

LCX

XION™ ROOFTOP UNITS

Standard Efficiency | Lennox® CORE Lite Controller | Environ™ Coil | **R-454B** | 60Hz



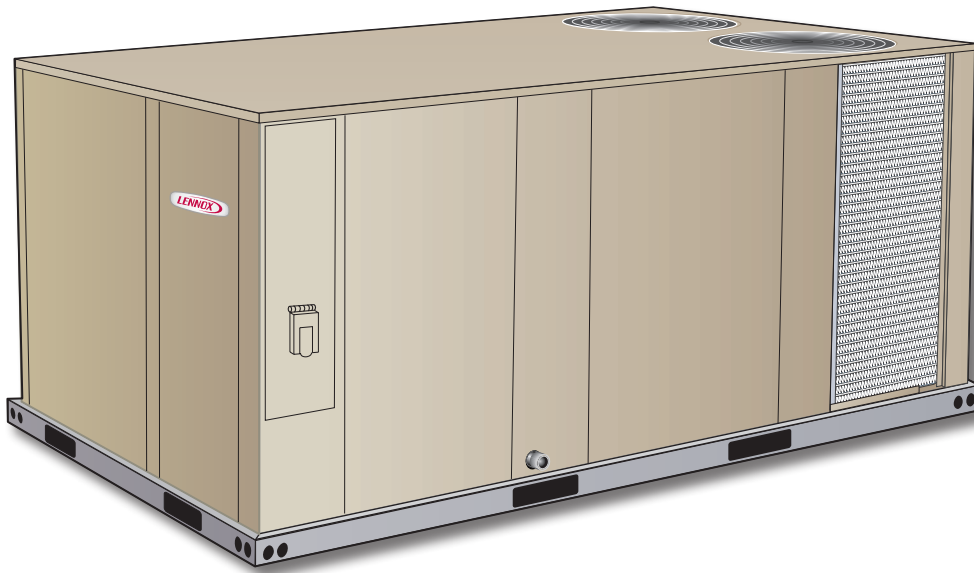
COMMERCIAL PRODUCT SPECIFICATIONS (EHB)

7.5 to 12.5 Tons

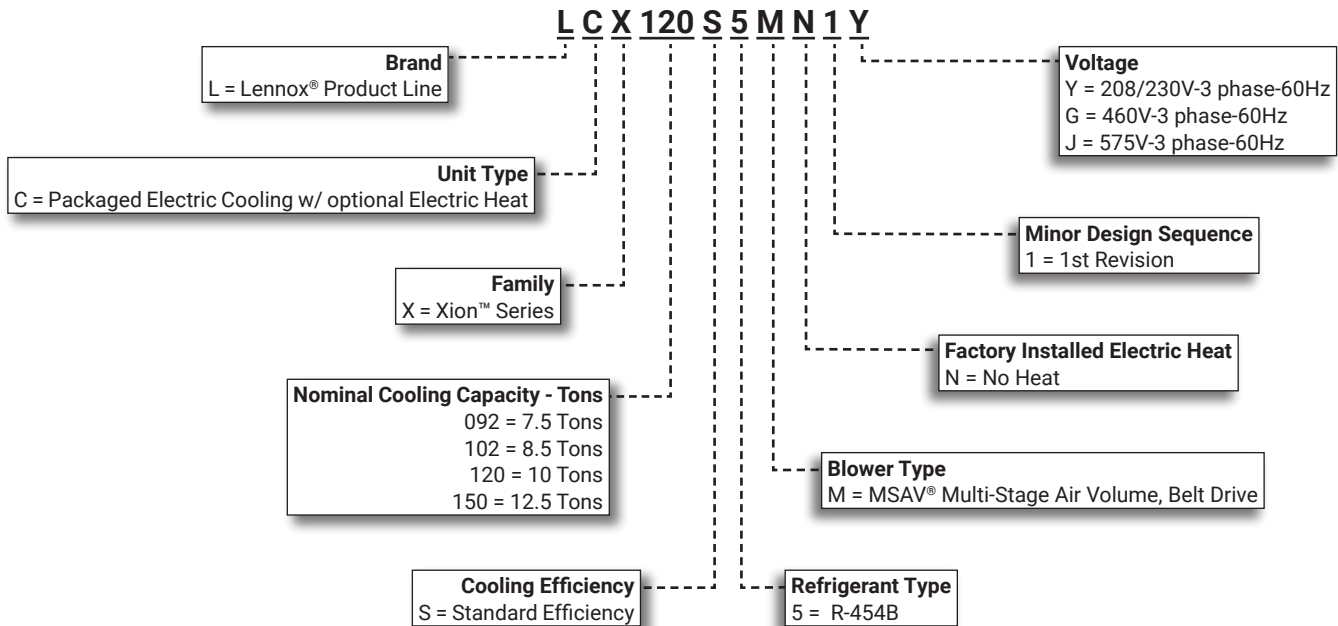
Net Cooling Capacity – 88,000 to 138,000 Btuh

Optional Electric Heat - 7.5 to 60 kW

XION



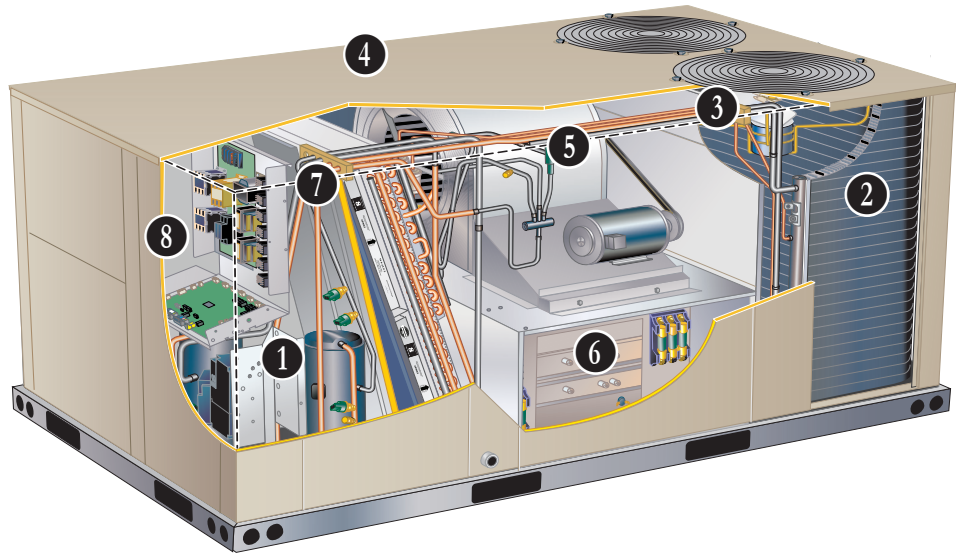
MODEL NUMBER IDENTIFICATION



FEATURE HIGHLIGHTS

Xion™ rooftop units are engineered with the right technologies and options to meet standard efficiency requirements while delivering reliable performance and year-round comfort.

1. Scroll Compressors
2. Environ™ Coil System
3. Outdoor Coil Fan Motors
4. Heavy Gauge Steel Cabinet
5. MSAV Multi-Stage Air Volume Blower
6. Electric Heat (option)
7. Air Filter
8. Lennox® CORE Lite Control System



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APPROVALS AND WARRANTY

APPROVALS

- AHRI Standard 340/360-2023 certified
- ETL and CSA listed
- Unit and components are ETL, NEC, and CEC bonded for grounding to meet safety standards for servicing
- All models are ASHRAE 90.1 compliant
- All models meet DOE 2023 energy efficiency standards and UL 60335-2-40 Refrigerant Detector Requirements
- All models have HCAI (formerly OSHPD) OSP and Special Seismic Certification ([Number: OSP-0596](#)), and meet 2021 International Building Code (IBC), 2022 California Building Code (CBC) ASCE 7, and ICC-ES AC156
- A 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 Lite Unit Controller - Limited three years
- Variable-Frequency Drive (VFD) - Limited five 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 45°F to 125°F without any additional controls

R-454B Refrigerant

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

1 Compressor System

- System consists of one two-stage scroll compressor and one single-stage scroll compressor
- Resiliently mounted on rubber grommets for quiet operation

Compressor Crankcase Heaters

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

Thermal Expansion Valves

- Ensures optimal performance throughout the application range
- Removeable power element

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

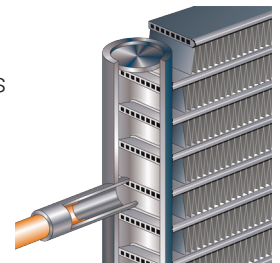
- Protects the compressors from low pressure conditions such as low refrigerant charge or low/no airflow

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 of ASHRAE 62.1
- Antimicrobial additive resists growth of mold and mildew on drain pan, 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

Field Installed

Condensate Drain Trap

- Available in copper or PVC

Drain Pan Overflow Switch

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

Low Ambient Controls (0°F)

- Units operate satisfactorily down to 45°F outdoor air temperature without any additional controls
- Allows unit operation down to 0°F without evaporator coil icing
- Head pressure speed control reduces outdoor fan operation during low ambient conditions unit head pressure rises to the setpoint
- Pressure transducers are mounted on the liquid lines
- Liquid line pressure switches and temperature switches are provided for field installation
- Wiring harnesses are furnished for simple plug-in wiring to fans and controller

LOW GWP REFRIGERANT DETECTION SYSTEM (RDS)

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

CABINET

4 Construction

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

Airflow Choice

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

NOTE - Units can be field converted to horizontal airflow with Horizontal Discharge Kit.

Duct Flanges

- Provided for horizontal duct attachment

Power Entry

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

Exterior Panels

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

Insulation

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

Access Panels

- Filter section
- Blower/heating section
- Compressor/controls section

FEATURES AND BENEFITS

CABINET (continued)

Options/Accessories

Factory Installed

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

Factory or Field Installed

Combination Coil/Hail Guards

- Heavy gauge steel frame
- Painted to match cabinet
- Expanded metal mesh protects outdoor coil

Field Installed

Horizontal 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.

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

BLOWER

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

5 Blower Motor

- Overload protected
- Ball bearings
- Available in several different sizes to maximize air performance

Supply Air Blower

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

MSAV Multi-Stage Air Volume Operation

- MSAV Multi-Stage Air Volume stages the amount of airflow according to compressor stages, heating demand, and ventilation demand
- Units utilize a Variable Frequency Drive (VFD) to stage the supply air blower airflow
- VFD alters the frequency and voltage of the power supply to the blower to control blower speed
- The supply air blower has three speeds:
 1. **Low Speed** - 1st Stage Cooling
 2. **Medium Speed** - 2nd Stage Cooling
 3. **High Speed** - Full load cooling and all heat modes
- Full speed blower operation is set by adjusting the motor pulley to deliver the desired air volume
- Ventilation speed is selectable between high and low speed

NOTE - Part load airflow in cooling mode should not be set below 220 cfm/nominal full load ton to reduce the risk of evaporator coil freeze-up.

- VFD has an operational range of -40 to 125° F outdoor air ambient temperature

NOTE - Lower operating costs are obtained when the blower is operated on lower speeds.

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

Blower Proving Switch

- Monitors blower operation, shuts down unit if blower fails

Required Selections

- Order blower motor horsepower and drive kit number required when base unit is ordered
- See Drive Kit Specifications Table

FEATURES AND BENEFITS

ELECTRICAL

Marked & Color-Coded Wiring

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

Electrical Plugs

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

Phase/Voltage Detection

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

Required Selections

Voltage Choice

- Specify when ordering base unit

Options/Accessories

Factory or Field Installed

Disconnect Switch

- Accessible from outside of unit
- Spring loaded weatherproof cover
- See Electrical/Electric Heat tables for ordering information, page 31

GFI Service Outlets (2)

- 115V ground fault circuit interrupter (GFCI) type options:
 - Factory installed, non-powered, field wired
 - Field installed, non-powered, field wired

Field Installed

6 Electric Heat

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

GFI Weatherproof Cover

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

INDOOR AIR QUALITY

7 Air Filters

- Disposable 2 inch MERV 4 filters furnished as standard

Options/Accessories

Field Installed

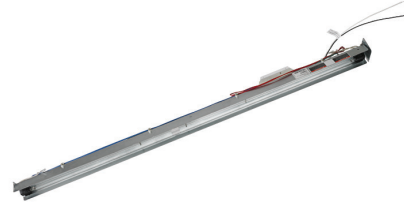
Healthy Climate® High Efficiency Air Filters

- Disposable MERV 8, MERV 13, or MERV 16 (Minimum Efficiency Reporting Value based on ASHRAE 52.2) efficiency
- 2 inch pleated filters

Replacement Filter Media Kit With Frame

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

Healthy Climate® UVC Germicidal Lamps



- Germicidal lamps emit ultra-violet (UV-C) energy, which has been proven to be effective in reducing microbes such as viruses, bacteria, yeasts, and molds
- 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

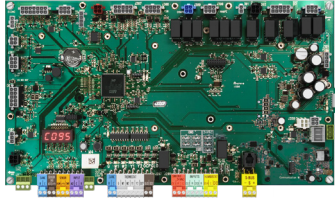
- NPBI technology has been shown to effectively reduce harmful pathogens, pollutants, and odors
- Brush-type ionizer introduces a high concentration of both positive and negative ions into the air stream
- These bipolar ions are then dispersed into the occupied space through the duct system proactively 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 (CO₂) Sensors

- Monitors CO₂ levels
- Reports to the Lennox® CORE Lite Unit Controller, which adjusts economizer dampers as needed

CONTROL SYSTEM

LENNOX® CORE LITE CONTROL SYSTEM



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

The Lennox® CORE Lite 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
- 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 Lite Unit Controller enhance functionality without the need to change components

Configurable Built-In Functions

- Up to three distinct Cooling Airflows in Thermostat Mode
- Programmable independent heating, ventilation and cooling blower speeds
- 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
- Demand Control Ventilation

- Humiditrol® Operation

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 (Field Option)
- Lennox S-BUS
- Zone Temperature Sensor Input
- Dehumidistat and Humidity Sensor Inputs
- Indoor Air Quality Inputs (2)
- Built-in Control Parameter Defaults
- Permanent Diagnostic Code Storage
- Field Adjustable Control Parameters (Over 100 settings)
- Multiple Configurable Digital Inputs
- LED Indicators

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

CONTROL SYSTEM

LENNOX® CORE LITE CONTROL SYSTEM (continued)

Controls Options

Field Installed

Dirty Filter Switch

- Senses static pressure increase and issues alarm if necessary

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

OPTIONS / ACCESSORIES

ECONOMIZER

- Economizer operation is set and controlled by the Lennox® CORE Lite Unit Controller
- Simple plug-in connections from economizer to control system for easy installation
- All Xion™ 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

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
- Barometric Relief Dampers with Exhaust Hood are also furnished
- Linked damper action
- High torque 24-volt fully-modulating spring return damper motor
- Return air and outdoor air dampers
- Plug-in connections to unit
- 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 40.

