



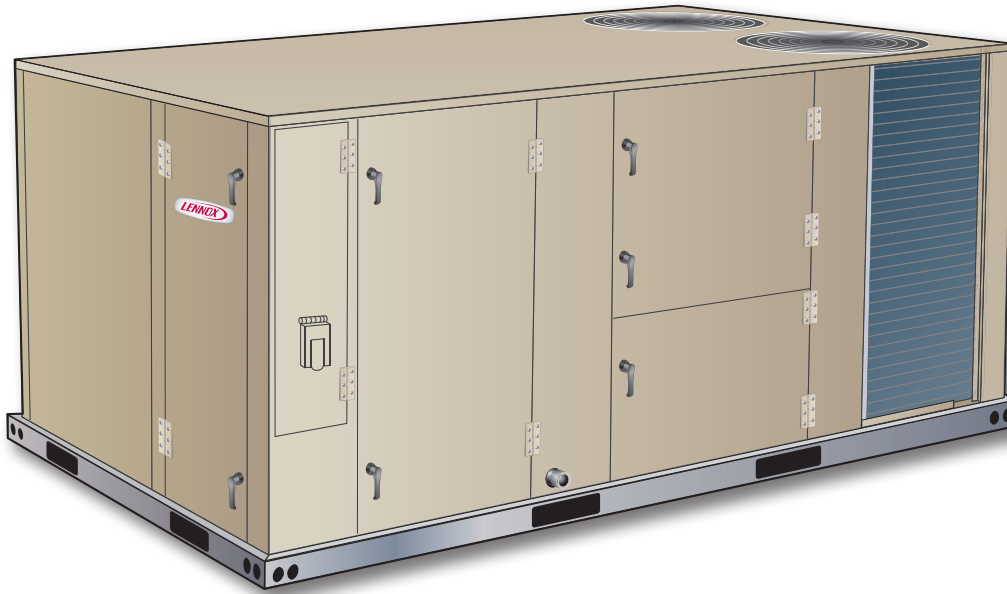
## COMMERCIAL PRODUCT SPECIFICATIONS

**LCT**
**Enlight™ Rooftop Units  
High Efficiency - 60 Hz**

Bulletin No. 210975

November 2024

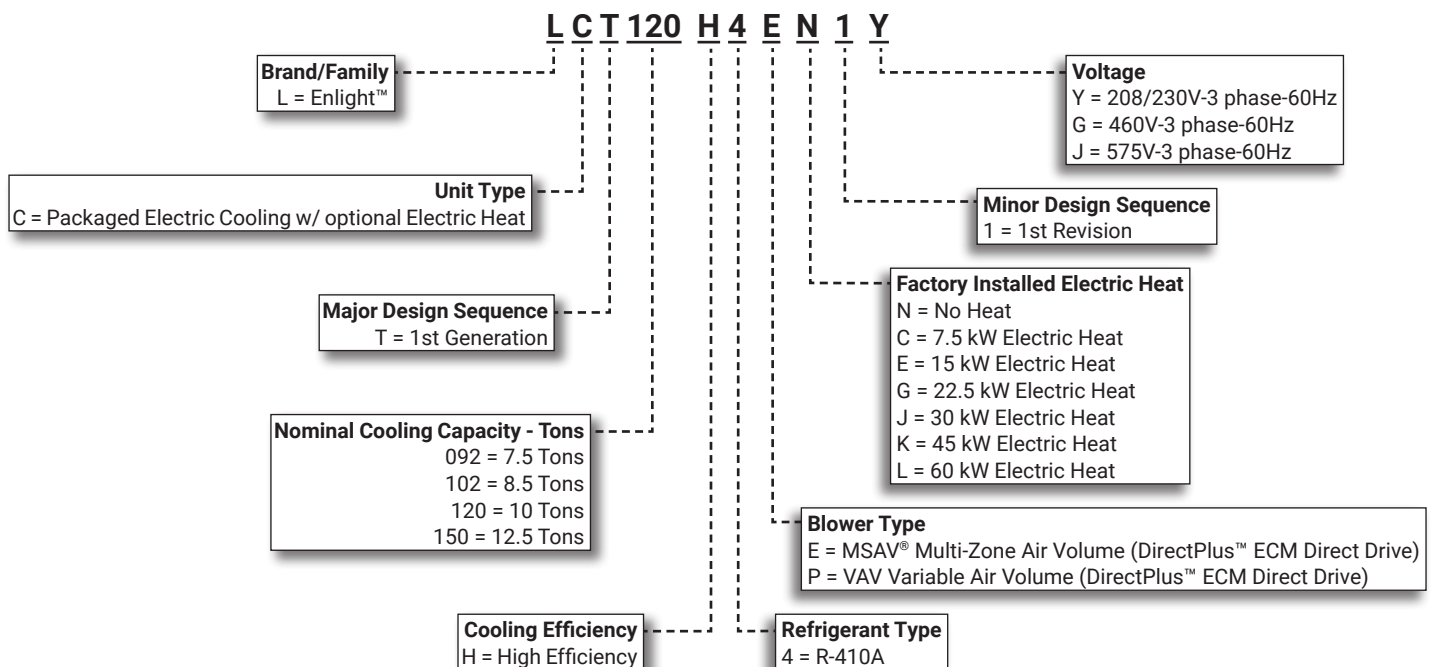
Supersedes all previous versions


**ENLIGHT**

**CORE**  
CONTROL SYSTEM

**ASHRAE 90.1  
COMPLIANT**
**SMARTWIRE™ SYSTEM**
**7.5 to 12.5 Tons**
**Net Cooling Capacity - 90,000 to 136,000 Btuh**
**Optional Electric Heat - 7.5 to 60 kW**

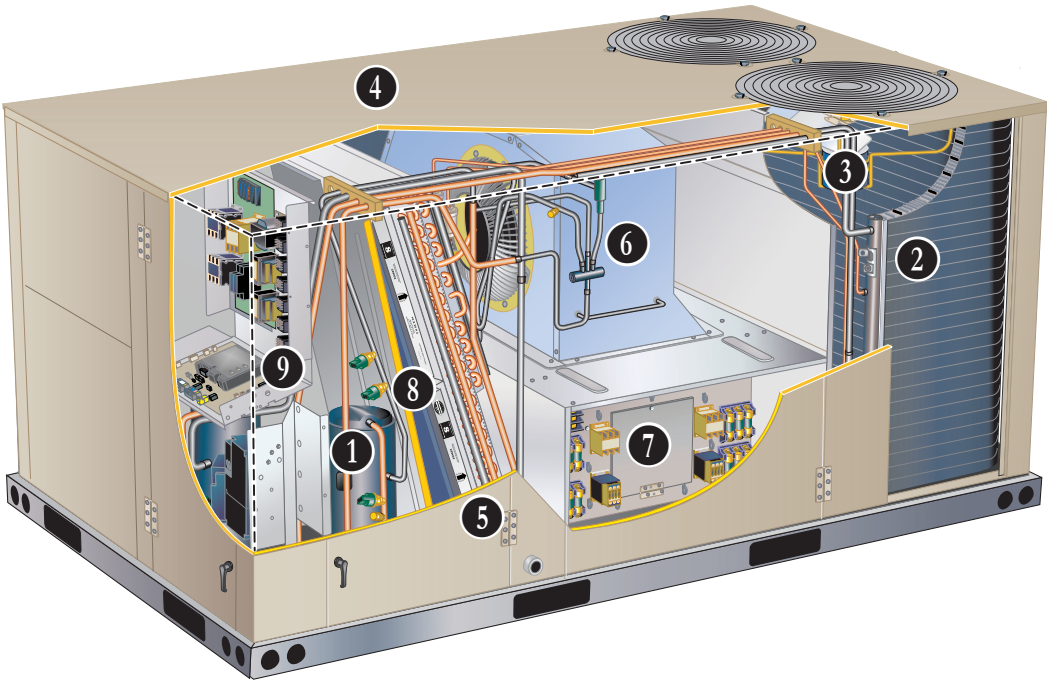
### MODEL NUMBER IDENTIFICATION



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 certified
- ETL and CSA listed
- Efficiency rating certified by CSA
- 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
- 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-410A Refrigerant

- Non-chlorine based
- Ozone friendly

#### 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

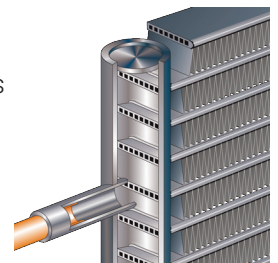
- Protects the compressors from low pressure conditions such as low refrigerant charge or low/no airflow

#### 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

## FEATURES AND BENEFITS

### 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

### 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 optional 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

### Required Selections

#### Airflow Configuration

- Specify downflow or horizontal

## FEATURES AND BENEFITS

### CABINET (continued)

#### 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

#### 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

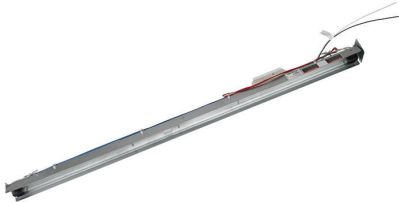
- Disposable MERV 8 and MERV 13 (Minimum Efficiency Reporting Value based on ASHRAE 52.2) efficiency 2 inch pleated filters

#### 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

**NOTE** - Please visit [www.sciencedirect.com](http://www.sciencedirect.com) for additional information.

- 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<sub>2</sub>) Sensors

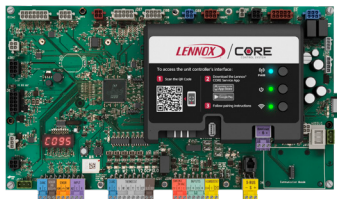
- Monitors CO<sub>2</sub> levels
- Reports to the Lennox® CORE Unit Controller, which adjusts economizer dampers as needed

##### 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



- 9 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



#### 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 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
- Compatibility with Lennox Wireless Zone Sensors
- 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

##### Blower Proving Switch

- Monitors blower operation, shuts down unit if blower fails

##### 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

##### 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

## 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.

## OPTIONS / ACCESSORIES

### **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<sub>2</sub> 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<sub>2</sub> 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**

##### **Outdoor Air Damper**

- Downflow or Horizontal
- Linked mechanical dampers
- 0 to 25% (fixed) outdoor air adjustable
- Installs in unit
- Includes outdoor air hood
- Motorized model features fully modulating spring return damper motor with plug-in connection
- Manual model features parallel blade, gear-driven dampers with adjustable fixed position

**NOTE** - Outdoor Air Hood is included when damper is factory installed and is furnished with damper when ordered for field installation.

**NOTE** - Manual Outdoor Air Damper is a field installed option only.

### **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
- A thermostat with a dehumidification output, a dehumidistat, or a DDC controller with an isolated output is required to control humidity and must be located in the occupied space

**NOTE** - Controls are not furnished and must be ordered separately.

### BENEFITS

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

### OPERATION

#### No Dehumidification Demand

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

#### Dehumidification Demand Only

- Dehumidification is initiated by an output from a thermostat with a dehumidification output, a dehumidistat, or a DDC controller with an isolated output to control humidity

- 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

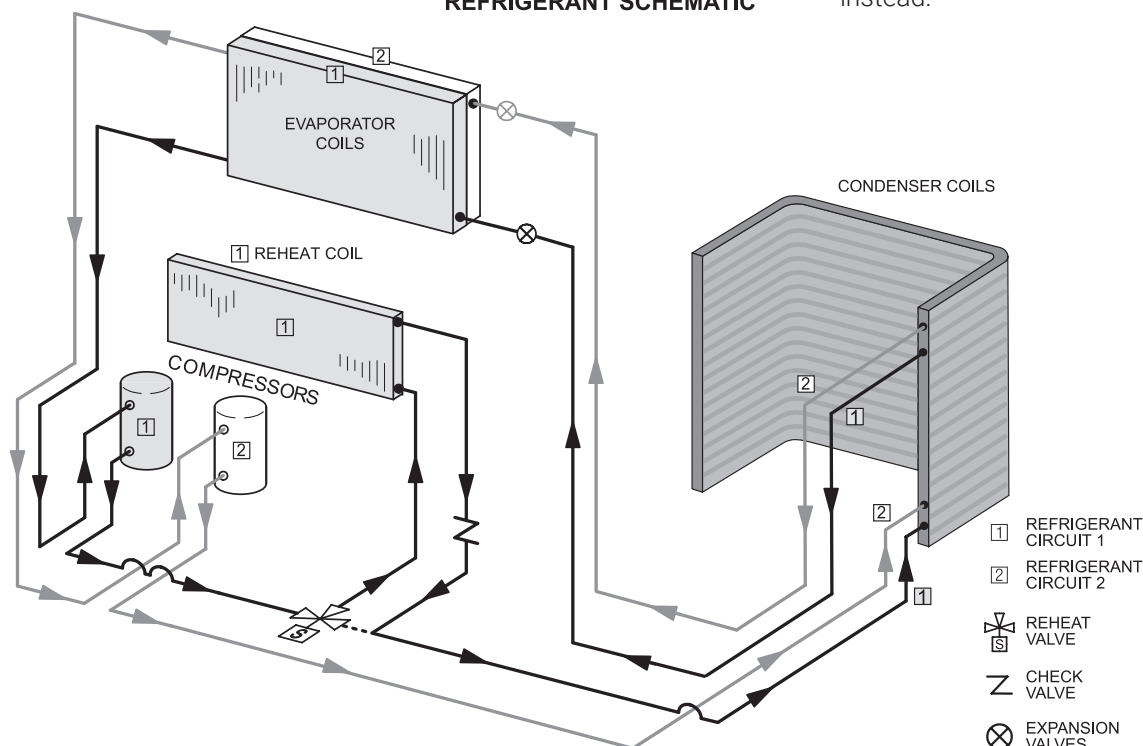
### Options / Accessories

#### Humidity Sensor Kit

- Remote mounted dehumidistat for factory installed Humiditrol® option
- Adjustable 20-80%

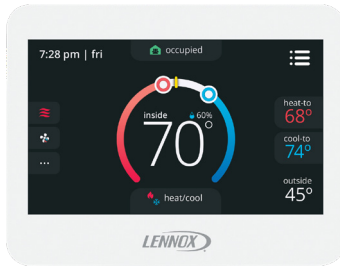
**NOTE** - A thermostat with a dehumidification output or a DDC controller with an isolated output can be used instead.

REFRIGERANT SCHEMATIC



## OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

### CS8500 Commercial 7-Day Programmable Thermostat



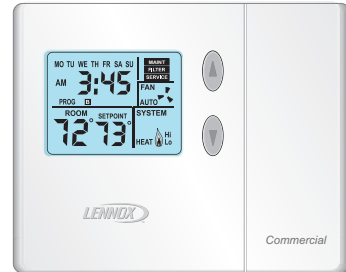
- Fully Communicating Sensor
- Full Color Touchscreen Interface
- Variable Speed System Control (On Compatible Units)
- Up To 4 Heat / 4 Cool
- Built-In Sensors For Temperature, Humidity And Optional CO<sub>2</sub>
- Remote Sensor Options For Occupancy, Temperature
- BACnet Capable Options
- 5-2 or 7-Day 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                                                                                                                                                       |                                                     | Catalog No.  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|--------------|
| <b>CS8500 Commercial 7 Day Programmable Thermostat</b>                                                                                                            |                                                     |              |
| CS8500 7-Day Thermostat                                                                                                                                           | No CO <sub>2</sub> Sensing                          | <b>17G75</b> |
|                                                                                                                                                                   | With CO <sub>2</sub> Sensing                        | <b>17G76</b> |
| Sensors/Accessories                                                                                                                                               | <sup>1</sup> Remote non-adjustable wall-mount 10k   | <b>47W37</b> |
|                                                                                                                                                                   | <sup>1</sup> Remote non-adjustable wall-mount 11k   | <b>94L61</b> |
| <b>Sysbus Network Cable (Yellow) for CS8500 and LCS-5030 Wired Room Sensor</b>                                                                                    |                                                     |              |
| Twisted pair 100% shielded communication cable, Red and Black<br>22 AWG, yellow jacket, rated at 75°C, 300V, Plenum rated<br>Insulation - Low smoke PVC, NEC, CMP | 500 ft. box                                         | <b>27M19</b> |
|                                                                                                                                                                   | 1000 ft. box                                        | <b>94L63</b> |
|                                                                                                                                                                   | 2500 ft. roll                                       | <b>68M25</b> |
| <b>CS7500 Commercial 7-Day Programmable Thermostat</b>                                                                                                            |                                                     |              |
| CS7500 7-Day Thermostat                                                                                                                                           |                                                     | <b>24K41</b> |
| Sensors/Accessories                                                                                                                                               | <sup>2</sup> Remote non-adjustable wall-mount 20k   | <b>47W36</b> |
|                                                                                                                                                                   | <sup>2</sup> Remote non-adjustable wall-mount 10k   | <b>47W37</b> |
|                                                                                                                                                                   | Remote non-adjustable discharge air (duct mount)    | <b>19L22</b> |
|                                                                                                                                                                   | Outdoor temperature sensor                          | <b>X2658</b> |
| <b>CS3000 Commercial 5-2 Day Programmable Thermostat</b>                                                                                                          |                                                     |              |
| CS3000 5-2 Day Thermostat                                                                                                                                         |                                                     | <b>11Y05</b> |
| Sensors/Accessories                                                                                                                                               | Remote non-adjustable wall mount 10k averaging      | <b>47W37</b> |
|                                                                                                                                                                   | Thermostat wall mounting plate                      | <b>X2659</b> |
| <b>Universal Thermostat Guard with Lock (clear)</b>                                                                                                               |                                                     |              |
|                                                                                                                                                                   | Inside Dimensions (H x W x D) 5-7/8 x 8-3/8 x 3 in. | <b>39P21</b> |
| <b>Temperature/Humidity Room Sensor</b>                                                                                                                           |                                                     |              |
| A335MT13AE1 Wired Temperature/Humidity Room Sensor (Non-Communicating)                                                                                            |                                                     | <b>21W06</b> |

<sup>1</sup> Up to nine of the same type remote temperature sensors can be connected in parallel.

<sup>2</sup> 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)

**<sup>1</sup> 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.

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

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

**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)

#### **<sup>1</sup> 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.

<sup>1</sup> Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the 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 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 (45 or 60 kW electric heat option only).

**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**

*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 = 55°F. 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.

**<sup>1</sup> 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.

<sup>1</sup> Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the 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 = 110°F. Unit will stage heating as required to maintain the setpoint when provided with W1 demand.

