

LHT**ENLIGHT ROOFTOP UNITS**High Efficiency | Lennox® CORE Controller | **R-454B** | 60Hz**COMMERCIAL
PRODUCT SPECIFICATIONS (EHB)****3 to 6 Tons****Net Cooling Capacity | 35,600 to 66,000 Btuh****Net Heating Capacity | 34,000 to 66,000 Btuh****Optional Electric Heat - 7.5 to 22.5 kW****ENLIGHT**
CORE
CONTROL SYSTEM
SMARTWIRE™ SYSTEM
**ASHRAE
Standard
90.1**
**MODEL NUMBER IDENTIFICATION****L H T 060 H 5 E N 1 Y**
Brand
L = Lennox®

Unit Type
H = Packaged Heat Pump

Family
T = Enlight Series

Nominal Cooling Capacity - Tons
036 = 3 Tons
048 = 4 Tons
060 = 5 Tons
072 = 6 Tons

Cooling Efficiency
H = High Efficiency

Refrigerant Type
5 = R-454B

Voltage
P = 208/230V-1 phase-60Hz
Y = 208/230V-3 phase-60Hz
G = 460V-3 phase-60Hz
J = 575V-3 phase-60Hz

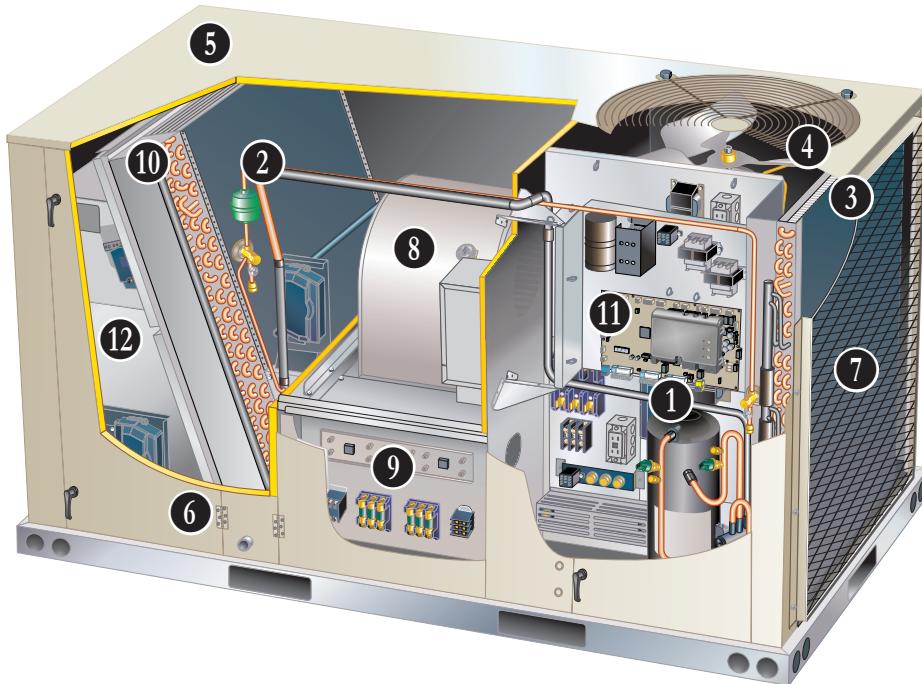
Minor Design Sequence
1 = 1st Revision

Factory Installed Electric Heat
N = No Heat
C = 7.5 kW Electric Heat
E = 15 kW Electric Heat
G = 22.5 kW Electric Heat

Blower Type
E = ECM Direct Drive Blower Motor

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

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APPROVALS AND WARRANTY

APPROVALS

- AHRI Certified to AHRI Standard 210/240-2023 (3 thru 5 ton models) and AHRI Standard 340/360-2023 (6 ton models)
- ETL and CSA listed
- Components bonded for grounding to meet safety standards for servicing required by UL, ULC and National and Canadian Electrical Codes
- All models are ASHRAE 90.1 compliant
- All models meet DOE 2023 energy efficiency standards and UL 60335-2-40 Refrigerant Detector Requirements
- All models have HCAI (formerly OSHPD) OSP and Special Seismic Certification ([Number: OSP-0596](#)), and meet 2021 International Building Code (IBC), 2022 California Building Code (CBC) ASCE 7, and ICC-ES AC156
- 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

WARRANTY

- Compressors - Limited five years
- Lennox® CORE Unit Controller - Limited three years
- Optional High Performance Economizers - Limited five years
- All other covered components - Limited one year

FEATURES AND BENEFITS

COOLING / HEATING SYSTEM

- Designed to maximize sensible and latent cooling performance at design conditions
- Mechanical cooling operates from 0°F to 125°F
- Mechanical heating operates at ambient temperatures above -15°F

NOTE - When a call for heating is initiated at ambient temperatures above -4°F, unit will attempt to satisfy demand with mechanical heating down to -15°F ambient.

If a call for heating is initiated at or below -4°F, the unit will lockout mechanical heating (compressors) and use optional electrical heat to satisfy demand.

R-454B Refrigerant

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

1 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

2 Filter/Drier

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

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

3 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

FEATURES AND BENEFITS

COOLING / HEATING SYSTEM (continued)

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

4 Variable Speed Outdoor Coil Fan Motor

- Variable speed (ECM) fan motor for energy efficient MSAV® Multi-Stage Air Volume performance 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

LOW GWP REFRIGERANT DETECTION SYSTEM (RDS)

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

CABINET

5 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 Entry

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

Exterior Panels

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

Insulation

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

6 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.

FEATURES AND BENEFITS

CABINET (Continued)

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

7 Combination Coil/Hail Guards

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

Field Installed

Burglar Bars

- Heavy gauge galvanized frame
- Fully welded
- 3/4 in. bar meets ASTM specification
- Frame meets ASTM A446, A525, A526 and A527 specification
- Burglar bars designed to fit ductwork

8 BLOWER

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

Variable-Speed ECM Direct Drive Motor

- 036, 048 and 060 models

DirectPlus™ Direct Drive ECM Blower System

- Optional on 036, 048 and 060 3 phase models, standard on 072 model
- 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® Multi-Stage Air Volume control modulates the amount of supply blower airflow according to cooling demand, heating demand, ventilation demand or smoke alarm
- The amount of airflow for each stage can be set according to a parameter in the Lennox® CORE Unit Controller
- Unit is shipped from the factory with preset airflows
- Fully variable speed motor modulates to maximize system efficiency
- Combines the motor and electronics into one unit
- Aerodynamically optimized impeller 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 (3-5 ton models only)

FEATURES AND BENEFITS

ELECTRICAL

SmartWire™ System

- Advanced wiring connectors are keyed and color-coded to 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

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

Short-Circuit Current Rating (SCCR)

- Higher short circuit protection up to 100kA

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

Factory or Field Installed

Disconnect Switch

- Accessible from outside of unit
- Spring loaded weatherproof cover furnished

⑨ Electric Heat

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

GFI Service Outlets (2)

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

Field Installed

GFI Weatherproof Cover

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

FEATURES AND BENEFITS

INDOOR AIR QUALITY

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

Needlepoint Bipolar Ionization (NPBI) Kit

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

Indoor Air Quality (CO₂) Sensors

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

Replacement Filter Media Kit With Frame

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

CONTROL SYSTEM

LENNOX® CORE CONTROL SYSTEM



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

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

CORE Mobile Service App

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



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
- Zone Temperature Sensor Input
- Dehumidistat and Humidity Sensor Inputs
- Indoor Air Quality Inputs (2)
- Built-in Control Parameter Defaults
- Permanent Diagnostic Code Storage
- Field Adjustable Control Parameters (Over 200 settings)
- Multiple Configurable Digital Inputs
- LED Indicators
- PC Interface connects the Lennox® CORE Unit Controller to a PC with the Lennox Unit Controller Software

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

CONTROL SYSTEM

LENNOX® CORE CONTROL SYSTEM (continued)

Controls Options

Factory or Field Installed

Blower Proving Switch

- Monitors blower operation, shuts down unit if blower fails

Dirty Filter Switch

- Senses static pressure increase and issues alarm if necessary

Fresh Air Tempering

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

Smoke Detector

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

Commercial Control Systems

Interoperability via BACnet® or LonTalk® Protocols

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

Field Installed

Thermostats and Room Sensors

- Control system and thermostat options, see Page 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 CO₂ 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 2022 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 (CO₂ 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 (CO₂ 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
- Outdoor air hood with filter bracket included
- 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

Motorized Outdoor Air Dampers

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

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

Field Installed

Manual Outdoor Air Damper

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

ROOF CURBS

Field Installed

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

Hybrid Roof Curbs, Downflow

- Interlocking tabs fasten corners together
- No tools required
- 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 CO₂
- Remote Sensor Options For Occupancy, Temperature
- BACnet Capable Options
- 5-2 or 7-Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-Changover
- 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-Changover
- 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-changover

Wired Temperature/Humidity Room Sensor (Non-Communicating)



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

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

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

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

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

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

COOLING

1 Unit Features an Economizer and Outdoor Air is Suitable

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.

NOTE - The reversing valve is energized at the same time as the compressor.

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

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)

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

Thermostat or Zone Sensor (1 stage W1)

W1 Demand:

A first-stage heating demand (W1) will energize compressor 1 and the outdoor fan

NOTE - L1 reversing valve is de-energized in the heating mode

Units With Optional Electric Heat

An increased heating demand (W2) will energize electric heat.

All stages of electric heat are energized during the defrost cycle (W1).

DEFROST

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.

Electric heat is energized during a defrost cycle to maintain discharge air temperature.

