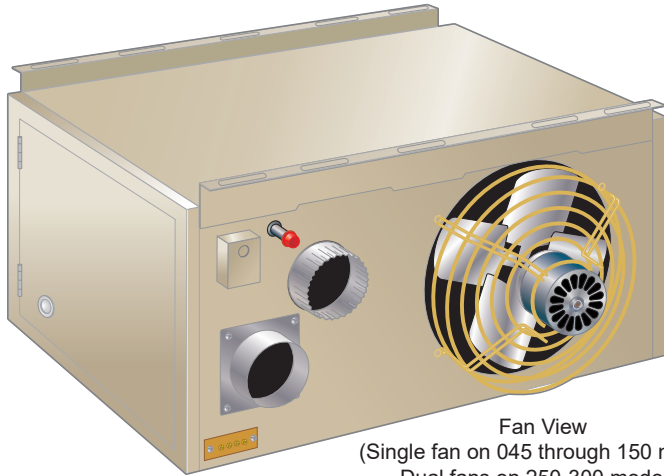




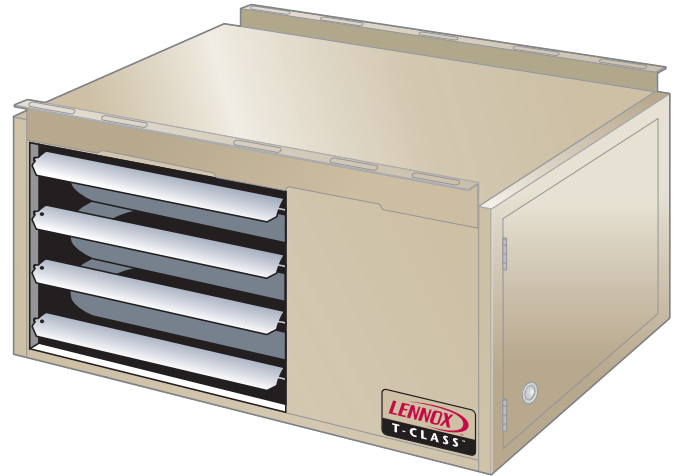
**T-CLASS™ GAS-FIRED UNIT HEATERS**  
 Separated Combustion - Direct Vent - Horizontal - 60 Hx