Room sensor occupied setpoint default = 70°F. 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                                                                      |                                      | Catalog Number | Unit Model No |     |     |     |
|---------------------------------------------------------------------------------------|--------------------------------------|----------------|---------------|-----|-----|-----|
|                                                                                       |                                      |                | 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 LC/LG/LH and TC/TG/TH unit replacement)                 |                                      | 54W96          | OX            | OX  | OX  | OX  |
| CONTROLS                                                                              |                                      |                |               |     |     |     |
| Blower Proving Switch                                                                 |                                      | 21Z10          | OX            | OX  | OX  | OX  |
| Commercial Controls                                                                   | CPC Einstein Integration             | Factory        | O             | O   | O   | O   |
|                                                                                       | 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<br>20 x 25 x 2 in. (Order 4 per unit)    | MERV 8                               | 50W61          | OX            | OX  | OX  | OX  |
|                                                                                       | MERV 13                              | 52W41          | OX            | OX  | OX  | OX  |
|                                                                                       | MERV 16                              | 21U41          | X             | X   | X   | X   |
| Replacement Media Filter With Metal Mesh Frame<br>(includes non-pleated filter media) |                                      | Y3063          | X             | X   | X   | X   |
| Indoor Air Quality (CO2) 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 with LCD display, rated for plenum mounting               |                                      | 87N52          | X             | X   | X   | X   |
| Sensor - Wall-mount, black plastic case, no display, rated for plenum mounting        |                                      | 87N54          | X             | X   | X   | X   |
| CO2 Sensor Duct Mounting Kit - for downflow applications                              |                                      | 23Y47          | X             | X   | X   | X   |
| Aspiration Box - for duct mounting non-plenum rated CO2 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   |

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

NOTE - Catalog 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                                                                  | Catalog Number                                           | Unit Model No |     |     |     |    |
|-----------------------------------------------------------------------------------|----------------------------------------------------------|---------------|-----|-----|-----|----|
|                                                                                   |                                                          | 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 |
| ¹ 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  |
|                                                                                   | ² 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                                             | 23U73         | OX  | OX  |     |    |
|                                                                                   | 460V-3ph                                                 | 23U74         | OX  | OX  |     |    |
|                                                                                   | 575V-3ph                                                 | 23U75         | OX  | OX  |     |    |
| 15 kW                                                                             | 208/240V-3ph                                             | 23U76         | OX  | OX  | OX  | OX |
|                                                                                   | 460V-3ph                                                 | 23U77         | OX  | OX  | OX  | OX |
|                                                                                   | 575V-3ph                                                 | 23U78         | OX  | OX  | OX  | OX |
| 22.5 kW                                                                           | 208/240V-3ph                                             | 23U79         | OX  | OX  | OX  | OX |
|                                                                                   | 460V-3ph                                                 | 23U80         | OX  | OX  | OX  | OX |
|                                                                                   | 575V-3ph                                                 | 23U81         | OX  | OX  | OX  | OX |
| 30 kW                                                                             | 208/240V-3ph                                             | 23U82         | OX  | OX  | OX  | OX |
|                                                                                   | 460V-3ph                                                 | 23U83         | OX  | OX  | OX  | OX |
|                                                                                   | 575V-3ph                                                 | 23U84         | OX  | OX  | OX  | OX |
| 45 kW                                                                             | 208/240V-3ph                                             | 23U85         | OX  | OX  | OX  | OX |
|                                                                                   | 460V-3ph                                                 | 23U86         | OX  | OX  | OX  | OX |
|                                                                                   | 575V-3ph                                                 | 23U87         | OX  | OX  | OX  | OX |
| 60 kW                                                                             | 208/240V-3ph                                             | 23U88         |     |     | OX  | OX |
|                                                                                   | 460V-3ph                                                 | 23U89         |     |     | OX  | OX |
|                                                                                   | 575V-3ph                                                 | 23U90         |     |     | OX  | OX |

<sup>1</sup> Disconnect Switch not available with SCCR option.

SCCR option is only available with factory installed electric heat or no electric.

SCCR option is not available if the MOCP of the configured unit is greater than 200A.

<sup>2</sup> Canada requires a minimum 20 amp circuit. Select 20 amp, non-powered, field wired GFI.

NOTE - Catalog 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                                                                                                                                                    | Catalog Number                | Unit Model No |     |     |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|-----|-----|-----|
|                                                                                                                                                                     |                               | 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)                                                                                                                | 20U80                         | OX            | OX  | OX  | OX  |
| 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 |                               |               |     |     |     |
| 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   |
| Humidity Sensor Kit, Remote mounted (required)                                                                                                                      | 17M50                         | X             | X   | X   | X   |
| 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 - Catalog 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                                     |                                               |                                               |                                               |
|---------------------------------------|---------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| General Data                          |                                             | Nominal Tonnage                                                        | 7.5 Ton                                         | 8.5 Ton                                       | 10 Ton                                        | 12.5 Ton                                      |
|                                       |                                             | Efficiency Type                                                        | High                                            | High                                          | High                                          | High                                          |
|                                       |                                             | Model Number                                                           | LCT092H4E                                       | LCT102H4E                                     | LCT120H4E                                     | LCT150H4E                                     |
|                                       |                                             | Blower Type                                                            | DirectPlus™<br>ECM Direct Drive<br>with MSAV®   | DirectPlus™<br>ECM Direct Drive<br>with MSAV® | DirectPlus™<br>ECM Direct Drive<br>with MSAV® | DirectPlus™<br>ECM Direct Drive<br>with MSAV® |
| Cooling Performance                   | Gross Cooling Capacity - Btuh               |                                                                        | 93,000                                          | 101,000                                       | 117,000                                       | 141,000                                       |
|                                       | <sup>1</sup> Net Cooling Capacity - Btuh    |                                                                        | 90,000                                          | 98,000                                        | 114,000                                       | 136,000                                       |
|                                       | <sup>1</sup> AHRI Rated Air Flow - cfm      |                                                                        | 3000                                            | 3400                                          | 3400                                          | 4100                                          |
|                                       | Total Unit Power - kW                       |                                                                        | 7.5                                             | 8.1                                           | 9.5                                           | 12.5                                          |
|                                       | <sup>1</sup> IEER (Btuh/Watt)               |                                                                        | 15.7                                            | 15.7                                          | 15.5                                          | 14.6                                          |
|                                       | <sup>1</sup> EER (Btuh/Watt)                |                                                                        | 12.5                                            | 12.3                                          | 12.3                                          | 11.0                                          |
| Refrigerant Charge                    | Refrigerant Type                            |                                                                        | R-410A                                          | R-410A                                        | R-410A                                        | R-410A                                        |
|                                       | Without Reheat Option                       | Circuit 1                                                              | 7 lbs. 0 oz.                                    | 7 lbs. 0 oz.                                  | 7 lbs. 0 oz.                                  | 7 lbs. 4 oz.                                  |
|                                       |                                             | Circuit 2                                                              | 7 lbs. 0 oz.                                    | 7 lbs. 6 oz.                                  | 7 lbs. 0 oz.                                  | 7 lbs. 0 oz.                                  |
|                                       | With Reheat Option                          | Circuit 1                                                              | 7 lbs. 4 oz.                                    | 7 lbs. 4 oz.                                  | 7 lbs. 4 oz.                                  | 7 lbs. 8 oz.                                  |
|                                       |                                             | Circuit 2                                                              | 7 lbs. 0 oz.                                    | 7 lbs. 6 oz.                                  | 7 lbs. 0 oz.                                  | 7 lbs. 0 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)<br>Single-Stage Scroll (1) |                                               |                                               |                                               |
| Outdoor Coil                          | Net face area (total) - sq. ft.             |                                                                        | 28.0                                            | 28.0                                          | 28.0                                          | 28.0                                          |
|                                       | Number of rows                              |                                                                        | 1                                               | 1                                             | 1                                             | 1                                             |
|                                       | Fins per inch                               |                                                                        | 23                                              | 23                                            | 23                                            | 23                                            |
| Outdoor Coil Fans                     | Motor - (No.) hp                            |                                                                        | 2 (1/3)                                         | 2 (1/3)                                       | 2 (1/2)                                       | 2 (1/2)                                       |
|                                       | Motor rpm                                   |                                                                        | 1075                                            | 1075                                          | 1075                                          | 1075                                          |
|                                       | Total Motor watts                           |                                                                        | 860                                             | 860                                           | 1000                                          | 1000                                          |
|                                       | Diameter - (No.) in.                        |                                                                        | (2) 24                                          | (2) 24                                        | (2) 24                                        | (2) 24                                        |
|                                       | Number of blades                            |                                                                        | 3                                               | 3                                             | 3                                             | 3                                             |
|                                       | Total Air volume - cfm                      |                                                                        | 9000                                            | 9000                                          | 9700                                          | 9700                                          |
|                                       | Indoor Coil                                 | Net face area (total) - sq. ft.                                        |                                                 | 12.78                                         | 12.78                                         | 12.78                                         |
| Tube diameter - in.                   |                                             | 3/8                                                                    | 3/8                                             | 3/8                                           | 3/8                                           |                                               |
| Number of rows                        |                                             | 4                                                                      | 4                                               | 4                                             | 4                                             |                                               |
| Fins per inch                         |                                             | 14                                                                     | 14                                              | 14                                            | 14                                            |                                               |
| Drain connection - Number and size    |                                             | (1) 1 in. NPT coupling                                                 |                                                 |                                               |                                               |                                               |
| Expansion device type                 |                                             | Balanced Port Thermostatic Expansion Valve<br>(removable element head) |                                                 |                                               |                                               |                                               |
| Indoor Blower                         | Nominal motor output                        |                                                                        | 3.75 hp (ECM)                                   | 3.75 hp (ECM)                                 | 3.75 hp (ECM)                                 | 3.75 hp (ECM)                                 |
|                                       | Blower wheel nominal 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                                 |                                               |                                               |                                               |
| Electrical characteristics            |                                             |                                                                        | 208/230V, 460V, or 575V - 60 Hz -3 phase        |                                               |                                               |                                               |

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

<sup>1</sup> AHRI Certified to AHRI Standard 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                                                             |                                             |                                             |                                             |
|---------------------------------------|---------------------------------------------|-----------------|------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|
| General Data                          |                                             | Nominal Tonnage | 7.5 Ton                                                                | 8.5 Ton                                     | 10 Ton                                      | 12.5 Ton                                    |
|                                       |                                             | Efficiency Type | High                                                                   | High                                        | High                                        | High                                        |
|                                       |                                             | Model Number    | LCT092H4P                                                              | LCT102H4P                                   | LCT120H4P                                   | LCT150H4P                                   |
|                                       |                                             | Blower Type     | DirectPlus™<br>ECM Direct Drive<br>with VAV                            | DirectPlus™<br>ECM Direct Drive<br>with VAV | DirectPlus™<br>ECM Direct Drive<br>with VAV | DirectPlus™<br>ECM Direct Drive<br>with VAV |
| Cooling Performance                   | Gross Cooling Capacity - Btuh               |                 | 93,000                                                                 | 101,000                                     | 117,000                                     | 141,000                                     |
|                                       | ¹ Net Cooling Capacity - Btuh               |                 | 90,000                                                                 | 98,000                                      | 114,000                                     | 136,000                                     |
|                                       | ¹ AHRI Rated Air Flow - cfm                 |                 | 3000                                                                   | 3400                                        | 3400                                        | 4100                                        |
|                                       | Total Unit Power - kW                       |                 | 7.5                                                                    | 8.1                                         | 9.5                                         | 12.5                                        |
|                                       | ¹ IEER (Btuh/Watt)                          |                 | 14.8                                                                   | 14.8                                        | 14.8                                        | 14.2                                        |
|                                       | ¹ EER (Btuh/Watt)                           |                 | 12.5                                                                   | 12.3                                        | 12.3                                        | 11.0                                        |
| Refrigerant Charge                    | Refrigerant Type                            |                 | R-410A                                                                 | R-410A                                      | R-410A                                      | R-410A                                      |
|                                       | Without Reheat Option                       | Circuit 1       | 7 lbs. 0 oz.                                                           | 7 lbs. 0 oz.                                | 7 lbs. 0 oz.                                | 7 lbs. 4 oz.                                |
|                                       |                                             | Circuit 2       | 7 lbs. 0 oz.                                                           | 7 lbs. 6 oz.                                | 7 lbs. 0 oz.                                | 7 lbs. 0 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)<br>Single-Stage Scroll (1)                        |                                             |                                             |                                             |
| Outdoor Coil                          | Net face area (total) - sq. ft.             |                 | 28.0                                                                   | 28.0                                        | 28.0                                        | 28.0                                        |
|                                       | Number of rows                              |                 | 1                                                                      | 1                                           | 1                                           | 1                                           |
|                                       | Fins per inch                               |                 | 23                                                                     | 23                                          | 23                                          | 23                                          |
| Outdoor Coil Fans                     | Motor - (No.) hp                            |                 | 2 (1/3)                                                                | 2 (1/3)                                     | 2 (1/2)                                     | 2 (1/2)                                     |
|                                       | Motor rpm                                   |                 | 1075                                                                   | 1075                                        | 1075                                        | 1075                                        |
|                                       | Total Motor watts                           |                 | 860                                                                    | 860                                         | 1000                                        | 1000                                        |
|                                       | Diameter - (No.) in.                        |                 | (2) 24                                                                 | 2 (24)                                      | 2 (24)                                      | 2 (24)                                      |
|                                       | Number of blades                            |                 | 3                                                                      | 3                                           | 3                                           | 3                                           |
|                                       | Total Air volume - cfm                      |                 | 9000                                                                   | 9000                                        | 9700                                        | 9700                                        |
|                                       |                                             |                 |                                                                        |                                             |                                             |                                             |
| Indoor Coil                           | Net face area (total) - sq. ft.             |                 | 12.78                                                                  | 12.78                                       | 12.78                                       | 12.78                                       |
|                                       | Tube diameter - in.                         |                 | 3/8                                                                    | 3/8                                         | 3/8                                         | 3/8                                         |
|                                       | Number of rows                              |                 | 4                                                                      | 4                                           | 4                                           | 4                                           |
|                                       | Fins per inch                               |                 | 14                                                                     | 14                                          | 14                                          | 14                                          |
|                                       | Drain connection - Number and size          |                 | (1) 1 in. NPT coupling                                                 |                                             |                                             |                                             |
|                                       | Expansion device type                       |                 | Balanced Port Thermostatic Expansion Valve<br>(removable element head) |                                             |                                             |                                             |
| Indoor Blower                         | Nominal motor output                        |                 | 3.75 HP (ECM)                                                          | 3.75 HP (ECM)                               | 3.75 HP (ECM)                               | 3.75 HP (ECM)                               |
|                                       | Blower wheel nominal 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                                                        |                                             |                                             |                                             |
| Electrical characteristics            |                                             |                 | 208/230V, 460V, or 575V - 60 Hz -3 phase                               |                                             |                                             |                                             |

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

<sup>1</sup> AHRI Certified to AHRI Standard 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 - LCT092H4E/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) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      |
|                               |                  |                                               |                   | Dry Bulb                      |      |      |                 |                   | Dry Bulb                      |      |      |                 |                   | Dry Bulb                      |      |      |                 |                   | 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             | 38.7                                          | 1.17              | .79                           | .97  | 1.00 | 36.5            | 1.44              | .80                           | .99  | 1.00 | 34.0            | 1.73              | .82                           | 1.00 | 1.00 | 31.3            | 2.03              | .84                           | 1.00 | 1.00 |
|                               | 1800             | 41.3                                          | 1.16              | .85                           | 1.00 | 1.00 | 39.2            | 1.43              | .87                           | 1.00 | 1.00 | 36.6            | 1.72              | .89                           | 1.00 | 1.00 | 33.8            | 2.02              | .93                           | 1.00 | 1.00 |
|                               | 2160             | 43.5                                          | 1.15              | .92                           | 1.00 | 1.00 | 41.3            | 1.43              | .95                           | 1.00 | 1.00 | 38.6            | 1.71              | .98                           | 1.00 | 1.00 | 35.7            | 2.01              | 1.00                          | 1.00 | 1.00 |
| 67°F                          | 1440             | 40.7                                          | 1.16              | .62                           | .77  | .93  | 38.4            | 1.44              | .62                           | .78  | .95  | 35.8            | 1.72              | .62                           | .80  | .98  | 32.8            | 2.03              | .62                           | .82  | 1.00 |
|                               | 1800             | 42.9                                          | 1.15              | .66                           | .84  | 1.00 | 40.5            | 1.43              | .66                           | .85  | 1.00 | 37.6            | 1.71              | .67                           | .87  | 1.00 | 34.5            | 2.02              | .68                           | .90  | 1.00 |
|                               | 2160             | 44.4                                          | 1.15              | .70                           | .90  | 1.00 | 41.9            | 1.42              | .71                           | .92  | 1.00 | 39.1            | 1.71              | .71                           | .95  | 1.00 | 35.9            | 2.02              | .73                           | .99  | 1.00 |
| 71°F                          | 1440             | 43.1                                          | 1.15              | .46                           | .61  | .76  | 40.8            | 1.43              | .45                           | .61  | .76  | 38.0            | 1.71              | .43                           | .61  | .78  | 35.0            | 2.02              | .43                           | .62  | .80  |
|                               | 1800             | 45.3                                          | 1.15              | .47                           | .65  | .82  | 42.7            | 1.42              | .47                           | .66  | .83  | 39.9            | 1.71              | .46                           | .66  | .85  | 36.6            | 2.01              | .45                           | .68  | .88  |
|                               | 2160             | 46.5                                          | 1.14              | .49                           | .69  | .88  | 44.1            | 1.42              | .49                           | .70  | .90  | 41.1            | 1.71              | .48                           | .71  | .93  | 37.7            | 2.01              | .48                           | .73  | .97  |

