



**GAS FURNACES**

**EL296UHE**

**ELITE® SERIES**

Upflow / Horizontal - Two-Stage Heat - High Efficiency Blower

**PRODUCT SPECIFICATIONS**

Bulletin No. 210647

July 2016

Supersedes October 2015

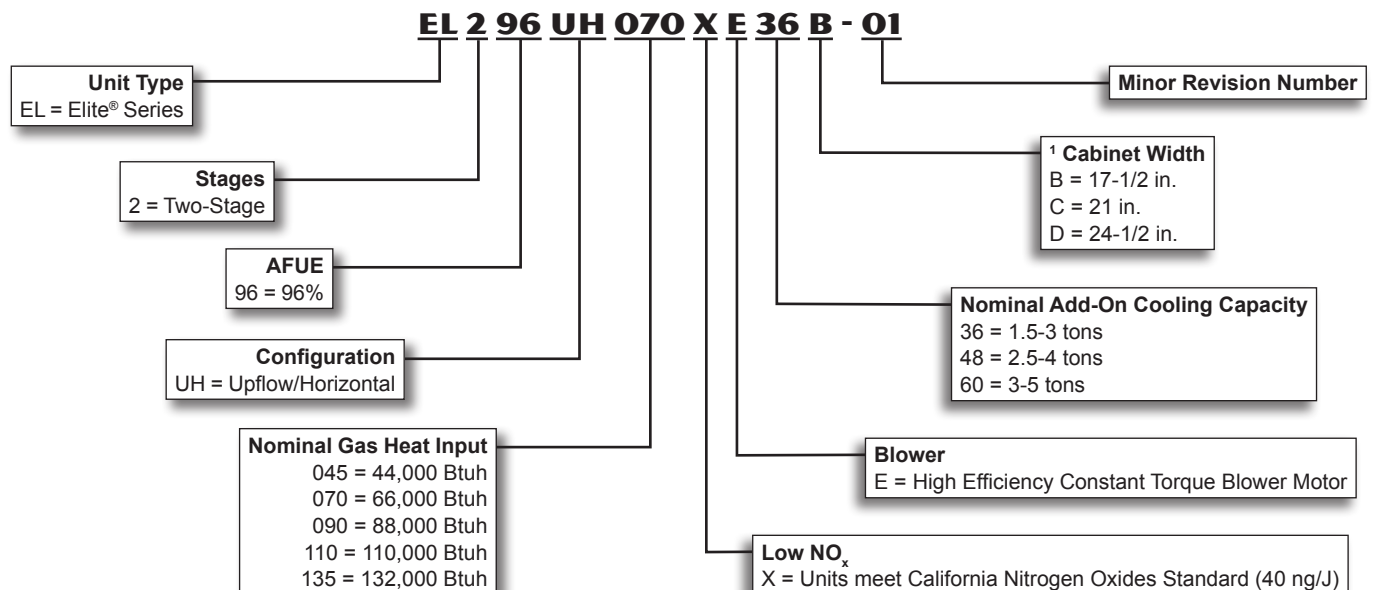


**AFUE - 96%**

**Input - 44,000 to 132,000 Btuh**

**Nominal Add-on Cooling - 1.5 to 5 Tons**

**MODEL NUMBER IDENTIFICATION**

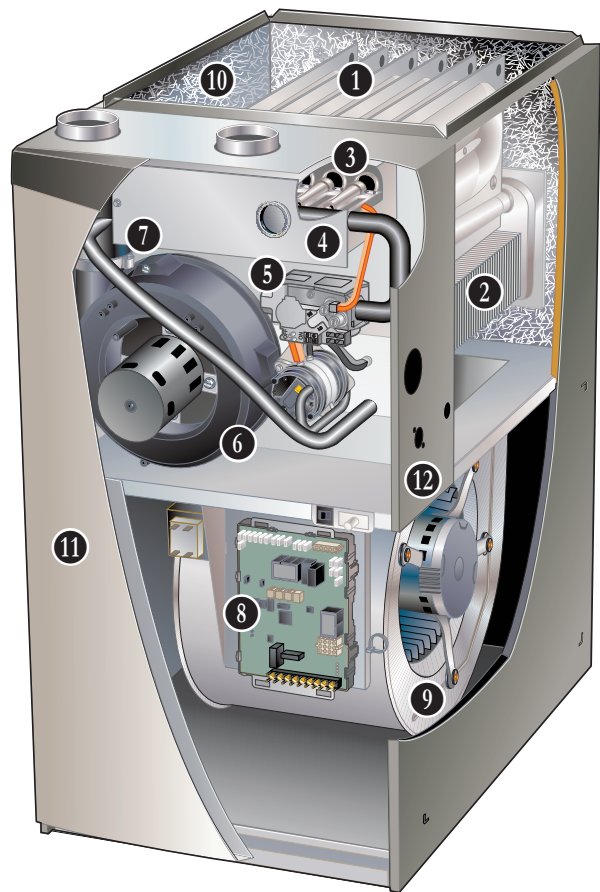


<sup>1</sup> Indoor coils with the same letter designation will physically match the furnace.

## FEATURES

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### WARRANTY

**Duralok Plus™ Aluminized Steel Heat Exchanger** - Limited Lifetime warranty in residential applications (twenty year transferable), ten years in non-residential applications.

**All other covered components** - Limited Five Year warranty in residential applications, one year in non-residential applications.  
Refer to Lennox Equipment Limited Warranty certificate included with equipment for details.

### APPROVALS

Units are Certified by AHRI.

Units are Certified by CSA International.

Units tested and rated according to US DOE test procedures and FTC labeling regulations.

Approved by the California Energy Commission and meets California Nitrogen Oxides Standard (NOx) limits of 40 ng/J.

ENERGY STAR® certified units are designed to use less energy, help save money on utility bills, and help protect the environment.

ISO 9001 Registered Manufacturing Quality System.

Blower data from unit tests conducted in Lennox Laboratory air test chamber.

### APPLICATIONS

Input capacities of 44,000, 66,000, 88,000, 110,000 and 132,000 Btuh.

Energy efficiency (AFUE) 96%.

Compact cabinet for upflow, horizontal-left or horizontal-right applications without any modifications.

Removable bottom seal panel shipped in place for side return air is easily removed for bottom/end return air applications.

Utility room, alcove, closet, crawl space, basement or attic installation.

Lennox add-on indoor coils, high-efficiency air cleaners and humidifiers can easily be added to furnace.

Shipped factory assembled with all controls installed and wired.

Each unit factory test operated to ensure proper operation.

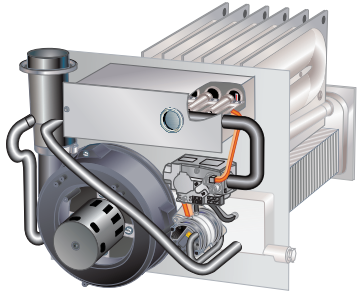
**NOTE - FURNACES CANNOT BE TWINNED!**

## FEATURES

### HEATING SYSTEM

#### 1 Lennox Duralok Plus™ Heat Exchanger Assembly

Lennox developed heat exchanger assembly consists of primary heat exchanger and secondary condenser coil assembly.



Main multi-pass crimped seam design clamshell type heat exchanger.

Constructed of heavy-gauge, aluminized steel.

Designed for normal expansion and

contraction with maximum efficiency and minimum resistance to air flow.

#### 2 Secondary heat exchanger condenser coil constructed of aluminum fins fitted to stainless steel tubes.

Complete heat exchanger assembly is pressure tested at the factory for leaks.

Condensate drain header box assembly located on front of coil.

Compact size of complete heat exchanger assembly permits low overall design of furnace cabinet.

Heat exchanger assembly has been laboratory life cycle tested in excess of industry standards.

#### Lennox Designed Header Box

Header box on end of condenser coil collects flue condensate for disposal through condensate drains.

The drains are located on each side of the cabinet for easy field installation of condensate drain trap.

Only one drain is used, the other drain is sealed.

Condensate drain trap is included with the unit for field installation.

#### Lennox Designed Flue Condensate Trap Assembly

Condensate trap assembly is mounted outside the conditioned air stream.

Assembly can be mounted on either side of cabinet in upflow applications. Assembly is mounted below the cabinet in horizontal applications. Can also be mounted remotely (up to 5 ft. away) from unit. See Installation Instructions.

90° street elbow furnished for ease of drain trap installation.

Drain connection can be made with field provided PVC pipe, PVC coupling, or vinyl tubing with hose clamp.

Drain cap on trap allows easy cleaning and winterizing.

#### 3 Inshot Burners

Aluminized steel inshot burners provide 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.

#### 4 SureLight® Hot Surface Ignitor

Tough, reliable, long-life, trouble-free performance.

Silicon nitride ignitor.

Cemented to steatite block for protection against current leakage.

Ignition leads are constructed of nickel plated copper and are enclosed in high temperature Teflon® insulation for dependable operation.

#### 5 Two-Stage Gas Control Valve

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.

#### 6 Two-Speed Combustion Air Inducer

Permanent split capacitor (PSC), heavy duty blower prepurges heat exchanger and safely vents flue products.

Dual pressure switches (low fire/high fire) prove blower operation before allowing gas valve to open.

Operates only during heating cycle.

#### 7 Flame Rollout Switches (2)

Manual reset switches are factory installed on burner box.

Switch provides protection from abnormal operating conditions.

#### Limit Control

Automatic reset, primary limit is accurately located on vestibule panel on all units.

### Optional Accessories

#### High Altitude Orifice Kits

Required on all units for proper unit operation at altitudes from 7501 to 10,000 ft.

Kits are available for natural gas and LPG/propane.

#### High Altitude Pressure Switch Kit

Required for proper unit operation on installations above 4500 ft.

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

Required for field changeover from natural gas to LPG/Propane.

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

Required for field changeover from LPG/Propane to natural gas.

## FEATURES

### **DIRECT VENT / NON-DIRECT VENT SEALED COMBUSTION SYSTEM**

Furnace features a “sealed combustion” system and can be installed in either Direct Vent or Non-Direct applications.

In Direct Vent applications, combustion air is supplied from outdoors and flue gases are discharged outdoors.

In Non-Direct Vent applications, combustion air is supplied from indoors and flue gases are discharged outdoors.

*NOTE - Lennox has approved the use of DuraVent® PolyPro® and Centrotherm InnoFlue® manufactured vent pipe and terminations as an alternative to PVC vent pipe. Must be ordered separately.*

*Tested and listed to the ULC S636 standard in Canada.*

*The polypropylene venting system must follow the uninsulated and unconditioned space vent lengths listed in the table on .*

*Refer to the Installation Instructions for additional details.*

### **Optional Accessories**

#### **Termination Kits**

Facilitates installation of combustion air intake pipe and flue exhaust pipe.

Refer to venting table in this bulletin to determine pipe size needed and proper termination kit required.

Certain Termination Kits are certified to ULC S636 standard for use in Canada only.

See Optional Accessories table and dimension drawings.

#### **Termination Kit - Concentric - Direct Vent Applications**

2 or 3 inch kit contains concentric termination assembly, reducer bushing and 45 degree elbow.

2 inch kit for -045-070 models contains an outdoor exhaust accelerator.

Kit requires single hole penetration of roof or wall for installation.

Roof Termination Flashing Kit is available for use with 2 inch Kits.

CSA certified.

#### **Termination Kit - Flush-Mount**

Kit contains flush-mount termination, accelerator, mounting template and hardware.

Kit may be used with 2, 2-1/2 or 3 in. pipe.