OPTIONS / ACCESSORIES

Item	Order Number	Size			
		036	048	060	072
COOLING SYSTEM					
Condensate Drain Trap	PVC 22H54	X	X	X	X
	Copper 76W27	X	X	X	X
Drain Pan Overflow Switch	21Z07	OX	OX	OX	OX
BLOWER - SUPPLY AIR					
Motors - Standard Static (All voltages)	Direct Drive ECM Blower - 0.50 HP 1.0 HP	Factory	O		
		Factory		O	O
Motors - High Static (3 phase only)	DirectPlus™ Direct Drive ECM Blower System - 1.5 HP	Factory	O	O	O
CABINET					
Burglar Bars	Y1037	X	X	X	X
Combination Coil/Hail Guards	13T03	OX	OX	OX	OX
Corrosion Protection	Factory	O	O	O	O
CONTROLS					
Blower Proving Switch	21Z10	OX	OX	OX	OX
Commercial Controls	LonTalk® Module 54W27	OX	OX	OX	OX
	Novar® LSE	Factory	O	O	O
Dirty Filter Switch	53W66	OX	OX	OX	OX
Fresh Air Tempering	21Z08	OX	OX	OX	OX
Smoke Detector - Supply or Return (Power board and one sensor)	21Z11	OX	OX	OX	OX
Smoke Detector - Supply and Return (Power board and two sensors)	21Z12	OX	OX	OX	OX
ELECTRICAL					
Voltage	208/230V - 1 phase	Factory	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
¹ HACR Circuit Breakers		Factory	O	O	O
¹ Disconnect Switch	80 amp 22A23	OX	OX	OX	OX
	150 amp 22A24	OX	OX	OX	OX
² Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection)	Factory	O	O	O	O
GFI Service Outlets	15 amp non-powered, field-wired (208/230V, 460V only) 74M70	OX	OX	OX	OX
	15 amp factory-wired and powered (208/230V, 460V) Factory	O	O	O	O
	³ 20 amp non-powered, field-wired (208/230V, 460V, 575V) 67E01	X	X	X	X
	² 20 amp non-powered, field-wired (575V only) Factory	O	O	O	O
Weatherproof Cover for GFI	10C89	X	X	X	X
Phase/Voltage Detection - 3 Phase Models Only	Factory	O	O	O	O

¹ HACR Circuit Breaker or Disconnect switch is required and must be ordered separately.

² Disconnect Switch not available with SCCR option.

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

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

³ Canada requires a minimum 20 amp circuit. Select 20 amp, non-powered, field wired GFI.

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

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

O = Configure To Order (Factory Installed).

X = Field Installed.

OPTIONS / ACCESSORIES

Item	Order Number	Size			
		036	048	060	072
ELECTRIC HEAT					
7.5 kW	208/240V-1ph	24U10	OX	OX	OX
	208/240V-3ph	24U11	OX	OX	OX
	460V-3ph	24U12	OX	OX	OX
	575V-3ph	24U13	OX	OX	OX
15 kW	208/240V-1ph	24U15	OX	OX	OX
	208/240V-3ph	24U16	OX	OX	OX
	460V-3ph	24U17	OX	OX	OX
	575V-3ph	24U18	OX	OX	OX
22.5 kW	208/240V-1ph	24U19		OX	
	208/240V-3ph	24U20		OX	OX
	460V-3ph	24U21		OX	OX
	575V-3ph	24U22		OX	OX
ECONOMIZER					
High Performance Economizer With Outdoor Air Hood (Sensible Control) (Approved for California Title 24 Building Standards / AMCA Class 1A Certified)					
High Performance Economizer - Includes Barometric Relief Dampers and Combination Hood		20H48	OX	OX	OX
Economizer Accessories					
Horizontal Economizer Conversion Kit		17W45	X	X	X
Economizer Controls (Not for Title 24)					
Single Enthalpy		21Z09	OX	OX	OX
Differential Enthalpy	Order 2	21Z09	OX	OX	OX
Sensible Control	Sensor is Furnished	Factory	O	O	O
Outdoor Air CFM Control		13J76	X	X	X
Global Control	Sensor Field Provided	Factory	O	O	O
Building Pressure Control		13J77	X	X	X
POWER EXHAUST FAN (DOWNFLOW ONLY)					
Standard Static	208/230V-1 or 3ph	21Z13	OX	OX	OX
NOTE - Factory or Field installed Power Exhaust Fan requires "Barometric Relief Dampers for Power Exhaust Kit (21Z21)" for field installation.	460V-3ph	21Z14	OX	OX	OX
	575V-3ph	21Z15	OX	OX	OX
BAROMETRIC RELIEF					
⁴ Barometric Relief Dampers for Power Exhaust Kit		21Z21	X	X	X
⁵ Horizontal Barometric Relief Dampers With Outdoor Air and Exhaust Hood		19F01	X	X	X
OUTDOOR AIR					
Outdoor Air Damps With Outdoor Air Hood					
Motorized		15D17	OX	OX	OX
Manual		15D18	X	X	X

⁴ Required when Economizer is factory installed with factory installed Power Exhaust Fan option.

⁵ Required when Economizer is configured for horizontal airflow.

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

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

O = Configure To Order (Factory Installed).

X = Field Installed.

OPTIONS / ACCESSORIES

Item	Order Number	Size			
		036	048	060	072
INDOOR AIR QUALITY					
Air Filters					
Healthy Climate® High Efficiency Air Filters 20 x 20 x 2 in.	MERV 8 (Order 4)	54W21	OX	OX	OX
	MERV 13 (Order 4)	52W39	OX	OX	OX
	MERV 16 (Order 4)	21U40	X	X	X
Replaceable Media Filter With Metal Mesh Frame (includes non-pleated filter media)	20 x 20 x 2 in. (Order 4)	44N60	X	X	X
Indoor Air Quality (CO₂) Sensors					
Sensor - Wall-mount, off-white plastic cover with LCD display					
Sensor - Wall-mount, off-white plastic cover, no display	77N39	X	X	X	X
Sensor - Black plastic case, LCD display, rated for plenum mounting	23V86	X	X	X	X
Sensor - Black plastic case, no display, rated for plenum mounting	87N52	X	X	X	X
CO ₂ Sensor Duct Mounting Kit - for downflow applications	23V87	X	X	X	X
Aspiration Box - for duct mounting non-plenum rated CO ₂ sensors (77N39)	23Y47	X	X	X	X
Aspiration Box - for duct mounting non-plenum rated CO ₂ sensors (77N39)	90N43	X	X	X	X
Needlepoint Bipolar Ionization (NPBI)					
Needlepoint Bipolar Ionization (NPBI) Kit	22U14	X	X	X	X
UVC Germicidal Lamps					
6 Healthy Climate® UVC Light Kit (110/230V-1ph)	21A92	X	X	X	X
	Step-Down Transformers	460V primary, 230V secondary	10H20	X	X
		575V primary, 230V secondary	10H21	X	X
ROOF CURBS					
Hybrid Roof Curbs, Downflow					
8 in. height	11F50	X	X	X	X
14 in. height	11F51	X	X	X	X
18 in. height	11F52	X	X	X	X
24 in. height	11F53	X	X	X	X
Adjustable Pitched Curb					
14 in. height	42W27	X	X	X	X
Transition Curb					
Matches Enlight 036-072 Units to existing L Series® Curbs	31B05	X	X	X	X
CEILING DIFFUSERS					
Step-Down - Order one	RTD9-65S	13K60	X	X	X
	RTD11-95S	13K61			X
Flush - Order one	FD9-65S	13K55	X	X	X
	FD11-95S	13K56			X
Transitions (Supply and Return) - Order one	T1TRAN10AN1	17W53	X	X	X
	T1TRAN20N-1	17W54			X

⁶ Lamps operate on 110-230V single-phase power supply. Step-down transformer may be ordered separately for 460V and 575V units. Alternately, 110V power supply may be used to directly power the UVC ballast(s).

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

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

O = Configure To Order (Factory Installed).

X = Field Installed.

SPECIFICATIONS

Model	LHT036H5E	LHT048H5E	LHT060H5E	LHT072H5E	
Nominal Tonnage	3	4	5	6	
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)	38,000	46,800	60,000	70,000
	¹ Net Cooling Capacity (Btuh)	35,600	44,600	57,000	66,000
	¹ AHRI Rated Air Flow (cfm-high/low)	1400/935	1400/1100	1800/1300	2100/1500
	¹ SEER2 (Btuh/Watt)	16.0	15.6	15.2	---
	¹ EER2 (Btuh/Watt)	12.2	12.0	11.8	---
	¹ IEER (Btuh/Watt)	---	---	---	15.5
	¹ EER (Btuh/Watt)	---	---	---	11.0
	Total Unit Power (kW)	2.9	3.7	4.7	5.9
Heating Performance	¹ Total High Heating Capacity (Btuh)	34,000	44,000	57,000	66,000
	¹ AHRI Rated Air Flow (cfm)	1400	1600	1900	2100
	¹ HSPF2 (Region IV)	7.2	7.2	7.2	---
	HSPF2 (Region V)	5.7	5.9	5.8	---
	¹ COP	3.5	3.5	3.5	3.5
	Total Unit Power (kW)	2.8	3.7	4.8	5.5
	¹ Total Low Heating Capacity (Btuh)	19,000	25,000	33,000	35,500
	¹ COP	2.1	2.1	2.2	2.25
	Total Unit Power (kW)	2.7	3.3	4.2	4.6
Sound Rating Number	dBA	75	75	82	82
Refrigerant	Refrigerant Type	R-454B	R-454B	R-454B	R-454B
		13 lbs. 9 oz.	13 lbs. 15 oz.	16 lbs. 2 oz.	13 lbs. 10 oz.
Electric Heat Available		See Page 17			
Compressor Type (Number)		Two-Stage Scroll (1)			
Outdoor Coil	Net face area - ft. ²	19.3	19.3	19.3	19.3
	Tube Diameter - in.	3/8	3/8	3/8	3/8
	Rows	2	2	3	3
	Fins - in.	20	20	20	20
Outdoor Fan	Motor HP (number and type)	1/3 (1 ECM)	1/3 (1 ECM)	1/3 (1 ECM)	1/3 (1 ECM)
	Rpm	850/575	850/700	945/725	945
	Watts	70-240	140-240	140-310	310
	Diameter (Number) - in.	(1) 24	(1) 24	(1) 24	(1) 24
	Blades	3	3	3	3
	Total air volume - cfm	4060/2740	4060/3330	4400/3550	4400
Indoor Coil	Net face area - ft. ²	9.7	9.7	9.7	9.7
	Tube Diameter - in.	3/8	3/8	3/8	3/8
	Rows	3	3	4	4
	Fins - in.	14	14	14	14
	Condensate drain size (NPT) - in.	(1) 1	(1) 1	(1) 1	(1) 1
	Expansion device type	Balanced Port Thermostatic Expansion Valve			
Indoor Blower	Standard	Blower type			---
	Static	Blade type			---
	(All Voltages)	Nominal motor HP	0.50	1	1
	Wheel (Number) diameter x width - in.	(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
	Wheel (Number) diameter x width - in.	(1) 14 X 5	(1) 14 X 5	(1) 14 X 5	(1) 14 X 5
Filters	Type	MERV 4, Disposable			
	Number and size - in.	(4) 20 x 20 x 2			
Line voltage data (Volts-Phase-Hz)		208/230-1-60 208/230-3-60 460-3-60 575-3-60			208/230-3-60 460-3-60 575-3-60

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

¹ AHRI Certified to AHRI Standard 210/240 (3-ton) or 340/360 (6-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.