### 7.5 TON - LCT092H4E/P (2 COMPRESSORS - PART LOAD / FULL LOAD)

| Entering<br>Wet Bulb<br>Temperature | Total<br>Air<br>Volume | Outdoor Air Temperature Entering Outdoor Coil |                         |                                  |       |      |                       |                         |                                  |      |      |                       |                         |                                  |     |      |                       |                         |                                  |      |       |          |
|-------------------------------------|------------------------|-----------------------------------------------|-------------------------|----------------------------------|-------|------|-----------------------|-------------------------|----------------------------------|------|------|-----------------------|-------------------------|----------------------------------|-----|------|-----------------------|-------------------------|----------------------------------|------|-------|----------|
|                                     |                        | 85°F                                          |                         |                                  |       |      |                       | 95°F                    |                                  |      |      |                       | 105°F                   |                                  |     |      |                       | 115°F                   |                                  |      |       |          |
|                                     |                        | Total<br>Cool<br>Cap.                         | Comp.<br>Motor<br>Input | Sensible To Total<br>Ratio (S/T) |       |      | Total<br>Cool<br>Cap. | Comp.<br>Motor<br>Input | Sensible To Total<br>Ratio (S/T) |      |      | Total<br>Cool<br>Cap. | Comp.<br>Motor<br>Input | Sensible To Total<br>Ratio (S/T) |     |      | Total<br>Cool<br>Cap. | Comp.<br>Motor<br>Input | Sensible To Total<br>Ratio (S/T) |      |       |          |
|                                     |                        |                                               |                         |                                  |       |      |                       |                         |                                  |      |      |                       |                         |                                  |     |      |                       |                         |                                  |      |       | Dry Bulb |
|                                     |                        |                                               |                         | cfm                              | kBtuh | kW   |                       |                         | 75°F                             | 80°F | 85°F |                       |                         | kBtuh                            | kW  | 75°F |                       |                         | 80°F                             | 85°F | kBtuh | kW       |
| 63°F                                | 1920                   | 73.0                                          | 4.330                   | .66                              | .81   | .91  | 67.3                  | 4.96                    | .68                              | .81  | .93  | 61.4                  | 5.68                    | .68                              | .83 | .95  | 55.1                  | 6.50                    | .68                              | .85  | .99   |          |
|                                     | 2400                   | 78.4                                          | 4.320                   | .72                              | .86   | .98  | 72.7                  | 4.95                    | .73                              | .88  | 1.00 | 66.4                  | 5.66                    | .75                              | .90 | 1.00 | 59.8                  | 6.49                    | .76                              | .93  | 1.00  |          |
|                                     | 2880                   | 83.0                                          | 4.310                   | .77                              | .91   | 1.00 | 76.9                  | 4.94                    | .78                              | .93  | 1.00 | 70.2                  | 5.65                    | .81                              | .97 | 1.00 | 63.4                  | 6.47                    | .83                              | 1.00 | 1.00  |          |
| 67°F                                | 1920                   | 78.3                                          | 4.310                   | .52                              | .64   | .77  | 72.2                  | 4.95                    | .51                              | .65  | .79  | 65.8                  | 5.65                    | .51                              | .65 | .80  | 59.1                  | 6.48                    | .50                              | .66  | .82   |          |
|                                     | 2400                   | 83.1                                          | 4.300                   | .55                              | .69   | .83  | 76.7                  | 4.93                    | .54                              | .71  | .85  | 69.9                  | 5.64                    | .55                              | .72 | .87  | 62.7                  | 6.47                    | .55                              | .75  | .90   |          |
|                                     | 2880                   | 86.5                                          | 4.290                   | .58                              | .75   | .89  | 79.9                  | 4.92                    | .59                              | .77  | .91  | 72.9                  | 5.64                    | .58                              | .80 | .93  | 65.5                  | 6.46                    | .60                              | .81  | .97   |          |
| 71°F                                | 1920                   | 84.1                                          | 4.300                   | .39                              | .51   | .62  | 78.0                  | 4.93                    | .37                              | .50  | .63  | 71.3                  | 5.64                    | .35                              | .49 | .64  | 64.2                  | 6.46                    | .34                              | .49  | .65   |          |
|                                     | 2400                   | 89.1                                          | 4.290                   | .41                              | .54   | .67  | 82.5                  | 4.92                    | .39                              | .54  | .68  | 75.4                  | 5.63                    | .37                              | .55 | .71  | 67.9                  | 6.45                    | .36                              | .55  | .72   |          |
|                                     | 2880                   | 92.7                                          | 4.290                   | .42                              | .58   | .73  | 85.7                  | 4.92                    | .41                              | .59  | .75  | 78.4                  | 5.63                    | .40                              | .58 | .76  | 70.6                  | 6.44                    | .39                              | .59  | .80   |          |

### 7.5 TON - LCT092H4E/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) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      |
|                               |                  |                                               |                   | Dry Bulb                      |      |      |                 |                   | Dry Bulb                      |      |      |                 |                   | Dry Bulb                      |      |      |                 |                   | 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             | 91.5                                          | 5.16              | .68                           | .80  | .91  | 85.6            | 5.81              | .68                           | .81  | .93  | 79.3            | 6.56              | .70                           | .83  | .95  | 72.6            | 7.44              | .70                           | .84  | .98  |
|                               | 3000             | 97.6                                          | 5.19              | .73                           | .86  | .98  | 91.3            | 5.84              | .74                           | .88  | 1.00 | 84.8            | 6.59              | .75                           | .90  | 1.00 | 77.8            | 7.46              | .77                           | .92  | 1.00 |
|                               | 3600             | 102.5                                         | 5.21              | .78                           | .92  | 1.00 | 96.0            | 5.86              | .79                           | .94  | 1.00 | 88.9            | 6.60              | .81                           | .96  | 1.00 | 81.5            | 7.47              | .83                           | .99  | 1.00 |
| 67°F                          | 2400             | 96.7                                          | 5.19              | .53                           | .65  | .77  | 90.1            | 5.83              | .52                           | .66  | .78  | 83.4            | 6.58              | .53                           | .67  | .80  | 76.2            | 7.45              | .52                           | .69  | .82  |
|                               | 3000             | 102.0                                         | 5.21              | .56                           | .71  | .83  | 95.1            | 5.86              | .56                           | .72  | .85  | 88.0            | 6.61              | .57                           | .73  | .87  | 80.6            | 7.47              | .56                           | .74  | .89  |
|                               | 3600             | 105.9                                         | 5.23              | .60                           | .76  | .89  | 99.0            | 5.88              | .60                           | .77  | .91  | 91.9            | 6.62              | .61                           | .78  | .93  | 84.1            | 7.48              | .62                           | .80  | .96  |
| 71°F                          | 2400             | 103.3                                         | 5.22              | .40                           | .51  | .63  | 96.5            | 5.87              | .39                           | .52  | .64  | 89.4            | 6.61              | .37                           | .52  | .65  | 81.9            | 7.48              | .35                           | .51  | .66  |
|                               | 3000             | 108.7                                         | 5.25              | .41                           | .55  | .69  | 101.3           | 5.89              | .40                           | .56  | .70  | 93.8            | 6.63              | .38                           | .56  | .72  | 85.7            | 7.50              | .38                           | .57  | .73  |
|                               | 3600             | 112.4                                         | 5.27              | .42                           | .60  | .74  | 104.9           | 5.91              | .41                           | .59  | .76  | 97.0            | 6.65              | .41                           | .60  | .77  | 88.7            | 7.51              | .41                           | .61  | .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.

### 10 TON - LCT120H4E/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) |      |       | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |       | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |       | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      |
|                               |                  |                                               |                   | Dry Bulb                      |      |       |                 |                   | Dry Bulb                      |      |       |                 |                   | Dry Bulb                      |      |       |                 |                   | 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             | 49.3                                          | 1.64              | .78                           | .98  | 1.00  | 46.8            | 1.89              | .80                           | 1.00 | 1.00  | 44.3            | 2.18              | .81                           | 1.00 | 1.00  | 41.6            | 2.50              | .83                           | 1.00 | 1.00 |
|                               | 2400             | 52.5                                          | 1.61              | .84                           | 1.00 | 1.00  | 50.1            | 1.86              | .86                           | 1.00 | 1.00  | 47.4            | 2.15              | .88                           | 1.00 | 1.00  | 44.5            | 2.47              | .93                           | 1.00 | 1.00 |
|                               | 2880             | 55.2                                          | 1.59              | .91                           | 1.00 | 1.00  | 52.5            | 1.84              | .95                           | 1.00 | 1.00  | 49.7            | 2.12              | .99                           | 1.00 | 1.00  | 46.6            | 2.44              | 1.00                          | 1.00 | 1.00 |
| 67°F                          | 1920             | 51.7                                          | 1.62              | .61                           | .76  | .92   | 49.1            | 1.87              | .61                           | .77  | .96   | 46.3            | 2.16              | .62                           | .79  | .99   | 43.2            | 2.48              | .62                           | .81  | 1.00 |
|                               | 2400             | 54.3                                          | 1.60              | .65                           | .82  | 1.00  | 51.5            | 1.85              | .65                           | .84  | 1.00  | 48.4            | 2.13              | .66                           | .86  | 1.00  | 45.3            | 2.46              | .67                           | .89  | 1.00 |
|                               | 2880             | 56.2                                          | 1.58              | .69                           | .88  | 1.00  | 53.2            | 1.83              | .69                           | .92  | 1.00  | 50.2            | 2.11              | .71                           | .96  | 1.00  | 46.8            | 2.44              | .72                           | 1.00 | 1.00 |
| 71°F                          | 1920             | 54.8                                          | 1.59              | .44                           | .60  | .74   | 52.0            | 1.84              | .44                           | .60  | .75   | 49.1            | 2.13              | .44                           | .61  | .77   | 45.9            | 2.45              | .44                           | .62  | .79  |
|                               | 2400             | 57.3                                          | 1.57              | .46                           | .64  | .80   | 54.4            | 1.82              | .46                           | .65  | .82   | 51.3            | 2.10              | .46                           | .66  | .84   | 47.7            | 2.42              | .46                           | .67  | .87  |
|                               | 2880             | 59.1                                          | 1.55              | .48                           | .68  | .86   | 56.0            | 1.80              | .48                           | .69  | .88   | 52.7            | 2.08              | .48                           | .70  | .92   | 49.1            | 2.41              | .48                           | .72  | .97  |

### 10 TON - LCT120H4E/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) |      |       | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |       | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |       | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      |
|                               |                  |                                               |                   | Dry Bulb                      |      |       |                 |                   | Dry Bulb                      |      |       |                 |                   | Dry Bulb                      |      |       |                 |                   | 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             | 96.5                                          | 5.75              | .66                           | .82  | .92   | 90.4            | 6.52              | .67                           | .82  | .94   | 84.2            | 7.41              | .68                           | .84  | .96   | 77.5            | 8.43              | .70                           | .86  | .99  |
|                               | 3200             | 102.9                                         | 5.75              | .72                           | .87  | .99   | 96.7            | 6.52              | .74                           | .89  | 1.00  | 90.1            | 7.41              | .76                           | .91  | 1.00  | 82.8            | 8.42              | .77                           | .94  | 1.00 |
|                               | 3840             | 108.1                                         | 5.75              | .77                           | .93  | 1.00  | 101.5           | 6.52              | .79                           | .95  | 1.00  | 94.6            | 7.41              | .82                           | .98  | 1.00  | 87.0            | 8.41              | .84                           | 1.00 | 1.00 |
| 67°F                          | 2560             | 102.9                                         | 5.74              | .52                           | .65  | .78   | 96.3            | 6.51              | .52                           | .65  | .79   | 89.3            | 7.39              | .53                           | .66  | .81   | 81.8            | 8.39              | .53                           | .67  | .83  |
|                               | 3200             | 108.3                                         | 5.73              | .55                           | .70  | .84   | 101.3           | 6.50              | .56                           | .70  | .86   | 93.9            | 7.38              | .56                           | .73  | .88   | 86.1            | 8.39              | .56                           | .76  | .91  |
|                               | 3840             | 112.4                                         | 5.73              | .58                           | .76  | .90   | 105.2           | 6.49              | .59                           | .76  | .92   | 97.4            | 7.38              | .60                           | .81  | .95   | 89.1            | 8.38              | .61                           | .82  | .98  |
| 71°F                          | 2560             | 109.9                                         | 5.73              | .39                           | .51  | .63   | 103.1           | 6.50              | .39                           | .51  | .63   | 95.9            | 7.38              | .38                           | .51  | .64   | 87.9            | 8.38              | .37                           | .51  | .66  |
|                               | 3200             | 115.6                                         | 5.73              | .40                           | .54  | .67   | 108.2           | 6.49              | .40                           | .55  | .69   | 100.5           | 7.36              | .40                           | .55  | .70   | 92.3            | 8.36              | .39                           | .55  | .72  |
|                               | 3840             | 119.7                                         | 5.72              | .42                           | .57  | .74   | 112.1           | 6.48              | .42                           | .59  | .74   | 104.0           | 7.35              | .41                           | .58  | .77   | 95.1            | 8.35              | .42                           | .61  | .80  |

### 10 TON - LCT120H4E/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) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      |       |      |      |      |      |
|                               |                  |                                               |                   | Dry Bulb                      |      |      |                 |                   | Dry Bulb                      |      |      |                 |                   | 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             | 117.6                                         | 6.74              | .68                           | .81  | .92  | 110.9           | 7.58              | .69                           | .82  | .95  | 103.9           | 8.55              | .71                           | .84  | .97  | 96.1  | 9.65 | .71  | .86  | 1.00 |
|                               | 4000             | 124.6                                         | 6.79              | .74                           | .87  | 1.00 | 117.5           | 7.64              | .75                           | .89  | 1.00 | 110.0           | 8.61              | .76                           | .92  | 1.00 | 101.9 | 9.72 | .78  | .95  | 1.00 |
|                               | 4800             | 130.3                                         | 6.85              | .78                           | .93  | 1.00 | 122.8           | 7.69              | .80                           | .96  | 1.00 | 114.8           | 8.65              | .82                           | .99  | 1.00 | 106.2 | 9.77 | .84  | 1.00 | 1.00 |
| 67°F                          | 3200             | 123.7                                         | 6.79              | .53                           | .66  | .78  | 116.2           | 7.62              | .54                           | .66  | .79  | 108.5           | 8.59              | .54                           | .68  | .81  | 100.2 | 9.70 | .54  | .70  | .83  |
|                               | 4000             | 129.6                                         | 6.84              | .57                           | .71  | .84  | 121.9           | 7.68              | .56                           | .73  | .86  | 113.7           | 8.64              | .58                           | .74  | .88  | 105.1 | 9.75 | .59  | .76  | .91  |
|                               | 4800             | 134.2                                         | 6.88              | .61                           | .76  | .90  | 126.2           | 7.73              | .61                           | .78  | .93  | 117.9           | 8.69              | .61                           | .79  | .96  | 109.0 | 9.80 | .62  | .82  | .99  |
| 71°F                          | 3200             | 131.6                                         | 6.86              | .39                           | .52  | .63  | 123.8           | 7.70              | .39                           | .52  | .65  | 115.6           | 8.66              | .39                           | .53  | .66  | 106.8 | 9.77 | .38  | .53  | .67  |
|                               | 4000             | 137.6                                         | 6.92              | .41                           | .55  | .69  | 129.2           | 7.76              | .41                           | .56  | .71  | 120.4           | 8.72              | .40                           | .57  | .73  | 111.2 | 9.83 | .40  | .58  | .74  |
|                               | 4800             | 141.9                                         | 6.96              | .43                           | .59  | .74  | 133.0           | 7.80              | .41                           | .60  | .76  | 123.8           | 8.76              | .42                           | .62  | .78  | 114.3 | 9.86 | .42  | .61  | .80  |



## 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 - LCT150H4E/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) |      |       | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |       | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |       | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      |  |  |  |  |
|                               |                  |                                               |                   | Dry Bulb                      |      |       |                 |                   | Dry Bulb                      |      |       |                 |                   | Dry Bulb                      |      |       |                 |                   | 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             | 56.0                                          | 2120              | .76                           | .93  | 1.00  | 53.2            | 2450              | .77                           | .96  | 1.00  | 50.2            | 2820              | .79                           | .99  | 1.00  | 47.0            | 3250              | .80                           | 1.00 | 1.00 |  |  |  |  |
|                               | 2600             | 59.2                                          | 2110              | .81                           | 1.00 | 1.00  | 56.5            | 2440              | .83                           | 1.00 | 1.00  | 53.5            | 2810              | .85                           | 1.00 | 1.00  | 50.3            | 3240              | .89                           | 1.00 | 1.00 |  |  |  |  |
|                               | 3120             | 62.3                                          | 2100              | .87                           | 1.00 | 1.00  | 59.3            | 2430              | .90                           | 1.00 | 1.00  | 56.2            | 2800              | .94                           | 1.00 | 1.00  | 52.8            | 3230              | .98                           | 1.00 | 1.00 |  |  |  |  |
| 67°F                          | 2080             | 58.9                                          | 2110              | .59                           | .74  | .88   | 55.9            | 2440              | .59                           | .75  | .91   | 52.8            | 2820              | .60                           | .76  | .95   | 49.2            | 3240              | .61                           | .78  | .99  |  |  |  |  |
|                               | 2600             | 61.8                                          | 2100              | .63                           | .79  | .99   | 58.7            | 2430              | .63                           | .81  | 1.00  | 55.3            | 2810              | .64                           | .83  | 1.00  | 51.5            | 3230              | .65                           | .86  | 1.00 |  |  |  |  |
|                               | 3120             | 64.1                                          | 2090              | .66                           | .84  | 1.00  | 60.7            | 2420              | .67                           | .87  | 1.00  | 57.1            | 2800              | .68                           | .91  | 1.00  | 53.3            | 3230              | .70                           | .95  | 1.00 |  |  |  |  |
| 71°F                          | 2080             | 62.3                                          | 2100              | .44                           | .58  | .72   | 59.3            | 2430              | .44                           | .59  | .73   | 55.9            | 2800              | .43                           | .59  | .74   | 52.3            | 3230              | .43                           | .60  | .76  |  |  |  |  |
|                               | 2600             | 65.5                                          | 2090              | .45                           | .62  | .77   | 62.1            | 2420              | .45                           | .63  | .79   | 58.5            | 2790              | .45                           | .64  | .81   | 54.7            | 3220              | .45                           | .65  | .83  |  |  |  |  |
|                               | 3120             | 67.7                                          | 2080              | .47                           | .65  | .82   | 64.1            | 2410              | .47                           | .66  | .84   | 60.4            | 2780              | .47                           | .68  | .87   | 56.3            | 3210              | .47                           | .69  | .92  |  |  |  |  |

### 12.5 TON - LCT150H4E/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) |      |       | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |       | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |       | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      |
|                               |                  |                                               |                   | Dry Bulb                      |      |       |                 |                   | Dry Bulb                      |      |       |                 |                   | Dry Bulb                      |      |       |                 |                   | 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             | 117.3                                         | 7.63              | .68                           | .83  | .93   | 110.0           | 8.65              | .68                           | .84  | .96   | 102.4           | 9.81              | .71                           | .86  | .99   | 94.2            | 11.13             | .72                           | .88  | 1.00 |
|                               | 4000             | 124.5                                         | 7.68              | .73                           | .88  | 1.00  | 117.1           | 8.71              | .74                           | .90  | 1.00  | 109.1           | 9.87              | .77                           | .93  | 1.00  | 100.4           | 11.19             | .80                           | .97  | 1.00 |
|                               | 4800             | 130.6                                         | 7.72              | .79                           | .94  | 1.00  | 122.7           | 8.75              | .81                           | .97  | 1.00  | 114.3           | 9.91              | .84                           | .99  | 1.00  | 105.4           | 11.23             | .87                           | 1.00 | 1.00 |
| 67°F                          | 3200             | 125.0                                         | 7.67              | .53                           | .65  | .78   | 117.0           | 8.69              | .54                           | .67  | .80   | 108.6           | 9.85              | .54                           | .68  | .83   | 99.4            | 11.16             | .54                           | .70  | .85  |
|                               | 4000             | 131.1                                         | 7.70              | .57                           | .71  | .85   | 122.7           | 8.73              | .56                           | .72  | .87   | 113.6           | 9.88              | .57                           | .76  | .90   | 104.1           | 11.19             | .59                           | .78  | .93  |
|                               | 4800             | 135.6                                         | 7.73              | .59                           | .76  | .91   | 127.0           | 8.76              | .60                           | .78  | .93   | 117.7           | 9.91              | .60                           | .81  | .97   | 107.8           | 11.22             | .63                           | .84  | 1.00 |
| 71°F                          | 3200             | 133.3                                         | 7.72              | .39                           | .52  | .63   | 124.9           | 8.74              | .40                           | .52  | .64   | 116.1           | 9.90              | .39                           | .53  | .65   | 106.7           | 11.22             | .39                           | .53  | .67  |
|                               | 4000             | 139.8                                         | 7.75              | .41                           | .55  | .69   | 131.0           | 8.78              | .40                           | .55  | .70   | 121.6           | 9.94              | .41                           | .57  | .73   | 111.3           | 11.25             | .41                           | .58  | .76  |
|                               | 4800             | 144.5                                         | 7.78              | .43                           | .58  | .73   | 135.2           | 8.81              | .42                           | .60  | .76   | 125.4           | 9.97              | .42                           | .60  | .79   | 114.8           | 11.27             | .42                           | .62  | .82  |

