



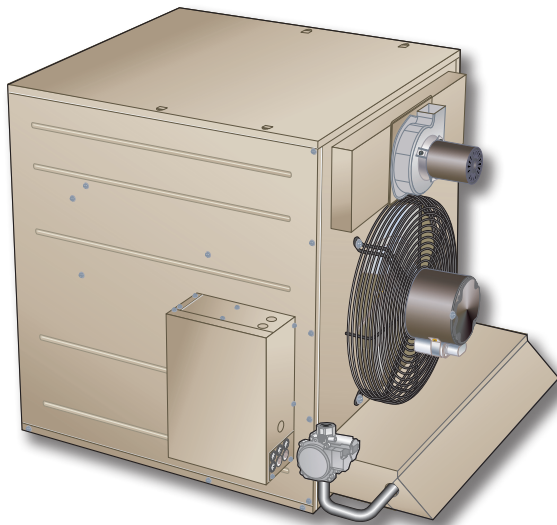
# UNIT HEATERS

## LF25-125-400

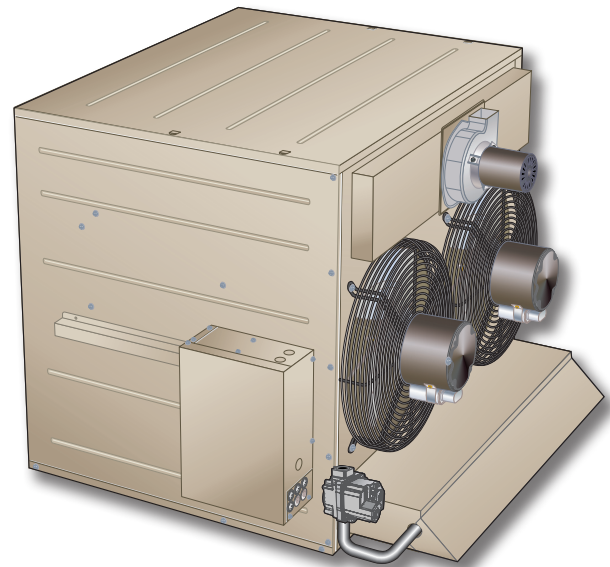
Unit Heaters  
Horizontal - 60 Hz

### COMMERCIAL PRODUCT SPECIFICATIONS

Bulletin No. 210900  
June 2020  
Supersedes May 2020



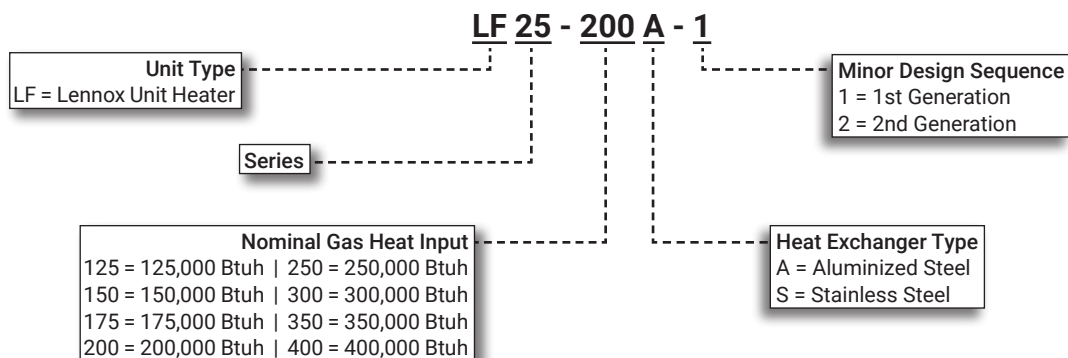
LF25-125-200  
Single-Stage Heating



LF25-250-400  
Two-Stage Heating

**Steady-State Efficiency - up to 83%**  
**Input - 125,000 to 400,000 Btuh**

### MODEL NUMBER IDENTIFICATION



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### WARRANTY AND APPROVALS

#### WARRANTY

- Heat Exchanger - Stainless steel - fifteen year limited
- Heat Exchanger - Aluminized steel - ten year limited
- All other covered components - Limited one year

#### APPROVALS

- CSA International certified
- Certified for natural or LPG/Propane gas.
- ISO 9001 Registered Manufacturing Quality System

## FEATURES AND BENEFITS

### **APPLICATIONS**

- **Single Stage Heating** - LF25-125 through LF25-200
- **Two-Stage Heating** - LF25-250 through LF25-400
- Steady-state heating efficiencies of up to 83%
- Ideal for economical commercial heating systems
- Shipped completely assembled with controls factory installed and wired
- Factory to ensure proper operation and dependability
- Units may be vented horizontally or vertically

**NOTE** - Installer must locate unit, make unit gas supply, flue, electrical connections and mount thermostat to complete job.