#### **Termination Kits - Wall Assembly Close Couple (US Only) - Direct Vent Applications**

2 or 3 inch kit consists of close-couple, side-by-side PVC piping with galvanized steel wall cover plate for sealing and isolating piping penetration of the wall.

Piping spacing and length is sized for proper wall installations.

CSA certified.

#### **Close Couple WTK (Canada Only) - Direct Vent Applications**

2 or 3 inch kit contains one insulated faceplate, one insulated exhaust pipe, elbow and fittings. Certified to ULC S636 standard.

#### **Wall Ring - Direct Vent or Non-Direct Vent Applications**

2 inch kit contains 2 stainless steel outside seal caps, 2 galvanized steel inside seal caps, 4 seal rings for the caps and 18 inch insulation sleeve for sealing and isolating intake and exhaust piping penetration of wall.

Maintain a maximum of 6 inches between the inlet and outlet openings in the installation of the pipes.

#### **Roof Termination Flashing Kit**

3 inch kit contains two neoprene rubber roof flashings for vertical venting through a roof.

Vent pipe and insulation not furnished.

Flashing Kit can also be used with 2 inch Concentric Vent Termination Kits used in vertical venting rooftop applications..

## 8 **CONTROLS**

### **SureLight® Integrated Furnace Control**

Contains all necessary controls and relays to operate furnace.

Combustion air inducer is operated by the integrated furnace control. Prior to ignition, a pre-purge cycle for 15 seconds is initiated. After the main burners are turned off, a post-purge cycle for 5 seconds is run.

### **Safety Controls** - Flame sensor utilizes flame

rectification for safe and reliable operation.

Should loss of flame occur, the integrated furnace control will initiate 4 re-attempts at ignition before locking out unit operation for 60 minutes.

Watchguard type circuit automatically resets ignition controls after one hour of continuous thermostat demand after unit lockout, eliminating nuisance calls for service.

**Thermostat Control** - For optimal performance, the use of a high-quality, digital two-stage thermostat with adjustable settings for first stage/second stage, on/off differentials and adjustable stage timers is recommended.

### **Furnace Input Staging Options**

Thermostat Type	Input Staging Available
Two-Stage (Conventional)	Determined by thermostat demand
Single-Stage (Conventional)	2nd-stage heat ON delay (DIP switch setting) OFF - 7 minutes (factory) ON - 12 minutes

## FEATURES

### **CONTROLS (continued)**

**Display LED** - Seven segment LED displays alphanumeric information related to diagnostics as well as system operation and status. Diagnostic codes are held in non-volatile memory, immune from power interruptions. Holds up to ten diagnostic codes in order of occurrence for recall on demand. Port on blower door allows for easy viewing.

#### **DIP Switch Settings**

**Select Thermostat used** - Single-Stage or Two-Stage. Two selectable second stage recognition times (7 and 12 minutes) are available on the control when the furnace is used with a single-stage thermostat. When used with a two-stage thermostat, furnace will only initiate second stage operation with a second stage thermostat demand.

**Second Stage Delay** - Used with single-stage thermostat only. See Furnace Input Staging Options table for details.

**Blower On/Off Time (Heating)** - Blower on time is fixed at 30 seconds, blower off time is adjustable from 60, 90, 120 and 180 seconds (factory setting - 90 seconds).

**Blower On/Off Time (Cooling)** - For air-conditioning applications, blower on time is 2 seconds following thermostat demand for cooling. Blower off time in cooling mode is adjustable from 2 or 45 seconds (factory setting - 45 sec).  
For air-conditioning applications, blower is automatically energized on thermostat demand for cooling.

**Heating Speeds** - Low Heat or High Heat.

**Cooling Speeds** - Low Cool or High Cool.

**Continuous Speed** - Low Heat (factory setting) - adjustable.

**Dehumidification** - A jumper on the control must be clipped to enable dehumidification. A humidity controlling thermostat or device is also required. During a call for cooling, air volume is automatically reduced, forcing humidity removal by the air conditioner or heat pump system (single stage units or two-stage units running at 2nd stage). After the humidity has reached the desired set-point the cooling air volume returns to its designed rate.

**Dual-Fuel Operation** - A jumper on the control must be clipped to enable operation with a single or two-stage heat pump. The indoor blower is started without delay when a call for heat is received.

**Two Stage Compressor Operation** - A jumper on the control must be clipped to enable operation with a two-stage compressor.

**Accessory Terminal** - One accessory terminal furnished for additional power supply requirements for 120 volt (less than 1 amp) powered air cleaners. One unpowered pair of contacts are provided for humidifier connections and may be connected to 24V or 120V.

Control is factory installed in the unit control box.

#### **24 Volt Transformer**

Furnished and factory installed in control box. 40VA transformer has circuit breaker wired in series.

#### **Field Wiring Make-up Box**

Furnished for line voltage wiring.

Factory installed internally on left side of furnace.

Box may be installed internally or externally on either side of furnace.

### **Optional Accessories**

#### **Thermostat**

Thermostat (programmable/non-programmable) is not furnished with unit.

See Thermostat bulletins in Controls Section and Lennox Price Book for selection.

#### **Night Service Kit**

Contains most commonly used service parts:

- Furnace control
- Igniter
- Flame sensor
- Gas valve
- Transformer
- Service Manual

#### **Universal Service Kit - Switches**

Kit contains:

- Primary limits (for each model)
- Pressure switches (for each model)
- Flame rollout switches (for each model)

## FEATURES

### **BLOWER**

- 9 Direct drive blower.
  - Statically and dynamically balanced.
  - Resiliently mounted.
  - Blower assembly easily removed for servicing.

#### **DC Brushless Motor**

- High Efficiency Constant Torque.
- ECM (Electronically Commutated Motor).
- Motor is programmed to provide constant torque at each of the selectable speeds.
- Motor is controlled by the SureLight® Integrated Furnace Control.
- Blower speeds are easily changed on the integrated furnace control. See Blower Data tables.

### **CABINET**

- Low-profile, narrow width cabinet allows easy installation in upflow or horizontal applications.
- Heavy-gauge, cold rolled steel construction.
- Pre-painted cabinet finish.
- Flanges provided on supply air opening for ease of plenum connection or alignment with indoor coil.
- 10 Fully insulated cabinet with foil faced insulation on sides and back of heating compartment and mat faced insulation in blower compartment.
  - Sealed blower compartment.
  - Inner blower compartment access panel seals blower compartment from air leakage.
- 11 Cabinet door can be removed without any tools..
  - Complete service access.
  - Safety interlock switch automatically shuts off power to unit when blower compartment access door is removed.
- 12 Gas piping and electrical inlets are provided in both sides of cabinet.

#### **Return Air Entry:**

For bottom/end return-air entry for upflow/horizontal applications, remove furnished bottom seal panel from cabinet.

For side return-air entry (upflow applications only), corners are marked on either side of cabinet for return air cut-outs.

See Dimension Drawing.

#### **NOTE - 60C and 60D size units that require air volumes over 1800 cfm must have one of the following:**

1. Single side return air with transition, to accommodate 20 x 25 x 1 in. cleanable air filter. Required to maintain proper air velocity.
2. Single side return air with Optional Return Air Base
3. Bottom return air.
4. Return air from both sides.
5. Bottom and one side return air.

See Blower Data Tables for additional information.

#### **Coil Match-Up**

All furnaces exactly match C33, C35, CX34 and CX35 cased upflow indoor coils and CH33 and CH35 horizontal indoor coils with same letter designation in model number. No adaptor required. Engaging holes furnished on cabinet for alignment.

C33 uncased coils match furnaces without any overhang but require an optional adaptor base or field fabricated transition to match furnace opening. See C33 coil bulletin for additional information.

#### **Low Leakage Cabinet**

All models have less than 2% air leakage and meet ANSI/ASHRAE Standard 193-2010 "Method of Test for Determining the Air Tightness of HVAC Equipment".

## FEATURES

### **CABINET (continued)**

#### **Optional Accessories**

##### **Condensate Drain Heat Cable Kits**

Self-limiting wattage heat cable prevents condensate drain from freezing in unconditioned areas.

Available in 6 or 24 ft. lengths.

##### **Horizontal Suspension Kit**

Provides suspension of unit and indoor coil in horizontal applications.

Allows complete service access.

Consists of corner mounted hanging brackets with vibration isolators, return air end support rail and hardware for assembly.

Metal hanging straps must be field provided.

##### **Crawl Space Vent Drain Kit**

Allows venting through a crawl space for upflow and horizontal applications.

Includes 2 or 3 in. sanitary tee, 2 in. PVC assembly, PVC boot and clamp.

##### **Return Air Base**

On furnaces with side return air and condensate trap on the same side of the cabinet, a field fabricated transition or Return Air Base is required when using an IAQ product higher than 14-3/16 in. installed next to the unit and serviced from the front. IAQ products higher than 20 in. require a field fabricated transition.

Must be used for 60C and 60D models with air volumes over 1800 cfm in upflow applications when only one side return is required.

Cabinet is shipped flat for easy field assembly and is pre-painted steel to match the furnace.

See Dimension Drawing.

##### **High Performance Economizer (Commercial Applications Only)**

Designed for applications requiring outdoor air to be utilized in a commercial HVAC system. Allows the entry of fresh outdoor air for free cooling, reducing the requirement for mechanical cooling.

Heavy gauge galvanized steel cabinet lined with thick fiberglass insulation. Mixed air sensor, outdoor air sensor and 24VAC transformer furnished.

Approved for California Title 24 building standards. ASHRAE 90.1-2010 compliant.

See separate Product Specifications bulletin for additional information and available control and sensor options.

### **FILTER (not furnished)**

Filter and provisions for external mounting must be field provided.

#### **Optional Accessories**

##### **Air Filter and Rack Kit for Horizontal Return Air (End) Applications**

Washable or vacuum cleanable polyurethane frame type filter and external end return air rack available for field installation.

Rack has filter door for easy filter servicing.

Flanges on rack allow easy duct connection.

See Dimension Drawing.

##### **Air Filter and Rack Kit for Upflow Side Return Air**

Applications - Not for use with Return Air Base

Washable or vacuum cleanable polyurethane frame type filter and external side return air rack available for field installation.

Available in single and ten pack kits.

Rack has filter door for easy filter servicing.

Flanges on rack allow easy duct connection.

Field installs on either side of unit cabinet. See Dimension Drawing.

## SPECIFICATIONS

Gas		Model No.	EL296UH045XE36B	EL296UH070XE36B	EL296UH090XE48C
Heating Performance		<sup>1</sup> AFUE	96%	96%	96%
	High Fire	Input - Btuh	44,000	66,000	88,000
		Output - Btuh	43,000	64,000	84,000
		Temperature rise range - °F	30-60	35-65	40-70
	Gas Manifold Pressure (in. w.g.) Nat. Gas / LPG/Propane		3.5 / 10.0	3.5 / 10.0	3.5 / 10.0
	Low Fire	Input - Btuh	29,000	43,000	57,000
		Output - Btuh	28,000	42,000	55,000
		Temperature rise range - °F	20 - 50	25 - 55	30 - 60
		Gas Manifold Pressure (in. w.g.) Nat. Gas / LPG/Propane	1.7 / 4.9	1.7 / 4.9	1.7 / 4.9
	High static - in. w.g.		0.5	0.5	0.5
Connections in.	Intake / Exhaust Pipe (PVC)		2 / 2	2 / 2	2 / 2
	Gas pipe size IPS		1/2	1/2	1/2
	Condensate Drain Trap (PVC pipe) - i.d.		3/4	3/4	3/4
	with furnished 90° street elbow		3/4 slip x 3/4 Mipt	3/4 slip x 3/4 Mipt	3/4 slip x 3/4 Mipt
	with field supplied (PVC coupling) - o.d.		3/4 slip x 3/4 MPT	3/4 slip x 3/4 MPT	3/4 slip x 3/4 MPT
Indoor Blower	Wheel nominal diameter x width - in.		10 x 8	10 x 8	10 x 10
	Motor Type		DC Brushless	DC Brushless	DC Brushless
	Motor output - hp		1/2	1/2	3/4
	Tons of add-on cooling		1.5 - 3	1.5 - 3	2.5 - 4
	Air Volume Range - cfm		520 - 1345	550 - 1380	760 - 1740
Electrical Data	Voltage		120 volts - 60 hertz - 1 phase		
	Blower motor full load amps		6.8	6.8	8.4
	Maximum overcurrent protection		15	15	15
Shipping Data		lbs. - 1 package	129	133	159

NOTE - Filters and provisions for mounting are not furnished and must be field provided.

