

PACKAGED HEAT PUMP

**LDT**

Enlight™ Rooftop Units  
Dual-Fuel - High Efficiency- 60 Hz



**COMMERCIAL  
PRODUCT SPECIFICATIONS**

Bulletin No. 210981  
February 2024  
Supersedes all previous versions



**ENLIGHT**



**CORE**  
CONTROL SYSTEM

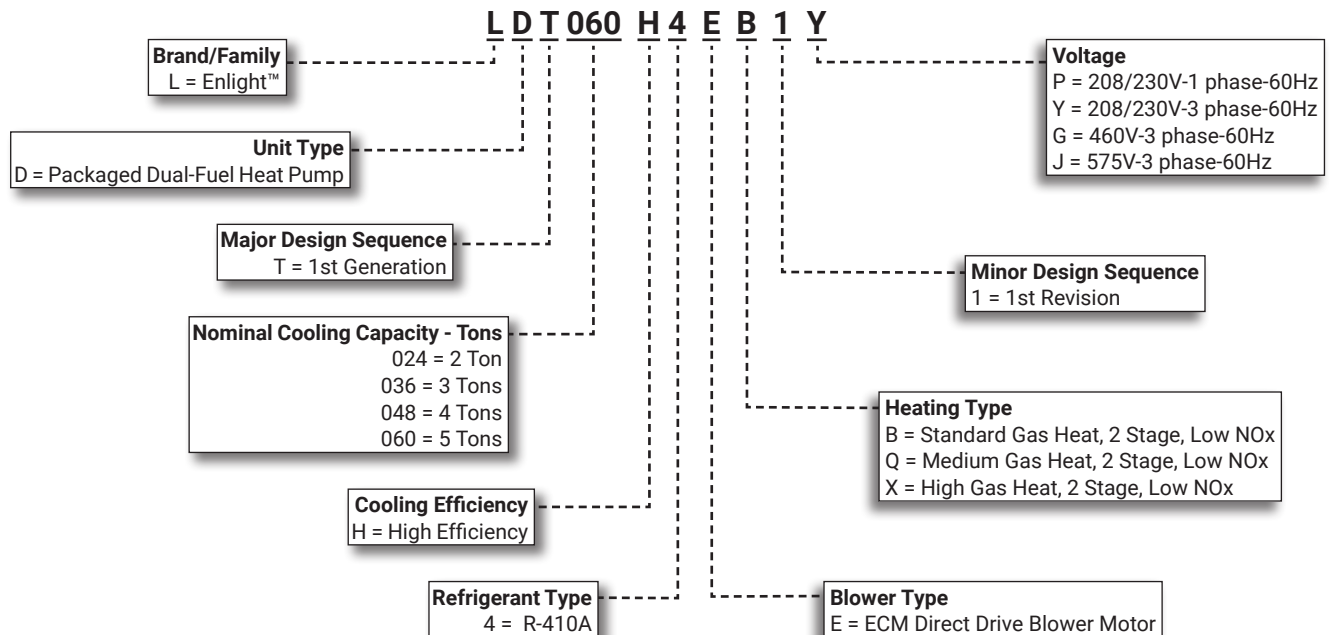


SMARTWIRE™ SYSTEM

**ASHRAE 90.1  
COMPLIANT**

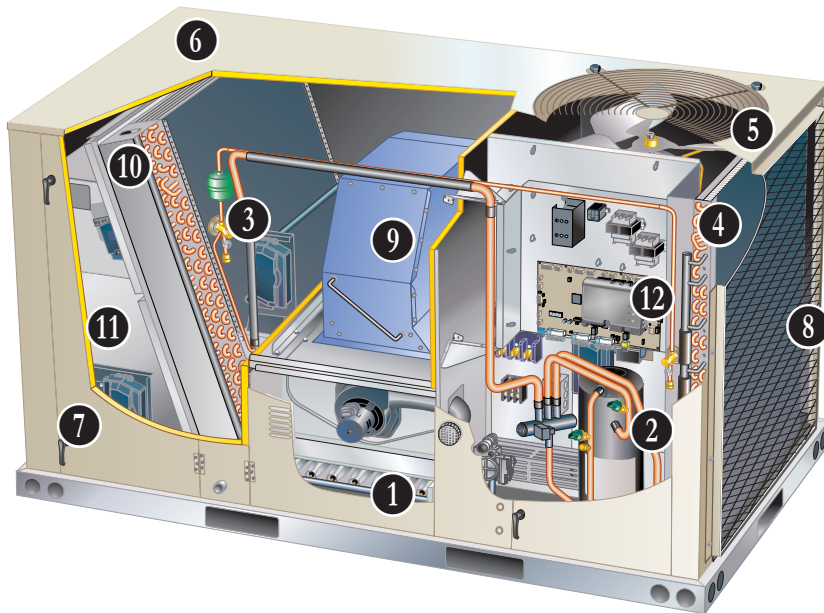
**2 to 5 Tons**  
**Net Cooling Capacity - 24,000 to 57,200 Btuh**  
**Net Heating Capacity - 24,000 to 54,500 Btuh**  
**Gas Input Heat Capacity - 65,000 to 150,000 Btuh**

**MODEL NUMBER IDENTIFICATION**



## FEATURE HIGHLIGHTS

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



1. Aluminized steel inshot burners
2. Two Stage Compressor
3. Filter/Drier
4. Outdoor Coil
5. Variable Speed (ECM) Fan Motor
6. Heavy Gauge Steel Cabinet
7. Hinged Access Panels
8. Combination Coil/Hail Guards (option)
9. Supply Air Direct Drive (ECM) Blower
10. Air Filters
11. Lennox® CORE Control System
12. Economizer (option)

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## APPROVALS AND WARRANTY

### APPROVALS

- AHRI Certified to AHRI Standard 210/240
- ETL and CSA listed
- Efficiency rating certified by CSA
- Unit and components are ETL, NEC and CEC bonded for grounding to meet safety standards for servicing
- All models are ASHRAE 90.1 compliant
- All models meet DOE 2023 energy efficiency standards
- 3, 4, and 5 ton models are ENERGY STAR® certified to use less energy, help save money on utility bills, and help protect the environment
- ISO 9001 Registered Manufacturing Quality System

### California Only

- These gas units do not meet the South Coast Air Quality Management District (SCAQMD) Rule 1111 and San Joaquin Valley Air Pollution Control District (SJVAPCD) Rule 4905 NOx emission limit (14 ng/J) and cannot be installed within the SCAQMD and SJVAPCD areas
- Low NOx gas units are approved by the California Energy Commission and meets California Nitrogen Oxides Standard (NOx) limits of 40 ng/J

### WARRANTY

- Stainless Steel Heat Exchanger - Limited fifteen years
- Compressors - Limited five years
- Lennox® CORE Unit Controller - Limited three years
- High Performance Economizers (optional) - Limited five years
- All other covered components - Limited one year

## FEATURES AND BENEFITS

### 1 DUAL-FUEL OPERATION

#### (Heating Mode)

- Operates the heat pump for 1st stage heating
  - If 1st stage heat settings are not met, 2nd stage activates gas heating (secondary heat source)
- Mechanical heat pump operation automatically terminates on gas heat start-up
- Lennox® CORE Control System automatically changes blower speeds between heat pump heating and gas heating
- Blower operates in high speed during 1st stage (heat pump) operation and terminates during changeover to gas heat operation
- Blower starts when heat exchanger is warm, and runs in high speed during 2nd stage (gas heat) operation
  - If continuous blower operation is available on the thermostat, a change in blower speed automatically occurs during heat pump to gas heat changeover

### COOLING / HEATING SYSTEM

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

#### R-410A Refrigerant

- Non-chlorine based
- Ozone friendly

### 2 Two-Stage Compressor

- Two-stage scroll compressors on all models for high performance, reliability, quiet operation and increased part-load efficiency
- Resiliently mounted on rubber grommets for quiet operation

#### Compressor Crankcase Heater

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

#### Thermal Check/Expansion Valve

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

#### Reversing Valve

- 4-way interchange reversing valve rapidly changes the direction of refrigerant flow resulting in quick changeover from cooling to heating and vice versa

### 3 Filter/Drier

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

## FEATURES AND BENEFITS

### **COOLING / HEATING SYSTEM (continued)**

#### **High Pressure Switch**

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

#### **Low Pressure Switch**

- Protects the compressor 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

#### **4 Outdoor Coil**

- Copper tube construction
- Enhanced rippled-edge aluminum fins
- Flared shoulder tubing connections
- Silver soldered construction
- Factory leak tested

#### **Indoor Coil**

- Copper tube construction
- Enhanced rippled-edge aluminum fins
- Flared shoulder tubing connections
- Silver soldered construction for improved heat transfer
- Factory leak tested
- Cross row circuiting with rifled tubing optimizes both sensible and latent cooling capacity

#### **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

#### **5 Variable Speed Outdoor Coil Fan Motor**

- Variable speed (ECM) fan motor for energy efficient MSAV® (Multi-Stage Air Volume) operation and quiet operation
- Thermal overload protected
- Totally enclosed
- Permanently lubricated ball bearings
- Shaft up
- Wire basket mount

#### **Outdoor Coil Fan**

- PVC coated fan guard furnished

### **Required Selections**

#### **Cooling Capacity**

- Specify nominal cooling capacity

### **Options/Accessories**

#### **Factory or Field Installed**

##### **Drain Pan Overflow Switch**

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

#### **Field Installed**

##### **Condensate Drain Trap**

- Constructed of PVC or copper

### **GAS HEATING SYSTEM**

#### **Heat Exchanger**

- Aluminized steel inshot burners
- Direct spark ignition
- Electronic flame sensor
- Combustion air inducer
- Redundant automatic dual stage gas valve with manual shut-off

#### **Heat Exchanger**

- Tubular construction, stainless steel
- Life cycle tested

#### **Limit Controls**

- Factory installed, redundant limit controls with fixed temperature setting
- Heat limit controls protect heat exchanger and other components from overheating

#### **Safety Switches**

- Flame roll-out switch, flame sensor and combustion air inducer proving switch protect system operation
- All safety switches are monitored by the Lennox® CORE Unit Controller and diagnostic information is reported and recorded

### **Required Selections**

#### **Gas Input Choice - Order one:**

- Standard Gas Heat (2 Stage) 53,000/65,000 Btuh
- Medium Gas Heat (2 Stage) 81,000/108,000 Btuh
- High Gas Heat (2 Stage) 113,000/150,000 Btuh
- See Gas Heat Specifications Tables on page 20

**NOTE** - All models are furnished with Low NOx (40 ng/J) gas heat.

## FEATURES AND BENEFITS

### GAS HEATING SYSTEM (continued)

#### Options/Accessories

#### Factory Installed

##### Stainless Steel Heat Exchanger

- Required if mixed air temperature is below 45 °F

##### Vertical Vent Extension Kit

- Use to exhaust flue gases vertically above unit
- Required when unit vent is too close to fresh air intakes per building codes
- Prevents ice formation on intake louvers
- Kit contains vent transition, drain cap and installation hardware

**NOTE** - Straight vent pipe (3 in. B-Vent), vent tee and vent cap are not furnished and must be field supplied. Refer to kit instructions for additional information.

#### Field Installed

##### Combustion Air Intake Extensions

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

##### Low Temperature Vestibule Heater

- Extends gas heat operation from -40°F (standard) down to -60°F
- Electric heater automatically controls minimum temperature in gas burner compartment when temperature falls below -40°F

##### LPG/Propane Kits

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

### CABINET

#### 6 Construction

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

##### Airflow Choice

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

**NOTE** - Can be field converted to horizontal airflow configuration without any optional kits.

##### Duct Flanges

- Provided for horizontal duct attachment

##### Power/Gas Entry

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

##### Exterior Panels

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

##### Insulation

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

#### 7 Hinged Access Panels

- Tool-less access
- Economizer/ Filter sections
- Compressor/controls sections
- Panel seals and quarter-turn latching handles provide a tight air and water seal

**NOTE** - Optional Economizers, Power Exhaust, Outdoor Air Dampers and Barometric Relief Dampers include a filler panel for proper cabinet fit.

#### Required Selections

##### Airflow Configuration

- Specify horizontal or downflow

#### Options/Accessories

#### Factory Installed

##### Corrosion Protection

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

#### Factory or Field Installed

#### 8 Combination Coil/Hail Guards

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

## FEATURES AND BENEFITS

### 9 BLOWER

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

#### Variable-Speed ECM Direct Drive Motor

- All models (forward curved blades)

#### DirectPlus™ Direct Drive ECM Blower System

- 036, 048 and 060 models (backward curved blades)
- High-efficiency, variable-speed ECM (electronically commutated) motor
- Eliminates the need for a separate variable-frequency drive
- Advanced Blower Diagnostics: Lennox® CORE Unit Controller communicates via Modbus with DirectPlus™ blower to provide control commands, blower proving functionality, and detailed alarm codes
- MSAV control modulates the amount of supply blower airflow according to cooling demand, heating demand, ventilation demand or smoke alarm
- The amount of airflow for each stage can be set according to a parameter in the Lennox® CORE Unit Controller
- Unit is shipped from the factory with preset airflows
- Fully variable speed motor modulates to maximize system efficiency
- Combines the motor and electronics into one unit
- Aerodynamically optimized impeller with curved blades mounted directly onto the rotor



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

#### Required Selections

##### Blower Motor

- Specify Standard Static or High Static

### ELECTRICAL

#### SmartWire™ System

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

#### Electrical Plugs

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

#### Required Selections

##### Voltage Choice

- Specify when ordering base unit

#### Options/Accessories

#### Factory Installed

##### Circuit Breakers

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

##### Disconnect Switch

- Accessible outside of unit
- Spring loaded weatherproof cover furnished

##### Phase/Voltage Detection (3 Phase models only)

- Monitors power supply to ensure 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 ensure 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

#### Factory Installed

##### Short-Circuit Current Rating (SCCR)

- Higher short circuit protection up to 100kA

**NOTE** - Disconnect Switch is furnished and factory installed with High SCCR option.

#### Factory or Field Installed

##### GFI Service Outlets (2)

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

## FEATURES AND BENEFITS

### INDOOR AIR QUALITY

#### 10 Air Filters

- Disposable 2 inch MERV 4 filters furnished as standard

#### Options/Accessories

#### Factory or Field Installed

##### Healthy Climate® High Efficiency Air Filters

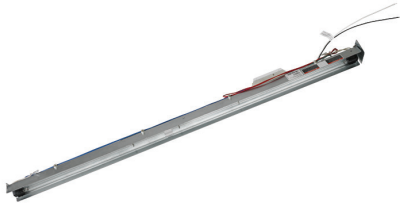
- Disposable MERV 8 and MERV 13 (Minimum Efficiency Reporting Value based on ASHRAE 52.2) efficiency 2 inch pleated filters

#### Field Installed

##### Healthy Climate® High Efficiency MERV 16 Air Filters

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

##### Healthy Climate® UVC Germicidal 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

##### Indoor Air Quality (CO<sub>2</sub>) Sensors

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

##### Needlepoint Bipolar Ionization (NPBI) Kit

- NPBI technology integrates with system controls for effective air treatment
- Ionization has been shown to effectively reduce harmful pathogens, pollutants and odors

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

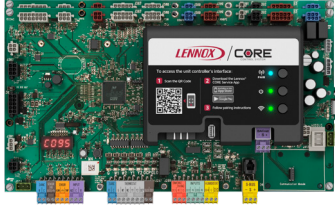
- Brush-type ionizer introduces a high concentration of both positive and negative ions into the airstream
- These bipolar ions are then dispersed into the occupied space through the duct system proactively reducing the airborne contaminants
- Ions travel within the building air stream and attach to particles, pathogens, and gas molecules, making them larger and easier to capture in the filtration system
- UL 2998 certified for zero ozone emission

##### Replacement Filter Media Kit With Frame

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

## CONTROL SYSTEM

### LENNOX® CORE CONTROL SYSTEM



- 11 The Lennox® CORE Control system is designed to accelerate equipment install and service. Standard with all Enlight™ rooftop units, control system integrates key technologies that lower installation costs, drive system efficiency, and protect your investments. The Lennox® CORE Unit Controller is a micro-processor-based controller that provides flexible control of all unit functions.