### **HEATING SYSTEM**

#### **Tubular Aluminized or Stainless Steel Heat Exchanger**

- Tubular heat exchanger is constructed of aluminized or stainless steel for superior resistance to corrosion and oxidation
- Curved design allows complete exposure of heating surfaces to supply air stream
- Dimpled tubes for maximum heat transfer
- Compact design reduces space requirements in unit cabinet
- Heat exchanger has been laboratory life cycle tested

#### **Inshot Burner Assembly**

- Aluminized steel inshot burner provides efficient trouble free operation
- Burner venturi mixes air and gas in correct proportion for proper combustion
- Burner assembly is removable from the unit as a single component for ease of service

#### **Single-Stage Gas Control Valve (LF25-125-200 models)**

- 24 volt redundant combination gas control valve
- Combines manual shut off switch (On-Off), automatic electric valve (dual) and gas pressure regulation into a compact combination control

#### **Two-Stage Gas Control Valve (LF25-250-400 models)**

- 24 volt redundant combination two-stage gas control valve
- Combines manual shut off switch (On-Off), automatic electric valve (dual) and gas pressure regulation into a compact combination control

#### **Combustion Air Inducer**

- Prepurges heat exchanger
- Safely vents combustion products
- Operates only during heating cycle
- Blower motor has ball bearings and is thermally protected
- Combustion air inducer on LF25-125 through LF25-150 units may be rotated 90° to left or right of vertical to facilitate installation

#### **Pressure Switch**

- Pressure switch prevents unit operation in case of blocked flue outlet

#### **Limit Control(s)**

- Factory installed and accurately located
- Limit control has fixed temperature setting
- Protects heating system from abnormal operating conditions

#### **Flame Rollout Switch**

- Automatic reset switch is factory installed on front of the burner box

### **Optional Accessories**

#### **High Altitude Pressure Switch Kit**

- Required for proper unit operation at various elevations
- Refer to the High Altitude Pressure Switch Kit table on page 5

#### **Natural Gas to LPG/Propane Conversion Kit**

- Required for field changeover from natural gas to LPG/Propane
- Refer to the Natural Gas to LPG/Propane Conversion Kit table on page 5

## FEATURES AND BENEFITS

### **CONTROLS**

#### **Combination Direct Spark Ignition/Fan Timer Control Ignition Control**

- Electronic direct spark ignition control provides positive and safe main burner ignition
- Spark is intermittent and occurs only when required
- Separate electronic flame sensor control assures safe and reliable operation
- Should loss of flame occur, flame sensor controls will initiate 5 attempts at re-ignition before locking out unit operation
- Control board contains all necessary controls and relays to operate unit
- Includes: Fan timer control - fan on 30 seconds (fixed), fan off 150 seconds (fixed), terminal strip for thermostat connections, diagnostic LED for troubleshooting
- Direct plug-in wiring harness

#### **Transformer**

- 120V/24V transformer furnished as standard

### **Optional Accessories**

#### **Thermostats**

- For thermostat options, see Optional Conventional Temperature Control Systems on page 11

### **VENTING**

- Units may be vented horizontally or vertically
  - **Vertical Venting** - LF25 units are approved for installation with single wall and type B-1 double wall vent pipe
  - **Horizontal Venting** - LF25 units are approved for installation with single wall or Lennox-approved stainless steel vent kits

### **Optional Accessories**

#### **Horizontal Vent Kits**

- UL listed, Cat III stainless steel vent kits are available for upward or downward slope
- 4 to 5 in. vent kits snap together
- 6 in. vent kit include connection clamps
- Kits include unit transition, vent termination and wall thimble
- Upward slope kits have drain connection
- 5 in. downward slope kits have double male adaptor
- Provisions for hanging must be field supplied
- 45° or 90° elbow is available and required for certain size units where the combustion air inducer cannot be rotated 90°
- Straight pipe sections in various lengths are also available

**NOTE** - See Horizontal Vent Kits / Elbow table for Lennox-approved Horizontal Vent Kits and accessories.

**NOTE** - See drawings for additional information.

**NOTE** - See installation instructions for detailed venting requirements.

#### **Vent Adaptor (125 and 150 models only)**

- Facilitates easy vent connection from unit to vent pipe

**NOTE** - See Vent Adaptor table.

**NOTE** - See drawing for additional information.

### **DIRECT DRIVE FAN(S)**

- All models are equipped with efficient and quiet operating direct drive fan(s)
- LF25-125 through LF25-200 models have a single fan
- LF25-250 through LF25-400 models have two fans

### **CABINET**

- Constructed of pre-painted steel
- Cabinet is ribbed for improved sound reduction
- Fan orifice opening is punched for improved airflow and sound performance
- Adjustable louvers are furnished on cabinet for control of air flow direction
- Wiring junction box is conveniently located outside unit cabinet for easy field wiring connections

### **Optional Accessories**

#### **Discharge Nozzles**

- Directs discharge air from unit heater
- Available in 30°, 45°, 60° and 90° style
- Fully assembled from heavy-gauge steel
- Paint finish matches unit heater
- See Dimension Drawings