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 41.

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

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

Field Installed

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

Differential Sensible Control

- Factory setting
- Uses outdoor air and return air sensors that are furnished with the unit
- The Lennox® CORE Lite Unit Controller compares outdoor air and return air setpoints and activates the economizer when the outdoor air temperature is below the configured setpoint and cooler than return air

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

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

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

EXHAUST

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.

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

Field Installed

Motorized Outdoor Air Damper

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

Manual Outdoor Air Damper

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

ROOF CURBS

Field Installed

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

Hybrid Roof Curbs, Downflow

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

Adjustable Pitch Curb

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

Adaptor Curbs (not shown)

- Curbs are regionally sourced
- Dimensions vary based upon the source

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

CEILING DIFFUSERS

Field Installed

Ceiling Diffusers (Flush or Step-Down)

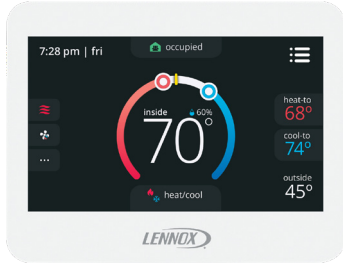
- White powder coat finish on diffuser face and grilles
- Insulated UL listed duct liner
- Diffuser box has collars for duct connection
- Step-down diffusers have double deflection blades
- Flush diffusers have fixed blades
- Provisions for suspending
- Internally sealed to prevent recirculation
- Removable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

Transitions (Supply and Return)

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

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

CS8500 Commercial 7-Day Programmable Thermostat



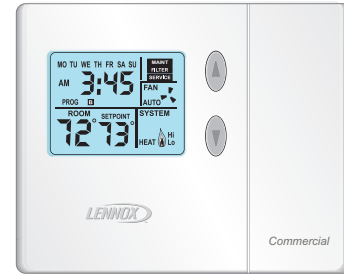
- Fully Communicating Sensor
- Full Color Touchscreen Interface
- Variable Speed System Control (On Compatible Units)
- Up To 4 Heat / 4 Cool
- Built-In Sensors For Temperature, Humidity And Optional CO₂
- Remote Sensor Options For Occupancy, Temperature
- BACnet Capable Options
- 5-2 or 7-Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-Changeover
- Four-Wire Installation
- FDD, ASHRAE, IECC Compliant

CS7500 Commercial 7-Day Programmable Thermostat



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

CS3000 Commercial 5-2 Day Programmable Thermostat



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

Wired Temperature/Humidity Room Sensor (Non-Communicating)



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

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

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

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

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

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

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

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

SUPPLY AIR BLOWER SPEED

Unit has following supply air blower speed setting:

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

¹ UNIT FEATURES AN ECONOMIZER AND OUTDOOR AIR IS SUITABLE

Cooling - Thermostat Mode (Y1, Y2)

Y1 Demand:

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

Y2 Demand:

All compressors are off, supply air blower is on high cooling speed providing higher cooling capacity, and economizer modulates to maintain 55°F supply air temperature.

If economizer stays at maximum open for 3 minutes, compressor 1 is energized while supply air blower stays on high cooling speed providing maximum cooling capacity.

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

UNIT DOES NOT FEATURE AN ECONOMIZER OR OUTDOOR AIR IS NOT SUITABLE

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.

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

SUPPLY AIR BLOWER SPEED

Unit has three distinct supply air blower speeds:

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

¹ Unit Features An Economizer And Outdoor Air Is Suitable

Cooling - Thermostat Mode (Y1, Y2, Y3)

Y1 Demand:

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

Y2 Demand:

All compressors are off, supply air blower is on high cooling speed, and economizer modulates to maintain 55°F supply air temperature. If economizer stays at maximum open for 3 minutes, compressor 1 is energized in part load while supply air blower stays on high cooling speed providing maximum cooling capacity.

Y3 Demand:

Compressor 1 operates in full load, supply air blower operates at high cooling speed, and economizers modulate to maintain 55°F supply air temperature.

¹ Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects.

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

Y1 Demand:

Compressor 1 operates at part load with compressor 2 OFF, 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:

Compressor 1 operates at full load with compressor 2 ON, 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 at full load, supply air blower operates at low cooling speed, and the reheat valve is energized.

Y1 Demand With A Call For Dehumidification:

Compressor 1 operates at full load with compressor 2 ON, supply air blower operates at medium cooling speed and the reheat valve is energized.

Y2 Demand With A Call For Dehumidification:

Compressor 1 operates at part load with compressor 2 ON, supply air blower operates at medium cooling speed, and the reheat valve is de-energized.

Y3 Demand With A Call For Dehumidification:

Compressor 1 operates at full load with compressor 2 ON, supply air blower operates at high cooling speed, and the reheat valve is de-energized.

HEATING MODE (ELECTRIC HEATS - FIELD INSTALLED)

NOTE - HEATING MODE IS THE SAME FOR ALL CONTROL OPTIONS

W1 Demand:

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

W2 Demand:

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

POWER EXHAUST

Power exhaust blower operates when economizer outdoor air dampers are 50% open (adjustable).

HUMIDITROL® DEHUMIDIFICATION SYSTEM OPTION

OVERVIEW

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

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

Controls are not furnished and must be ordered separately.

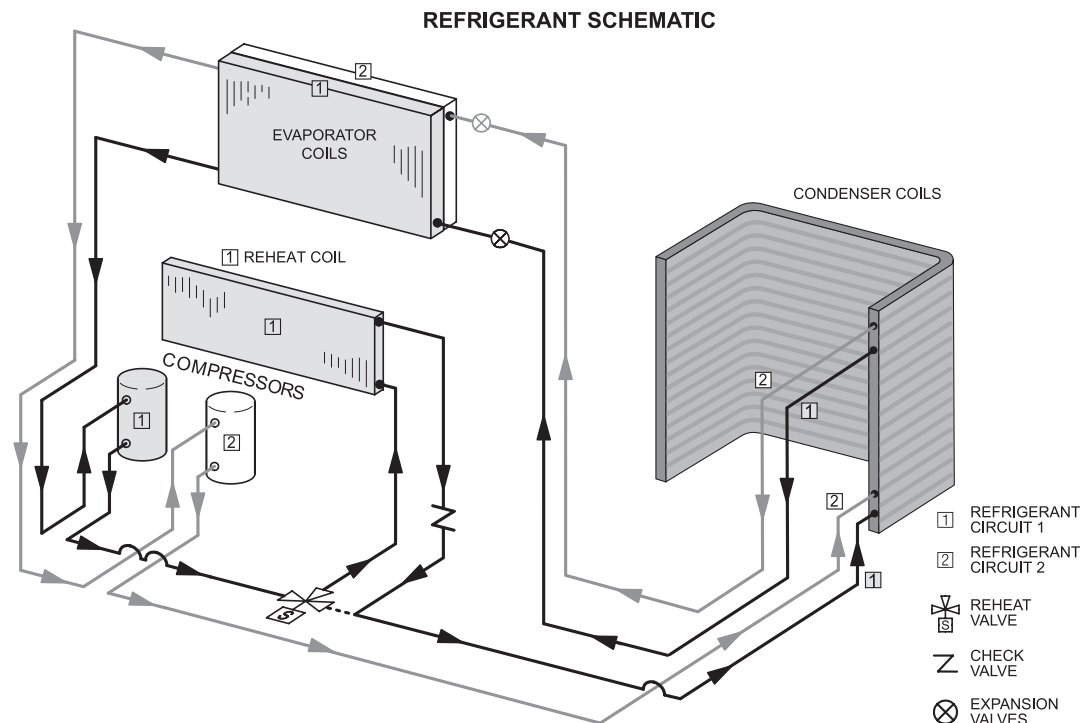
BENEFITS

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

OPERATION

No Dehumidification Demand

- 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
- Reheat operation will initiate on a dehumidification demand and does not require a cooling demand
- Unit will operate in the dehumidification mode until the relative humidity of the conditioned space is below the setpoint
- This operation 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
- Cooled and dehumidified air from the evaporator is reheated as it passes through the reheat coil
- 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



OPTIONS / ACCESSORIES

Item Description	Order Number	Size				
		092	102	120	150	
COOLING SYSTEM						
Condensate Drain Trap	PVC	22H54	X	X	X	X
	Copper	76W27	X	X	X	X
Drain Pan Overflow Switch		21Z07	X	X	X	X
Low Ambient Kit (0°F)		37P82	X	X	X	X
BLOWER - SUPPLY AIR						
Blower Motors	Belt Drive - 2 HP	Factory	O	O	O	O
	Belt Drive - 3 HP	Factory	O	O	O	O
	Belt Drive - 5 HP	Factory	O	O	O	O
Drive Kits See Blower Data Tables for selection	Kit #1 590-890 rpm	Factory	O	O	O	O
	Kit #2 800-1105 rpm	Factory	O	O	O	O
	Kit #3 795-1195 rpm	Factory	O	O	O	O
	Kit #4 730-970 rpm	Factory	O	O	O	O
	Kit #5 940-1200 rpm	Factory	O	O	O	O
	Kit #6 1015-1300 rpm	Factory	O	O	O	O
	Kit #10 900-1135 rpm	Factory	O	O	O	O
	Kit #11 1050-1335 rpm	Factory	O	O	O	O
CABINET						
Combination Coil/Hail Guards		24M51	OX	OX		
		24C85			OX	OX
Hinged Access Panels		Factory	O	O	O	O
Horizontal Discharge Kit		51W25	X	X	X	X
Return Air Adaptor Plate (for same size LC/LG/LH and TC/TG/TH unit replacement)		54W96	X	X	X	X
CONTROLS						
BACnet® MS/TP Module		38B35	X	X	X	X
Dirty Filter Switch		53W67	X	X	X	X
Smoke Detector - Supply or Return (Power board and one sensor)		31A68	X	X	X	X
Smoke Detector - Supply and Return (Power board and two sensors)		31A69	X	X	X	X

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

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

O = Configure To Order (Factory Installed)

X = Field Installed

OPTIONS / ACCESSORIES

Item Description	Order Number	Size				
		092	102	120	150	
INDOOR AIR QUALITY						
Air Filters						
Healthy Climate® High Efficiency Air Filters 20 x 25 x 2 (Order 4 per unit)	MERV 8	50W61	X	X	X	X
	MERV 13	52W41	X	X	X	X
	MERV 16	21U41	X	X	X	X
Replaceable Media Filter With Metal Mesh Frame (includes non-pleated filter media) (Order 4 per unit)	20 x 25 x 2	Y3063	X	X	X	X
Indoor Air Quality (CO₂) Sensors						
Sensor - Wall-mount, off-white plastic cover with LCD display		24C58	X	X	X	X
Sensor - Wall-mount, off-white plastic cover, no display		23V86	X	X	X	X
Sensor - Black plastic case, LCD display, rated for plenum mounting		87N52	X	X	X	X
Sensor - Black plastic case, no display, rated for plenum mounting		23V87	X	X	X	X
CO ₂ Sensor Duct Mounting Kit - for downflow applications		23Y47	X	X	X	X
Aspiration Box - for duct mounting non-plenum rated CO ₂ sensors (24C58)		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
HUMIDITROL® DEHUMIDIFICATION REHEAT OPTION						
Humiditrol® Dehumidification Option	Factory		O	O	O	O
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
Disconnect Switch - See Electrical/Electric Heat tables for selection	80 amp	54W56	OX	OX	OX	OX
	150 amp	54W57	OX	OX	OX	OX
GFI Service Outlets	15 amp non-powered, field-wired (208/230V, 460V only)	74M70	OX	OX	OX	OX
	² 20 amp non-powered, field-wired (208/230V, 460V, 575V)	67E01	X	X	X	X
	² 20 amp non-powered, field-wired (575V)	Factory	O	O	O	O
Weatherproof Cover for GFI		10C89	X	X	X	X
ELECTRIC HEAT						
7.5 kW	208/240V-3ph	30V21	X	X		
	460V-3ph	30V22	X	X		
	575V-3ph	30V23	X	X		
15 kW	208/240V-3ph	30V27	X	X	X	X
	460V-3ph	30V28	X	X	X	X
	575V-3ph	30V29	X	X	X	X
22.5 kW	208/240V-3ph	30V33	X	X	X	X
	460V-3ph	30V34	X	X	X	X
	575V-3ph	30V35	X	X	X	X
30 kW	208/240V-3ph	30V39	X	X	X	X
	460V-3ph	30V40	X	X	X	X
	575V-3ph	30V41	X	X	X	X
45 kW	208/240V-3ph	30V45	X	X	X	X
	460V-3ph	30V46	X	X	X	X
	575V-3ph	30V47	X	X	X	X
60 kW	208/240V-3ph	30V51			X	X
	460V-3ph	30V52			X	X
	575V-3ph	30V53			X	X

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

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

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

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

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OPTIONS / ACCESSORIES

Item Description	Order Number	Size			
		092	102	120	150
ECONOMIZER					
High Performance Economizer (Approved for California Title 24 Building Standards / AMCA Class 1A Certified)					
High Performance Economizer (Downflow or Horizontal)	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 With Exhaust Hood	53K04	X	X	X	X
Economizer Controls					
Differential Enthalpy (Not for Title 24)	Order 2 21Z09	X	X	X	X
Sensible Control	Sensor is Furnished Factory	O	O	O	O
Single Enthalpy (Not for Title 24)	21Z09	OX	OX	OX	OX
OUTDOOR AIR					
Outdoor Air Dampers With Outdoor Air Hood					
Motorized	14G28	X	X	X	X
Manual	14G29	X	X	X	X
POWER EXHAUST					
Standard Static	208/230V-3ph 53W44	X	X	X	X
	460V-3ph 53W45	X	X	X	X
	575V-3ph 53W46	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 - Order numbers shown are for ordering field installed accessories.