### 12.5 TON - LCT150H4E/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) |      |       | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |       | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |       | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      |
|                               |                  |                                               |                   | Dry Bulb                      |      |       |                 |                   | Dry Bulb                      |      |       |                 |                   | Dry Bulb                      |      |       |                 |                   | 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             | 141.6                                         | 8.86              | .69                           | .83  | .95   | 133.6           | 10.02             | .71                           | .84  | .97   | 125.1           | 11.31             | .71                           | .86  | .99   | 115.9           | 12.80             | .73                           | .89  | 1.00 |
|                               | 5000             | 149.5                                         | 8.96              | .75                           | .89  | 1.00  | 141.1           | 10.10             | .76                           | .91  | 1.00  | 131.9           | 11.40             | .79                           | .94  | 1.00  | 122.1           | 12.87             | .81                           | .98  | 1.00 |
|                               | 6000             | 155.8                                         | 9.03              | .80                           | .96  | 1.00  | 146.7           | 10.17             | .82                           | .98  | 1.00  | 137.3           | 11.47             | .84                           | 1.00 | 1.00  | 127.6           | 12.94             | .87                           | 1.00 | 1.00 |
| 67°F                          | 4000             | 148.9                                         | 8.94              | .54                           | .67  | .80   | 140.0           | 10.08             | .54                           | .67  | .81   | 130.3           | 11.36             | .55                           | .70  | .83   | 120.3           | 12.83             | .55                           | .71  | .86  |
|                               | 5000             | 155.4                                         | 9.01              | .58                           | .73  | .86   | 146.1           | 10.16             | .58                           | .74  | .88   | 136.2           | 11.44             | .59                           | .76  | .91   | 125.9           | 12.90             | .61                           | .78  | .95  |
|                               | 6000             | 160.4                                         | 9.07              | .61                           | .78  | .93   | 150.8           | 10.21             | .63                           | .80  | .95   | 141.1           | 11.51             | .62                           | .82  | .98   | 130.3           | 12.97             | .65                           | .85  | 1.00 |
| 71°F                          | 4000             | 158.3                                         | 9.04              | .40                           | .52  | .64   | 149.1           | 10.19             | .40                           | .53  | .66   | 139.1           | 11.48             | .40                           | .54  | .68   | 128.4           | 12.94             | .39                           | .55  | .69  |
|                               | 5000             | 164.9                                         | 9.12              | .42                           | .57  | .71   | 155.0           | 10.27             | .42                           | .57  | .73   | 144.6           | 11.56             | .42                           | .59  | .74   | 133.0           | 13.00             | .42                           | .60  | .77  |
|                               | 6000             | 169.7                                         | 9.18              | .44                           | .60  | .76   | 159.3           | 10.32             | .43                           | .61  | .78   | 148.3           | 11.61             | .44                           | .63  | .80   | 136.5           | 13.06             | .44                           | .64  | .83  |

# HUMIDITROL® DEHUMIDIFICATION SYSTEM RATINGS

## 7.5 TON - LCT092H4E WITH HUMIDITROL® OPERATING (PART LOAD)

| Entering Wet Bulb Temperature | Total Air Volume | Outdoor Air Temperature Entering Outdoor Coil |                   |                               |      |      |                 |                   |                               |      |      |                 |                   |                               |      |      |
|-------------------------------|------------------|-----------------------------------------------|-------------------|-------------------------------|------|------|-----------------|-------------------|-------------------------------|------|------|-----------------|-------------------|-------------------------------|------|------|
|                               |                  | 65°F                                          |                   |                               |      |      | 75°F            |                   |                               |      |      | 85°F            |                   |                               |      |      |
|                               |                  | Total Cool Cap.                               | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      |
|                               |                  |                                               |                   | Dry Bulb                      |      |      |                 |                   | Dry Bulb                      |      |      |                 |                   | 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 |
| 63°F                          | 1440             | 34.8                                          | 2.1               | 0.60                          | 0.83 | 0.95 | 27.7            | 2.3               | 0.54                          | 0.82 | 0.98 | 20.6            | 2.6               | 0.48                          | 0.82 | 0.99 |
|                               | 1800             | 37.1                                          | 2.1               | 0.64                          | 0.86 | 0.97 | 28.9            | 2.3               | 0.60                          | 0.87 | 0.99 | 20.7            | 2.5               | 0.56                          | 0.87 | 1.00 |
|                               | 2160             | 39.4                                          | 2.1               | 0.69                          | 0.89 | 0.99 | 30.1            | 2.3               | 0.66                          | 0.92 | 0.99 | 20.9            | 2.5               | 0.63                          | 0.93 | 1.00 |
| 67°F                          | 1440             | 41.0                                          | 2.1               | 0.42                          | 0.63 | 0.78 | 32.8            | 2.3               | 0.35                          | 0.60 | 0.75 | 25.3            | 2.5               | 0.29                          | 0.55 | 0.72 |
|                               | 1800             | 43.0                                          | 2.1               | 0.45                          | 0.65 | 0.80 | 34.3            | 2.3               | 0.38                          | 0.62 | 0.78 | 26.1            | 2.6               | 0.31                          | 0.58 | 0.76 |
|                               | 2160             | 45.1                                          | 2.2               | 0.48                          | 0.67 | 0.82 | 35.8            | 2.3               | 0.41                          | 0.65 | 0.81 | 27.0            | 2.6               | 0.33                          | 0.60 | 0.79 |
| 71°F                          | 1440             | 45.8                                          | 2.1               | 0.25                          | 0.43 | 0.61 | 38.4            | 2.4               | 0.17                          | 0.35 | 0.53 | 31.0            | 2.6               | 0.10                          | 0.28 | 0.46 |
|                               | 1800             | 49.1                                          | 2.2               | 0.26                          | 0.44 | 0.63 | 40.5            | 2.4               | 0.16                          | 0.37 | 0.57 | 31.8            | 2.6               | 0.06                          | 0.29 | 0.52 |
|                               | 2160             | 52.4                                          | 2.2               | 0.26                          | 0.46 | 0.65 | 42.5            | 2.4               | 0.15                          | 0.39 | 0.62 | 32.6            | 2.6               | 0.03                          | 0.31 | 0.59 |

## 7.5 TON - LCT092H4E WITH HUMIDITROL® OPERATING (FULL LOAD)

| Entering Wet Bulb Temperature | Total Air Volume | Outdoor Air Temperature Entering Outdoor Coil |                   |                               |      |      |                 |                   |                               |      |      |                 |                   |                               |      |      |
|-------------------------------|------------------|-----------------------------------------------|-------------------|-------------------------------|------|------|-----------------|-------------------|-------------------------------|------|------|-----------------|-------------------|-------------------------------|------|------|
|                               |                  | 65°F                                          |                   |                               |      |      | 75°F            |                   |                               |      |      | 85°F            |                   |                               |      |      |
|                               |                  | Total Cool Cap.                               | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      |
|                               |                  |                                               |                   | Dry Bulb                      |      |      |                 |                   | Dry Bulb                      |      |      |                 |                   | 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 |
| 63°F                          | 2400             | 78.6                                          | 4.0               | 0.61                          | 0.76 | 0.91 | 66.4            | 4.4               | 0.59                          | 0.78 | 0.97 | 54.2            | 4.9               | 0.58                          | 0.80 | 1.00 |
|                               | 3000             | 83.7                                          | 4.0               | 0.64                          | 0.81 | 0.97 | 71.1            | 4.5               | 0.65                          | 0.85 | 1.00 | 57.9            | 5.0               | 0.66                          | 0.89 | 1.00 |
|                               | 3600             | 88.9                                          | 4.1               | 0.67                          | 0.88 | 1.00 | 75.9            | 4.5               | 0.72                          | 0.92 | 1.00 | 61.7            | 5.0               | 0.74                          | 0.92 | 1.00 |
| 67°F                          | 2400             | 89.6                                          | 4.0               | 0.46                          | 0.60 | 0.73 | 76.8            | 4.5               | 0.44                          | 0.60 | 0.75 | 64.4            | 5.0               | 0.42                          | 0.59 | 0.77 |
|                               | 3000             | 93.4                                          | 4.1               | 0.49                          | 0.64 | 0.78 | 79.7            | 4.5               | 0.47                          | 0.63 | 0.79 | 66.5            | 5.1               | 0.45                          | 0.62 | 0.79 |
|                               | 3600             | 97.2                                          | 4.1               | 0.52                          | 0.67 | 0.82 | 82.7            | 4.6               | 0.52                          | 0.67 | 0.82 | 68.5            | 5.1               | 0.50                          | 0.65 | 0.82 |
| 71°F                          | 2400             | 100.6                                         | 4.1               | 0.31                          | 0.43 | 0.55 | 87.3            | 4.6               | 0.28                          | 0.41 | 0.54 | 74.7            | 5.1               | 0.2                           | 0.38 | 0.53 |
|                               | 3000             | 106.1                                         | 4.2               | 0.34                          | 0.47 | 0.60 | 92.2            | 4.6               | 0.30                          | 0.44 | 0.59 | 78.6            | 5.1               | 0.25                          | 0.42 | 0.58 |
|                               | 3600             | 111.6                                         | 4.2               | 0.37                          | 0.51 | 0.65 | 97.1            | 4.7               | 0.32                          | 0.48 | 0.64 | 82.6            | 5.1               | 0.26                          | 0.45 | 0.64 |

## 8.5 TON - LCT102H4E WITH HUMIDITROL® OPERATING (PART LOAD)

| Entering Wet Bulb Temperature | Total Air Volume | Outdoor Air Temperature Entering Outdoor Coil |                   |                               |      |      |                 |                   |                               |      |      |                 |                   |                               |      |      |
|-------------------------------|------------------|-----------------------------------------------|-------------------|-------------------------------|------|------|-----------------|-------------------|-------------------------------|------|------|-----------------|-------------------|-------------------------------|------|------|
|                               |                  | 65°F                                          |                   |                               |      |      | 75°F            |                   |                               |      |      | 85°F            |                   |                               |      |      |
|                               |                  | Total Cool Cap.                               | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      |
|                               |                  |                                               |                   | Dry Bulb                      |      |      |                 |                   | Dry Bulb                      |      |      |                 |                   | 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 |
| 63°F                          | 1600             | 35.8                                          | 2.1               | 0.62                          | 0.84 | 0.96 | 28.2            | 2.3               | 0.57                          | 0.83 | 0.98 | 20.6            | 2.6               | 0.51                          | 0.83 | 0.99 |
|                               | 2000             | 38.4                                          | 2.1               | 0.67                          | 0.88 | 0.98 | 29.6            | 2.3               | 0.63                          | 0.90 | 0.99 | 20.8            | 2.5               | 0.60                          | 0.92 | 1.00 |
|                               | 2400             | 41.0                                          | 2.1               | 0.72                          | 0.92 | 1.00 | 31.0            | 2.3               | 0.70                          | 0.94 | 1.00 | 21.0            | 2.5               | 0.68                          | 0.95 | 1.00 |
| 67°F                          | 1600             | 41.9                                          | 2.1               | 0.43                          | 0.64 | 0.79 | 33.7            | 2.3               | 0.37                          | 0.61 | 0.76 | 25.9            | 2.6               | 0.30                          | 0.56 | 0.74 |
|                               | 2000             | 44.2                                          | 2.2               | 0.47                          | 0.66 | 0.81 | 35.0            | 2.3               | 0.40                          | 0.64 | 0.79 | 26.4            | 2.6               | 0.32                          | 0.59 | 0.78 |
|                               | 2400             | 46.4                                          | 2.2               | 0.50                          | 0.69 | 0.83 | 37.1            | 2.3               | 0.43                          | 0.67 | 0.82 | 27.8            | 2.6               | 0.34                          | 0.62 | 0.81 |
| 71°F                          | 1600             | 47.3                                          | 2.1               | 0.25                          | 0.43 | 0.61 | 39.3            | 2.4               | 0.17                          | 0.36 | 0.55 | 31.3            | 2.6               | 0.08                          | 0.28 | 0.48 |
|                               | 2000             | 50.9                                          | 2.2               | 0.26                          | 0.45 | 0.64 | 41.6            | 2.4               | 0.16                          | 0.38 | 0.60 | 32.3            | 2.6               | 0.04                          | 0.30 | 0.56 |
|                               | 2400             | 54.6                                          | 2.2               | 0.27                          | 0.47 | 0.66 | 43.9            | 2.4               | 0.15                          | 0.40 | 0.65 | 33.2            | 2.6               | 0.00                          | 0.32 | 0.63 |

## 8.5 TON - LCT102H4E WITH HUMIDITROL® OPERATING (FULL LOAD)

| Entering Wet Bulb Temperature | Total Air Volume | Outdoor Air Temperature Entering Outdoor Coil |                   |                               |      |      |                 |                   |                               |      |      |                 |                   |                               |      |      |
|-------------------------------|------------------|-----------------------------------------------|-------------------|-------------------------------|------|------|-----------------|-------------------|-------------------------------|------|------|-----------------|-------------------|-------------------------------|------|------|
|                               |                  | 65°F                                          |                   |                               |      |      | 75°F            |                   |                               |      |      | 85°F            |                   |                               |      |      |
|                               |                  | Total Cool Cap.                               | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      |
|                               |                  |                                               |                   | Dry Bulb                      |      |      |                 |                   | Dry Bulb                      |      |      |                 |                   | 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 |
| 63°F                          | 2720             | 83.8                                          | 4.2               | 0.60                          | 0.76 | 0.93 | 71.2            | 4.7               | 0.58                          | 0.77 | 0.93 | 58.1            | 5.2               | 0.55                          | 0.77 | 0.94 |
|                               | 3400             | 88.4                                          | 4.3               | 0.66                          | 0.85 | 0.94 | 74.5            | 4.7               | 0.64                          | 0.86 | 0.94 | 60.4            | 5.3               | 0.62                          | 0.88 | 0.95 |
|                               | 4080             | 93.0                                          | 4.3               | 0.72                          | 0.94 | 0.94 | 77.8            | 4.7               | 0.70                          | 0.94 | 0.95 | 62.6            | 5.3               | 0.69                          | 0.95 | 0.96 |
| 67°F                          | 2720             | 94.6                                          | 4.3               | 0.43                          | 0.58 | 0.72 | 81.2            | 4.7               | 0.39                          | 0.56 | 0.71 | 68.6            | 5.3               | 0.35                          | 0.53 | 0.70 |
|                               | 3400             | 98.7                                          | 4.3               | 0.48                          | 0.64 | 0.74 | 84.7            | 4.8               | 0.43                          | 0.62 | 0.73 | 70.0            | 5.3               | 0.39                          | 0.60 | 0.73 |
|                               | 4080             | 102.8                                         | 4.3               | 0.52                          | 0.70 | 0.76 | 88.2            | 4.8               | 0.47                          | 0.68 | 0.76 | 71.4            | 5.3               | 0.43                          | 0.68 | 0.77 |
| 71°F                          | 2720             | 108.3                                         | 4.3               | 0.29                          | 0.43 | 0.56 | 93.9            | 4.9               | 0.24                          | 0.39 | 0.54 | 79.6            | 5.4               | 0.18                          | 0.35 | 0.51 |
|                               | 3400             | 115.2                                         | 4.3               | 0.33                          | 0.47 | 0.60 | 99.1            | 4.9               | 0.26                          | 0.42 | 0.59 | 83.1            | 5.4               | 0.19                          | 0.38 | 0.57 |
|                               | 4080             | 122.1                                         | 4.3               | 0.37                          | 0.51 | 0.65 | 104.3           | 4.9               | 0.28                          | 0.46 | 0.64 | 86.5            | 5.4               | 0.19                          | 0.41 | 0.62 |

# HUMIDITROL® DEHUMIDIFICATION SYSTEM RATINGS

## 10 TON - LCT120H4E WITH HUMIDITROL® OPERATING (PART LOAD)

| Entering Wet Bulb Temperature | Total Air Volume | Outdoor Air Temperature Entering Outdoor Coil |                   |                               |      |      |                 |                   |                               |      |      |                 |                   |                               |      |      |
|-------------------------------|------------------|-----------------------------------------------|-------------------|-------------------------------|------|------|-----------------|-------------------|-------------------------------|------|------|-----------------|-------------------|-------------------------------|------|------|
|                               |                  | 65°F                                          |                   |                               |      |      | 75°F            |                   |                               |      |      | 85°F            |                   |                               |      |      |
|                               |                  | Total Cool Cap.                               | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      |
|                               |                  |                                               |                   | Dry Bulb                      |      |      |                 |                   | Dry Bulb                      |      |      |                 |                   | 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 |
| 63°F                          | 2000             | 43.1                                          | 2.6               | 0.59                          | 0.80 | 0.96 | 34.7            | 2.9               | 0.53                          | 0.79 | 0.97 | 26.2            | 3.2               | 0.46                          | 0.78 | 0.98 |
|                               | 2400             | 45.6                                          | 2.6               | 0.63                          | 0.83 | 0.98 | 36.2            | 2.9               | 0.56                          | 0.83 | 0.99 | 26.7            | 3.2               | 0.48                          | 0.81 | 1.00 |
|                               | 2800             | 48.1                                          | 2.7               | 0.67                          | 0.87 | 0.99 | 37.6            | 2.9               | 0.59                          | 0.87 | 1.00 | 27.2            | 3.2               | 0.51                          | 0.85 | 1.00 |
| 67°F                          | 2000             | 49.1                                          | 2.7               | 0.42                          | 0.56 | 0.77 | 40.6            | 3.0               | 0.32                          | 0.52 | 0.76 | 32.2            | 3.3               | 0.23                          | 0.46 | 0.74 |
|                               | 2400             | 52.3                                          | 2.7               | 0.42                          | 0.60 | 0.79 | 42.7            | 3.0               | 0.32                          | 0.56 | 0.79 | 33.0            | 3.3               | 0.22                          | 0.51 | 0.80 |
|                               | 2800             | 55.5                                          | 2.7               | 0.43                          | 0.64 | 0.80 | 44.7            | 3.0               | 0.33                          | 0.60 | 0.82 | 33.9            | 3.3               | 0.22                          | 0.56 | 0.85 |
| 71°F                          | 2000             | 55.0                                          | 2.7               | 0.24                          | 0.40 | 0.56 | 46.6            | 3.0               | 0.12                          | 0.32 | 0.53 | 38.1            | 3.3               | 0.00                          | 0.23 | 0.47 |
|                               | 2400             | 59.0                                          | 2.8               | 0.23                          | 0.41 | 0.59 | 49.2            | 3.1               | 0.12                          | 0.33 | 0.55 | 39.4            | 3.3               | 0.00                          | 0.25 | 0.50 |
|                               | 2800             | 63.0                                          | 2.8               | 0.21                          | 0.41 | 0.61 | 51.8            | 3.1               | 0.11                          | 0.34 | 0.57 | 40.6            | 3.3               | 0.01                          | 0.27 | 0.53 |