SPECIFICATIONS		LF25-125 to LF25-200			
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General Data	Model No. - Stainless Steel	LF25-125S	LF25-150S	LF25-175S	LF25-200S
	Model No. - Aluminized Steel	LF25-125A	LF25-150A	LF25-175A	LF25-200A
	Heat Input Type	1 Stage	1 Stage	1 Stage	1 Stage
Heating Performance	Input - Btuh	125,000	150,000	175,000	200,000
	Output - Btuh	103,750	124,500	145,250	166,000
	Steady State Efficiency (Natural)	83%	83%	83%	83%
	Temperature Rise - °F	50	62	58	59
Connections	Flue size - in. (round)	4	4	1 5	1 5
	Gas Piping Size - in.	1/2	1/2	1/2	1/2
Fan Data	Number of fans	1	1	1	1
	Fan Diameter - in.	16	16	18	18
	Number of blades	4	4	5	5
	Motor Output - hp	1/5	1/5	1/3	1/3
	rpm	1075	1075	1075	1075
	Air Volume - cfm	1950	1950	2350	2650
Weight Data	Net Weight - lbs. (kg)	147 (67)	157 (71)	170 (77)	180 (82)
	Shipping Weight - lbs. (kg)	167 (76)	177 (80)	190 (86)	200 (91)

ELECTRICAL DATA				
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Voltage		115 volts - 60 hertz - 1 phase			
Fan motor full load amps		5.0	5.0	7.0	7.0
Maximum overcurrent protection		15	15	15	15

OPTIONAL ACCESSORIES - ORDER SEPARATELY				
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Discharge Nozzle	30°	18K66	18K66	18K67	18K67
	45°	18K72	18K72	18K78	18K78
	60°	18K87	18K87	18K88	18K88
	90°	18K93	18K93	18K98	18K98

1 1-3/4 in. x 2-3/4 in. rectangular (unit) to 5 in. diameter (flue) adaptor is furnished with unit for flue connection.

# SPECIFICATIONS LF25-250 to LF25-400

General Data			Model No. - Stainless Steel	LF25-250S	LF25-300S	LF25-350S	LF25-400S
			Model No. - Aluminized Steel	LF25-250A	LF25-300A	LF25-350A	LF25-400A
			Heat Input Type	2 Stage	2 Stage	2 Stage	2 Stage
Heating Performance	Input Btuh	High Heat		250,000	300,000	350,000	400,000
		Low Heat		162,500	195,000	225,000	254,000
	Output Btuh - Natural		2nd Stage	207,500	246,000	290,500	328,000
	Steady State Efficiency - Natural			83%	82%	83%	82%
	Temperature Rise - °F			51	57	58	65
Connections	Flue size - in. (round)			<sup>1</sup> 5	<sup>1</sup> 5	<sup>2</sup> 6	<sup>2</sup> 6
	Gas Piping Size - in.			3/4	3/4	3/4	3/4
Fan Data	Number of fans			2	2	2	2
	Fan Diameter - in.			16	16	18	18
	Number of blades			4	4	5	5
	Motor Output - hp			(2) 1/5	(2) 1/5	(2) 1/3	(2) 1/3
	Amps (total)			3.0 (6.0)	3.0 (6.0)	3.9 (7.8)	3.9 (7.8)
	rpm			1075	1075	1075	1075
	Air Volume - cfm			4000	4000	5500	5550
Weight Data	Net Weight - lbs. (kg)			290 (132)	310 (141)	320 (145)	360 (163)
	Shipping Weight - lbs. (kg)			310 (141)	330 (197)	340 (154)	380 (172)

## ELECTRICAL DATA

Voltage	115 volts - 60 hertz - 1 phase			
Fan motor full load amps	8.0	8.0	11.0	11.0
Maximum overcurrent protection	15	15	15	15

## OPTIONAL ACCESSORIES - ORDER SEPARATELY

Discharge Nozzle	30°	18K68	18K68	18K70	18K70
	45°	18K81	18K81	18K83	18K83
	60°	18K89	18K89	18K91	18K91
	90°	18K99	18K99	18L06	18L06

<sup>1</sup> 1-3/4 in. x 2-3/4 in. rectangular (unit) to 5 in. diameter (flue) adaptor is furnished with unit for flue connection.

<sup>2</sup> 1-3/4 in. x 2-3/4 in. rectangular (unit) to 6 in. diameter (flue) adaptor is furnished with unit for flue connection.