#### CORE Service Mobile App

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



#### Additional Features:

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

**NOTE** - Unit Internet Connection required.

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

#### Configurable Built-In Functions

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

- Discharge Air Heating Control
- Economizer Control Options (See Economizer / Exhaust Air / Outdoor Air sections)
- Exhaust Fan Control Modes for fresh air damper position
- Configurable Morning Warm-up
- Night Setback Mode
- Fresh Air Tempering for Improved Ventilation
- Demand Control Ventilation
- Low Ambient Controls for operation down to 0°F
- Two Defrost Control Methods (demand and timed - heat pumps only)

#### Component Protection / Unit Safeguards:

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

#### Control Methods / Interfaces:

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

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



## CONTROL SYSTEM

### LENNOX® CORE CONTROL SYSTEM (continued)

#### Controls Options

##### **Factory or Field Installed**

###### Dirty Filter Switch

- Senses static pressure increase and issues alarm if necessary

###### Fresh Air Tempering

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

###### Smoke Detector

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

###### Interoperability via BACnet® or LonTalk® Protocols

- Communication compatible with third-party automation systems that support the BACnet Application Specific Controller device profile, LonMark® Space Comfort Controller functional profile, or LonMark Discharge Air Controller functional profile

##### **Commercial Control Systems**

##### **Field Installed**

###### Thermostats

- Control system and thermostat options, see page 12

## OPTIONS / ACCESSORIES

### ECONOMIZER

- 12 • Economizer operation is set and controlled by the Lennox® CORE Unit Controller
  - Simple plug-in connections from economizer to unit controller for easy installation
  - All Enlight™ rooftop units are equipped with factory installed CEC Title 24 approved sensors for outside, return and discharge air temperature monitoring
- NOTE** - Optional sensors may be used instead of unit sensors to determine whether outdoor air is suitable for free cooling. See Options/Accessories table.

##### **Factory or Field Installed**

###### 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
- Combination Outdoor Air Hood is furnished
- Factory installed Economizer can be ordered with three exhaust options:
  - Barometric Relief Dampers
  - Power Exhaust Fan

**NOTE** - See Power Exhaust Fan section for additional requirements.

- No Exhaust
- Field installed Economizer includes Barometric Relief Dampers with Combination Hood
- Barometric Relief Dampers allow relief of excess air
- Dampers prevent blow back and outdoor air infiltration during off cycle
- Bird screen furnished

**NOTE** - Barometric Relief Dampers are required when Economizer is factory installed with factory installed Power Exhaust Fan option. See Power Exhaust Fan section and Options/Accessories table.

- Demand Control Ventilation (DCV) ready using optional CO<sub>2</sub> sensors.
- Horizontal Barometric Dampers are required for horizontal Economizer applications and must be ordered separately.
- Linked damper action
- High torque 24-volt fully-modulating spring return damper motor
- Return air and outdoor air dampers
- Plug-in connections to unit

## OPTIONS / ACCESSORIES

### **ECONOMIZER (continued)**

#### **Factory or Field Installed (continued)**

**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 2013 Building Energy Efficiency Standards.

**NOTE** - Refer to Installation Instructions for complete setup information.

#### **Differential Sensible Control**

- Factory setting
- Uses outdoor air and return air sensors that are furnished with the unit
- The Lennox® CORE Unit Controller compares outdoor air 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

#### **Global Control**

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

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

#### **Single Enthalpy Temperature Control (Not for Title 24)**

- Outdoor air enthalpy sensor enables Economizer if the outdoor enthalpy is less than the setpoint of the control.

#### **Differential Enthalpy Control (Not for Title 24)**

- Order two Single Enthalpy Controls.
  - One is field installed in the return air section
  - One in the outdoor air section
- Allows the economizer control to select between outdoor air or return air, whichever has lower enthalpy

### **Field Installed**

#### **Outdoor Air CFM Control**

- Maintains constant outdoor air volume levels on the supply air fan and varying unit airflows
- References a velocity sensor located in the rooftop unit outdoor air section
- Lennox® CORE Unit Controller changes the economizer position to help minimize the effect of supply fan speed changes on outdoor air volume levels
- Setpoint for outdoor air volume is established by field testing

**NOTE** - Not available with Demand Control Ventilation (CO<sub>2</sub> Sensor) or Building Pressure Control.

#### **Building Pressure Control**

- Maintains constant building pressure level
- Using differential pressure information between the outdoor air and the building air, the Lennox® CORE Unit Controller changes the economizer position to help maintain a constant building pressure

**NOTE** - Not available with Demand Control Ventilation (CO<sub>2</sub> Sensor).

#### **Horizontal Barometric Relief Dampers**

- For use when unit is configured for horizontal applications with an economizer
- Allows relief of excess air
- Blade type dampers prevent blow back and outdoor air infiltration during off cycle
- Field installed in return air duct
- Exhaust hood with bird screen furnished
- Requires Horizontal Economizer Conversion Kit

#### **Horizontal Economizer Conversion Kit**

- Insulated panel covers the bottom return air opening on the unit base to convert downflow economizer to horizontal air flow

## OPTIONS / ACCESSORIES

### **EXHAUST**

#### **Factory or Field Installed**

##### **Power Exhaust Fan**

- Installs internal to unit for downflow applications only with economizer option
- Provides exhaust air pressure relief
- Interlocked to run when supply air blower is operating
- Fan runs when outdoor air dampers are 50% open (adjustable)
- Motor is overload protected
- Fan is 16 in. diameter
- Four blades
- One 1/3 hp motor

**NOTE** - If Power Exhaust is field installed with a factory installed Economizer, the Economizer must be ordered with No Exhaust option. Barometric Relief Dampers must also be ordered separately for field installation.

**NOTE** - If Power Exhaust is factory installed with a factory installed Economizer, Barometric Relief Dampers must also be ordered separately for field installation.

### **OUTDOOR AIR**

#### **Factory or Field Installed**

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

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

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

### **ROOF CURBS**

#### **Field Installed**

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

#### **Hybrid Roof Curbs, Downflow**

- Interlocking tabs fasten corners together
- No tools required
- 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
- Uses interlocking tabs to fasten corners together
- No tools required
- 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)**

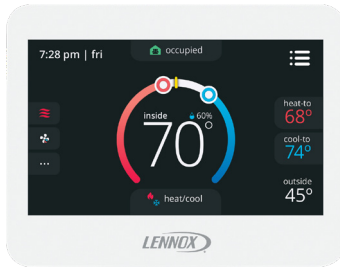
- White powder coat finish on diffuser face and grilles
- Insulated UL listed duct liner
- Diffuser box has collars for duct connection
- Step-down diffusers have double deflection blades
- Flush diffusers have fixed blades
- Provisions for suspending
- Internally sealed to prevent recirculation
- Removable 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



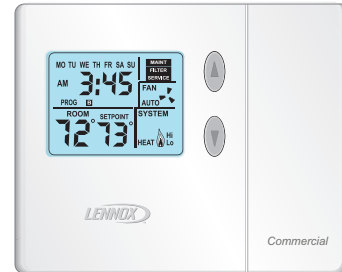
- Fully Communicating Sensor
- Full Color Touchscreen Interface
- Variable Speed System Control (On Compatible Units)
- Up To 4 Heat / 4 Cool
- Built-In Sensors For Temperature, Humidity And Optional CO<sub>2</sub>
- Remote Sensor Options For Occupancy, Temperature
- BACnet Capable Options
- 5-2 or 7-Day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

### CS7500 Commercial 7-Day Programmable Thermostat



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

### CS3000 Commercial 5-2 Day Programmable Thermostat



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

### Wireless/Wired Temperature/Humidity Room Sensor (LCS-5030)



- Simple Push-Button Override
- Variable Speed System Control (On Compatible Units)
- Up To 4 Heat / 4 Cool
- AA Battery / 24VAC Powered
- Bluetooth™ Mesh Operation
- SBUS Wired Operation
- Automatic Sensor Averaging
- Locking Hex Screw

### Wireless Repeater for LCS-5030



- Extends Effective Range of Wireless Sensor (LCS-5030)
- 24VAC Only
- Locking Hex Screw

**NOTE** - Wireless only.

## OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

### Wired Temperature/Humidity Room Sensor (Non-Communicating)



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

## OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

Description	Catalog No.
<b>CS8500 Commercial 7 Day Programmable Thermostat</b>	
CS8500 7-Day Thermostat	No CO <sub>2</sub> Sensing <b>24K55</b>
	With CO <sub>2</sub> Sensing <b>24K53</b>
Sensors/Accessories	<sup>1</sup> Remote non-adjustable wall-mount 10k <b>47W37</b>
	<sup>1</sup> Remote non-adjustable wall-mount 11k <b>94L61</b>
<b>Sysbus Network Cable (Yellow) for CS8500 and LCS-5030 Wired Room Sensor</b>	
Twisted pair 100% shielded communication cable, Red and Black	500 ft. box <b>27M19</b>
22 AWG, yellow jacket, rated at 75°C, 300V, Plenum rated	1000 ft. box <b>94L63</b>
Insulation - Low smoke PVC, NEC, CMP	2500 ft. roll <b>68M25</b>
<b>CS7500 Commercial 7-Day Programmable Thermostat</b>	
CS7500 7-Day Thermostat	<b>24K41</b>
Sensors/Accessories	<sup>2</sup> Remote non-adjustable wall-mount 20k <b>47W36</b>
	<sup>2</sup> Remote non-adjustable wall-mount 10k <b>47W37</b>
	Remote non-adjustable discharge air (duct mount) <b>19L22</b>
	Outdoor temperature sensor <b>X2658</b>
<b>CS3000 Commercial 5-2 Day Programmable Thermostat</b>	
CS3000 5-2 Day Thermostat	<b>11Y05</b>
Sensors/Accessories	Remote non-adjustable wall mount 10k averaging <b>47W37</b>
	Thermostat wall mounting plate <b>X2659</b>
<b>Universal Thermostat Guard with Lock (clear)</b>	
	Inside Dimensions (H x W x D) 5-7/8 x 8-3/8 x 3 in. <b>39P21</b>
<b>Temperature/Humidity Room Sensors</b>	
LCS-5030 Wireless/Wired Temperature/Humidity Room Sensor	<b>21L07</b>
Wireless Repeater for LCS-5030	<b>21L09</b>
A335MT13AE1 Wired Temperature/Humidity Room Sensor (Non-Communicating)	<b>21W06</b>

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

<sup>2</sup> Remote wall-mount sensors can be applied in any of the following combinations:

One Sensor - (1) 47W36, Two Sensors - (2) 47W37, Three Sensors - (2) 47W36 and (1) 47W37

Four Sensors - (4) 47W36, Five Sensors - (3) 47W36 and (2) 47W37

## SEQUENCE OF OPERATION

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

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

*NOTE: When the compressor is operating at first stage, the condenser fan is operating at low speed. The condenser fan switches to high speed when the compressor switches to second stage to match operation.*

### **Modulating Outdoor Air Damper:**

Damper minimum positions #1 and 2 are adjusted during unit setup to provide minimum fresh air requirements at the indicated supply fan speeds per ASHRAE 62.1.

- Supply fan is off and the outdoor air damper is closed
- Supply fan is on low speed and the outdoor air damper is at minimum position 1
- Supply fan is on high speed and the outdoor air damper is at minimum position 2

### **<sup>1</sup> Unit Features an Economizer and Outdoor Air is Suitable**

Cooling - Thermostat or Zone Sensor Mode (Up to 3 stages Y1, Y2, Y3)

#### **Y1 Demand:**

Compressor is off, supply fan is on low speed, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting)

After 5 minutes (default unit controller setting), supply fan switches to high speed. Economizer continues modulating with supply fan on high speed to maintain 55°F supply air temperature

#### **Y2 Demand:**

Compressor is off, supply fan is on high speed, and economizer modulates to maintain 55°F supply air temperature

Economizer opens to maximum. If economizer stays at maximum open for 3 minutes (default unit controller setting) compressor is energized and operates at first stage while supply fan stays on high speed

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

#### **Y3 Demand:**

Economizer is at maximum open and compressor operates at first stage. If economizer stays at maximum open for 3 minutes (default unit controller setting) compressor switches to second stage operation while supply fan stays on high speed

### **Unit Does Not Feature an Economizer (or Outdoor Air Is Not Suitable)**

Cooling - Thermostat or Zone Sensor (Up to 2 stages Y1, Y2)

#### **Y1 Demand:**

Compressor operates at first stage and supply fan operates at low speed

#### **Y2 Demand:**

Compressor operates at second stage and supply fan operates at high speed

## SEQUENCE OF OPERATION

### Heating Mode: Thermostat or Zone Sensor (Up to 2 stages W1, W2)

*NOTE - Reversing valve (L1) is de-energized in heating mode.*

*NOTE - No Mechanical Heating is allowed during Gas Heat operation.*

#### **W1 Demand:**

A first-stage heating demand (W1) will activate the Lennox® CORE Unit Controller to check the Outdoor Air Temperature and Balance Point (default is 35°F). User adjustable from 10°F to 76°F.

If Outdoor Air Temperature is more than the Balance Point the controller will enable Mechanical Heating.

Mechanical Heating - Compressor operates at full load, reversing valve is de-energized, outdoor fan operates on high speed and supply fan operates at Heating Speed.

If Outdoor Air Temperature is less than the Balance Point the controller will lock out Mechanical Heating and will enable gas heat only. Gas valve is open on stage 2 and supply fan operates at Heating Speed.

#### **W2 Demand:**

Mechanical Heating is disabled and High Gas Heating is enabled to meet the heating demand.

### Defrost Mode

Coil Sensor (RT48) and Ambient Sensor (RT17) provides input to the Lennox® CORE Unit Controller to initiate a defrost cycle if needed.

Coil sensor is located on a return bend on the front of the outdoor coil.

Ambient sensor is located on the inside of the corner mullion on the back of the outdoor coil section.

If the coil sensor measures a temperature below 35°F during mechanical heating mode, defrost logic is enabled. The system will constantly monitor coil and ambient temperatures and will initiate a defrost cycle if the controller determines that the target temperature difference between the coil and ambient temperature has been satisfied, or when the accumulated run time with coil temperature below 35°F reaches 6 hours.

If the ambient sensor fails, or the circuit is in uncalibrated state, the controller will switch to time/temperature defrost operation.

Low gas heating is energized during a defrost cycle to maintain discharge air temperature.

## OPTIONS / ACCESSORIES

Item	Catalog Number	Unit Model Number				
		024	036	048	060	
<b>COOLING SYSTEM</b>						
Condensate Drain Trap	PVC	<b>22H54</b>	X	X	X	X
	Copper	<b>76W27</b>	X	X	X	X
Drain Pan Overflow Switch		<b>21Z07</b>	OX	OX	OX	OX
<b>HEATING SYSTEM</b>						
Bottom Gas Piping Kit		<b>19W50</b>	X	X	X	X
Combustion Air Intake Extensions		<b>19W51</b>	X	X	X	X
Gas Heat (Low NOx) Input	Standard Two-Stage- 53/65 kBtuh input	Factory	O	O	O	O
	Medium Two-Stage - 81/108 kBtuh input	Factory		O	O	O
	High Two-Stage - 113/150 kBtuh input	Factory			O	O
Low Temperature Vestibule Heater	208/230V-1 or 3ph	<b>21Z17</b>	X	X	X	X
	460V-3ph	<b>21Z18</b>		X	X	X
	575V-3ph	<b>21Z19</b>		X	X	X
LPG/Propane Conversion Kits	For two-stage standard models	<b>21Z24</b>	X	X	X	X
	For two-stage medium and high models	<b>21Z23</b>	X	X	X	X
Stainless Steel Heat Exchanger		Factory	O	O	O	O
Vertical Vent Extension		<b>31W62</b>	X	X	X	X
<b>BLOWER - SUPPLY AIR</b>						
Motors - Standard Static (All voltages)	Direct Drive ECM Blower - 0.50 hp	Factory	O	O		
	1.0 hp	Factory			O	O
Motors - High Static (3 phase only)	DirectPlus™ Direct Drive ECM Blower System with MSAV® - 1.5 hp	Factory		O	O	O
<b>CABINET</b>						
Combination Coil/Hail Guards		<b>13T03</b>	OX	OX	OX	OX
Corrosion Protection		Factory	O	O	O	O
<b>CONTROLS</b>						
Blower Proving Switch		<b>21Z10</b>	OX	OX	OX	OX
Commercial Controls	CPC Einstein Integration	Factory	O	O	O	O
	LonTalk® Module	<b>54W27</b>	OX	OX	OX	OX
	Novar® LSE	Factory	O	O	O	O
Dirty Filter Switch		<b>53W66</b>	OX	OX	OX	OX
Fresh Air Tempering		<b>21Z08</b>	OX	OX	OX	OX
Smoke Detector - Supply or Return (Power board and one sensor)		<b>21Z11</b>	OX	OX	OX	OX
Smoke Detector - Supply and Return (Power board and two sensors)		<b>21Z12</b>	OX	OX	OX	OX

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

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

O = Configure To Order (Factory Installed)