## 10 TON - LCT120H4E WITH HUMIDITROL® OPERATING (FULL LOAD)

| Entering Wet Bulb Temperature | Total Air Volume | Outdoor Air Temperature Entering Outdoor Coil |                   |                               |      |      |                 |                   |                               |      |      |                 |                   |                               |      |      |
|-------------------------------|------------------|-----------------------------------------------|-------------------|-------------------------------|------|------|-----------------|-------------------|-------------------------------|------|------|-----------------|-------------------|-------------------------------|------|------|
|                               |                  | 65°F                                          |                   |                               |      |      | 75°F            |                   |                               |      |      | 85°F            |                   |                               |      |      |
|                               |                  | Total Cool Cap.                               | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      |
|                               |                  |                                               |                   | Dry Bulb                      |      |      |                 |                   | Dry Bulb                      |      |      |                 |                   | 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 |
| 63°F                          | 3200             | 105.1                                         | 5.2               | 0.59                          | 0.72 | 0.86 | 91.1            | 5.9               | 0.57                          | 0.72 | 0.87 | 77.2            | 6.5               | 0.54                          | 0.74 | 0.89 |
|                               | 4000             | 111.4                                         | 5.3               | 0.63                          | 0.76 | 0.90 | 94.8            | 5.9               | 0.62                          | 0.78 | 0.91 | 78.3            | 6.5               | 0.61                          | 0.80 | 0.93 |
|                               | 4800             | 117.7                                         | 5.3               | 0.66                          | 0.80 | 0.93 | 98.5            | 5.9               | 0.67                          | 0.81 | 0.95 | 79.4            | 6.6               | 0.68                          | 0.86 | 0.97 |
| 67°F                          | 3200             | 116.6                                         | 5.3               | 0.43                          | 0.57 | 0.72 | 102.9           | 6.0               | 0.40                          | 0.56 | 0.72 | 88.5            | 6.6               | 0.36                          | 0.54 | 0.71 |
|                               | 4000             | 123.8                                         | 5.4               | 0.46                          | 0.59 | 0.75 | 107.5           | 6.0               | 0.42                          | 0.59 | 0.75 | 91.8            | 6.6               | 0.38                          | 0.57 | 0.75 |
|                               | 4800             | 131.0                                         | 5.4               | 0.48                          | 0.63 | 0.78 | 112.2           | 6.0               | 0.44                          | 0.61 | 0.78 | 95.1            | 6.6               | 0.40                          | 0.59 | 0.78 |
| 71°F                          | 3200             | 128.1                                         | 5.5               | 0.27                          | 0.42 | 0.56 | 114.6           | 6.0               | 0.23                          | 0.38 | 0.53 | 99.7            | 6.7               | 0.18                          | 0.34 | 0.50 |
|                               | 4000             | 136.2                                         | 5.5               | 0.30                          | 0.44 | 0.59 | 120.2           | 6.1               | 0.25                          | 0.41 | 0.57 | 105.3           | 6.7               | 0.20                          | 0.38 | 0.55 |
|                               | 4800             | 144.2                                         | 5.6               | 0.32                          | 0.47 | 0.62 | 125.9           | 6.1               | 0.27                          | 0.44 | 0.61 | 110.8           | 6.7               | 0.23                          | 0.41 | 0.59 |

## 12.5 TON - LCT150H4E WITH HUMIDITROL® OPERATING (PART LOAD)

| Entering Wet Bulb Temperature | Total Air Volume | Outdoor Air Temperature Entering Outdoor Coil |                   |                               |      |      |                 |                   |                               |      |      |                 |                   |                               |      |      |
|-------------------------------|------------------|-----------------------------------------------|-------------------|-------------------------------|------|------|-----------------|-------------------|-------------------------------|------|------|-----------------|-------------------|-------------------------------|------|------|
|                               |                  | 65°F                                          |                   |                               |      |      | 75°F            |                   |                               |      |      | 85°F            |                   |                               |      |      |
|                               |                  | Total Cool Cap.                               | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      |
|                               |                  |                                               |                   | Dry Bulb                      |      |      |                 |                   | Dry Bulb                      |      |      |                 |                   | 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 |
| 63°F                          | 2080             | 46.2                                          | 3.1               | 0.59                          | 0.79 | 0.97 | 37.0            | 3.4               | 0.52                          | 0.78 | 0.97 | 27.8            | 3.8               | 0.45                          | 0.79 | 0.99 |
|                               | 2600             | 47.6                                          | 3.1               | 0.67                          | 0.85 | 1.00 | 37.6            | 3.5               | 0.58                          | 0.86 | 1.00 | 27.6            | 3.8               | 0.48                          | 0.87 | 1.00 |
|                               | 3120             | 49.0                                          | 3.1               | 0.75                          | 0.92 | 1.00 | 38.2            | 3.5               | 0.63                          | 0.94 | 1.00 | 27.4            | 3.8               | 0.52                          | 0.96 | 1.00 |
| 67°F                          | 2080             | 52.7                                          | 3.2               | 0.40                          | 0.57 | 0.74 | 43.4            | 3.5               | 0.31                          | 0.53 | 0.73 | 33.0            | 3.9               | 0.22                          | 0.48 | 0.72 |
|                               | 2600             | 55.1                                          | 3.2               | 0.45                          | 0.63 | 0.80 | 44.6            | 3.5               | 0.34                          | 0.59 | 0.78 | 33.9            | 3.9               | 0.24                          | 0.55 | 0.76 |
|                               | 3120             | 57.5                                          | 3.2               | 0.49                          | 0.69 | 0.85 | 45.8            | 3.6               | 0.36                          | 0.66 | 0.82 | 34.7            | 3.8               | 0.25                          | 0.62 | 0.79 |
| 71°F                          | 2080             | 59.2                                          | 3.2               | 0.21                          | 0.39 | 0.56 | 49.8            | 3.6               | 0.10                          | 0.31 | 0.51 | 40.3            | 4.0               | 0.00                          | 0.23 | 0.45 |
|                               | 2600             | 62.6                                          | 3.3               | 0.22                          | 0.41 | 0.59 | 51.6            | 3.6               | 0.10                          | 0.33 | 0.55 | 40.7            | 4.0               | -0.02                         | 0.25 | 0.51 |
|                               | 3120             | 65.9                                          | 3.3               | 0.24                          | 0.43 | 0.62 | 53.5            | 3.7               | 0.10                          | 0.35 | 0.59 | 41.0            | 4.0               | -0.03                         | 0.27 | 0.57 |

## 12.5 TON - LCT150H4E WITH HUMIDITROL OPERATING (FULL LOAD)

| Entering Wet Bulb Temperature | Total Air Volume | Outdoor Air Temperature Entering Outdoor Coil |                   |                               |      |      |                 |                   |                               |      |      |                 |                   |                               |      |      |
|-------------------------------|------------------|-----------------------------------------------|-------------------|-------------------------------|------|------|-----------------|-------------------|-------------------------------|------|------|-----------------|-------------------|-------------------------------|------|------|
|                               |                  | 65°F                                          |                   |                               |      |      | 75°F            |                   |                               |      |      | 85°F            |                   |                               |      |      |
|                               |                  | Total Cool Cap.                               | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      | Total Cool Cap. | Comp. Motor Input | Sensible To Total Ratio (S/T) |      |      |
|                               |                  |                                               |                   | Dry Bulb                      |      |      |                 |                   | Dry Bulb                      |      |      |                 |                   | 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 |
| 63°F                          | 4000             | 126.1                                         | 7.0               | 0.61                          | 0.79 | 0.88 | 110.4           | 7.8               | 0.60                          | 0.79 | 0.89 | 94.8            | 8.6               | 0.59                          | 0.81 | 0.90 |
|                               | 5000             | 129.1                                         | 7.1               | 0.66                          | 0.83 | 0.92 | 112.8           | 7.9               | 0.66                          | 0.84 | 0.93 | 96.6            | 8.7               | 0.67                          | 0.86 | 0.95 |
|                               | 6000             | 132.1                                         | 7.1               | 0.70                          | 0.87 | 0.97 | 115.3           | 7.9               | 0.73                          | 0.89 | 0.98 | 98.4            | 8.7               | 0.75                          | 0.90 | 0.99 |
| 67°F                          | 4000             | 138.9                                         | 7.1               | 0.45                          | 0.61 | 0.73 | 122.6           | 8.0               | 0.42                          | 0.61 | 0.73 | 106.2           | 8.7               | 0.39                          | 0.61 | 0.73 |
|                               | 5000             | 142.8                                         | 7.2               | 0.49                          | 0.64 | 0.77 | 125.4           | 8.0               | 0.47                          | 0.64 | 0.78 | 107.9           | 8.8               | 0.44                          | 0.64 | 0.78 |
|                               | 6000             | 146.8                                         | 7.3               | 0.53                          | 0.67 | 0.82 | 128.2           | 8.0               | 0.51                          | 0.67 | 0.83 | 109.6           | 8.8               | 0.50                          | 0.67 | 0.84 |
| 71°F                          | 4000             | 151.8                                         | 7.3               | 0.29                          | 0.43 | 0.57 | 134.7           | 8.1               | 0.24                          | 0.40 | 0.56 | 117.6           | 8.9               | 0.19                          | 0.37 | 0.55 |
|                               | 5000             | 156.6                                         | 7.4               | 0.32                          | 0.47 | 0.62 | 137.9           | 8.1               | 0.27                          | 0.44 | 0.62 | 119.2           | 8.9               | 0.22                          | 0.42 | 0.62 |
|                               | 6000             | 161.4                                         | 7.4               | 0.36                          | 0.51 | 0.67 | 141.1           | 8.2               | 0.30                          | 0.49 | 0.68 | 120.7           | 9.0               | 0.24                          | 0.46 | 0.68 |

## 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<br>Air Volume<br>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                       | 759                              | 223   | 864  | 298   | 961  | 359   | 1049 | 420   | 1128 | 508   | 1199 | 607   | 1260 | 704   |
| 2000                       | 846                              | 271   | 943  | 345   | 1035 | 410   | 1117 | 488   | 1189 | 598   | 1255 | 704   | 1313 | 804   |
| 2250                       | 945                              | 303   | 1030 | 391   | 1111 | 476   | 1184 | 577   | 1247 | 697   | 1310 | 806   | 1367 | 905   |
| 2500                       | 1035                             | 366   | 1109 | 476   | 1180 | 583   | 1245 | 688   | 1306 | 797   | 1368 | 903   | 1426 | 1008  |
| 2750                       | 1113                             | 476   | 1182 | 601   | 1248 | 715   | 1310 | 809   | 1371 | 902   | 1432 | 1011  | 1491 | 1129  |
| 3000                       | 1195                             | 596   | 1261 | 718   | 1324 | 827   | 1385 | 922   | 1444 | 1024  | 1503 | 1146  | 1559 | 1279  |
| 3250                       | 1282                             | 711   | 1346 | 827   | 1406 | 935   | 1464 | 1044  | 1521 | 1167  | 1576 | 1306  | 1629 | 1460  |
| 3500                       | 1372                             | 821   | 1432 | 940   | 1489 | 1060  | 1544 | 1192  | 1598 | 1337  | 1650 | 1494  | 1700 | 1663  |
| 3750                       | 1461                             | 949   | 1517 | 1081  | 1571 | 1221  | 1624 | 1373  | 1675 | 1532  | 1725 | 1700  | 1773 | 1875  |
| 4000                       | 1549                             | 1109  | 1602 | 1256  | 1653 | 1413  | 1703 | 1576  | 1753 | 1743  | 1801 | 1916  | 1847 | 2091  |
| 4250                       | 1637                             | 1298  | 1687 | 1458  | 1735 | 1625  | 1784 | 1795  | 1831 | 1966  | 1877 | 2139  | 1923 | 2310  |
| 4500                       | 1724                             | 1510  | 1772 | 1678  | 1818 | 1851  | 1864 | 2023  | 1910 | 2195  | 1955 | 2365  | 2000 | 2530  |
| 4750                       | 1811                             | 1738  | 1856 | 1910  | 1901 | 2083  | 1946 | 2254  | 1990 | 2423  | 2034 | 2587  | 2079 | 2746  |
| 5000                       | 1897                             | 1973  | 1941 | 2144  | 1985 | 2314  | 2028 | 2480  | 2071 | 2644  | 2114 | 2805  | 2158 | 2959  |
| 5250                       | 1983                             | 2205  | 2026 | 2373  | 2069 | 2538  | 2111 | 2699  | 2153 | 2860  | 2195 | 3017  | ---  | ---   |
| 5500                       | 2070                             | 2428  | 2112 | 2595  | 2153 | 2756  | 2194 | 2912  | ---  | ---   | ---  | ---   | ---  | ---   |
| 5750                       | 2156                             | 2643  | 2197 | 2809  | ---  | ---   | ---  | ---   | ---  | ---   | ---  | ---   | ---  | ---   |

| Total<br>Air Volume<br>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                       | 1316                             | 793   | 1373 | 875   | 1432 | 963   | 1491 | 1064  | 1548 | 1175  | 1604 | 1300  |
| 2000                       | 1368                             | 894   | 1425 | 982   | 1483 | 1081  | 1540 | 1196  | 1596 | 1322  | 1650 | 1458  |
| 2250                       | 1423                             | 1001  | 1480 | 1101  | 1537 | 1216  | 1593 | 1344  | 1647 | 1483  | 1700 | 1629  |
| 2500                       | 1483                             | 1117  | 1539 | 1236  | 1594 | 1368  | 1648 | 1509  | 1700 | 1657  | 1752 | 1810  |
| 2750                       | 1547                             | 1256  | 1601 | 1394  | 1654 | 1539  | 1705 | 1690  | 1756 | 1846  | 1806 | 2004  |
| 3000                       | 1612                             | 1425  | 1664 | 1577  | 1715 | 1734  | 1765 | 1893  | 1815 | 2053  | 1864 | 2213  |
| 3250                       | 1680                             | 1623  | 1729 | 1787  | 1778 | 1949  | 1828 | 2110  | 1876 | 2269  | 1925 | 2426  |
| 3500                       | 1748                             | 1835  | 1796 | 2003  | 1844 | 2165  | 1893 | 2324  | 1942 | 2479  | 1991 | 2633  |
| 3750                       | 1819                             | 2048  | 1866 | 2214  | 1914 | 2374  | 1963 | 2530  | 2012 | 2684  | 2061 | 2837  |
| 4000                       | 1893                             | 2260  | 1940 | 2423  | 1988 | 2581  | 2036 | 2737  | 2084 | 2891  | 2134 | 3044  |
| 4250                       | 1969                             | 2475  | 2016 | 2634  | 2063 | 2790  | 2111 | 2945  | 2159 | 3098  | ---  | ---   |
| 4500                       | 2046                             | 2689  | 2093 | 2844  | 2140 | 2998  | 2187 | 3153  | ---  | ---   | ---  | ---   |
| 4750                       | 2124                             | 2900  | 2170 | 3053  | ---  | ---   | ---  | ---   | ---  | ---   | ---  | ---   |
| 5000                       | 2203                             | 3111  | ---  | ---   | ---  | ---   | ---  | ---   | ---  | ---   | ---  | ---   |
| 5250                       | ---                              | ---   | ---  | ---   | ---  | ---   | ---  | ---   | ---  | ---   | ---  | ---   |
| 5500                       | ---                              | ---   | ---  | ---   | ---  | ---   | ---  | ---   | ---  | ---   | ---  | ---   |

## BLOWER DATA

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

| Air<br>Volume<br>cfm | Wet Indoor Coil |          | Electric<br>Heat | Economizer | Humiditrol<br>Reheat Coil | Filters |         |         | Return Air<br>Adaptor<br>Plate |
|----------------------|-----------------|----------|------------------|------------|---------------------------|---------|---------|---------|--------------------------------|
|                      |                 |          |                  |            |                           | MERV 8  | MERV 13 | MERV 16 |                                |
|                      | 092, 102        | 120, 150 |                  |            |                           |         |         |         |                                |
| 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.

| Unit Size        | RTD11 Step-Down Diffuser |             |                        |                          | FD11 Flush Diffuser |
|------------------|--------------------------|-------------|------------------------|--------------------------|---------------------|
|                  | Air Volume<br>cfm        | 2 Ends Open | 1 Side, 2 Ends<br>Open | All Ends & Sides<br>Open |                     |
| 092 Models       | 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 Models | 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                |
| 150 Models       | 5200                     | 0.75        | 0.62                   | 0.54                     | 0.43                |
|                  | 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

| Model No.       | Air Volume<br>cfm | <sup>1</sup> Effective Throw Range |            |
|-----------------|-------------------|------------------------------------|------------|
|                 |                   | RTD11 Step-Down                    | FD11 Flush |
|                 |                   | ft.                                | ft.        |
| 092 Models      | 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 Models | 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 Models      | 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    |

<sup>1</sup> 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 No.                                                |                                   | LCT092H4E / LCT092H4P |          |          |
|----------------------------------------------------------|-----------------------------------|-----------------------|----------|----------|
| <sup>1</sup> Voltage - 60Hz                              |                                   | 208/230V-3ph          | 460V-3ph | 575V-3ph |
| Compressor 1<br>(Non-Inverter)                           | Rated Load Amps                   | 12.9                  | 7.1      | 4.6      |
|                                                          | Locked Rotor Amps                 | 105                   | 62       | 39       |
| Compressor 2<br>(Non-Inverter)                           | Rated Load Amps                   | 13.1                  | 6.1      | 4.4      |
|                                                          | Locked Rotor Amps                 | 83.1                  | 41       | 33       |
| Outdoor Fan<br>Motors (2)                                | Full Load Amps (2 Non-ECM)        | 2.4                   | 1.3      | 1        |
| Power Exhaust<br>(1) 0.33 HP                             | Full Load Amps                    | 2.4                   | 1.3      | 1        |
| Service Outlet 115V GFI (amps)                           |                                   | 15                    | 15       | 20       |
| Indoor Blower<br>Motor                                   | Horsepower                        | 3.75                  | 3.75     | 3.75     |
|                                                          | Full Load Amps                    | 8.8                   | 4.3      | 3.4      |
| <sup>2</sup> Maximum<br>Overcurrent<br>Protection (MOCP) | Unit Only                         | 50                    | 25       | 20       |
|                                                          | With (1) 0.33 HP<br>Power Exhaust | 50                    | 30       | 20       |
| <sup>3</sup> Minimum<br>Circuit<br>Ampacity (MCA)        | Unit Only                         | 43                    | 22       | 16       |
|                                                          | With (1) 0.33 HP<br>Power Exhaust | 46                    | 24       | 17       |