## OPTIONAL ACCESSORIES - GAS HEAT

### NATURAL GAS TO LPG/PROPANE CONVERSION KITS

US			CANADA		
Model No.	LF25-125- to -200	LF25-250 to -400	Model No.	LF25-125- to -200	LF25-250 to -400
0-3000 ft.	18L12	19K27	0-4500 ft.	18L12	19K27
3001-5000 ft.	18L12	19K28	4501-7500 ft.	18L12	19K28
5001-7000 ft.	19A51	19K30	7501-9500 ft.	19A51	19K30
7001-9000 ft.	19A51	19K31			
9001-10,000 ft.	19A52	19K32			

### HIGH ALTITUDE ORIFICE KITS - NATURAL GAS ONLY

US			CANADA		
Model No.	LF25-125- to -200	LF25-250 to -400	Model No.	LF25-125- to -200	LF25-250 to -400
4001-5000 ft.	19A53	- - -	6501-7500 ft.	19A53	- - -
5001-8000 ft.	19A53	19K36	7501-9500 ft.	19A53	19K36
8001-10,000 ft.	19A54	19K44			

### HIGH ALTITUDE PRESSURE SWITCH KITS

Model No.	LF25-125	LF25-150	LF25-175	LF25-200	LF25-250	LF25-300	LF25-350	LF25-400
0-3000 ft.	Factory	Factory	Factory	Factory	Factory	Factory	Factory	Factory
3001-4000 ft.	Factory	18L31	Factory	Factory	Factory	Factory	Factory	Factory
4001-5000 ft.	18L47	18L31	Factory	18L30	Factory	Factory	Factory	Factory
5001-7000 ft.	18L47	18L41	Factory	18L30	18L31	18L41	Factory	18L49
7001-8000 ft.	18L27	18L41	18L47	18L39	18L31	18L41	18L27	18L49
8001-9000 ft.	18L27	18L49	18L41	18L39	18L39	18L49	18L27	18L48
9001-10,000 ft.	18L33	18L49	18L41	18L39	18L39	18L49	18L27	18L48

## HORIZONTAL VENT KITS AND ELBOW

Unit Heater Model No.	Vent Diameter (in.)	Upslope Vent Kit Catalog No.	Downslope Catalog No.	45° Elbow Catalog No.	90° Elbow Catalog No.	<sup>1</sup> Minimum Vent Length (ft.)
LF25-125 LF25-150	4	75W63	75W67	87W80 (Optional)	75W71 (Optional)	5
LF25-175 LF25-200 LF25-250 LF25-300	5	75W64	75W68	87W81 (Optional)	75W72 (Optional)	5
LF25-350 LF25-400	6	75W65	75W69	87W82 (Optional)	75W73 (Optional)	5

<sup>1</sup> Length does not include termination (or elbow where applicable). NOTE - Elbow is required where shown to facilitate connection of horizontal vent kit to flue outlet.

## STRAIGHT VENT PIPE - FOR HORIZONTAL VENTING

Unit Heater	Vent Diameter (in.)	Length (in.)	Catalog No.
LF25-125 LF25-150	4	6	75W77
	4	12	75W78
	4	36	75W79
LF25-175 LF25-200 LF25-250 LF25-300	5	6	75W80
	5	12	75W81
	5	36	75W82
LF25-350 LF25-400	6	12	75W83
	6	36	75W84

## VENT ADAPTOR

Unit Heater	Vent Diameter (in.)	Catalog No.
LF25-125 LF25-150	4	20S11

## THROW DATA

Model No.	<sup>1</sup> Effective Throw feet
LF25-125, LF25-150	50
LF25-175, LF25-200	60
LF25-250, LF25-300	70
LF25-350, LF25-400	80

NOTE - Adjustable horizontal louvers on unit allow a variation in throw and spread.

<sup>1</sup> Throw terminates where velocity reaches 50 ft. per minute.

## INSTALLATION CLEARANCES

Top	6 inches	152 mm
Sides	18 inches	457 mm
Rear	18 inches	457 mm
Bottom	1 inch	25 mm
Flue	6 inches	152 mm

NOTE - Allow 24 in. (610 mm) for servicing and control box access on the control box side of the unit.

See Installation Instructions for further installation considerations.

## <sup>1</sup> RECOMMENDED MOUNTING HEIGHT

Model No.	Feet
LF25-125, LF25-150	8-16
LF25-175, LF25-200	8-20
LF25-250, LF25-300	12-26
LF25-350, LF25-400	12-28