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

0.5 HP | 3 ROW (036)

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.).

See Page 31 for wet coil and options/accessory air resistance data.

DOWNFLOW

External Static Press. in. w.g.	Percentage of Total Motor Torque												100%		
	20%				30%				40%				50%		
	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM
0	819	47	403	1006	79	463	1192	111	523	1335	152	573	1477	193	622
0.1	723	48	485	919	82	539	1114	116	593	1264	159	637	1414	202	681
0.2	636	51	565	840	88	613	1044	124	660	1201	169	699	1357	213	738
0.3	557	57	641	769	96	683	981	134	725	1144	180	760	1306	226	794
0.4	485	65	713	704	106	750	923	146	787	1091	194	818	1259	241	848
0.5	418	73	783	644	116	815	870	158	846	1043	207	873	1215	256	900
0.6	355	82	849	587	127	876	819	171	903	996	222	927	1173	272	950
0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

HORIZONTAL

External Static Press. in. w.g.	Percentage of Total Motor Torque												100%		
	20%				30%				40%				50%		
	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM
0	794	45	388	970	76	454	1146	107	519	1281	149	575	1416	191	630
0.1	709	44	460	895	78	519	1080	111	577	1223	155	627	1366	199	677
0.2	630	46	531	855	82	583	1019	117	634	1169	163	679	1318	208	723
0.3	556	51	602	759	88	646	961	125	690	1117	172	730	1273	219	769
0.4	486	58	671	696	97	709	906	135	746	1068	184	781	1230	232	815
0.5	420	66	740	637	107	771	854	147	802	1021	196	831	1188	245	860
0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BLOWER DATA**BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.****1.5 HP | 3 ROW (036, 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.).

See Page 31 for wet coil and options/accessory air resistance data. See Page 32 for minimum air volume with electric heat.

DOWNTOWNS

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
RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM
400	718	19	803	41	878	60	---	---	---	---
600	845	50	929	72	1008	92	1080	111	1149	127
800	971	79	1057	101	1138	123	1214	143	1286	160
1000	1136	113	1215	135	1293	157	1367	177	1438	196
1200	1335	151	1406	172	1476	193	1544	213	1611	232
1400	1560	177	1617	204	1675	231	1732	257	1788	283
1600	1742	245	1792	278	1842	311	1892	344	1940	376
1800	1922	330	1970	363	2017	395	2064	426	2110	457
2000	2112	405	2158	438	2202	471	2246	503	2289	536
2200	2305	493	2347	531	2389	569	2429	608	2469	648
2400	2499	617	2539	660	2578	704	2615	748	2652	794
2600	2697	773	2733	818	2769	864	2803	911	2837	957
2800	2896	944	2929	990	2962	1036	2993	1082	3025	1128
3000	3093	1115	3124	1160	3154	1205	3184	1249	3214	1293

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
800	1826	333	---	---	---	---	---	---	---	---
1000	1935	403	1979	424	2021	444	2064	464	2106	485
1200	2058	476	2100	498	2142	518	2184	541	2226	565
1400	2194	548	2235	574	2275	601	2316	629	2356	658
1600	2337	632	2377	665	2415	698	2453	733	2490	768
1800	2484	746	2521	785	2557	824	2592	863	2627	902
2000	2634	894	2668	935	2701	977	2735	1018	2768	1058
2200	2790	1049	2823	1090	2855	1130	2887	1170	2919	1210
2400	2954	1200	2986	1240	3017	1280	3048	1320	3080	1360
2600	3123	1351	3153	1391	3184	1431	3215	1470	3245	1509
2800	3294	1502	3323	1542	3352	1580	3382	1619	3412	1658
3000	3464	1653	3492	1691	3520	1729	3549	1767	3578	1805

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.).

See Page 31 for wet coil and options/accessory air resistance data. See Page 32 for minimum air volume with electric heat.

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
RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM
400	708	16	793	37	872	53	---	---	---	---
600	835	46	918	65	1000	82	1077	95	1149	107
800	981	75	1064	92	1144	109	1221	124	1294	139
1000	1166	105	1241	124	1315	141	1387	159	1454	176
1200	1374	142	1440	162	1506	182	1569	203	1630	224
1400	1591	183	1647	209	1701	235	1755	263	1806	291
1600	1778	258	1827	290	1876	323	1923	355	1970	386
1800	1973	352	2018	383	2063	415	2107	445	2151	476
2000	2182	437	2224	468	2265	499	2306	531	2346	563
2200	2388	540	2426	576	2464	613	2500	651	2536	691
2400	2589	679	2624	719	2658	761	2691	803	2724	846
2600	2787	845	2819	887	2850	930	2881	973	2911	1017
2800	2983	1021	3013	1063	3042	1106	3070	1149	3099	1191

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
800	-	---	---	---	---	---	---	---	---	---
1000	1916	386	1957	408	1998	428	2037	447	2077	465
1200	2049	468	2089	490	2128	510	2168	529	2207	549
1400	2194	543	2235	565	2274	588	2313	611	2350	637
1600	2349	627	2387	657	2423	688	2457	722	2490	757
1800	2506	749	2539	787	2571	825	2602	864	2632	903
2000	2663	906	2694	945	2725	985	2755	1024	2785	1063
2200	2826	1068	2857	1107	2887	1146	2916	1184	2946	1221
2400	2997	1227	3027	1266	3056	1304	3085	1342	3121	1295
2600	-	---	---	---	---	---	---	---	---	---
2800	-	---	---	---	---	---	---	---	---	---

BLOWER DATA**BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.****1.5 HP | 4 ROW (060 | 072)**

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.).

See Page 31 for wet coil and options/accessory air resistance data. See Page 32 for minimum air volume with electric heat.

DOWNFLOW

Total Static Pressure - in. w.g.													
Total Air cfm	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
Air cfm	RPM	Watts	RPM										
400	720	20	805	41	880	60	---	---	---	---	---	---	---
600	849	51	933	73	1011	93	1083	112	1152	128	1229	130	1310
800	978	81	1064	103	1145	124	1220	144	1291	162	1367	170	1443
1000	1147	116	1225	138	1302	159	1376	179	1446	198	1517	211	1586
1200	1347	154	1418	175	1487	196	1555	216	1620	235	1684	253	1743
1400	1571	182	1629	209	1686	236	1742	262	1798	288	1850	315	1899
1600	1753	252	1803	286	1853	318	1902	351	1951	383	1998	415	2043
1800	1935	339	1983	371	2030	403	2076	434	2122	465	2167	495	2210
2000	2127	415	2172	448	2217	481	2260	513	2303	546	2345	579	2385
2200	2321	507	2363	545	2404	583	2444	623	2484	664	2522	707	2560
2400	2516	635	2556	679	2594	723	2631	767	2668	813	2703	861	2737
2600	2715	796	2751	841	2786	887	2820	933	2854	980	2887	1027	2919
2800	2915	970	2947	1016	2979	1062	3011	1107	3042	1152	3073	1197	3104
3000	3112	1142	3142	1187	3172	1232	3202	1276	3232	1319	3261	1361	3289

Total Static Pressure - in. w.g.

Total Air cfm	1.4	1.5	1.6	1.7	1.8	1.9	2.0
Air cfm	RPM	Watts	RPM	Watts	RPM	Watts	RPM
800	1830	335	---	---	---	---	---
1000	1940	405	1983	426	2026	446	2068
1200	2064	480	2106	501	2148	522	2190
1400	2199	560	2241	584	2282	608	2323
1600	2344	647	2384	675	2424	706	2462
1800	2497	749	2533	788	2568	829	2602
2000	2648	898	2681	941	2714	986	2746
2200	2803	1064	2835	1105	2867	1145	2899
2400	2968	1217	2999	1258	3031	1298	3062
2600	3138	1371	3168	1411	3199	1450	3229
2800	3309	1524	3338	1563	3368	1602	3398
3000	3481	1677	3508	1715	3537	1752	3566

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.).

See Page 31 for wet coil and options/accessory air resistance data. See Page 32 for minimum air volume with electric heat.