## ELECTRIC HEAT DATA

| Electric Heat Voltage                                       |                                                            |         | 208V             | 240V | 480V | 600V |
|-------------------------------------------------------------|------------------------------------------------------------|---------|------------------|------|------|------|
| <sup>2</sup> Maximum<br>Overcurrent<br>Protection<br>(MOCP) | Unit+<br>Electric Heat                                     | 7.5 kW  | 50               | 50   | 25   | 20   |
|                                                             |                                                            | 15 kW   | 60               | 60   | 30   | 25   |
|                                                             |                                                            | 22.5 kW | <sup>4</sup> 70  | 80   | 40   | 35   |
|                                                             |                                                            | 30 kW   | <sup>4</sup> 90  | 110  | 60   | 45   |
|                                                             |                                                            | 45 kW   | 150              | 150  | 80   | 60   |
| <sup>3</sup> Minimum<br>Circuit<br>Ampacity<br>(MCA)        | Unit+<br>Electric Heat                                     | 7.5 kW  | 43               | 43   | 22   | 16   |
|                                                             |                                                            | 15 kW   | 51               | 57   | 28   | 23   |
|                                                             |                                                            | 22.5 kW | 70               | 79   | 40   | 32   |
|                                                             |                                                            | 30 kW   | 90               | 102  | 51   | 41   |
|                                                             |                                                            | 45 kW   | 129              | 147  | 74   | 59   |
| <sup>2</sup> Maximum<br>Overcurrent<br>Protection<br>(MOCP) | Unit+<br>Electric Heat<br>and (1) 0.33 HP<br>Power Exhaust | 7.5 kW  | 50               | 50   | 30   | 20   |
|                                                             |                                                            | 15 kW   | 60               | 60   | 30   | 25   |
|                                                             |                                                            | 22.5 kW | <sup>4</sup> 80  | 90   | 45   | 35   |
|                                                             |                                                            | 30 kW   | <sup>4</sup> 100 | 110  | 60   | 45   |
|                                                             |                                                            | 45 kW   | 150              | 150  | 80   | 60   |
| <sup>3</sup> Minimum<br>Circuit<br>Ampacity<br>(MCA)        | Unit+<br>Electric Heat<br>and (1) 0.33 HP<br>Power Exhaust | 7.5 kW  | 46               | 46   | 24   | 17   |
|                                                             |                                                            | 15 kW   | 54               | 60   | 30   | 24   |
|                                                             |                                                            | 22.5 kW | 73               | 82   | 41   | 33   |
|                                                             |                                                            | 30 kW   | 93               | 105  | 53   | 42   |
|                                                             |                                                            | 45 kW   | 132              | 150  | 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 5000 amps.

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.

<sup>2</sup> HACR type breaker or fuse.

<sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

<sup>4</sup> Factory installed circuit breaker not available.



## ELECTRICAL/ELECTRIC HEAT DATA

8.5 TON

| Model No.                                                |                                   | LCT102H4E/ LCT102H4P |          |          |
|----------------------------------------------------------|-----------------------------------|----------------------|----------|----------|
| <sup>1</sup> Voltage - 60Hz                              |                                   | 208/230V-3ph         | 460V-3ph | 575V-3ph |
| Compressor 1<br>(Non-Inverter)                           | Rated Load Amps                   | 12.9                 | 7.1      | 4.6      |
|                                                          | Locked Rotor Amps                 | 105                  | 62       | 39       |
| Compressor 2<br>(Non-Inverter)                           | Rated Load Amps                   | 13.7                 | 6.1      | 4.8      |
|                                                          | Locked Rotor Amps                 | 83.1                 | 43       | 33       |
| Outdoor Fan<br>Motors (2)                                | Full Load Amps (2 Non-ECM)        | 2.4                  | 1.3      | 1        |
| Power Exhaust<br>(1) 0.33 HP                             | Full Load Amps                    | 2.4                  | 1.3      | 1        |
| Service Outlet 115V GFI (amps)                           |                                   | 15                   | 15       | 20       |
| Indoor Blower<br>Motor                                   | Horsepower                        | 3.75                 | 3.75     | 3.75     |
|                                                          | Full Load Amps                    | 8.8                  | 4.3      | 3.4      |
| <sup>2</sup> Maximum<br>Overcurrent<br>Protection (MOCP) | Unit Only                         | 50                   | 25       | 20       |
|                                                          | With (1) 0.33 HP<br>Power Exhaust | 50                   | 30       | 20       |
| <sup>3</sup> Minimum<br>Circuit<br>Ampacity (MCA)        | Unit Only                         | 44                   | 22       | 16       |
|                                                          | With (1) 0.33 HP<br>Power Exhaust | 47                   | 24       | 17       |

## ELECTRIC HEAT DATA

| Electric Heat Voltage                                    |                                                            |         |  | 208V             | 240V | 480V | 600V |
|----------------------------------------------------------|------------------------------------------------------------|---------|--|------------------|------|------|------|
| <sup>2</sup> Maximum<br>Overcurrent<br>Protection (MOCP) | Unit+<br>Electric Heat                                     | 7.5 kW  |  | 50               | 50   | 25   | 20   |
|                                                          |                                                            | 15 kW   |  | 60               | 60   | 30   | 25   |
|                                                          |                                                            | 22.5 kW |  | <sup>4</sup> 70  | 80   | 40   | 35   |
|                                                          |                                                            | 30 kW   |  | <sup>4</sup> 90  | 110  | 60   | 45   |
|                                                          |                                                            | 45 kW   |  | 150              | 150  | 80   | 60   |
| <sup>3</sup> Minimum<br>Circuit<br>Ampacity (MCA)        | Unit+<br>Electric Heat                                     | 7.5 kW  |  | 44               | 44   | 22   | 16   |
|                                                          |                                                            | 15 kW   |  | 51               | 57   | 28   | 23   |
|                                                          |                                                            | 22.5 kW |  | 70               | 79   | 40   | 32   |
|                                                          |                                                            | 30 kW   |  | 90               | 102  | 51   | 41   |
|                                                          |                                                            | 45 kW   |  | 129              | 147  | 74   | 59   |
| <sup>2</sup> Maximum<br>Overcurrent<br>Protection (MOCP) | Unit+<br>Electric Heat<br>and (1) 0.33 HP<br>Power Exhaust | 7.5 kW  |  | 50               | 50   | 30   | 20   |
|                                                          |                                                            | 15 kW   |  | 60               | 60   | 30   | 25   |
|                                                          |                                                            | 22.5 kW |  | <sup>4</sup> 80  | 90   | 45   | 35   |
|                                                          |                                                            | 30 kW   |  | <sup>4</sup> 100 | 110  | 60   | 45   |
|                                                          |                                                            | 45 kW   |  | 150              | 150  | 80   | 60   |
| <sup>3</sup> Minimum<br>Circuit<br>Ampacity (MCA)        | Unit+<br>Electric Heat<br>and (1) 0.33 HP<br>Power Exhaust | 7.5 kW  |  | 47               | 47   | 24   | 17   |
|                                                          |                                                            | 15 kW   |  | 54               | 60   | 30   | 24   |
|                                                          |                                                            | 22.5 kW |  | 73               | 82   | 41   | 33   |
|                                                          |                                                            | 30 kW   |  | 93               | 105  | 53   | 42   |
|                                                          |                                                            | 45 kW   |  | 132              | 150  | 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 5000 amps.

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.

<sup>2</sup> HACR type breaker or fuse.

<sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

<sup>4</sup> Factory installed circuit breaker not available.

## ELECTRICAL/ELECTRIC HEAT DATA

10 TON

| Model No.                                                |                                   | LCT120H4E/ LCT120H4P |          |          |
|----------------------------------------------------------|-----------------------------------|----------------------|----------|----------|
| <sup>1</sup> Voltage - 60Hz                              |                                   | 208/230V-3ph         | 460V-3ph | 575V-3ph |
| Compressor 1<br>(Non-Inverter)                           | Rated Load Amps                   | 16.7                 | 7.1      | 5.7      |
|                                                          | Locked Rotor Amps                 | 110                  | 54.7     | 47.8     |
| Compressor 2<br>(Non-Inverter)                           | Rated Load Amps                   | 16                   | 7.8      | 5.7      |
|                                                          | Locked Rotor Amps                 | 110                  | 52       | 38.9     |
| Outdoor Fan<br>Motors (2)                                | Full Load Amps (2 Non-ECM)        | 3                    | 1.5      | 1.2      |
| Power Exhaust<br>(1) 0.33 HP                             | Full Load Amps                    | 2.4                  | 1.3      | 1        |
| Service Outlet 115V GFI (amps)                           |                                   | 15                   | 15       | 20       |
| Indoor Blower<br>Motor                                   | Horsepower                        | 3.75                 | 3.75     | 3.75     |
|                                                          | Full Load Amps                    | 8.8                  | 4.3      | 3.4      |
| <sup>2</sup> Maximum<br>Overcurrent<br>Protection (MOCP) | Unit Only                         | 60                   | 30       | 20       |
|                                                          | With (1) 0.33 HP<br>Power Exhaust | 70                   | 30       | 25       |
| <sup>3</sup> Minimum<br>Circuit<br>Ampacity (MCA)        | Unit Only                         | 52                   | 25       | 19       |
|                                                          | With (1) 0.33 HP<br>Power Exhaust | 55                   | 26       | 20       |

## ELECTRIC HEAT DATA

| Electric Heat Voltage                                    |                                                            |         |  | 208V             | 240V | 480V | 600V |
|----------------------------------------------------------|------------------------------------------------------------|---------|--|------------------|------|------|------|
| <sup>2</sup> Maximum<br>Overcurrent<br>Protection (MOCP) | Unit+<br>Electric Heat                                     | 15 kW   |  | 60               | 60   | 30   | 25   |
|                                                          |                                                            | 22.5 kW |  | <sup>4</sup> 70  | 80   | 40   | 35   |
|                                                          |                                                            | 30 kW   |  | <sup>4</sup> 90  | 110  | 60   | 45   |
|                                                          |                                                            | 45 kW   |  | 150              | 150  | 80   | 60   |
|                                                          |                                                            | 60 kW   |  | <sup>4</sup> 150 | 175  | 80   | 70   |
| <sup>3</sup> Minimum<br>Circuit<br>Ampacity (MCA)        | Unit+<br>Electric Heat                                     | 15 kW   |  | 52               | 57   | 28   | 23   |
|                                                          |                                                            | 22.5 kW |  | 70               | 79   | 40   | 32   |
|                                                          |                                                            | 30 kW   |  | 90               | 102  | 51   | 41   |
|                                                          |                                                            | 45 kW   |  | 129              | 147  | 74   | 59   |
|                                                          |                                                            | 60 kW   |  | 137              | 156  | 78   | 62   |
| <sup>2</sup> Maximum<br>Overcurrent<br>Protection (MOCP) | Unit+<br>Electric Heat<br>and (1) 0.33 HP<br>Power Exhaust | 15 kW   |  | 70               | 70   | 30   | 25   |
|                                                          |                                                            | 22.5 kW |  | <sup>4</sup> 80  | 90   | 45   | 35   |
|                                                          |                                                            | 30 kW   |  | <sup>4</sup> 100 | 110  | 60   | 45   |
|                                                          |                                                            | 45 kW   |  | 150              | 150  | 80   | 60   |
|                                                          |                                                            | 60 kW   |  | <sup>4</sup> 150 | 175  | 80   | 70   |
| <sup>3</sup> Minimum<br>Circuit<br>Ampacity (MCA)        | Unit+<br>Electric Heat<br>and (1) 0.33 HP<br>Power Exhaust | 15 kW   |  | 55               | 60   | 30   | 24   |
|                                                          |                                                            | 22.5 kW |  | 73               | 82   | 41   | 33   |
|                                                          |                                                            | 30 kW   |  | 93               | 105  | 53   | 42   |
|                                                          |                                                            | 45 kW   |  | 132              | 150  | 75   | 60   |
|                                                          |                                                            | 60 kW   |  | 140              | 159  | 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 5000 amps.

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.

<sup>2</sup> HACR type breaker or fuse.

<sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

<sup>4</sup> Factory installed circuit breaker not available.

| ELECTRICAL/ELECTRIC HEAT DATA | 12.5 TON |
|-------------------------------|----------|
|-------------------------------|----------|

| Model No.                                                |                                   | LCT150H4E/ LCT150H4P |          |          |
|----------------------------------------------------------|-----------------------------------|----------------------|----------|----------|
| <sup>1</sup> Voltage - 60Hz                              |                                   | 208/230V-3ph         | 460V-3ph | 575V-3ph |
| Compressor 1<br>(Non-Inverter)                           | Rated Load Amps                   | 17.6                 | 8.5      | 6.3      |
|                                                          | Locked Rotor Amps                 | 136                  | 66.1     | 55.3     |
| Compressor 2<br>(Non-Inverter)                           | Rated Load Amps                   | 22.6                 | 10       | 7.5      |
|                                                          | Locked Rotor Amps                 | 166.2                | 74.6     | 54       |
| Outdoor Fan<br>Motors (2)                                | Full Load Amps (2 Non-ECM)        | 3                    | 1.5      | 1.2      |
| Power Exhaust<br>(1) 0.33 HP                             | Full Load Amps                    | 2.4                  | 1.3      | 1        |
| Service Outlet 115V GFI (amps)                           |                                   | 15                   | 15       | 20       |
| Indoor Blower<br>Motor                                   | Horsepower                        | 3.75                 | 3.75     | 3.75     |
|                                                          | Full Load Amps                    | 8.8                  | 4.3      | 3.4      |
| <sup>2</sup> Maximum<br>Overcurrent<br>Protection (MOCP) | Unit Only                         | 80                   | 35       | 25       |
|                                                          | With (1) 0.33 HP<br>Power Exhaust | 80                   | 35       | 25       |
| <sup>3</sup> Minimum<br>Circuit<br>Ampacity (MCA)        | Unit Only                         | 61                   | 29       | 22       |
|                                                          | With (1) 0.33 HP<br>Power Exhaust | 64                   | 30       | 23       |

### ELECTRIC HEAT DATA

| Electric Heat Voltage                                    |                                                            |         |  | 208V             | 240V | 480V | 600V |
|----------------------------------------------------------|------------------------------------------------------------|---------|--|------------------|------|------|------|
| <sup>2</sup> Maximum<br>Overcurrent<br>Protection (MOCP) | Unit+<br>Electric Heat                                     | 15 kW   |  | 80               | 80   | 35   | 25   |
|                                                          |                                                            | 22.5 kW |  | 80               | 80   | 40   | 35   |
|                                                          |                                                            | 30 kW   |  | <sup>4</sup> 90  | 110  | 60   | 45   |
|                                                          |                                                            | 45 kW   |  | 150              | 150  | 80   | 60   |
|                                                          |                                                            | 60 kW   |  | <sup>4</sup> 150 | 175  | 80   | 70   |
| <sup>3</sup> Minimum<br>Circuit<br>Ampacity (MCA)        | Unit+<br>Electric Heat                                     | 15 kW   |  | 61               | 61   | 29   | 23   |
|                                                          |                                                            | 22.5 kW |  | 70               | 79   | 40   | 32   |
|                                                          |                                                            | 30 kW   |  | 90               | 102  | 51   | 41   |
|                                                          |                                                            | 45 kW   |  | 129              | 147  | 74   | 59   |
|                                                          |                                                            | 60 kW   |  | 137              | 156  | 78   | 62   |
| <sup>2</sup> Maximum<br>Overcurrent<br>Protection (MOCP) | Unit+<br>Electric Heat<br>and (1) 0.33 HP<br>Power Exhaust | 15 kW   |  | 80               | 80   | 35   | 25   |
|                                                          |                                                            | 22.5 kW |  | <sup>4</sup> 80  | 90   | 45   | 35   |
|                                                          |                                                            | 30 kW   |  | <sup>4</sup> 100 | 110  | 60   | 45   |
|                                                          |                                                            | 45 kW   |  | 150              | 150  | 80   | 60   |
|                                                          |                                                            | 60 kW   |  | <sup>4</sup> 150 | 175  | 80   | 70   |
| <sup>3</sup> Minimum<br>Circuit<br>Ampacity (MCA)        | Unit+<br>Electric Heat<br>and (1) 0.33 HP<br>Power Exhaust | 15 kW   |  | 64               | 64   | 30   | 24   |
|                                                          |                                                            | 22.5 kW |  | 73               | 82   | 41   | 33   |
|                                                          |                                                            | 30 kW   |  | 93               | 105  | 53   | 42   |
|                                                          |                                                            | 45 kW   |  | 132              | 150  | 75   | 60   |
|                                                          |                                                            | 60 kW   |  | 140              | 159  | 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 5000 amps.

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.

<sup>2</sup> HACR type breaker or fuse.

<sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

<sup>4</sup> Factory installed circuit breaker not available.

