



# Lennox National Accounts Project Submittal

**Project Name:** Culver's - Orange Beach, AL  
**Project Number:** 618183  
**Project Altitude:** 2  
**Project Location:**  
3241 S McKenzie St  
Orange Beach, Alabama US

**Date:** 2/20/2024  
**Quote:** 432864  
**Roof Top Units:** 2  
**Split Systems:** 0

**Customer:** Bay Climate Control & Refrigeration  
**National Account:** Culvers

## Table of Contents

Tag	Qty	Model	Description
<u>RTU-1 &amp; 2</u>	2	LDT156H4M	LDT156H4M-Y 13T CONF E=11.9

Revit® Building Information Modeling (BIM) - [Click here](#)

AutoCAD® Templates - [Click here](#)



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**Tag:** RTU-1 & 2  
**Model:** LDT156H4M - LDT156H4M-Y 13T CONF E=11.9

UNIT OVERVIEW										
Voltage	IEER EER	IPLV	MCA/MOC P (amp)	Gross Cooling Ttl/Sens (MBH)	Net Cooling Ttl/Sens (MBH)	Supply Air Flow (cfm)	ESP/TSP (in.WC)	EAT DB/WB (°F)	LAT DB/WB (°F)	
208V 3Ph 60Hz	15.5 11.9		71 / 90	156.2 / 123.4	150.9 / 118.1	5,200	0.50 / 0.64	80.0 / 67.0	57.5 / 57.1	

COOLING										
Cooling Performance					Temperatures (DB/WB °F)					
Gross Cooling (Ttl/Sens)		156.2 / 123.4 MBH			Ambient		95.0			
Net Cooling (Ttl/Sens)		150.9 / 118.1 MBH			Entering		80.0			
Coil Moisture Removal		30.92 lb/hr			Total Leaving – (Coil)		57.5			
System Moisture Removal		30.92 lb/hr			Total Leaving – (Unit)		58.4			
Total Leaving – (Unit)							57.5			
ARI Performance			Compressors			Refrigerant		Condensate Drain		
ARI Cooling	154.0 / 150.0 MBH		Cooling Stages	3	Type	R-410A		Qty	1	
ARI Power	12,600 W		Compressor Qty	2	Charge	42 LBS. 0 OZ.		Size	1 in.	
			Compressor RLA	40 amp				Pipe Thread	FPT	

HEATING											
Heating Performance				Temperatures (DB/WB °F)				Specifications			
Output (High/Low)		135.0 / 0.0 MBH		HP Design		17.0		Heat Stages			1
Input (High/Low)		169.0 / 0.0 MBH		HP Leaving		14.8		Thermal Efficiency			80.0%
HP Output (High/Low)		144.0 / 80.0 MBH		Gas Heat Leaving		24.0		Gas Line Size			1 in.
COP (High/Low)		3.40 / 2.10						Gas Pressure			7 in.WC
HP Power (High/Low)		12.4 / 11.1 kW									
Gas Heat Rise		24.0 °F									
HP - Heat Rise @ Design		14.8 °F									

VENTILATION											
Air Flow (cfm)			Supply Fan				Air Resistance (in.WC)				
Supply	5,200		Nominal Power	3.00 hp			Total	0.64			
Outdoor	675		Required Power	1.76 hp			Ext Supply	0.50			
			Drive Type	MSAV Belt Drive							
			RPM Range	535 - 725 rpm							
			Required RPM	693 rpm							

AIR RESISTANCE - OPTIONS/ACCESSORIES (in.WC)							
Wet Coil	Humiditrol	Heat	Economizer	Filters	Diffuser	Exhaust	ERW
0.06		0.06		0.02			

ELECTRICAL										
Voltage	208V 3Ph / 60Hz				Compressor RLA	40.0 amp				
MCA	71 amp				Cooling FLA Total	65.0 amp				
MOCP	90 amp				Condenser FLA	14.4 amp				
Condenser Power	2150 W				Supply Fan FLA	10.6 amp				
Oper Range-Nom Volt	+/- 10%									