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
RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM
400	711	16	796	38	1006	83	1083	96	1154	107
600	840	47	924	66	1230	111	1230	126	1301	140
800	990	76	1072	94	1153	111	1230	126	1372	148
1000	1179	108	1253	126	1326	144	1397	161	1464	178
1200	1388	146	1454	166	1519	186	1582	207	1641	228
1400	1606	189	1661	216	1715	242	1768	270	1818	298
1600	1794	268	1842	301	1890	333	1938	364	1984	396
1800	1991	364	2035	395	2079	426	2123	456	2167	486
2000	2202	451	2242	482	2283	513	2323	545	2363	577
2200	2408	559	2446	596	2483	633	2520	672	2555	712
2400	2609	703	2644	744	2678	786	2711	829	2744	872
2600	2808	874	2840	916	2871	959	2902	1003	2932	1046
2800	3006	1054	3035	1096	3064	1139	3092	1181	3121	1223
3000	3202	1228	3229	1270	3257	1312	3284	1353	3312	1394

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	2.1	2.2	2.3
RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM
800	-	-	-	-	-	-	-	-	-	-
1000	1923	389	1964	411	2004	431	2043	450	2083	468
1200	2057	473	2097	494	2136	514	2176	534	2215	553
1400	2205	549	2245	571	2284	594	2322	618	2360	644
1600	2360	637	2398	667	2434	699	2468	733	2501	768
1800	2519	763	2552	801	2583	840	2614	879	2644	918
2000	2677	924	2708	963	2739	1003	2769	1041	2799	1080
2200	2842	1089	2873	1127	2902	1166	2932	1203	2962	1241
2400	3015	1250	3044	1289	3074	1327	3103	1364	3132	1402
2600	3192	1412	3221	1450	3250	1488	3279	1525	3308	1562
2800	3372	1574	3400	1611	3428	1648	3456	1685	3485	1721
3000	3552	1735	3578	1772	3605	1808	3633	1844	3660	1880

BLOWER DATA

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

Air Volume cfm	Wet Indoor Coil		Electric Heat	Economizer	Filters		
	036, 048	060, 072			MERV 8	MERV 13	MERV 16
800	0.01	---	0.01	0.04	0.04	0.05	0.04
1000	0.02	0.02	0.03	0.04	0.04	0.07	0.05
1200	0.03	0.04	0.06	0.04	0.04	0.07	0.05
1400	0.04	0.05	0.09	0.04	0.04	0.07	0.06
1600	0.05	0.07	0.12	0.04	0.04	0.07	0.08
1800	0.06	0.08	0.15	0.05	0.04	0.07	0.09
2000	0.08	0.10	0.18	0.05	0.05	0.08	0.10
2200	---	0.11	0.18	0.05	0.05	0.08	0.11
2400	---	0.13	0.20	0.05	0.05	0.08	0.12

MINIMUM AIR VOLUME REQUIRED FOR ELECTRIC HEAT

Size	kW Size	Minimum CFM	
		Direct Drive ECM	DirectPlus™ Direct Drive ECM
036-072	7.5	600	1200
	15	1100	1350
	22.5	1600	1800
072	30	N/A	2000

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

BLOWER DATA

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

Air Volume cfm	RTD9-65S Step-Down Diffuser			FD9-65S Flush Diffuser	RTD11-95S Step-Down Diffuser			FD11-95S Flush Diffuser
	2 Ends Open	1 Side & 2 Ends Open	All Ends & Sides Open		2 Ends Open	1 Side & 2 Ends Open	All Ends & Sides Open	
800	0.15	0.13	0.11	0.11	---	---	---	---
1000	0.19	0.16	0.14	0.14	---	---	---	---
1200	0.25	0.20	0.17	0.17	---	---	---	---
1400	0.33	0.26	0.20	0.20	---	---	---	---
1600	0.43	0.32	0.20	0.24	---	---	---	---
1800	0.56	0.40	0.30	0.30	0.13	0.11	0.09	0.09
2000	0.73	0.50	0.36	0.36	0.15	0.13	0.11	0.10
2200	0.95	0.63	0.44	0.44	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	¹ Effective Throw - ft.	
Model	RTD9-65S	FD9-65S
800	10 - 17	14 - 18
1000	10 - 17	15 - 20
1200	11 - 18	16 - 22
1400	12 - 19	17 - 24
1600	12 - 20	18 - 25
1800	13 - 21	20 - 28
2000	14 - 23	21 - 29
2200	16 - 25	22 - 30
Model	RTD11-95S	FD11-95S
2600	24 - 29	19 - 24
2800	25 - 30	20 - 28
3000	27 - 33	21 - 29

¹ Effective throw based on terminal velocities of 75 ft. per minute.

ELECTRICAL/ELECTRIC HEAT DATA
3 TON

Model		LHT036H5						
¹ Voltage - 60Hz		208/230V - 1 Ph	208/230V - 3 Ph			460V - 3 Ph	575V - 3 Ph	
Compressor (Non-Inverter)	Rated Load Amps	14.6	9.9			4.8	3.5	
	Locked Rotor Amps	90	82			44.3	28.7	
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	HP	0.5	0.5		1.5	0.5	1.5	0.5
	Full Load Amps	4.3	4.3		4.4	2.2	2.3	1.7
² Maximum Overcurrent Protection (MOCP)	Unit Only	35	25		25	15	15	15
	With (1) 0.33 HP Power Exhaust	40	30		30	15	15	15
³ Minimum Circuit Ampacity MCA)	Unit Only	26	20		20	10	10	8
	With (1) 0.33 HP Power Exhaust	28	22		22	11	12	9

ELECTRIC HEAT DATA

Electric Heat Voltage		208V	240V	208V	240V	208V	240V	480V		600V	
² Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	7.5 kW	⁴ 60	70	45	45	45	25	25	20	20
		15 kW	⁴ 100	110	⁴ 60	70	⁴ 60	70	35	35	30
³ Minimum Circuit Ampacity MCA)	Unit+ Electric Heat	7.5 kW	60	65	40	43	40	43	21	21	17
		15 kW	94	104	59	65	59	65	33	33	26
² Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	7.5 kW	70	70	45	45	45	45	25	25	20
		15 kW	⁴ 100	110	70	70	70	70	35	35	30
³ Minimum Circuit Ampacity MCA)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	7.5 kW	62	67	42	45	42	45	23	23	18
		15 kW	96	106	61	67	62	68	34	34	27

ELECTRICAL ACCESSORIES

Disconnects	7.5 kW	22A23									
	15 kW	22A24	22A24	22A23							

**Disconnects - 22A23 - 80A
22A24 - 150A**

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

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

² HACR type breaker or fuse.

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

⁴ Factory installed circuit breaker not available.

ELECTRICAL/ELECTRIC HEAT DATA
4 TON

Model		LHT048H5							
¹ Voltage - 60Hz		208/230V - 1 Ph	208/230V - 3 Ph			460V - 3 Ph	575V - 3 Ph		
Compressor	Rated Load Amps	18.3	11.9			6.8	4.8		
	Locked Rotor Amps	138	112			61.8	39		
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	HP	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
² Maximum Overcurrent Protection (MOCP)	Unit Only	50	35		30	20	15	15	15
	With (1) 0.33 HP Power Exhaust	50	35		35	20	20	15	15
³ Minimum Circuit Ampacity MCA)	Unit Only	34	26		23	14	13	11	10
	With (1) 0.33 HP Power Exhaust	36	28		25	15	14	12	11

ELECTRIC HEAT DATA

Electric Heat Voltage		208V	240V	208V	240V	208V	240V	480V		600V		
² Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	7.5 kW	⁴ 70	80	50	50	⁴ 45	50	25	25	20	20
		15 kW	⁴ 110	125	⁴ 70	80	70	70	40	35	30	30
³ Minimum Circuit Ampacity MCA)	Unit+ Electric Heat	7.5 kW	67	73	45	48	42	45	25	24	20	19
		15 kW	101	112	65	71	62	68	37	35	29	28
² Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	7.5 kW	80	80	⁴ 50	60	50	50	30	25	25	20
		15 kW	⁴ 110	125	⁴ 70	80	70	70	40	40	30	30
³ Minimum Circuit Ampacity MCA)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	7.5 kW	70	75	48	51	45	48	27	25	21	20
		15 kW	104	114	67	73	64	70	38	37	30	29

ELECTRIC HEAT DATA

Disconnects	7.5 kW	22A23									
	15 kW	22A24	22A24	22A23							

**Disconnects - 22A23 - 80A
22A24 - 150A**

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

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

² HACR type breaker or fuse.

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

⁴ Factory installed circuit breaker not available.

ELECTRICAL/ELECTRIC HEAT DATA
5 TON

Model		LHT060H5							
¹ Voltage - 60Hz		208/230V - 1 Ph	208/230V - 3 Ph			460V - 3 Ph	575V - 3 Ph		
Compressor	Rated Load Amps	25.2	13.8			6.9	5.8		
	Locked Rotor Amps	147.3	150			58	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	HP	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
² Maximum Overcurrent Protection (MOCP)	Unit Only	60	40		35	20	15	15	15
	With (1) 0.33 HP Power Exhaust	60	40		40	20	20	15	15
³ Minimum Circuit Ampacity MCA)	Unit Only	42	28		25	14	13	12	11
	With (1) 0.33 HP Power Exhaust	45	30		27	16	14	13	12

ELECTRIC HEAT DATA

Electric Heat Voltage		208V	240V	208V	240V	208V	240V	480V		600V		
² Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	7.5 kW	90	90	⁴ 50	60	50	50	30	25	25	20
		15 kW	⁴ 110	125	⁴ 70	80	70	70	40	35	30	30
		22.5 kW	⁴ 150	175	⁴ 90	100	⁴ 90	100	50	50	40	40
³ Minimum Circuit Ampacity MCA)	Unit+ Electric Heat	7.5 kW	76	81	47	51	44	48	26	24	21	20
		15 kW	110	120	67	73	64	70	37	35	30	29
		22.5 kW	144	159	87	96	84	93	48	47	39	38
² Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	7.5 kW	⁴ 90	100	⁴ 50	60	50	50	30	25	25	25
		15 kW	125	125	⁴ 70	80	⁴ 70	80	40	40	35	30
		22.5 kW	⁴ 150	175	⁴ 90	100	⁴ 90	100	50	50	40	40
³ Minimum Circuit Ampacity MCA)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	7.5 kW	78	84	50	53	47	50	27	25	22	21
		15 kW	112	123	69	75	66	72	38	37	31	30
		22.5 kW	146	162	89	98	86	95	49	48	40	39

ELECTRICAL ACCESSORIES

Disconnects	7.5 kW	22A24	22A24	22A23							
	15 kW	22A24	22A24	22A23							
	22.5 kW	22A24	N/A	22A24	22A24	22A24	22A24	22A23	22A23	22A23	22A23

Disconnects - 22A23 - 80A
22A24 - 150A

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

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

² HACR type breaker or fuse.