<sup>1</sup> Annual Fuel Utilization Efficiency based on DOE test procedures and according to FTC labeling regulations. Isolated combustion system rating for non-weatherized furnaces.

## SPECIFICATIONS

Gas		Model No.	EL296UH110XE60C	EL296UH135XE60D
Heating Performance		<sup>1</sup> AFUE	96%	96%
	High Fire	Input - Btuh	110,000	132,000
		Output - Btuh	106,000	127,000
		Temperature rise range - °F	40-70	45-75
	Gas Manifold Pressure (in. w.g.) Nat. Gas / LPG/Propane		3.5 / 10.0	3.5 / 10.0
	Low Fire	Input - Btuh	72,000	86,000
		Output - Btuh	70,000	84,000
		Temperature rise range - °F	30-60	35-65
		Gas Manifold Pressure (in. w.g.) Nat. Gas / LPG/Propane	1.7 / 4.9	1.7 / 4.9
	High static - in. w.g.		0.5	0.5
Connections in.	Intake / Exhaust Pipe (PVC)		2 / 2	2 / 2
	Gas pipe size IPS		1/2	1/2
	Condensate Drain Trap (PVC pipe) - i.d.		3/4	3/4
	with furnished 90° street elbow		3/4 slip x 3/4 Mipt	3/4 slip x 3/4 Mipt
	with field supplied (PVC coupling) - o.d.		3/4 slip x 3/4 MPT	3/4 slip x 3/4 MPT
Indoor Blower	Wheel nominal diameter x width - in.		11-1/2 x 10	11-1/2 x 10
	Motor Type		DC Brushless	DC Brushless
	Motor output - hp		1	1
	Tons of add-on cooling		3 - 5	3.5 - 5
	Air Volume Range - cfm		1055 - 2220	1260 - 2405
Electrical Data	Voltage		120 volts - 60 hertz - 1 phase	
	Blower motor full load amps		10.9	10.9
	Maximum overcurrent protection		15	15
Shipping Data		lbs. - 1 package	174	189

NOTE - Filters and provisions for mounting are not furnished and must be field provided.

<sup>1</sup> Annual Fuel Utilization Efficiency based on DOE test procedures and according to FTC labeling regulations. Isolated combustion system rating for non-weatherized furnaces.



## OPTIONAL ACCESSORIES - ORDER SEPARATELY

NOTE - FURNACES CANNOT BE TWINNED!

			"B" Width Models	"C" Width Models	"D" Width Models	
<b>CABINET ACCESSORIES</b>						
Horizontal Suspension Kit - Horizontal only			51W10	51W10	51W10	
Return Air Base - Upflow only			50W98	50W99	51W00	
High Performance Economizer (Commercial Only)			10U53	10U53	10U53	
<b>CONDENSATE DRAIN KITS</b>						
Condensate Drain Heat Cable	6 ft.		26K68	26K68	26K68	
	24 ft.		26K69	26K69	26K69	
Crawl Space Vent Drain Kit			51W18	51W18	51W18	
<b>FILTER KITS</b>						
<sup>1</sup> Air Filter and Rack Kit	Horizontal (end)	Size of filter - in.	87L96 - 18 x 25 x 1	87L97 - 20 x 25 x 1	87L98 - 25 x 25 x 1	
		Side Return	Single	44J22	44J22	44J22
	Side Return		Ten Pack	66K63	66K63	66K63
			Size of filter - in.	16 x 25 x 1	16 x 25 x 1	16 x 25 x 1
<b>SERVICE KITS</b>						
Night Service Kit			10B39	10B39	10B39	
Universal Service Kit - Switches			89W20	89W20	89W20	
<b>TERMINATION KITS</b>						
See Installation Instructions for specific venting information.						
Termination Kits - Direct Vent Applications Only	Concentric	US - 2 in.	71M80	69M29	---	
		3 in.	---	60L46	60L46	
		Canada - 2 in.	44W92	44W92	---	
		3 in.	---	44W93	44W93	
	Flush-Mount	US - 2, 2-1/2 or 3 in.	51W11	51W11	51W11	
		Canada - 2, 2-1/2 or 3 in.	51W12	51W12	51W12	
	Wall - Close Couple	US - 2 in.	22G44	---	---	
		3 in.	44J40	44J40	44J40	
	Wall - Close Couple WTK	Canada - 2 in.	30G28	---	---	
		3 in.	81J20	81J20	81J20	
Termination Kits - Direct or Non-Direct Vent	Roof	2 in.	15F75	15F75	---	
	Wall Ring Kit	2 in.	15F74	<sup>3</sup> 15F74	---	
<sup>2</sup> Roof Termination Flashing Kit - Direct or Non-Direct Vent (2 flashings)		3 in.	44J41	44J41	44J41	

<sup>1</sup> Cleanable polyurethane, frame-type filter.

<sup>5</sup> Kits contain enough parts for two, non-direct vent installations.

<sup>3</sup> Non-direct vent only.

NOTE - Termination Kits 44W92, 44W93, 30G28, 51W12, 51W19, 81J20 are certified to ULC S636 standard for use in Canada only.

## GAS HEAT ACCESSORIES

Input	High Altitude Pressure Switch Kit		Natural Gas to LPG/Propane Kit	LPG/Propane to Natural Gas Kit	Natural Gas High Altitude Orifice Kit	LPG/Propane High Altitude Orifice Kit
	4501 - 7500 ft.	7501 - 10,000 ft.	0 - 7500 ft.	0 - 7500 ft.	7501 - 10,000 ft.	7501 - 10,000 ft.
045	14A47	14A50	11K51	77W09	73W37	11K46
070	14A54	14A53	11K51	77W09	73W37	11K46
090	14A57	14A54	11K51	77W09	73W37	11K46
110	14A46	14A51	11K51	77W09	73W37	11K46
135	14A49	14A51	11K51	77W09	73W37	11K46

## HIGH ALTITUDE DERATE

NOTE - Units may be installed at altitudes up to 10,000 ft.

At altitudes above 4501 ft. the unit must be derated to match the manifold pressure information shown below.

Units installed at altitudes of 4501 to 10,000 ft. require a pressure switch change.

Units installed at altitudes of 7501 to 10,000 ft. require an orifice change.

See the Gas Heat Accessories table for ordering information.

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

NOTE - In Canada, certification for installations at elevations over 4500 feet is the jurisdiction of local authorities.

Input	Gas	Manifold Pressure in. w.g.										Supply Line Pressure in. w.g. 0 - 10,000 ft.	
		0 - 4500 ft.		4501 - 5500 ft.		5501 - 6500 ft.		6501 - 7500 ft.		7501 - 10,000 ft.			
		Low Fire	High Fire	Low Fire	High Fire	Low Fire	High Fire	Low Fire	High Fire	Low Fire	High Fire	Min.	Max.
All Sizes	Natural	1.7	3.5	1.6	3.3	1.5	3.2	1.5	3.1	1.7	3.5	4.5	13.0
	LPG/Propane	4.9	10.0	4.6	9.4	4.4	9.1	4.3	8.9	4.9	10.0	11.0	13.0

## OUTDOOR TERMINATION KIT USAGE

Input Size	Vent Pipe Diameter (in.)	Standard Terminations					Concentric Terminations			
		Flush Mount Kit	Wall Kit		Wall Ring Kit	Field Fabricated Exhaust Accelerator Size Required	Concentric Kit			
			2 inch	3 inch	2 inch		1-1/2 inch	2 inch	3 inch	
		51W11 (US) 4 51W12 (CA)	22G44 (US) 4 30G28 (CA)	44J40 (US) 4 81J20 (CA)	15F74		71M80 (US) 4 44W92 (CA)	69M29 (US) 4 44W92 (CA)	60L46 (US) 4 44W93 (CA)	
045	2	<sup>3</sup> YES	YES	<sup>1</sup> YES	YES	1-1/2 in.	<sup>2</sup> YES	---	---	
	2-1/2	<sup>3</sup> YES	YES	<sup>1</sup> YES	YES	1-1/2 in.	<sup>2</sup> YES	---	---	
	3	<sup>3</sup> YES	YES	<sup>1</sup> YES	YES	1-1/2 in.	<sup>2</sup> YES	---	---	
070	2	<sup>3</sup> YES	YES	<sup>1</sup> YES	YES	1-1/2 in.	<sup>2</sup> YES	---	---	
	2-1/2	<sup>3</sup> YES	YES	<sup>1</sup> YES	YES	1-1/2 in.	<sup>2</sup> YES	---	---	
	3	<sup>3</sup> YES	YES	<sup>1</sup> YES	YES	1-1/2 in.	<sup>2</sup> YES	---	---	
090	2	<sup>3</sup> YES	---	YES	<sup>1</sup> YES	2 in.	---	YES	YES	
	2-1/2	<sup>3</sup> YES	---	YES	<sup>1</sup> YES	2 in.	---	YES	YES	
	3	<sup>3</sup> YES	---	YES	<sup>1</sup> YES	2 in.	---	YES	YES	
110	2	YES	---	YES	YES	2 in.	---	YES	YES	
	2-1/2	YES	---	YES	---	2 in.	---	YES	YES	
	3	YES	---	YES	---	2 in.	---	YES	YES	
135	3	YES	---	YES	---	2 in.	---	---	YES	

NOTE - Standard Terminations do not include any vent pipe or elbows external to the structure.

Any vent pipe or elbows external to the structure must be included in total vent length calculations. See Vent Length Tables.

<sup>1</sup> Requires field provided 1-1/2 in. outdoor exhaust accelerator.

<sup>2</sup> Concentric Kits **71M80** and **44W92** include 1-1/2 in. outdoor exhaust accelerator, required when used with 045 and 070 input models. Accelerator is not used with 090, 110, 135 input models.

<sup>3</sup> Flush Mount Kit **51W11** and **51W12** includes 1-1/2 in. outdoor exhaust accelerator, required when used with 045, 070 and 090 input models. Accelerator is not used with 110 or 135 input models.

<sup>4</sup> Termination Kits **30G28**, **44W92**, **44W93**, **51W12** and **81J20** are certified to ULC S636 standard for use in Canada only.