ADDITIONAL DATA										
Cabinet	107.75 in. x 91.12 in. x 54.25 in.				Total Weight	2,704 lb				
Downflow Supply	20.0 in. x 28.0 in.				Base Unit Net Weight	2,348 lb				
Downflow Return	15.0 in. x 60.5 in.				OAS/Econ Weight	167 lb				
Filters	(6) 24.0 in. x 24.0 in. x 2.0 in.				Exhaust Weight	20 lb				
Sound Rating	94 dBA				Coil Hail Guard Weight	0 lb				
					Curb Weight	169 lb				



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Tag: RTU-1 & 2

## Factory Installed Options

- High Performance Economizer Upgrade Factory Installed
- Single Enthalpy High Performance Economizer
- Belt Drive
- Unit Orientation Downflow
- Supply Fan: Multi-Stage Air Volume Belt
- 208/220/230/240V 3Phase
- 80Amp Disconnect Factory Installed
- Built-in BACnet IP and MS/TP (standard)
- Supply Motor - 3.0 Hp Std- w/ MSAV
- Supply Drive Kit 1 (535-725 RPM)
- Barometric Relief Damper Factory Installed
- 169K S.S. (Single Stage)
- Combination Coil/Hail Guards Factory Installed
- Hinged Access Doors Factory Installed
- 15A GFCI Factory Installed/Field Wired
- Return Air Smoke Detector Factory Installed
- Tube and Fin Coil System Factory Installed
- Drain Pan Overflow Switch Factory Installed
- 2" MERV8 - Filter Factory installed

## Field Installed Accessories

Catalog Number	Qty	Description
11F59	2	14" Downflow - Hybrid Curb Field Installed
17G74	2	CS7500 Comm'l Programmable T-stat w/ FDD Field Installed
47W36	2	Remote Temp Sensor Wall Mount 20K Field Installed
54W67	12	2" MERV8 - Filter Field Installed

## Product Features

### Cabinet

- Hinged Access Panels
- Durable Outdoor Enamel Paint Finish
- Totally Enclosed Outdoor Fan Motor
- PVC Coated Fan Guard
- Corrosion-Resistant Drain Pan
- Isolated Compressor Compartment

### Cooling System

- Scroll Compressor
- Expansion Valves
- High Capacity Driers
- Crankcase Heater
- System can operate from 0°F to 125°F without any additional controls
- Pre-charged Refrigeration System
- Timed Off Control
- Internal Pressure Relief Valve

### Heating System

- Redundant Automatic Gas Valve with Manual Shut-off
- Electronic Flame Sensor
- Direct Spark Ignition
- Inshot Burners
- AGA-CGA Certified

### Control System

- Fan and Limit Controls
- Overload Protection
- Microprocessor Controls – Lennox® CORE Control System
- Auto reset high & low pressure switch with strike 3 lockout feature in Lennox® CORE Control System
- Built-in BACnet IP & MS/TP
- Phase/Voltage Detection
- Return Air Sensor Factory Installed
- Outdoor Air Sensor Factory Installed



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Factory Installed Discharge Air Sensor

## **Compliance**

Components are Bonded for Grounding

Factory Test Operated

All models are ASHRAE 90.1-2019 energy efficiency compliant and meet or exceed requirements of Section 6.8

All models meet DOE 2018 and 2023 energy efficiency standards

Model meets California Code of Regulations, Title 24 and ASHRAE 90.1-2016 Section 6.4.3.10 requirements for staged airflow

Model meets HCAI (formerly OSHPD) OSP and Special Seismic Certification (Number: OSP-0596) and meet 2018 International Building Code (IBC), 2019

