	43.0	5.9	.46	.76	.98
	3400	94.0	4.2	.63	.78	.91	78.7	4.5	.62	.80	.95	63.4	5.1	.63	.82	1.00	47.8	5.9	.58	.86	1.00
	4080	92.6	4.3	.69	.85	.96	83.2	4.5	.69	.86	.96	67.0	5.1	.69	.90	.99	49.8	5.9	.68	.97	1.00
67°F	2720	96.1	4.1	.42	.56	.70	81.7	4.5	.37	.55	.71	66.3	5.1	.31	.52	.71	52.2	5.9	.21	.50	.72
	3400	101.9	4.1	.45	.63	.77	86.6	4.5	.41	.62	.77	69.9	5.1	.35	.61	.81	54.4	5.8	.26	.61	.82
	4080	106.4	4.1	.50	.68	.82	83.4	4.7	.45	.67	.84	73.2	5.1	.40	.68	.87	56.1	5.8	.35	.68	.91
71°F	2720	106.7	4.1	.28	.42	.55	92.1	4.4	.23	.38	.53	77.1	5.1	.15	.34	.52	61.3	5.8	.03	.26	.50
	3400	113.3	4.0	.30	.46	.61	90.6	4.6	.22	.41	.60	81.3	5.1	.17	.39	.60	64.8	5.8	.06	.33	.60
	4080	114.9	4.0	.32	.51	.67	100.1	4.4	.26	.49	.68	82.3	5.0	.18	.45	.66	65.8	5.8	.06	.40	.65

HUMIDITROL® DEHUMIDIFICATION SYSTEM RATINGS

10 TON - LCT120H5E 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	1920	48.6	2.7	.51	.69	.86	38.8	3.0	.39	.67	.87	28.3	3.3	.32	.64	.88	19.4	3.6	.09	.57	.86
	2400	51.7	2.8	.58	.79	.89	41.1	3.0	.49	.79	.89	30.3	3.3	.44	.80	.88	19.8	3.7	.24	.80	.87
	2880	54.1	2.8	.65	.87	.90	43.0	3.1	.58	.88	.90	32.2	3.4	.55	.88	.89	21.1	3.7	.40	.86	.88
67°F	1920	53.9	2.8	.35	.52	.68	44.1	3.0	.19	.47	.66	34.0	3.3	.10	.38	.60	24.3	3.7	-.17	.23	.59
	2400	57.0	2.8	.40	.59	.77	46.3	3.1	.25	.55	.77	35.7	3.4	.17	.49	.77	24.5	3.7	-.11	.37	.78
	2880	59.0	2.9	.44	.65	.85	48.0	3.1	.29	.62	.86	36.7	3.4	.23	.58	.89	25.2	3.8	-.04	.50	.89
71°F	1920	59.2	2.8	.22	.37	.52	49.4	3.1	.03	.30	.48	39.7	3.4	-.07	.19	.42	29.4	3.7	-.35	.01	.32
	2400	62.7	2.9	.23	.42	.59	52.0	3.1	.04	.35	.56	41.4	3.4	-.03	.25	.51	30.3	3.8	-.34	.08	.44
	2880	64.4	2.9	.26	.46	.65	53.8	3.2	.16	.40	.63	42.1	3.5	-.02	.31	.60	30.6	3.8	-.33	.15	.56

10 TON - LCT120H5E 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	3200	102.9	5.3	.54	.68	.79	95.9	5.7	.52	.68	.80	78.8	6.4	.49	.67	.82	64.2	7.3	.43	.66	.84
	4000	119.2	5.1	.59	.74	.86	102.6	6.0	.59	.74	.88	85.1	6.5	.58	.75	.91	68.4	7.4	.52	.76	.93
	4800	123.8	5.2	.65	.79	.90	107.0	6.1	.64	.80	.91	87.7	6.6	.63	.83	.92	70.2	7.4	.61	.85	.92
67°F	3200	121.8	5.1	.40	.54	.66	105.6	5.8	.36	.52	.66	88.5	6.5	.29	.50	.66	73.4	7.3	.23	.46	.65
	4000	127.9	5.2	.43	.59	.72	110.9	6.1	.37	.58	.73	92.9	6.5	.34	.57	.73	75.9	7.4	.26	.54	.74
	4800	131.0	5.2	.46	.65	.78	107.6	6.4	.41	.64	.79	94.7	6.6	.38	.63	.80	76.7	7.4	.33	.62	.83
71°F	3200	132.9	5.2	.27	.40	.52	117.6	6.1	.22	.37	.51	99.8	6.6	.15	.33	.49	83.8	7.4	.06	.26	.47
	4000	128.8	5.5	.29	.42	.58	116.1	6.4	.20	.38	.58	103.2	6.6	.18	.38	.57	86.9	7.5	.08	.31	.56
	4800	141.9	5.3	.30	.46	.63	125.2	6.2	.24	.45	.63	105.4	6.7	.17	.43	.62	87.7	7.5	.08	.37	.60

12.5 TON - LCT150H5E 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	2080	53.8	3.1	.50	.67	.87	42.2	3.4	.45	.67	.88	29.9	3.7	.36	.68	.94	19.1	4.2	.14	.68	1.00
	2600	48.5	3.4	.56	.78	.88	44.9	3.5	.53	.78	.91	31.2	3.8	.46	.84	.93	20.0	4.2	.32	.91	.98
	3120	60.2	3.2	.62	.84	.89	46.9	3.5	.60	.88	.90	34.1	3.9	.57	.93	.93	21.4	4.3	.49	1.00	.96
67°F	2080	59.9	3.2	.34	.50	.66	48.2	3.5	.26	.46	.65	35.4	3.8	.12	.40	.65	25.2	4.2	-.16	.28	.65
	2600	63.5	3.2	.38	.56	.74	50.7	3.5	.30	.54	.75	38.4	3.9	.18	.49	.78	25.6	4.3	-.08	.41	.83
	3120	66.2	3.3	.42	.62	.81	52.7	3.6	.35	.61	.84	39.3	3.9	.23	.59	.89	26.3	4.3	-.01	.54	.96
71°F	2080	65.9	3.3	.20	.36	.50	54.4	3.6	.10	.29	.47	42.7	3.9	-.06	.19	.42	30.7	4.3	-.35	.02	.34
	2600	69.9	3.3	.22	.40	.56	57.1	3.6	.12	.34	.54	44.5	4.0	-.03	.25	.51	32.0	4.4	-.33	.10	.46
	3120	72.7	3.4	.24	.44	.62	59.2	3.7	.15	.39	.61	45.9	4.0	-.01	.31	.59	33.1	4.4	-.31	.17	.57

12.5 TON - LCT150H5E 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	4000	126.6	6.7	.57	.72	.83	108.9	7.9	.56	.72	.85	89.3	8.4	.53	.73	.89	71.3	9.5	.49	.75	.93
	5000	134.8	6.8	.63	.78	.90	116.6	8.0	.62	.79	.95	95.0	8.5	.60	.81	.96	76.1	9.6	.59	.84	.99
	6000	140.2	6.8	.69	.84	.93	107.1	8.4	.69	.89	.96	99.4	8.6	.68	.89	.96	79.7	9.7	.69	.94	.98
67°F	4000	138.9	6.8	.40	.56	.71	121.2	8.0	.37	.54	.70	100.3	8.5	.32	.52	.71	80.7	9.6	.25	.49	.72
	5000	143.8	6.9	.45	.61	.76	119.6	8.4	.41	.60	.79	104.1	8.6	.38	.60	.79	83.6	9.7	.29	.61	.82
	6000	149.1	6.9	.47	.69	.82	125.8	8.2	.46	.70	.84	106.8	8.7	.42	.68	.87	86.7	9.8	.37	.68	.90
71°F	4000	151.7	6.9	.27	.41	.54	130.5	8.2	.22	.38	.53	113.5	8.7	.15	.33	.53	94.0	9.7	.06	.28	.49
	5000	158.1	7.0	.28	.45	.60	137.6	7.8	.24	.41	.60	117.3	8.8	.18	.38	.60	97.2	9.8	.09	.33	.59
	6000	162.4	7.0	.30	.49	.67	141.0	7.9	.25	.46	.66	119.3	8.8	.18	.43	.68	98.9	9.9	.10	.39	.67

BLOWER DATA

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY (NO HEAT SECTION) WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:

1 − Wet indoor coil air resistance of selected unit.
2 − Any factory installed options air resistance (heat section, Economizer, etc.)
3 − Any field installed accessories air resistance (duct resistance, diffuser, etc.)
See page 32 for wet coil and option/accessory air resistance data.
See page 32 for minimum air volume required for use with optional electric heat.