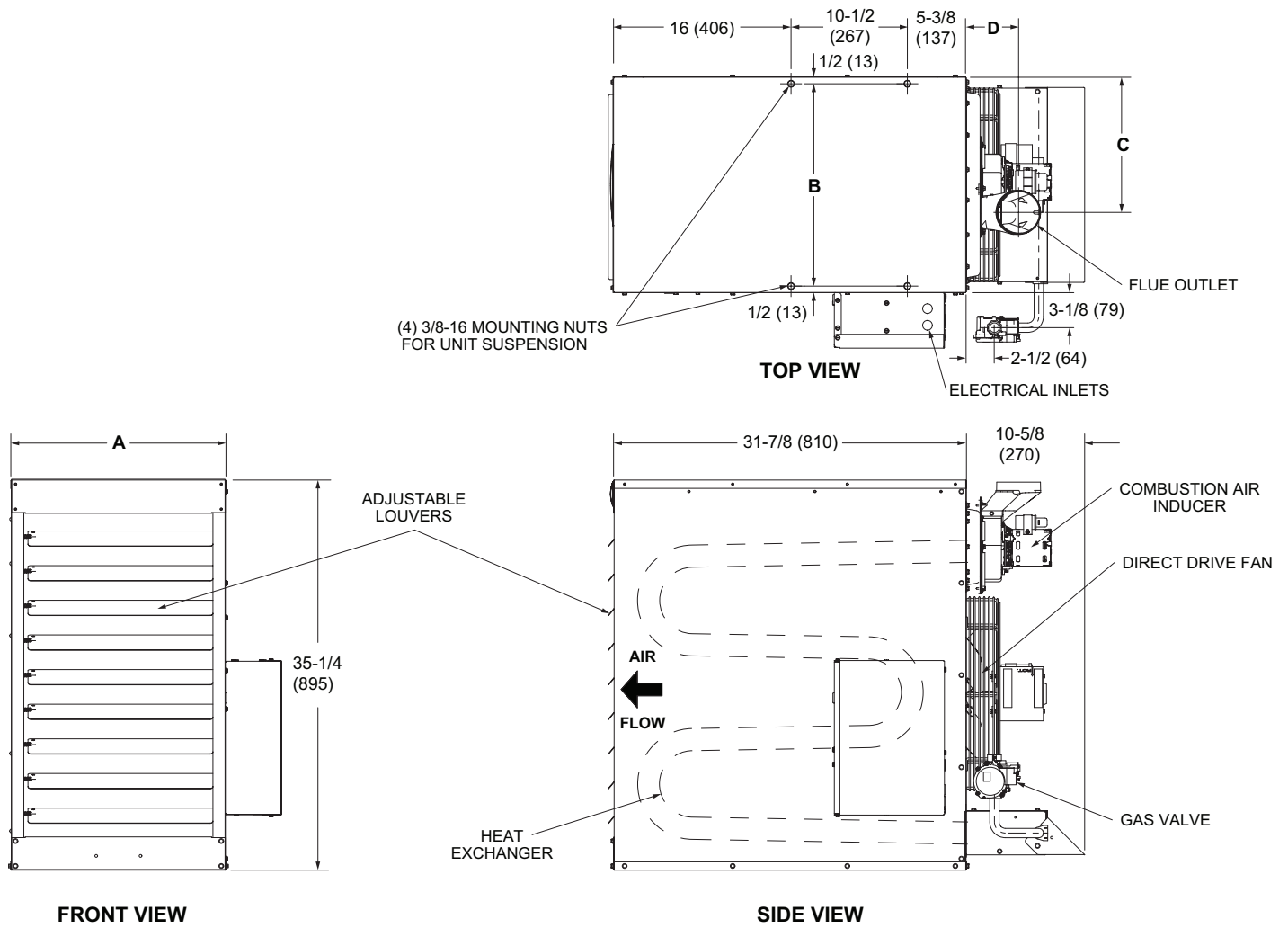
<sup>1</sup> Recommended maximum mounting height from floor to bottom of unit. At heights greater than shown air throw distance and air temperature at floor level is affected.

## MAXIMUM HORIZONTAL VENT LENGTHS

No. of Elbows	LF25-125, LF25-150, LF25-175, LF25-200, LF25-350, LF25-400	LF25-250, LF25-300
	Feet	Feet
1	25	35
2	20	30
3	15	25
4	10	20
5	5	15
6	---	10
7	---	5

## DIMENSIONS

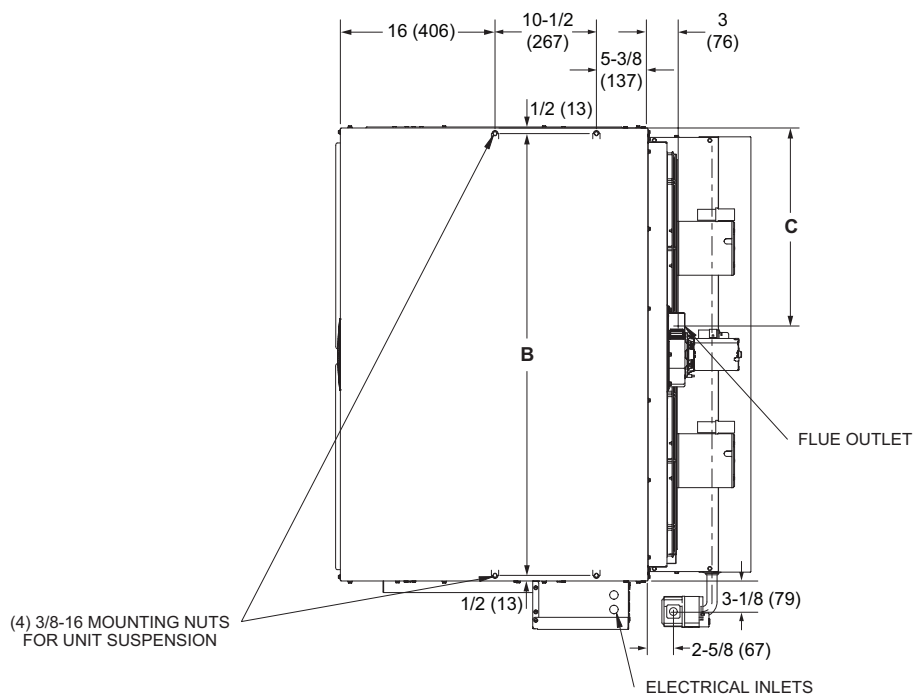
## LF25-125-150-175-200 (SINGLE FAN)