California Building Code (CBC) ASCE 7, and ICC-ES AC156

ISO 9001 Registered Manufacturing Quality System

## **Warranty**

Limited warranty on stainless steel heat exchanger of 15 years

Limited warranty on compressor of 5 years

Limited warranty on High Performance Economizer of 5 years

Limited warranty on all other components of 1 year

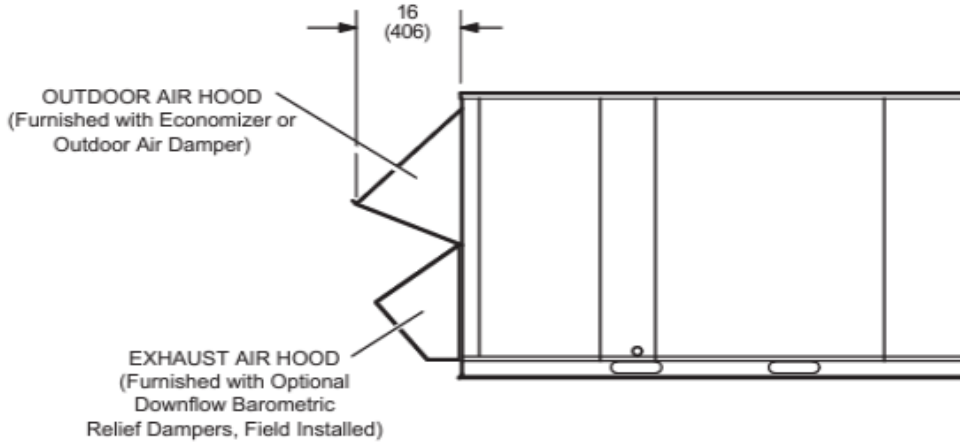
See Limited Warranty Certificate included with unit for details

Limited warranty on Lennox® CORE Control System of 3 years

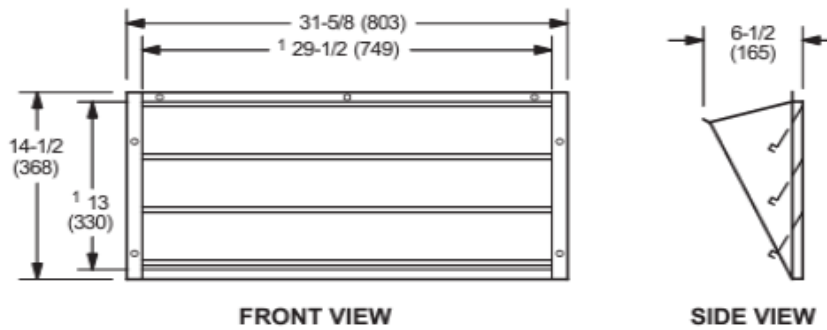


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## OUTDOOR AIR HOOD DETAIL



## OPTIONAL HORIZONTAL BAROMETRIC RELIEF DAMPERS WITH HOOD (Field installed in horizontal return air duct adjacent to unit)