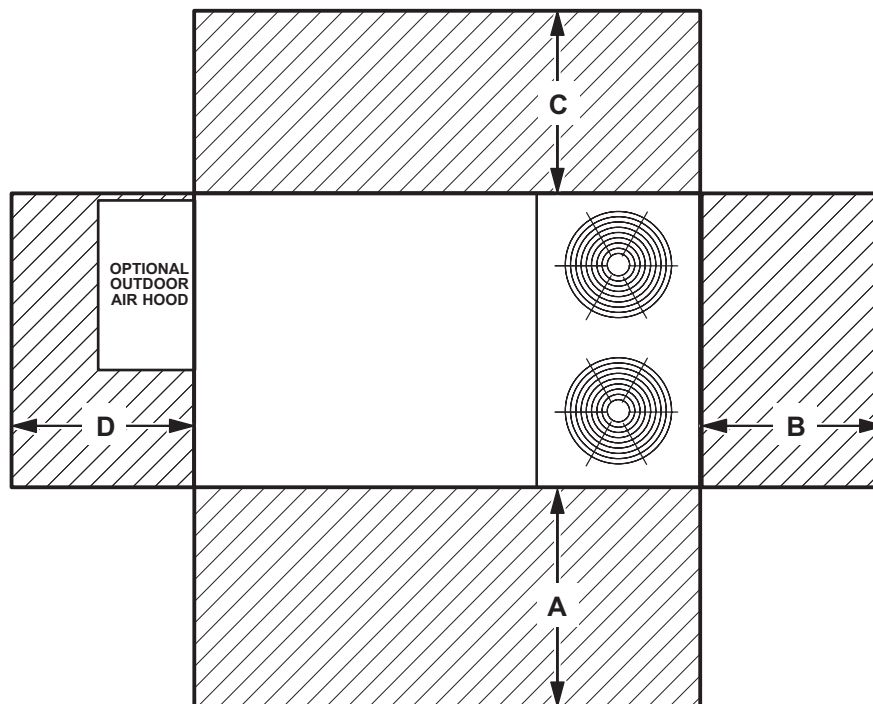
## ELECTRIC HEAT CAPACITIES

| Volts<br>Input | 7.5 kW      |                |                  | 15 kW       |                |                  | 22.5 kW     |                |                  | 30 kW       |                |                  | 45 kW       |                |                  | 60 kW       |                |                  |
|----------------|-------------|----------------|------------------|-------------|----------------|------------------|-------------|----------------|------------------|-------------|----------------|------------------|-------------|----------------|------------------|-------------|----------------|------------------|
|                | kW<br>Input | Btuh<br>Output | No. of<br>Stages | kW<br>Input | Btuh<br>Output | No. of<br>Stages | kW<br>Input | Btuh<br>Output | No. of<br>Stages | kW<br>Input | Btuh<br>Output | No. of<br>Stages | kW<br>Input | Btuh<br>Output | No. of<br>Stages | kW<br>Input | Btuh<br>Output | No. of<br>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



| <sup>1</sup> Unit Clearance        | A   |      | B   |     | C   |     | D   |      | Top Clearance |
|------------------------------------|-----|------|-----|-----|-----|-----|-----|------|---------------|
|                                    | in. | mm   | in. | mm  | in. | mm  | in. | mm   |               |
| <b>Service Clearance</b>           | 60  | 1524 | 36  | 914 | 36  | 934 | 60  | 1524 | Unobstructed  |
| <b>Minimum Operation Clearance</b> | 36  | 914  | 36  | 914 | 36  | 914 | 36  | 914  |               |

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

<sup>1</sup> Service Clearance - Required for removal of serviceable parts.

Minimum Operation Clearance - Required clearance for proper unit operation.

## OUTDOOR SOUND DATA

| Unit Model Number | Octave Band Sound Power Levels dBA, re 10 <sup>-12</sup> Watts - Center Frequency - Hz |     |     |      |      |      |      | <sup>1</sup> 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.

<sup>1</sup> 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 |
|---------------|------|-----|----------|------|
| Model Number  | 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 | 1082 | 491 | 1167     | 529  |
| 120 Max. Unit | 1246 | 565 | 1331     | 604  |
| 150 Base Unit | 1102 | 500 | 1187     | 538  |
| 150 Max. Unit | 1266 | 574 | 1351     | 613  |

| WEIGHT DATA                                        |             | OPTIONS / ACCESSORIES |    |
|----------------------------------------------------|-------------|-----------------------|----|
|                                                    |             | Shipping Weight       |    |
|                                                    |             | lbs.                  | kg |
| <b>ECONOMIZER / OUTDOOR AIR / EXHAUST</b>          |             |                       |    |
| <b>Economizer</b>                                  |             |                       |    |
| Economizer Dampers                                 |             | 60                    | 27 |
| Outdoor Air Hood (downflow)                        |             | 23                    | 10 |
| Barometric Relief Dampers (downflow)               |             | 8                     | 4  |
| Barometric Relief Dampers (low profile horizontal) |             | 20                    | 9  |
| <b>Outdoor Air Dampers</b>                         |             |                       |    |
| Motorized                                          |             | 51                    | 23 |
| Manual                                             |             | 39                    | 18 |
| <b>Power Exhaust</b>                               |             | 31                    | 14 |
| <b>ELECTRIC HEAT</b>                               |             |                       |    |
| 7.5 kW                                             |             | 50                    | 23 |
| 15 kW                                              |             | 50                    | 23 |
| 22.5 kW                                            |             | 57                    | 26 |
| 30 kW                                              |             | 57                    | 26 |
| 45 kW                                              |             | 59                    | 27 |
| 60 kW                                              |             | 68                    | 31 |
| <b>COMBINATION COIL/HAIL GUARDS</b>                |             |                       |    |
| All models                                         |             | 55                    | 25 |
| <b>ROOF CURBS</b>                                  |             |                       |    |
| <b>Hybrid Roof Curbs, Downflow</b>                 |             |                       |    |
| 8 in. height                                       |             | 103                   | 47 |
| 14 in. height                                      |             | 125                   | 57 |
| 18 in. height                                      |             | 147                   | 67 |
| 24 in. height                                      |             | 169                   | 77 |
| <b>Adjustable Pitch Curb, Downflow</b>             |             |                       |    |
| 14 in. height                                      |             | 169                   | 77 |
| <b>CEILING DIFFUSERS</b>                           |             |                       |    |
| 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 |
| <b>HUMIDITROL® DEHUMIDIFICATION SYSTEM</b>         |             |                       |    |
| Humiditrol® Dehumidification Option                |             | 20                    | 9  |

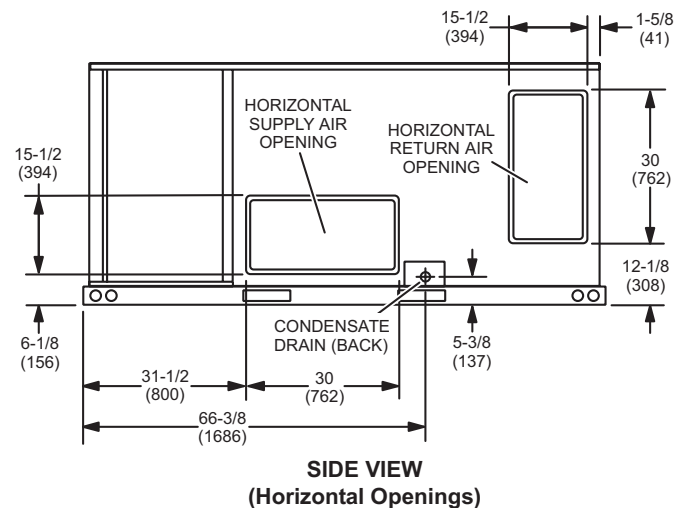
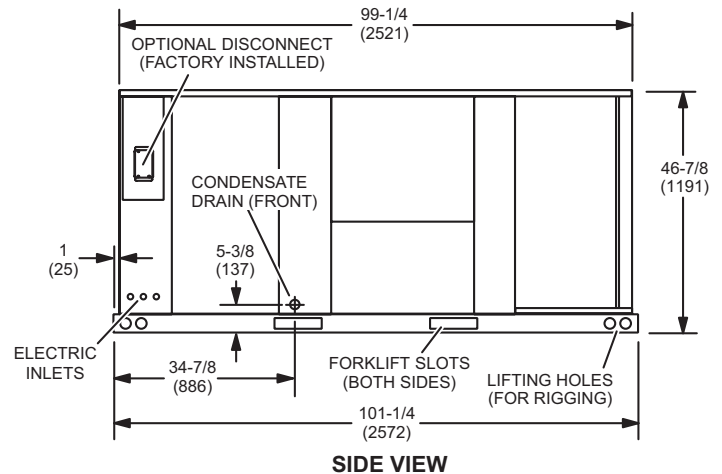
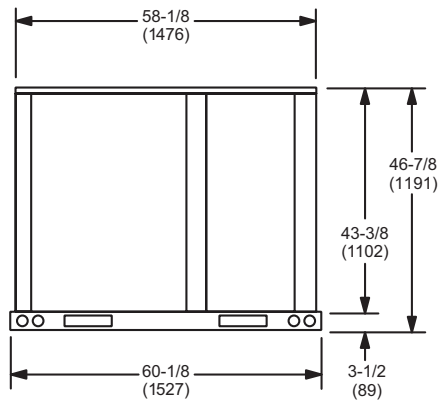
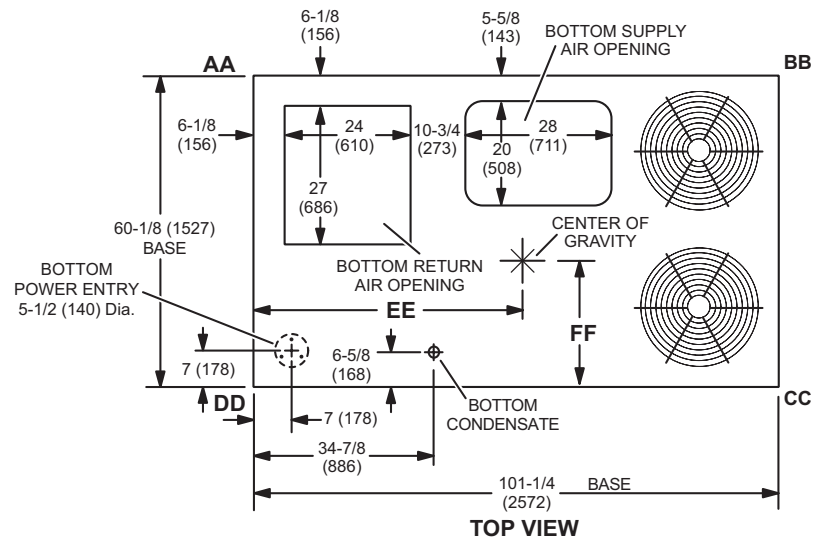
# DIMENSIONS

# UNIT

| Model No. | 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 |

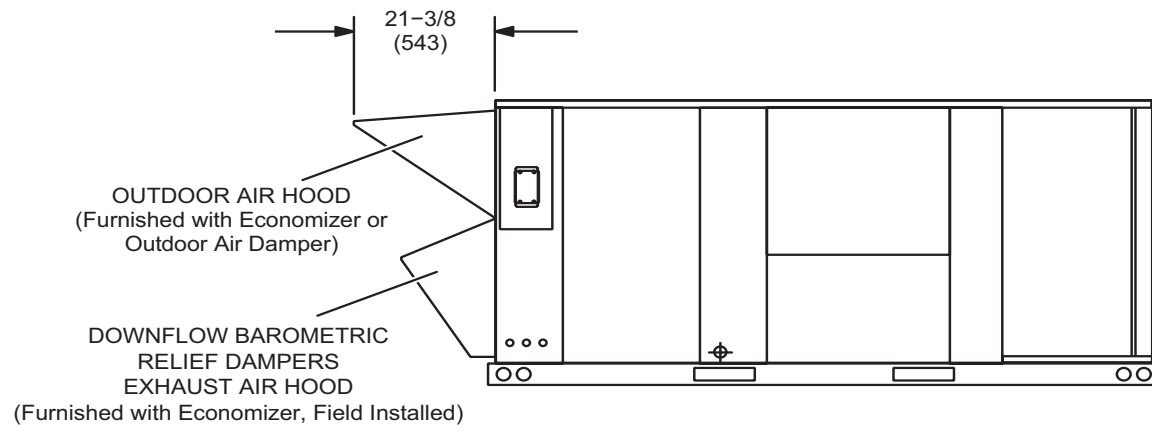
Base Unit - The unit with NO INTERNAL OPTIONS.

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.



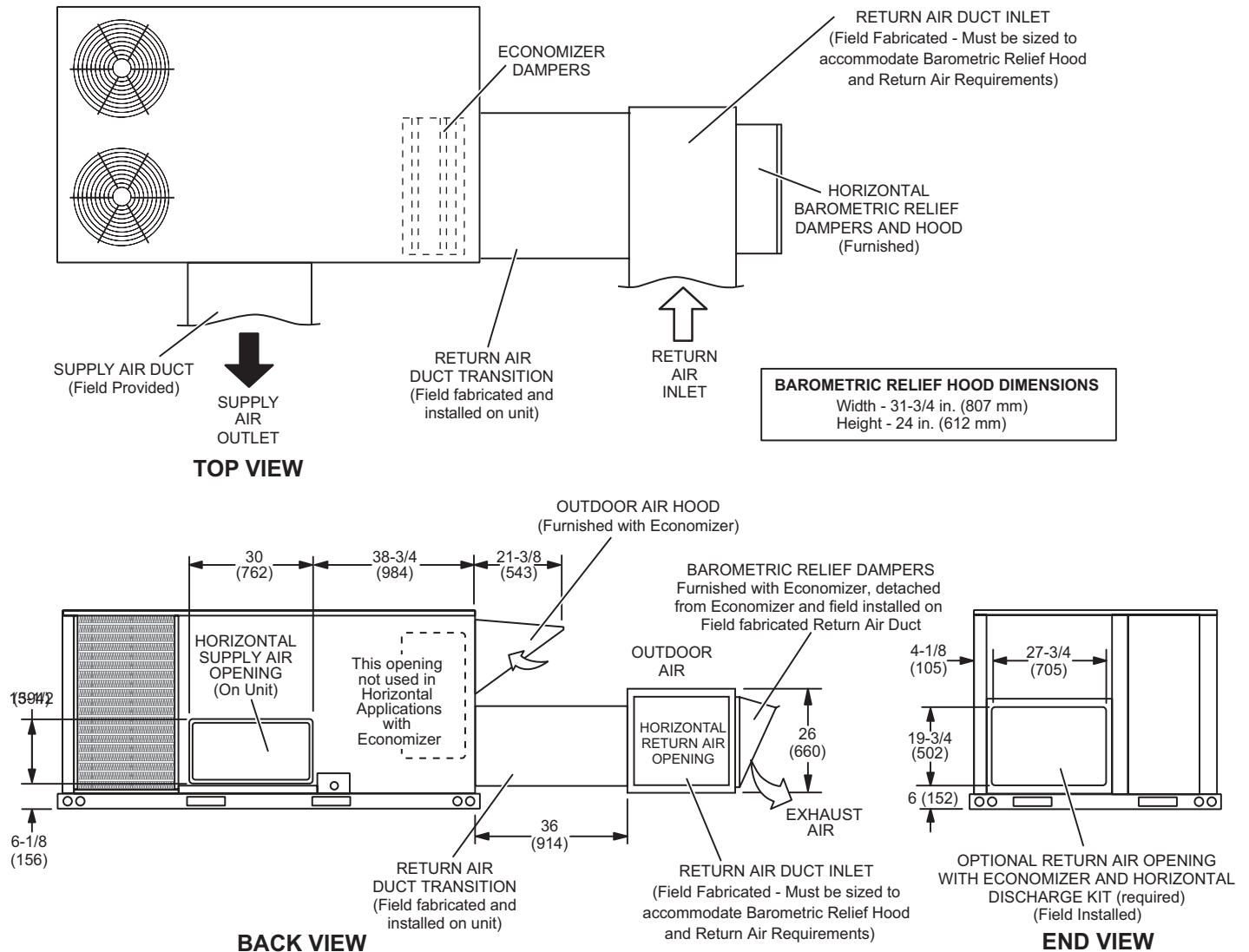


# OUTDOOR AIR HOOD DETAIL



**HORIZONTAL ECONOMIZER APPLICATION**

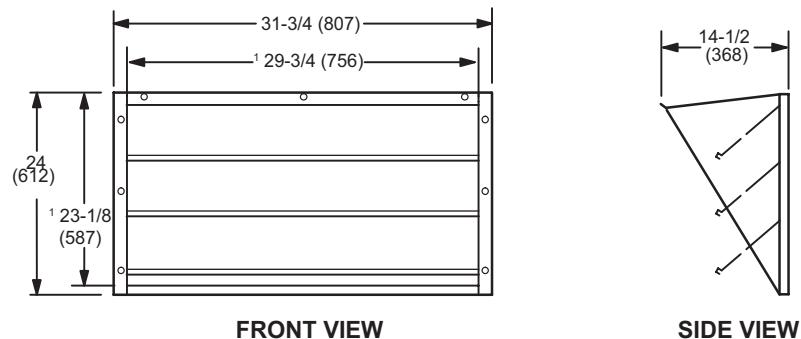
**(With Furnished Barometric Relief Dampers and Optional Horizontal Discharge Kit - Required)**



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

**BAROMETRIC RELIEF DAMPERS**  
**(Furnished with Economizer)**

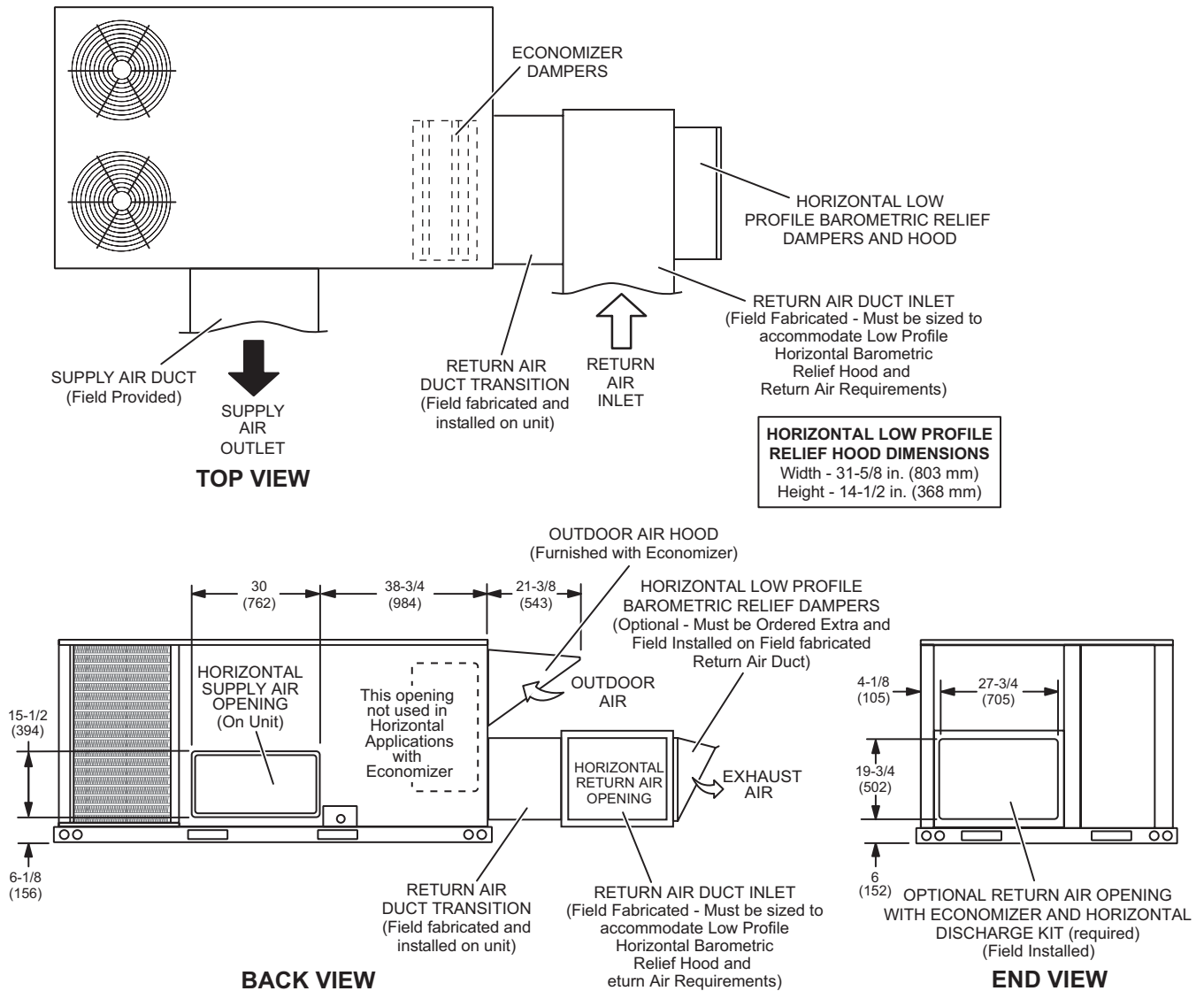
(Field installed in horizontal return air duct adjacent to unit)



<sup>1</sup> NOTE - Opening size required in return air duct.