X = Field Installed



## OPTIONS / ACCESSORIES

Item	Catalog Number	Unit Model Number				
		024	036	048	060	
<b>ELECTRICAL</b>						
Voltage	208/230V - 1 phase	Factory	O	O	O	O
60 Hz	208/230V - 3 phase	Factory		O	O	O
	460V - 3 phase	Factory		O	O	O
	575V - 3 phase	Factory		O	O	O
HACR Circuit Breakers		Factory	O	O	O	O
<sup>1</sup> Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection)		Factory	O	O	O	O
Disconnect Switch	80 amp	<b>22A25</b>	O	O	O	O
GFI Service Outlets	15 amp non-powered, field-wired (208/230V, 460V only)	<b>74M70</b>	OX	OX	OX	OX
	15 amp factory-wired and powered (208/230V, 460V only)	Factory	O	O	O	O
	<sup>2</sup> 20 amp non-powered, field-wired (208/230V, 460V, 575V)	<b>67E01</b>	X	X	X	X
	<sup>2</sup> 20 amp non-powered, field-wired (575V)	Factory		O	O	O
Weatherproof Cover for GFI		<b>10C89</b>	X	X	X	X
Phase/Voltage Detection - 3 Phase Models Only		Factory		O	O	O
<b>ECONOMIZER</b>						
<b>High Performance Economizer With Outdoor Air Hood (Sensible Control)</b> <b>(Approved for California Title 24 Building Standards / AMCA Class 1A Certified)</b>						
High Performance Economizer - Includes Barometric Relief Dampers and Combination Hood		<b>20H48</b>	OX	OX	OX	OX
High Performance Economizer - No Exhaust Option		Factory	O	O	O	O
<b>Economizer Accessories</b>						
Horizontal Economizer Conversion Kit		<b>17W45</b>	X	X	X	X
<b>Economizer Controls (Not for Title 24)</b>						
Differential Enthalpy	Order 2	<b>21Z09</b>	OX	OX	OX	OX
Sensible Control	Sensor is Furnished	Factory	O	O	O	O
Outdoor Air CFM Control		<b>13J76</b>	X	X	X	X
Single Enthalpy		<b>21Z09</b>	OX	OX	OX	OX
Global Control	Sensor Field Provided	Factory	O	O	O	O
Building Pressure Control		<b>13J77</b>	X	X	X	X
<b>POWER EXHAUST FAN</b>						
Standard Static	208/230V-1 or 3ph	<b>21Z13</b>	OX	OX	OX	OX
<i>NOTE - Factory or Field installed Power Exhaust Fan requires "Barometric Relief Dampers for Power Exhaust Kit" for field installation. See below.</i>	460V-3ph	<b>21Z14</b>		OX	OX	OX
	575V-3ph	<b>21Z15</b>		OX	OX	OX
<b>BAROMETRIC RELIEF</b>						
<sup>3</sup> Barometric Relief Dampers for Power Exhaust Kit		<b>21Z21</b>	X	X	X	X
<sup>4</sup> Horizontal Barometric Relief Dampers With Exhaust Hood		<b>19F01</b>	X	X	X	X
<b>OUTDOOR AIR</b>						
<b>Outdoor Air Dampers With Outdoor Air Hood</b>						
Motorized		<b>15D17</b>	OX	OX	OX	OX
Manual		<b>15D18</b>	X	X	X	X

<sup>1</sup> Disconnect Switch is furnished and factory installed with High SCCR option.

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

<sup>3</sup> Required when Economizer is factory installed with factory installed Power Exhaust Fan option.

<sup>4</sup> Required when Economizer is configured for horizontal airflow.

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

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

O = Configure To Order (Factory Installed)

X = Field Installed

## OPTIONS / ACCESSORIES

Item	Catalog Number	Unit Model Number				
		024	036	048	060	
<b>INDOOR AIR QUALITY</b>						
<b>Air Filters</b>						
Healthy Climate® High Efficiency Air Filters 20 x 20 x 2 in.	MERV 8 (Order 4)	<b>54W21</b>	OX	OX	OX	OX
	MERV 13 (Order 4)	<b>52W39</b>	OX	OX	OX	OX
	MERV 16 (Order 4)	<b>21U40</b>	X	X	X	X
Replaceable Media Filter With Metal Mesh Frame (includes non-pleated filter media)	20 x 20 x 2 in. (Order 4)	<b>44N60</b>	X	X	X	X
<b>Indoor Air Quality (CO<sub>2</sub>) Sensors</b>						
Sensor - Wall-mount, off-white plastic cover with LCD display		<b>77N39</b>	X	X	X	X
Sensor - Wall-mount, off-white plastic cover, no display		<b>23V86</b>	X	X	X	X
Sensor - Black plastic case with LCD display, rated for plenum mounting		<b>87N52</b>	X	X	X	X
Sensor - Wall-mount, black plastic case, no display, rated for plenum mounting		<b>87N54</b>	X	X	X	X
CO <sub>2</sub> Sensor Duct Mounting Kit - for downflow applications		<b>85L43</b>	X	X	X	X
Aspiration Box - for duct mounting non-plenum rated CO <sub>2</sub> sensors ( <b>77N39</b> )		<b>90N43</b>	X	X	X	X
<b>Needlepoint Bipolar Ionization (NPBI)</b>						
Needlepoint Bipolar Ionization (NPBI) Kit		<b>22U14</b>	X	X	X	X
<b>UVC Germicidal Lamps</b>						
<sup>1</sup> Healthy Climate® UVC Light Kit (110/230V-1ph)		<b>21A92</b>	X	X	X	X
Step-Down Transformers	460V primary, 230V secondary	<b>10H20</b>		X	X	X
	575V primary, 230V secondary	<b>10H21</b>		X	X	X
<b>ROOF CURBS</b>						
<b>Hybrid Roof Curbs, Downflow</b>						
8 in. height		<b>11F50</b>	X	X	X	X
14 in. height		<b>11F51</b>	X	X	X	X
18 in. height		<b>11F52</b>	X	X	X	X
24 in. height		<b>11F53</b>	X	X	X	X
<b>Adjustable Pitched Curb</b>						
14 in. height		<b>43W27</b>	X	X	X	X
<b>Transition Curb</b>						
Matches Enlight™ 024-060 Units to existing L Series® Curbs		<b>20W06</b>	X	X	X	X
<b>CEILING DIFFUSERS</b>						
Step-Down - Order one	RTD11-95S	<b>13K61</b>	X	X	X	X
Flush - Order one	FD11-95S	<b>13K56</b>	X	X	X	X
Transitions (Supply and Return) - Order one	T1TRAN20N-1	<b>17W54</b>	X	X	X	X

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

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

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

O = Configure To Order (Factory Installed)

X = Field Installed

SPECIFICATIONS				UNIT			
General Data		Nominal Tonnage	2 Ton	3 Ton	4 Ton	5 Ton	
		Model Number	LDT024H4E	LDT036H4E	LDT048H4E	LDT060H4E	
		Efficiency Type	High	High	High	High	
		Blower Type	MSAV® ECM Direct Drive	MSAV® ECM Direct Drive	MSAV® ECM Direct Drive	MSAV® ECM Direct Drive	
Cooling Performance	Gross Cooling Capacity (Btuh)		25,000	37,000	46,800	58,000	
	<sup>1</sup> Net Cooling Capacity (Btuh) 3ph		---	35,000	44,500	55,000	
	<sup>1</sup> AHRI Rated Air Flow (cfm-high/low) 3ph		---	1400/935	1400/1100	1800/1300	
	<sup>1</sup> SEER (Btuh/Watt) 3ph		---	16.1	16.1	16.1	
	<sup>1</sup> EER (Btuh/Watt) 3ph		---	12.3	12.8	12.2	
	Total Unit Power (kW) 3ph		---	2.8	3.5	4.5	
	<sup>1</sup> Net Cooling Capacity (Btuh) 1,3ph		23,600	35,000	44,500	55,000	
	<sup>1</sup> AHRI Rated Air Flow (cfm-high/low) 1,3ph		1050	1400/935	1400/1100	1800/1300	
	<sup>1</sup> SEER2 (Btuh/Watt) 1,3ph		15.4	15.2	15.6	15.2	
	<sup>1</sup> EER2 (Btuh/Watt) 1,3ph		11.4	11.4	12.0	11.4	
	Total Unit Power (kW) 1,3ph		2.1	3.1	3.7	4.8	
	Heating Performance	<sup>1</sup> Total High Heating Capacity - Btuh		23,000	35,000	44,000	55,000
		<sup>1</sup> AHRI Rated Air Flow (cfm) 3ph		1050	1400	1400	1900
<sup>1</sup> HSPF (Region IV) - 3ph		---	8.5	8.5	8.5		
COP		3.6	3.8	3.9	3.7		
Total Unit Power (kW)		1.9	2.9	3.6	4.3		
<sup>1</sup> HSPF2 (Region IV) 1,3ph		7.3	7.2	7.2	7.2		
<sup>1</sup> Total Low Heating Capacity - Btuh		17,000	19,000	26,000	30,000		
COP		2.1	2.3	2.4	2.3		
Total Unit Power (kW)		2.4	2.6	3.3	3.8		
<sup>2</sup> Sound Rating Number (SRN) (dBA)			75	75	82	82	
Refrigerant		Type	R-410A	R-410A	R-410A	R-410A	
		Charge Furnished	17 lbs. 14 oz.	18 lbs. 12 oz.	14 lbs. 0 oz.	17 lbs. 1 oz.	
Gas Heating Options Available			See page 5				
Compressor Type (one per unit)			Two-Stage Scroll	Two-Stage Scroll	Two-Stage Scroll	Two-Stage Scroll	
Outdoor Coil	Net face area (total) - sq. ft.		19.3	19.3	19.3	19.3	
	Tube diameter - in.		3/8	3/8	3/8	3/8	
	Number of rows		2	2	2	3	
	Fins per inch		20	20	20	20	
Outdoor Coil Fans	Motor - (No.) horsepower		(1) 1/3 (ECM)	(1) 1/3 (ECM)	(1) 1/3 (ECM)	(1) 1/3 (ECM)	
	Motor rpm		730	850/575	850/700	945/725	
	Total Motor watts		130	70 - 240	140 - 240	140 - 310	
	Diameter - (No.) in. and no. of blades		(1) 24	(1) 24	(1) 24	(1) 24	
	Total air volume - cfm		3500	4060/2740	4060/3330	4400/3550	
Indoor Coil	Net face area (total) - sq. ft.		9.7	9.7	9.7	9.7	
	Tube diameter - in.		3/8	3/8	3/8	3/8	
	Number of rows		3	3	3	4	
	Fins per inch		14	14	14	14	
	Drain connection (Number) and size - in.		(1) 1 NPT	(1) 1 NPT	(1) 1 NPT	(1) 1 NPT	
	Expansion device type		Balanced Port Thermostatic Expansion Valve,removable element head				
Indoor Blower	Standard Blower Type		Direct Drive ECM				
	Static Blade type		Forward Curved				
	(All Voltages) Nominal motor HP		0.50	0.50	1	1	
	Blower wheel D x W - in.		(1) 10 X 10	(1) 10 X 10	(1) 11 X 10	(1) 11 X 10	
	High Blower Type		DirectPlus™ Direct Drive ECM				
	Static Blade type		Backward Curved				
(3ph Only)	Nominal motor HP		---	1.5	1.5	1.5	
	Blower wheel D x W - in.		---	(1) 14 X 5	(1) 14 X 5	(1) 14 X 5	
	Type of filter		MERV 4, Disposable				
Filters		Number and size		(4) 20 x 20 x 2			
Electrical characteristics			208/230V - 60 Hz - 1 phase	208/230V - 60 Hz - 1 phase 208/230V, 460V, or 575V - 60 Hz - 3 phase			

NOTE - Shaded area indicates AHRI 2023 M1 Ratings. Does not include 575V-3ph models.

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

<sup>1</sup> AHRI Certified to AHRI Standard 210/240 (2-5 ton):

**Cooling Ratings** - 95°F outdoor air temperature and 80°F db/67°F wb entering indoor coil air.

**High Temperature Heating Ratings** - 47°F db/43°F wb outdoor air temperature and 70°F entering indoor coil air.

**Low Temperature Heating Ratings** - 17°F db/15°F wb outdoor air temperature and 70°F entering indoor coil air.

## SPECIFICATIONS

## LOW NOX GAS HEAT

Model No.		024, 036, 048, 060	036, 048, 060	036, 048, 060	048, 060
Heat Input Type		Standard (2 Stage)		Medium (2 Stage)	High (2 Stage)
Input Btuh	1st Stage	53,000		81,000	113,000
	2nd Stage	65,000		108,000	150,000
Output Btuh	1st Stage	43,000		66,000	92,000
	2nd Stage	52,000		87,000	121,000
Temperature Rise Range - °F	1st stage	5-35		25 - 55	30 - 60
	2nd Stage	35-65 (0.5 and 1 hp)	15-45 (1.5 hp)	30 - 70	45 - 75
Minimum air volume - cfm		960	1075	1150	1500
<sup>1</sup> AFUE (Single Phase)		81%		81%	81%
<sup>2</sup> Thermal Efficiency (Three Phase)		81%		81%	81%
Gas Supply Connections		1/2 in. NPT			
Recommended Gas Supply Pressure - Nat. / LPG		7 in. w.g. / 11 in. w.g.			
Gas Supply Pressure Range	Min./Max. (Natural)	4.5 - 10.5 in. w.g.			
	Min./Max. (LPG)	10.8 - 13.5 in. w.g.			

<sup>1</sup> Annual Fuel Utilization Efficiency based on U.S. DOE test procedures and FTC labeling regulations.

<sup>2</sup> Thermal Efficiency at full input.

## HIGH ALTITUDE DERATE

**NOTE** - Units may be installed at altitudes up to 2000 feet above sea level without any modifications.

At altitudes above 2000 feet units must be derated to match gas manifold pressures shown in table below.

At altitudes above 4500 feet unit must be derated 2% for each 1000 feet above sea level.

**NOTE** - This is the only permissible derate for these units.

Refer to the Installation Instructions for more detailed information.

Heat Input Type	Altitude Feet	Gas Manifold Pressure in. w.g.		Input Rate (Btuh)
		Natural Gas	LPG/ Propane	
Standard (2 stage)	2001 - 4500	1.6 / 3.4	4.4 / 9.7	51,000 / 62,000
Medium (2 stage)	2001 - 4500	1.6 / 3.4	4.4 / 9.7	78,000 / 104,000
High (2 stage)	2001 - 4500	1.6 / 3.4	4.4 / 9.7	108,000 / 144,000

## COOLING / HEATING RATINGS

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

### 2 TON COOLING LDT024H4E (FULL LOAD)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																							
		65°F						75°F						85°F						95°F					
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			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	640	25.5	1.14	.69	.82	.94	23.5	1.30	.69	.83	.97	21.4	1.50	.69	.84	.99	19.3	1.74	.70	.87	1.00				
	800	27.5	1.13	.74	.89	1.00	25.3	1.29	.75	.90	1.00	23.2	1.49	.76	.93	1.00	20.9	1.73	.77	.96	1.00				
	960	28.9	1.12	.79	.95	1.00	26.7	1.28	.80	.98	1.00	24.6	1.48	.81	1.00	1.00	22.5	1.72	.84	1.00	1.00				
67°F	640	27.5	1.13	.55	.67	.79	25.5	1.29	.54	.67	.80	23.3	1.49	.53	.67	.81	21.2	1.73	.51	.67	.83				
	800	29.5	1.11	.58	.72	.85	27.3	1.28	.58	.73	.87	25.2	1.48	.57	.74	.89	22.8	1.72	.57	.75	.92				
	960	31.0	1.10	.61	.77	.92	28.8	1.27	.61	.78	.94	26.4	1.47	.61	.79	.97	24.0	1.71	.61	.82	1.00				
71°F	640	29.6	1.11	.42	.54	.65	27.4	1.28	.40	.53	.65	25.2	1.48	.38	.52	.65	23.0	1.72	.36	.51	.65				
	800	31.6	1.10	.44	.57	.70	29.4	1.26	.42	.57	.71	27.1	1.47	.40	.56	.71	24.8	1.71	.39	.56	.73				
	960	33.1	1.09	.45	.60	.75	30.8	1.25	.44	.61	.76	28.5	1.46	.42	.60	.77	26.0	1.70	.41	.61	.79				

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil									
		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)		
				Dry Bulb					Dry Bulb		
cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	
63°F	640	17.1	2.02	.70	.90	1.00	14.7	2.33	.72	.94	1.00
	800	18.6	2.01	.78	1.00	1.00	16.4	2.32	.81	1.00	1.00
	960	20.4	2.00	.87	1.00	1.00	18.1	2.31	.91	1.00	1.00
67°F	640	18.8	2.01	.50	.68	.85	16.4	2.32	.49	.69	.89
	800	20.4	2.00	.56	.76	.95	17.8	2.32	.55	.79	1.00
	960	21.5	1.99	.61	.84	1.00	18.7	2.31	.61	.88	1.00
71°F	640	20.7	2.00	.33	.50	.66	18.2	2.31	.30	.49	.67
	800	22.2	1.99	.37	.56	.74	19.5	2.31	.33	.55	.76
	960	23.3	1.99	.39	.61	.82	20.5	2.30	.37	.61	.85