## VENT LENGTHS - UNINSULATED EXHAUST PIPE IN UNCONDITIONED SPACE

1 Winter Design Temperatures	Vent Pipe Diameter	Unit Input Size									
		045		070		090		110		135	
		Maximum Un-Insulated Exhaust Vent Length (ft.)									
		PVC	PolyPro InnoFlue	PVC	PolyPro InnoFlue	PVC	PolyPro InnoFlue	PVC	PolyPro InnoFlue	PVC	PolyPro InnoFlue
32 to 21°F	2 in.	21	18	33	30	46	42	30	30	N/A	N/A
	2-1/2 in.	16	N/A	26	N/A	37	N/A	36	N/A	N/A	N/A
	3 in.	12	12	21	21	30	30	29	29	42	42
20 to 1°F	2 in.	11	9	19	17	28	25	27	24	N/A	N/A
	2-1/2 in.	7	N/A	14	N/A	21	N/A	20	N/A	N/A	N/A
	3 in.	N/A	N/A	9	9	16	16	14	14	23	23
0 to -20°F	2 in.	6	4	12	10	19	16	18	15	N/A	N/A
	2-1/2 in.	N/A	N/A	7	N/A	13	N/A	12	N/A	N/A	N/A
	3 in.	N/A	N/A	N/A	N/A	8	8	7	7	13	13

NOTE - Concentric terminations are equivalent to 5 ft. of straight pipe and should be included when measuring total pipe length.

<sup>1</sup> Refer to 99% Minimum Design Temperature table provided in the current edition of ASHRAE Handbook-Fundamentals.

PolyPro® poly-propylene vent pipe is a registered trademark of DuraVent®.

Innoflue® is a registered trademark of Centrotherm Eco Systems.

## VENT LENGTHS - FEET

### STANDARD TERMINATION AT ELEVATION 0 - 4500 ft.

	Pipe Size	2 in.					2-1/2 in.					3 in.				
	Input	045	070	090	110	135	045	070	090	110	135	045	070	090	110	135
No. of 90 ELL	1	81	66	44	24	N/A	115	115	93	58	N/A	138	137	118	118	114
	2	76	61	39	19	N/A	110	110	88	53	N/A	133	132	113	113	109
	3	71	56	34	14	N/A	105	105	83	48	N/A	128	127	108	108	104
	4	66	51	29	N/A	N/A	100	100	78	43	N/A	123	122	103	103	99
	5	61	46	24	N/A	N/A	95	95	73	38	N/A	118	117	98	98	94
	6	56	41	19	N/A	N/A	90	90	68	33	N/A	113	112	93	93	89
	7	51	36	14	N/A	N/A	85	85	63	28	N/A	108	107	88	88	84
	8	46	31	N/A	N/A	N/A	80	80	58	23	N/A	103	102	83	83	79
	9	41	26	N/A	N/A	N/A	75	75	53	18	N/A	98	97	78	78	74
	10	36	21	N/A	N/A	N/A	70	70	48	13	N/A	93	92	73	73	69

### STANDARD TERMINATION ELEVATION 4501 - 10,000 ft.

	Pipe Size	2 in.					2-1/2 in.					3 in.				
	Input	045	070	090	110	135	045	070	090	110	135	045	070	090	110	135
No. of 90 ELL	1	81	66	44	N/A	N/A	115	115	93	58	N/A	138	137	118	118	114
	2	76	61	39	N/A	N/A	110	110	88	53	N/A	133	132	113	113	109
	3	71	56	34	N/A	N/A	105	105	83	48	N/A	128	127	108	108	104
	4	66	51	29	N/A	N/A	100	100	78	43	N/A	123	122	103	103	99
	5	61	46	24	N/A	N/A	95	95	73	38	N/A	118	117	98	98	94
	6	56	41	19	N/A	N/A	90	90	68	33	N/A	113	112	93	93	89
	7	51	36	14	N/A	N/A	85	85	63	28	N/A	108	107	88	88	84
	8	46	31	N/A	N/A	N/A	80	80	58	23	N/A	103	102	83	83	79
	9	41	26	N/A	N/A	N/A	75	75	53	18	N/A	98	97	78	78	74
	10	36	21	N/A	N/A	N/A	70	70	48	13	N/A	93	92	73	73	69

### CONCENTRIC TERMINATION AT ELEVATION 0 - 4500 ft.

	Pipe Size	2 in.					2-1/2 in.					3 in.				
	Input	045	070	090	110	135	045	070	090	110	135	045	070	090	110	135
No. of 90 ELL	1	73	58	42	22	N/A	105	105	89	54	N/A	121	121	114	114	105
	2	68	53	37	17	N/A	100	100	84	49	N/A	116	116	109	109	100
	3	63	48	32	12	N/A	95	95	79	44	N/A	111	111	104	104	95
	4	58	43	27	N/A	N/A	90	90	74	39	N/A	106	106	99	99	90
	5	53	38	22	N/A	N/A	85	85	69	34	N/A	101	101	94	94	85
	6	48	33	17	N/A	N/A	80	80	64	29	N/A	96	96	89	89	80
	7	43	28	12	N/A	N/A	75	75	59	24	N/A	91	91	84	84	75
	8	38	23	N/A	N/A	N/A	70	70	54	19	N/A	86	86	79	79	70
	9	33	18	N/A	N/A	N/A	65	65	49	14	N/A	81	81	74	74	65
	10	28	13	N/A	N/A	N/A	60	60	44	N/A	N/A	76	76	69	69	60

### CONCENTRIC TERMINATION ELEVATION 4501 - 10,000 ft.

	Pipe Size	2 in.					2-1/2 in.					3 in.				
	Input	045	070	090	110	135	045	070	090	110	135	045	070	090	110	135
No. of 90 ELL	1	73	58	42	N/A	N/A	105	105	89	54	N/A	121	121	114	114	105
	2	68	53	37	N/A	N/A	100	100	84	49	N/A	116	116	109	109	100
	3	63	48	32	N/A	N/A	95	95	79	44	N/A	111	111	104	104	95
	4	58	43	27	N/A	N/A	90	90	74	39	N/A	106	106	99	99	90
	5	53	38	22	N/A	N/A	85	85	69	34	N/A	101	101	94	94	85
	6	48	33	17	N/A	N/A	80	80	64	29	N/A	96	96	89	89	80
	7	43	28	12	N/A	N/A	75	75	59	24	N/A	91	91	84	84	75
	8	38	23	N/A	N/A	N/A	70	70	54	19	N/A	86	86	79	79	70
	9	33	18	N/A	N/A	N/A	65	65	49	14	N/A	81	81	74	74	65
	10	28	13	N/A	N/A	N/A	60	60	44	N/A	N/A	76	76	69	69	60

## VENT LENGTHS (EXHAUST) - VENTILATED ATTIC OR CRAWLSPACE INTAKE AIR - FEET

### STANDARD TERMINATION AT ELEVATION 0 - 4500 ft.

	Pipe Size	2 in.					2-1/2 in.					3 in.				
	Input	045	070	090	110	135	045	070	090	110	135	045	070	090	110	135
<b>No. of 90 ELL</b>	1	71	56	34	14	N/A	100	100	78	43	N/A	118	117	98	98	94
	2	66	51	29	9	N/A	95	95	73	38	N/A	113	112	93	93	89
	3	61	46	24	4	N/A	90	90	68	33	N/A	108	107	88	88	84
	4	56	41	19	N/A	N/A	85	85	63	28	N/A	103	102	83	83	79
	5	51	36	14	N/A	N/A	80	80	58	23	N/A	98	97	78	78	74
	6	46	31	9	N/A	N/A	85	75	63	18	N/A	93	92	73	73	69
	7	41	26	4	N/A	N/A	70	70	48	13	N/A	88	87	68	68	64
	8	36	21	N/A	N/A	N/A	65	65	43	8	N/A	83	82	63	63	59
	9	31	16	N/A	N/A	N/A	60	60	38	3	N/A	78	77	58	58	54
	10	26	11	N/A	N/A	N/A	55	55	33	N/A	N/A	73	72	53	53	49

### STANDARD TERMINATION ELEVATION 4501 - 10,000 ft.

	Pipe Size	2 in.					2-1/2 in.					3 in.				
	Input	045	070	090	110	135	045	070	090	110	135	045	070	090	110	135
<b>No. of 90 ELL</b>	1	71	56	34	N/A	N/A	100	100	78	43	N/A	118	117	98	98	94
	2	66	51	29	N/A	N/A	95	95	73	38	N/A	113	112	93	93	89
	3	61	46	24	N/A	N/A	90	90	68	33	N/A	118	107	88	88	84
	4	56	41	19	N/A	N/A	85	85	63	28	N/A	113	102	83	83	79
	5	51	36	14	N/A	N/A	80	80	58	23	N/A	98	97	78	78	74
	6	46	31	9	N/A	N/A	85	85	53	18	N/A	93	92	73	73	69
	7	41	26	4	N/A	N/A	70	70	48	13	N/A	98	87	68	68	64
	8	36	21	N/A	N/A	N/A	65	65	43	8	N/A	93	82	63	63	59
	9	31	16	N/A	N/A	N/A	60	60	38	3	N/A	78	77	58	58	54
	10	26	11	N/A	N/A	N/A	55	55	33	N/A	N/A	73	72	53	53	49

### INSTALLATION CLEARANCES - INCHES (MM)

Sides	<sup>1</sup> 0 inches (0 mm)
Rear	0 inches (0 mm)
Top/Plenum	1 inch (25 mm)
Front	0 inches (0 mm)
Front (service/alcove)	24 inches (610 mm)
Floor	<sup>2</sup> Combustible

NOTE – Air for combustion must conform to the methods outlined in the National Fuel Gas Code (NFPA 54/ANSI-Z223.1) or the National Standard of Canada CAN/CSA-B149.1 Natural Gas and Propane Installation Code”.

NOTE – In the U.S. flue sizing must conform to the methods outlined in the current National Fuel Gas Code (NFPA 54/ANSI-Z223.1) or applicable provisions of local building codes. In Canada flue sizing must conform to the methods outlined in National Standard of Canada CAN/CSA-B149.1.

<sup>1</sup> Allow proper clearances to accommodate condensate trap and vent pipe installation.