Total Air Volume cfm	Total Static Pressure - in. w.g.													
	0.2		0.4		0.6		0.8		1.0		1.2		1.4	
	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts
1750	644	137	740	235	796	302	833	343	873	373	996	558	1065	664
2000	675	165	768	260	821	330	861	386	960	507	1026	629	1094	753
2250	711	195	803	290	856	375	901	497	991	564	1058	703	1128	840
2500	764	241	852	335	904	439	951	568	1025	641	1097	789	1170	934
2750	847	316	901	399	946	543	1004	674	1074	746	1146	895	1220	1041
3000	944	426	980	511	1021	671	1074	803	1136	874	1205	1021	1276	1167
3250	1022	544	1057	640	1099	810	1149	942	1207	1012	1272	1156	1338	1304
3500	1092	666	1131	770	1174	948	1225	1081	1281	1151	1342	1297	1402	1451
3750	1161	780	1202	892	1248	1079	1298	1217	1353	1291	1409	1445	1463	1609
4000	1230	888	1273	1010	1319	1212	1369	1362	1421	1441	1471	1608	1518	1784
4250	1299	1006	1342	1140	1388	1362	1436	1526	1483	1612	1528	1790	1571	1975
4500	1366	1142	1409	1289	1454	1532	1498	1708	1542	1798	1583	1984	1623	2172
4750	1432	1295	1474	1457	1516	1719	1558	1903	1598	1997	1637	2187	1674	2377
5000	1496	1471	1537	1645	1577	1921	1616	2110	1654	2205	1690	2396	1726	2586
5250	1560	1667	1598	1849	1636	2132	1673	2324	1709	2419	1744	2609	1779	2796
5500	1623	1878	1659	2064	1695	2349	1731	2539	1765	2634	- - -	- - -	- - -	- - -
5750	1686	2097	1720	2284	1755	2567	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
6000	1748	2316	1781	2502	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -

Total Air Volume cfm	Total Static Pressure - in. w.g.											
	1.6		1.8		2.0		2.2		2.4		2.6	
	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts
1750	1134	775	1203	896	1275	1025	1356	1149	1422	1287	1470	1439
2000	1162	878	1231	1007	1302	1139	1379	1268	1440	1411	1486	1570
2250	1198	975	1268	1111	1338	1250	1409	1388	1464	1542	1507	1711
2500	1243	1075	1313	1217	1380	1365	1442	1517	1491	1685	1533	1860
2750	1293	1186	1361	1336	1423	1494	1477	1661	1520	1839	1561	2016
3000	1346	1317	1410	1474	1466	1642	1514	1818	1554	2000	1594	2180
3250	1402	1460	1460	1627	1511	1803	1553	1986	1591	2172	1631	2352
3500	1459	1616	1509	1793	1555	1976	1594	2165	1631	2352	1671	2531
3750	1512	1785	1557	1970	1599	2159	1636	2350	1673	2536	1713	2714
4000	1562	1969	1604	2157	1643	2347	1680	2538	1717	2722	1756	2896
4250	1611	2163	1650	2352	1688	2541	1724	2729	1762	2908	- - -	- - -
4500	1661	2362	1698	2552	1734	2739	1770	2922	- - -	- - -	- - -	- - -
4750	1710	2567	1746	2754	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
5000	1761	2774	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -

BLOWER DATA

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

Air Volume cfm	Wet Indoor Coil		Electric Heat	Economizer	Humiditrol® Reheat Coil	Filters			Return Air Adaptor Plate
	092, 102	120, 150				MERV 8	MERV 13	MERV 16	
1750	0.04	0.04	0.03	0.05	0.02	0.01	0.03	0.06	0.00
2000	0.05	0.05	0.03	0.06	0.02	0.01	0.03	0.08	0.00
2250	0.06	0.06	0.04	0.08	0.02	0.01	0.04	0.09	0.00
2500	0.07	0.07	0.04	0.11	0.03	0.01	0.05	0.10	0.00
2750	0.08	0.08	0.05	0.12	0.03	0.02	0.05	0.11	0.00
3000	0.10	0.09	0.06	0.13	0.03	0.02	0.06	0.12	0.02
3250	0.11	0.10	0.06	0.15	0.04	0.02	0.06	0.13	0.02
3500	0.12	0.11	0.09	0.15	0.04	0.03	0.07	0.15	0.04
3750	0.14	0.13	0.09	0.15	0.05	0.03	0.08	0.16	0.07
4000	0.15	0.14	0.09	0.19	0.05	0.04	0.08	0.17	0.09
4250	0.17	0.15	0.13	0.19	0.06	0.04	0.09	0.19	0.11
4500	0.19	0.17	0.14	0.22	0.07	0.04	0.09	0.20	0.12
4750	0.20	0.18	0.17	0.25	0.07	0.05	0.10	0.21	0.16
5000	0.22	0.20	0.20	0.29	0.08	0.06	0.10	0.23	0.18
5250	0.24	0.22	0.22	0.32	0.08	0.06	0.11	0.24	0.19
5500	0.25	0.23	0.25	0.34	0.09	0.07	0.12	0.25	0.22
5750	0.27	0.25	0.31	0.45	0.10	0.07	0.12	0.27	0.25
6000	0.29	0.27	0.33	0.52	0.10	0.08	0.13	0.28	0.27

MINIMUM AIR VOLUME REQUIRED FOR USE WITH OPTIONAL ELECTRIC HEAT

Electric Heat kW	Minimum cfm
7.5	1750
15	2250
22.5	2250
30	2750
45	2750
60	3500

POWER EXHAUST FAN PERFORMANCE

Return Air System Static Pressure	Air Volume Exhausted
in. w.g.	cfm
0	3175
0.05	2955
0.10	2685
0.15	2410
0.20	2165
0.25	1920
0.30	1420
0.35	1200

BLOWER DATA

CEILING DIFFUSERS AIR RESISTANCE - in. w.g.

Size	RTD11 Step-Down Diffuser				FD11 Flush Diffuser
	Air Volume cfm	2 Ends Open	1 Side, 2 Ends Open	All Ends & Sides Open	
092	2400	0.21	0.18	0.15	0.14
	2600	0.24	0.21	0.18	0.17
	2800	0.27	0.24	0.21	0.20
	3000	0.32	0.29	0.25	0.25
	3200	0.41	0.37	0.32	0.31
	3400	0.50	0.45	0.39	0.37
	3600	0.61	0.54	0.48	0.44
	3800	0.73	0.63	0.57	0.51
102 & 120	3600	0.36	0.28	0.23	0.15
	3800	0.40	0.32	0.26	0.18
	4000	0.44	0.36	0.29	0.21
	4200	0.49	0.40	0.33	0.24
	4400	0.54	0.44	0.37	0.27
	4600	0.60	0.49	0.42	0.31
	4800	0.65	0.53	0.46	0.35
	5000	0.69	0.58	0.50	0.39
	5200	0.75	0.62	0.54	0.43
150	4200	0.22	0.19	0.16	0.10
	4400	0.28	0.24	0.20	0.12
	4600	0.34	0.29	0.24	0.15
	4800	0.40	0.34	0.29	0.19
	5000	0.46	0.39	0.34	0.23
	5200	0.52	0.44	0.39	0.27
	5400	0.58	0.49	0.43	0.31
	5600	0.64	0.54	0.47	0.35
	5800	0.70	0.59	0.51	0.39

CEILING DIFFUSER AIR THROW DATA

Size	Air Volume	[1] Effective Throw Range	
		RTD11 Step-Down	FD11 Flush
	cfm	ft.	ft.
092	2600	24 - 29	19 - 24
	2800	25 - 30	20 - 28
	3000	27 - 33	21 - 29
	3200	28 - 35	22 - 29
	3400	30 - 37	22 - 30
102, 120	3600	25 - 33	22 - 29
	3800	27 - 35	22 - 30
	4000	29- 37	24 - 33
	4200	32 - 40	26 - 35
	4400	34 - 42	28 - 37
150	5600	39 - 49	28 - 37
	5800	42 - 51	29 - 38
	6000	44 - 54	40 - 50
	6200	45 - 55	42 - 51
	6400	46 - 55	43 - 52
	6600	47 - 56	45 - 56

[1] Throw is the horizontal or vertical distance an air stream travels on leaving the outlet or diffuser before the maximum velocity is reduced to 50 ft. per minute. Four sides open.