**RESIDENTIAL / COMMERCIAL  
 PRODUCT SPECIFICATIONS**

Bulletin No. 210402  
 October 2019  
 Supersedes January 2019

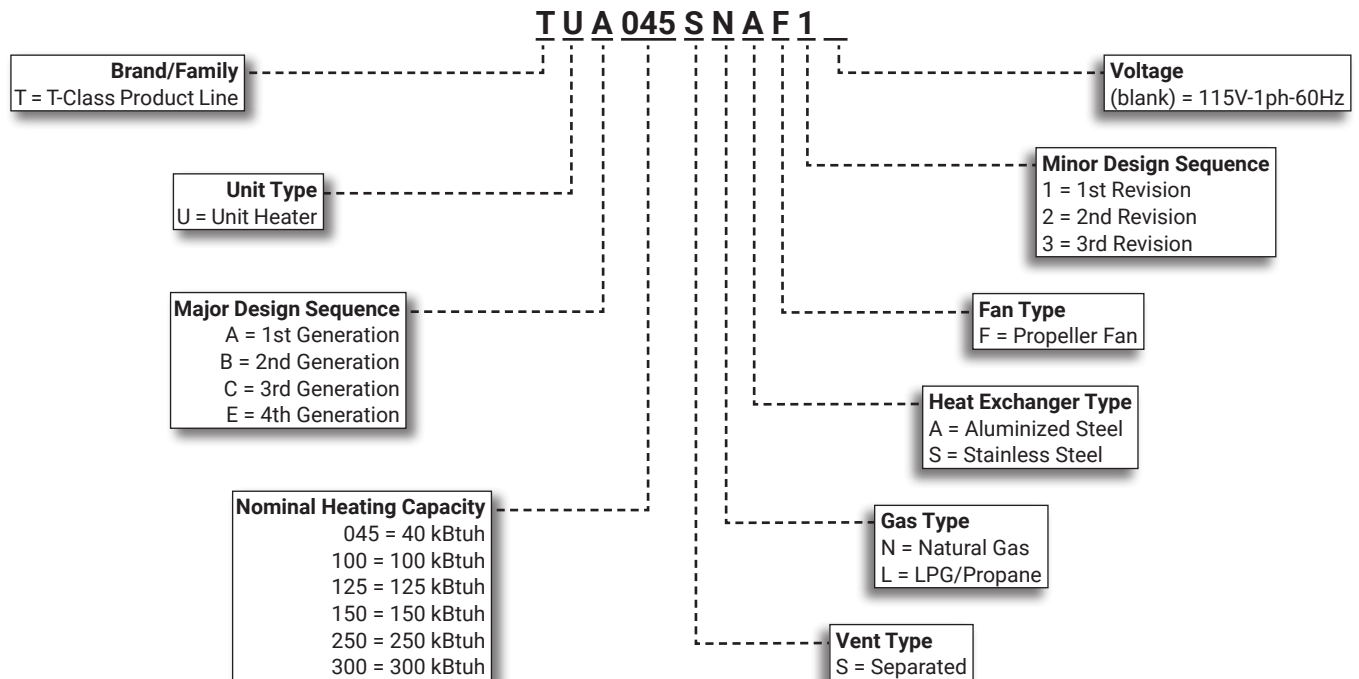


Fan View  
 (Single fan on 045 through 150 models  
 Dual fans on 250-300 models)



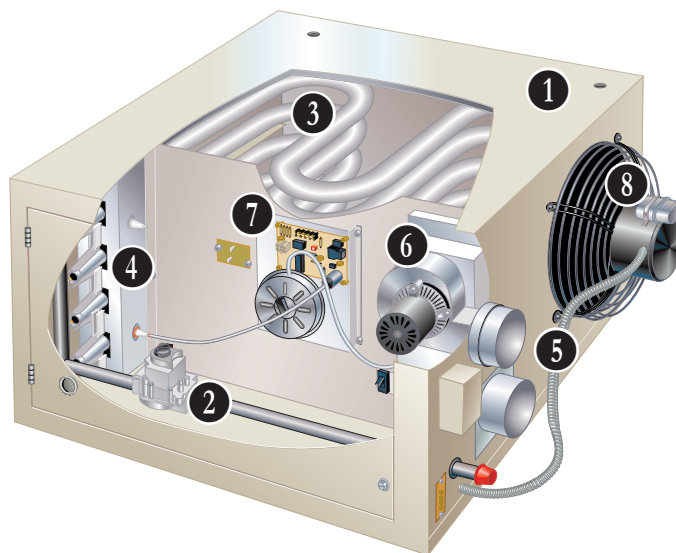
**Thermal Efficiency - up to 82%**  
**Input - 40,000 to 300,000 Btuh**

**MODEL NUMBER IDENTIFICATION**



## FEATURE HIGHLIGHTS

1. Heavy Gauge Steel Cabinet
2. Gas Valve
3. Tubular Heat Exchanger  
(Aluminized Steel or Stainless Steel)
4. Inshot Burners
5. Separated Combustion
6. Combustion Air Inducer
7. Combination Spark Ignition/Fan Timer Control
8. Direct Drive fan



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## APPROVALS AND WARRANTY

### APPROVALS

- Certified by CSA International for use with natural or LPG/propane gas

**NOTE** - Optional kit required for LPG/Propane conversion.

- Approved for vertical or horizontal venting
- ISO 9001 Registered Manufacturing Quality System

### WARRANTY

- Heat Exchanger:
  - Aluminized Steel Heat Exchanger - Ten year limited warranty
  - Stainless Steel Heat Exchanger - Fifteen year limited warranty
- All other covered components:
  - Five year limited (045 models only) in residential installations
  - One year limited (all models) in non-residential installations
- Refer to Lennox Equipment Limited Warranty certificate included with unit for specific details.