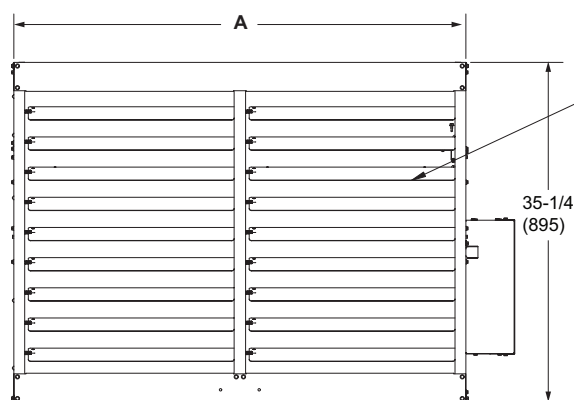
Model No.	A		B		C		D	
	in.	mm	in.	mm	in.	mm	in.	mm
LF25-125 LF25-150	19-1/2	495	18-1/2	470	12-1/4	311	4-3/4	121
LF25-175 LF25-200	25	635	23-3/4	603	9-1/2	241	3	76

## DIMENSIONS LF25-250-300-350-400 (DUAL FANS)

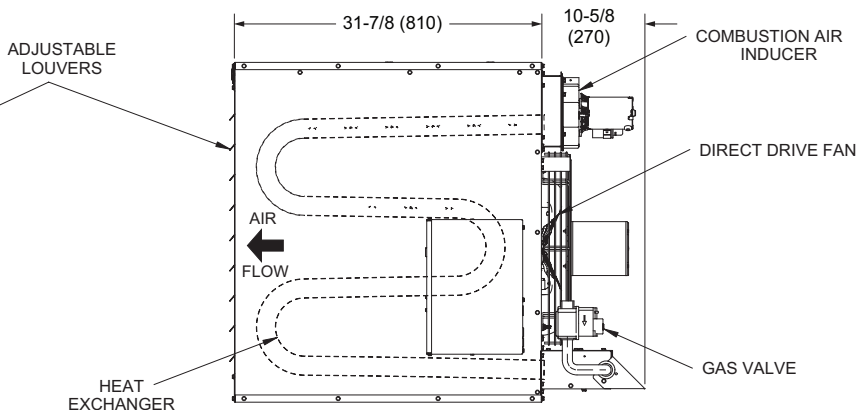
## DIMENSIONS LF25-250-300-350-400 (DUAL FANS)



**TOP VIEW**



**FRONT VIEW**



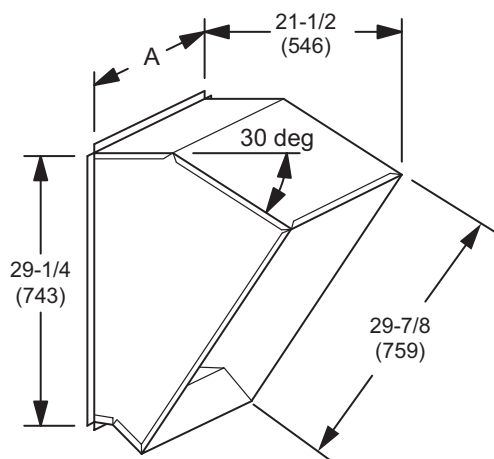
### SIDE VIEW

Model No.	A		B		C	
	in.	mm	in.	mm	in.	mm
LF25-250 LF25-300	37-5/8	956	36-1/2	927	15-7/8	403
LF25-350 LF25-400	47	1194	45-3/4	1162	20-1/2	521