ELECTRICAL/ELECTRIC HEAT DATA — 7.5 TON

Model			LCT092H5E / LCT092H5P		
[1] Voltage - 60Hz			208/230V-3ph	460V-3ph	575V-3ph
Compressor 1 (Non-Inverter)	Rated Load Amps		11.9	6.8	4.8
	Locked Rotor Amps		112	61.8	39
Compressor 2 (Non-Inverter)	Rated Load Amps		12.2	6.4	5.1
	Locked Rotor Amps		120.4	50	41
Outdoor Fan Motors (2)	Full Load Amps (2 Non-ECM)		2.4	1.3	1
	Total		4.8	2.6	2
Power Exhaust (1) 0.33 HP	Full Load Amps		2.4	1.3	1
Service Outlet 115V GFI (amps)			15	15	20
Indoor Blower Motor	HP		3.75	3.75	3.75
	Full Load Amps		8	4.2	3.6
[2] Maximum Overcurrent Protection (MOCP)	Unit Only		50	25	20
	With (1) 0.33 HP Power Exhaust		50	25	20
[3] Minimum Circuit Ampacity (MCA)	Unit Only		40	22	17
	With (1) 0.33 HP Power Exhaust		43	24	18

ELECTRIC HEAT DATA

Electric Heat Voltage			208V	240V	480V	600V
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	**7.5 kW**	50	50	25	20
		15 kW	[4] 50	60	30	25
		22.5 kW	[4] 70	80	40	35
		30 kW	[4] 90	110	60	45
		45 kW	150	150	80	60
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	**7.5 kW**	40	40	22	17
		15 kW	50	56	28	23
		22.5 kW	69	78	40	32
		30 kW	89	101	51	41
		45 kW	128	146	73	59
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	**7.5 kW**	50	50	25	20
		15 kW	60	60	30	25
		22.5 kW	[4] 80	90	45	35
		30 kW	[4] 100	110	60	45
		45 kW	150	150	80	60
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	**7.5 kW**	43	43	24	18
		15 kW	53	59	30	24
		22.5 kW	72	81	41	33
		30 kW	92	104	52	42
		45 kW	131	149	75	60

ELECTRICAL ACCESSORIES

Disconnect	**7.5 kW**	**54W56**	**54W56**	**54W56**	**54W56**
	15 kW	**54W56**	**54W56**	**54W56**	**54W56**
	22.5 kW	**54W56**	**54W56**	**54W56**	**54W56**
	30 kW	**54W57**	**54W57**	**54W56**	**54W56**
	45 kW	**54W57**	**54W57**	**54W56**	**54W56**

Disconnects - 54W56 - 80A
54W57 - 150A

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5kA.

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

[2] 2 HACR type breaker or fuse.

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

[4] 4 Factory installed circuit breaker not available.

ELECTRICAL/ELECTRIC HEAT DATA — 8.5 TON

Model			LCT102H5E/ LCT102H5P		
[1] Voltage - 60Hz			208/230V-3ph	460V-3ph	575V-3ph
Compressor 1 (Non-Inverter)	Rated Load Amps		11.9	6.8	4.8
	Locked Rotor Amps		112	61.8	39
Compressor 2 (Non-Inverter)	Rated Load Amps		12.8	6	5.8
	Locked Rotor Amps		120.4	49.4	41
Outdoor Fan Motors (2)	Full Load Amps (2 Non-ECM)		2.4	1.3	1
	Total		4.8	2.6	2
Power Exhaust (1) 0.33 HP	Full Load Amps		2.4	1.3	1
Service Outlet 115V GFI (amps)			15	15	20
Indoor Blower Motor	HP		3.75	3.75	3.75
	Full Load Amps		8	4.2	3.6
[2] Maximum Overcurrent Protection (MOCP)	Unit Only		50	25	20
	With (1) 0.33 HP Power Exhaust		50	25	20
[3] Minimum Circuit Ampacity (MCA)	Unit Only		41	22	18
	With (1) 0.33 HP Power Exhaust		44	23	19

ELECTRIC HEAT DATA

Electric Heat Voltage			208V	240V	480V	600V
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	**7.5 kW**	50	50	25	20
		15 kW	[4] 50	60	30	25
		22.5 kW	[4] 70	80	40	35
		30 kW	[4] 90	110	60	45
		45 kW	150	150	80	60
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	**7.5 kW**	41	41	22	18
		15 kW	50	56	28	23
		22.5 kW	69	78	40	32
		30 kW	89	101	51	41
		45 kW	128	146	73	59
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	**7.5 kW**	50	50	25	20
		15 kW	60	60	30	25
		22.5 kW	[4] 80	90	45	35
		30 kW	[4] 100	110	60	45
		45 kW	150	150	80	60
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	**7.5 kW**	44	44	23	19
		15 kW	53	59	30	24
		22.5 kW	72	81	41	33
		30 kW	92	104	52	42
		45 kW	131	149	75	60

ELECTRICAL ACCESSORIES

Disconnect	**7.5 kW**	**54W56**	**54W56**	**54W56**	**54W56**
	15 kW	**54W56**	**54W56**	**54W56**	**54W56**
	22.5 kW	**54W56**	**54W56**	**54W56**	**54W56**
	30 kW	**54W57**	**54W57**	**54W56**	**54W56**
	45 kW	**54W57**	**54W57**	**54W56**	**54W56**

Disconnects - 54W56 - 80A
54W57 - 150A

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5kA.

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

[2] 2 HACR type breaker or fuse.

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

[4] 4 Factory installed circuit breaker not available.

ELECTRICAL/ELECTRIC HEAT DATA — 10 TON

Model			LCT120H5E/ LCT120H5P		
[1] Voltage - 60Hz			208/230V-3ph	460V-3ph	575V-3ph
Compressor 1 (Non-Inverter)		Rated Load Amps	13.8	6.9	5.8
		Locked Rotor Amps	150	58	47.8
Compressor 2 (Non-Inverter)		Rated Load Amps	16	7.1	6.4
		Locked Rotor Amps	156.4	69	47.8
Outdoor Fan Motors (2)		Full Load Amps (2 Non-ECM)	3	1.5	1.2
		Total	6	3	2.4
Power Exhaust (1) 0.33 HP		Full Load Amps	2.4	1.3	1
Service Outlet 115V GFI (amps)			15	15	20
Indoor Blower Motor		HP	3.75	3.75	3.75
		Full Load Amps	8	4.2	3.6
[2] Maximum Overcurrent Protection (MOCP)		Unit Only	60	30	25
		With (1) 0.33 HP Power Exhaust	60	30	25
[3] Minimum Circuit Ampacity (MCA)		Unit Only	48	23	20
		With (1) 0.33 HP Power Exhaust	51	25	21

ELECTRIC HEAT DATA

Electric Heat Voltage			208V	240V	480V	600V
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	**15 kW**	60	60	30	25
		22.5 kW	[4] 70	80	40	35
		30 kW	[4] 90	110	60	45
		45 kW	150	150	80	60
		60 kW	[4] 150	175	80	70
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	**15 kW**	50	56	28	23
		22.5 kW	69	78	40	32
		30 kW	89	101	51	41
		45 kW	128	146	73	59
		60 kW	136	155	78	63
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	**15 kW**	60	60	30	25
		22.5 kW	[4] 80	90	45	35
		30 kW	[4] 100	110	60	45
		45 kW	150	150	80	60
		60 kW	[4] 150	175	80	70
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	**15 kW**	53	59	30	24
		22.5 kW	72	81	41	33
		30 kW	92	104	52	42
		45 kW	131	149	75	60
		60 kW	139	158	80	64

ELECTRICAL ACCESSORIES

Disconnect	**15 kW**	**54W56**	**54W56**	**54W56**	**54W56**
	22.5 kW	**54W56**	**54W56**	**54W56**	**54W56**
	30 kW	**54W57**	**54W57**	**54W56**	**54W56**
	45 kW	**54W57**	**54W57**	**54W56**	**54W56**
	60 kW	**N/A**	**N/A**	**54W57**	**54W56**

Disconnects - 54W56 - 80A
54W57 - 150A

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5kA.

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

[2] 2 HACR type breaker or fuse.

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

[4] 4 Factory installed circuit breaker not available.

ELECTRICAL/ELECTRIC HEAT DATA — 12.5 TON

Model			LCT150H5E/ LCT150H5P		
[1] Voltage - 60Hz			208/230V-3ph	460V-3ph	575V-3ph
Compressor 1 (Non-Inverter)		Rated Load Amps	19.2	9.1	6.2
		Locked Rotor Amps	162.3	70.8	58.2
Compressor 2 (Non-Inverter)		Rated Load Amps	22.4	9.1	7.2
		Locked Rotor Amps	166.2	74.6	54
Outdoor Fan Motors (2)		Full Load Amps (2 Non-ECM)	3	1.5	1.2
		Total	6	3	2.4
Power Exhaust (1) 0.33 HP		Full Load Amps	2.4	1.3	1
Service Outlet 115V GFI (amps)			15	15	20
Indoor Blower Motor		HP	3.75	3.75	3.75
		Full Load Amps	8	4.2	3.6
[2] Maximum Overcurrent Protection (MOCP)		Unit Only	80	35	25
		With (1) 0.33 HP Power Exhaust	80	35	25
[3] Minimum Circuit Ampacity (MCA)		Unit Only	62	28	22
		With (1) 0.33 HP Power Exhaust	64	29	23

ELECTRIC HEAT DATA

Electric Heat Voltage			208V	240V	480V	600V
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	**15 kW**	80	80	35	25
		22.5 kW	80	80	40	35
		30 kW	[4] 90	110	60	45
		45 kW	150	150	80	60
		60 kW	[4] 150	175	80	70
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	**15 kW**	62	62	28	23
		22.5 kW	69	78	40	32
		30 kW	89	101	51	41
		45 kW	128	146	73	59
		60 kW	136	155	78	63
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	**15 kW**	80	80	35	25
		22.5 kW	[4] 80	90	45	35
		30 kW	[4] 100	110	60	45
		45 kW	150	150	80	60
		60 kW	[4] 150	175	80	70
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	**15 kW**	64	64	30	24
		22.5 kW	72	81	41	33
		30 kW	92	104	52	42
		45 kW	131	149	75	60
		60 kW	139	158	80	64

ELECTRICAL ACCESSORIES

Disconnect	**15 kW**	**54W56**	**54W56**	**54W56**	**54W56**
	22.5 kW	**54W56**	**54W56**	**54W56**	**54W56**
	30 kW	**54W57**	**54W57**	**54W56**	**54W56**
	45 kW	**54W57**	**54W57**	**54W56**	**54W56**
	60 kW	**N/A**	**N/A**	**54W57**	**54W56**

Disconnects - 54W56 - 80A
54W57 - 150A

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5kA.

