

## **EL195UHNE**

**ELITE® SERIES** 

## Upflow / Horizontal - Constant Torque Blower Motor - 60 Hz

RESIDENTIAL PRODUCT SPECIFICATIONS

Bulletin No. 210812 June 2022 Supersedes November 2021

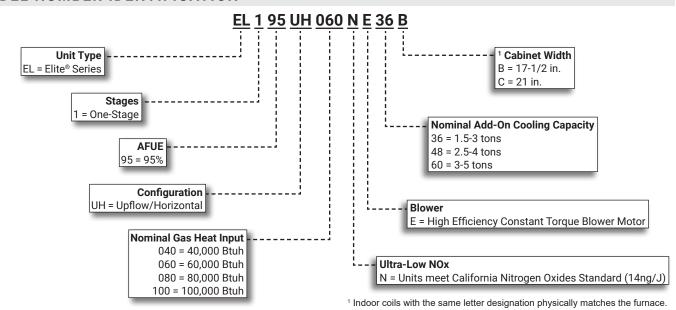






AFUE - 95% Meets NO<sub>x</sub> Limit of 14 ng/J Input - 40,000 to 100,000 Btuh Nominal Add-on Cooling - 1 to 5 Tons

## MODEL NUMBER IDENTIFICATION



#### **FEATURE HIGHLIGHTS**

- 1. Heat Exchanger Assembly
- 2. Secondary Heat Exchanger
- 3. SureLight® Hot Surface Ignitor
- 4. Modulating Gas Control Valve
- 5. Combustion Air Inducer
- 6. Thermal Switch
- 7. SureLight® Integrated Furnace Control
- 8. Constant Torque Direct Drive Blower
- 9. Insulated Cabinet
- 10. Safety Interlock Switch
- 11. Gas Piping And Electrical Inlets



NOTE - EL195UHNV 40K AND 100K INPUT FURNACES ARE NATURAL GAS ONLY! NOTE - NOT AVAILABLE IN ALL AREAS!

CONTACT YOUR NEAREST LENNOX SALES OFFICE FOR DETAILS.

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#### APPROVALS AND WARRANTY

#### **APPROVALS**

- · AHRI Certified
- CSA International Certified
- 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 14 ng/J
- Units are approved for installations from 0 4500 ft.
- 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

#### California Only

 These furnaces meet the South Coast Air Quality Management District (SCAQMD) Rule 1111 and San Joaquin Valley Air Pollution Control District (SJVAPCD) Rule 4905 NOx emission limit (14 ng/J) and can be installed within the SCAQMD and SJVAPCD areas

#### **WARRANTY**

- · Heat Exchanger:
  - · Limited lifetime (twenty year transferable) in residential applications
  - · Limited ten years in non-residential applications
- · All other covered components:
  - · Limited five years in residential installations
  - · Limited one year in non-residential installations

**NOTE** - Refer to Lennox® Basic Limited Warranty at <a href="www.Lennox.com">www.Lennox.com</a> for additional details.

## **FEATURES**

### **APPLICATIONS**

- Input capacities of 40,000, 60,000, 80,000 and 100,000 Btuh
- Energy efficiency (AFUE) 95%
- Upflow, horizontal-left or horizontal-right 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
- Removable bottom seal panel shipped in place for side return air is easily removed for bottom/end return air applications
- Each unit factory test operated to ensure proper operation

#### **HEATING SYSTEM**

- Heat Exchanger Assembly
  - Heavy-gauge, aluminized steel heat exchanger
  - Tubular type design
  - 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
  - · Coil is factory tested for leaks
  - Condensate drain header box assembly located on front of coil

- Laboratory life cycle tested in excess of industry standards
- Compact size of complete heat exchanger assembly permits low overall design of furnace cabinet

#### **Header Box**

- Header box on end of condenser coil collects flue condensate for disposal through condensate drains
- 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 for field installation

#### Flue Condensate Trap Assembly

- Field installed 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

### **HEATING SYSTEM (continued)**

- 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<sup>®</sup> insulation for dependable operation
- Modulating Gas Control Valve
  - 24 volt redundant combination modulating gas control valve combines manual shut off switch (On-Off), automatic electric valve (dual) and gas pressure regulation into a compact combination control
- 5 Combustion Air Inducer
  - Shaded pole heavy duty blower prepurges heat exchanger and safely vents flue products
  - · Operates only during heating cycle