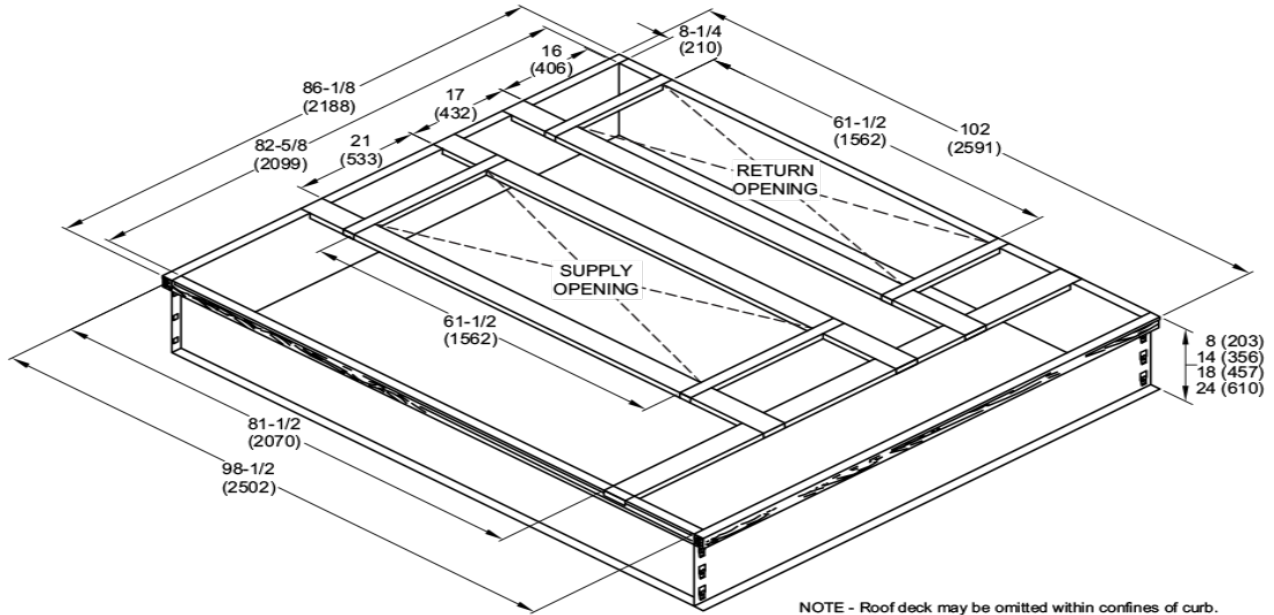


NOTE - Two furnished per order no.  
<sup>1</sup> NOTE - Opening size required in return air duct.

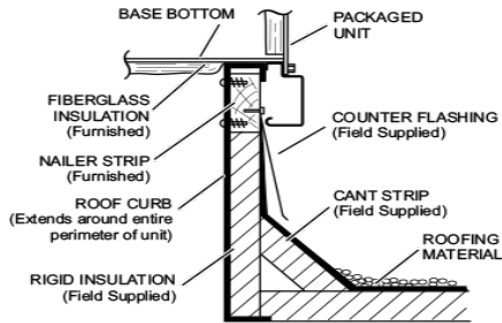


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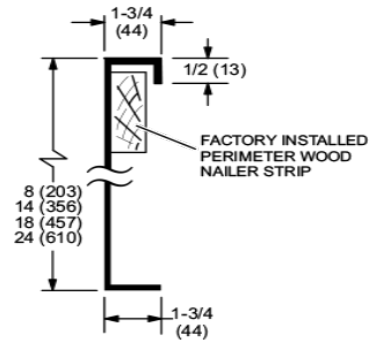
## HYBRID ROOF CURBS - DOUBLE DUCT OPENING



### TYPICAL FLASHING DETAIL FOR ROOF CURB



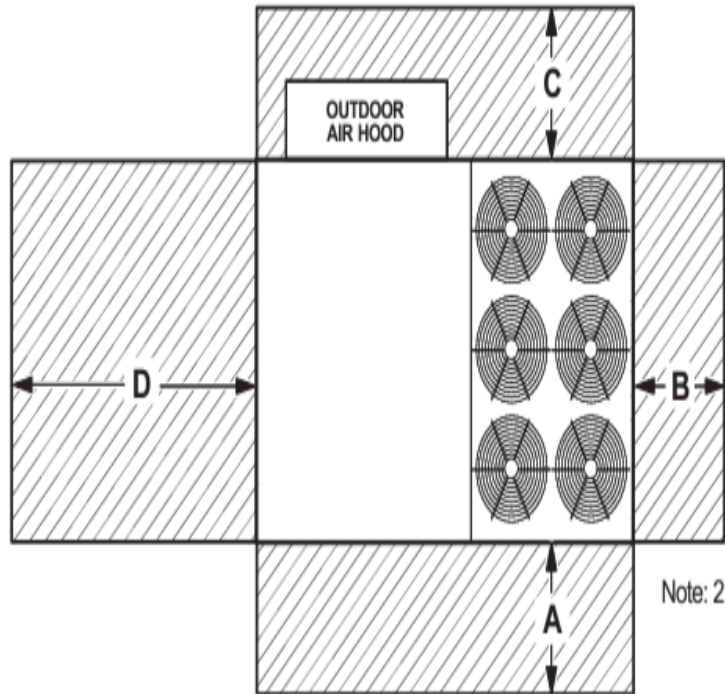
### DETAIL ROOF CURB





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## Unit With Economizer



Note: 210-240-300 sizes shown

¹ Unit Clearance	A		B		C		D		Top Clearance
	in.	mm	in.	mm	in.	mm	in.	mm	
<b>Service Clearance</b>	60	1524	36	914	36	934	66	1676	Unobstructed
<b>Clearance to Combustibles</b>	36	914	1	25	1	25	1	25	
<b>Minimum Operation Clearance</b>	45	1143	36	914	36	914	41	1041	