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

[2] 2 HACR type breaker or fuse.

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

[4] 4 Factory installed circuit breaker not available.

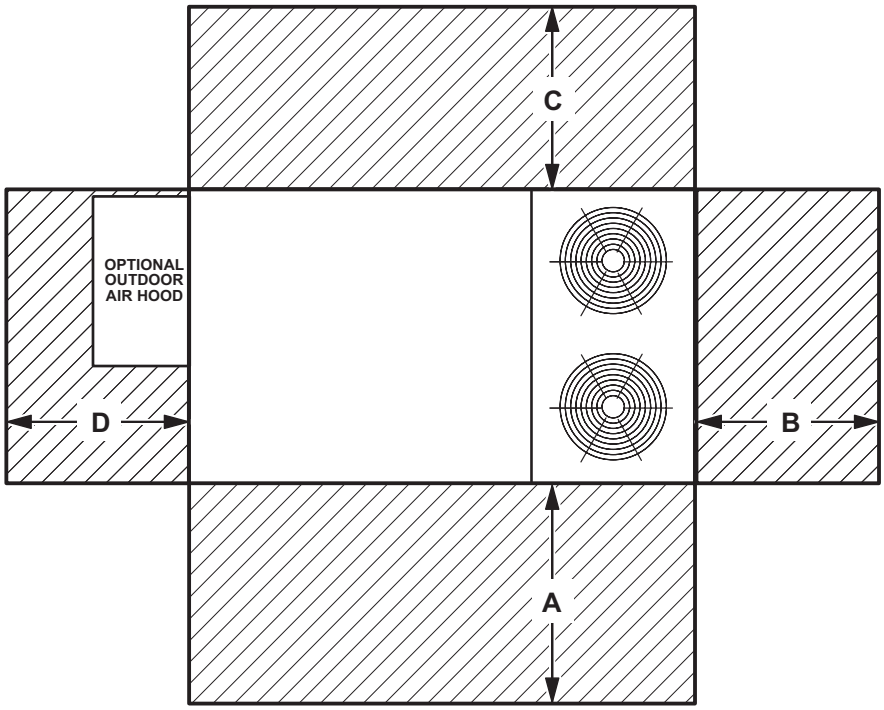
ELECTRIC HEAT CAPACITIES

Volts Input	7.5 kW			15 kW			22.5 kW			30 kW			45 kW			60 kW		
	kW Input	Btuh Output	Stages	kW Input	Btuh Output	Stages	kW Input	Btuh Output	Stages	kW Input	Btuh Output	Stages	kW Input	Btuh Output	Stages	kW Input	Btuh Output	Stages
208	5.6	19,100	1	11.3	38,600	1	16.9	57,700	2	22.5	76,800	2	33.8	115,300	2	45.0	153,600	2
220	6.3	21,500	1	12.6	43,000	1	18.9	64,500	2	25.2	86,000	2	37.8	129,000	2	50.4	172,000	2
230	6.9	23,600	1	13.8	47,100	1	20.7	70,700	2	27.5	93,900	2	41.3	141,000	2	55.1	188,000	2
240	7.5	25,600	1	15.0	51,200	1	22.5	76,800	2	30.0	102,400	2	45.0	153,600	2	60.0	204,800	2
440	6.9	21,500	1	12.6	43,000	1	18.9	64,500	2	25.2	86,000	2	37.8	129,000	2	50.4	172,000	2
460	6.9	23,600	1	13.8	47,100	1	20.7	70,700	2	27.5	93,900	2	41.3	141,000	2	55.1	188,000	2
480	7.5	25,600	1	15.0	51,200	1	22.5	76,800	2	30.0	102,400	2	45.0	153,600	2	60.0	204,800	2
550	6.3	21,500	1	12.6	43,000	1	18.9	64,500	2	25.2	86,000	2	37.8	129,000	2	50.4	172,000	2
575	6.9	23,600	1	13.8	47,100	1	20.7	70,700	2	27.5	93,900	2	41.3	141,000	2	55.1	188,000	2
600	7.5	25,600	1	15.0	51,200	1	22.5	76,800	2	30.0	102,400	2	45.0	153,600	2	60.0	204,800	2

FIELD WIRING NOTES

- For use with copper wiring only
- Field wiring not furnished
- All wiring must conform to NEC or CEC and local electrical codes
- For specific wiring information, please refer to the installation instructions

UNIT CLEARANCES



[1] Unit Clearance	A		B		C		D		Top Clearance
	in.	mm	in.	mm	in.	mm	in.	mm	
Service Clearance	60	1524	36	914	36	934	60	1524	Unobstructed
Minimum Operation Clearance	36	914	36	914	36	914	36	914	

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	
092, 102	76	79	84	83	79	73	66	88
120, 150	70	77	85	84	80	78	76	89

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

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

WEIGHT DATA — UNIT

Size	Net		Shipping	
	lbs.	kg	lbs.	kg
092 Base Unit	1040	472	1125	510
092 Max. Unit	1197	543	1282	582
102 Base Unit	1047	475	1132	513
102 Max. Unit	1204	546	1289	585
120 Base Unit	1052	478	1137	517
120 Max. Unit	1216	553	1301	541
150 Base Unit	1072	487	1157	526
150 Max. Unit	1236	562	1321	601

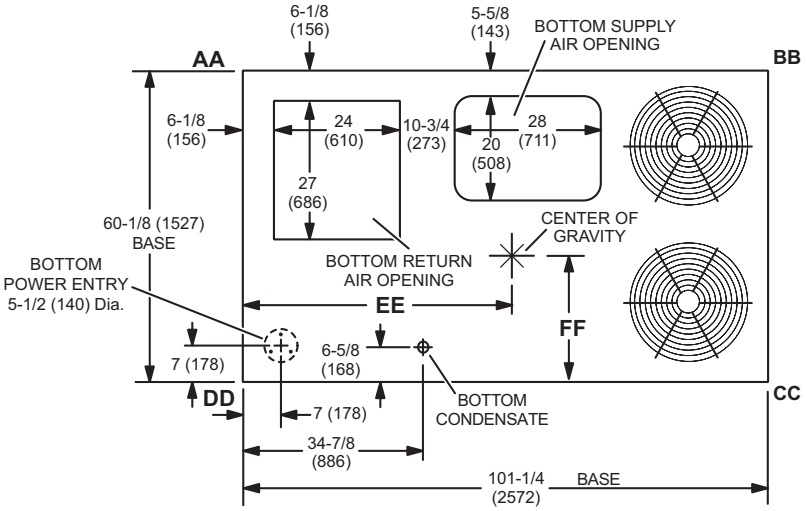
FACTORY / FIELD INSTALLED OPTIONS AND ACCESSORIES - NET WEIGHTS

Description		lbs.	kg
ECONOMIZER / OUTDOOR AIR / EXHAUST			
Economizer			
Economizer Dampers		56	26
Outdoor Air Hood (downflow)		21	10
Barometric Relief Dampers (downflow)		9	4
Barometric Relief Dampers (low profile horizontal)		20	9
Outdoor Air Dampers			
Motorized		10	5
Manual		10	5
Power Exhaust		31	14
ELECTRIC HEAT			
7.5 kW		22	10
15 kW		22	10
22.5 kW		28	13
30 kW		28	13
45 kW		32	15
60 kW		43	20
COMBINATION COIL/HAIL GUARDS			
All models		21	10
ROOF CURBS			
Hybrid Roof Curbs, Downflow			
8 in. height		103	47
14 in. height		125	57
18 in. height		147	67
24 in. height		169	77
Adjustable Pitch Curb, Downflow			
14 in. height		169	77
CEILING DIFFUSERS			
Step-Down	RTD11-95S	118	54
	RTD11-135S	135	61
	RTD11-185S	168	76
Flush	FD11-95S	118	54
	FD11-135S	135	61
	FD11-185S	168	76
Transitions	C1DIFF30B-1	30	14
	C1DIFF31B-1	32	15
	C1DIFF32B-1	36	16
HUMIDITROL® DEHUMIDIFICATION SYSTEM			
Humiditrol® Dehumidification Option		20	9

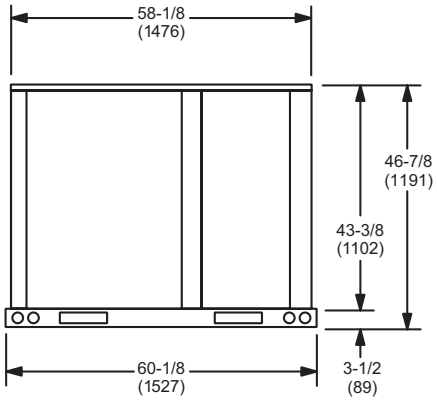
Size	CORNER WEIGHTS																CENTER OF GRAVITY							
	AA				BB				CC				DD				EE				FF			
	Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm	in.	mm	in.	mm
092	281	127	327	148	252	114	286	130	275	125	306	139	312	142	358	162	46.5	1181	45.5	1156	24.5	622	25.5	648
102	282	128	329	149	254	115	287	130	276	125	308	139	314	143	360	163	46.5	1181	45.5	1156	24.5	622	25.5	648
120	294	133	340	154	264	120	297	135	283	128	318	144	321	146	372	169	46.5	1181	45.5	1156	24.5	622	25.5	648
150	304	138	350	159	273	124	306	139	293	133	327	148	332	151	383	174	46.5	1181	45.5	1156	24.5	622	25.5	648

Base Unit - The unit with NO INTERNAL OPTIONS.