#### **Pressure Switch**

 Proves Combustion Air Inducer operation before allowing gas valve to open

- Thermal Switch
  - · Factory installed on air/fuel intake assembly
  - Provides protection from abnormal operating conditions
  - Automatic reset

### Limit Control

- Primary limit is accurately located on vestibule panel on all units
- · Automatic reset

### **Optional Accessories**

# Natural Gas to LPG/Propane Conversion Kit (60K and 80K Input Furnaces Only)

- Required for field changeover from natural gas to LPG/ Propane
- Includes gas and air orifices

#### Muffler (US Only)

- Significantly reduces outdoor operating sound levels
- · Installed vertically in the exhaust piping
- See Optional Accessory Dimension Drawing

**NOTE** - Two-inch muffler is optional for the 100 input model with a maximum vent pipe length of up to 29 ft

Three-inch diameter muffler is optional for 100 input model.

**NOTE** - Three-inch muffler is optional for the 100 input model with a minimum vent pipe length of 30 ft.

# 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.

**NOTE** - The polypropylene venting system must follow the uninsulated and unconditioned space vent lengths listed in the table on Page 11. Refer to the Installation Instructions for additional details.

### **Optional Accessories**

#### Flue Coupling

- · Assists with exhaust flue piping connection and servicing
- Includes flexible one 2-inch rubber coupling and two adjustable bands
- Approved for all Lennox 90% furnaces

#### **Vent 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
- See Optional Accessories table and dimension drawings

### Concentric Termination Kit - Direct Vent Applications

- 2 or 3 inch kit contains concentric termination assembly, reducer bushing and 45° elbow
- 2 inch kit for -070 model contains an outdoor exhaust accelerator
- Kit requires single hole penetration of roof or wall for installation
- Roof Termination Flashing Kit available for use 2 inch Kits
- · CSA certified

#### Flush-Mount Termination Kit

- Kit contains flush-mount termination, accelerator, mounting template and hardware
- Kit may be used with 2, 2-1/2, or 3 inch pipe

## <u>DIRECT VENT / NON-DIRECT VENT</u> SEALED COMBUSTION SYSTEM (continued)

#### Optional Accessories (continued)

#### Wall Assembly Termination Kits

## 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
- Seals and isolates intake and exhaust piping penetration of 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

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

## Roof Termination Flashing Kit

- For vertical venting through a roof
- 2 or 3 inch kit contains two neoprene rubber roof flashings
- Vent pipe and insulation not furnished
- Flashing Kit can also be used with Concentric Vent Termination Kits used in vertical venting rooftop applications

#### **CONTROLS**



## 7 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
- Flame sensor assures 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
- Fan control consists of adjustable blower timed-off delay (60, 90, 120, 180 seconds - factory setting 90 seconds) and fixed blower timed-on delay (30 seconds heating, 2 seconds cooling)
- Blower is automatically energized on thermostat demand for cooling demand (air conditioners)
- Two Accessory Terminals Furnished for additional power supply requirements for 120 volt (less than 1 amp) power humidifiers and powered air cleaners
- One Additional Accessory Terminal Furnished for power supply requirements for 24V (less than 0.5 amp) low voltage accessories.
- Ignition control has a single red LED to indicate status and as an aid in troubleshooting
- Last ten codes are stored in non-volatile memory (accessible by recall button on control) for servicing

#### 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

## **CONTROLS** (continued)

#### **Optional Accessories**

### Blower Relay Kit (For Use With Two-Stage Outdoor Units)

 Allows furnace blower speed changes when matched with two-stage air conditioners or heat pumps.