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

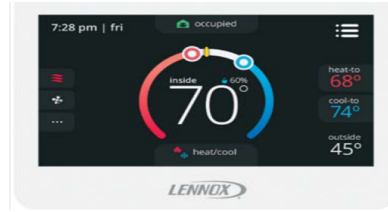
- ¹ **Service Clearance** - Required for removal of serviceable parts.
- Clearance to Combustibles** - Required clearance to combustible material.
- Minimum Operation Clearance** - Required clearance for proper unit operation.



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17G74: COMFORTSENSE® 7500 COMMERCIAL 7 DAY PROGRAMMABLE THERMOSTAT

Accessory	✗
Duct Mount	✗
Wall Mount	✓
Outdoor	✗
Thermostat	✓
Temperature Sensing	✓
CO2 Sensing	✗
RH Sensing	✓
Light Sensing	✗
Pressure Sensing	✗
Smoke Sensing	✗
Communicating	✗
Display	✓



Precise, sophisticated control for conventional systems and heat pumps

The Lennox® ComfortSense line of programmable thermostats can help your customers manage their heating and cooling schedule, and their energy costs, without sacrificing comfort. The thermostat allows for the detection of economizer faults generated by the RTU's service relay, fulfilling FDD regulations and improving serviceability of Lennox rooftop units.

#### Energy Efficiency

- Programmable - 7-Day or 5-Day/2-Day - Versatile programming options offer custom comfort and energy savings
- Dual-fuel capability - Increases the efficiency of dual-fuel heating systems by automatically alternating between gas and electric operation
- One-Touch Away Mode - Turns down heating or cooling with one touch to save energy when the user is away
- Energy Reports - Show how often and how long the heating or cooling system has run

#### Enhanced Comfort

- Automatic changeover - decides between heating and cooling operation, depending on indoor temperature
- Built-in temperature and humidity sensors
- Smooth Setback Recovery - pre-cools a space to reach the desired setpoint temperature as soon as the scheduled period begins

#### Reliable Performance

- Touchscreen display - large (4.3"), easy-to-use display with adjustable brightness
- Customizable reminders - allow you to set a series of service and parts replacement reminders which display on the home screen
- Filter Reminder - Reminds the user when it is time to change the filter
- Outdoor temperature display - requires optional outdoor sensor
- Universal thermostat - Works with conventional systems and heat pumps and supports up to 4 stages of heat and 2 stages of cooling
- Compatible with Lennox-brand non-communicating equipment and most other brands of heating and cooling equipment



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SPECIFICATIONS - COMFORTSENSE7500		
Product Depth	7/8 IN	
Product Height	3-5/16 IN	
Product Width	4-5/16 IN	
Gross Weight	0.6 LB	
Hertz	50/60 Hz	
Programs per Week	7 Day	
Changeover	Auto changeover	
Wi-Fi Enabled	No WiFi	
Stages	Universal 4 Heat/2 Cool	
Temperature Setting Range	<ul style="list-style-type: none"> <li>• Heating - 45 to 90°F</li> <li>• Cooling - 45 to 99°F</li> </ul>	
Humidity Settings	<ul style="list-style-type: none"> <li>• Operating range - 10 to 90% relative humidity</li> <li>• Humidity setpoint (Dehumidification) - 45 to 60% relative humidity, default 50%</li> </ul>	
Power Supply	24VAC (18 to 30VAC maximum), 50/60Hz	
Clock Accuracy	± 10 minutes per year	
ACCESSORIES		
Sensors/Accessories	Remote non-adjustable wall-mount 20k	<b>47W36</b>
	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>



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