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

O = Configure To Order (Factory Installed)

X = Field Installed

SPECIFICATIONS

Model		LCX092S5M	LCX102S5M	LCX120S5M	LCX150S5M	
Nominal Tonnage		7.5 Ton	8.5 Ton	10 Ton	12.5 Ton	
Efficiency Type		Standard	Standard	Standard	Standard	
Blower Type		MSAV® Multi-Stage Air Volume	MSAV® Multi-Stage Air Volume	MSAV® Multi-Stage Air Volume	MSAV® Multi-Stage Air Volume	
Cooling Performance	Gross Cooling Capacity - Btuh	89,900	101,000	119,000	143,000	
	¹ Net Cooling Capacity - Btuh	88,000	99,000	116,000	138,000	
	¹ AHRI Rated Air Flow - cfm	2700	3100	3200	4100	
	¹ IEER (Btuh/Watt)	14.8	14.8	14.8	14.2	
	¹ EER (Btuh/Watt)	11.2	11.2	11.2	11	
	Total Unit Power - kW	7.9	8.8	10.4	12.5	
Sound Rating Number	dBA	88	88	90	90	
Refrigerant Charge	Refrigerant Type	R-454B	R-454B	R-454B	R-454B	
	Without Reheat Option	Circuit 1	3 lbs. 9 oz.	4 lbs. 5 oz.	3 lbs. 12 oz.	5 lbs. 2 oz.
		Circuit 2	3 lbs. 1 oz.	3 lbs. 0 oz.	4 lbs. 5 oz.	5 lbs. 15 oz.
	With Reheat Option	Circuit 1	4 lbs. 8 oz.	4 lbs. 7 oz.	5 lbs. 6 oz.	5 lbs. 3 oz.
		Circuit 2	2 lbs. 14 oz.	3 lbs. 1 oz.	4 lbs. 14 oz.	5 lbs. 13 oz.
Electric Heat Available - See page 18		7.5,15,22.5,30 & 45 KW			15, 22.5,30, 45 & 60 KW	
Compressor Type (number)		Two-Stage Scroll (1), Single-Stage Scroll (1)				
Outdoor Coil	Net face area - ft. ²	20.9	20.9	28.0	27.5	
	Rows	1	1	1	1	
	Fins - in.	23	23	23	20	
Outdoor Coil Fans	Motor HP (number and type)	1/3 (2 PSC)	1/3 (2 PSC)	1/2 (2 PSC)	1/2 (2 PSC)	
	Rpm	1075	1075	1075	1075	
	Watts	740	740	1050	1050	
	Diameter (Number) - in.	(2) 24	(2) 24	(2) 24	(2) 24	
	Blades	3	3	3	3	
	Total Air volume - cfm	8800	8800	9700	9700	
Indoor Coil	Net face area - ft. ²	13.54	13.54	13.54	13.54	
	Tube diameter - in.	3/8	3/8	3/8	3/8	
	Rows	3	3	4	4	
	Fins - in.	14	14	14	14	
	Condensate drain size (NPT) - in.	(1) 1				
Expansion device type		Balanced Port Thermostatic Expansion Valve, removable power element				
² Indoor Blower and Drive Selection	Nominal motor HP	2, 3, 5				
	Maximum usable motor HP (US)	2.3, 3.45, 5.75				
	Motor - Drive kit number	2 HP				
		Kit 1 590-890 rpm				
		Kit 2 800-1105 rpm				
	3 HP					
Kit 4 730-970 rpm						
Kit 5 940-1200 rpm						
Kit 6 1015-1300 rpm						
5 HP						
Kit 10 900-1135 rpm						
Kit 11 1050-1335 rpm						
Wheel (Number) diameter x width - in.		(1) 15 X 15				
Filters	Type of filter	MERV 4, Disposable				
	Number and size - in.	(4) 20 x 25 x 2				
Line voltage data (Volts-Phase-Hz)		208/230-3-60				
		460-3-60				
		575-3-60				

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

¹ AHRI Certified to AHRI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

² Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

NOTE - Motor service factor limit - 1.0.

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 - LCX092S5M (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	1600	44.5	1.65	0.79	0.94	1	42.8	1.87	0.8	0.96	1	41	2.19	0.82	0.98	1	39.1	2.57	0.84	1	1
	1980	46.8	1.63	0.84	1	1	45.5	1.9	0.86	1	1	43.8	2.22	0.88	1	1	41.5	2.54	0.91	1	1
	2360	49.1	1.6	0.9	1	1	47.6	1.88	0.92	1	1	45.9	2.2	0.94	1	1	43.8	2.57	0.97	1	1
67°F	1600	47	1.63	0.62	0.77	0.9	45.5	1.9	0.63	0.78	0.92	43.6	2.22	0.64	0.79	0.94	41.1	2.54	0.66	0.82	0.97
	1980	49.1	1.6	0.66	0.82	0.98	47.5	1.88	0.67	0.84	0.99	45.5	2.21	0.68	0.86	1	42.5	2.53	0.7	0.89	1
	2360	50.5	1.58	0.69	0.88	1	48.8	1.86	0.7	0.9	1	46.7	2.19	0.72	0.92	1	44.4	2.56	0.74	0.95	1
71°F	1600	49.2	1.6	0.47	0.61	0.74	47.6	1.88	0.47	0.62	0.76	45.8	2.2	0.48	0.63	0.77	43.6	2.57	0.48	0.64	0.79
	1980	51.5	1.57	0.49	0.65	0.8	49.8	1.85	0.49	0.66	0.82	47.8	2.18	0.49	0.67	0.83	45.3	2.56	0.5	0.69	0.86
	2360	53.1	1.55	0.5	0.69	0.86	51.4	1.83	0.51	0.7	0.88	49.3	2.16	0.51	0.71	0.9	46.7	2.54	0.53	0.73	0.93

7.5 TON - LCX092S5M (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	1800	71.5	4.23	0.71	0.82	0.92	67.8	4.89	0.72	0.84	0.94	64.5	5.63	0.73	0.86	0.96	60.8	6.46	0.75	0.88	0.99
	2250	76	4.19	0.74	0.87	0.98	72.4	4.85	0.76	0.89	1	68.6	5.59	0.79	0.91	1	64.5	6.42	0.81	0.94	1
	2700	79.6	4.15	0.79	0.92	1	76	4.81	0.81	0.94	1	71.7	5.55	0.83	0.97	1	67.3	6.38	0.85	0.99	1
67°F	1800	75.7	4.19	0.57	0.68	0.79	72.5	4.84	0.58	0.69	0.81	68.1	5.58	0.58	0.71	0.83	63.8	6.42	0.6	0.73	0.85
	2250	79.7	4.14	0.6	0.73	0.85	75.9	4.81	0.61	0.74	0.86	71.4	5.55	0.62	0.76	0.88	66.9	6.38	0.63	0.78	0.91
	2700	82.6	4.12	0.62	0.77	0.89	78.6	4.78	0.62	0.79	0.91	74	5.52	0.65	0.81	0.94	69.4	6.35	0.67	0.83	0.97
71°F	1800	80	4.14	0.44	0.55	0.66	76.3	4.8	0.45	0.56	0.67	72.1	5.54	0.46	0.58	0.69	67.8	6.37	0.45	0.58	0.7
	2250	84.3	4.1	0.45	0.59	0.7	80.5	4.76	0.46	0.59	0.72	75.9	5.5	0.46	0.61	0.74	71.2	6.33	0.46	0.62	0.76
	2700	87.3	4.07	0.46	0.61	0.74	83.3	4.73	0.47	0.62	0.76	78.5	5.47	0.48	0.63	0.79	73.4	6.3	0.49	0.65	0.82

7.5 TON - LCX092S5M (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	89	5.21	0.72	0.83	0.93	84.8	5.72	0.73	0.85	0.95	81.2	6.48	0.74	0.86	0.96	78.2	7.4	0.75	0.87	0.99
	3000	93.1	5.12	0.76	0.88	0.99	90.5	5.91	0.78	0.9	1	85.6	6.54	0.79	0.91	1	81.4	7.4	0.81	0.93	1
	3600	96.5	5.15	0.8	0.93	1	94	5.94	0.82	0.94	1	88.7	6.58	0.84	0.97	1	84.4	7.45	0.85	0.99	1
67°F	2400	93	5.25	0.59	0.69	0.81	88.6	5.78	0.59	0.7	0.82	84.3	6.53	0.59	0.72	0.83	80.7	7.44	0.6	0.73	0.85
	3000	96	5.17	0.61	0.75	0.86	93	5.94	0.61	0.76	0.87	87.7	6.58	0.63	0.77	0.89	83.5	7.45	0.64	0.79	0.91
	3600	98.8	5.2	0.64	0.79	0.9	96.7	5.98	0.64	0.79	0.92	90.5	6.61	0.66	0.82	0.94	86.2	7.49	0.67	0.83	0.97
71°F	2400	96.7	5.17	0.45	0.57	0.67	94.2	5.95	0.45	0.57	0.68	88.9	6.59	0.45	0.58	0.69	84.5	7.47	0.46	0.59	0.71
	3000	100.9	5.22	0.46	0.6	0.72	98.2	5.99	0.46	0.61	0.73	93.8	6.74	0.47	0.61	0.75	87.5	7.51	0.47	0.62	0.77
	3600	104.2	5.28	0.48	0.62	0.76	101.5	6.03	0.49	0.63	0.78	96.7	6.78	0.48	0.64	0.8	89.3	7.54	0.49	0.66	0.82

RATINGS

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

8.5 TON - LCX102S5M (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	1800	47.2	1.5	0.82	0.98	1	46.1	1.79	0.84	0.99	1	44.5	2.11	0.85	1	1	42.4	2.44	0.88	1	1	
	2250	50.8	1.78	0.88	1	1	48.8	1.76	0.9	1	1	47.4	2.22	0.92	1	1	45.3	2.56	0.95	1	1	
	2700	53.2	1.77	0.95	1	1	50.8	1.74	0.96	1	1	49.6	2.2	0.98	1	1	47.1	2.55	1	1	1	
67°F	1800	50.4	1.79	0.65	0.79	0.95	48.8	1.92	0.65	0.81	0.97	46.6	2.23	0.66	0.83	0.99	43.9	2.43	0.68	0.85	1	
	2250	52.5	1.77	0.69	0.86	1	50.1	1.75	0.7	0.88	1	48.7	2.21	0.71	0.9	1	46.2	2.56	0.73	0.92	1	
	2700	54.2	1.76	0.73	0.92	1	51.5	1.73	0.74	0.95	1	49.3	2.04	0.76	0.97	1	47.3	2.55	0.78	0.99	1	
71°F	1800	53	1.77	0.48	0.63	0.78	50.5	1.74	0.49	0.64	0.79	49.2	2.21	0.49	0.65	0.81	46.8	2.55	0.5	0.67	0.83	
	2250	55.4	1.75	0.51	0.68	0.84	52.5	1.72	0.5	0.69	0.86	50.3	2.03	0.52	0.71	0.89	48.3	2.54	0.53	0.72	0.9	
	2700	57	1.74	0.53	0.72	0.9	53.9	1.71	0.54	0.74	0.92	51.3	2.02	0.54	0.76	0.96	49.6	2.53	0.55	0.77	0.97	

8.5 TON - LCX102S5M (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	2040	96.5	6	0.66	0.77	0.87	93.2	6.79	0.67	0.78	0.88	88.9	7.62	0.68	0.79	0.89	84.7	8.62	0.68	0.81	0.91	
	2550	102.4	6.11	0.7	0.82	0.92	98.3	6.85	0.71	0.83	0.93	94.1	7.73	0.72	0.84	0.96	89.3	8.69	0.72	0.86	0.98	
	3060	106.9	6.15	0.72	0.86	0.97	103.2	6.92	0.73	0.87	0.99	98.5	7.79	0.76	0.89	1	93.4	8.77	0.78	0.91	1	
67°F	2040	102.5	6.11	0.53	0.63	0.73	98.9	6.89	0.54	0.64	0.74	94.3	7.74	0.55	0.65	0.76	89	8.69	0.55	0.66	0.78	
	2550	107.9	6.16	0.56	0.66	0.78	103.9	6.93	0.56	0.68	0.8	99.3	7.81	0.57	0.7	0.82	93.8	8.79	0.58	0.7	0.83	
	3060	111.4	6.2	0.58	0.71	0.83	107.4	6.97	0.58	0.72	0.85	102	7.83	0.59	0.74	0.86	96.5	8.83	0.6	0.76	0.89	
71°F	2040	107.3	6.15	0.42	0.52	0.61	103.4	6.93	0.42	0.52	0.61	99.2	7.82	0.42	0.52	0.62	93.9	8.79	0.43	0.54	0.64	
	2550	112.9	6.21	0.43	0.54	0.65	108.8	6.98	0.44	0.54	0.66	104.1	7.87	0.44	0.55	0.67	98.5	8.86	0.44	0.57	0.68	
	3060	117.3	6.29	0.44	0.56	0.68	112.6	7.04	0.45	0.57	0.69	107.7	7.92	0.45	0.58	0.7	101.7	8.92	0.45	0.59	0.73	

8.5 TON - LCX102S5M (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	2720	100.9	6.2	0.71	0.83	0.94	96.6	6.96	0.73	0.85	0.96	92.9	7.85	0.74	0.86	0.98	88.5	8.88	0.75	0.88	1	
	3400	106.6	6.3	0.75	0.89	1	102.2	7.06	0.77	0.91	1	97.8	7.93	0.78	0.93	1	92.8	8.96	0.8	0.95	1	
	4080	111.3	6.69	0.8	0.94	1	106.4	7.14	0.82	0.96	1	101.1	7.99	0.84	0.99	1	96.1	9.02	0.86	1	1	
67°F	2720	106.5	6.3	0.57	0.68	0.81	101.7	7.04	0.57	0.7	0.82	97.1	7.92	0.58	0.71	0.84	92.2	8.95	0.6	0.73	0.85	
	3400	111.9	6.7	0.6	0.74	0.86	106.4	7.12	0.61	0.75	0.88	101.1	7.99	0.62	0.77	0.9	95.8	9.02	0.63	0.78	0.92	
	4080	115.1	6.75	0.62	0.77	0.92	109.4	7.18	0.64	0.81	0.94	103.7	8.04	0.65	0.83	0.96	98.5	9.08	0.66	0.84	0.99	
71°F	2720	112.5	6.71	0.44	0.56	0.66	107.6	7.16	0.44	0.56	0.68	102.3	8.01	0.45	0.57	0.68	97.2	9.05	0.45	0.58	0.7	
	3400	117.8	6.78	0.45	0.58	0.71	112.1	7.21	0.46	0.6	0.72	106.8	8.1	0.46	0.61	0.74	101	9.13	0.47	0.62	0.76	
	4080	121.3	6.84	0.46	0.61	0.76	115.5	7.27	0.47	0.62	0.78	109.9	8.16	0.47	0.63	0.8	103.6	9.18	0.49	0.66	0.83	