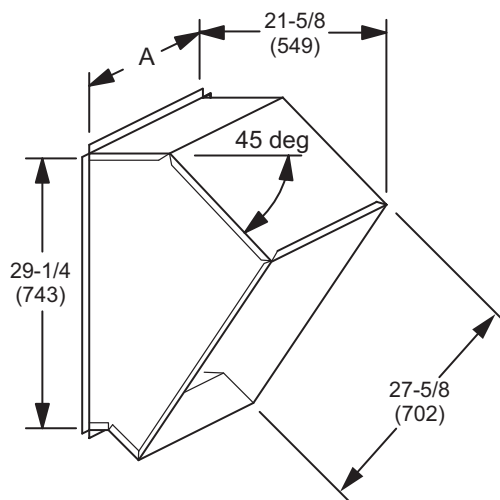


## ACCESSORY DIMENSIONS

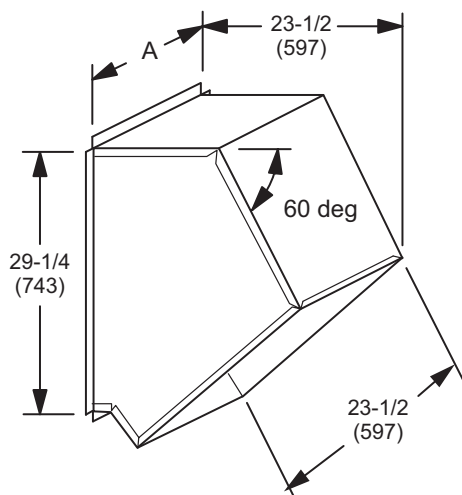
**30° Discharge Nozzle**



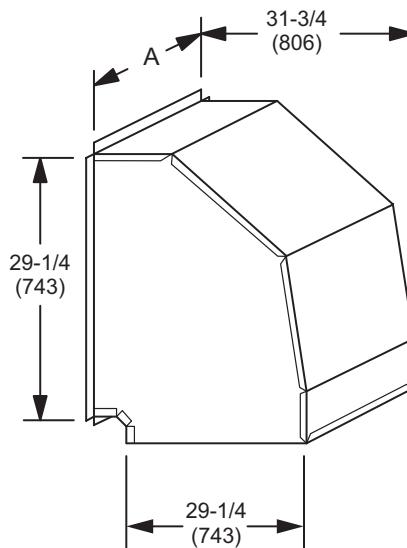
**45° Discharge Nozzle**



**60° Discharge Nozzle**



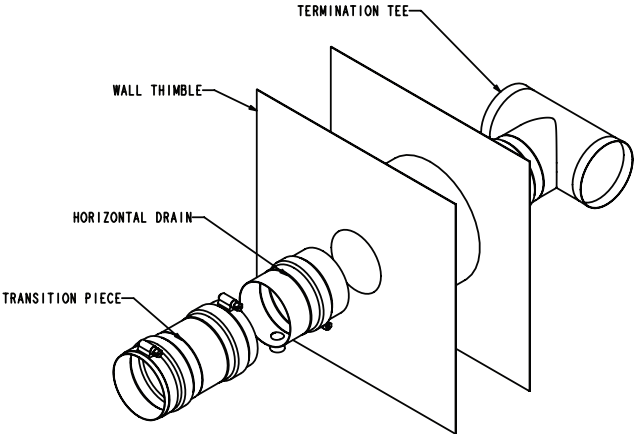
**90° Discharge Nozzle**



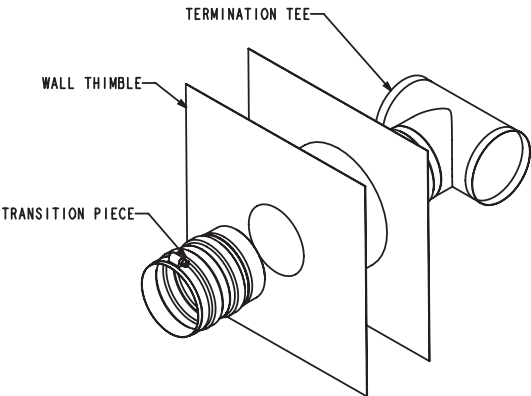
Model Usage	A	
	in.	mm
LF25-125 LF25-150	17-1/4	464
LF25-175 LF25-200	22-3/4	578
LF25-250 LF25-300	33-1/2	851
LF25-350 LF25-400	44-3/4	1137

VENT KITS AND ACCESSORIES

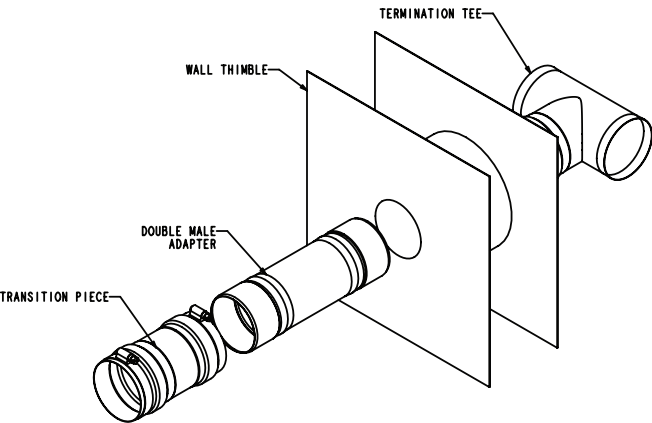
HORIZONTAL VENT KITS (UPSLOPE)



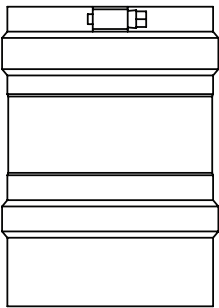
4 AND 6 INCH HORIZONTAL VENT KITS (DOWNSLOPE)