#### E30 Smart Wi-Fi Thermostat

- Wi-Fi enabled, electronic 7-day, universal, multi-stage, programmable, touchscreen thermostat
- · 3 Heat/2 Cool
- · Auto-changeover
- Controls dehumidification during cooling mode and humidification during heating mode



- · Offers enhanced capabilities including humidification / dehumidification / dewpoint measurement and control, Humiditrol® control, and equipment maintenance reminders
- Easy to read 7 in. color touchscreen (measured diagonally)
- LCD display with backlight shows the current and set temperature, time, inside relative humidity, system status (operating mode and schedules) and outside temperature (optional outdoor sensor required)
- Smooth Setback Recovery starts system early to achieve setpoint at start of program period
- Compressor short-cycle protection (5 minutes)
- Up to four separate schedules are available plus Schedule IO™
- One-Touch Away Mode A guick and easy way to set the cooling and heating setpoints while away
- Smart Away<sup>™</sup> Uses geo-fencing technology to determine when the homeowner is within a predetermined distance from the home to operate the system when leaving, away and arriving
- · Wi-Fi remote monitoring and adjustment through a home wireless network for desktop PCs, laptops and apps for smartphones or tablets
- Smart home automation compatible with Apple HomeKit™, Amazon Alexa®, Google Assistant and IFTTT
- · Service Dashboard features online real-time monitoring of installed Lennox® thermostats
- · High Definition Color Display with Subbase, Smart Hub Controller, wallplate (for retrofit installations) furnished for easy installation
- See the E30 Smart Wi-Fi Thermostat Product Specifications bulletin for more information

#### Remote Outdoor Temperature Sensor

- Used with the E30 Smart Wi-Fi Thermostat
- When installed outdoors, sensor allows thermostat to display outdoor temperature

**NOTE** - Sensor is required for Enhanced Dehumidification Control (EDA) applications.



#### Thermostat

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

#### **Furnace Twinning Panel**

- Required to operate two identical furnaces simultaneously from a single thermostat
- For single stage conventional (1 heat/1 cool), multistage conventional (2 heat/2 cool) and heat pump (3 heat/2 cool) equipment
- Can be used with common or separate ducted systems
- Contains PC Control Board with terminal strip connections for thermostat and HVAC equipment
- · LEDs indicate system operating status
- Uses standard 18-gauge thermostat wire
- Power Supply: 24 VAC, 40VA (transformer not furnished)
- Mounting base with hardware furnished
- Dimensions (H x W x D): 10 x 5 x 2 in.

**NOTE** - Only identical furnaces should be twinned in order to ensure that both furnace blowers start at the same time. If furnaces are not identical, back draft dampers can be installed in either the supply or return duct.

> Up to four identical furnaces can be twinned. Requires two panels that are wired together.

### Furnace Twinning Kit

- Required to operate two furnaces simultaneously
- Kit consists of twinning relays, quick connect terminals and mounting hardware
- Used for single-stage heating/single-stage cooling with a single-stage thermostat

#### **BLOWER**

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

## Power Saver™ Constant Torque Blower Motor

- 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 Integrated Furnace Control
- Blower speeds are easily changed on the integrated furnace control. See Blower Data tables

#### **CABINET**

- · Low-profile, narrow width allows easy installation
- 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
- Insulated 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
  - 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
- **11)** Gas piping inlet is provided on right side of cabinet
  - · Electrical inlets are provided on both sides of cabinet.

#### Bottom/Side Return Air Entry

- · Upflow/horizontal with bottom return air entry:
  - · Remove furnished bottom seal panel from cabinet
- · Upflow only with side return-air entry:
  - Corners are marked on either side of cabinet for return air cut-out
- · See dimension drawings

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

- Single side return air and Optional Return Air Base with transition that must accommodate required 20 x 25 x 1 inch air filter to maintain proper velocity
- · Bottom return air
- · Return air from both sides
- · Bottom and one side return air
- See Blower Performance Tables for additional information

#### Coil Match-Up

- All furnaces exactly match Lennox cased upflow indoor coils and horizontal indoor coils with same letter designation (A, B, C, D) in model number
- No adaptor required
- · Engaging holes furnished on cabinet for alignment
- Lennox uncased coils match furnaces without any overhang but require an optional adaptor base or field fabricated transition to match furnace opening
- · See coil bulletin for additional information

## Low Leakage Cabinet

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

## **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
- · Kit for Canada is certified to ULC S636
- Includes 2 or 3 inch sanitary tee, 2 inch PVC assembly, PVC boot and clamp
- Kit for Canada is certified to ULC S636

#### Return Air Base

NOTE - 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 inches installed next to the unit and serviced from the front. IAQ products higher than 20 inches require a field fabricated transition.