RATINGS

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

10 TON - LCX120S5M (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	2110	53.4	1.62	0.8	1	1	51.9	1.9	0.81	1	1	50	2.23	0.83	1	1	47.8	2.6	0.86	1	1				
	2640	56.6	1.58	0.86	1	1	55	1.86	0.88	1	1	53	2.19	0.9	1	1	50.7	2.57	0.96	1	1				
	3170	59.1	1.56	0.95	1	1	57.3	1.85	0.98	1	1	55.2	2.18	1	1	1	52.3	2.56	1	1	1				
67°F	2110	55.7	1.59	0.63	0.78	0.95	54	1.88	0.64	0.79	0.99	51.8	2.2	0.65	0.81	1	49.2	2.59	0.67	0.84	1				
	2640	58.1	1.57	0.67	0.85	1	56.3	1.85	0.68	0.86	1	54	2.19	0.69	0.88	1	51.2	2.56	0.71	0.91	1				
	3170	59.8	1.55	0.71	0.91	1	57.9	1.84	0.72	0.95	1	55.5	2.18	0.73	1	1	52.3	2.56	0.75	1	1				
71°F	2110	58	1.57	0.47	0.63	0.76	56.2	1.85	0.47	0.64	0.78	53.8	2.19	0.48	0.65	0.79	51.2	2.56	0.49	0.66	0.81				
	2640	60.4	1.54	0.49	0.67	0.83	58.5	1.84	0.5	0.68	0.84	56.1	2.17	0.51	0.69	0.86	53	2.56	0.52	0.71	0.89				
	3170	62.3	1.52	0.51	0.71	0.89	60.2	1.81	0.52	0.72	0.91	57.7	2.16	0.52	0.73	0.95	54.5	2.54	0.54	0.75	1				

10 TON - LCX120S5M (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	2400	103.9	5.87	0.66	0.78	0.89	99	6.75	0.67	0.8	0.91	93.9	7.75	0.68	0.83	0.93	86.8	9.18	0.71	0.86	0.96				
	3000	109.6	5.85	0.7	0.84	0.96	104.8	6.73	0.72	0.86	0.99	99.4	7.73	0.75	0.89	1	93.6	8.86	0.77	0.92	1				
	3600	114.7	6.04	0.75	0.9	1	109.6	6.72	0.78	0.92	1	104	7.72	0.8	0.95	1	97.8	8.85	0.83	0.98	1				
67°F	2400	109.2	6.06	0.53	0.64	0.75	105	6.72	0.54	0.64	0.76	99.3	7.72	0.54	0.66	0.79	93.2	8.85	0.55	0.67	0.83				
	3000	115.1	6.04	0.56	0.68	0.81	110	6.7	0.57	0.7	0.84	104.2	7.71	0.58	0.71	0.86	97.8	8.84	0.58	0.73	0.88				
	3600	119.2	6.04	0.57	0.72	0.87	112.9	6.94	0.6	0.74	0.89	107.6	7.7	0.6	0.77	0.92	100.9	8.82	0.61	0.81	0.95				
71°F	2400	115.7	6.03	0.4	0.52	0.61	110.2	6.94	0.41	0.52	0.62	105	7.69	0.41	0.52	0.64	98.9	8.82	0.42	0.54	0.65				
	3000	121.2	6.02	0.42	0.54	0.65	115.3	6.92	0.42	0.55	0.67	110.1	7.67	0.43	0.56	0.69	103.5	8.81	0.44	0.57	0.71				
	3600	126.3	5.8	0.43	0.57	0.69	119.3	6.93	0.43	0.58	0.72	112.7	7.95	0.44	0.59	0.75	103.6	9.74	0.44	0.62	0.78				

10 TON - LCX120S5M (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	3200	121.9	6.86	0.68	0.81	0.92	117.3	7.78	0.7	0.82	0.93	112.6	8.84	0.71	0.84	0.96	107.4	10.1	0.72	0.86	0.98				
	4000	128.8	6.92	0.74	0.87	0.99	123.6	7.84	0.75	0.88	1	118.8	8.94	0.76	0.9	1	113.1	10.17	0.79	0.93	1				
	4800	133.6	6.98	0.79	0.93	1	128.2	7.89	0.81	0.95	1	122.8	8.99	0.82	0.97	1	117.1	10.23	0.84	1	1				
67°F	3200	128	6.92	0.54	0.66	0.78	122.7	7.83	0.55	0.67	0.8	117.2	8.92	0.56	0.7	0.81	111.4	10.16	0.57	0.7	0.83				
	4000	133.6	6.99	0.58	0.71	0.84	127.7	7.9	0.58	0.73	0.86	121.9	8.98	0.59	0.75	0.88	115.7	10.22	0.6	0.78	0.9				
	4800	137	7.03	0.61	0.78	0.9	131.3	7.94	0.62	0.79	0.92	125.3	9.01	0.63	0.8	0.95	119	10.26	0.64	0.83	0.98				
71°F	3200	134.3	7	0.42	0.54	0.64	129.1	7.92	0.42	0.54	0.66	123.2	9	0.43	0.55	0.67	117.6	10.24	0.43	0.56	0.68				
	4000	140	7.08	0.43	0.57	0.7	134.2	7.98	0.44	0.58	0.71	128.2	9.05	0.44	0.59	0.73	121.6	10.31	0.46	0.6	0.75				
	4800	144	7.14	0.46	0.6	0.74	137.9	8.05	0.46	0.62	0.76	131.7	9.12	0.47	0.62	0.77	124.8	10.35	0.47	0.64	0.79				

RATINGS

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

12.5 TON - LCX150S5M (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	2640	60.7	2.1	0.81	1	1	58.5	2.38	0.83	1	1	56.4	2.75	0.85	1	1	53.8	3.17	0.87	1	1				
	3300	64.2	2.07	0.88	1	1	61.8	2.37	0.9	1	1	59.2	2.74	0.92	1	1	56.8	3.16	1	1	1				
	3960	66.8	2.04	0.98	1	1	64.4	2.35	1	1	1	61.7	2.73	1	1	1	58.8	3.14	1	1	1				
67°F	2640	63.1	2.08	0.63	0.79	0.98	60.6	2.38	0.65	0.81	1	58.1	2.74	0.66	0.83	1	55.1	3.17	0.68	0.85	1				
	3300	65.6	2.05	0.68	0.86	1	62.9	2.36	0.69	0.88	1	59.9	2.73	0.71	0.91	1	57.1	3.16	0.72	0.93	1				
	3960	67.4	2.04	0.72	0.92	1	64.7	2.35	0.73	1	1	61.7	2.73	0.75	1	1	58.8	3.14	0.77	1	1				
71°F	2640	66.1	2.05	0.47	0.63	0.77	63.4	2.36	0.47	0.64	0.79	60.4	2.73	0.48	0.65	0.81	57.4	3.15	0.49	0.67	0.84				
	3300	68.3	2.02	0.49	0.68	0.84	65.5	2.35	0.5	0.69	0.86	62.6	2.73	0.51	0.7	0.89	59.6	3.14	0.52	0.72	0.92				
	3960	70.1	2	0.51	0.72	0.91	67.4	2.33	0.52	0.73	0.93	64.3	2.72	0.54	0.75	1	61	3.13	0.55	0.77	1				

12.5 TON - LCX150S5M (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	3000	127.7	7.91	0.65	0.78	0.89	122.9	9.04	0.66	0.81	0.91	116.9	10.31	0.68	0.82	0.93	110.4	11.72	0.69	0.86	0.95				
	3750	134.9	7.91	0.7	0.86	0.96	129.9	9.05	0.71	0.86	0.98	124.2	10.33	0.73	0.88	1	117.7	11.74	0.76	0.9	1				
	4500	141	7.9	0.75	0.9	1	135.5	9.06	0.77	0.92	1	129.4	10.33	0.79	0.94	1	122.7	11.74	0.81	0.97	1				
67°F	3000	135.3	7.89	0.53	0.63	0.74	130.1	9.04	0.53	0.65	0.77	124	10.31	0.54	0.65	0.78	116.5	11.72	0.55	0.67	0.82				
	3750	141.8	7.9	0.55	0.67	0.82	136.2	9.03	0.56	0.69	0.83	129.3	10.32	0.57	0.7	0.86	121.9	11.73	0.58	0.72	0.88				
	4500	146.1	7.88	0.58	0.72	0.87	139.9	9.05	0.59	0.73	0.89	133.1	10.32	0.59	0.76	0.91	125.3	11.74	0.6	0.79	0.94				
71°F	3000	143.3	7.88	0.4	0.51	0.6	137.4	9.05	0.41	0.52	0.62	131.1	10.3	0.41	0.53	0.63	123.7	11.72	0.42	0.54	0.64				
	3750	149.9	7.88	0.42	0.54	0.65	143.8	9.04	0.42	0.55	0.67	136.7	10.32	0.43	0.55	0.68	129.1	11.72	0.43	0.57	0.69				
	4500	154.6	7.87	0.43	0.57	0.7	147.8	9.05	0.43	0.58	0.71	140.3	10.31	0.45	0.58	0.74	132.4	11.73	0.45	0.59	0.77				

12.5 TON - LCX150S5M (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	144.9	8.98	0.69	0.81	0.92	139.1	10.18	0.7	0.82	0.94	133.3	11.61	0.71	0.84	0.96	127.2	13.17	0.73	0.86	0.99				
	5000	152.2	8.98	0.73	0.87	1	146.3	10.22	0.74	0.89	1	140.5	11.61	0.77	0.91	1	133.1	13.2	0.79	0.94	1				
	6000	158.4	9.02	0.78	0.93	1	152.1	10.24	0.8	0.95	1	146	11.64	0.82	0.98	1	138.2	13.2	0.85	1	1				
67°F	4000	151.9	8.97	0.55	0.67	0.78	145.1	10.2	0.55	0.67	0.8	138.7	11.58	0.56	0.68	0.81	131.8	13.17	0.58	0.7	0.84				
	5000	157.7	9.02	0.58	0.71	0.84	151.1	10.25	0.58	0.73	0.86	144.1	11.62	0.6	0.75	0.88	136.1	13.19	0.61	0.78	0.91				
	6000	162.5	9.06	0.61	0.77	0.91	155.4	10.29	0.62	0.8	0.93	147.9	11.64	0.63	0.8	0.95	140.5	13.17	0.64	0.83	0.99				
71°F	4000	160	9.03	0.42	0.53	0.64	153.5	10.24	0.42	0.54	0.66	146.6	11.63	0.43	0.55	0.66	138.8	13.19	0.42	0.56	0.68				
	5000	166.1	9.06	0.43	0.57	0.69	159.2	10.32	0.44	0.57	0.71	151.7	11.68	0.44	0.59	0.72	143.1	13.19	0.43	0.59	0.74				
	6000	170.5	9.1	0.44	0.59	0.74	163.5	10.35	0.44	0.6	0.77	154.8	11.71	0.45	0.62	0.78	146.3	13.22	0.46	0.63	0.8				

LCX092S5M AND LCX102S5M - BASE UNIT

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.)

Then determine from blower table blower motor output required.

See page 29 for blower motors and drives.

See page 29 for wet coil and option/accessory air resistance data.

Minimum Air Volume Required For Use With Optional Electric Heat (Maximum Static Pressure - 2.0 in. w.g.)

7.5 kW, 15 kW, 22.5 kW, 30 kW and 45 kW - 2800 cfm; 60 kW - 4000 cfm

Total Air Volume cfm	Total Static Pressure – in. w.g.																										
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2		2.2		2.4		2.6		
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM
2000	593	0.11	636	0.07	682	0.10	731	0.22	784	0.60	840	0.96	898	1.26	948	1.38	996	1.47	1045	1.57	1092	1.71	1140	1.92	1188	2.32	
2250	604	0.15	645	0.11	690	0.15	739	0.39	790	0.74	846	1.08	901	1.34	953	1.48	1002	1.57	1052	1.70	1100	1.86	1149	2.09	1197	2.42	
2500	615	0.19	655	0.15	699	0.20	747	0.55	797	0.89	851	1.20	906	1.44	959	1.58	1009	1.68	1059	1.83	1108	2.01	1158	2.26	1206	2.52	
2750	626	0.23	666	0.19	709	0.37	755	0.71	805	1.03	858	1.32	912	1.55	966	1.70	1017	1.81	1067	1.97	1117	2.17	1166	2.44	1215	2.71	
3000	637	0.27	677	0.24	719	0.55	764	0.87	813	1.18	866	1.45	920	1.67	975	1.82	1026	1.96	1076	2.13	1126	2.35	1176	2.63	1225	2.92	
3250	650	0.31	688	0.43	730	0.73	775	1.04	823	1.34	875	1.60	930	1.81	985	1.97	1036	2.12	1086	2.31	1136	2.54	1186	2.83	1235	3.13	
3500	663	0.35	700	0.63	741	0.92	786	1.22	834	1.50	886	1.76	942	1.96	997	2.14	1048	2.31	1097	2.51	1147	2.75	1196	3.04	1245	3.35	
3750	676	0.57	714	0.84	754	1.12	798	1.41	846	1.68	899	1.93	956	2.14	1010	2.32	1060	2.51	1109	2.72	1158	2.98	1207	3.27	1255	3.58	
4000	691	0.79	728	1.05	768	1.33	812	1.61	860	1.88	914	2.12	971	2.34	1023	2.53	1072	2.73	1121	2.95	1169	3.22	1218	3.51	1266	3.83	
4250	706	1.03	743	1.28	783	1.55	827	1.82	876	2.09	931	2.33	987	2.55	1037	2.76	1085	2.97	1133	3.20	1181	3.47	1229	3.76	1277	4.08	
4500	722	1.27	759	1.52	799	1.78	844	2.05	894	2.31	949	2.56	1003	2.79	1052	3.00	1098	3.22	1145	3.46	1193	3.73	1241	4.03	1289	4.34	
4750	739	1.53	776	1.77	817	2.03	862	2.30	913	2.56	968	2.81	1020	3.04	1066	3.27	1112	3.49	1158	3.74	1205	4.01	1253	4.30	1301	4.61	
5000	757	1.79	794	2.04	835	2.30	882	2.56	934	2.83	988	3.08	1036	3.32	1081	3.55	1125	3.78	1171	4.02	1218	4.29	1265	4.59	1312	4.89	

LCX120S5M AND LCX150S5M - BASE UNIT

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.)