### 2 TON HEATING LDT024H4E

Indoor Coil Air Volume 70°F Dry Bulb cfm	Air Temperature Entering Outdoor Coil									
	65°F		45°F		25°F		5°F		-15°F	
	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input
640	36.4	2.98	21.6	1.92	19.8	2.72	12.7	2.40	6.2	1.84
800	36.9	2.80	22.0	1.75	20.7	2.41	13.5	2.09	7.1	1.53
960	37.3	2.70	22.4	1.64	21.1	2.22	14.0	1.89	7.5	1.33

## COOLING / HEATING RATINGS

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

### 3 TON COOLING LDT036H4E (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	640	26.4	1.17	.70	.83	.95	24.3	1.34	.70	.84	.97	22.2	1.54	.70	.85	1.00	20.0	1.79	.71	.88	1.00
	800	28.3	1.16	.75	.89	1.00	26.1	1.33	.75	.91	1.00	23.9	1.54	.76	.94	1.00	21.7	1.78	.78	.97	1.00
	960	29.8	1.15	.80	.96	1.00	27.6	1.32	.81	.98	1.00	25.4	1.53	.83	1.00	1.00	23.4	1.78	.85	1.00	1.00
67°F	640	28.4	1.16	.55	.67	.79	26.3	1.33	.54	.68	.80	24.1	1.54	.53	.68	.82	21.9	1.78	.52	.68	.84
	800	30.5	1.15	.58	.73	.86	28.3	1.32	.58	.73	.88	26.0	1.53	.58	.74	.90	23.6	1.78	.57	.75	.93
	960	32.0	1.14	.62	.78	.93	29.7	1.31	.62	.79	.95	27.2	1.53	.61	.80	.98	24.8	1.77	.62	.83	1.00
71°F	640	30.5	1.15	.42	.54	.65	28.4	1.32	.40	.53	.65	26.1	1.53	.38	.52	.65	23.8	1.78	.36	.51	.66
	800	32.7	1.14	.43	.57	.70	30.3	1.31	.42	.57	.71	28.0	1.53	.41	.57	.72	25.6	1.77	.39	.57	.73
	960	34.2	1.13	.45	.61	.76	31.8	1.31	.44	.61	.77	29.3	1.52	.42	.61	.78	26.7	1.77	.41	.61	.80

### 3 TON COOLING LDT036H4E (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	960	33.8	2.19	.72	.86	1.00	31.1	2.46	.73	.89	1.00	28.3	2.78	.74	.92	1.00	25.2	3.14	.76	.96	1.00
	1200	35.9	2.20	.78	.95	1.00	33.1	2.48	.80	.98	1.00	30.3	2.79	.81	1.00	1.00	27.5	3.15	.84	1.00	1.00
	1440	37.8	2.22	.84	1.00	1.00	35.3	2.49	.86	1.00	1.00	32.5	2.81	.89	1.00	1.00	29.4	3.17	.93	1.00	1.00
67°F	960	36.1	2.20	.55	.70	.83	33.3	2.47	.55	.70	.85	30.5	2.79	.55	.72	.88	27.4	3.16	.54	.73	.92
	1200	38.3	2.22	.59	.76	.92	35.4	2.49	.60	.78	.94	32.3	2.80	.60	.79	.98	29.0	3.17	.60	.82	1.00
	1440	39.9	2.24	.63	.82	.99	36.9	2.50	.64	.84	1.00	33.6	2.81	.65	.87	1.00	30.1	3.17	.66	.91	1.00
71°F	960	38.6	2.22	.41	.54	.67	35.7	2.49	.40	.54	.68	32.7	2.81	.38	.54	.70	29.5	3.17	.36	.54	.71
	1200	40.8	2.24	.43	.59	.74	37.8	2.51	.42	.59	.76	34.6	2.82	.41	.59	.77	31.0	3.17	.39	.60	.80
	1440	42.4	2.26	.44	.63	.80	39.1	2.52	.44	.64	.82	35.9	2.83	.43	.65	.85	32.2	3.18	.42	.66	.89

### 3 TON HEATING LDT036H4E

Indoor Coil Air Volume 70°F Dry Bulb cfm	Air Temperature Entering Outdoor Coil									
	65°F		45°F		25°F		5°F		-15°F	
	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input
960	44.3	2.68	33.3	2.48	22.0	2.28	13.8	2.02	6.9	1.53
1200	45.1	2.50	34.1	2.30	22.8	2.10	14.6	1.84	7.7	1.35
1440	45.7	2.39	34.7	2.19	23.4	1.99	15.2	1.73	8.3	1.23

# COOLING / HEATING RATINGS

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

## 4 TON COOLING LDT048H4E (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	895	35.9	1.46	.71	.85	.97	33.5	1.71	.71	.85	.99	30.9	2.00	.72	.88	1.00	28.2	2.34	.74	.90	1.00				
	1120	38.3	1.45	.76	.91	1.00	35.7	1.70	.77	.94	1.00	33.0	1.99	.79	.96	1.00	30.2	2.32	.81	.99	1.00				
	1345	40.1	1.43	.81	.98	1.00	37.6	1.69	.83	1.00	1.00	35.0	1.97	.85	1.00	1.00	32.3	2.31	.88	1.00	1.00				
67°F	895	38.4	1.45	.56	.69	.81	35.9	1.70	.56	.69	.82	33.3	1.99	.55	.70	.84	30.4	2.32	.55	.71	.87				
	1120	40.9	1.43	.59	.74	.88	38.3	1.68	.60	.75	.90	35.4	1.97	.60	.77	.92	32.3	2.31	.60	.78	.96				
	1345	42.7	1.42	.63	.79	.95	39.9	1.67	.63	.81	.97	36.9	1.96	.64	.83	1.00	33.7	2.29	.64	.86	1.00				
71°F	895	41.0	1.43	.43	.55	.67	38.4	1.68	.42	.55	.67	35.6	1.97	.40	.54	.68	32.7	2.31	.39	.54	.69				
	1120	43.5	1.41	.45	.59	.72	40.7	1.66	.44	.59	.73	37.8	1.96	.43	.59	.75	34.6	2.29	.41	.60	.76				
	1345	45.3	1.40	.46	.62	.77	42.4	1.65	.45	.63	.79	39.3	1.94	.44	.63	.81	36.0	2.27	.44	.64	.84				

## 4 TON COOLING LDT048H4E (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	1280	45.1	2.77	.73	.88	1.00	41.9	3.12	.74	.90	1.00	38.4	3.52	.76	.93	1.00	34.7	3.99	.78	.97	1.00				
	1600	47.9	2.78	.79	.96	1.00	44.5	3.14	.81	.99	1.00	40.9	3.54	.83	1.00	1.00	37.5	4.01	.86	1.00	1.00				
	1920	50.3	2.80	.85	1.00	1.00	47.1	3.15	.87	1.00	1.00	43.7	3.56	.90	1.00	1.00	39.8	4.02	.94	1.00	1.00				
67°F	1280	48.0	2.78	.56	.71	.84	44.7	3.14	.56	.72	.86	41.1	3.54	.57	.73	.89	37.4	4.01	.57	.75	.93				
	1600	50.8	2.80	.61	.77	.93	47.3	3.15	.61	.79	.96	43.4	3.56	.62	.81	.99	39.2	4.02	.63	.84	1.00				
	1920	52.8	2.81	.65	.83	1.00	48.9	3.16	.65	.85	1.00	45.0	3.57	.66	.88	1.00	40.7	4.03	.68	.92	1.00				
71°F	1280	51.1	2.80	.42	.55	.68	47.6	3.16	.41	.56	.70	43.9	3.56	.40	.56	.71	39.9	4.03	.39	.57	.73				
	1600	53.9	2.82	.44	.60	.75	50.1	3.17	.43	.60	.77	46.1	3.58	.42	.61	.79	41.7	4.04	.42	.62	.82				
	1920	55.9	2.83	.45	.64	.81	51.9	3.18	.45	.65	.83	47.7	3.59	.45	.66	.86	43.2	4.05	.44	.68	.90				

## 4 TON HEATING LDT048H4E

Indoor Coil Air Volume 70°F Dry Bulb cfm	Air Temperature Entering Outdoor Coil									
	65°F		45°F		25°F		5°F		-15°F	
	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input
	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW
1280	54.5	3.14	42.1	2.95	29.4	2.76	18.9	2.47	9.3	1.85
1600	55.6	2.94	43.2	2.75	30.5	2.56	20.1	2.26	10.4	1.65
1920	56.8	2.80	44.4	2.62	31.7	2.43	21.3	2.13	11.6	1.51

# COOLING / HEATING RATINGS

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

## 5 TON COOLING LDT060H4E (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	1080	42.8	1.91	.71	.84	.97	40.4	2.20	.71	.85	.99	37.8	2.53	.72	.87	1.00	34.8	2.91	.73	.89	1.00
	1350	45.4	1.88	.76	.91	1.00	43.0	2.17	.77	.93	1.00	40.1	2.50	.79	.96	1.00	37.1	2.88	.80	.99	1.00
	1620	47.6	1.86	.81	.98	1.00	45.0	2.15	.82	1.00	1.00	42.3	2.48	.84	1.00	1.00	39.6	2.85	.87	1.00	1.00
67°F	1080	46.1	1.88	.56	.68	.81	43.5	2.17	.56	.69	.82	40.7	2.50	.56	.70	.83	37.8	2.87	.56	.71	.86
	1350	48.8	1.85	.59	.73	.87	46.1	2.14	.59	.75	.89	43.3	2.47	.60	.76	.92	39.8	2.84	.60	.78	.95
	1620	50.8	1.83	.62	.79	.94	48.0	2.12	.63	.80	.97	44.8	2.45	.63	.82	.99	41.5	2.83	.65	.84	1.00
71°F	1080	49.4	1.85	.43	.55	.66	46.7	2.14	.42	.54	.67	43.9	2.46	.41	.54	.67	40.7	2.83	.41	.55	.69
	1350	52.3	1.82	.44	.58	.71	49.4	2.11	.44	.58	.72	46.3	2.43	.43	.59	.73	43.1	2.81	.43	.60	.75
	1620	54.4	1.80	.46	.61	.76	51.3	2.09	.45	.62	.78	48.1	2.41	.45	.62	.80	44.5	2.78	.45	.63	.82

## 5 TON COOLING LDT060H4E (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	1650	58.5	3.52	.73	.88	1.00	54.2	3.95	.74	.91	1.00	49.7	4.46	.76	.94	1.00	45.0	5.04	.78	.97	1.00
	2000	61.3	3.54	.78	.96	1.00	57.0	3.98	.81	.99	1.00	52.4	4.49	.83	1.00	1.00	48.1	5.07	.85	1.00	1.00
	2400	64.4	3.57	.85	1.00	1.00	60.4	4.02	.87	1.00	1.00	56.0	4.53	.89	1.00	1.00	51.2	5.11	.94	1.00	1.00
67°F	1650	62.8	3.56	.56	.71	.85	58.3	3.99	.56	.72	.87	53.5	4.50	.57	.73	.90	48.5	5.08	.57	.76	.94
	2000	65.6	3.59	.60	.76	.92	61.0	4.03	.60	.78	.95	56.0	4.53	.61	.80	.98	50.8	5.11	.62	.83	1.00
	2400	68.2	3.61	.64	.83	1.00	63.2	4.05	.64	.85	1.00	58.1	4.55	.65	.87	1.00	52.4	5.12	.67	.91	1.00
71°F	1650	67.2	3.60	.41	.55	.69	62.7	4.04	.41	.55	.70	57.7	4.55	.40	.56	.71	52.5	5.13	.39	.56	.73
	2000	70.2	3.63	.43	.59	.74	65.4	4.07	.43	.60	.76	60.2	4.57	.42	.61	.78	54.5	5.15	.41	.61	.81
	2400	72.6	3.66	.45	.63	.80	67.5	4.10	.45	.64	.83	61.8	4.60	.44	.65	.85	56.2	5.17	.44	.67	.89

## 5 TON HEATING LDT060H4E

Indoor Coil Air Volume 70°F Dry Bulb cfm	Air Temperature Entering Outdoor Coil									
	65°F		45°F		25°F		5°F		-15°F	
	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input
	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW
1650	72.8	3.89	55.4	3.62	37.1	3.34	25.1	2.96	12.3	2.22
2000	74.3	3.68	56.9	3.40	38.6	3.12	26.6	2.75	13.8	2.00
2400	76.5	3.52	59.0	3.25	40.7	2.97	28.7	2.59	15.9	1.85



**0.5 HP | 3 ROW (024, 036)**

**BLOWER DATA**

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

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (heat section, economizer, etc.).

2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

**Minimum Air Volume Required For Different Gas Heat Sizes:**

Standard Heat - 960 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

See page 32 for wet coil and options/accessory air resistance data.

**DOWNFLOW**

External Static Press. in. w.g.	Percentage of Total Motor Torque																										
	20%			30%			40%			50%			60%			70%			80%			90%			100%		
	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts
0	819	47	403	1006	79	463	1192	111	523	1335	152	573	1477	193	622	1580	236	661	1682	279	699	1812	353	753	1876	400	783
0.1	723	48	485	919	82	539	1114	116	593	1264	159	637	1414	202	681	1522	246	715	1629	290	749	1767	365	797	1835	414	824
0.2	636	51	565	840	88	613	1044	124	660	1201	169	699	1357	213	738	1470	258	769	1582	303	799	1726	380	841	1797	429	865
0.3	557	57	641	769	96	683	981	134	725	1144	180	760	1306	226	794	1423	273	821	1540	319	848	1689	397	885	1761	446	906
0.4	485	65	713	704	106	750	923	146	787	1091	194	818	1259	241	848	1380	289	872	1500	336	895	1653	415	929	1725	463	948
0.5	418	73	783	644	116	815	870	158	846	1043	207	873	1215	256	900	1339	305	921	1462	353	942	1618	433	973	1689	481	991
0.6	355	82	849	587	127	876	819	171	903	996	222	927	1173	272	950	1299	321	969	1425	370	987	1582	451	1016	1651	499	1034
0.7	---	---	---	---	---	---	769	184	957	950	236	978	1131	287	998	1259	337	1015	1387	387	1032	1544	468	1058	1610	516	1077
0.8	---	---	---	---	---	---	720	195	1008	904	248	1026	1088	301	1044	1218	352	1060	1347	403	1075	1503	484	1101	1565	531	1121
0.9	---	---	---	---	---	---	670	206	1057	857	260	1073	1043	314	1088	1173	366	1102	1303	417	1116	1458	498	1142	---	---	---
1.0	---	---	---	---	---	---	617	214	1102	806	269	1116	994	324	1130	1125	376	1144	1255	428	1157	1406	510	1184	---	---	---
1.1	---	---	---	---	---	---	561	219	1145	751	276	1157	941	332	1169	1071	384	1183	1200	436	1196	1347	518	1225	---	---	---
1.2	---	---	---	---	---	---	500	221	1185	691	278	1196	881	335	1207	1010	388	1221	1139	441	1234	1280	522	1265	---	---	---
1.3	---	---	---	---	---	---	---	---	---	---	---	---	814	335	1242	942	388	1256	1069	441	1270	---	---	---	---	---	---
1.4	---	---	---	---	---	---	---	---	---	---	---	---	738	330	1276	864	384	1291	989	437	1305	---	---	---	---	---	---

**HORIZONTAL**

External Static Press. in. w.g.	Percentage of Total Motor Torque																										
	20%			30%			40%			50%			60%			70%			80%			90%			100%		
	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts
0	794	45	388	970	76	454	1146	107	519	1281	149	575	1416	191	630	1522	110	678	1627	293	726	1715	351	768	1802	408	810
0.1	709	44	460	895	78	519	1080	111	577	1223	155	627	1366	199	677	1477	251	721	1588	303	764	1681	362	804	1773	420	843
0.2	630	46	531	855	82	583	1019	117	634	1169	163	679	1318	208	723	1435	262	763	1552	315	803	1648	375	841	1743	434	878
0.3	556	51	602	759	88	646	961	125	690	1117	172	730	1273	219	769	1395	274	805	1516	328	841	1615	388	877	1714	448	912
0.4	486	58	671	696	97	709	906	135	746	1068	184	781	1230	232	815	1356	288	848	1481	343	880	1582	403	914	1683	463	948
0.5	420	66	740	637	107	771	854	147	802	1021	196	831	1188	245	860	1317	301	890	1446	357	919	1549	418	951	1652	478	983
0.6	---	---	---	---	---	---	804	159	856	946	209	881	1147	259	905	1279	316	932	1410	372	958	1514	432	989	1618	492	1019
0.7	---	---	---	---	---	---	756	172	910	932	223	930	1107	273	949	1241	330	973	1374	386	996	1478	446	1026	1582	506	1055
0.8	---	---	---	---	---	---	709	185	962	888	236	978	1066	287	993	1201	344	1014	1336	400	1034	1440	460	1063	1544	519	1091
0.9	---	---	---	---	---	---	663	197	1013	844	249	1025	1025	300	1036	1161	357	1054	1296	413	1072	1399	472	1100	1502	530	1127
1.0	---	---	---	---	---	---	---	---	---	---	---	---	982	313	1078	1118	369	1094	1254	424	1109	1355	482	1136	1456	540	1163
1.1	---	---	---	---	---	---	---	---	---	---	---	---	938	323	1119	1073	379	1133	1208	434	1146	1307	491	1172	1406	548	1198
1.2	---	---	---	---	---	---	---	---	---	---	---	---	892	332	1158	1026	387	1170	1159	441	1182	1255	497	1208	1351	553	1233
1.3	---	---	---	---	---	---	---	---	---	---	---	---	843	340	1197	975	393	1207	1106	446	1216	1198	501	1242	1290	555	1268
1.4	---	---	---	---	---	---	---	---	---	---	---	---	790	344	1234	920	396	1242	1049	448	1250	1137	501	1276	1224	553	1302

**BLOWER DATA**

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

**1.0 HP | 3 ROW (048)**

FOR ALL UNITS ADD:

- 1 - Any factory installed options air resistance (heat section, economizer, etc.).
- 2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

**Minimum Air Volume Required For Different Gas Heat Sizes:**

Standard Heat - 960 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

See page 32 for wet coil and options/accessory air resistance data.