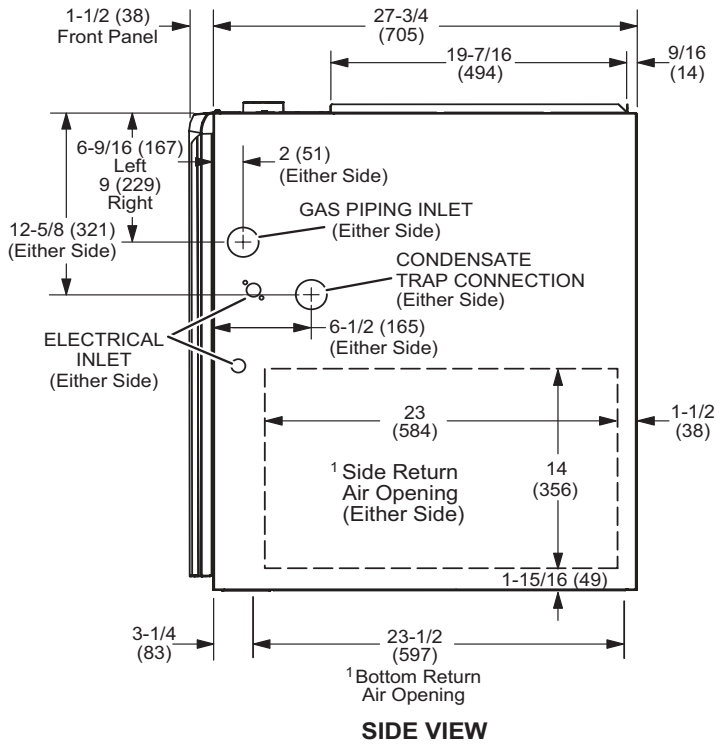
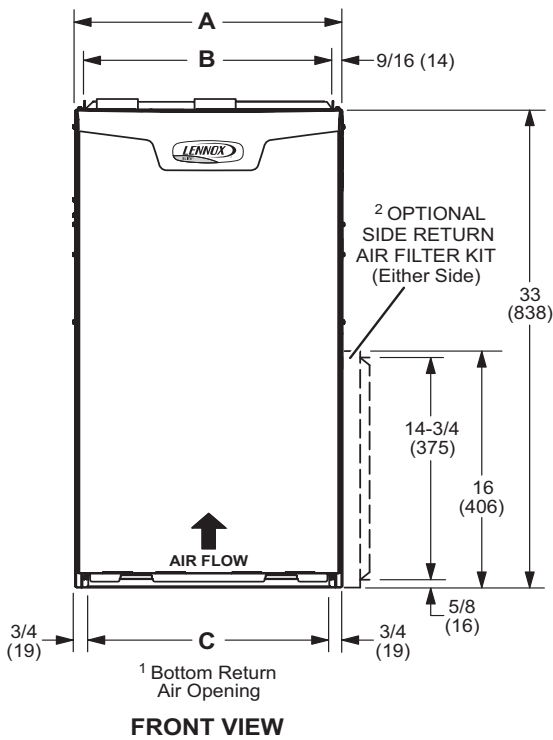
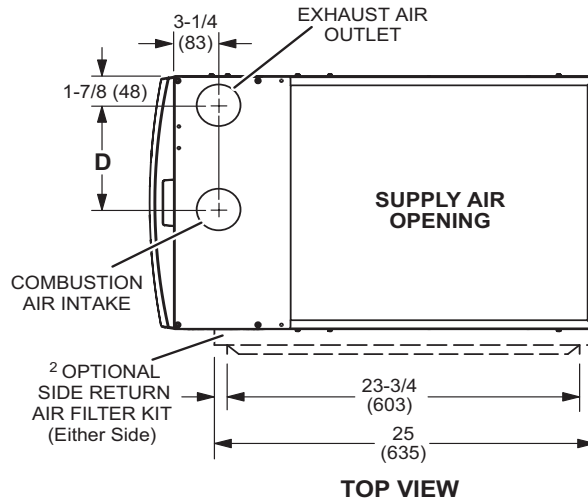
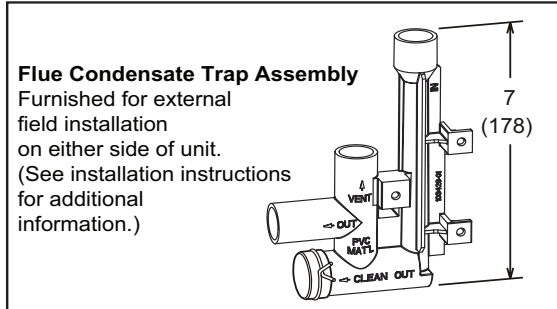
<sup>2</sup> Do not install the furnace directly on carpeting, tile, or other combustible materials other than wood flooring.

# DIMENSIONS - INCHES (MM) - UPFLOW POSITION

<sup>1</sup> NOTE - 60C and 60D size units that require second stage air volumes over 1800 cfm must have one of the following:

1. Single side return air with transition, to accommodate 20 x 25 x 1 in. cleanable air filter. Required to maintain proper air velocity.
  2. Single side return air with Optional Return Air Base
  3. Bottom return air.
  4. Return air from both sides.
  5. Bottom and one side return air.
- See Blower Performance Tables for additional information.

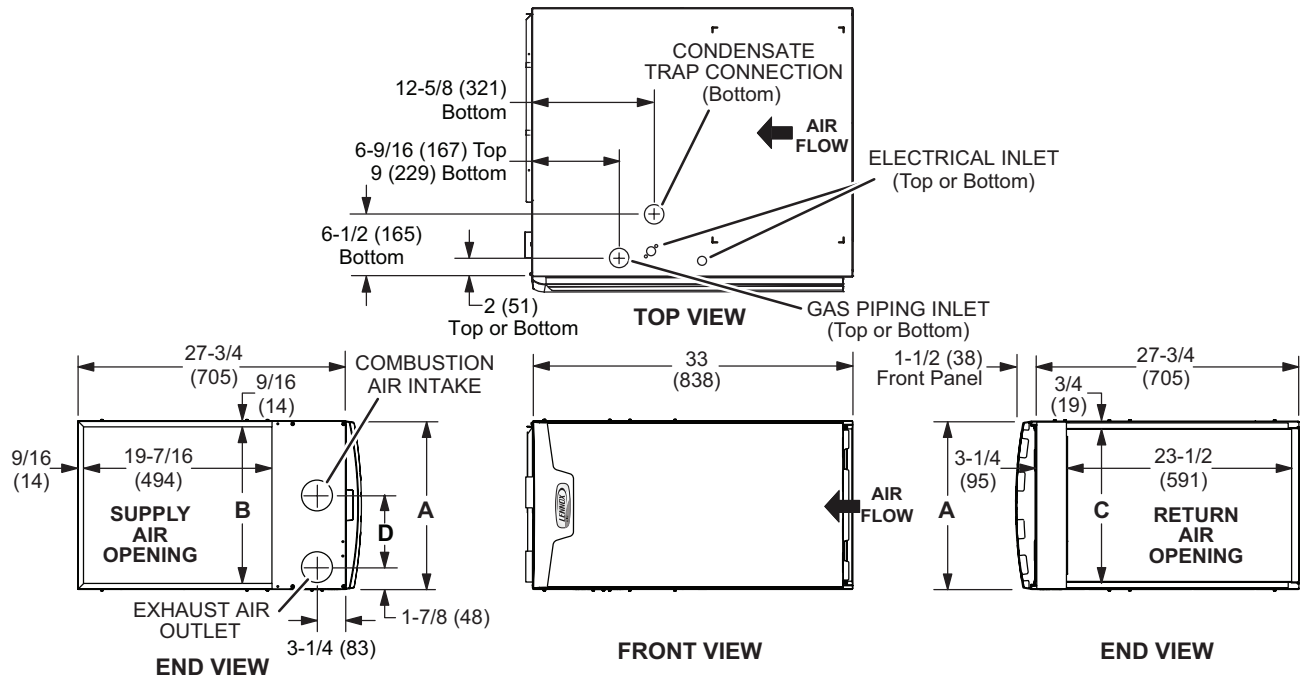
<sup>2</sup> Optional Side Return Air Filter Kit is not for use with the Optional Return Air Base.



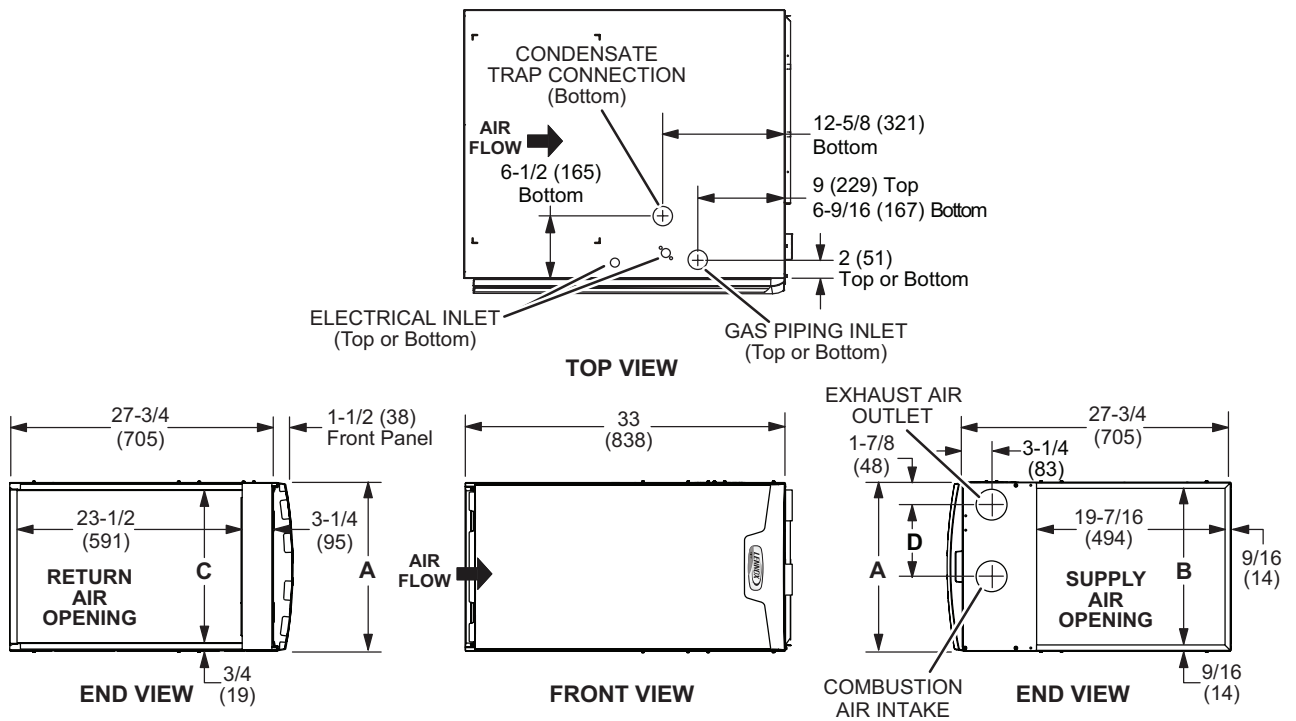
Model No.	A		B		C		D	
	in.	mm	in.	mm	in.	mm	in.	mm
EL296UH045XE36B EL296UH070XE36B	17-1/2	446	16-3/8	416	16	406	7-5/8	194
EL296UH090XE48C EL296UH110XE60C	21	533	19-7/8	505	19-1/2	495	9-3/8	238
EL296UH135XE60D	24-1/2	622	23-3/8	594	23	584	11-1/8	283

# DIMENSIONS - INCHES (MM) - HORIZONTAL POSITION

## LEFT-HAND AIR DISCHARGE



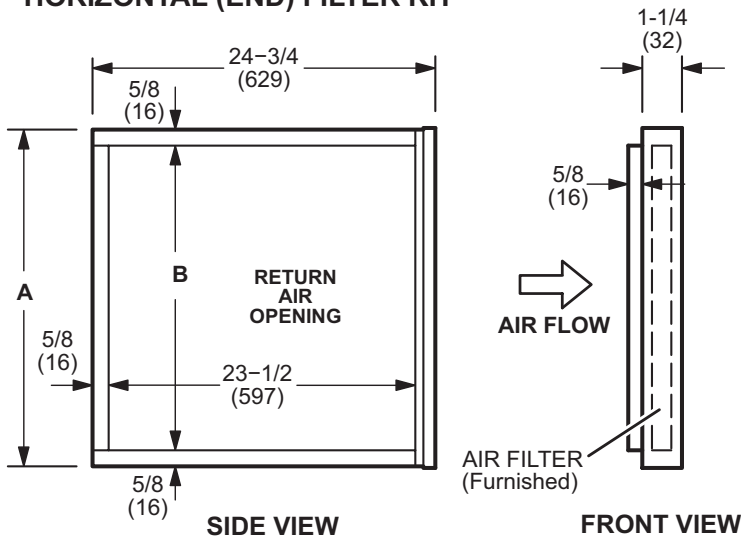
## RIGHT-HAND AIR DISCHARGE



Model No.	A		B		C		D	
	in.	mm	in.	mm	in.	mm	in.	mm
EL296UH045XE36B EL296UH070XE36B	17-1/2	446	16-3/8	416	16	406	7-5/8	194
EL296UH090XE48C EL296UH110XE60C	21	533	19-7/8	505	19-1/2	495	9-3/8	238
EL296UH135XE60D	24-1/2	622	23-3/8	594	23	584	11-1/8	283