Then determine from blower table blower motor output required.

See page 29 for blower motors and drives.

See page 29 for wet coil and option/accessory air resistance data.

Minimum Air Volume Required For Use With Optional Electric Heat (Maximum Static Pressure - 2.0 in. w.g.)

15 kW, 22.5 kW, 30 kW and 45 kW - 2800 cfm; 60 kW - 4000 cfm

Total Air Volume cfm	Total Static Pressure – in. w.g.																										
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0		2.2		2.4		2.6		
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM
2000	497	0.25	558	0.44	624	0.6	694	0.74	764	0.85	830	0.99	889	1.16	943	1.34	994	1.52	1045	1.71	1096	1.89	1146	2.08	1197	2.27	
2250	511	0.34	573	0.52	638	0.68	708	0.82	776	0.94	839	1.09	896	1.26	948	1.45	998	1.64	1048	1.83	1098	2.01	1149	2.2	1200	2.4	
2500	527	0.44	589	0.62	654	0.78	723	0.91	789	1.05	850	1.21	904	1.39	955	1.58	1003	1.77	1052	1.96	1101	2.14	1152	2.33	1203	2.53	
2750	545	0.55	606	0.72	672	0.88	740	1.03	804	1.17	861	1.34	914	1.53	962	1.72	1010	1.92	1057	2.10	1105	2.29	1154	2.47	1206	2.68	
3000	564	0.66	626	0.84	692	1.01	759	1.16	819	1.32	874	1.49	924	1.68	971	1.88	1017	2.08	1063	2.26	1110	2.44	1158	2.63	1208	2.83	
3250	585	0.79	648	0.98	714	1.14	778	1.31	836	1.48	887	1.66	935	1.86	981	2.06	1026	2.26	1071	2.45	1117	2.63	1163	2.80	1213	3.00	
3500	607	0.93	672	1.13	737	1.31	798	1.48	852	1.66	901	1.85	948	2.05	993	2.26	1037	2.46	1081	2.65	1125	2.83	1171	3.01	1221	3.21	
3750	632	1.10	698	1.31	762	1.50	819	1.67	869	1.86	915	2.05	961	2.25	1005	2.47	1049	2.68	1092	2.88	1136	3.05	1181	3.24	1231	3.45	
4000	660	1.30	726	1.52	787	1.70	838	1.87	885	2.06	930	2.26	974	2.48	1018	2.71	1062	2.93	1105	3.12	1149	3.30	1194	3.49	1245	3.72	
4250	691	1.53	755	1.75	810	1.91	857	2.07	901	2.27	945	2.50	990	2.74	1034	2.98	1077	3.20	1120	3.39	1163	3.58	1210	3.79	1262	4.03	
4500	724	1.78	783	1.98	831	2.12	874	2.28	917	2.50	962	2.75	1006	3.02	1051	3.27	1094	3.49	1137	3.70	1181	3.89	1228	4.11	1281	4.38	
4750	757	2.05	809	2.20	851	2.33	891	2.51	935	2.76	980	3.05	1025	3.33	1070	3.59	1113	3.82	1156	4.03	1201	4.24	1249	4.47	1303	4.75	
5000	787	2.31	831	2.43	870	2.57	910	2.78	954	3.06	1000	3.38	1046	3.68	1091	3.95	1135	4.19	1178	4.40	1224	4.62	1272	4.86	1325	5.13	
5250	814	2.55	852	2.66	889	2.83	930	3.09	975	3.41	1023	3.76	1070	4.08	1115	4.35	1159	4.59	1203	4.81	1248	5.03	1297	5.27	---	---	
5500	835	2.78	871	2.91	909	3.13	952	3.44	999	3.81	1049	4.18	1096	4.51	1142	4.79	1186	5.03	1229	5.24	1275	5.46	1324	5.69	---	---	
5750	854	3.01	890	3.19	930	3.48	977	3.86	1027	4.27	1078	4.66	1126	4.99	1171	5.26	1214	5.49	1258	5.70	---	---	---	---	---	---	
6000	871	3.26	910	3.53	955	3.90	1006	4.34	1060	4.80	1111	5.19	1158	5.51	---	---	---	---	---	---	---	---	---	---	---	---	
6250	890	3.57	934	3.94	985	4.41	1041	4.91	1096	5.38	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	

BLOWER DATA

FACTORY INSTALLED BELT DRIVE KIT SPECIFICATIONS

Nominal HP	Maximum HP	Drive Kit Number	RPM Range
2	2.3	1	590 - 890
2	2.3	2	800 - 1105
2	2.3	3	795 - 1195
3	3.45	4	730 - 970
3	3.45	5	940 - 1200
3	3.45	6	1015 - 1300
5	5.75	10	900 - 1135
5	5.75	11	1050 - 1335

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

NOTE - Motor service factor limit - 1.0.

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

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

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

BLOWER DATA

CEILING DIFFUSERS AIR RESISTANCE - in. w.g.

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

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

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

ELECTRICAL/ELECTRIC HEAT DATA

7.5 TON

Model		LCX092S5								
¹ Voltage - 60Hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1 (Non-Inverter)	Rated Load Amps	12.4			6.5			4.8		
	Locked Rotor Amps	93			60			41		
Compressor 2 (Non-Inverter)	Rated Load Amps	12.8			5.1			4.5		
	Locked Rotor Amps	97.5			44.3			27.1		
Outdoor Fan Motors (2)	Full Load Amps (2 Non-ECM)	2.4			1.3			1		
	Total	4.8			2.6			2		
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4			1.3			1		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	HP	2	3	5	2	3	5	2	3	5
	Full Load Amps	7.5	10.6	16.7	3.4	4.8	7.6	2.7	3.9	6.1
² Maximum Overcurrent Protection (MOCP)	Unit Only	50	50	60	25	25	30	20	20	25
	With (1) 0.33 HP Power Exhaust	50	50	60	25	25	30	20	20	25
³ Minimum Circuit Ampacity (MCA)	Unit Only	41	44	51	20	21	24	16	17	19
	With (1) 0.33 HP Power Exhaust	44	47	54	21	22	26	17	18	20

ELECTRIC HEAT DATA

Electric Heat Voltage			208V	240V	208V	240V	208V	240V	480V	480V	480V	600V	600V	600V
² Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	7.5 kW	50	50	50	50	60	60	25	25	30	20	20	25
		15 kW	50	60	60	60	60	70	30	30	35	25	25	30
		22.5 kW	70	80	80	90	80	90	40	40	45	35	35	35
		30 kW	90	100	100	110	100	125	50	60	60	40	45	45
		45 kW	150	150	150	150	150	175	80	80	80	60	60	70
³ Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	7.5 kW	41	41	44	44	51	51	20	21	24	16	17	19
		15 kW	49	55	53	59	60	66	27	29	33	22	23	26
		22.5 kW	69	78	72	81	80	89	39	40	44	31	32	35
		30 kW	88	100	92	104	100	112	50	52	55	40	41	44
		45 kW	127	145	131	149	139	157	72	74	78	58	60	62
² Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	7.5 kW	50	50	50	50	60	60	25	25	30	20	20	25
		15 kW	60	60	60	70	70	70	30	35	35	25	25	30
		22.5 kW	80	90	80	90	90	100	40	45	45	35	35	40
		30 kW	100	110	100	110	110	125	60	60	60	45	45	45
		45 kW	150	150	150	175	150	175	80	80	80	60	70	70
³ Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	7.5 kW	44	44	47	47	54	54	21	22	26	17	18	20
		15 kW	52	58	56	62	63	69	29	31	34	23	25	27
		22.5 kW	72	81	75	84	83	92	40	42	45	32	34	36
		30 kW	91	103	95	107	103	115	51	53	57	41	43	45
		45 kW	130	148	134	152	142	160	74	76	79	59	61	64

ELECTRICAL ACCESSORIES

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

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

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

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

² HACR type breaker or fuse.

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

ELECTRICAL/ELECTRIC HEAT DATA

8.5 TON

Model		LCX102S5								
¹ Voltage - 60Hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1 (Non-Inverter)	Rated Load Amps	12.4			6.5			4.8		
	Locked Rotor Amps	93			60			41		
Compressor 2 (Non-Inverter)	Rated Load Amps	12.2			6.4			5.1		
	Locked Rotor Amps	120.4			50			41		
Outdoor Fan Motors (2)	Full Load Amps (2 Non-ECM)	2.4			1.3			1		
	Total	4.8			2.6			2		
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4			1.3			1		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	HP	2	3	5	2	3	5	2	3	5
	Full Load Amps	7.5	10.6	16.7	3.4	4.8	7.6	2.7	3.9	6.1
² Maximum Overcurrent Protection (MOCP)	Unit Only	50	50	60	25	25	30	20	20	25
	With (1) 0.33 HP Power Exhaust	50	50	60	25	25	30	20	20	25
³ Minimum Circuit Ampacity (MCA)	Unit Only	40	44	51	21	22	25	16	18	20
	With (1) 0.33 HP Power Exhaust	43	46	53	22	24	27	17	19	21

ELECTRIC HEAT DATA

Electric Heat Voltage			208V	240V	208V	240V	208V	240V	480V	480V	480V	600V	600V	600V
² Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	7.5 kW	50	50	50	50	60	60	25	25	30	20	20	25
		15 kW	50	60	60	60	60	70	30	30	35	25	25	30
		22.5 kW	70	80	80	90	80	90	40	40	45	35	35	35
		30 kW	90	100	100	110	100	125	50	60	60	40	45	45
		45 kW	150	150	150	150	150	175	80	80	80	60	60	70
³ Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	7.5 kW	40	40	44	44	51	51	21	22	25	16	18	20
		15 kW	49	55	53	59	60	66	27	29	33	22	23	26
		22.5 kW	69	78	72	81	80	89	39	40	44	31	32	35
		30 kW	88	100	92	104	100	112	50	52	55	40	41	44
		45 kW	127	145	131	149	139	157	72	74	78	58	60	62
² Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	7.5 kW	50	50	50	50	60	60	25	25	30	20	20	25
		15 kW	60	60	60	70	70	70	30	35	35	25	25	30
		22.5 kW	80	90	80	90	90	100	40	45	45	35	35	40
		30 kW	100	110	100	110	110	125	60	60	60	45	45	45
		45 kW	150	150	150	175	150	175	80	80	80	60	70	70
³ Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	7.5 kW	43	43	46	46	53	53	22	24	27	17	19	21
		15 kW	52	58	56	62	63	69	29	31	34	23	25	27
		22.5 kW	72	81	75	84	83	92	40	42	45	32	34	36
		30 kW	91	103	95	107	103	115	51	53	57	41	43	45
		45 kW	130	148	134	152	142	160	74	76	79	59	61	64

ELECTRICAL ACCESSORIES

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

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

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

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

² HACR type breaker or fuse.

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

ELECTRICAL/ELECTRIC HEAT DATA

10 TON

Model		LCX120S5								
¹ Voltage - 60Hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1 (Non-Inverter)	Rated Load Amps	12.4			6.5			4.8		
	Locked Rotor Amps	93			60			41		
Compressor 2 (Non-Inverter)	Rated Load Amps	16			7.1			6.4		
	Locked Rotor Amps	156.4			69			47.8		
Outdoor Fan Motors (2)	Full Load Amps (2 Non-ECM)	3			1.5			1.2		
	Total	6			3			2.4		
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4			1.3			1		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	HP	2	3	5	2	3	5	2	3	5
	Full Load Amps	7.5	10.6	16.7	3.4	4.8	7.6	2.7	3.9	6.1
² Maximum Overcurrent Protection (MOCP)	Unit Only	60	60	70	25	30	30	20	25	25
	With (1) 0.33 HP Power Exhaust	60	60	70	30	30	30	25	25	25
³ Minimum Circuit Ampacity (MCA)	Unit Only	46	49	56	22	24	27	18	20	22
	With (1) 0.33 HP Power Exhaust	49	52	58	24	25	28	19	21	23

ELECTRIC HEAT DATA

Electric Heat Voltage				208V	240V	208V	240V	208V	240V	480V	480V	480V	600V	600V	600V
² Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	15 kW	15 kW	60	60	60	60	70	70	30	30	35	25	25	30
		22.5 kW	22.5 kW	70	80	80	90	80	90	40	40	45	35	35	35
		30 kW	30 kW	90	100	100	110	100	125	50	60	60	40	45	45
		45 kW	45 kW	150	150	150	150	150	175	80	80	80	60	60	70
		60 kW	60 kW	150	175	150	175	150	175	80	80	90	70	70	70
³ Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	15 kW	15 kW	49	55	53	59	60	66	27	29	33	22	23	26
		22.5 kW	22.5 kW	69	78	72	81	80	89	39	40	44	31	32	35
		30 kW	30 kW	88	100	92	104	100	112	50	52	55	40	41	44
		45 kW	45 kW	127	145	131	149	139	157	72	74	78	58	60	62
		60 kW	60 kW	135	154	139	158	146	166	77	79	82	62	63	66
² Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	15 kW	15 kW	60	60	60	70	70	70	30	35	35	25	25	30
		22.5 kW	22.5 kW	80	90	80	90	90	100	40	45	45	35	35	40
		30 kW	30 kW	100	110	100	110	110	125	60	60	60	45	45	45
		45 kW	45 kW	150	150	150	175	150	175	80	80	80	60	70	70
		60 kW	60 kW	150	175	150	175	150	175	80	80	90	70	70	70
³ Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	15 kW	15 kW	52	58	56	62	63	69	29	31	34	23	25	27
		22.5 kW	22.5 kW	72	81	75	84	83	92	40	42	45	32	34	36
		30 kW	30 kW	91	103	95	107	103	115	51	53	57	41	43	45
		45 kW	45 kW	130	148	134	152	142	160	74	76	79	59	61	64
		60 kW	60 kW	138	157	142	161	149	169	79	80	84	63	64	67

ELECTRICAL ACCESSORIES

Disconnect	15 kW	54W56	54W56	54W56
	22.5 kW	54W57	54W56	54W56
	30 kW	54W57	54W56	54W56
	45 kW	54W57	54W56	54W56
	60 kW	Not Available	54W56	54W56

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

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

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

² HACR type breaker or fuse.