**NOTE** - Refer to Lennox Equipment Limited Warranty certificate included with unit for specific details.

## FEATURES AND BENEFITS

### APPLICATIONS

- TUA045 / 100 / 125 models are approved for both commercial and residential applications
- TUA150 / 250 / 300 models are approved for commercial applications only

### CABINET

- 1 • Low-profile design on 045 models
- Constructed of pre-painted, heavy-gauge, cold rolled steel
- Inner insulated panels keep outer cabinet surface temperatures low
- Adjustable louvers furnished on cabinet for control of air flow direction
- External gas, line voltage and thermostat connections
- Hinged door allows access to gas valve, burners, combustion air inducer and control board. Door is gasketed for tight seal
- Safety interlock switch automatically shuts off power to unit when door is opened
- Burner viewing port provided in door for flame viewing
- Hanging brackets for suspending unit are furnished on 045 size units for field installation
- See dimension drawing
- Threaded inserts (3/8 in. x 16) are furnished on 100 / 125 / 150 / 250 / 300 size units for suspending unit
- See dimension drawing

**NOTE** - Support rods must be field provided.

- 045 size units may be inverted 180° to change gas, electrical and flue positions
- See dimension drawing

### HEATING SYSTEM

- 2 • 24 volt redundant combination gas control valve combines a manual main shutoff valve, pressure regulation and automatic electric valve (dual) into one compact combination control
  - Electronic direct spark ignition control provides positive 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 2 attempts at re-ignition before locking out unit operation for 60 minutes
  - Combustion air inducer pre-purges heat exchanger and safely vents flue products
  - Combustion air inducer proving switch proves inducer operation before allowing gas valve to open
- 3 • **Tubular, Aluminized Steel or Stainless Steel Heat Exchanger**
  - Constructed of stainless steel or aluminized steel for superior resistance to corrosion and oxidation
  - Curving design allows complete exposure of heating surfaces to supply air stream

- Round tube surfaces create minimum air resistance and allow air to surround all surfaces for excellent heat transfer
- Compact design reduces space requirements in unit cabinet

### **4** **Inshot Burners**

- Aluminized steel inshot burners provide efficient, trouble-free operation
- Burner venturi mixes air and gas in correct proportion for proper combustion
- Each burner may be removed individually for servicing

### **Limit Control**

- Limit control has fixed temperature setting and protects heating system from abnormal operating conditions

### **5** **Separated Combustion**

- Combustion air is separate from the air in the heated space
- Using outside air for combustion prevents dirt, lint, dust and other contaminants in the heated space from entering the combustion area of the unit heater

### **6** **Combustion Air Inducer**

- Pre-purges heat exchanger and safely vents combustion products
- Blower motor has sleeve bearings and is thermally protected
- Combustion Air Inducer Proving switch prevents unit operation in case of blockage of combustion air inlet

### **Flame Rollout Switch**

- Factory installed on 045 / 100 / 125 models
- Switch provides protection from abnormal operating conditions
- Manual reset

### **Options/Accessories**

#### **LPG/Propane Conversion Kit**

- Conversion kit is required for field changeover from natural gas. See Options/Accessories table

### **VENTING**

- Units may be vented horizontally or vertically
  - **Vertical Venting** - Units are approved for installation with single wall and type B-1 double wall vent pipe
  - Single wall vertical vent pipe may only be used in commercial applications
  - Double wall (type B-1) vent pipe may be used for vertical venting in residential or commercial applications
  - **Horizontal Venting** - Units are approved for residential installation only with Lennox-approved stainless steel vent kits
- Commercial applications may use single wall venting or stainless steel vent kits

## FEATURES AND BENEFITS

### Options/Accessories

#### Horizontal Vent Kits

- UL listed, Cat III stainless steel vent kits are required for horizontal venting in residential applications
- Optional for horizontal venting in commercial applications
- Kits are available for upward or downward slope. 3 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 optional for ease of vent connection
- Straight pipe sections in various lengths are also available
- See Horizontal Vent Kits / Elbow table for Lennox-approved Horizontal Vent Kits and accessories
- See drawings for additional information
- See installation instructions for detailed venting requirements

#### Air Intake Tee

- For horizontal air intake

### CONTROLS

- 24 volt main gas valve with 100% safety shutoff
- Direct spark ignition
- Main shutoff valve
- Gas pressure regulation (natural gas models)
- 115/24V transformer
- Low voltage terminal strip
- Solid-state ignition control board with fan timer control