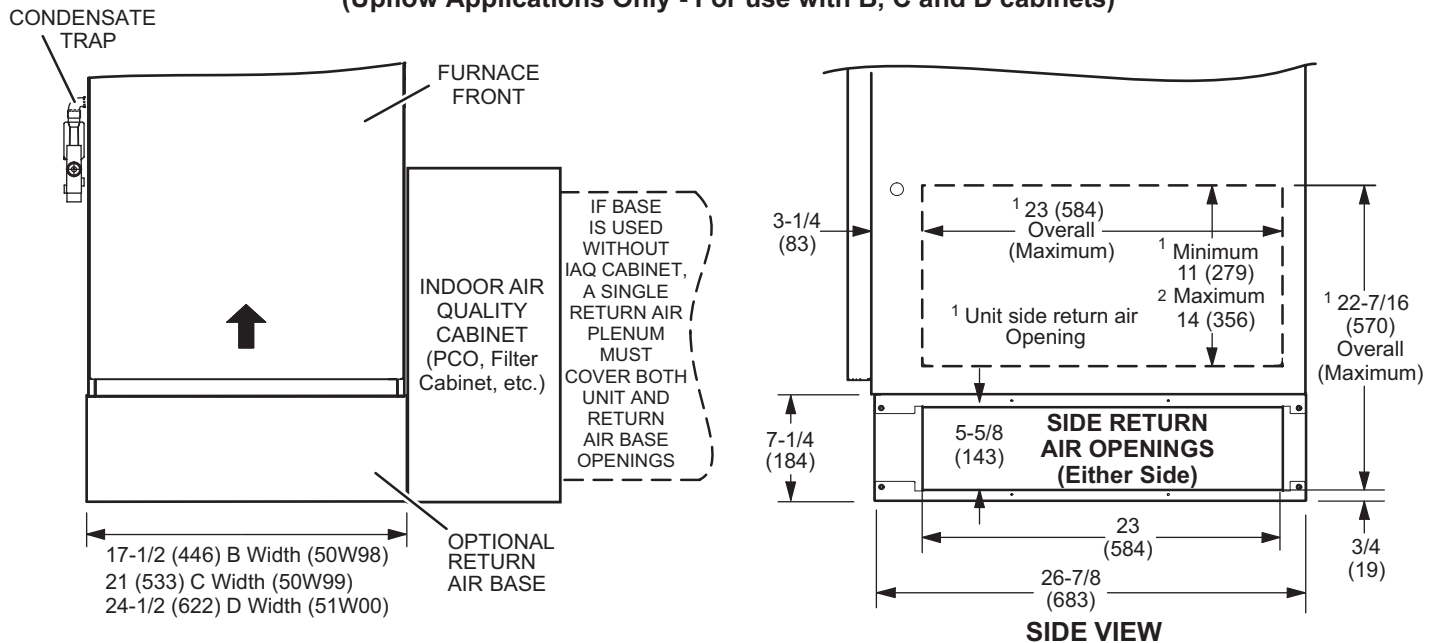
## OPTIONAL ACCESSORY DIMENSIONS - INCHES (MM)

### HORIZONTAL (END) FILTER KIT



Furnace Cabinet Width	Catalog Number	A		B	
		in.	mm	in.	mm
B	87L96	18	457	16-3/4	425
C	87L97	21	533	18-3/4	476
D	87L98	25	635	23-3/4	603

### Optional Return Air Base (Upflow Applications Only - For use with B, C and D cabinets)



**NOTE-** Optional Side Return Air Filter Kits are not for use with Optional Return Air Base.

<sup>1</sup> Both the unit return air opening and the base return air opening must be covered by a single plenum or IAQ cabinet. Minimum unit side return air opening dimensions for units requiring 1800 cfm or more of air (W x H): 23 x 11 in. (584 x 279 mm). The opening can be cut as needed to accommodate plenum or IAQ cabinet while maintaining dimensions shown. Side return air openings must be cut in the field. There are cutting guides stenciled on the cabinet for the side return air opening. The size of the opening must not extend beyond the markings on the furnace cabinet.

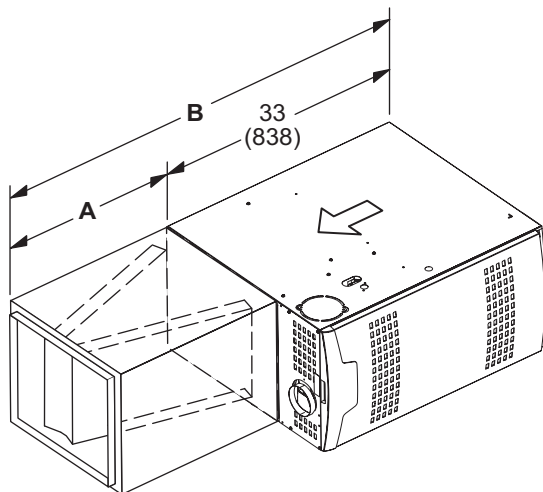
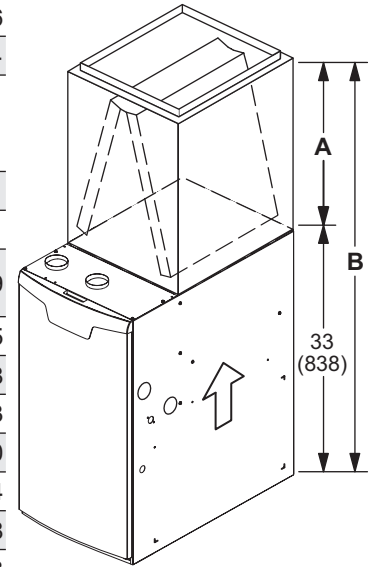
<sup>2</sup> To minimize pressure drop, the largest opening height possible, up to 14 in. (356 mm), is preferred.



## DIMENSIONS - INCHES (MM) - FURNACE/COIL COMBINED DIMENSIONS

### UPFLOW POSITION

Model No			Cased				Uncased (C33 only)			
			A		B		A		B	
CX34	C35/CX35	C33	in.	mm	in.	mm	in.	mm	in.	mm
---	---	C33-18A	12-1/2	318	45-1/2	1156	9-3/4	248	42-3/4	1086
CX34-19A-6F	---	C33-19A	16-1/2	419	49-1/2	1257	9-3/4	248	42-3/4	1086
---	---	C33-24A	16-1/2	419	49-1/2	1257	14	356	47	1194
CX34-18/24A-6F	C35/CX35-18/24A-6F	C33-24B C33-24C	16-1/2	419	49-1/2	1257	13-7/8	352	46-7/8	1191
CX34-18/24B-6F	C35/CX35-18/24B-6F									
CX34-18/24C-6F	C35/CX35-18/24C-6F									
CX34-25A-6F	C35/CX35-24A-6F	C33-25A	18-1/2	470	51-1/2	1308	16-1/4	413	49-1/4	1251
CX34-25B-6F	C35/CX35-24B-6F	C33-25B	18-1/2	470	51-1/2	1308	15-7/8	403	48-7/8	1241
CX34-30B-6F	---	C33-30B	20-1/2	521	53-1/2	1359	17-3/4	451	50-3/4	1289
CX34-30C-6F	---	C33-30C								
CX34-30A-6F	---	C33-30A	20-1/2	521	53-1/2	1359	18	457	51	1295
CX34-31A-6F	C35/CX35-30A-6F	C33-31A	22-1/2	572	55-1/2	1410	21-1/4	540	54-1/4	1378
CX34-31B-6F	C35/CX35-30B-6F	C33-31B	22-1/2	572	55-1/2	1410	20-1/4	514	53-1/4	1353
CX34-36A-6F	C35/CX35-30/36A-6F	C33-36A	24-1/2	622	57-1/2	1461	22-1/8	562	55-1/8	1400
CX34-36B-6F	C35/CX35-30/36B-6F	C33-36B	24-1/2	622	57-1/2	1461	21-7/8	556	54-7/8	1394
CX34-36C-6F	C35/CX35-30/36C-6F	C33-36C	24-1/2	622	57-1/2	1461	21-1/4	540	54-1/4	1378
CX34-38A-6F	C35/CX35-36A-6F	C33-38A	24-1/2	622	57-1/2	1461	22-1/4	565	55-1/4	1403
CX34-38B-6F	C35/CX35-36B-6F	C33-38B	24-1/2	622	57-1/2	1461	22	559	55	1397
CX34-42B-6F	---	C33-42B	24-1/2	622	57-1/2	1461	21-7/8	556	54-7/8	1394
CX34-43B-6F	C35/CX35-48B-6F	C33-43B	27-1/2	699	60-1/2	1537	26-1/4	667	59-1/4	1505
CX34-43C-6F	C35/CX35-48C-6F	C33-43C	27-1/2	699	60-1/2	1537	25-3/4	654	58-3/4	1492
---	---	C33-44C	24-1/2	622	57-1/2	1461	21-1/2	546	54-1/2	1384
CX34-44/48B-6F	---	C33-48B	24-1/2	622	57-1/2	1461	22-1/8	562	55-1/8	1400
CX34-44/48C-6F	---	C33-48C	24-1/2	622	57-1/2	1461	21-1/2	546	54-1/2	1384
CX34-49C-6F	C35/CX35-49C-6F	C33-49C	29-1/2	749	62-1/2	1588	28-1/2	724	61-1/2	1562
CX34-50/60C-6F	C35/CX35-50/60C-6F	C33-50/60C	27-1/2	699	60-1/2	1537	24-3/4	629	57-3/4	1467
CX34-60D-6F	---	C33-60D	25-1/2	648	58-1/2	1486	24-3/4	629	57-3/4	1467
CX34-62C-6F	CX35-60C-6F	C33-62C	31-1/2	800	64-1/2	1638	30-5/8	778	63-5/8	1616
CX34-62D-6F	CX35-60D-6F	C33-62D	29-1/2	749	62-1/2	1588	28-3/4	730	61-3/4	1568