**DOWNFLOW**

External Static Press. in. w.g.	Percentage of Total Motor Torque																										
	20%			30%			40%			50%			60%			70%			80%			90%			100%		
	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM
0	1115	124	488	1344	200	572	1573	276	655	1747	377	724	1920	477	792	2041	581	844	2161	684	896	2304	852	964	2354	936	992
0.1	1012	101	536	1253	181	614	1493	261	691	1677	366	755	1860	471	819	1990	578	868	2119	685	916	2277	860	980	2339	951	1006
0.2	926	88	584	1177	172	656	1427	256	728	1619	365	788	1811	473	848	1949	583	894	2086	693	939	2256	873	999	2328	969	1024
0.3	854	86	634	1113	173	701	1372	260	767	1572	371	823	1772	482	878	1916	595	921	2059	707	963	2240	891	1019	2319	991	1043
0.4	794	91	684	1061	181	746	1328	270	807	1535	383	859	1741	496	910	1890	611	950	2038	725	989	2226	913	1042	2311	1014	1065
0.5	745	104	734	1019	195	791	1292	286	847	1504	401	895	1715	515	942	1868	631	979	2020	747	1016	2214	936	1066	2301	1039	1089
0.6	704	122	785	983	215	837	1262	307	888	1478	423	932	1693	538	976	1849	654	1011	2004	770	1045	2201	960	1092	2288	1063	1114
0.7	671	145	836	954	238	883	1237	331	929	1456	447	969	1674	562	1009	1831	678	1041	1988	794	1073	2185	983	1118	2270	1085	1140
0.8	643	171	886	929	264	928	1215	357	969	1435	472	1006	1655	587	1043	1813	703	1073	1970	818	1103	2164	1005	1145	2246	1104	1168
0.9	619	199	935	907	291	973	1194	383	1010	1415	498	1043	1635	612	1076	1792	726	1104	1948	840	1132	2138	1024	1173	2212	1119	1196
1.0	596	228	983	884	319	1016	1172	410	1049	1392	523	1079	1612	635	1109	1766	747	1135	1920	859	1161	2104	1038	1200	---	---	---
1.1	---	---	---	---	---	---	1148	434	1087	1366	545	1115	1583	655	1142	1734	765	1166	1885	874	1189	2060	1047	1227	---	---	---
1.2	---	---	---	---	---	---	1120	456	1124	1334	564	1149	1548	671	1173	1695	777	1195	1841	883	1217	2004	1050	1254	---	---	---
1.3	---	---	---	---	---	---	1085	474	1159	1295	578	1181	1505	681	1202	1646	784	1223	1786	886	1244	1935	1044	1280	---	---	---
1.4	---	---	---	---	---	---	1043	486	1192	1247	586	1211	1451	685	1230	1585	783	1250	1718	881	1269	1851	1029	1305	---	---	---

**HORIZONTAL**

External Static Press. in. w.g.	Percentage of Total Motor Torque																										
	20%			30%			40%			50%			60%			70%			80%			90%			100%		
	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM
0	1087	111	493	1304	184	579	1520	257	665	1689	368	738	1857	478	810	1972	588	864	2087	698	918	2196	844	975	2283	925	1000
0.1	1021	104	537	1246	180	618	1470	255	699	1646	368	768	1821	480	837	1941	592	888	2061	704	938	2179	852	992	2255	926	1017
0.2	961	102	582	1193	181	658	1425	259	734	1607	373	799	1789	487	864	1914	601	912	2039	714	960	2163	864	1012	2231	932	1034
0.3	906	106	628	1145	186	699	1384	266	769	1572	382	831	1759	498	892	1889	613	938	2018	728	984	2149	879	1033	2209	941	1053
0.4	855	113	674	1101	196	740	1347	278	806	1540	396	864	1732	513	921	1866	629	965	1999	744	1008	2134	896	1054	---	---	---
0.5	808	125	720	1060	209	781	1312	293	842	1509	412	896	1706	530	950	1843	646	992	1980	762	1033	2119	915	1077	---	---	---
0.6	764	139	766	1022	225	823	1279	310	879	1481	430	930	1682	549	980	1821	666	1019	1960	782	1058	2102	935	1101	---	---	---
0.7	722	155	812	985	242	864	1247	328	916	1452	449	964	1657	569	1011	1799	686	1048	1940	803	1084	2084	955	1125	---	---	---
0.8	682	172	858	949	260	906	1216	348	953	1424	469	997	1632	589	1041	1776	706	1076	1919	823	1111	2063	974	1150	---	---	---
0.9	643	191	903	914	279	946	1185	367	989	1396	489	1030	1606	610	1071	1751	727	1104	1895	843	1137	2039	992	1175	---	---	---
1.0	---	---	---	---	---	---	1153	386	1024	1366	508	1062	1579	629	1100	1724	745	1132	1869	861	1163	2011	1008	1201	---	---	---
1.1	---	---	---	---	---	---	1120	404	1059	1334	525	1095	1548	646	1130	1694	761	1160	1839	876	1189	1979	1021	1226	---	---	---
1.2	---	---	---	---	---	---	1085	420	1093	1300	541	1126	1515	661	1158	1660	775	1186	1805	889	1214	1941	1031	1250	---	---	---
1.3	---	---	---	---	---	---	1047	433	1126	1263	553	1156	1478	672	1186	1622	785	1213	1766	898	1239	1897	1037	1275	---	---	---
1.4	---	---	---	---	---	---	1005	442	1158	1221	561	1185	1436	680	1212	1579	792	1238	1721	903	1263	1847	1037	1298	---	---	---

**1.0 HP | 4 ROW (060)**

**BLOWER DATA**

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

FOR ALL UNITS ADD:

- 1 - Any factory installed options air resistance (heat section, economizer, etc.).
- 2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

**Minimum Air Volume Required For Different Gas Heat Sizes:**

Standard Heat - 960 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

See page 32 for wet coil and options/accessory air resistance data.

**DOWNFLOW**

External Static Press. in. w.g.	Percentage of Total Motor Torque																										
	20%			30%			40%			50%			60%			70%			80%			90%			100%		
	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts
0	1101	120	494	1328	196	578	1555	272	662	1728	374	731	1901	475	800	852	2145	684	903	2292	854	970	2348	942	998		
0.1	1002	99	541	1241	180	620	1479	260	698	1662	366	763	1845	471	827	1976	579	876	2106	687	924	2268	865	987	2334	958	1013
0.2	918	88	589	1167	173	663	1416	257	736	1608	366	796	1800	475	856	1938	586	902	2076	697	947	2249	880	1006	2324	978	1031
0.3	848	86	638	1106	174	706	1364	261	774	1564	373	830	1763	485	886	1907	599	929	2051	712	972	2234	899	1028	2316	1000	1052
0.4	790	92	688	1056	183	751	1321	273	814	1527	387	866	1733	501	918	1882	617	958	2031	732	998	2221	921	1051	2307	1024	1074
0.5	742	105	738	1015	197	796	1287	289	854	1498	405	902	1709	520	950	1862	637	988	2014	754	1025	2208	944	1076	2296	1048	1099
0.6	703	124	788	981	217	841	1258	310	894	1473	427	939	1688	543	984	1843	660	1019	1998	777	1053	2194	968	1101	2281	1071	1124
0.7	670	146	838	952	240	887	1233	334	935	1451	451	976	1669	568	1017	1826	685	1050	1982	801	1082	2177	991	1128	2260	1092	1151
0.8	642	172	888	927	266	932	1211	360	975	1431	477	1013	1650	593	1051	1807	709	1081	1963	825	1111	2155	1012	1155	2233	1109	1178
0.9	618	200	937	904	294	976	1190	387	1015	1410	502	1050	1629	617	1084	1785	732	1112	1940	846	1140	2127	1029	1182	---	---	---
1.0	595	229	985	882	321	1020	1168	413	1054	1387	526	1086	1605	639	1117	1758	752	1143	1911	864	1169	2090	1042	1209	---	---	---
1.1	---	---	---	---	---	---	1144	437	1092	1360	548	1120	1576	659	1148	1725	769	1173	1874	878	1197	2043	1049	1236	---	---	---
1.2	---	---	---	---	---	---	1115	458	1129	1328	566	1154	1540	674	1179	1685	780	1202	1829	886	1225	1985	1049	1262	---	---	---
1.3	---	---	---	---	---	---	1080	475	1163	1288	579	1186	1496	683	1208	1634	785	1230	1772	887	1251	1913	1042	1288	---	---	---
1.4	---	---	---	---	---	---	1037	487	1196	1239	587	1216	1441	686	1236	1572	783	1256	1703	880	1275	1826	1024	1312	---	---	---

**HORIZONTAL**

External Static Press. in. w.g.	Percentage of Total Motor Torque																										
	20%			30%			40%			50%			60%			70%			80%			90%			100%		
	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts
0	1077	113	502	1282	175	585	1486	237	668	1670	363	746	1854	489	823	1993	623	884	2131	757	944	2216	882	995	2268	926	1009
0.1	1016	109	546	1227	172	624	1437	234	701	1626	361	775	1814	488	848	1956	623	906	2098	757	964	2194	887	1011	2242	928	1026
0.2	962	111	591	1177	174	663	1392	236	735	1585	364	805	1777	492	874	1923	627	930	2069	762	985	2175	895	1029	2218	935	1044
0.3	913	118	636	1133	181	703	1352	244	770	1548	372	836	1744	500	902	1893	636	955	2042	772	1007	2157	907	1048	2196	945	1063
0.4	868	130	682	1092	193	744	1315	256	806	1515	384	868	1714	512	930	1866	648	980	2018	784	1030	2139	922	1069	---	---	---
0.5	827	146	728	1054	209	785	1281	271	842	1484	399	901	1687	526	959	1841	663	1007	1995	799	1054	2121	938	1090	---	---	---
0.6	789	165	775	1019	227	827	1249	288	879	1455	416	934	1660	543	988	1816	679	1034	1972	815	1079	2102	955	1113	---	---	---
0.7	752	185	821	986	247	869	1219	308	916	1427	435	967	1634	562	1018	1792	698	1061	1949	833	1104	2081	972	1136	---	---	---
0.8	718	208	867	954	268	910	1189	328	953	1399	455	1000	1608	581	1047	1767	716	1088	1925	851	1129	2058	989	1160	---	---	---
0.9	684	231	913	922	290	951	1160	349	989	1371	475	1033	1581	600	1077	1741	734	1116	1900	868	1154	2031	1004	1185	---	---	---
1.0	---	---	---	---	---	---	1129	369	1025	1341	494	1066	1553	618	1106	1713	751	1143	1872	884	1179	2001	1017	1209	---	---	---
1.1	---	---	---	---	---	---	1097	388	1060	1310	511	1098	1522	634	1135	1682	766	1170	1841	898	1204	1966	1028	1233	---	---	---
1.2	---	---	---	---	---	---	1063	405	1095	1276	527	1129	1488	648	1163	1647	779	1196	1806	909	1228	1925	1034	1257	---	---	---
1.3	---	---	---	---	---	---	1026	420	1128	1239	540	1159	1451	659	1190	1609	788	1221	1767	917	1252	1879	1036	1281	---	---	---
1.4	---	---	---	---	---	---	985	431	1160	1197	548	1188	1409	665	1216	1566	793	1245	1723	920	1274	1825	1033	1304	---	---	---



**1.5 HP | 3 ROW (036, 048)**

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

FOR ALL UNITS ADD:  
 1 - Any factory installed options air resistance (heat section, economizer, etc.).  
 2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

**Minimum Air Volume Required For Different Gas Heat Sizes:**

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

See page 32 for wet coil and options/accessory air resistance data.

**HORIZONTAL**

Total Air cfm	Total Static Pressure - in. w.g.																										
	0.1		0.2		0.3		0.4		0.5		0.6		0.7		0.8		0.9		1.0		1.1		1.2		1.3		
	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	
400	708	16	793	37	872	53	957	71	1036	87	1155	103	1274	119	1453	135	1612	151	1771	167	1930	183	2089	199	2248	215	2407
600	835	46	918	65	1000	82	1077	95	1149	107	1221	109	1283	121	1355	133	1427	145	1499	157	1571	169	1643	181	1715	193	1787
800	981	75	1064	92	1144	109	1221	124	1294	139	1365	148	1434	154	1497	163	1555	179	1607	191	1656	200	1704	214	1753	228	1802
1000	1166	105	1241	124	1315	141	1387	159	1454	176	1520	191	1582	207	1638	227	1689	252	1737	279	1783	308	1829	335	1873	362	1918
1200	1374	142	1440	162	1506	182	1569	203	1630	224	1687	246	1739	271	1787	299	1832	330	1876	361	1920	391	1964	419	2007	444	2050
1400	1591	183	1647	209	1701	235	1755	263	1806	291	1854	320	1899	351	1942	382	1984	412	2026	442	2068	469	2110	496	2153	520	2195
1600	1778	258	1827	290	1876	323	1923	355	1970	386	2015	416	2059	444	2102	470	2144	494	2185	519	2227	545	2268	572	2309	600	2350
1800	1973	352	2018	383	2063	415	2107	445	2151	476	2194	504	2237	531	2279	557	2319	584	2359	613	2397	645	2435	679	2471	713	2507
2000	2182	437	2224	468	2265	499	2306	531	2346	563	2385	596	2424	630	2461	666	2496	705	2530	745	2564	786	2598	826	2631	866	2664
2200	2388	540	2426	576	2464	613	2500	651	2536	691	2571	731	2605	774	2637	819	2668	863	2700	907	2732	949	2764	990	2795	1029	2826
2400	2589	679	2624	719	2658	761	2691	803	2724	846	2756	890	2786	935	2816	980	2846	1025	2876	1068	2907	1109	2937	1149	2967	1188	3000
2600	2787	845	2819	887	2850	930	2881	973	2911	1017	2941	1060	2970	1104	2999	1147	3028	1189	3057	1230	3087	1270	3116	1309	3145	1348	3174
2800	2983	1021	3013	1063	3042	1106	3070	1149	3099	1191	3127	1230	3155	1273	3183	1315	3211	1357	3239	1400	3267	1442	3295	1484	3323	1526	3351

**Total Static Pressure - in. w.g.**

Total Air cfm	Total Static Pressure - in. w.g.													
	1.4		1.5		1.6		1.7		1.8		1.9		2.0	
	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts
800	---	---	---	---	---	---	---	---	---	---	---	---	---	
1000	1916	386	1957	408	1998	428	2037	447	2077	465	2116	484	2155	
1200	2049	468	2089	490	2128	510	2168	529	2207	549	2246	569	2285	
1400	2194	543	2235	565	2274	588	2313	611	2350	637	2387	664	2423	
1600	2349	627	2387	657	2423	688	2457	722	2490	757	2522	793	2554	
1800	2506	749	2539	787	2571	825	2602	864	2632	903	2662	942	2692	
2000	2663	906	2694	945	2725	985	2755	1024	2785	1063	2815	1101	2845	
2200	2826	1068	2857	1107	2887	1146	2916	1184	2946	1221	2975	1259	3005	
2400	2997	1227	3027	1266	3056	1304	3085	1342	3114	1380	3143	1418	3172	
2600	---	---	---	---	---	---	---	---	---	---	---	---	---	
2800	---	---	---	---	---	---	---	---	---	---	---	---	---	

**BLOWER DATA**

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

FOR ALL UNITS ADD:

**Minimum Air Volume Required For Different Gas Heat Sizes:**

1 - Any factory installed options air resistance (heat section, economizer, etc.).