**NOTE** - Must be used for 60C size 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
- 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
- · Rack has filter door for servicing
- Flanges on rack for duct connection
- · Field installed
- · See dimension drawing

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

**NOTE** - 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 servicing
- Flanges on rack for duct connection
- · Field installs on either side of unit cabinet
- · See dimension drawing

SPECIFICA	TIONS			
Gas	Model No.	EL195UH040NE36B	EL195UH060NE36B	
Heating Performance	AHRI Ref. No.	201834895	201834898	
Periormance	<sup>1</sup> AFUE	95%	95%	
	Input - Btuh	40,000	60,000	
	Output - Btuh	39,000	58,000	
	Temperature rise range - °F	30 - 60	35 - 65	
Ga	s Manifold Pressure (in. w.g.) Nat. Gas / LPG/Propane	3.5 / N/A	3.5 / 4.0	
	High static - in. w.g.	0.5	0.5	
Energy Star® Ce	rtified	Yes	Yes	
Connections	Intake / Exhaust Pipe (PVC)	2/2	2/2	
in.	Gas pipe size IPS	1/2	1/2	
Condensat	te Drain Trap (PVC pipe) - i.d.	3/4	1/2     1/2       3/4     3/4	
W	rith furnished 90° street elbow	3/4 slip x 3/4 Mipt	3/4 slip x 3/4 Mipt	
with field s	supplied (PVC coupling) - o.d.	3/4 slip x 3/4 MPT	3/4 slip x 3/4 MPT	
Indoor	Wheel nom. dia. x width - in.	10 x 8	10 x 8	
Blower	Motor Type	DC Brushless	DC Brushless	
	Motor output - hp	1/2	1/2	
	Tons of add-on cooling	1 - 2	1.5 - 3	
	Air Volume Range - cfm	260 - 990	550 - 1380	
Electrical Data	Voltage	120 volts - 60	hertz - 1 phase	
	Blower motor full load amps	6.8	6.8	
Ma:	ximum overcurrent protection	15	15	
Shipping Data	lbs 1 package	122	128	

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

<sup>&</sup>lt;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.

Gas	Model No.	EL195UH080NE48C	EL195UH100NE600		
Heating	AHRI Ref. No.	201834896	201834897		
Performance	<sup>1</sup> AFUE	95%	95%		
	Input - Btuh	80,000	100,000		
	Output - Btuh	78,000	97,000		
	Temperature rise range - °F	40 - 70	45 - 75		
G	as Manifold Pressure (in. w.g.) Nat. Gas / LPG/Propane	3.5 / 4.0	3.5 / N/A		
	High static - in. w.g.	0.5	0.5		
Energy Star® Co	ertified	Yes	Yes		
Connections	Intake / Exhaust Pipe (PVC)	2/2	2/2		
in.	Gas pipe size IPS	1/2	1/2		
Condensa	ate Drain Trap (PVC pipe) - i.d.	3/4	3/4		
١	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	Wheel nom. dia. x width - in.	10 x 10	11-1/2 x 10		
Blower	Motor Type	DC Brushless	DC Brushless		
	Motor output - hp	3/4	1		
	Tons of add-on cooling	2.5 - 4	3.5 - 5		
	Air Volume Range - cfm	760 - 1740	1260 - 2405		
Electrical Data	Voltage	120 volts - 60	hertz - 1 phase		
	Blower motor full load amps	8.4	10.9		
Ma	aximum overcurrent protection	15	15		
Shipping Data	lbs 1 package	148	157		

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

<sup>&</sup>lt;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.