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

⁴ Factory installed circuit breaker not available.

ELECTRICAL/ELECTRIC HEAT DATA
6 TON

Model	LHT072H5E			
¹ Voltage - 60Hz		208/230V - 3 Ph	460V - 3 Ph	575 - 3Ph
Compressor (Non-Inverter)	Rated Load Amps	19.2	9.1	6.2
	Locked Rotor Amps	162.3	70.8	58.2
Outdoor Fan Motor	Full Load Amps (1 ECM)	2.8	1.4	1.1
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4	1.3	1
Service Outlet 115V GFI (amps)		15	15	20
Indoor Blower Motor	HP	1.5	1.5	1.5
	Full Load Amps	4.4	2.3	2.3
² Maximum Overcurrent Protection (MOCP)	Unit Only	50	20	15
	With (1) 0.33 HP Power Exhaust	50	25	15
³ Minimum Circuit Ampacity (MCA)	Unit Only	32	16	12
	With (1) 0.33 HP Power Exhaust	34	17	13

ELECTRIC HEAT DATA

Electric Heat Voltage		208V	240V	480V	600V
² Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	7.5 kW	60	60	30
		15 kW	80	80	40
		22.5 kW	90	100	50
³ Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	7.5 kW	51	54	27
		15 kW	71	77	38
		22.5 kW	90	99	49
² Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	7.5 kW	60	70	30
		15 kW	80	80	40
		22.5 kW	100	110	60
³ Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	7.5 kW	54	57	28
		15 kW	73	79	39
		22.5 kW	93	102	51

ELECTRICAL ACCESSORIES

Disconnects	7.5 kW	22A23	22A23	22A23	22A23
	15 kW	22A23	22A23	22A23	22A23
	22.5 kW	22A24	22A24	22A23	22A23

Disconnects - **22A23** - 80A
22A24 - 150A

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

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

² HACR type breaker or fuse.

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

⁴ Factory installed circuit breaker not available.

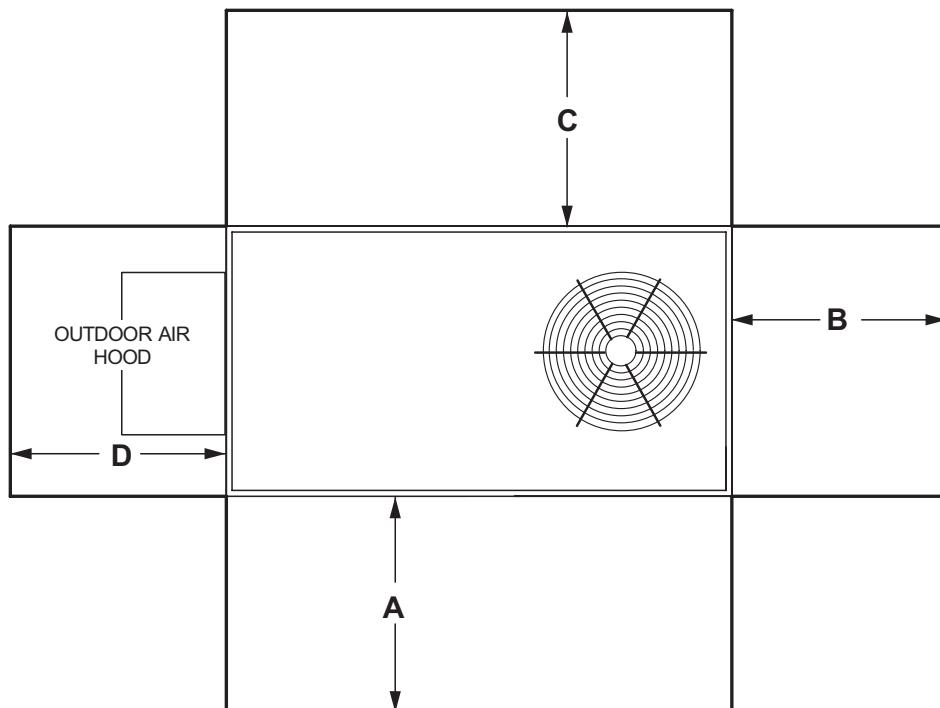
ELECTRIC HEAT CAPACITIES

Volts Input	7.5 kW			15 kW			22.5 kW		
	kW Input	Btuh Output	Stages	kW Input	Btuh Output	Stages	kW Input	Btuh Output	Stages
208	5.6	19,100	1	11.3	38,600	1	16.9	57,700	1
220	6.3	21,500	1	12.6	43,000	1	18.9	64,500	1
230	6.9	23,600	1	13.8	47,100	1	20.7	70,700	1
240	7.5	25,600	1	15.0	51,200	1	22.5	76,800	1
440	6.9	21,500	1	12.6	43,000	1	18.9	64,500	1
460	6.9	23,600	1	13.8	47,100	1	20.7	70,700	1
480	7.5	25,600	1	15.0	51,200	1	22.5	76,800	1
550	6.3	21,500	1	12.6	43,000	1	18.9	64,500	1
575	6.9	23,600	1	13.8	47,100	1	20.7	70,700	1
600	7.5	25,600	1	15.0	51,200	1	22.5	76,800	1

FIELD WIRING NOTES

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

UNIT CLEARANCES



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

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

¹ Service Clearance - Required for removal of serviceable parts.

Minimum Operation Clearance - Required clearance for proper unit operation.

OUTDOOR SOUND DATA

Size	Octave Band Sound Power Levels dBA, re 10 ⁻¹² Watts Center Frequency - Hz							¹ Sound Rating Number dBA
	125	250	500	1000	2000	4000	8000	
036, 048	63	66	70	71	68	62	53	75
060, 072	67	72	77	76	73	68	61	82

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

^¹ Sound Rating Number according to AHRI Standard 270-95 (includes pure tone penalty). Sound Rating Number is the overall A-Weighted Sound Power Level, (L_{WA}), dBA (100 Hz to 10,000 Hz).

WEIGHT DATA

Size	Net		Shipping		UNIT
	lbs.	kg	lbs.	kg	
036 Base Unit	645	293	685	311	
036 Max. Unit	764	347	804	365	
048 Base Unit	641	291	681	309	
048 Max. Unit	760	345	800	363	
060 Base Unit	686	311	727	330	
060 Max. Unit	792	359	833	378	
072 Base Unit	686	311	727	330	
072 Max. Unit	792	359	833	378	

FACTORY / FIELD INSTALLED OPTIONS AND ACCESSORIES - NET WEIGHTS

Description	lbs.	kg
ECONOMIZER / OUTDOOR AIR / EXHAUST		
Economizer		
Economizer, Includes Combination Outdoor Air Hood and Barometric Relief Dampers	84	38
Outdoor Air Dampers		
Motorized	40	18
Manual	30	14
Power Exhaust		
	35	17
ELECTRIC HEAT		
7.5 kW	31	14
15 kW	31	14
22.5 kW	35	16
COMBINATION COIL/HAIL GUARDS		
All models	31	14
ROOF CURBS		
Hybrid Roof Curbs, Downflow		
8 in. height	86	39
14 in. height	108	49
18 in. height	125	57
24 in. height	147	67
Adjustable Pitch Curb, Downflow		
14 in. height	147	67
CEILING DIFFUSERS		
Step-Down	RTD9-65S	80
	RTD11-95S	118
Flush	FD9-65S	80
	FD11-95S	118
Transitions (Supply and Return)	T1TRAN10AN1	22
	T1TRAN20N-1	21
		10
		10

DIMENSIONS

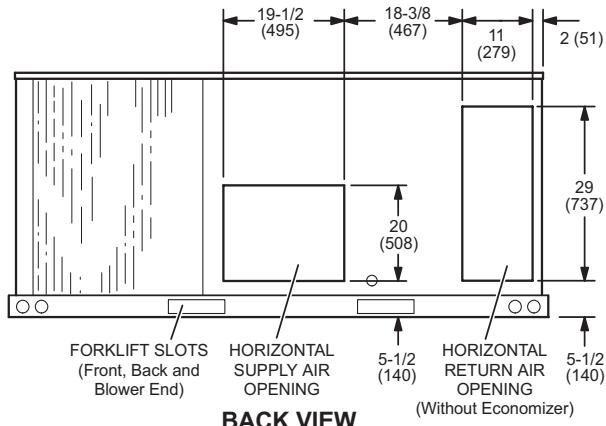
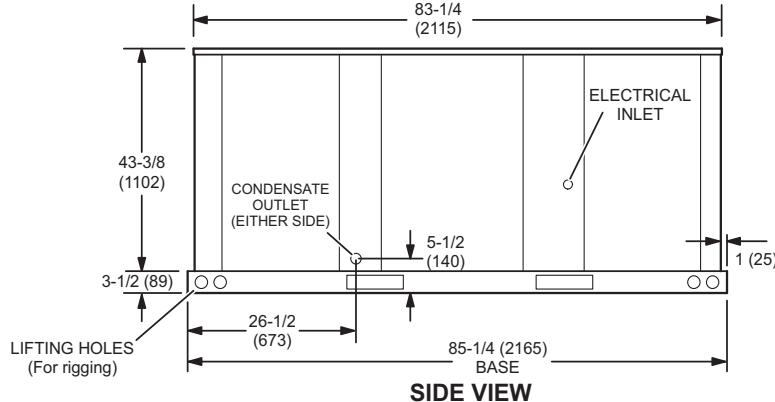
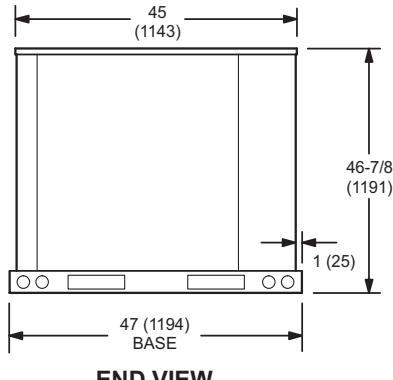
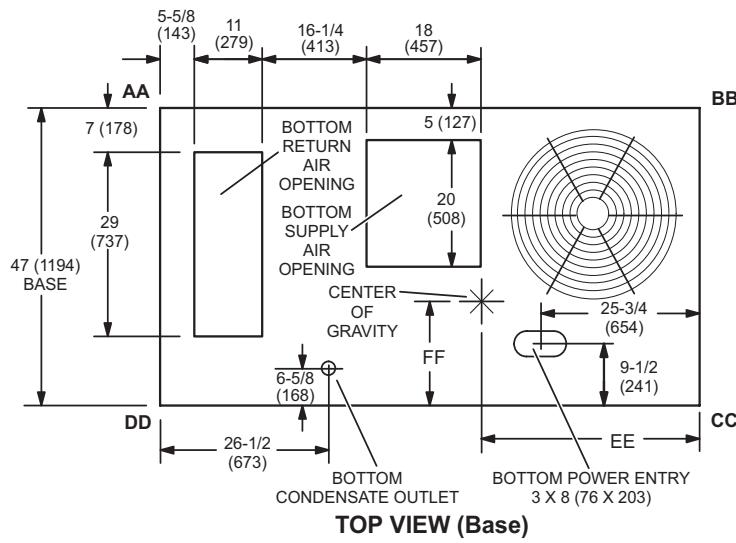
UNIT