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

See page 32 for wet coil and options/accessory air resistance data.

**DOWNFLOW**

Total Air cfm	Total Static Pressure - in. w.g.																													
	0.1		0.2		0.3		0.4		0.5		0.6		0.7		0.8		0.9		1.0		1.1		1.2		1.3					
	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts		
400	720	20	805	41	933	73	1011	93	1083	112	1152	128	1229	130	1310	126	1389	125	1514	183	1578	198	1634	222	1684	252	1734	281	1783	309
600	849	51	933	73	1011	93	1083	112	1152	128	1229	130	1310	126	1389	125	1514	183	1578	198	1634	222	1684	252	1734	281	1783	309	309	
800	978	81	1064	103	1145	124	1220	144	1291	162	1367	170	1443	175	1514	183	1578	198	1634	222	1684	252	1734	281	1783	309	309	309	309	
1000	1147	116	1225	138	1302	159	1376	179	1446	198	1517	211	1586	224	1648	242	1703	266	1753	296	1801	327	1849	356	1896	382	1896	382	382	
1200	1347	154	1418	175	1487	196	1555	216	1620	235	1684	253	1743	275	1795	302	1841	336	1884	373	1930	405	1976	433	2021	458	2021	458	458	
1400	1571	182	1629	209	1686	236	1742	262	1798	288	1850	315	1899	346	1943	380	1984	417	2025	453	2068	485	2113	512	2156	537	2156	537	537	
1600	1753	252	1803	286	1853	318	1902	351	1951	383	1998	415	2043	447	2087	478	2130	508	2173	539	2216	568	2259	595	2302	621	2302	621	621	
1800	1935	339	1983	371	2030	403	2076	434	2122	465	2167	495	2210	524	2253	554	2295	586	2337	618	2378	650	2418	682	2458	714	2458	714	714	
2000	2127	415	2172	448	2217	481	2260	513	2303	546	2345	579	2385	614	2425	653	2464	693	2503	734	2541	774	2578	814	2614	855	2614	855	855	
2200	2321	507	2363	545	2404	583	2444	623	2484	664	2522	707	2560	753	2596	801	2632	848	2667	895	2703	939	2737	981	2770	1023	2770	1023	1023	
2400	2516	635	2556	679	2594	723	2631	767	2668	813	2703	861	2737	909	2772	958	2805	1005	2839	1050	2872	1093	2905	1135	2936	1176	2936	1176	1176	
2600	2715	796	2751	841	2786	887	2820	933	2854	980	2887	1027	2919	1074	2952	1120	2983	1164	3015	1207	3046	1249	3077	1290	3107	1330	3107	1330	1330	
2800	2915	970	2947	1016	2979	1062	3011	1107	3042	1152	3073	1197	3104	1240	3134	1282	3164	1323	3193	1364	3222	1404	3251	1445	3280	1485	3280	1485	1485	
3000	3112	1142	3142	1187	3172	1232	3202	1276	3232	1319	3261	1361	3289	1401	3317	1441	3344	1480	3371	1520	3399	1560	3426	1600	3453	1638	3453	1638	1638	

**Total Static Pressure - in. w.g.**

Total Air cfm	Total Static Pressure - in. w.g.													
	1.4		1.5		1.6		1.7		1.8		1.9		2.0	
	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts
800	1830	335	---	---	---	---	---	---	---	---	---	---	---	
1000	1940	405	1983	426	2026	446	2068	466	2111	488	2154	512	2196	536
1200	2064	480	2106	501	2148	522	2190	544	2232	569	2273	595	2314	623
1400	2199	560	2241	584	2282	608	2323	634	2363	664	2402	694	2440	726
1600	2344	647	2384	675	2424	706	2462	740	2498	776	2535	811	2571	848
1800	2497	749	2533	788	2568	829	2602	872	2636	914	2671	953	2705	992
2000	2648	898	2681	941	2714	986	2746	1030	2779	1072	2812	1112	2845	1152
2200	2803	1064	2835	1105	2867	1145	2899	1186	2931	1225	2964	1265	2995	1303
2400	2968	1217	2999	1258	3031	1298	3062	1337	3093	1377	3124	1415	3156	1454
2600	3138	1371	3168	1411	3199	1450	3229	1489	3260	1528	3290	1566	3321	1604
2800	3309	1524	3338	1563	3368	1602	3398	1640	3428	1678	3458	1717	3488	1755
3000	3481	1677	3508	1715	3537	1752	3566	1790	3595	1828	3625	1866	3655	1904

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

FOR ALL UNITS ADD:

- 1 - Any factory installed options air resistance (heat section, economizer, etc.).
- 2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

**Minimum Air Volume Required For Different Gas Heat Sizes:**

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

See page 32 for wet coil and options/accessory air resistance data.

**HORIZONTAL**

Total Air cfm	Total Static Pressure - in. w.g.																												
	0.1		0.2		0.3		0.4		0.5		0.6		0.7		0.8		0.9		1.0		1.1		1.2		1.3				
	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts			
400	711	16	796	38	66	1006	83	1083	96	1154	107	1226	109	1372	148	1503	165	1696	181	1929	203	2157	229	2448	261	2748	284	2985	
600	840	47	924	66	1072	111	1230	126	1301	140	1464	154	1612	174	1866	201	2157	231	2448	255	2686	283	2929	312	3234	340	3472	355	3622
800	990	76	1072	94	1253	111	1230	126	1301	140	1464	154	1612	174	1866	201	2157	231	2448	255	2686	283	2929	312	3234	340	3472	355	3622
1000	1179	108	1253	126	1454	144	1397	161	1464	178	1530	194	1697	211	1866	228	1995	251	2029	267	2157	283	2929	312	3234	340	3472	355	3622
1200	1388	146	1454	166	1661	186	1582	207	1641	228	1697	251	1749	276	1866	298	1995	305	2029	336	2157	367	2157	397	2240	424	2240	448	2240
1400	1606	189	1661	216	1715	242	1768	270	1818	298	1866	328	1911	358	1953	390	1995	420	2037	453	2073	485	2073	515	2199	542	2199	567	2199
1600	1794	268	1842	301	2035	333	1938	364	1984	396	2029	426	2073	453	2115	479	2157	503	2199	536	2240	567	2240	597	2374	624	2374	648	2374
1800	1991	364	2035	395	2242	426	2123	456	2167	486	2210	515	2252	541	2294	568	2334	596	2374	624	2412	651	2412	677	2546	704	2546	728	2546
2000	2202	451	2242	482	2446	513	2323	545	2363	577	2402	611	2440	646	2477	683	2512	722	2546	761	2585	799	2585	837	2717	874	2717	911	2717
2200	2408	559	2446	596	2644	633	2520	672	2555	712	2590	753	2623	796	2655	841	2686	885	2717	928	2748	970	2748	1011	2885	1048	2885	1085	2885
2400	2609	703	2644	744	2840	786	2711	829	2744	872	2776	916	2806	961	2835	1006	2865	1050	2895	1092	2925	1133	2925	1174	3077	1211	3077	1248	3077
2600	2808	874	2840	916	3035	959	2902	1003	2932	1046	2961	1090	2990	1133	3019	1176	3048	1217	3077	1257	3106	1297	3106	1338	3262	1375	3262	1412	3262
2800	3006	1054	3035	1096	3229	1139	3092	1181	3121	1223	3149	1265	3177	1305	3205	1344	3234	1383	3262	1421	3290	1460	3290	1501	3446	1538	3446	1575	3446
3000	3202	1228	3229	1270	3424	1312	3284	1353	3312	1394	3339	1433	3366	1472	3393	1509	3419	1547	3446	1584	3472	1622	3472	1663	3622	1700	3622	1737	3622

**Total Static Pressure - in. w.g.**

Total Air cfm	Total Static Pressure - in. w.g.													
	1.4		1.5		1.6		1.7		1.8		1.9		2.0	
	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts
800	---	---	---	---	---	---	---	---	---	---	---	---	---	
1000	1923	389	1964	411	2004	431	2043	450	2083	468	---	---	---	
1200	2057	473	2097	494	2136	514	2176	534	2215	553	2254	574	2293	
1400	2205	549	2245	571	2284	594	2322	618	2360	644	2396	672	2432	
1600	2360	637	2398	667	2434	699	2468	733	2501	768	2532	805	2563	
1800	2519	763	2552	801	2583	840	2614	879	2644	918	2674	957	2704	
2000	2677	924	2708	963	2739	1003	2769	1041	2799	1080	2829	1118	2859	
2200	2842	1089	2873	1127	2902	1166	2932	1203	2962	1241	2991	1278	3021	
2400	3015	1250	3044	1289	3074	1327	3103	1364	3132	1402	3162	1439	3192	
2600	3192	1412	3221	1450	3250	1488	3279	1525	3308	1562	3337	1599	3367	
2800	3372	1574	3400	1611	3428	1648	3456	1685	3485	1721	3514	1758	3543	
3000	3552	1735	3578	1772	3605	1808	3633	1844	3660	1880	3689	1916	3717	

## BLOWER DATA

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

Air Volume cfm	Wet Indoor Coil		Gas Heating			Economizer	Filters		
	024, 036, 048	060	Standard Heat	Medium Heat	High Heat		MERV 8	MERV 13	MERV 16
800	0.01	- - -	0.02	0.02	0.02	0.04	0.04	0.05	0.04
1000	0.02	0.02	0.02	0.02	0.02	0.04	0.04	0.07	0.05
1200	0.03	0.04	0.02	0.02	0.02	0.04	0.04	0.07	0.05
1400	0.04	0.05	0.02	0.02	0.03	0.04	0.04	0.07	0.06
1600	0.05	0.07	0.02	0.03	0.04	0.04	0.04	0.07	0.08
1800	0.06	0.08	0.03	0.04	0.05	0.05	0.04	0.07	0.09
2000	0.08	0.10	0.03	0.04	0.06	0.05	0.05	0.08	0.10
2200	- - -	0.11	0.04	0.04	0.07	0.05	0.05	0.08	0.11
2400	- - -	0.13	0.04	0.05	0.08	0.05	0.05	0.08	0.12

### POWER EXHAUST FAN PERFORMANCE

Return Air System Static Pressure in. w.g.	Air Volume Exhausted cfm
0.00	2000
0.05	1990
0.10	1924
0.15	1810
0.20	1664
0.25	1507
0.30	1350
0.35	1210

### CEILING DIFFUSERS AIR RESISTANCE (in. w.g.)

Air Volume - cfm	RTD11-95S Step-Down Diffuser			FD11-95S Flush Diffuser
	2 Ends Open	1 Side & 2 Ends Open	All Ends & Sides Open	
1800	0.13	0.11	0.09	0.09
2000	0.15	0.13	0.11	0.10
2200	0.18	0.15	0.12	0.12
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

### CEILING DIFFUSER AIR THROW DATA

Air Volume - cfm	<sup>1</sup> Effective Throw - ft.	
	RTD11-95S	FD11-95S
2600	24 - 29	19 - 24
2800	25 - 30	20 - 28
3000	27 - 33	21 - 29

<sup>1</sup> Effective throw based on terminal velocities of 75 ft. per minute.



**ELECTRICAL DATA****2 TON**

Model No.		LDT024H4	
<sup>1</sup> Voltage - 60Hz		208/230V - 1 Ph	
Compressor (Non-Inverter)	Rated Load Amps	15.3	
	Locked Rotor Amps	83	
Outdoor Fan Motor	Full Load Amps (1 ECM)	2.8	
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4	
Service Outlet 115V GFI (amps)		15	
Indoor Blower Motor	Horsepower	0.5	
	Full Load Amps	4.3	
<sup>2</sup> Maximum Overcurrent Protection (MOCP)	Unit Only	40	
	With (1) 0.33 HP Power Exhaust	40	
<sup>3</sup> Minimum Circuit Ampacity (MCA)	Unit Only	27	
	With (1) 0.33 HP Power Exhaust	29	

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

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.<sup>2</sup> HACR type breaker or fuse.<sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.**ELECTRICAL DATA****3 TON**

Model No.		LDT036H4						
<sup>1</sup> Voltage - 60Hz		208/230V - 1 Ph	208/230V - 3 Ph		460V - 3 Ph		575V - 3 Ph	
Compressor (Non-Inverter)	Rated Load Amps	15.3	11.6		5.7		4	
	Locked Rotor Amps	83	73		38		25.6	
Outdoor Fan Motor	Full Load Amps (1 ECM)	2.8	2.8		1.4		1.1	
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4	2.4		1.3		1	
Service Outlet 115V GFI (amps)		15	15		15		20	
Indoor Blower Motor	Horsepower	0.5	0.5	1.5	0.5	1.5	0.5	1.5
	Full Load Amps	4.3	4.3	4.4	2.2	2.3	1.7	2.3
<sup>2</sup> Maximum Overcurrent Protection (MOCP)	Unit Only	40	30	30	15	15	15	15
	With (1) 0.33 HP Power Exhaust	40	35	35	15	15	15	15
<sup>3</sup> Minimum Circuit Ampacity (MCA)	Unit Only	27	22	22	11	11	8	9
	With (1) 0.33 HP Power Exhaust	29	24	25	13	13	9	10

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

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.<sup>2</sup> HACR type breaker or fuse.<sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

**ELECTRICAL DATA****4 TON**

Model No.		LDT048H4							
<sup>1</sup> Voltage - 60Hz		208/230V - 1 Ph	208/230V - 3 Ph		460V - 3 Ph		575V - 3 Ph		
Compressor (Non-Inverter)	Rated Load Amps	21.2	14		6.4		4.6		
	Locked Rotor Amps	104	83.1		41		33		
Outdoor Fan Motor	Full Load Amps (1 ECM)	2.8	2.8		1.4		1.1		
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4	2.4		1.3		1		
Service Outlet 115V GFI (amps)		15	15		15		20		
Indoor Blower Motor	Horsepower	1	1	1.5	1	1.5	1	1.5	
	Full Load Amps	7.4	7.4	4.4	3.7	2.3	3	2.3	
<sup>2</sup> Maximum Overcurrent Protection (MOCP)	Unit Only	50	40	35	15	15	15	15	
	With (1) 0.33 HP Power Exhaust	60	40	40	20	15	15	15	
<sup>3</sup> Minimum Circuit Ampacity (MCA)	Unit Only	37	28	25	14	12	10	10	
	With (1) 0.33 HP Power Exhaust	40	31	28	15	14	11	11	

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

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.<sup>2</sup> HACR type breaker or fuse.<sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.**ELECTRICAL DATA****5 TON**

Model No.		LDT060H4							
<sup>1</sup> Voltage - 60Hz		208/230V - 1 Ph	208/230V - 3 Ph		460V - 3 Ph		575V - 3 Ph		
Compressor (Non-Inverter)	Rated Load Amps	23.7	16.7		7.1		5.7		
	Locked Rotor Amps	151	110		54.7		47.8		
Outdoor Fan Motor	Full Load Amps (1 ECM)	2.8	2.8		1.4		1.1		
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4	2.4		1.3		1		
Service Outlet 115V GFI (amps)		15	15		15		20		
Indoor Blower Motor	Horsepower	1	1	1.5	1	1.5	1	1.5	
	Full Load Amps	7.4	7.4	4.4	3.7	2.3	3	2.3	
<sup>2</sup> Maximum Overcurrent Protection (MOCP)	Unit Only	60	45	40	20	15	15	15	
	With (1) 0.33 HP Power Exhaust	60	50	45	20	20	15	15	
<sup>3</sup> Minimum Circuit Ampacity (MCA)	Unit Only	40	32	29	14	13	12	11	
	With (1) 0.33 HP Power Exhaust	43	34	31	16	14	13	12	

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

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.<sup>2</sup> HACR type breaker or fuse.<sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.**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

## OUTDOOR SOUND DATA

1 Unit Model No.	Octave Band Sound Power Levels dBA, re 10 <sup>-12</sup> Watts Center Frequency - Hz							1 Sound Rating Number dBA
	125	250	500	1000	2000	4000	8000	
024, 036, 048	63	66	70	71	68	62	53	75
060	67	72	77	76	73	68	61	82

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

<sup>1</sup> Sound Rating Number according to AHRI Standard 270-95 (includes pure tone penalty). Sound Rating Number is the overall A-Weighted Sound Power Level, (Lwa), dBA (100 Hz to 10,000 Hz).