#### 7 Combination Spark Ignition/Fan Timer Control

- Control contains all necessary controls and relays to operate unit
- LED diagnostics provide unit operation information for improved service and maintenance
- Fan timer settings:
  - **Fan on** - 45 seconds fixed
  - **Fan off** - 120 seconds fixed

### Options/Accessories

#### Thermostat

- Thermostat is not furnished with unit
- See Lennox Price Book for selection

#### DIRECT DRIVE FAN

- 8 • Efficient and quiet operating direct drive propeller type fan
- Permanently lubricated fan motor

## SPECIFICATIONS

		Model No.	TUA045S	TUA100S	TUA125S	TUA150S	TUA250S	TUA300S	
<b>Gas Heating Performance</b>	Heating Capacity Input		40,000	100,000	125,000	150,000	240,000	300,000	
	Output Natural Gas		32,000	81,000	101,500	120,000	194,400	240,000	
	Btuh LPG/Propane		32,000	82,700	101,500	121,500	196,800	243,000	
	Thermal Efficiency Natural Gas		80%	81%	81%	80%	81%	80%	
	LPG/Propane		80%	82%	81%	81%	82%	81%	
Temperature Rise - °F			45	31	39	38	35	43	
<b>Connections - in.</b>	Flue Size (round)		3	5	5	5	5	6	
	Combustion Air Size (round)		3	4	4	4	4	4	
	Gas Piping Size		1/2	1/2	1/2	1/2	3/4	3/4	
<b>Fan Data</b>	Number of Fans		1	1	1	1	2	2	
	Fan Diameter - in.		10	16	16	18	16	16	
	Number of Blades		5	4	4	4	4	4	
	Motor Output - hp		1/20	1/8	1/8	1/8	1/8	1/8	
	Amps		1.7	2.7	2.7	2.7	2.7	2.7	
	rpm		1650	1075	1075	1075	1075	1075	
	Motor Type		SP	PSC	PSC	PSC	PSC	PSC	
	Air Volume - cfm		750	2435	2435	2955	5215	5215	
Air Flow (ft.) at 8 ft. mounting height			25	50	50	80	100	100	
<b>Electrical Characteristics</b>			115 volts - 60 hertz - 1 phase						
<b>Total Unit Amps</b>			3	6	6	6	9	9	
<b>Shipping Weight - lbs. (1 package)</b>			84	188	204	261	307	323	

## OPTIONS/ACCESSORIES

		Model No.	TUA045S	TUA100S	TUA125S	TUA150S	TUA250S	TUA300S
<b>Horizontal Vent Air Intake Tee</b>	C5VENTT3T - 3 in.		<b>75W85</b>	---	---	---	---	---
	C5VENTT4T - 4 in.		---	<b>75W86</b>	<b>75W86</b>	<b>75W86</b>	<b>75W86</b>	<b>75W86</b>
<b>LPG/Propane Kit</b>			<b>16H69</b>	<b>82M94</b>	<b>82M94</b>	<b>82M94</b>	<b>82M94</b>	<b>82M95</b>

## HORIZONTAL VENT KITS AND ELBOW

REQUIRED FOR RESIDENTIAL HORIZONTAL VENTING APPLICATIONS - OPTIONAL FOR COMMERCIAL APPLICATIONS

Unit Heater Model No.	Vent Dia. (in.)	Upslope Vent Kit	Catalog No.	Downslope Vent Kit	Catalog No.	45° Elbow	Catalog No.	90° Elbow	Catalog No.	<sup>1</sup> Minimum Vent Length (ft.)
TUA045S	3	C5VENT3KU	<b>75W62</b>	C5VENT3KD	<b>75W66</b>	C5VENT3E45 (Optional)	<b>87W79</b>	C5VENT3E (Optional)	<b>75W70</b>	3
TUA100S TUA125S TUA150S TUA250S	5	C5VENT5KU	<b>75W64</b>	C5VENT5KD	<b>75W68</b>	C5VENT5E45 (Optional)	<b>87W81</b>	C5VENT5E (Optional)	<b>75W72</b>	5
TUA300S	6	C5VENT6KU	<b>75W65</b>	C5VENT6KD	<b>75W69</b>	C5VENT6E45 (Optional)	<b>87W82</b>	C5VENT6E (Optional)	<b>75W73</b>	5

<sup>1</sup> Length does not include termination (or elbow if used).