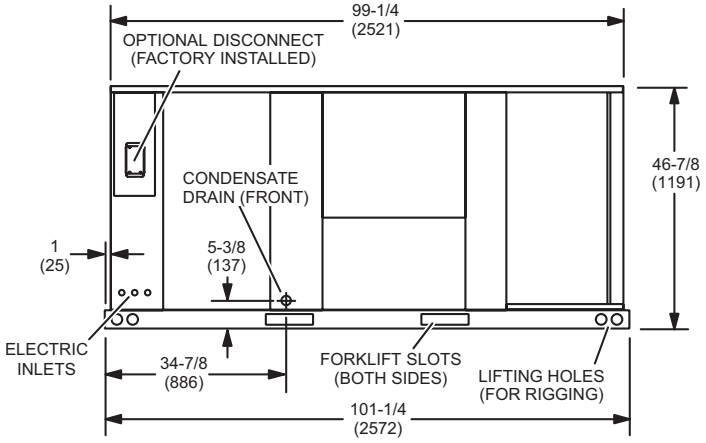
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit or high static power exhaust.



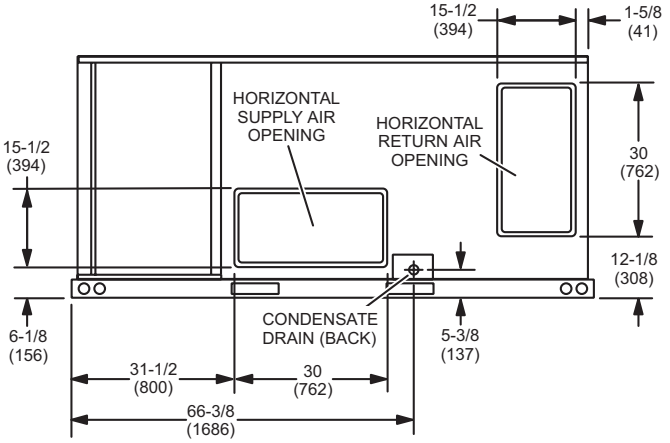
TOP VIEW



END VIEW

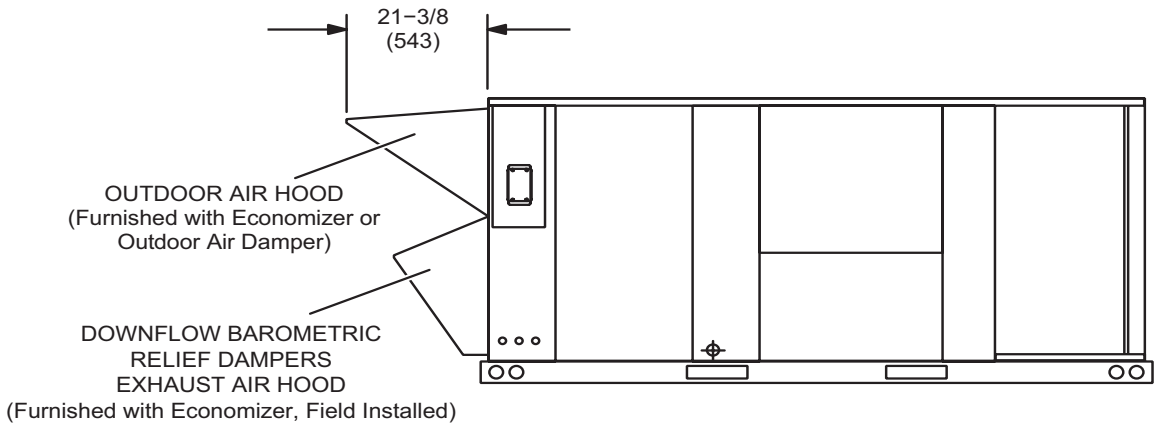


SIDE VIEW

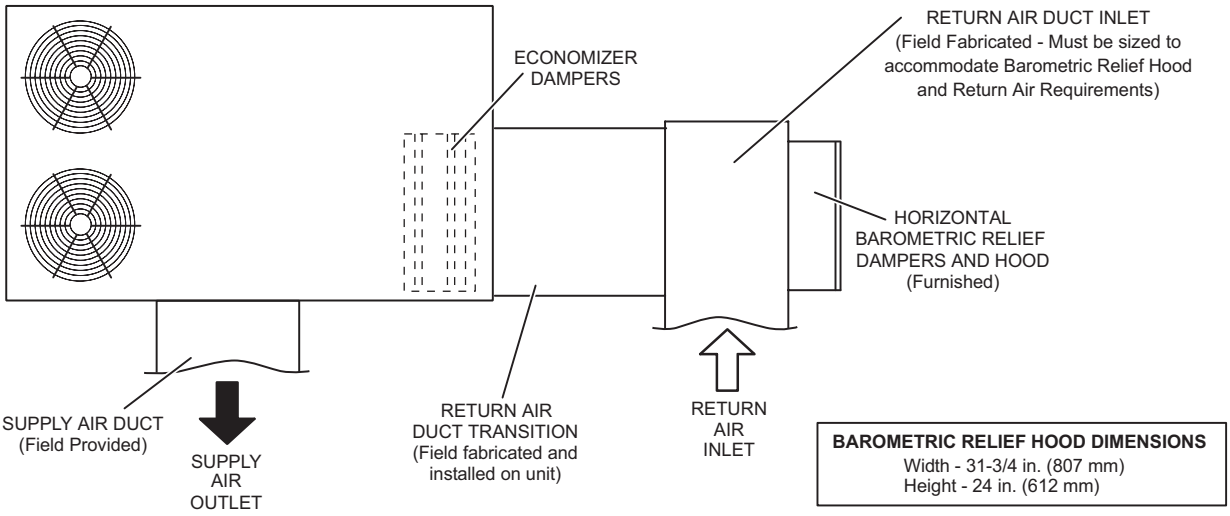


SIDE VIEW
(Horizontal Openings)

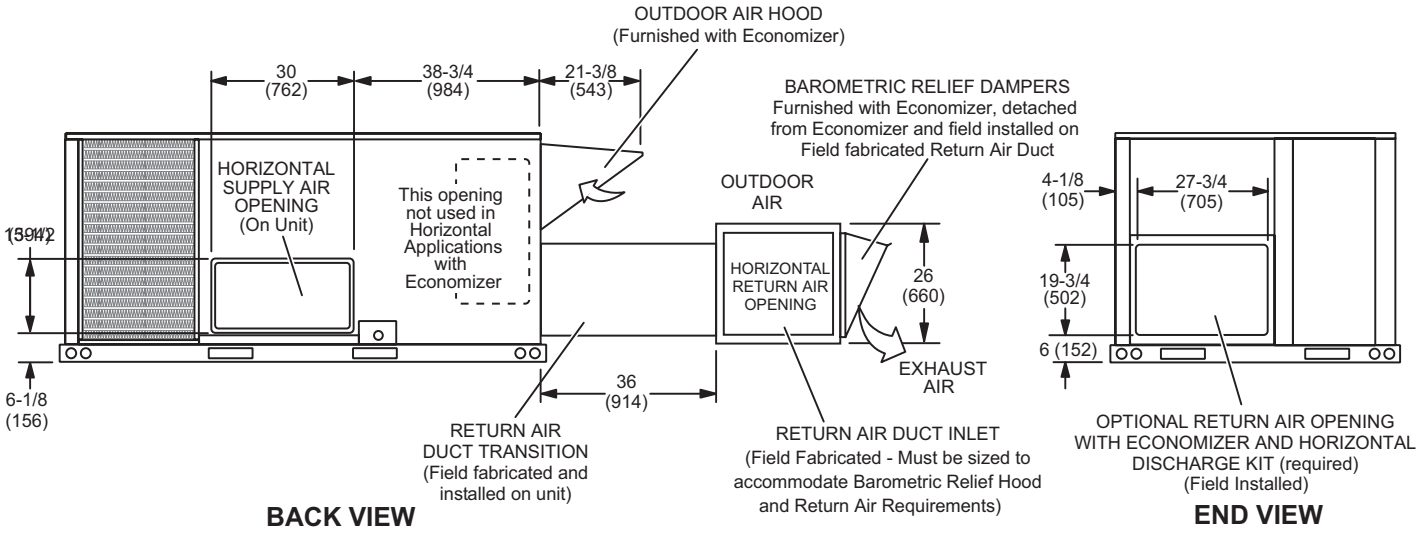
OUTDOOR AIR HOOD DETAIL



HORIZONTAL ECONOMIZER APPLICATION
(With Furnished Barometric Relief Dampers and Optional Horizontal Discharge Kit - Required)