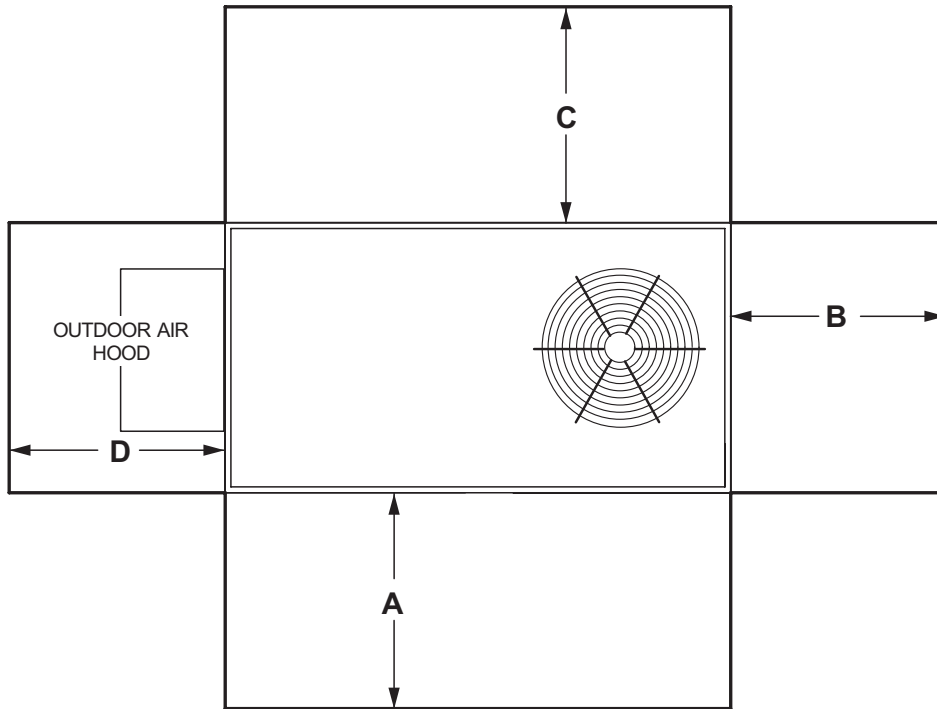
## WEIGHT DATA

Model Number	UNIT			
	Net		Shipping	
	lbs.	kg	lbs.	kg
024 Base Unit	675	306	715	324
024 Max. Unit	813	369	853	387
036 Base Unit	674	306	714	324
036 Max. Unit	812	368	852	386
048 Base Unit	670	304	710	322
048 Max. Unit	808	367	848	385
060 Base Unit	715	324	756	343
060 Max. Unit	840	381	881	400

## OPTIONS / ACCESSORIES

	Shipping Weight		
	lbs.	kg	
<b>ECONOMIZER / OUTDOOR AIR / EXHAUST</b>			
<b>Economizer</b>			
Economizer, Includes Combination Outdoor Air Hood and Barometric Relief Dampers	131	59	
<b>Outdoor Air Dampers</b>			
Motorized	40	18	
Manual	30	14	
<b>Power Exhaust</b>	35	17	
<b>GAS HEAT</b>			
Medium Heat (adder over low heat)	8	4	
High Heat (adder over standard heat)	19	9	
<b>COMBINATION COIL/HAIL GUARDS</b>			
All models	31	14	
<b>ROOF CURBS</b>			
<b>Hybrid Roof Curbs, Downflow</b>			
8 in. height	86	39	
14 in. height	108	49	
18 in. height	125	57	
24 in. height	147	67	
<b>Adjustable Pitch Curb, Downflow</b>			
14 in. height	147	67	
<b>CEILING DIFFUSERS</b>			
Step-Down	RTD9-65S	80	36
Flush	FD9-65S	80	36
Transitions	T1TRAN10AN1	22	10

# UNIT CLEARANCES



<sup>1</sup> Unit Clearance	A		B		C		D		Top Clearance
	in.	mm	in.	mm	in.	mm	in.	mm	
Service Clearance	48	1219	36	914	36	934	36	914	Unobstructed
Clearance to Combustibles	36	914	1	25	1	25	1	25	
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.

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

**Clearance to Combustibles** - Required clearance to combustible material.

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

# DIMENSIONS

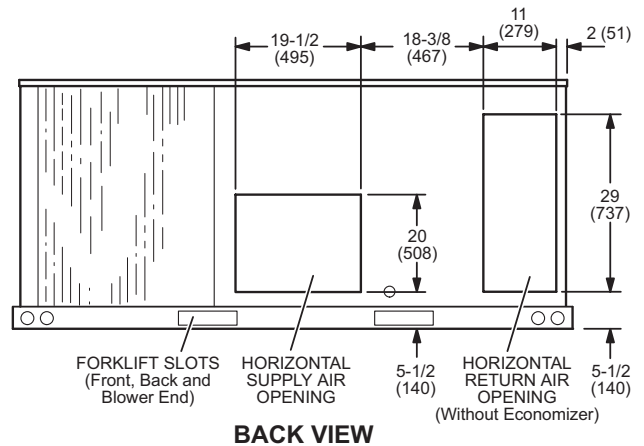
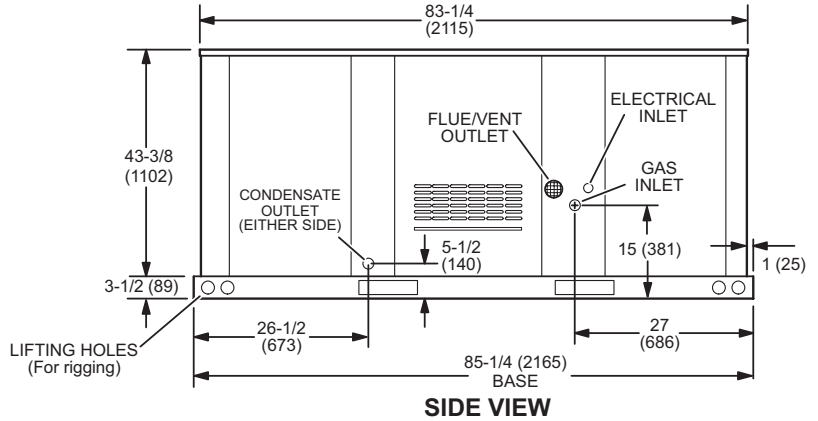
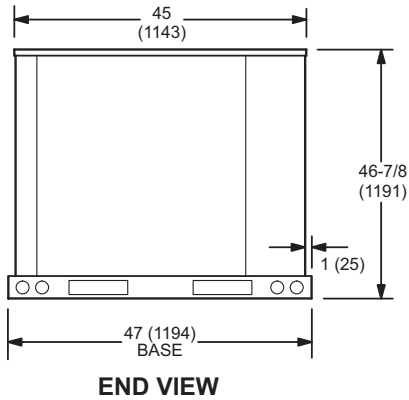
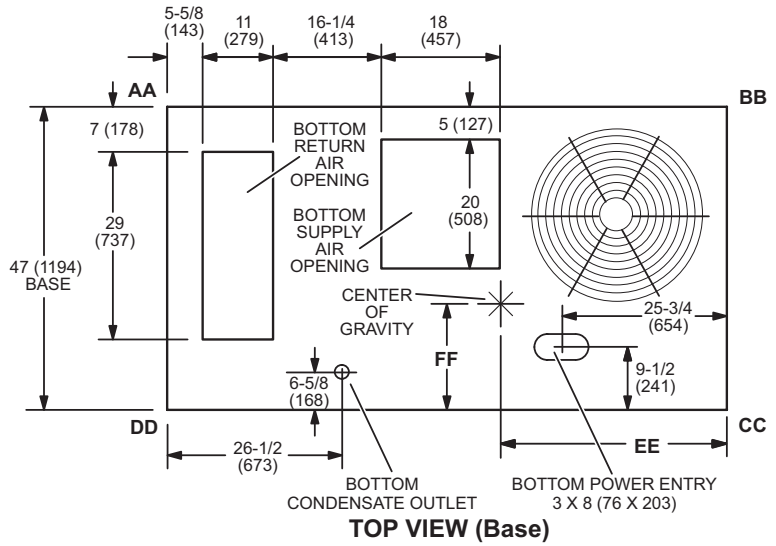
# UNIT

## CORNER WEIGHTS

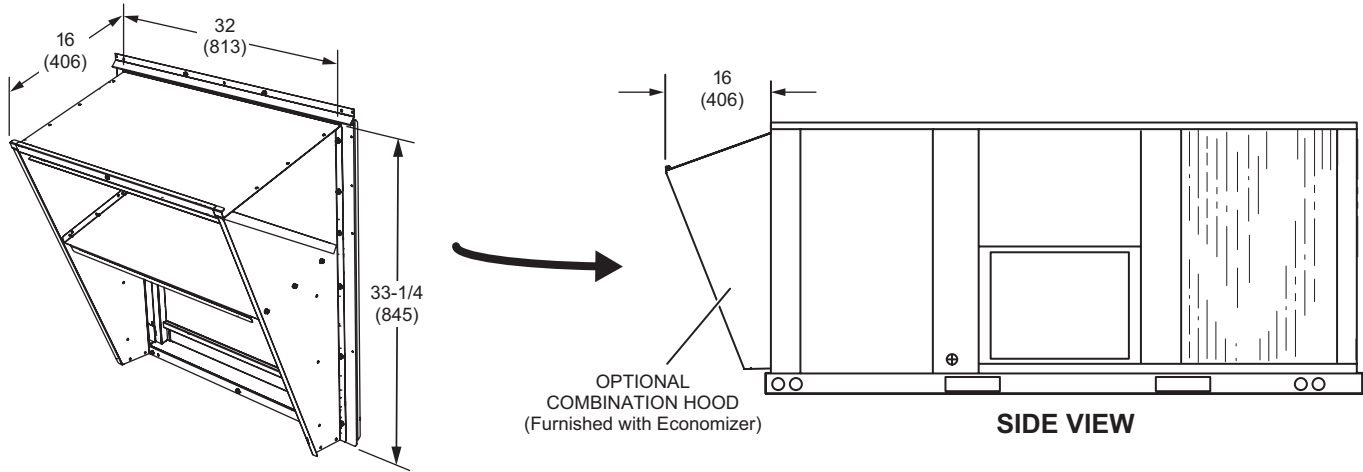
Model No.	AA		BB		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
	LDT024 Base Unit	144	65	172	78	195	88	164	74	38	965	22
LDT024 Max. Unit	192	87	189	86	214	97	218	99	42	1067	22	559
LDT036 Base Unit	144	65	171	78	195	88	164	74	38	965	22	559
LDT036 Max. Unit	192	87	188	85	214	97	218	99	42	1067	22	559
LDT048 Base Unit	143	65	170	77	194	88	163	74	38	965	22	559
LDT048 Max. Unit	191	87	187	85	213	97	217	98	42	1067	22	559
LDT060 Base Unit	181	82	154	70	175	79	206	93	45	1143	22	559
LDT060 Max. Unit	241	109	152	69	173	78	274	124	51	1295	22	559

Base Unit - The unit with NO INTERNAL OPTIONS.

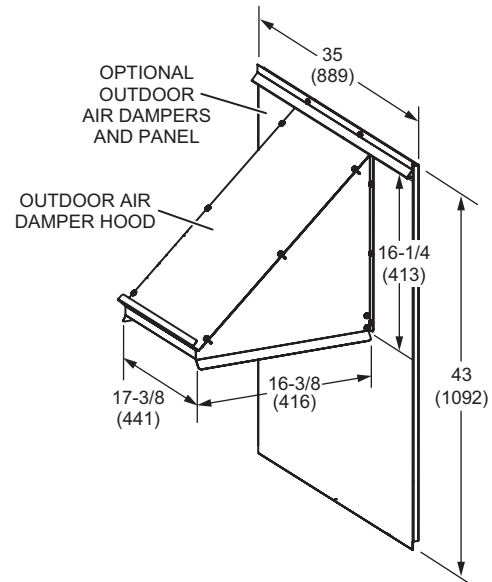
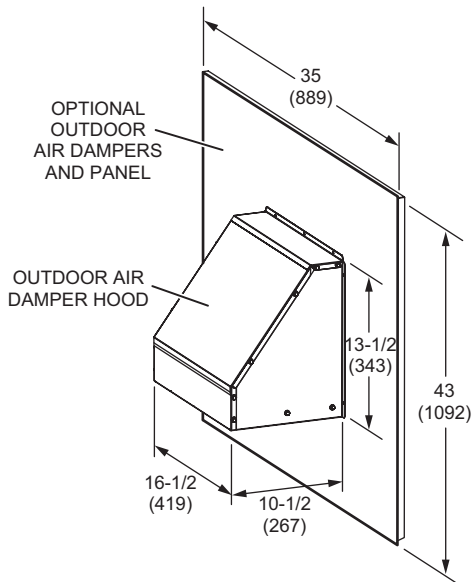
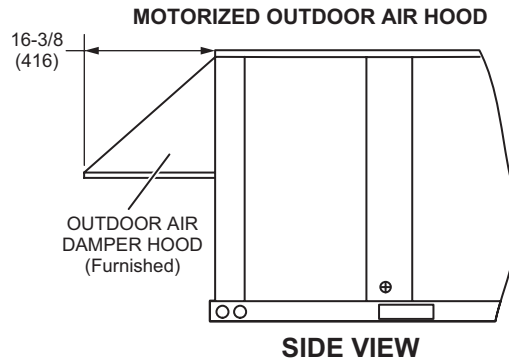
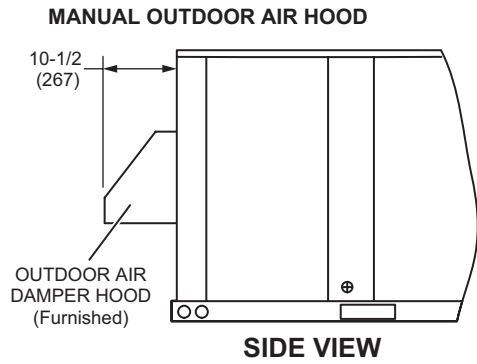
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit or high static power exhaust.



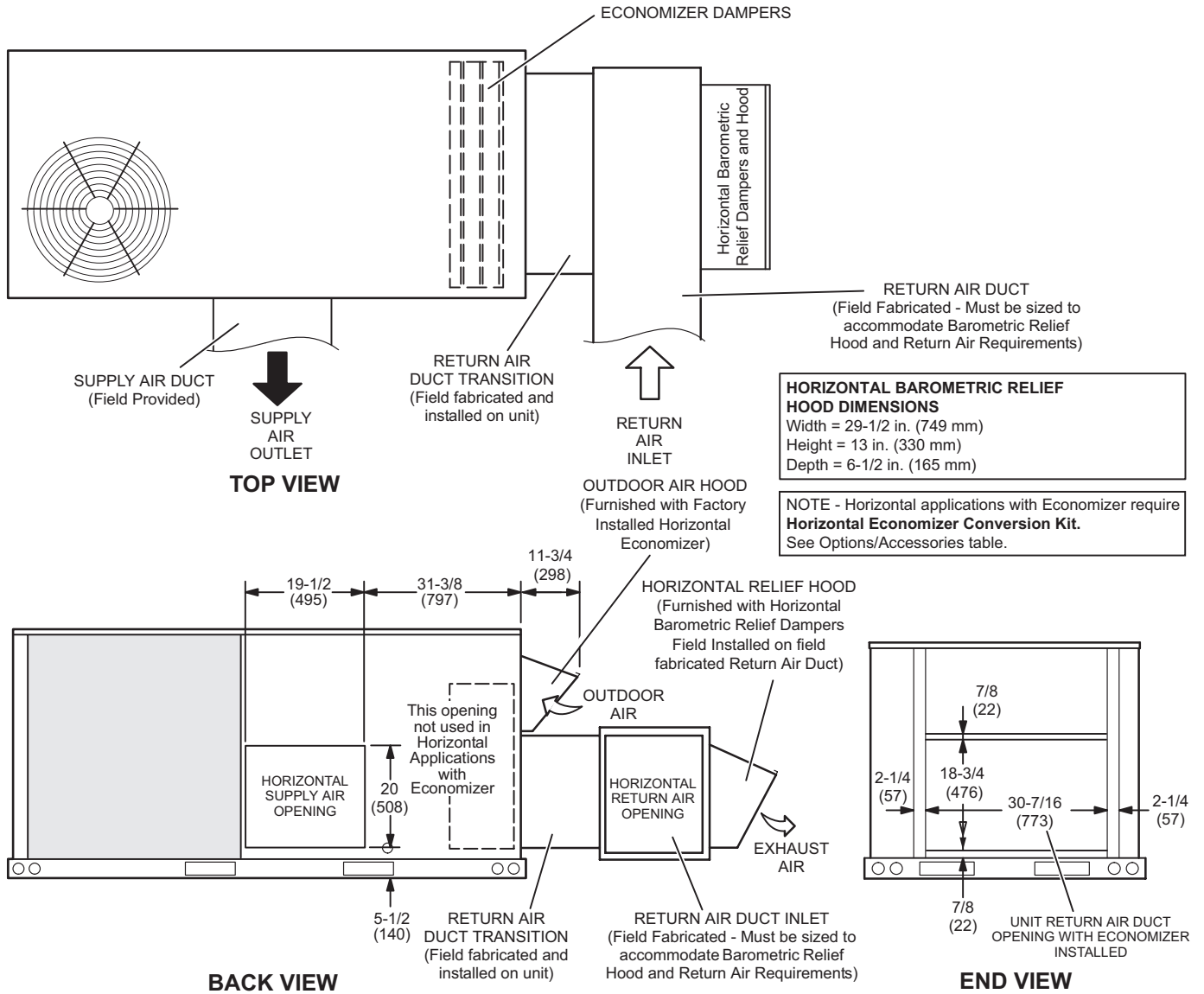
**COMBINATION OUTDOOR AIR HOOD DETAIL FOR OPTIONAL ECONOMIZER AND BAROMETRIC RELIEF DAMPERS  
(Furnished With Economizer for Downflow Applications)**