## STRAIGHT VENT PIPE - FOR HORIZONTAL VENTING

Unit Heater	Model No.	Vent Diameter (in.)	Length (in.)	Catalog No.
TUA045S	C5VENT3P6	3	6	75W74
	C5VENT3P12	3	12	75W75
	C5VENT3P36	3	36	75W76
TUA100S, TUA125S TUA150S, TUA250S	C5VENT5P6	5	6	75W80
	C5VENT5P12	5	12	75W81
	C5VENT5P36	5	36	75W82
TUA300S	C5VENT6P12	6	12	75W83
	C5VENT6P36	6	36	75W84

## VENTING CONSIDERATIONS

**NOTE** - Concentric Venting is not approved for use with the TU unit heaters.

- Air for combustion and supply air ventilation must conform to the methods outlined in American National Standard (ANSI-Z223.1) National Fuel Gas Code or National Standard of Canada CSA-149.1, & CSA-149.2 "Installation Code for Gas Burning Appliances"

### Horizontal Venting

- Residential horizontal venting requires the use of a Lennox-approved Cat III Horizontal Vent Kit and Vent Pipe
- Commercial applications may use single wall venting or stainless steel vent kits
- The maximum permissible horizontal vent length is 25 ft. with one 90° elbow
- Minimum horizontal vent length is 5 ft.
- One elbow is equivalent to 5 ft. of vent pipe
- Horizontal venting must terminate in a tee

### Vertical Venting

- Single wall vertical vent pipe may only be used in commercial applications
- Double wall (type B-1) vent pipe may be used for vertical venting in residential or commercial applications
- **Maximum vertical vent and vent connector lengths**  
- In the U.S. refer to the American National Standard (ANSI-Z223.1) National Fuel Gas Code or in Canada the National Standard of Canada CSA-149.

### Clearances

- Minimum clearance to combustible material is 6 in. with single wall vent pipe
- See Installation Instructions for additional venting information

## HIGH ALTITUDE INFORMATION

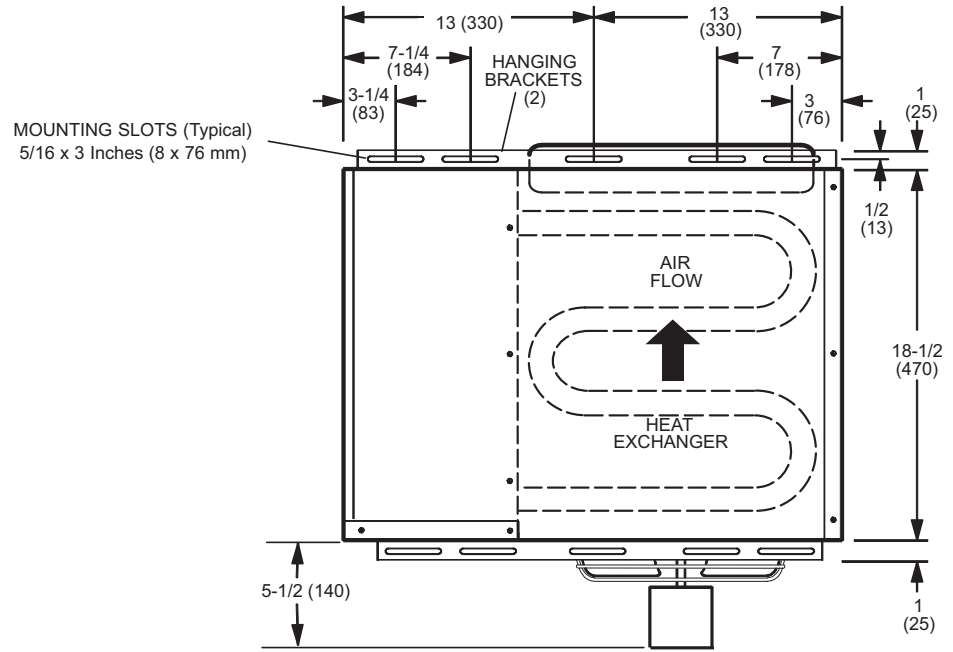
- Units may be fired at full input up to 2000 ft. above sea level. Above 2000 ft., manifold pressure must be reduced by 4% for each 1000 feet above sea level or as specified by local authority having jurisdiction. Adjust pressure regulator to pressure shown in tables. The combustion air inducer proving switch is factory set. No adjustment is necessary.
- NOTE - This is the only permissible derate for the units.