			"B" Width	"C" Width
			Models	Models
CABINET ACCE	SSORIES			
Horizontal Susp	ension Kit - Horizontal only		51W10	51W10
Return Air Base			50W98	50W99
High Performan	ce Economizer (Commercial C	Only)	10U53	10U53
CONDENSATE D	RAIN KITS			
Condensate Dra	in Heat Cable	6 ft.	26K68	26K68
		24 ft.	26K69	26K69
Crawl Space Vei	nt Drain Kit	US	51W18	51W18
•		Canada	15Z70	15Z70
CONTROLS		•		
	t (for two-stage outdoor units)		85W66	85W66
Furnace Twinnir	_ ·		Y3653	Y3653
Furnace Twinnir			16W72	16W72
E30 Smart Wi-Fi	-		20A65	20A65
	r Temperature Sensor		X2658	X2658
FILTER KITS			7.200	7.2000
	llevimental (evel)		071.00	071.07
	Horizontal (end)	Cina of filton in	87L96	87L97
Nack Mit	Cide Detrim	Size of filter - in.	18 x 25 x 1	20 x 25 x 1
	Side Return	Single	44J22	44J22
		Ten Pack	66K63	66K63
		Size of filter - in.	16 x 25 x 1	16 x 25 x 1
	nstructions for specific venting in			1
Direct Vent	Concentric	US - 2 in.	71M80	69M29
	_	3 in.		60L46
		Canada - 2 in.	44W92	44W92
		3 in.		44W93
	Flush-Mount	US - 2, 2-1/2 or 3 in.	51W11	51W11
		Canada - 2, 2-1/2 or 3 in.	51W12	51W12
	Wall - Close Couple	US - 2 in.	22G44	
		3 in.	44J40	44J40
	Wall - Close Couple WTK	Canada - 2 in.	30G28	
		3 in.	81J20	81J20
	Roof Termination Flashing K	it 2 in.	15F75	15F75
	(no vent pipe - 2 flashings)	3 in.	44J41	44J41
		' ·		
VENTING				

<sup>&</sup>lt;sup>1</sup> Cleanable polyurethane frame type filter.

NOTE - Termination Kits (44W92, 44W93, 30G28, 51W12, 81J20) and Crawl Space Vent Drain Kit (15Z70) are certified to ULC S636 standard for use in Canada only.

S
Natural Gas to LPG/Propane Kit
0 - 7500 ft.
N/A
19K05
19K06
N/A

NOTE - Natural Gas to LPG/Propane Kit is not available for 40K and 100K Input furnaces.

## HIGH ALTITUDE OPERATION

NOTE - Units may be installed at altitudes up to 7500 ft. above sea level.

OUTDO	OUTDOOR TERMINATION KIT USAGE										
			Standard Te	rminations		Conc	ations				
la a a a d	Vent	ipe Mount meter Kit	Wall Kit		Field Fabricated	(	t	Muffler			
	Diameter		2 inch	3 inch	Exhaust Accelerator Size	1-1/2 inch	2 inch	3 inch	2 inch/ 3 inch		
	` ′	51W11 (US) 4 51W12 (CA)	22G44 (US) 4 30G28 (CA)			71M80 (US) 4 44W92 (CA)	69M29 (US) 4 44W92 (CA)	60L46 (US) 4 44W93 (CA)	15Y66 (US)/ 16A56 (US)		
040	2	<sup>3</sup> YES	YES	<sup>1</sup> YES	1-1/2 in.	<sup>2</sup> YES			YES		
040	3	³ YES	YES	<sup>1</sup> YES	1-1/2 in.	<sup>2</sup> YES			YES		
060	2	³ YES	YES	<sup>1</sup> YES	1-1/2 in.	<sup>2</sup> YES			YES		
060	3	<sup>3</sup> YES	YES	<sup>1</sup> YES	1-1/2 in.	<sup>2</sup> YES			YES		
080	2	<sup>3</sup> YES		YES	2 in.		YES	YES	YES		
000	3	<sup>3</sup> YES		YES	2 in.		YES	YES	YES		
100	2	YES		YES	2 in.		YES	YES	<sup>5</sup> YES		
100	3	YES		YES	2 in.		YES	YES	<sup>5</sup> 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.

VENT LENG	THS - UN	IINSULA	TED EXH	AUST PIF	PE IN UN	CONDITIO	ONED SP	ACE			
		Unit Input Size									
1 Winter Design	Vent Bine	04	40	00	60	080		100			
<sup>1</sup> Winter Design Temperatures	Vent Pipe Diameter	Maximum Un-Insulated Exhaust Vent Length (ft.)									
		PVC	PolyPro InnoFlue	PVC	PolyPro InnoFlue	PVC	PolyPro InnoFlue	PVC	PolyPro InnoFlue		
32 to 21°F	2 in.	18	16	31	28	50	48	30	30		
32 t0 21 F	3 in.	9	9	18	18	35	35	47	47		
20 to 1°F	2 in.	9	8	18	16	32	29	30	30		
20 10 1 F	3 in.	N/A	N/A	8	8	19	19	26	26		
0 to -20°F	2 in.	5	N/A	12	10	22	19	30	27		
0 to -20°F	3 in.	N/A	N/A	N/A	N/A	10	10	16	16		

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

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

Innoflue® is a registered trademark of Centrotherm Eco Systems.