**OUTDOOR AIR DAMPER HOOD DETAIL (Downflow or Horizontal Applications)**

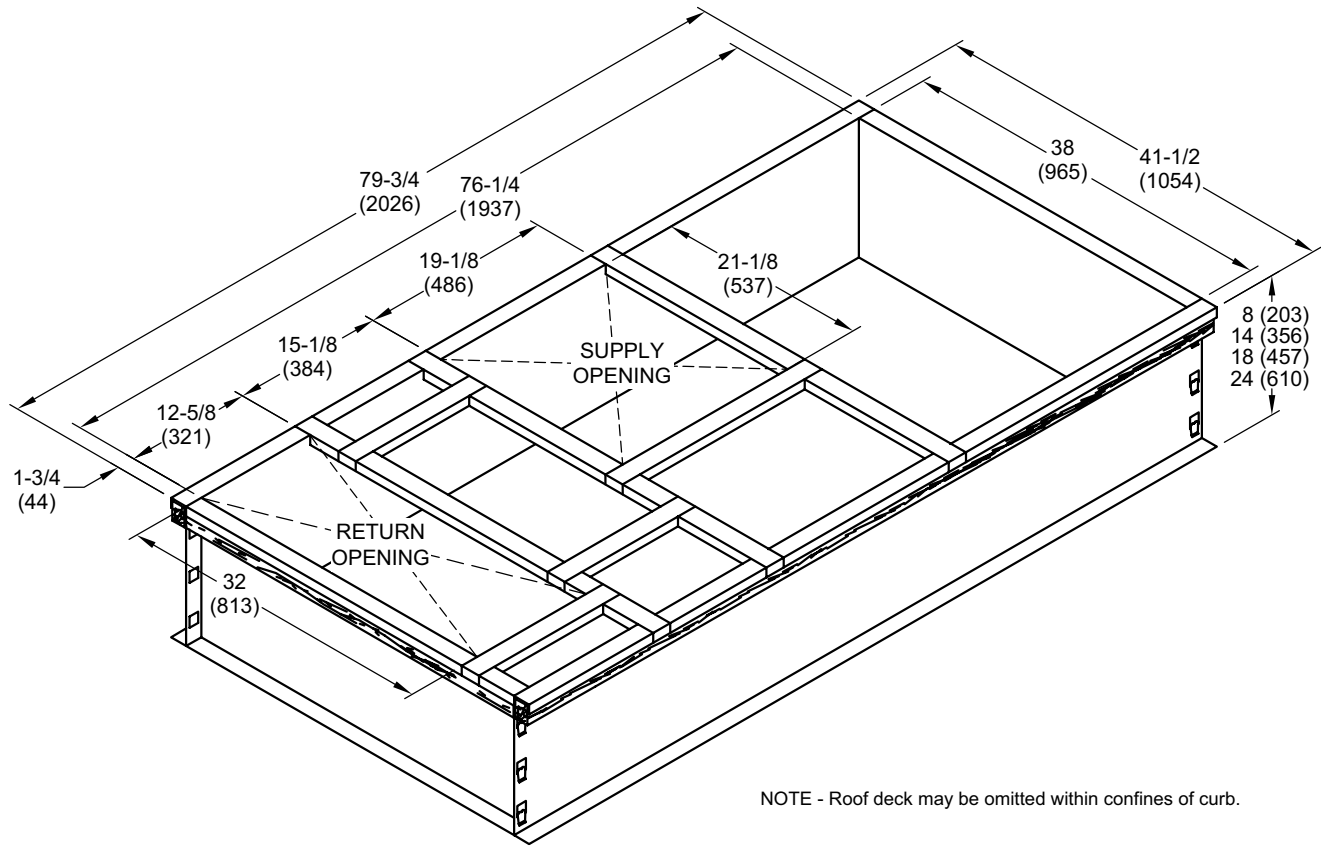


**HORIZONTAL ECONOMIZER APPLICATIONS - OUTDOOR AIR HOOD DETAIL WITH OPTIONAL ECONOMIZER DAMPERS AND OPTIONAL HORIZONTAL BAROMETRIC RELIEF DAMPERS AND HOOD**

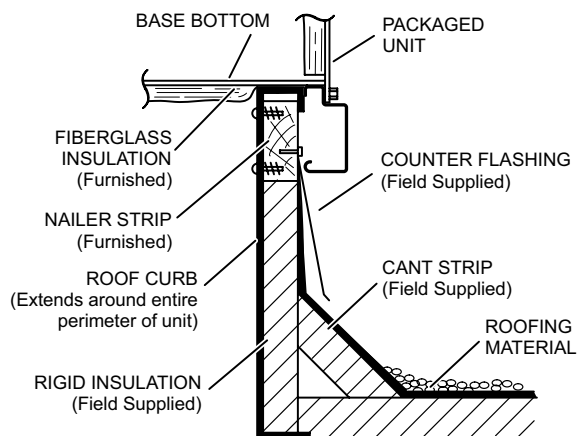


**NOTE** - Return Air Duct and Transition must be supported.

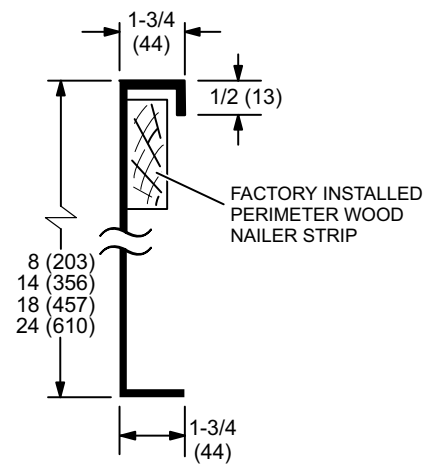
**HYBRID ROOF CURBS - DOUBLE DUCT OPENING**



**TYPICAL FLASHING DETAIL FOR ROOF CURB**

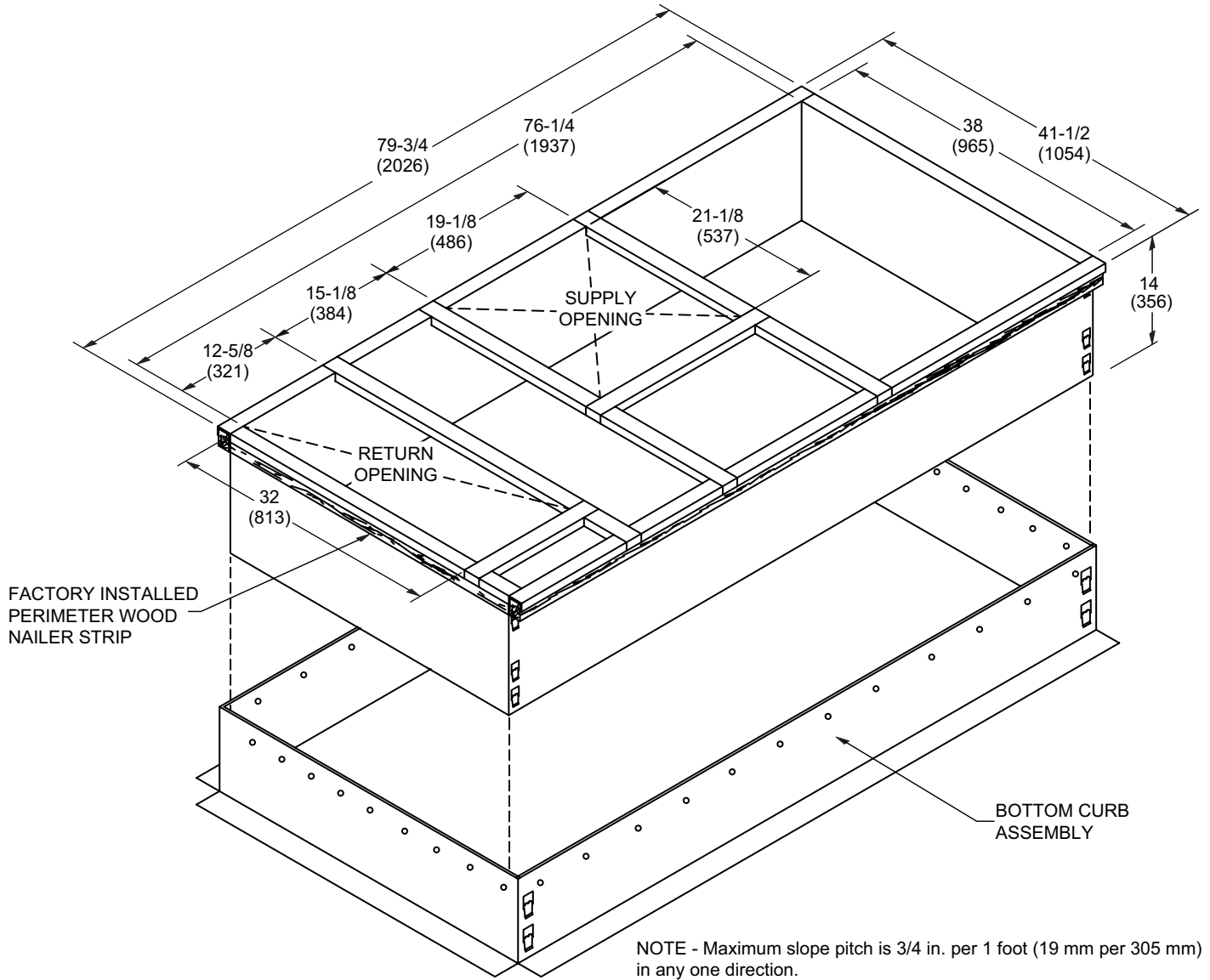


**DETAIL ROOF CURB**

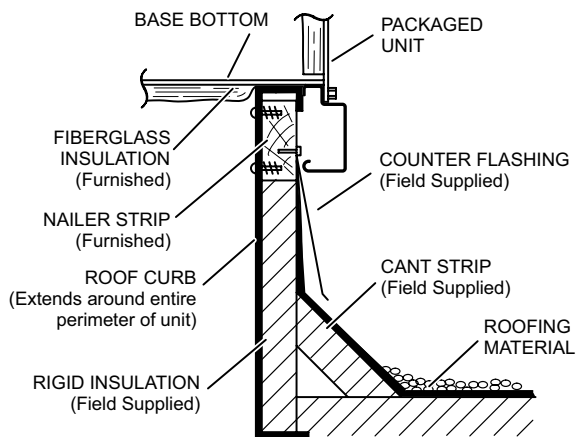




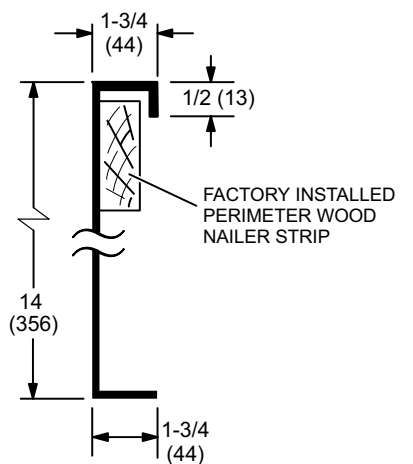
**ADJUSTABLE PITCH CURBS - DOUBLE DUCT OPENING**



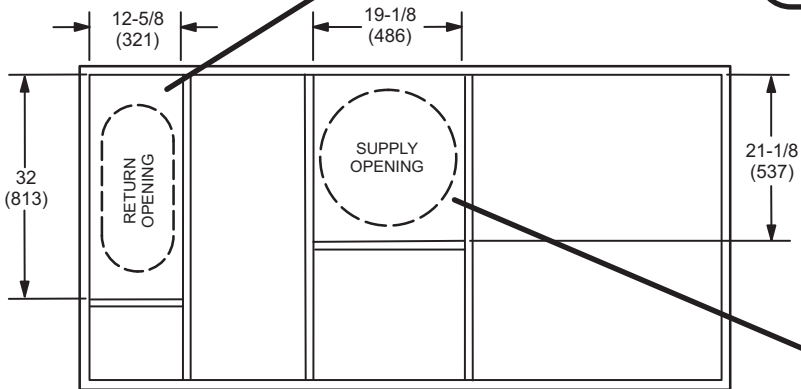
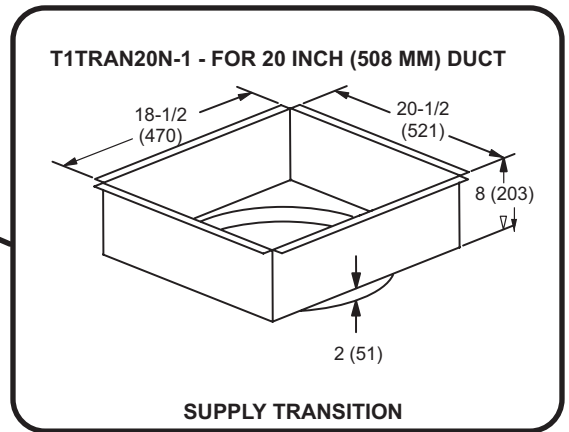
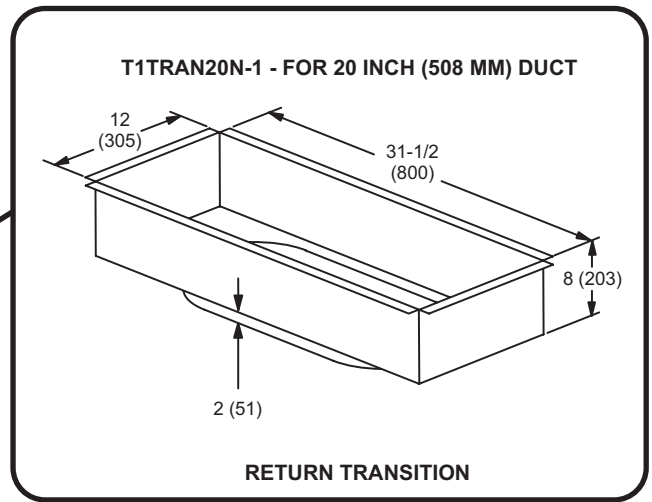
**TYPICAL FLASHING DETAIL FOR ROOF CURB**



**DETAIL ROOF CURB**

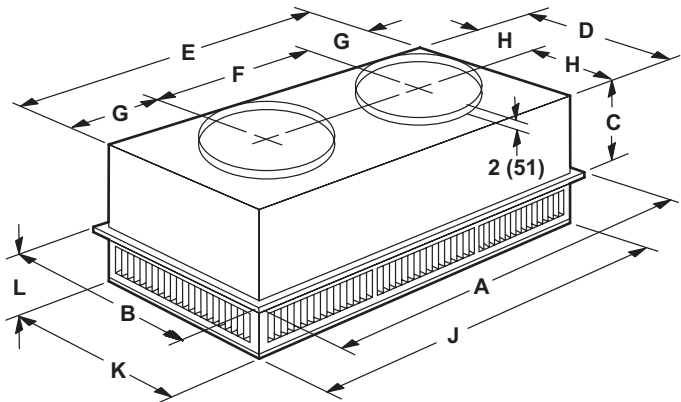


**TRANSITIONS**

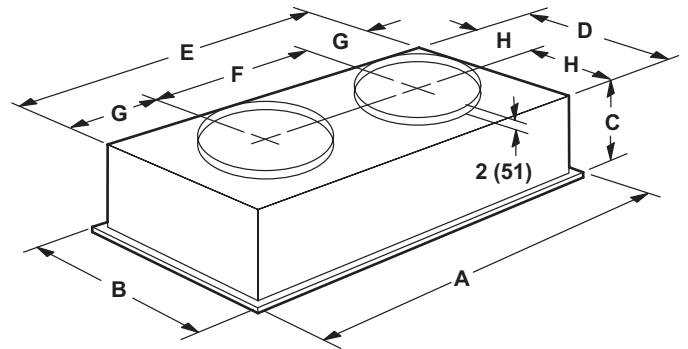


**COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS**

**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

## REVISIONS

Sections	Description of Change
Specifications	Updated 3-phase AHRI ratings for 2023 M1 standard.



**Intertek**



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