TOP VIEW

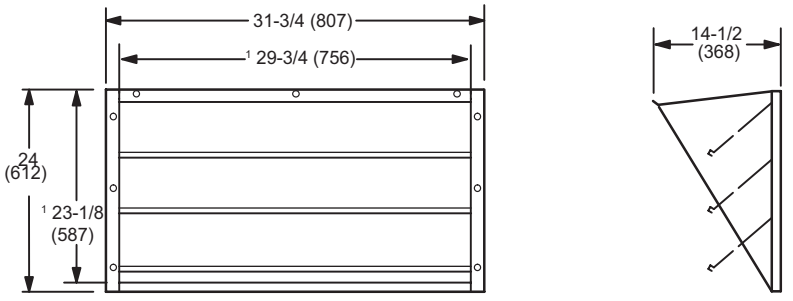


BACK VIEW **END VIEW**

NOTE - Return Air Duct and Transition must be supported.

BAROMETRIC RELIEF DAMPERS
(Furnished with Economizer)

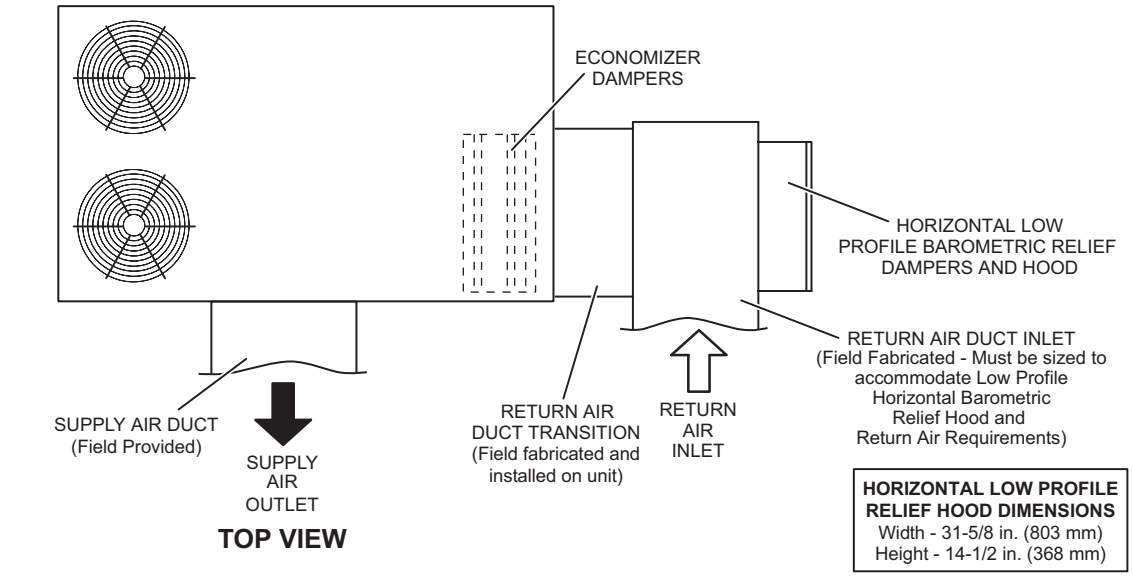
(Field installed in horizontal return air duct adjacent to unit)



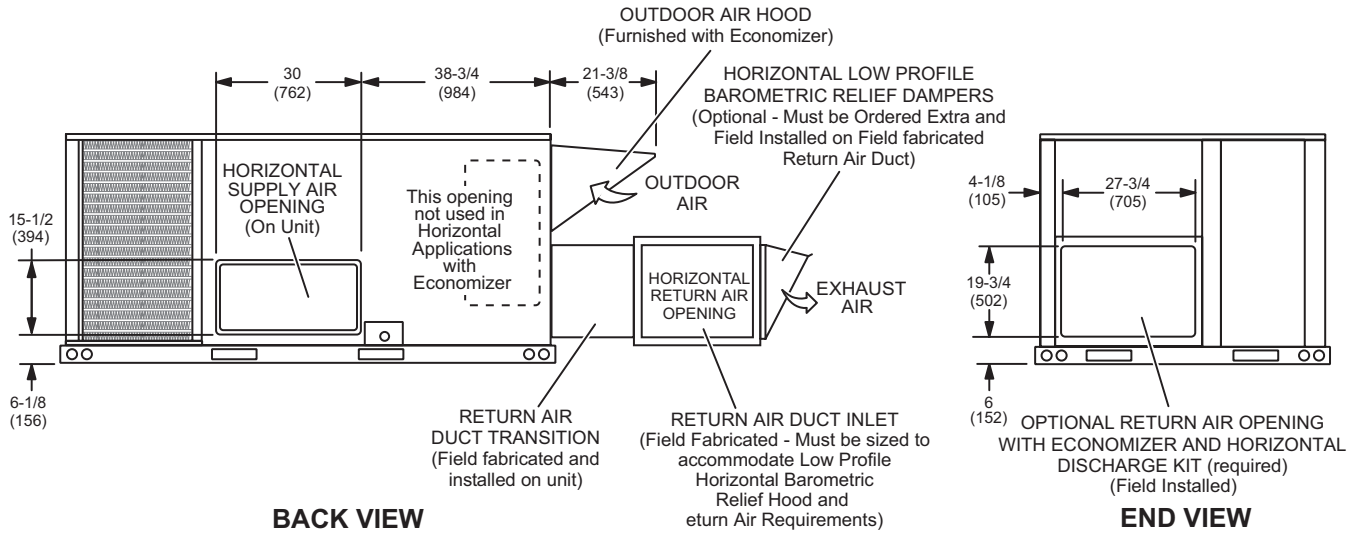
FRONT VIEW **SIDE VIEW**

[1] NOTE - Opening size required in return air duct.

HORIZONTAL ECONOMIZER APPLICATION
(with Optional Low Profile Horizontal Barometric Relief Dampers and Horizontal Discharge Kit - Required)



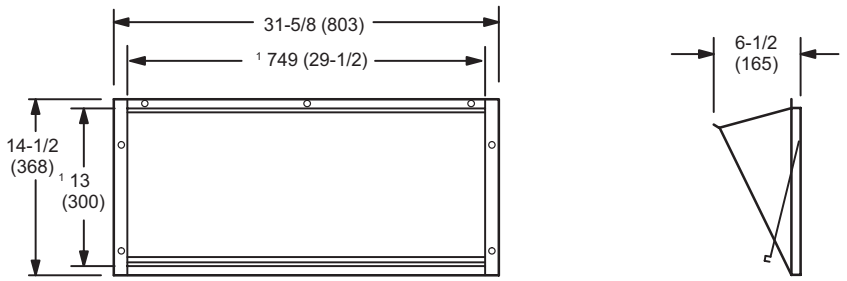
TOP VIEW



BACK VIEW **END VIEW**

NOTE - Return Air Duct and Transition must be supported.