Model No.	Manifold Pressure - in. w.c.								
	ft. 0-2000	2001-3000	3001-4000	4001-5000	5001-6000	6001-7000	7001-8000	8001-9000	9001-10,000
<b>Natural Gas</b>									
TUA045S	<sup>1</sup> 3.5	3.4	3.1	2.9	2.7	2.4	2.2	2.0	1.8
TUA100S, TUA125S	<sup>1</sup> 3.5	2.7	2.5	2.2	2	1.8	1.6	1.4	1.3
<b>LPG/Propane Gas</b>									
TUA045S	<sup>1</sup> 9.5	8.3	7.6	7.0	6.5	6.0	5.5	4.9	4.3
TUA100S, TUA125S, TUA150S, TUA250S, TUA300S	<sup>1</sup> 9.0	7.0	6.4	5.8	5.2	4.7	4.2	3.7	3.2

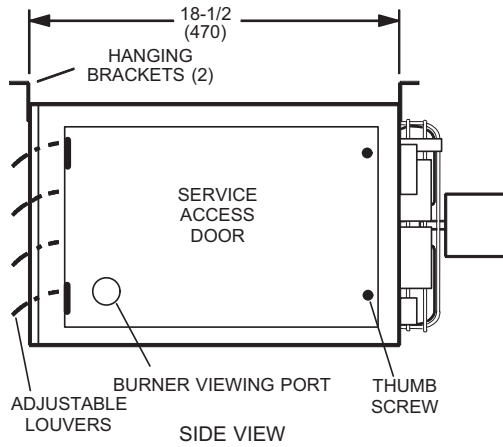
<sup>1</sup> No adjustment required.