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

<sup>&</sup>lt;sup>2</sup> Concentric Kits **71M80** and **44W92** include 1-1/2 in. outdoor exhaust accelerator, required when used with 040 and 060 input models. Accelerator is not used with 080 or 100 input models.

<sup>&</sup>lt;sup>3</sup> Flush Mount Kit **51W11** and **51W12** includes 1-1/2 in. outdoor exhaust accelerator, required when used with 040, 060 and 080 input models. Accelerator is not used with 100 input models.

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

 $<sup>^{5}</sup>$  Two-inch diameter muffler **15Y66** is optional for 100 input model with a maximum vent pipe length of up to 29 ft.

Three-inch diameter muffler 16A56 is optional for 100 input model with a minimum vent pipe length of 30 ft.

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

## **VENT LENGTHS**

STANDARD TERMINATION AT ELEVATION 0 - 4500 FT.

	Pipe Size		2	in.			in.		
	Input	040	060	080	100	040	060	080	100
	1	81	66	44	44	138	137	118	118
	2	76	61	39	39	133	132	113	113
	3	71	56	34	34	128	127	108	108
	4	66	51	29	29	123	122	103	103
No. of	5	61	46	24	24	118	117	98	98
90 ELL	6	56	41	19	19	113	112	93	93
	7	51	36	14	14	108	107	88	88
	8	46	31	N/A	N/A	103	102	83	83
	9	41	26	N/A	N/A	98	97	78	78
	10	36	21	N/A	N/A	93	92	73	73

## STANDARD TERMINATION AT ELEVATION 4501 - 7500 FT.

	Pipe Size		2	in.			3	in.	
	Input	040	060	080	100	040	060	080	100
	1	81	41	34	9	138	105	100	65
	2	76	36	29	N/A	133	100	95	60
	3	71	31	24	N/A	128	95	90	55
	4	66	26	19	N/A	123	90	85	50
No. of	5	61	21	14	N/A	118	85	80	45
90 ELL	6	56	16	9	N/A	113	80	75	40
	7	51	11	N/A	N/A	108	75	70	35
	8	46	N/A	N/A	N/A	103	70	65	30
	9	41	N/A	N/A	N/A	98	65	60	25
	10	36	N/A	N/A	N/A	93	60	55	20

#### **CONCENTRIC TERMINATION AT ELEVATION 0 - 4500 FT.**

	Pipe Size		2	in.		3 in.					
	Input	040	060	080	100	040	060	080	100		
	1	73	58	42	42	121	121	114	114		
	2	68	53	37	37	116	116	109	109		
	3	63	48	32	32	111	111	104	104		
	4	58	43	27	27	106	106	99	99		
No. of	5	53	38	22	22	101	101	94	94		
90 ELL	6	48	33	17	17	96	96	89	89		
	7	43	28	12	12	91	91	84	84		
	8	38	23	N/A	N/A	86	86	79	79		
	9	33	18	N/A	N/A	81	81	74	74		
	10	28	13	N/A	N/A	76	76	69	69		

## CONCENTRIC TERMINATION AT ELEVATION 4501 - 7500 FT.

	Pipe Size		2	in.			3	in.	
	Input	040	060	080	100	040	060	080	100
	1	73	33	32	N/A	121	89	89	61
	2	68	28	27	N/A	116	84	84	56
	3	63	23	22	N/A	111	79	79	51
	4	58	18	17	N/A	106	74	74	46
No. of	5	53	13	12	N/A	101	69	69	41
90 ELL	6	48	N/A	N/A	N/A	96	64	64	36
	7	43	N/A	N/A	N/A	91	59	59	31
	8	38	N/A	N/A	N/A	86	54	54	26
	9	33	N/A	N/A	N/A	81	49	49	21
	10	28	N/A	N/A	N/A	76	44	44	16

# VENT LENGTHS (EXHAUST) - VENTILATED ATTIC OR CRAWLSPACE INTAKE AIR - FEET STANDARD TERMINATION AT ELEVATION 0 - 4500 FT.