CORNER WEIGHTS

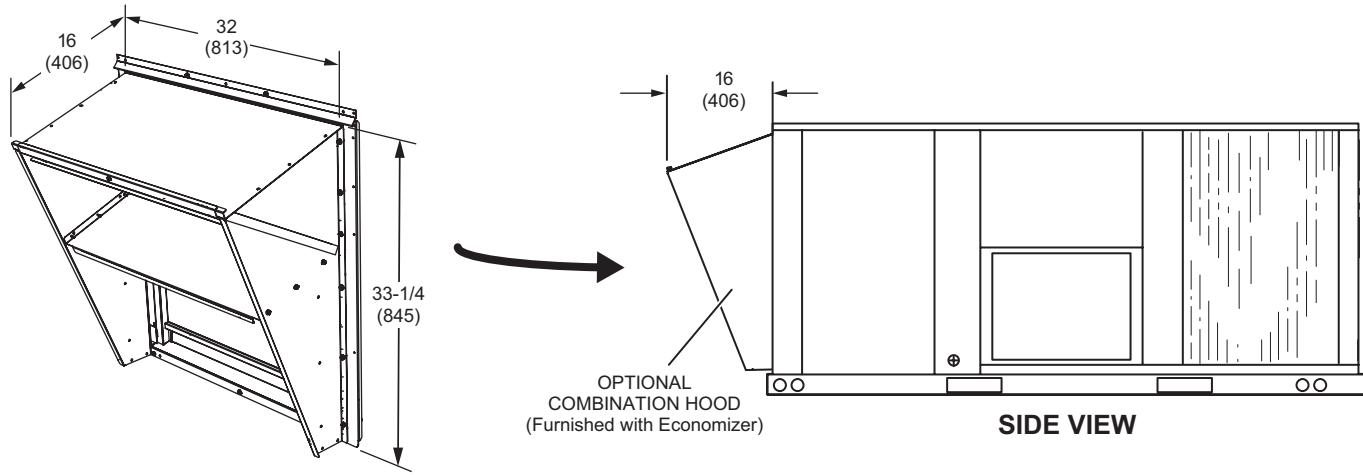
Model	AA		BB		CC		DD		EE		FF	
	Lbs.	kg	Lbs.	kg	Lbs.	kg	Lbs.	kg	in.	mm	in.	mm
LHT036 Base Unit	138	63	164	74	186	84	157	71	38	965	22	559
LHT036 Max. Unit	180	82	177	80	201	91	205	93	42	1067	22	559
LHT048 Base Unit	137	62	163	74	185	84	156	71	38	965	22	559
LHT048 Max. Unit	179	81	176	80	200	91	204	93	42	1067	22	559
LHT060 Base Unit	140	64	167	76	206	93	173	78	38	965	21	533
LHT060 Max. Unit	166	75	171	78	231	105	224	102	41	1041	20	508
LHT072 Base Unit	140	64	167	76	206	93	173	78	38	965	21	533
LHT072 Max. Unit	166	75	171	78	231	105	224	102	41	1041	20	508

Base Unit - The unit with NO INTERNAL OPTIONS.

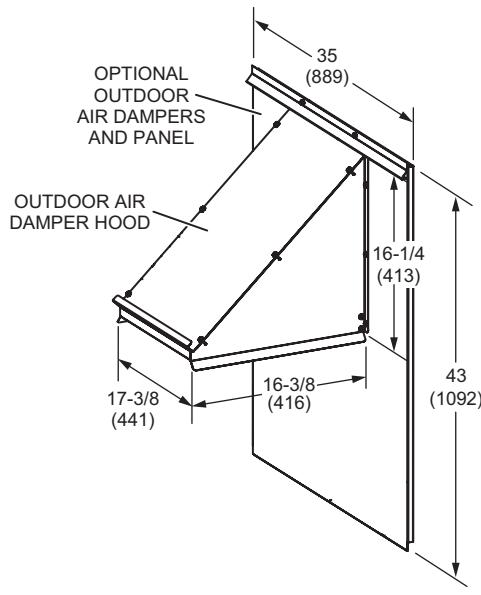
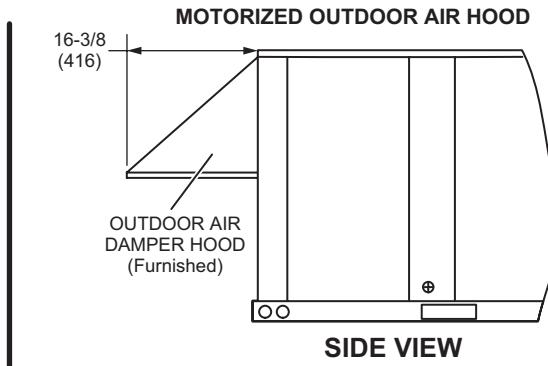
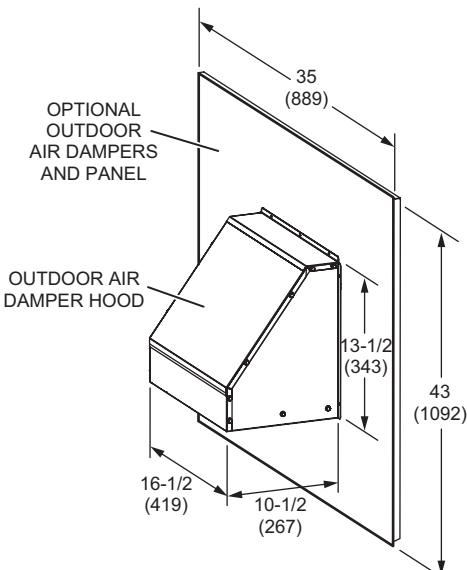
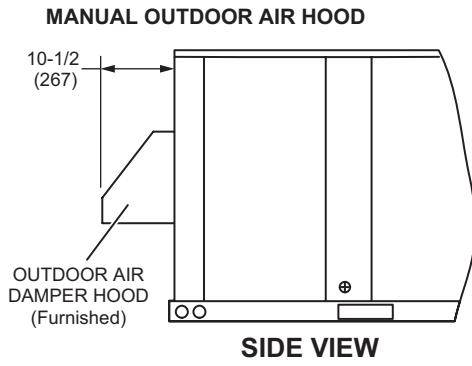
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit or high static power exhaust.



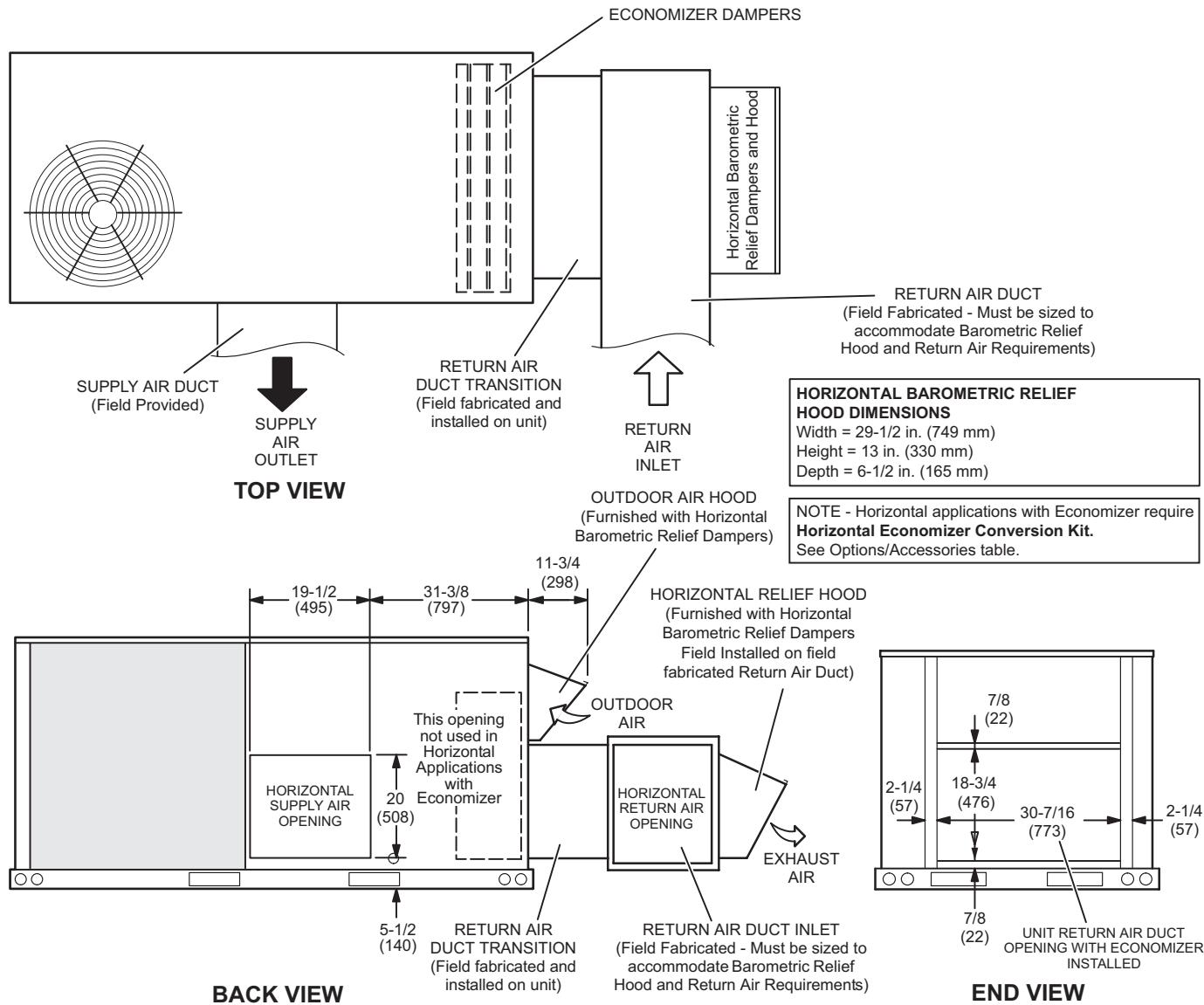
COMBINATION OUTDOOR AIR HOOD DETAIL FOR OPTIONAL ECONOMIZER AND BAROMETRIC RELIEF DAMPERS
(Furnished With Economizer for Downflow Applications)