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

ELECTRICAL/ELECTRIC HEAT DATA **12.5 TON**

Model		LCX150S5								
¹ Voltage - 60Hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1 (Non-Inverter)	Rated Load Amps	19.2			9.1			6.2		
	Locked Rotor Amps	162.3			70.8			58.2		
Compressor 2 (Non-Inverter)	Rated Load Amps	22.4			9.1			7.2		
	Locked Rotor Amps	166.2			74.6			54		
Outdoor Fan Motors (2)	Full Load Amps (2 Non-ECM)	3			1.5			1.2		
	Total	6			3			2.4		
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4			1.3			1		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	HP	2	3	5	2	3	5	2	3	5
	Full Load Amps	7.5	10.6	16.7	3.4	4.8	7.6	2.7	3.9	6.1
² Maximum Overcurrent Protection (MOCP)	Unit Only	80	80	90	35	35	40	25	25	30
	With (1) 0.33 HP Power Exhaust	80	80	90	35	35	40	25	25	30
³ Minimum Circuit Ampacity (MCA)	Unit Only	61	64	70	27	29	32	21	22	24
	With (1) 0.33 HP Power Exhaust	64	67	73	29	30	33	22	23	25

ELECTRIC HEAT DATA

Electric Heat Voltage			208V	240V	208V	240V	208V	240V	480V	480V	480V	600V	600V	600V
² Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	15 kW	80	80	80	80	90	90	35	35	40	25	25	30
		22.5 kW	80	80	80	90	90	90	40	40	45	35	35	35
		30 kW	90	100	100	110	100	125	50	60	60	40	45	45
		45 kW	150	150	150	150	150	175	80	80	80	60	60	70
		60 kW	150	175	150	175	150	175	80	80	90	70	70	70
³ Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	15 kW	61	61	64	64	70	70	27	29	33	22	23	26
		22.5 kW	69	78	72	81	80	89	39	40	44	31	32	35
		30 kW	88	100	92	104	100	112	50	52	55	40	41	44
		45 kW	127	145	131	149	139	157	72	74	78	58	60	62
		60 kW	135	154	139	158	146	166	77	79	82	62	63	66
² Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	15 kW	80	80	80	80	90	90	35	35	40	25	25	30
		22.5 kW	80	90	80	90	90	100	40	45	45	35	35	40
		30 kW	100	110	100	110	110	125	60	60	60	45	45	45
		45 kW	150	150	150	175	150	175	80	80	80	60	70	70
		60 kW	150	175	150	175	150	175	80	80	90	70	70	70
³ Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	15 kW	64	64	67	67	73	73	29	31	34	23	25	27
		22.5 kW	72	81	75	84	83	92	40	42	45	32	34	36
		30 kW	91	103	95	107	103	115	51	53	57	41	43	45
		45 kW	130	148	134	152	142	160	74	76	79	59	61	64
		60 kW	138	157	142	161	149	169	79	80	84	63	64	67

ELECTRICAL ACCESSORIES

Disconnect	15 kW	54W56			54W56			54W56		
	22.5 kW	54W57			54W56			54W56		
	30 kW	54W57			54W56			54W56		
	45 kW	Not Available			54W56			54W56		
	60 kW	Not Available			54W56			54W56		

Disconnects - 54W56 - 80A

54W57 - 150A

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

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

² HACR type breaker or fuse.

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

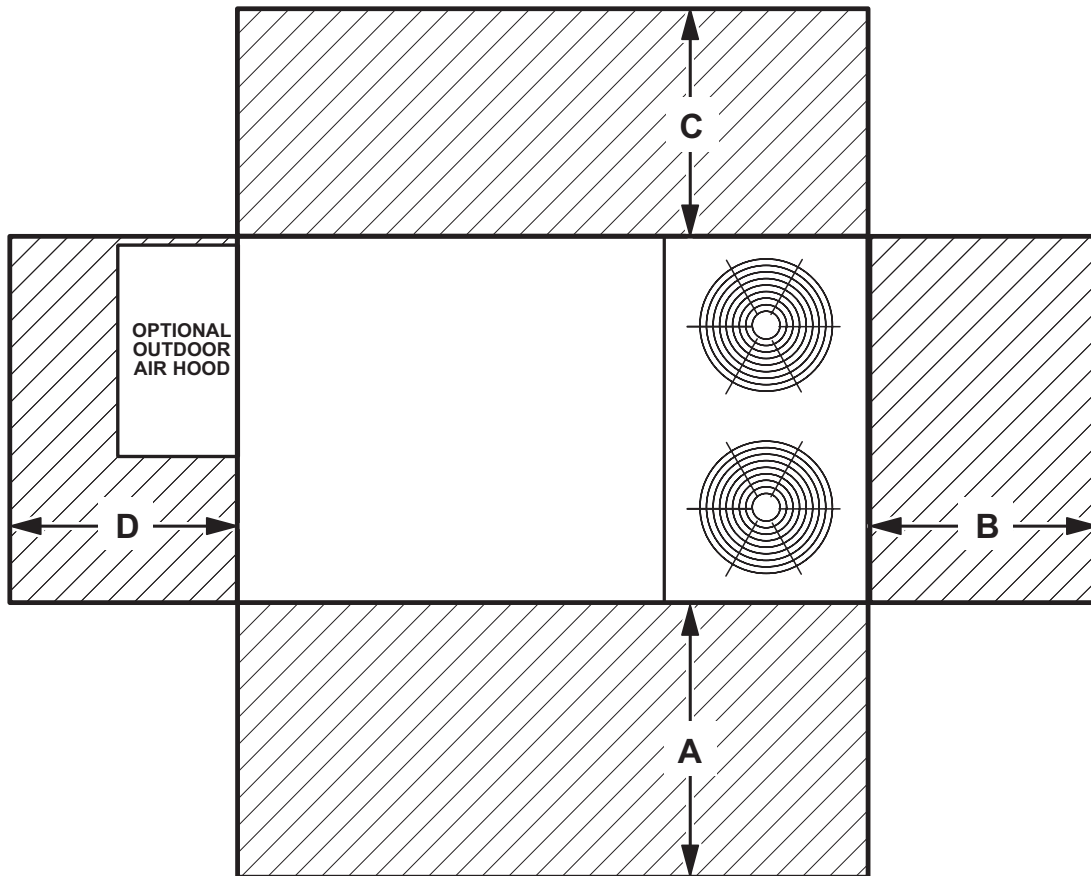
ELECTRIC HEAT CAPACITIES

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

FIELD WIRING NOTES

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

UNIT CLEARANCES



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

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

¹ Service Clearance - Required for removal of serviceable parts.

Minimum Operation Clearance - Required clearance for proper unit operation.

OUTDOOR SOUND DATA

Size	Octave Band Sound Power Levels dBA, re 10 ⁻¹² Watts - Center Frequency - Hz							¹ Sound Rating Number (dBA)
	125	250	500	1000	2000	4000	8000	
092, 102	76	79	84	83	79	73	66	88
120, 150	75	81	87	85	80	73	67	90

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

¹ Sound Rating Number according to AHRI Standard 270-95 or 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

Size	Net		Shipping	
	lbs.	kg	lbs.	kg
092 Base Unit	870	395	955	433
092 Max. Unit	1027	466	1112	504
102 Base Unit	890	404	975	442
102 Max. Unit	1047	475	1132	513
120 Base Unit	954	432	1039	471
120 Max. Unit	1118	507	1203	545
150 Base Unit	1004	456	1089	495
150 Max. Unit	1154	524	1239	563

NOTE - Max. Unit is the unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories EXTERNAL to unit.

FACTORY / FIELD INSTALLED OPTIONS AND ACCESSORIES - NET WEIGHTS

Description	lbs.	kg	
ECONOMIZER / OUTDOOR AIR / POWER EXHAUST			
Economizer			
Economizer Dampers	56	26	
Outdoor Air Hood (downflow)	9	4	
Barometric Relief Dampers (downflow)	20	9	
Barometric Relief Dampers (low profile horizontal)	21	10	
Outdoor Air Dampers			
Motorized	10	5	
Manual	10	5	
Power Exhaust	31	14	
ELECTRIC HEAT			
7.5 kW	50	23	
15 kW	50	23	
22.5 kW	57	26	
30 kW	57	26	
45 kW	59	27	
60 kW	43	20	
COMBINATION COIL/HAIL GUARDS			
All models	21	10	
ROOF CURBS			
Hybrid Roof Curbs, Downflow			
8 in. height	103	47	
14 in. height	125	57	
18 in. height	147	67	
24 in. height	169	77	
Adjustable Pitch Curb, Downflow			
14 in. height	169	77	
CEILING DIFFUSERS			
Step-Down	RTD11-95S	118	54
	RTD11-135S	135	61
	RTD11-185S	168	76
Flush	FD11-95S	118	54
	FD11-135S	135	61
	FD11-185S	168	76
Transitions	C1DIFF30B-1	30	14
	C1DIFF31B-1	32	15
	C1DIFF32B-1	36	16
HUMIDITROL® DEHUMIDIFICATION SYSTEM			
Humiditrol Dehumidification Option	20	9	

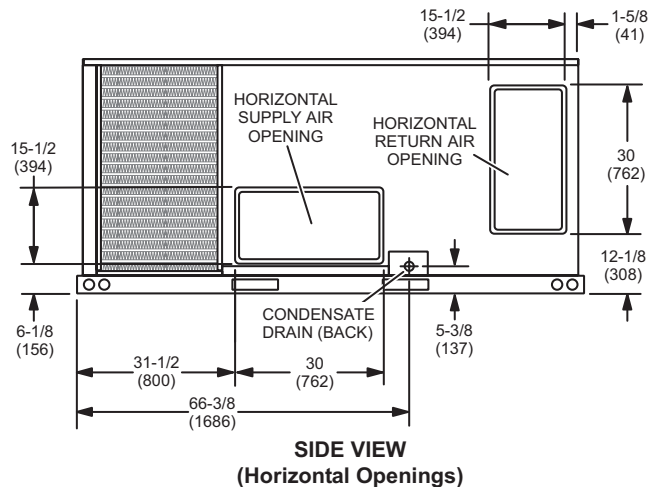
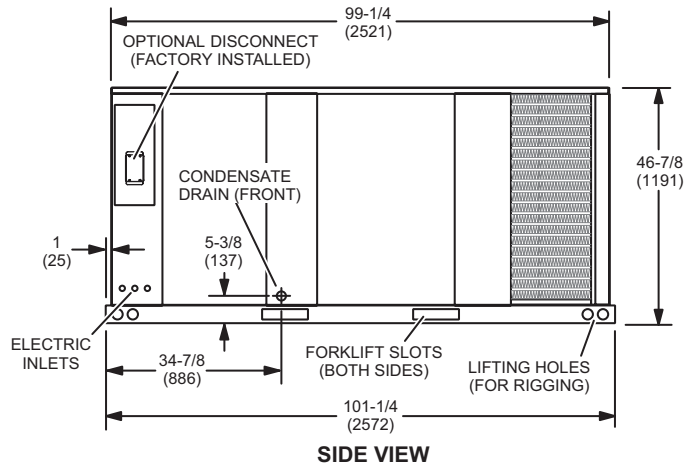
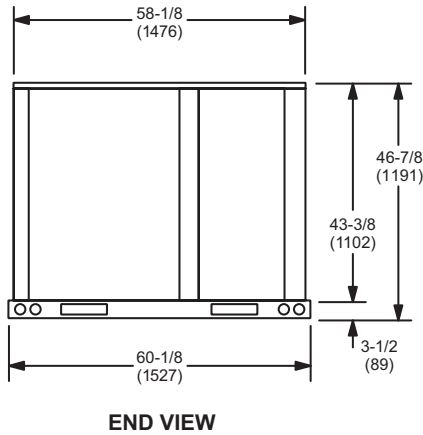
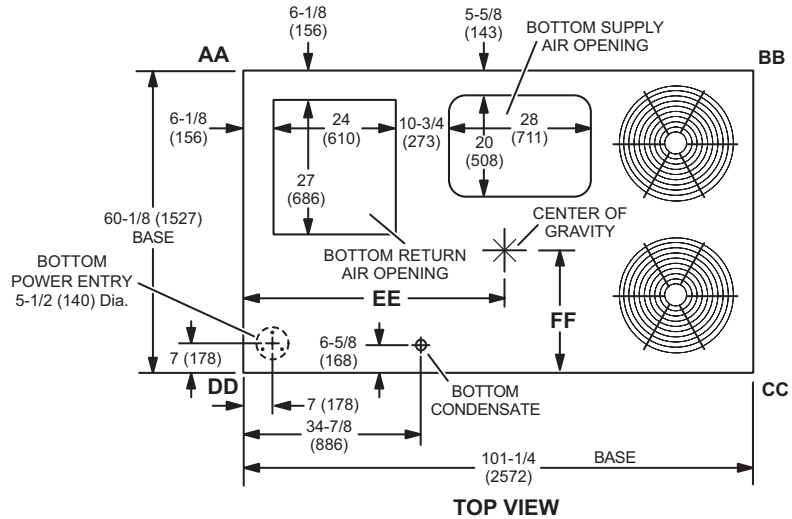
DIMENSIONS

UNIT

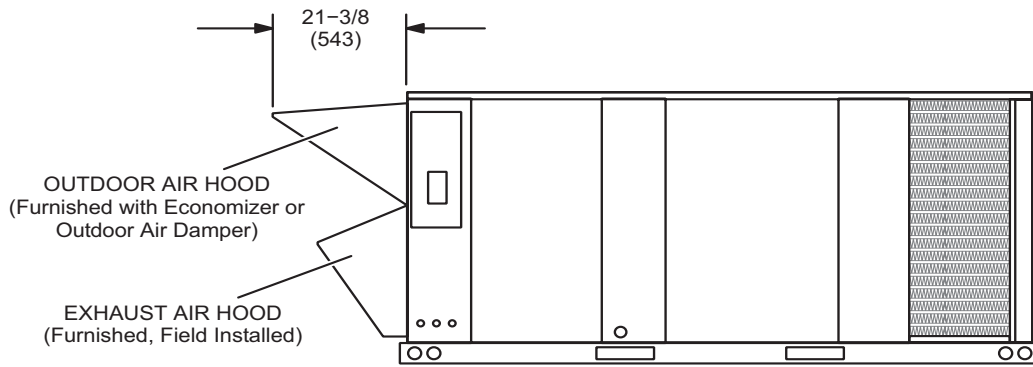
Size	CORNER WEIGHTS														CENTER OF GRAVITY									
	AA				BB				CC				DD				EE				FF			
	Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm	in.	mm	in.	mm
092	223	101	309	141	190	86	259	118	206	94	275	124	250	113	341	154	44-1/2	1130	43-1/2	1105	24-1/2	622	25-1/2	648
102	228	104	316	143	195	88	262	119	211	96	280	127	254	116	347	157	44-1/2	1130	43-1/2	1105	24-1/2	622	25-1/2	648
120	243	110	331	150	204	93	273	124	220	100	294	133	271	123	369	167	44	1118	43	1092	24-3/4	629	25-3/4	654
150	263	119	305	138	222	101	257	117	242	110	280	127	298	135	346	157	44	1118	43	1092	24	610	25	635

Base Unit - The unit with NO OPTIONS.