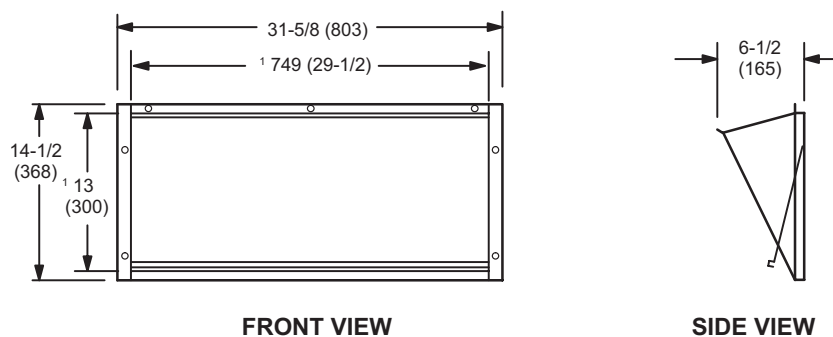
# HORIZONTAL ECONOMIZER APPLICATION

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



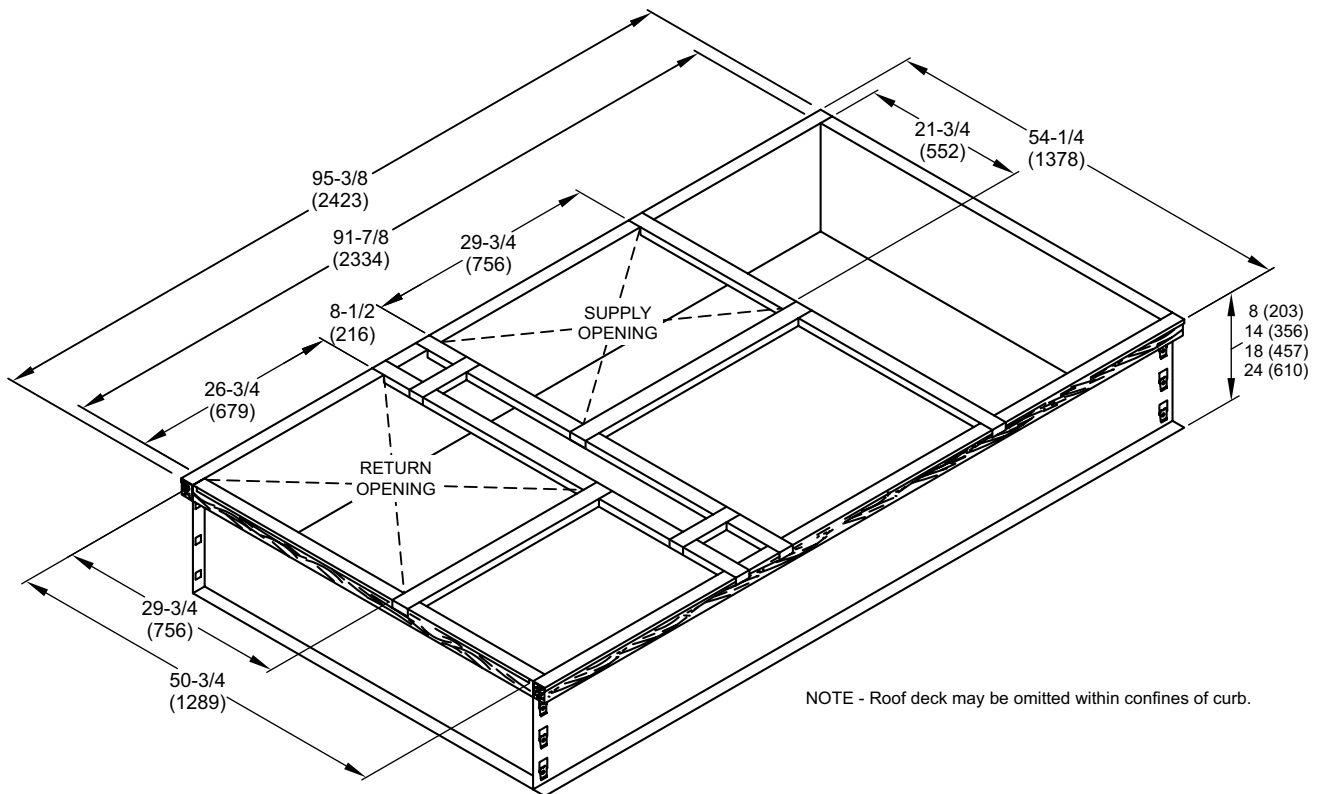
**NOTE** - Return Air Duct and Transition must be supported.

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

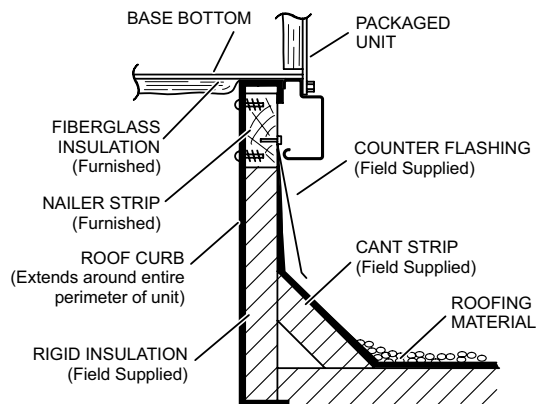


<sup>1</sup> NOTE - Opening size required in return air duct.

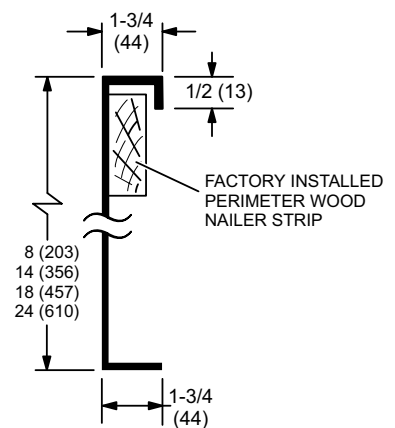
**HYBRID ROOF CURBS - DOUBLE DUCT OPENING**



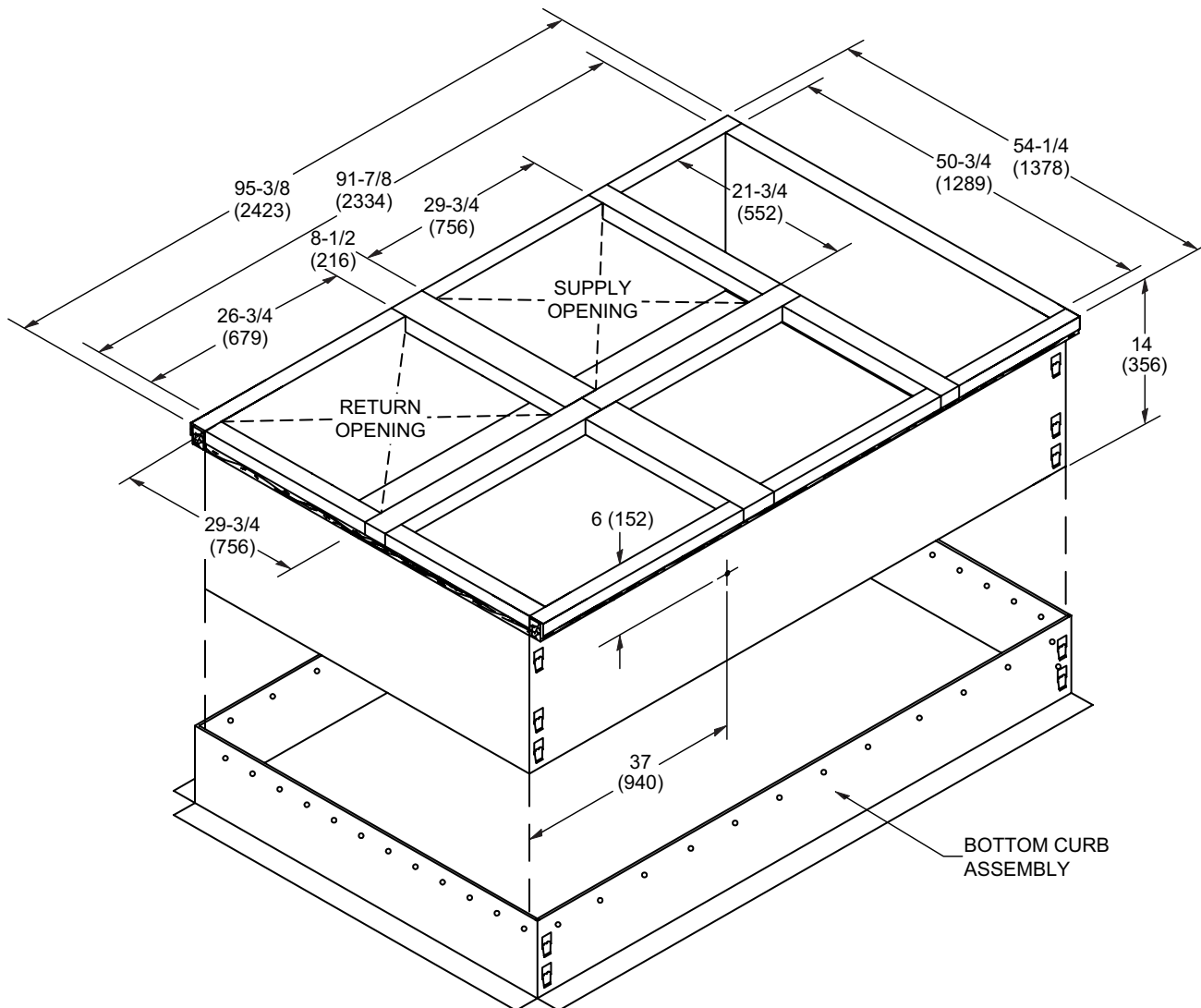
**TYPICAL FLASHING DETAIL FOR ROOF CURB**



**DETAIL ROOF CURB**

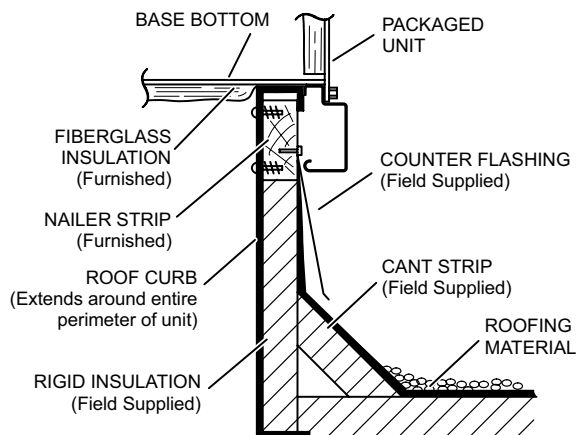


ADJUSTABLE PITCH CURBS - DOUBLE DUCT OPENING

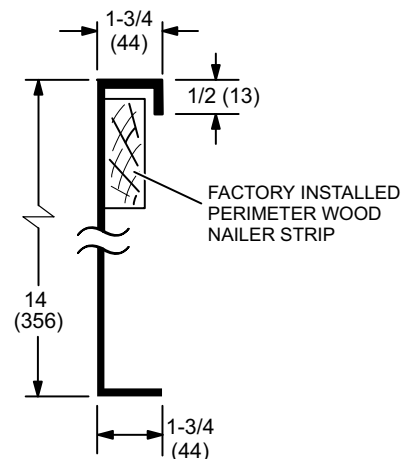


NOTE - Maximum slope pitch is 3/4 in. per 1 foot (19 mm per 305 mm) in any one direction.

TYPICAL FLASHING DETAIL FOR ROOF CURB

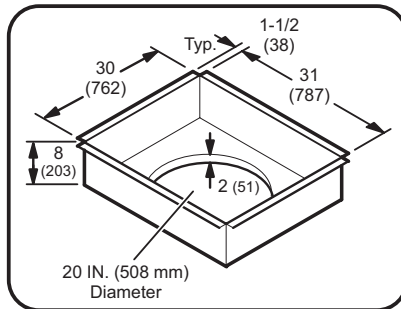


DETAIL ROOF CURB

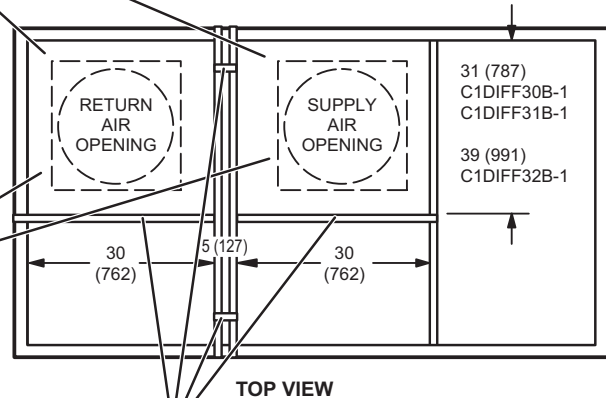
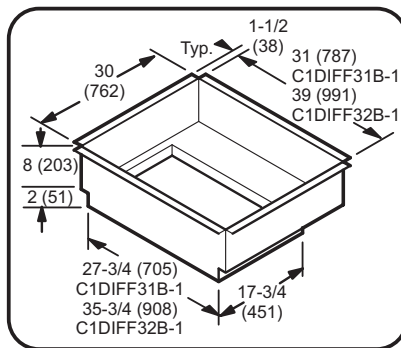


ROOF CURBS WITH SUPPLY & RETURN AIR TRANSITIONS FOR CEILING DIFFUSERS

**C1DIFF30B-1 ROUND TRANSITIONS**  
(for 092 models)



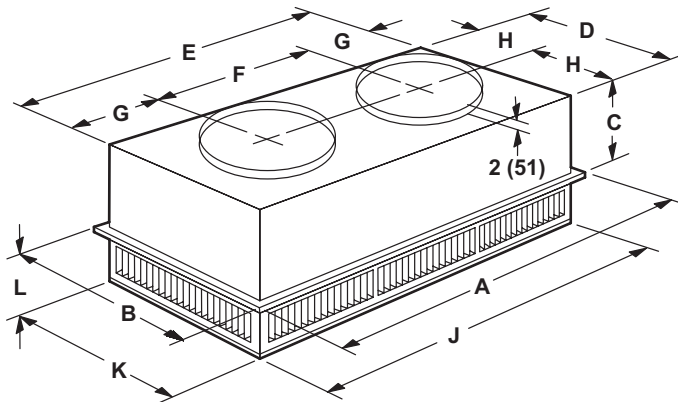
**C1DIFF31B-1 & C1DIFF32B-1 RECTANGULAR TRANSITIONS**  
(for 102 thru 150 models)



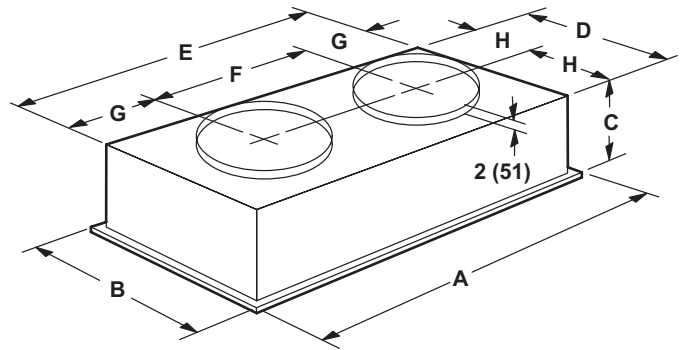
NOTE - These four supports are furnished with the transitions to replace supports furnished with curb for proper transition spacing.

**COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS**

**STEP-DOWN CEILING DIFFUSER**



**FLUSH CEILING DIFFUSER**



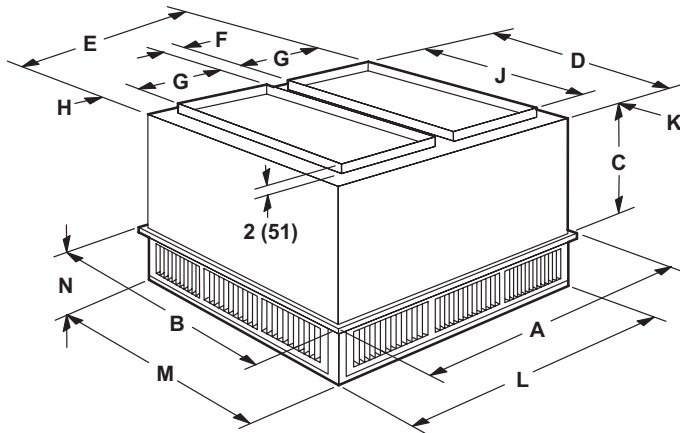
| Model Number |     | RTD11-95S |
|--------------|-----|-----------|
| A            | in. | 47-5/8    |
|              | mm  | 1159      |
| B            | in. | 29-5/8    |
|              | mm  | 752       |
| C            | in. | 14-3/8    |
|              | mm  | 365       |
| D            | in. | 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 |

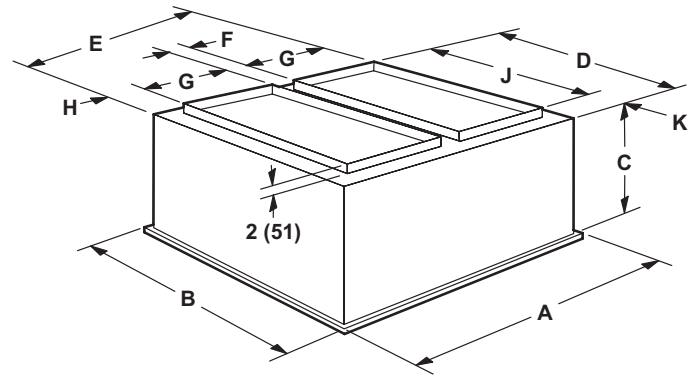


**COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS**

**STEP-DOWN CEILING DIFFUSER**



**FLUSH CEILING DIFFUSER**



| Model Number |     | 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  |

| 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 |

| REVISIONS                                         |                                                     |
|---------------------------------------------------|-----------------------------------------------------|
| Sections                                          | Description of Change                               |
| Optional Conventional Temperature Control Systems | Removed discontinued Wireless Sensors and Repeater. |



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