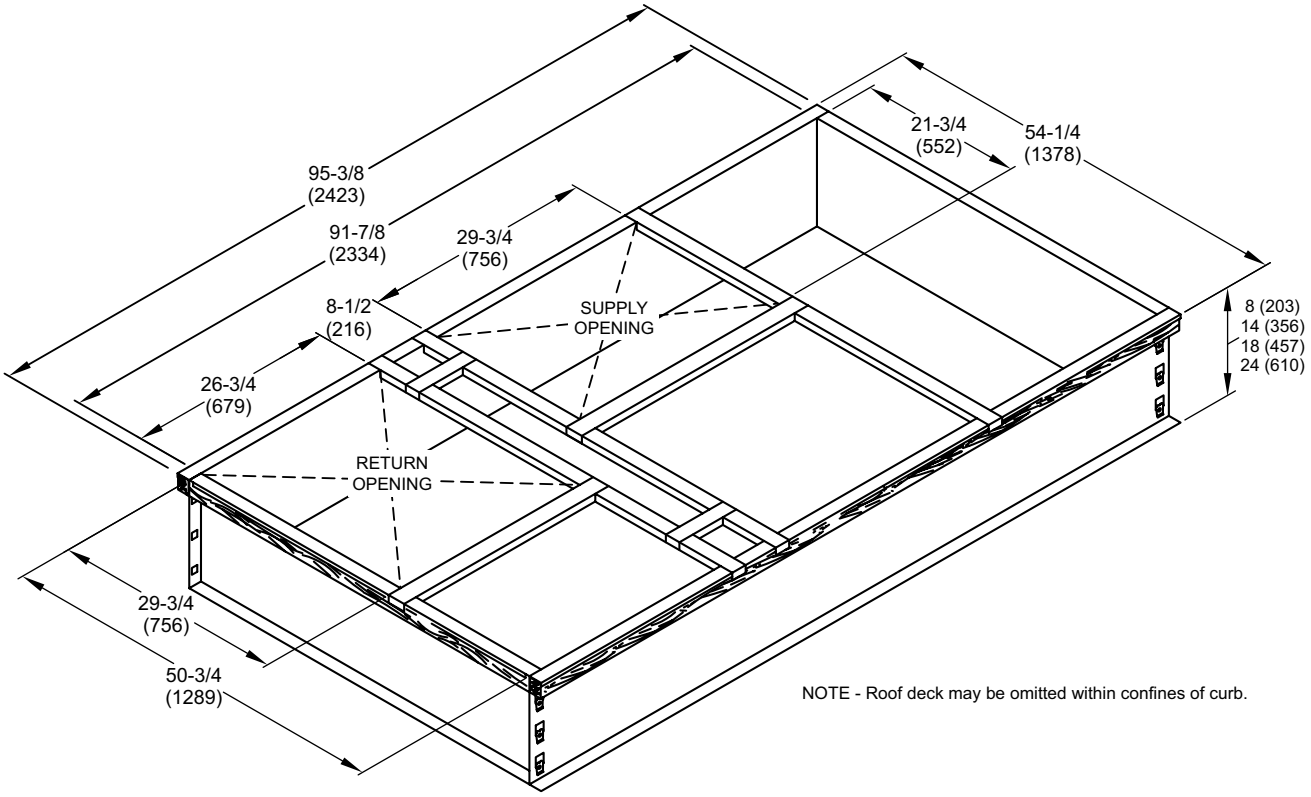
HORIZONTAL LOW PROFILE BAROMETRIC RELIEF DAMPERS
(Field installed in horizontal return air duct adjacent to unit)



FRONT VIEW **SIDE VIEW**

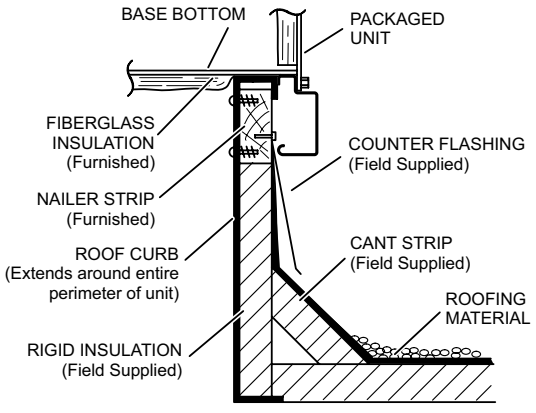
[1] NOTE - Opening size required in return air duct.

HYBRID ROOF CURBS - DOUBLE DUCT OPENING

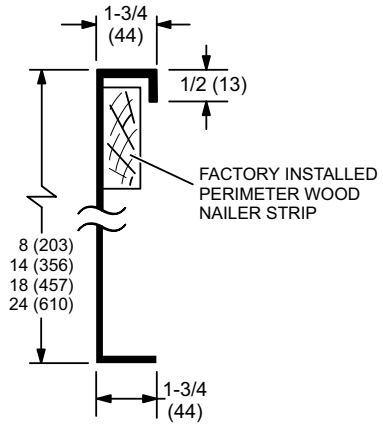


NOTE - Roof deck may be omitted within confines of curb.

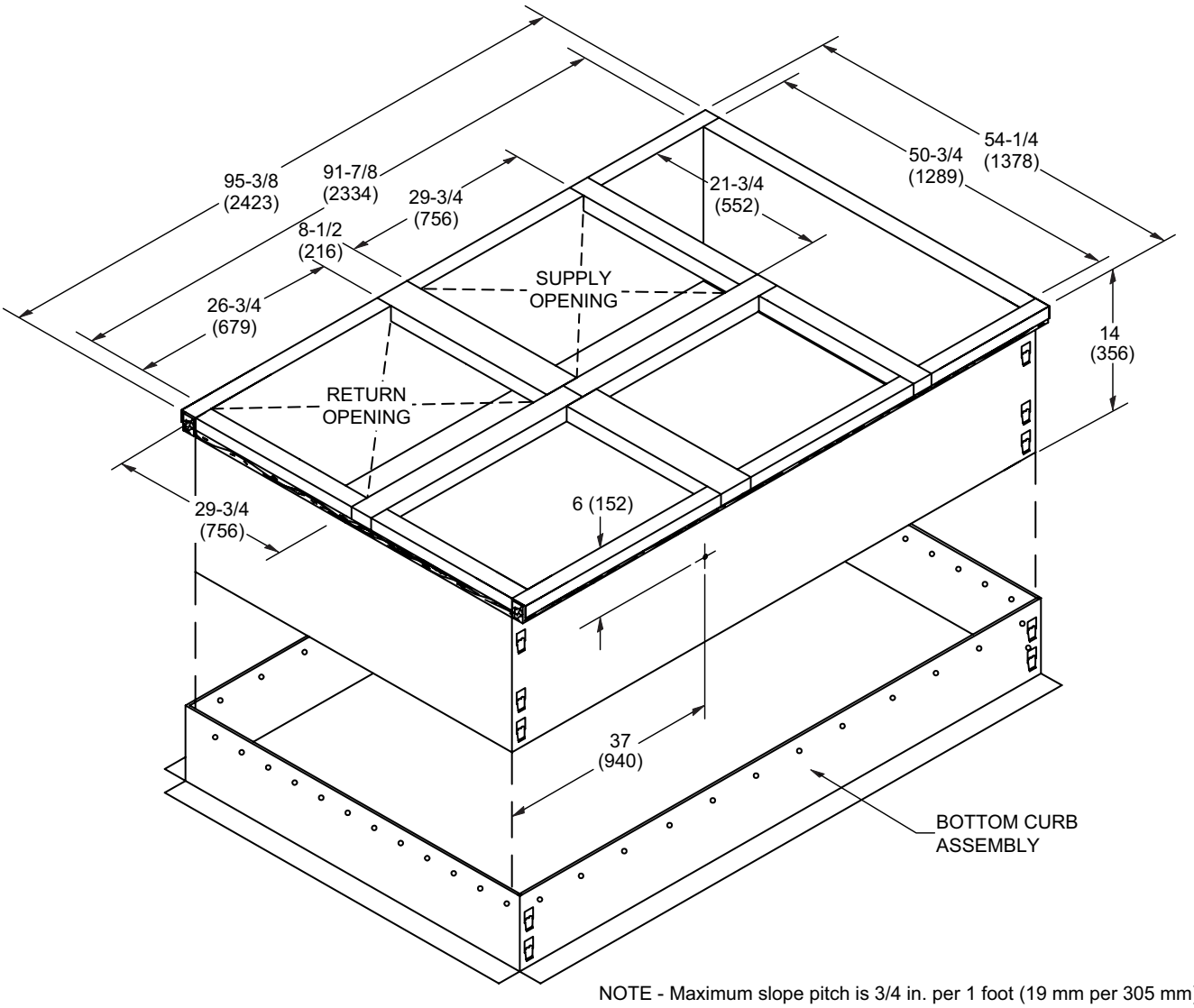
TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB

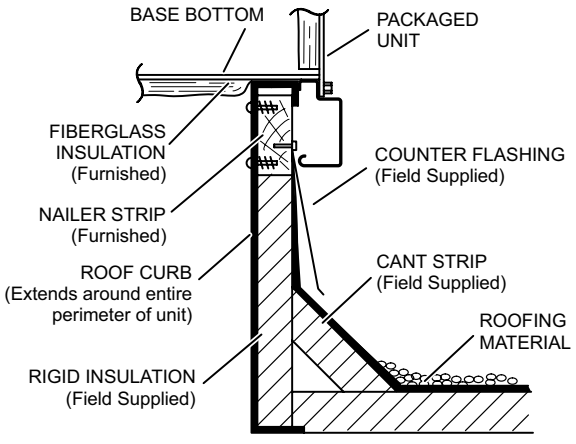


ADJUSTABLE PITCH CURBS - DOUBLE DUCT OPENING

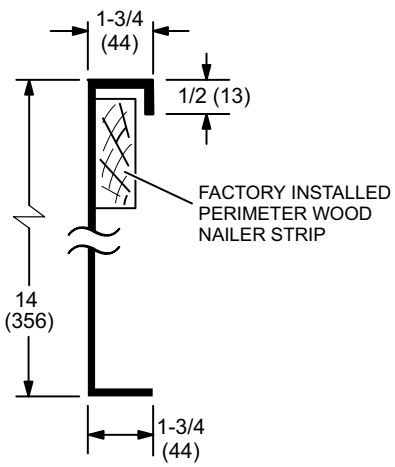


NOTE - Maximum slope pitch is 3/4 in. per 1 foot (19 mm per 305 mm) in any one direction.