Max. Unit - The unit with ALL OPTIONS Installed. (Economizer, etc.)

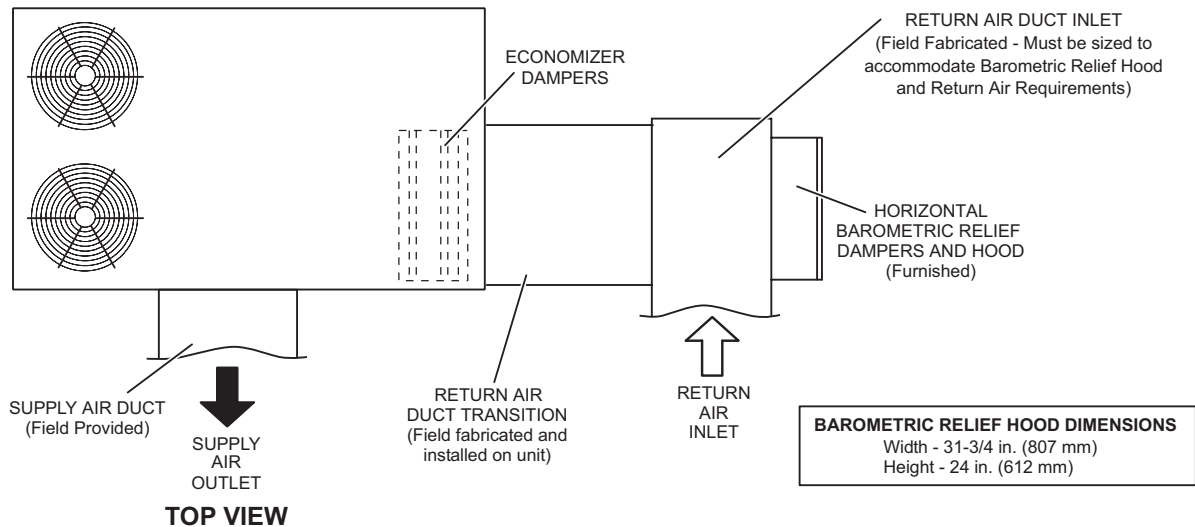


OUTDOOR AIR HOOD DETAIL

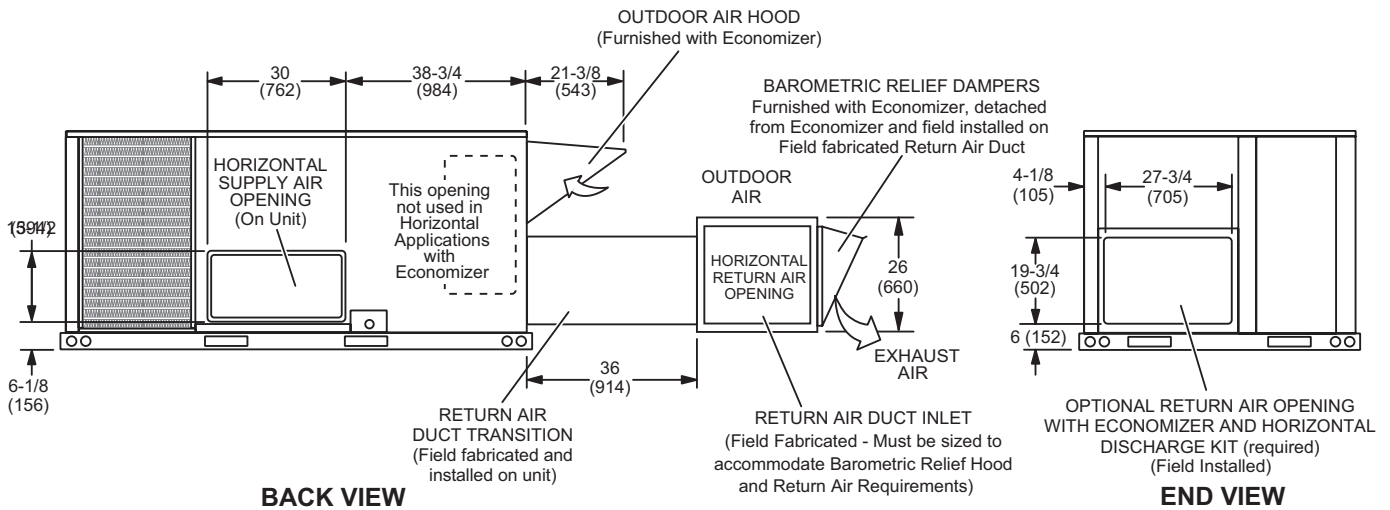


HORIZONTAL ECONOMIZER APPLICATION

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



TOP VIEW



BACK VIEW

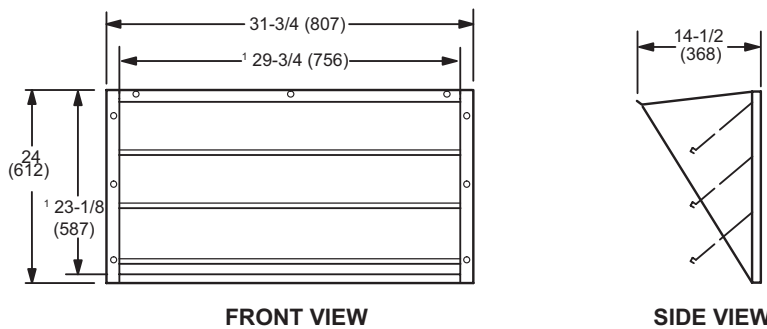
END VIEW

NOTE - Return Air Duct and Transition must be supported.

BAROMETRIC RELIEF DAMPERS

(Furnished with Economizer)

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



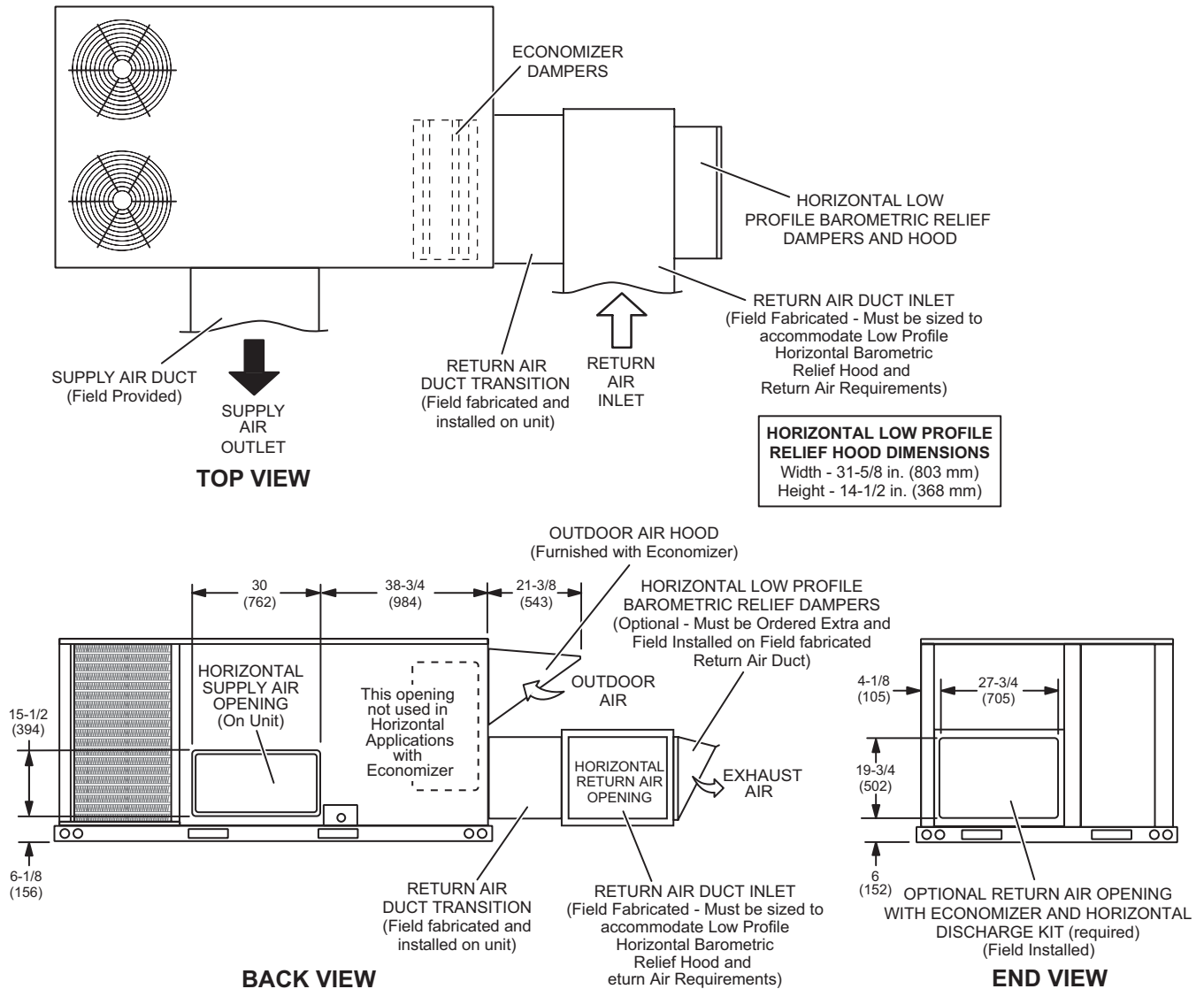
FRONT VIEW

SIDE VIEW

¹ NOTE - Opening size required in return air duct.

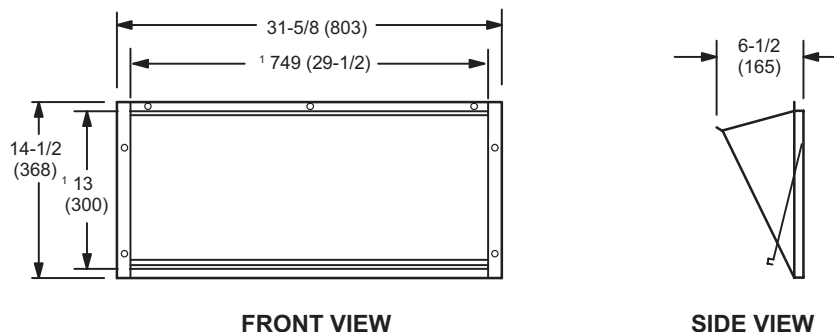
HORIZONTAL ECONOMIZER APPLICATION

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



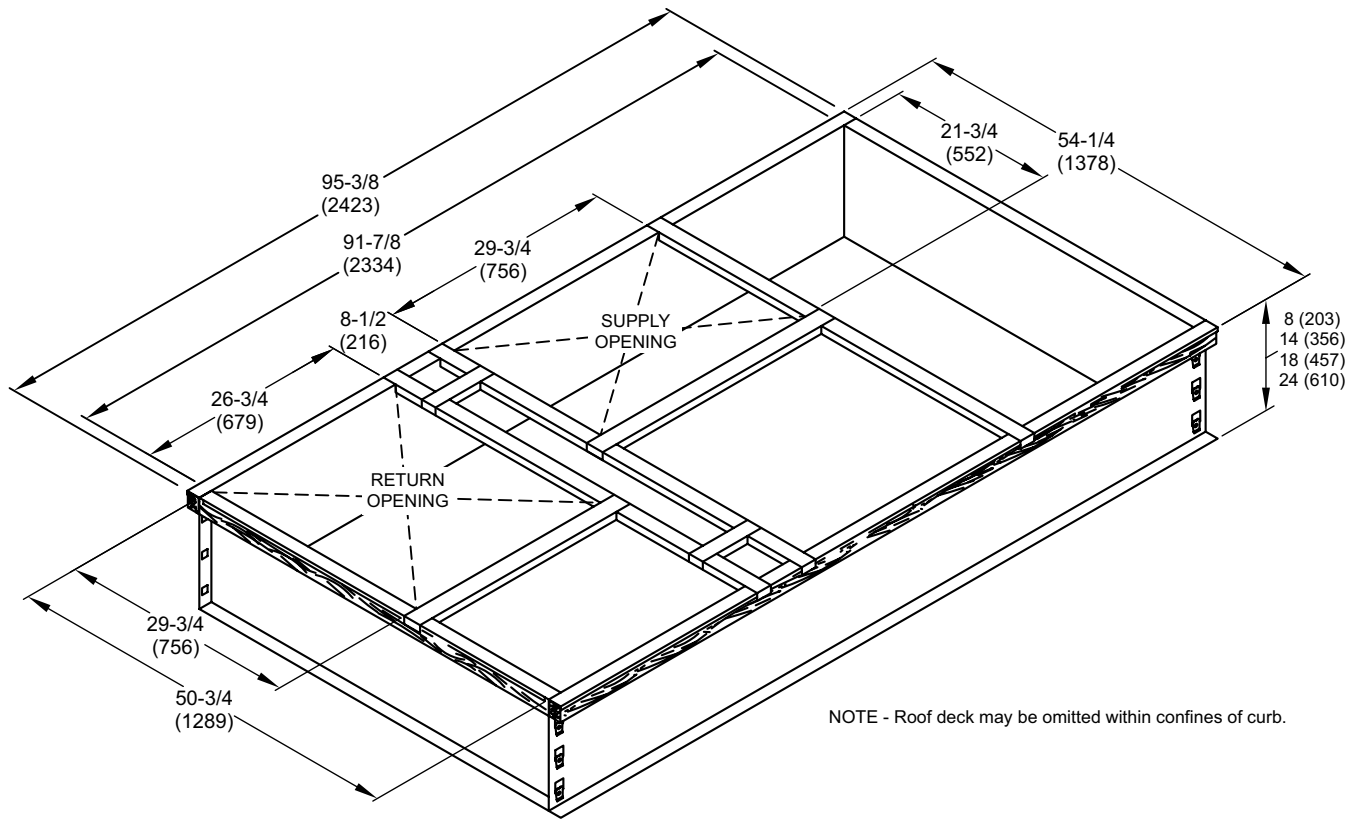
NOTE - Return Air Duct and Transition must be supported.