	Pipe Size		2	in.			in.		
	Input	040	060	080	100	040	060	080	100
	1	71	56	34	14	118	117	98	98
	2	66	51	29	9	113	112	93	93
	3	61	46	24	4	108	107	88	88
	4	56	41	19	N/A	103	102	83	83
No. of	5	51	36	14	N/A	98	97	78	78
90 ELL	6	46	31	9	N/A	93	92	73	73
	7	41	26	4	N/A	88	87	68	68
	8	36	21	N/A	N/A	83	82	63	63
	9	31	16	N/A	N/A	78	77	58	58
	10	26	11	N/A	N/A	73	72	53	53

#### STANDARD TERMINATION AT ELEVATION 4501 - 7500 FT.

	Pipe Size		2 i	in.		3 in.				
	Input	040	060	080	100	040	060	080	100	
	1	71	31	24	N/A	118	85	80	45	
	2	66	26	19	N/A	113	80	75	40	
	3	61	21	14	N/A	108	75	70	35	
	4	56	16	9	N/A	103	70	65	30	
No. of	5	51	11	N/A	N/A	98	65	60	25	
90 ELL	6	46	N/A	N/A	N/A	93	60	55	20	
	7	41	N/A	N/A	N/A	88	55	50	15	
	8	36	N/A	N/A	N/A	83	50	45	10	
	9	31	N/A	N/A	N/A	78	45	40	N/A	
	10	26	N/A	N/A	N/A	73	40	35	N/A	

INSTALLATION CLEARANCES	
Sides	<sup>1</sup> 1 inches (25 mm)
Rear	1 inches (25 mm)
Top/Plenum	1 inch (25 mm)
Front	1 inches (25 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>&</sup>lt;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.

## **BLOWER DATA**

## EL195UH040NE36B PERFORMANCE (Less Filter)

External	Air Volume / Watts at Various Blower Speeds											
Static Pressure	<b>High</b> (Black)			dium-High Medium M (Brown) (Blue)			<b>m-Low</b> low)	Low (Red)				
in. w.g.	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts		
0.00	1450	350	1280	247	1190	200	966	112	902	89		
0.10	1429	360	1268	257	1171	207	939	119	875	99		
0.20	1400	371	1248	267	1139	212	894	124	850	110		
0.30	1377	381	1222	279	1112	223	872	131	800	114		
0.40	1350	391	1195	286	1084	235	829	138	778	122		
0.50	1317	401	1156	298	1043	240	794	147	724	129		
0.60	1285	408	1127	308	1019	252	754	151	690	142		
0.70	1233	390	1107	316	987	259	708	161	633	144		
0.80	1160	370	1077	322	955	270	661	167	607	149		

## EL195UH060NE36B PERFORMANCE (Less Filter)

External				Air Volume	/ Watts at \	/arious Blo	wer Speeds	<b>5</b>		
Static Pressure	<b>High</b> (Black)			Medium-High (Brown)		<b>lium</b> ue)		<b>m-Low</b> low)		<b>DW</b> ed)
in. w.g.	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1477	338	1289	240	1189	188	940	99	905	88
0.10	1431	353	1262	254	1160	200	918	109	873	97
0.20	1401	360	1244	263	1135	209	894	121	839	108
0.30	1372	374	1215	270	1110	221	852	126	798	113
0.40	1352	387	1189	282	1074	226	821	136	772	123
0.50	1324	391	1165	292	1050	241	786	146	728	130
0.60	1296	403	1130	302	1011	252	741	150	691	140
0.70	1255	406	1102	313	988	258	703	161	641	144
0.80	1190	386	1073	326	962	267	664	167	606	153