TYPICAL FLASHING DETAIL FOR ROOF CURB

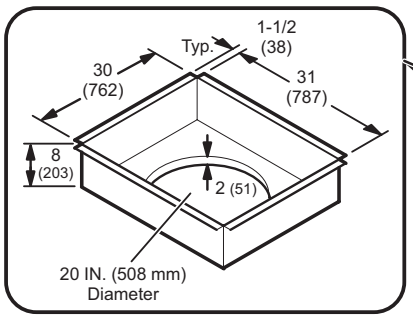


DETAIL ROOF CURB

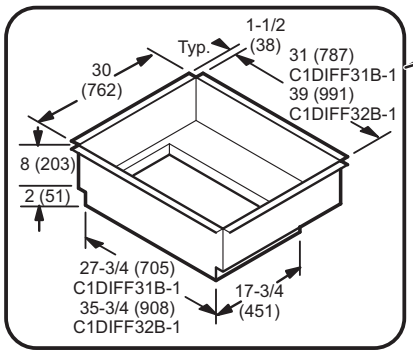


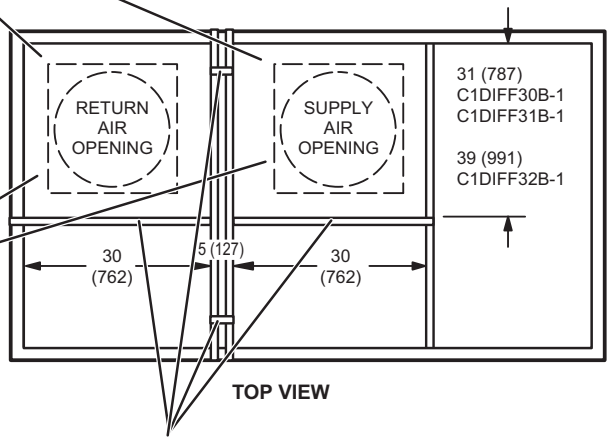
ROOF CURBS WITH SUPPLY & RETURN AIR TRANSITIONS FOR CEILING DIFFUSERS

C1DIFF30B-1 ROUND TRANSITIONS
(for 092 models)



C1DIFF31B-1 & C1DIFF32B-1 RECTANGULAR TRANSITIONS
(for 102 thru 150 models)



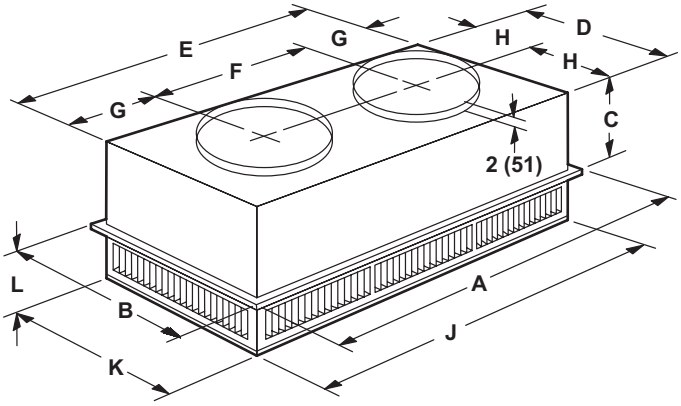


TOP VIEW

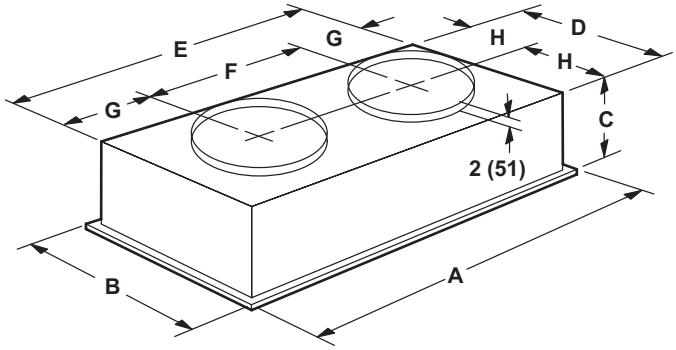
NOTE - These four supports are furnished with the transitions to replace supports furnished with curb for proper transition spacing.

COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



FLUSH CEILING DIFFUSER

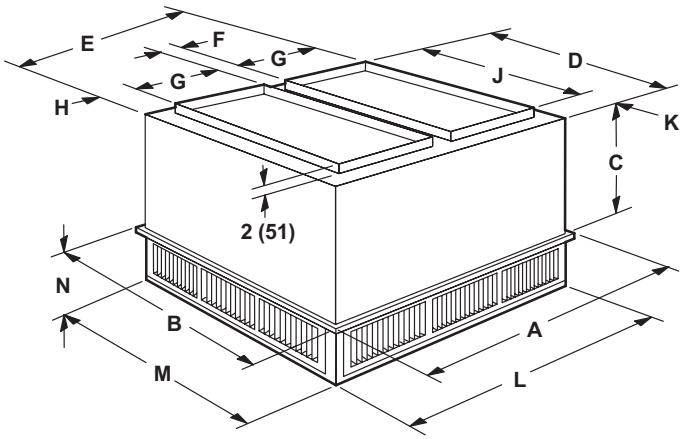


Model		RTD11-95S
A	in.	47-5/8
	mm	1159
B	in.	29-5/8
	mm	752
C	in.	14-3/8
	mm	365
D	in.	27-1/2
	mm	699
E	in.	45-1/2
	mm	1158
F	in.	22-1/2
	mm	572
G	in.	11-1/2
	mm	292
H	in.	13-3/4
	mm	349
J	in.	45-1/2
	mm	1156
K	in.	27-1/2
	mm	699
L	in.	8-1/8
	mm	206
Duct Size	in.	20 round
	mm	508 round

Model Number		FD11-95S
A	in.	47-5/8
	mm	1159
B	in.	29-5/8
	mm	752
C	in.	16-5/8
	mm	422
D	in.	27
	mm	686
E	in.	45
	mm	1143
F	in.	22-1/2
	mm	572
G	in.	11-1/4
	mm	286
H	in.	13-1/2
	mm	343
Duct Size	in.	20 round
	mm	508 round

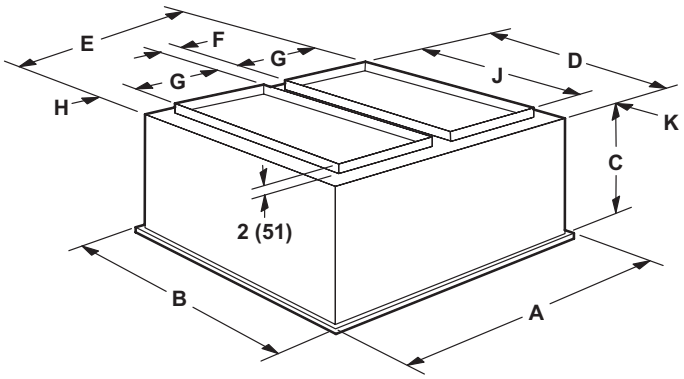
COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER

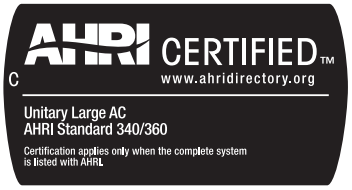


Model		RTD11-135S	RTD11-185S
A	in.	47-5/8	47-5/8
	mm	1210	1210
B	in.	35-5/8	47-5/8
	mm	905	1210
C	in.	20-5/8	24-5/8
	mm	524	625
D	in.	33-1/2	45-1/2
	mm	851	1156
E	in.	45-1/2	45-1/2
	mm	1156	1156
F	in.	4-1/2	4-1/2
	mm	114	114
G	in.	18	18
	mm	457	457
H	in.	2-1/2	2-1/2
	mm	64	64
J	in.	28	36
	mm	711	914
K	in.	2-3/4	4-3/4
	mm	70	121
L	in.	45-1/2	45-1/2
	mm	1156	1156
M	in.	33-1/2	45-1/2
	mm	851	1156
N	in.	9-1/8	10-1/8
	mm	232	257
Duct Size	in.	18 x 28	18 x 36
	mm	457 x 711	457 x 914

FLUSH CEILING DIFFUSER



Model Number		FD11-135S	FD11-185S
A	in.	47-5/8	47-5/8
	mm	1210	1210
B	in.	35-5/8	47-5/8
	mm	905	1210
C	in.	23-1/4	29-1/4
	mm	591	743
D	in.	33	45
	mm	838	1143
E	in.	45	45
	mm	1143	1143
F	in.	4-1/2	4-1/2
	mm	114	114
G	in.	18	18
	mm	457	457
H	in.	2-1/4	2-1/4
	mm	57	57
J	in.	28	36
	mm	711	914
K	in.	2-1/2	4-1/2
	mm	64	114
Duct Size	in.	18 x 28	18 x 36
	mm	457 x 711	457 x 914



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