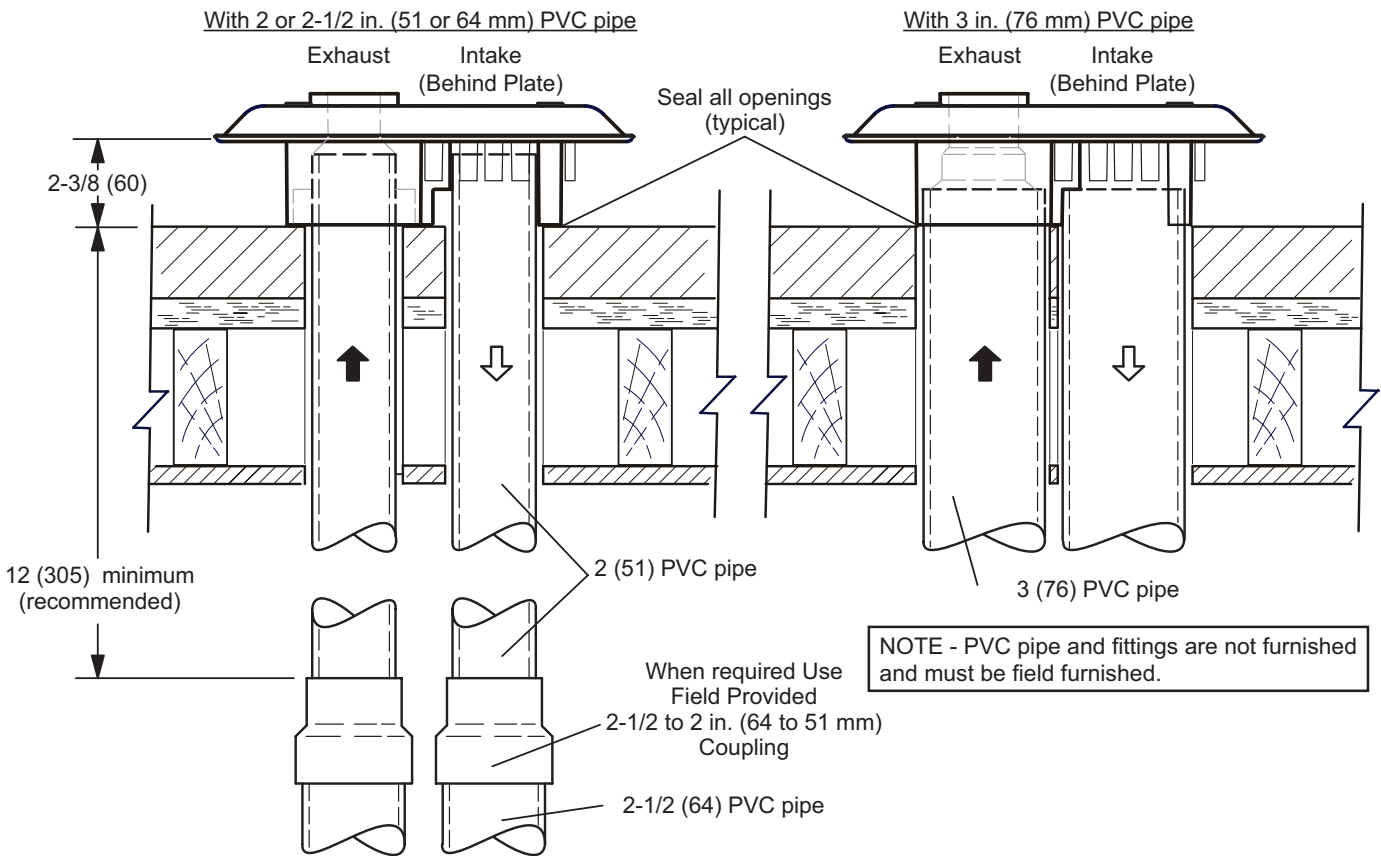
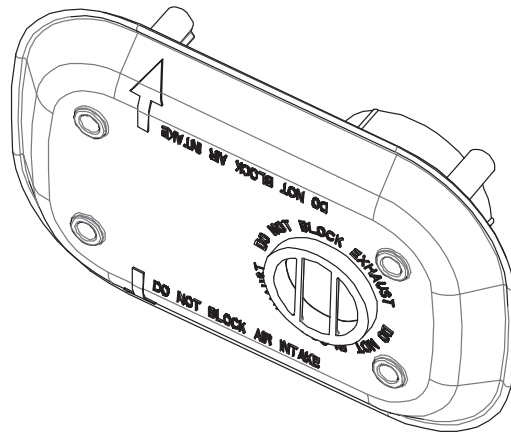


### HORIZONTAL POSITION

Model Number	A		B	
	in.	mm	in.	mm
<b>CH33</b>				
CH33-18A-2F	21-1/2	546	54-1/2	1384
CH33-24/30A-2F, CH33-42B-2F, CH33-36A-2F, CH33-48C-2F, CH33-36B-2F, CH33-60D-2F, CH33-36C-2F,	26-1/2	673	59-1/2	1511
CH33-44/48B-2F, CH33-62D-2F, CH33-50/60C-2F,	31-1/2	800	64-1/2	1638
<b>CH35</b>				
CH35-18A-2F, CH35-24A-2F, CH35-24B-2F, CH35-30B-2F, CH35-36A-2F, CH35-36B-2F, CH35-36C-2F, CH35-42C-2F, CH35-48C-2F	26-1/2	673	59-1/2	1511
CH35-30A-2F, CH35-42B-2F, CH35-48B-2F, CH35-51C-2F, CH35-60D-2F	31-1/2	800	64-1/2	1638

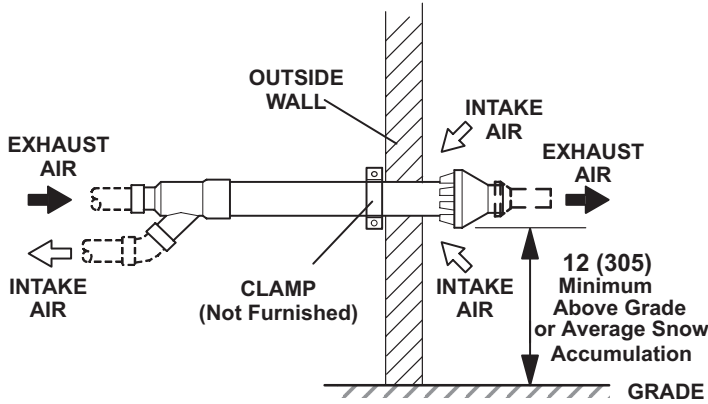
**OPTIONAL ACCESSORY DIMENSIONS - INCHES (MM)**

**FLUSH-MOUNT VENT TERMINATION KIT 51W11 (US) or 51W12 (CANADA)**

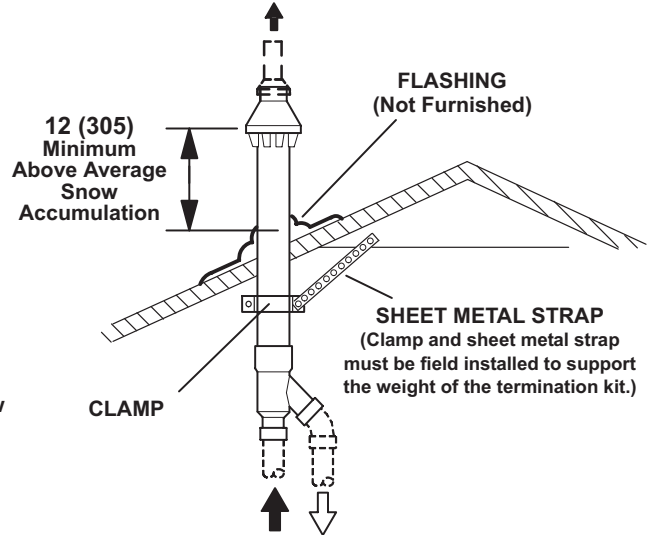


**OPTIONAL ACCESSORY DIMENSIONS - INCHES (MM)**

**CONCENTRIC WALL TERMINATION APPLICATIONS**

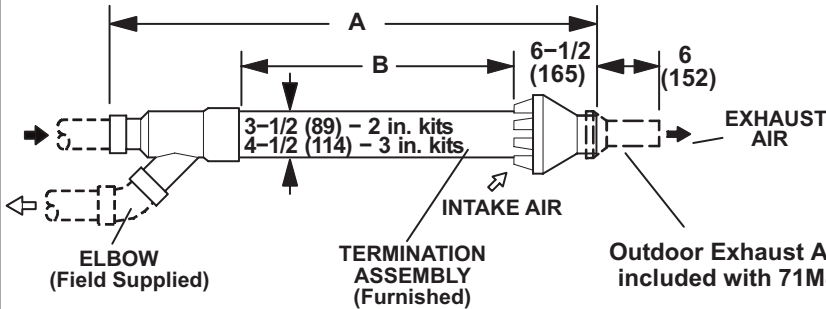


**CONCENTRIC ROOF TERMINATION APPLICATIONS**



**71M80 / 69M29 / 44W92 – 2 inch kits**  
**60L46 / 44W93 – 3 inch kits**  
 See Installation Instructions for additional information.

Note - Field provided reducer may be required to adapt larger vent pipe size to termination.



Cat. No.	A		B	
	in.	mm	in.	mm
71M80 69M29	33-3/8	848	16-3/4	425
44W92 (Canada)	29	737	15-1/2	394
60L46	38-7/8	987	21-3/16	538
44W93 (Canada)	36-1/8	918	19-1/2	495

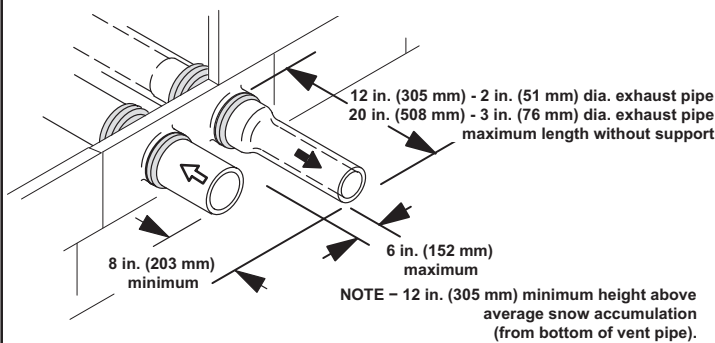
**NOTE - Typical illustration for dimensions only. Design may vary depending on kit ordered.**

**WALL ASSEMBLY TERMINATION KIT - RING KIT 15F74 - 2 inch (51 mm)**

See Installation Instructions for additional information.

Note - Field provided reducer may be required to adapt larger vent pipe size to termination.

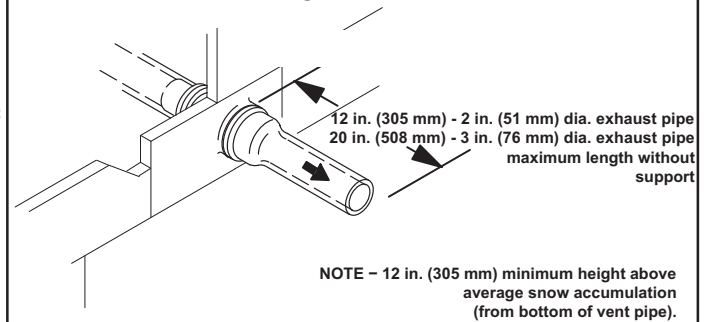
**DIRECT VENT APPLICATION**



**NON-DIRECT VENT APPLICATION**

**NOTE - EXHAUST PIPE SHOWN**

Kit Contains Enough Parts For Two Installations



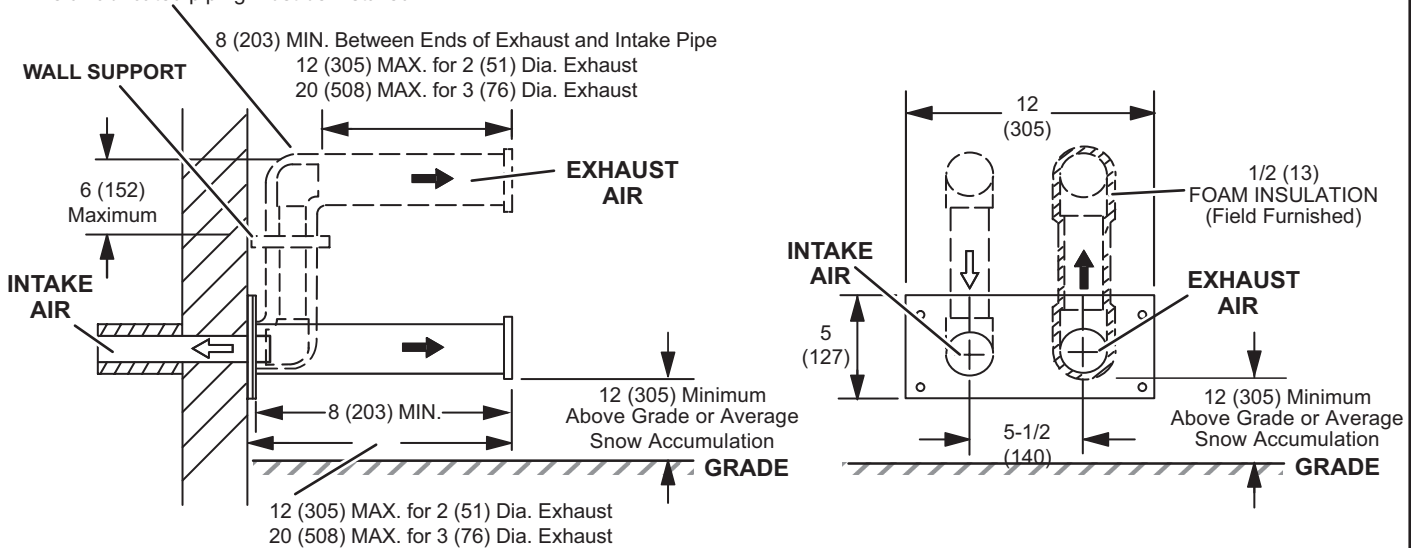
**OPTIONAL ACCESSORY DIMENSIONS - INCHES (MM)**

**WALL TERMINATION KITS (CLOSE-COUPLE)  
EXTENDED VENT FOR GRADE CLEARANCE  
2 inch (51 mm) 22G44 (US)  
3 inch (76 mm) 44J40 (US)**

**See Installation Instructions for additional information.**

Note - Field provided reducer may be required to adapt larger vent pipe size to termination.