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



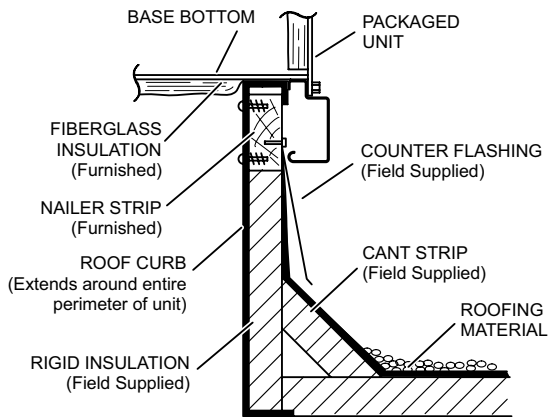
¹ **NOTE** - Opening size required in return air duct.

HYBRID ROOF CURBS - DOUBLE DUCT OPENING

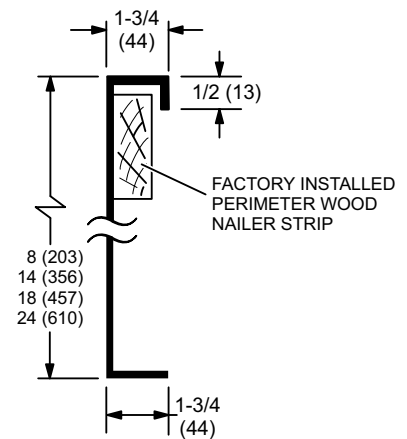


NOTE - Roof deck may be omitted within confines of curb.

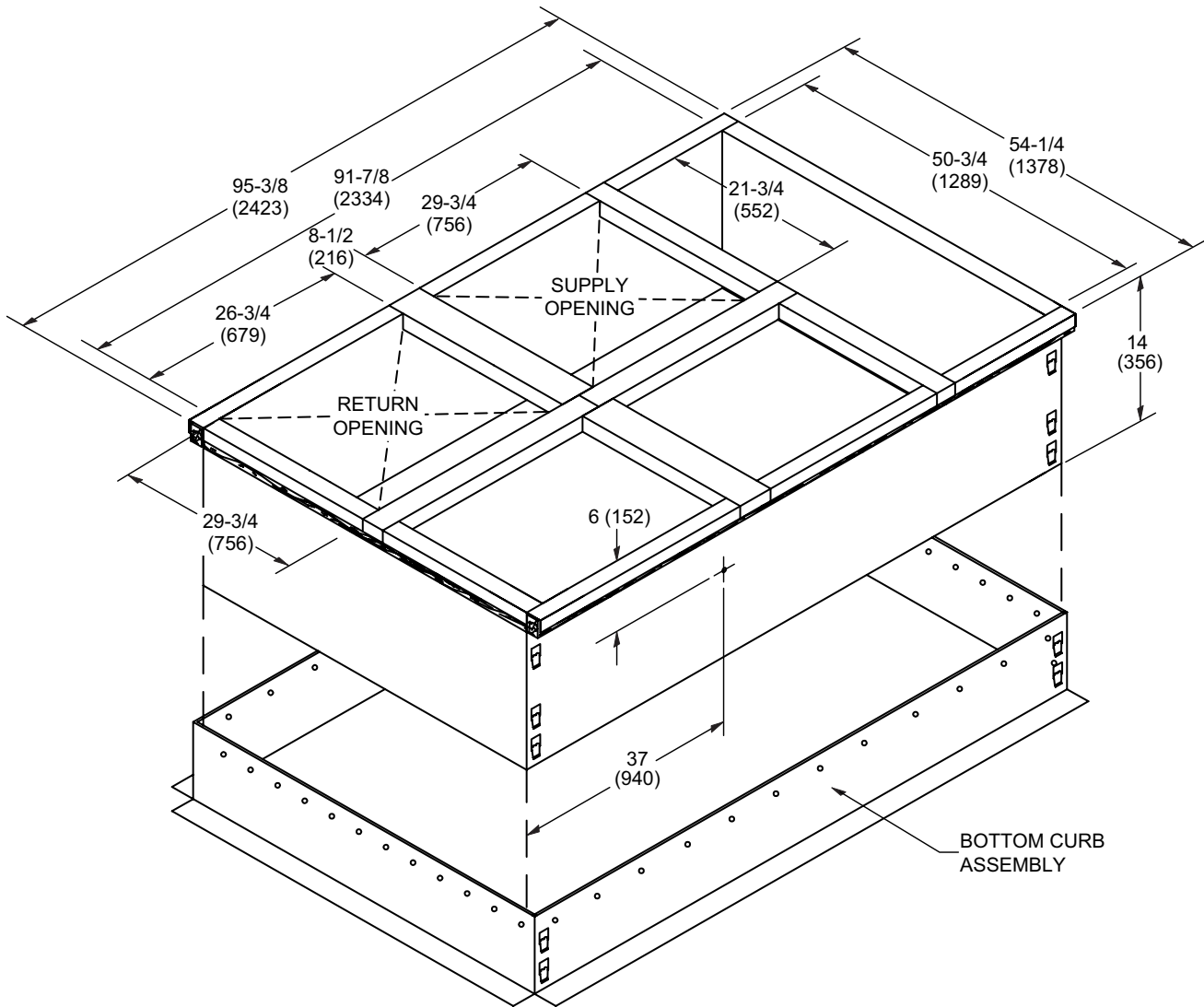
TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB

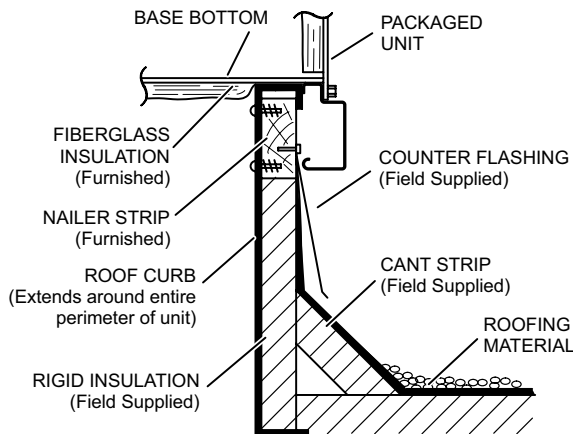


ADJUSTABLE PITCH CURBS - DOUBLE DUCT OPENING

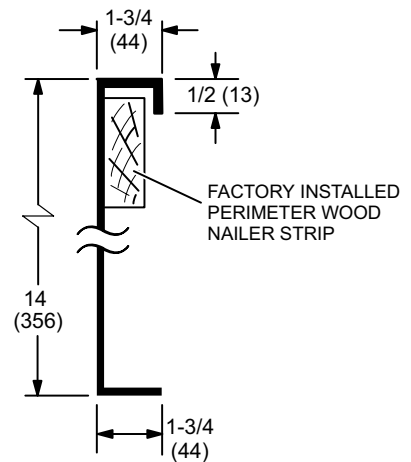


NOTE - Maximum slope pitch is 3/4 in. per 1 foot (19 mm per 305 mm) in any one direction.

TYPICAL FLASHING DETAIL FOR ROOF CURB

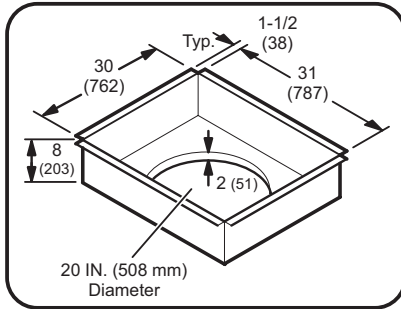


DETAIL ROOF CURB

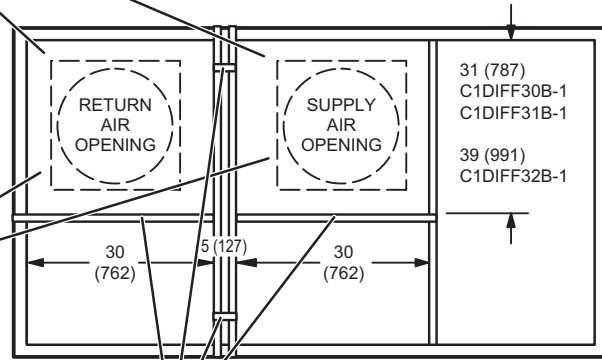
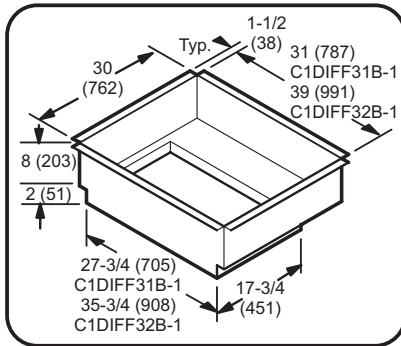


ROOF CURBS WITH SUPPLY & RETURN AIR TRANSITIONS FOR CEILING DIFFUSERS

C1DIFF30B-1 ROUND TRANSITIONS
(for 092 models)



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

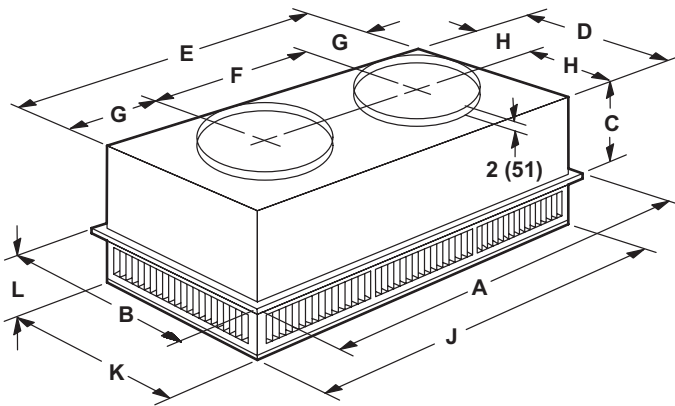


TOP VIEW

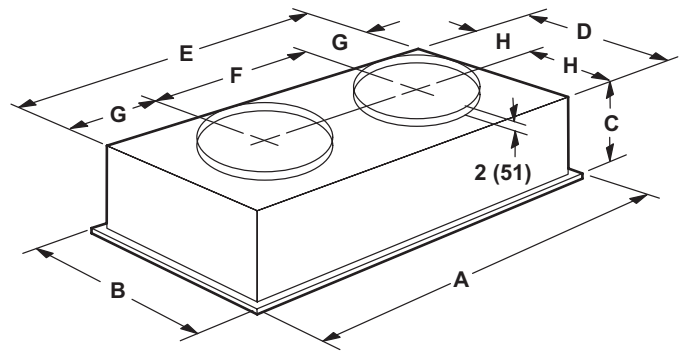
NOTE - These four supports are furnished with the transitions to replace supports furnished with curb for proper transition spacing.

COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



FLUSH CEILING DIFFUSER

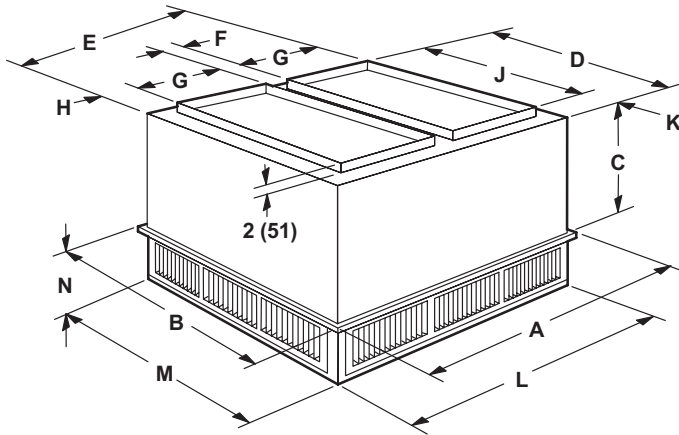


Model Number		RTD11-95S
A	in.	47-5/8
	mm	1159
B	in.	29-5/8
	mm	752
C	in.	14-3/8
	mm	365
D	in.	27-1/2
	mm	699
E	in.	45-1/2
	mm	1158
F	in.	22-1/2
	mm	572
G	in.	11-1/2
	mm	292
H	in.	13-3/4
	mm	349
J	in.	45-1/2
	mm	1156
K	in.	27-1/2
	mm	699
L	in.	8-1/8
	mm	206
Duct Size	in.	20 round
	mm	508 round

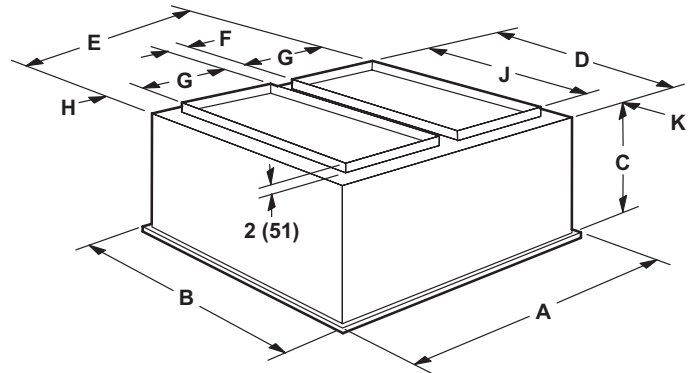
Model Number		FD11-95S
A	in.	47-5/8
	mm	1159
B	in.	29-5/8
	mm	752
C	in.	16-5/8
	mm	422
D	in.	27
	mm	686
E	in.	45
	mm	1143
F	in.	22-1/2
	mm	572
G	in.	11-1/4
	mm	286
H	in.	13-1/2
	mm	343
Duct Size	in.	20 round
	mm	508 round

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



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