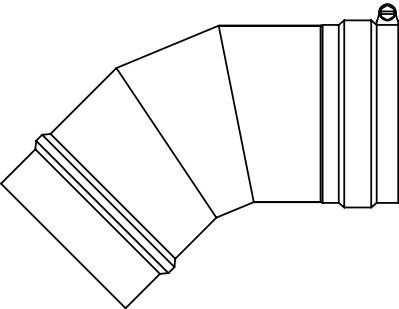
5 INCH HORIZONTAL VENT KIT (DOWNSLOPE)



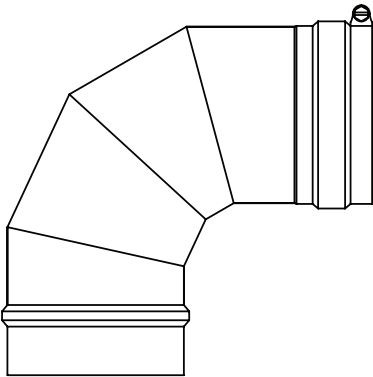
STRAIGHT PIPE (Typical)



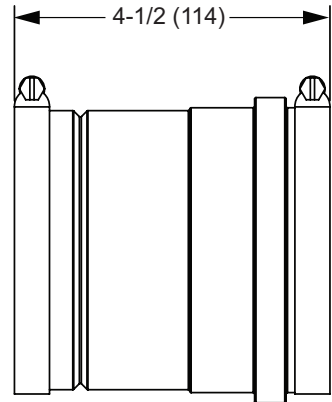
45° ELBOW (Typical)



90° ELBOW (Typical)



VENT ADAPTOR (125 and 150)



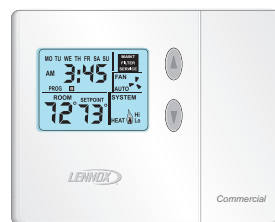
## OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

### Comfortsense® 7500 Commercial 7-Day Programmable Thermostat



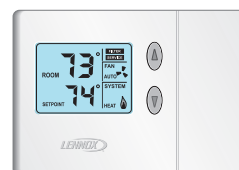
- Four-Stage Heating / Two-Stage Cooling
- Universal Multi-Stage
- Intuitive Touchscreen Interface
- Automatic Changeover between Heating and Cooling
- Full Seven-Day Programming
- Four Time Periods Per Day
- Temperature and Humidity Control
- One-Touch Away Mode
- Holiday Scheduling
- Smooth Setback Recovery (SSR)
- Performance Reports
- Notifications/Reminders
- Economizer Relay Control
- Backlit Display
- Wallplate Furnished
- FDD, ASHRAE and IECC Compliant

### Comfortsense® 3000 Commercial 5-2 Day Programmable Thermostat



- Two-Stage Heating / Two-Stage Cooling
- Conventional Systems
- Intuitive Interface
- 5-2 Day Programming
- Program Hold
- Remote Indoor Temperature Sensing
- Smooth Setback Recovery (SSR)
- Economizer Relay Control
- Maintenance/Filter/Service Reminders
- Backlit Display
- Wallplate Furnished
- Simple Up and Down Temperature Control

### Comfortsense® Non-Programmable Thermostat



- One-Stage Heating / Cooling
- Conventional Systems
- Intuitive Interface
- Manual Changeover
- Backlit Display
- Simple Up and Down Temperature Control

## OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

Description	Model No.	Catalog No.
<b>Comfortsense® 7500 Commercial 7-Day Programmable Thermostat</b>	C0STAT06FF2L	<b>17G74</b>
Universal thermostat locking guard (clear)	C0MISC15AE1-	<b>39P21</b>
<b>Temperature Sensors</b>	<sup>1</sup> Remote non-adjustable wall-mount 20k	<b>47W36</b>
	<sup>1</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>
<sup>1</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		
<b>Comfortsense® 3000 Commercial 5-2 Day Programmable Thermostat</b>	C0STAT05FF1L	<b>11Y05</b>
Thermostat wall mounting plate	C0MISC17AE1-	<b>X2659</b>
<b>Temperature Sensor</b>	Remote non-adjustable wall mount 10k averaging	<b>47W37</b>
<b>Comfortsense® Non-Programmable Thermostat</b>	C0STAT12AE1L	<b>51M32</b>
	Thermostat wall mounting plate	<b>X2659</b>
<b>Temperature Sensor</b>	Outdoor temperature sensor	<b>X2658</b>

## REVISIONS

Sections	Description of Change
Optional Accessories	Added Vent Adaptor for 125-150 models.
Vent Kits and Accessorries	Added Vent Adaptor drawing for 125-150 models.



Visit us at [www.lennox.com](http://www.lennox.com)

For the latest technical information, [www.lennoxcommercial.com](http://www.lennoxcommercial.com)

Contact us at 1-800-4-LENNOX

NOTE - Due to Lennox' ongoing commitment to quality, Specifications, Ratings and Dimensions subject to change without notice and without incurring liability.  
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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