# DIMENSIONS

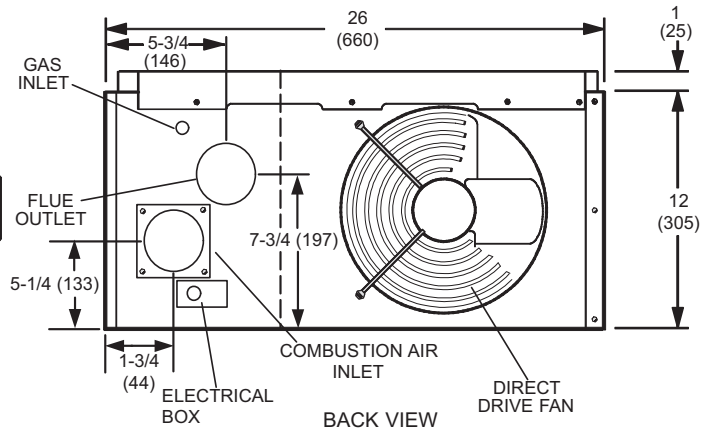
## 045 MODEL



TOP VIEW



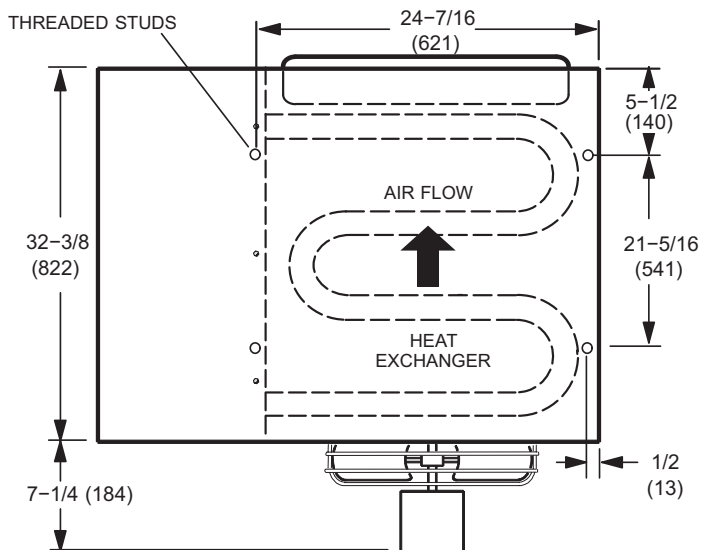
SIDE VIEW



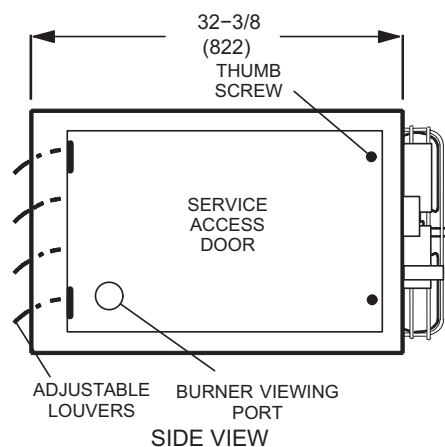
BACK VIEW

# DIMENSIONS

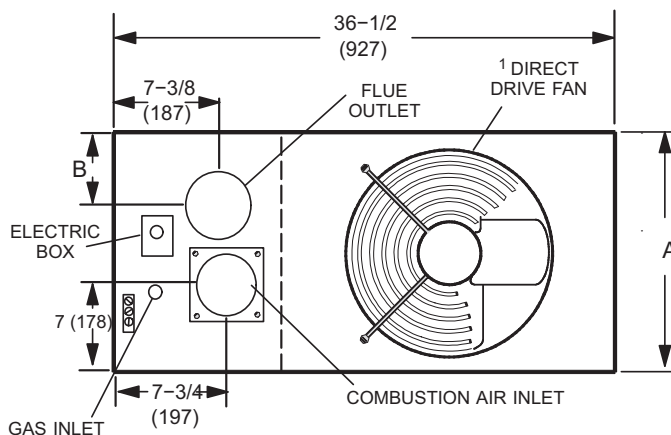
## 100 / 125 / 150 / 250 / 300 MODELS



TOP VIEW



SIDE VIEW



BACK VIEW

<sup>1</sup> TUA250 and TUA300 models have two fans.

Model No.	TUA100S TUA125S		TUA150S		TUA250S TUA300S	
	in.	mm	in.	mm	in.	mm
<b>A</b>	21	533	27	686	39	991
<b>B</b>	8-1/2	216	8-5/8	219	22-1/2	572

## INSTALLATION CLEARANCES

Model No.	045 / 100 / 125 Models	150 / 250 / 300 Models
Top	1 (25)	6 (152)
Side opposite access panel	1 (25)	1 (25)
Access Panel Side	18 (457)	18 (457)
Back	18 (457)	18 (457)
Bottom	0 (0)	0 (0)
<sup>1</sup> Single wall vent	6 (152)	6 (152)

## MAXIMUM HORIZONTAL VENT LENGTHS

No. of Elbows	Maximum Length (ft.) of Straight Vent Pipe	
	45 Model	100 / 125/ 150 / 250 / 300 Models
1	25	25
2	20	20
3	15	15
4	10	10
5	5	5

NOTE - Provide adequate clearance for servicing.

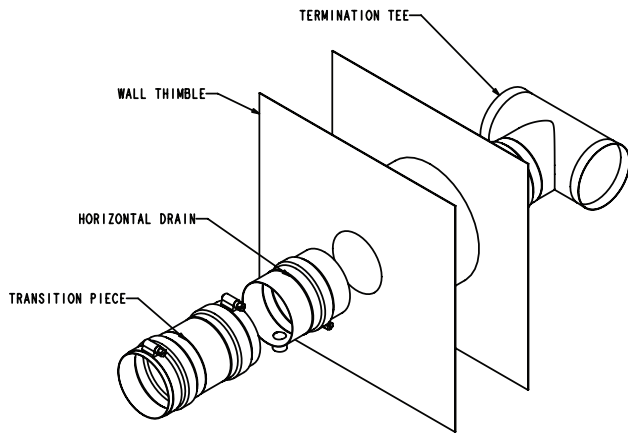
See Installation Instructions for additional installation considerations.