OUTDOOR AIR DAMPER HOOD DETAIL (Downflow or Horizontal Applications)

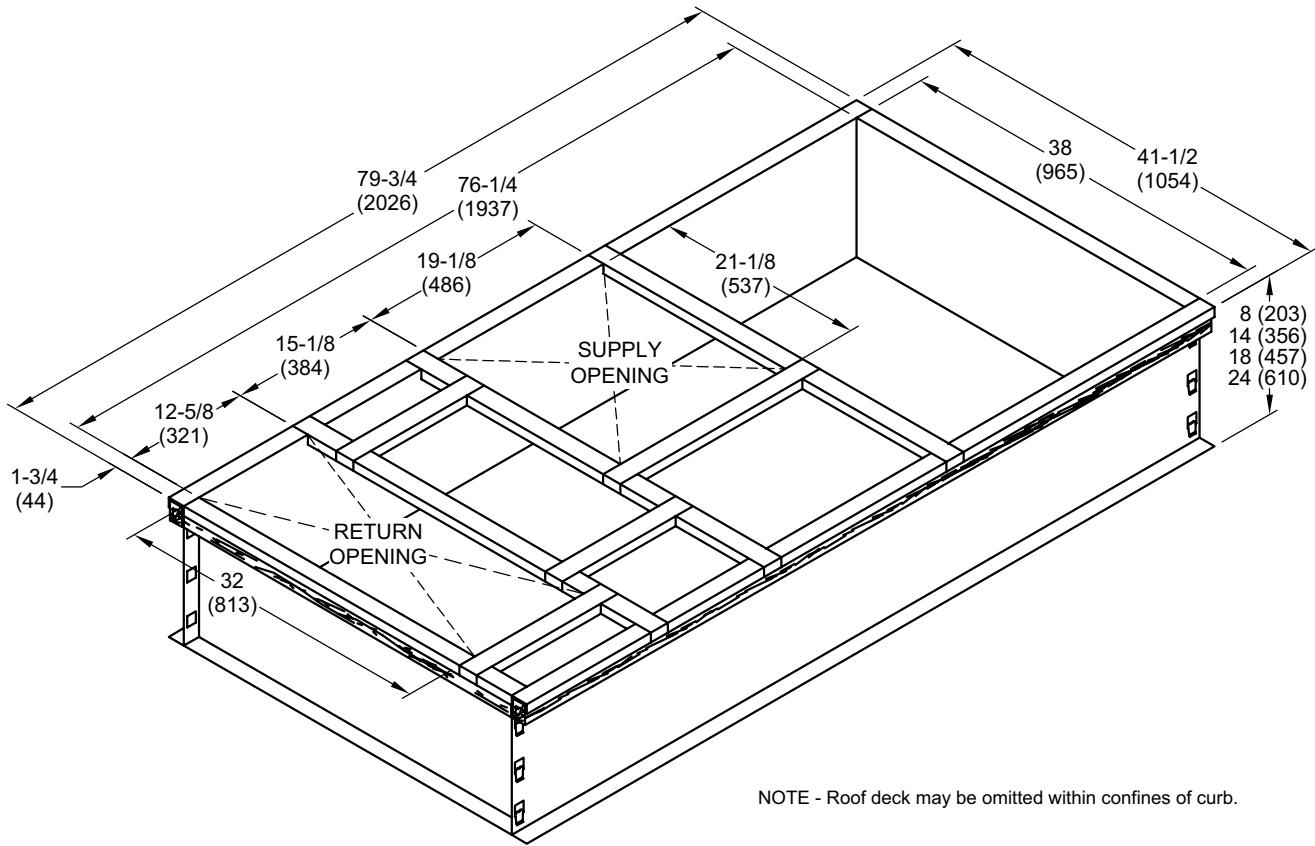


HORIZONTAL ECONOMIZER APPLICATIONS - OUTDOOR AIR HOOD DETAIL WITH OPTIONAL ECONOMIZER DAMPERS AND OPTIONAL HORIZONTAL BAROMETRIC RELIEF DAMPERS AND HOOD

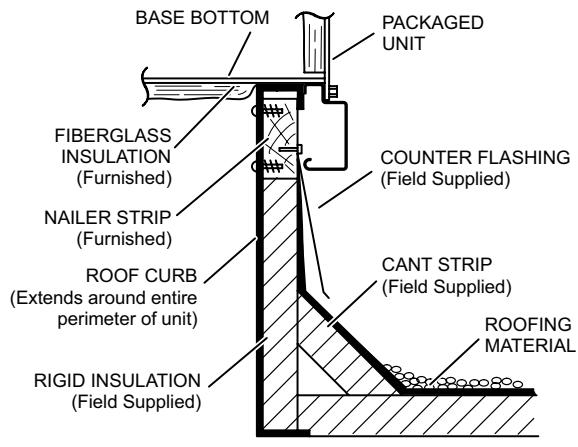


NOTE - Return Air Duct and Transition must be supported.