If Intake and Exhaust Pipe is less than 12 in. (305 mm) above snow accumulation or other obstructions, field fabricated piping must be installed.

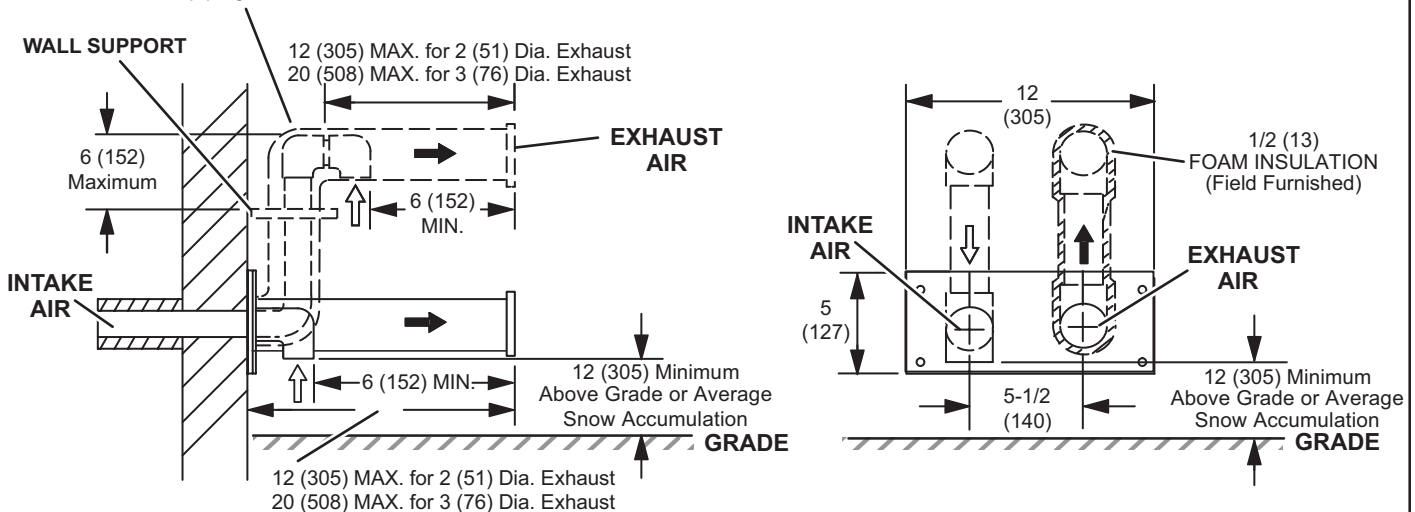


**WALL TERMINATION KITS (CLOSE-COUPLE)  
EXTENDED VENT FOR GRADE CLEARANCE  
2 inch (51 mm) 30G28 (WTK Canada)  
3 inch (76 mm) 81J20 (WTK Canada)**

**See Installation Instructions for additional information.**

Note - Field provided reducer may be required to adapt larger vent pipe size to termination.

If Intake and Exhaust Pipe is less than 12 in. (305 mm) above snow accumulation or other obstructions, field fabricated piping must be installed.



## BLOWER DATA

### EL296UH045XE36B PERFORMANCE (Less Filter)

External Static Pressure in. w.g.	Air Volume / Watts at Various Blower Speeds									
	High		Medium-High		Medium		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1345	340	1255	245	1150	185	895	105	845	95
0.10	1305	345	1225	250	1105	200	855	110	810	95
0.20	1290	360	1190	260	1080	205	825	120	780	105
0.30	1275	370	1150	270	1045	215	785	125	720	110
0.40	1220	385	1120	280	1015	220	735	135	690	120
0.50	1215	390	1090	290	980	230	705	140	635	125
0.60	1190	395	1060	300	950	240	650	150	600	135
0.70	N/A	N/A	1015	300	900	250	620	155	555	140
0.80	N/A	N/A	1000	310	870	260	580	160	520	145

### EL296UH070XE36B PERFORMANCE (Less Filter)

External Static Pressure in. w.g.	Air Volume / Watts at Various Blower Speeds									
	High		Medium-High		Medium		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1380	315	1305	250	1190	200	965	105	920	100
0.10	1360	325	1270	255	1180	205	915	115	865	100
0.20	1310	335	1250	265	1130	215	880	120	815	110
0.30	1275	340	1205	275	1100	225	835	125	775	115
0.40	1250	355	1175	280	1065	230	795	135	730	125
0.50	1215	370	1145	295	1045	240	745	145	670	130
0.60	1200	380	1100	310	995	245	705	150	640	140
0.70	1145	380	1070	310	960	255	670	160	585	145
0.80	N/A	N/A	1035	320	925	265	610	165	550	155

### EL296UH090XE48C PERFORMANCE (Less Filter)

External Static Pressure in. w.g.	Air Volume / Watts at Various Blower Speeds									
	High		Medium-High		Medium		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1740	370	1505	250	1370	195	1285	160	1135	125
0.10	1695	390	1470	265	1325	205	1240	170	1090	135
0.20	1660	405	1435	280	1290	220	1195	185	1045	145
0.30	1615	415	1390	295	1240	235	1140	200	995	160
0.40	1590	425	1350	305	1200	245	1110	210	945	165
0.50	1560	440	1310	320	1155	260	1055	225	895	175
0.60	1525	455	1255	335	1105	270	1005	230	855	190
0.70	1475	470	1220	340	1065	285	960	245	805	200
0.80	N/A	N/A	1170	355	1010	295	920	255	760	210

## BLOWER DATA

### EL296UH110XE60C PERFORMANCE (Less Filter)

External Static Pressure in. w.g.		Air Volume / Watts at Different Blower Speeds																		
		Bottom Return Air, Side Return Air with Optional Return Air Base, Return Air from Both Sides or Return Air from Bottom and One Side.										Single Side Return Air – Air volumes in <b>bold</b> require field fabricated transition to accommodate 20 x 25 x 1 in. air filter in order to maintain proper air velocity.								
		High		Med-High		Medium		Med-Low		Low		High		Med-High		Medium		Med-Low		Low
cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	
0.00	2220	645	1940	435	1765	335	1635	280	1435	200	<b>2185</b>	<b>655</b>	<b>1915</b>	<b>440</b>	1745	340	1620	275	1430	195
0.10	2170	660	1920	460	1715	350	1595	290	1380	205	<b>2160</b>	<b>660</b>	<b>1880</b>	<b>460</b>	1705	345	1570	285	1380	205
0.20	2130	680	1865	475	1670	370	1560	305	1345	220	<b>2115</b>	<b>680</b>	<b>1835</b>	<b>470</b>	1670	365	1535	305	1325	220
0.30	2095	700	1835	490	1640	390	1525	325	1285	230	<b>2060</b>	<b>705</b>	1795	495	1630	380	1505	320	1285	230
0.40	2065	720	1785	510	1600	405	1465	335	1250	245	<b>2050</b>	<b>720</b>	1760	510	1570	400	1455	330	1235	245
0.50	2030	740	1755	525	1560	415	1425	355	1215	260	<b>2000</b>	<b>740</b>	1720	530	1535	415	1410	345	1195	260
0.60	1995	760	1705	550	1525	435	1380	370	1150	270	<b>1955</b>	<b>760</b>	1685	550	1505	435	1380	365	1145	275
0.70	1955	770	1660	560	1475	450	1350	375	1100	290	<b>1935</b>	<b>775</b>	1650	555	1455	450	1325	375	1100	285
0.80	1930	790	1635	575	1445	460	1300	395	1050	305	<b>1890</b>	<b>790</b>	1610	575	1425	460	1285	390	1055	295

### EL296UH135XE60D PERFORMANCE (Less Filter)

External Static Pressure in. w.g.		Air Volume / Watts at Different Blower Speeds																		
		Bottom Return Air, Side Return Air with Optional Return Air Base, Return Air from Both Sides or Return Air from Bottom and One Side.										Single Side Return Air – Air volumes in <b>bold</b> require field fabricated transition to accommodate 20 x 25 x 1 in. air filter in order to maintain proper air velocity.								
		High		Med-High		Medium		Med-Low		Low		High		Med-High		Medium		Med-Low		Low
cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	
0.00	2405	940	2235	735	2070	545	1830	390	1620	280	<b>2395</b>	<b>925</b>	<b>2235</b>	<b>710</b>	<b>2020</b>	<b>550</b>	1800	380	1610	275
0.10	2365	960	2210	745	2020	565	1770	400	1585	295	<b>2360</b>	<b>935</b>	<b>2175</b>	<b>735</b>	<b>2005</b>	<b>555</b>	1760	395	1550	295
0.20	2330	975	2180	770	1950	580	1745	420	1535	315	<b>2350</b>	<b>955</b>	<b>2160</b>	<b>760</b>	<b>1955</b>	<b>565</b>	1725	415	1510	300
0.30	2295	1000	2120	785	1925	595	1690	435	1480	325	<b>2290</b>	<b>990</b>	<b>2095</b>	<b>775</b>	<b>1890</b>	<b>590</b>	1700	435	1420	325
0.40	2275	1015	2075	805	1885	615	1640	460	1445	340	<b>2255</b>	<b>995</b>	<b>2060</b>	<b>795</b>	<b>1850</b>	<b>615</b>	1635	445	1390	340
0.50	2225	1025	2035	815	1845	630	1605	475	1395	360	<b>2230</b>	<b>1010</b>	<b>2040</b>	<b>815</b>	<b>1845</b>	<b>625</b>	1590	470	1375	360
0.60	2185	1010	2020	835	1815	645	1565	485	1330	365	<b>2170</b>	<b>1025</b>	<b>2000</b>	<b>820</b>	1795	640	1580	485	1335	370
0.70	N/A	N/A	1940	850	1735	665	1520	500	1310	385	N/A	N/A	<b>1935</b>	<b>845</b>	1725	660	1520	500	1295	385
0.80	N/A	N/A	1890	860	1715	680	1465	510	1285	400	N/A	N/A	<b>1880</b>	<b>855</b>	1705	680	1470	510	1260	405



## REVISIONS

Sections	Description of Change
Gas Heat Accessories	Revised catalog numbers.



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