<sup>1</sup> Except for listed clearance thimbles.

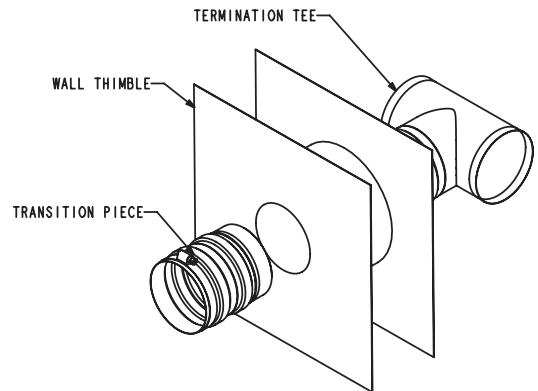


# VENT KITS AND ACCESSORIES

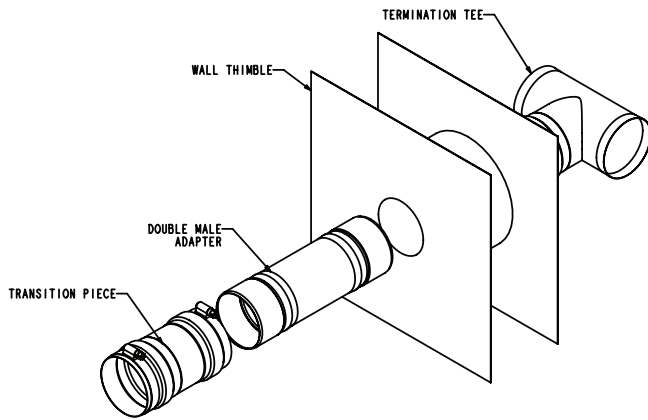
HORIZONTAL VENT KITS (UPSLOPE)



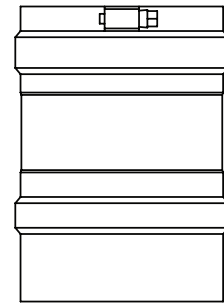
3 AND 6 INCH HORIZONTAL VENT KITS (DOWNSLOPE)



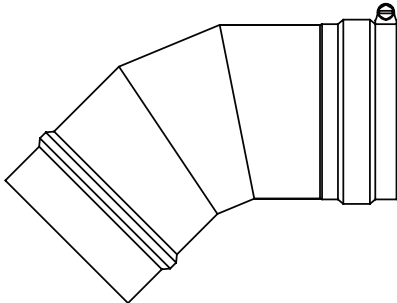
5 INCH HORIZONTAL VENT KIT (DOWNSLOPE)



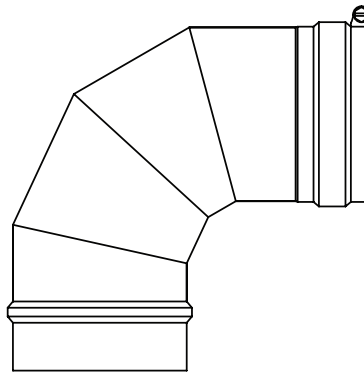
STRAIGHT PIPE (Typical)



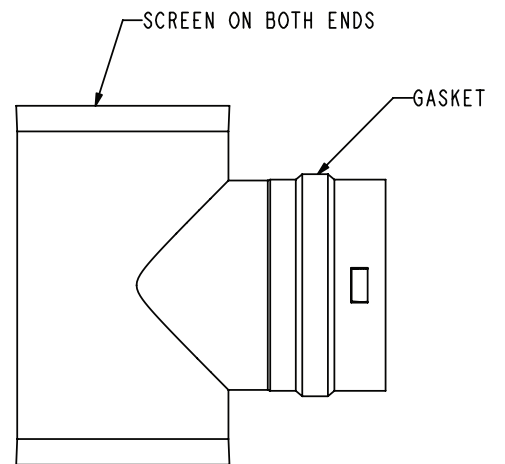
45° ELBOW (Typical)



90° ELBOW (Typical)



HORIZONTAL VENT AIR INTAKE TEE







## REVISIONS

Section	Description of Change
Optional Accessories	Removed Vertical Vent Termination Caps (product discontinued).



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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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