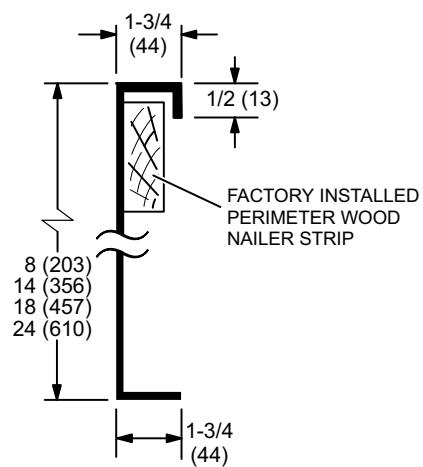
HYBRID ROOF CURBS - DOUBLE DUCT OPENING



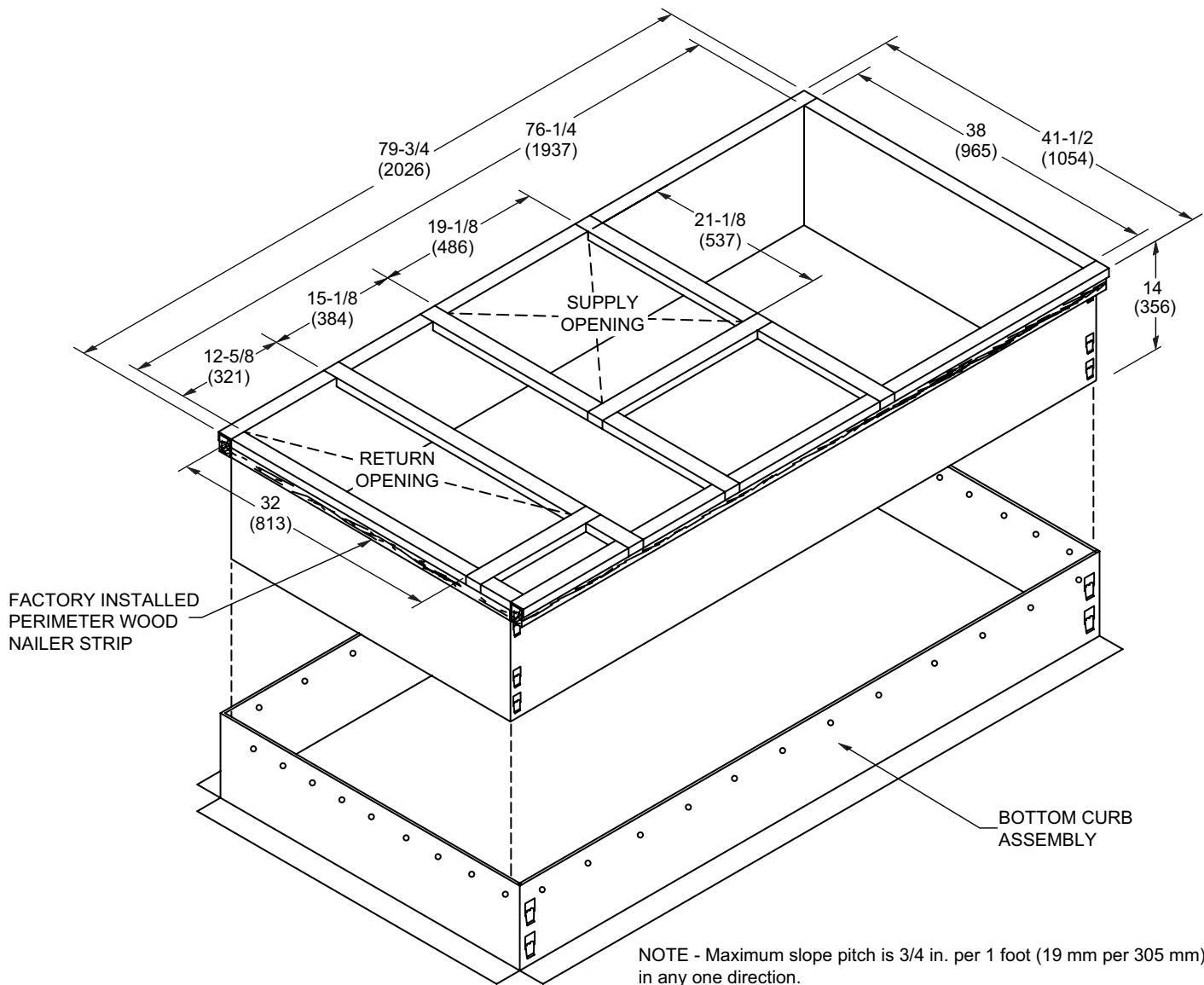
TYPICAL FLASHING DETAIL FOR ROOF CURB



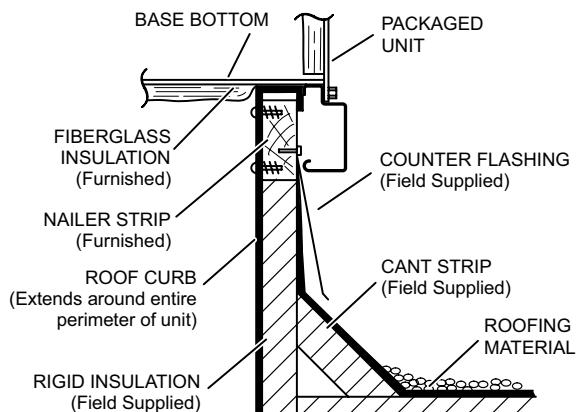
DETAIL ROOF CURB



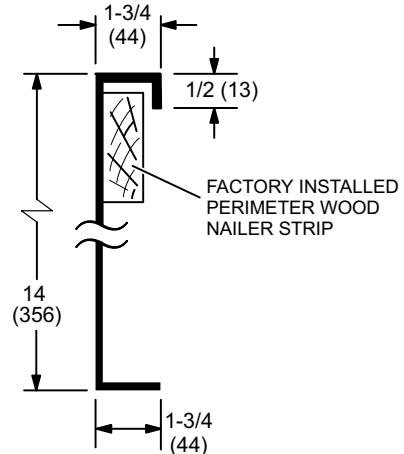
ADJUSTABLE PITCH CURBS - DOUBLE DUCT OPENING



TYPICAL FLASHING DETAIL FOR ROOF CURB



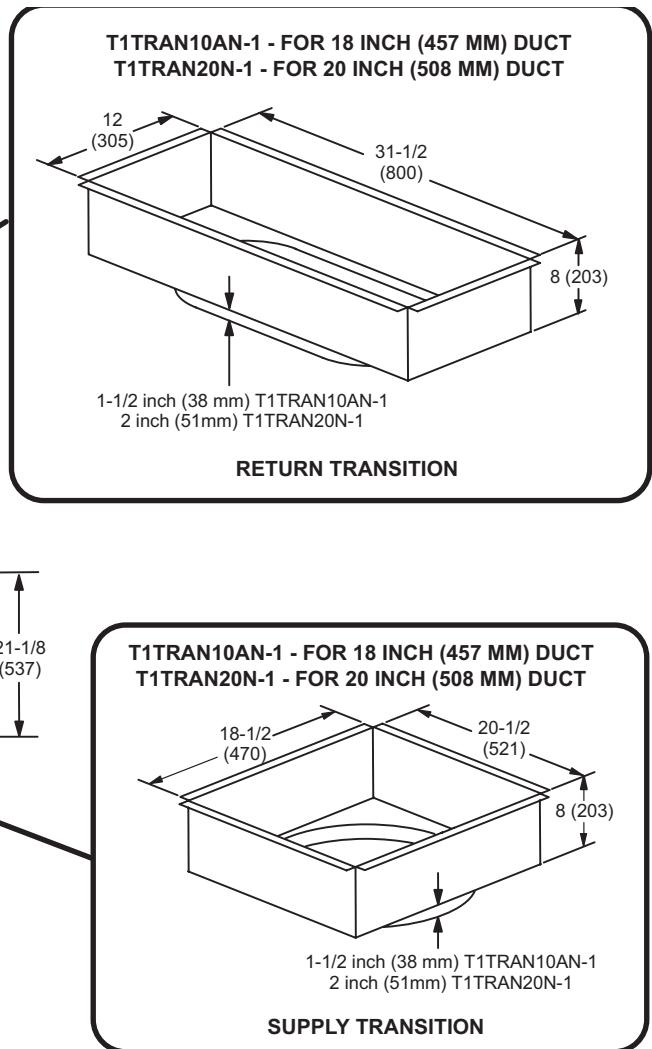
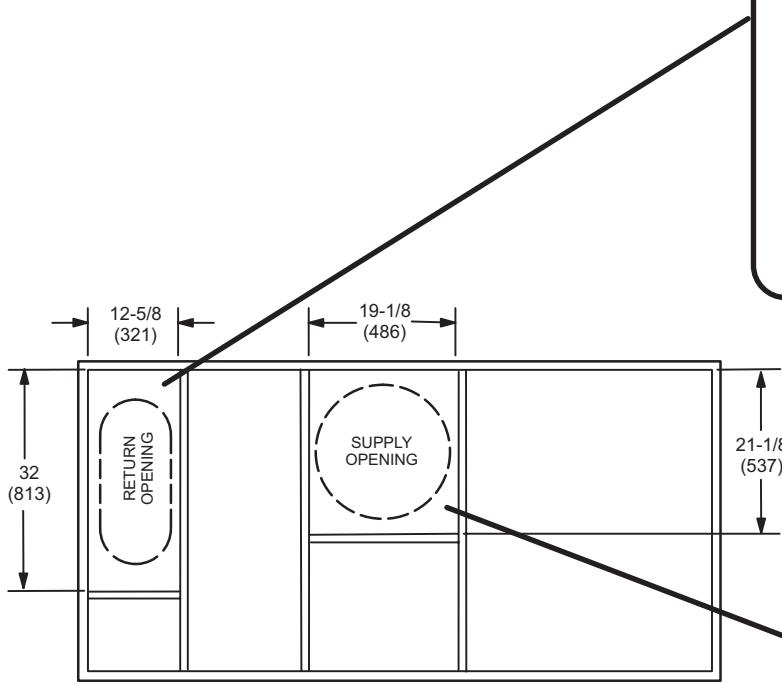
DETAIL ROOF CURB



DIMENSIONS

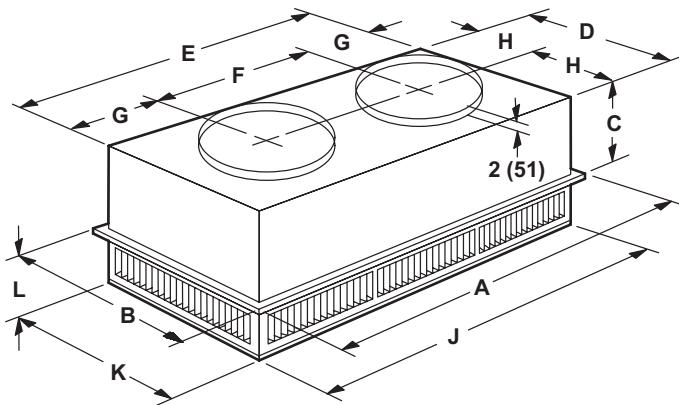
ACCESSORIES

TRANSITIONS

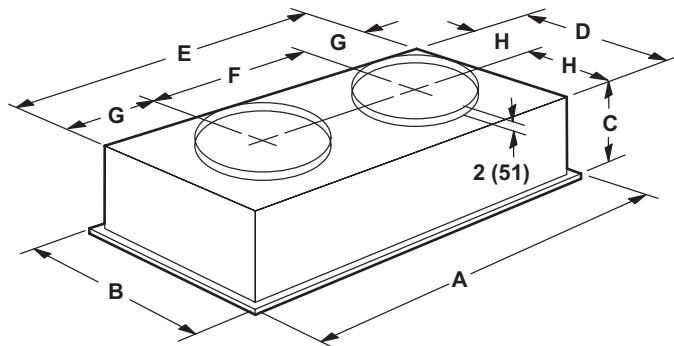


COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



FLUSH CEILING DIFFUSER



Model		RTD9-65S	RTD11-95S
A	in.	47-5/8	47-5/8
	mm	1159	1159
B	in.	23-5/8	29-5/8
	mm	600	752
C	in.	11-3/8	14-3/8
	mm	289	365
D	in.	21-1/2	27-1/2
	mm	546	699
E	in.	45-1/2	45-1/2
	mm	1156	1158
F	in.	22-1/2	22-1/2
	mm	572	572
G	in.	11-1/2	11-1/2
	mm	292	292
H	in.	10-3/4	13-3/4
	mm	273	349
J	in.	45-1/2	45-1/2
	mm	1156	1156
K	in.	21-1/2	27-1/2
	mm	546	699
L	in.	7-1/8	8-1/8
	mm	181	206
Duct Size	in.	18 round	20 round
	mm	457 round	508 round

Model		FD9-65S	FD11-95S
A	in.	47-5/8	47-5/8
	mm	1159	1159
B	in.	23-5/8	29-5/8
	mm	600	752
C	in.	13-1/2	16-5/8
	mm	343	422
D	in.	21	27
	mm	533	686
E	in.	45	45
	mm	1143	1143
F	in.	22-1/2	22-1/2
	mm	572	572
G	in.	11-1/4	11-1/4
	mm	286	286
H	in.	10-1/2	13-1/2
	mm	267	343
Duct Size	in.	18 round	20 round
	mm	457 round	508 round

REVISIONS

Sections	Description of Change
Options / Accessories	Added Burglar Bars.



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Improper installation, adjustment, alteration, service or maintenance can cause property damage or personal injury.
Installation and service must be performed by a qualified installer and servicing agency.

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