## EL195UH080NE48C PERFORMANCE (Less Filter)

External		Air Volume / Watts at Various Blower Speeds												
Static Pressure	<b>High</b> (Black)		Medium-High (Brown)			<b>Medium</b> (Blue)		<b>m-Low</b> low)		ow ed)				
in. w.g.	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts				
0.00	1702	381	1502	270	1375	195	1298	169	1189	132				
0.10	1688	418	1479	287	1349	220	1258	187	1136	144				
0.20	1660	443	1450	304	1321	242	1215	203	1084	158				
0.30	1627	458	1403	321	1282	255	1172	215	1030	172				
0.40	1577	475	1370	337	1234	272	1131	231	990	188				
0.50	1540	483	1329	352	1191	288	1085	245	933	195				
0.60	1441	457	1291	369	1146	301	1045	259	883	203				
0.70	1293	402	1249	380	1102	315	992	271	830	216				
0.80	1144	365	1122	351	1053	326	951	285	809	219				

## **BLOWER DATA**

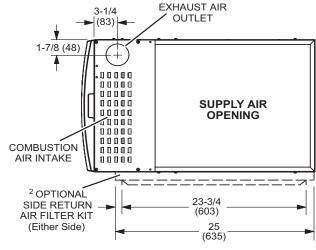
## EL195UH100NE60C PERFORMANCE (Less Filter)

							Air V	olume	/ Wat	ts at D	iffere	nt Blo	wer S	peeds						
External Static Pressure	Bottom Return Air, Side Return Air with Return Air from Both Sides or Return Air from Bottom and One Side.								Single Side Return Air – Air volumes in bold (over 1800 cfm) require Optional Return Air Base and field fabricated transition to accommodate 20 x 25 x 1 in. air filter in order to maintain proper air velocity.											
in. w.g.	High (Black) Medium-High (Brown) Medium (Blue) Medium-Low (Red)		High (Black) Medium- High (Brown)			<b>dium</b> lue)	L	lium- ow llow)		<b>ow</b> ed)										
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	2156	722	1922	497	1723	370	1589	215	1420	211	2102	118	1833	489	1688	170	1590	300	1375	209
0.10	2112	738	1851	511	1681	388	1552	326	1380	227	2064	730	1809	504	1658	384	1540	314	1347	224
0.20	2076	748	1808	533	1636	403	1525	334	1340	244	2038	749	1789	514	1623	402	1507	331	1325	242
0.30	2035	768	1782	542	1604	425	1488	349	1290	259	2011	760	1761	531	1594	413	1472	348	1266	246
0.40	2009	772	1749	558	1572	433	1441	362	1248	266	1968	770	1726	549	1561	431	1435	355	1247	264
0.50	1942	776	1715	580	1533	452	1424	374	1213	281	1920	776	1685	560	1527	443	1394	374	1199	278
0.60	1881	746	1681	584	1512	468	1357	382	1157	293	1849	741	1660	578	1489	455	1356	379	1154	286
0.70	1790	715	1634	599	1459	474	1319	401	1136	306	1777	723	1622	593	1439	473	1317	395	1124	301
0.80	1702	679	1582	613	1432	491	1300	418	1084	312	1682	681	1588	602	1407	488	1288	408	1067	308

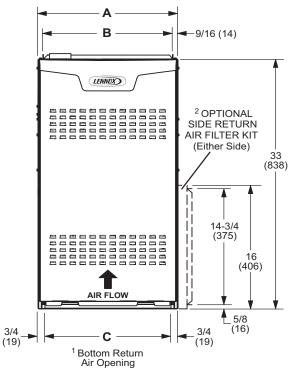
- <sup>1</sup> NOTE 60C size units that require air volumes over 1800 cfm must have one of the following:
- Single side return air <u>and</u> Optional Return Air Base with transition that must accommodate required 20 x 25 x 1 inch (508 x 635 x 25 mm) air filter to maintain proper velocity.
- 2. Bottom return air.
- 3. Return air from both sides.
- 4. Bottom and one side return air.

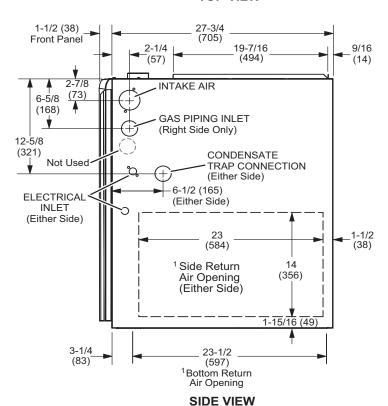
See Blower Performance Tables for additional information.

Optional Side Return Air Filter Kit is not for use with the Optional Return Air Base.



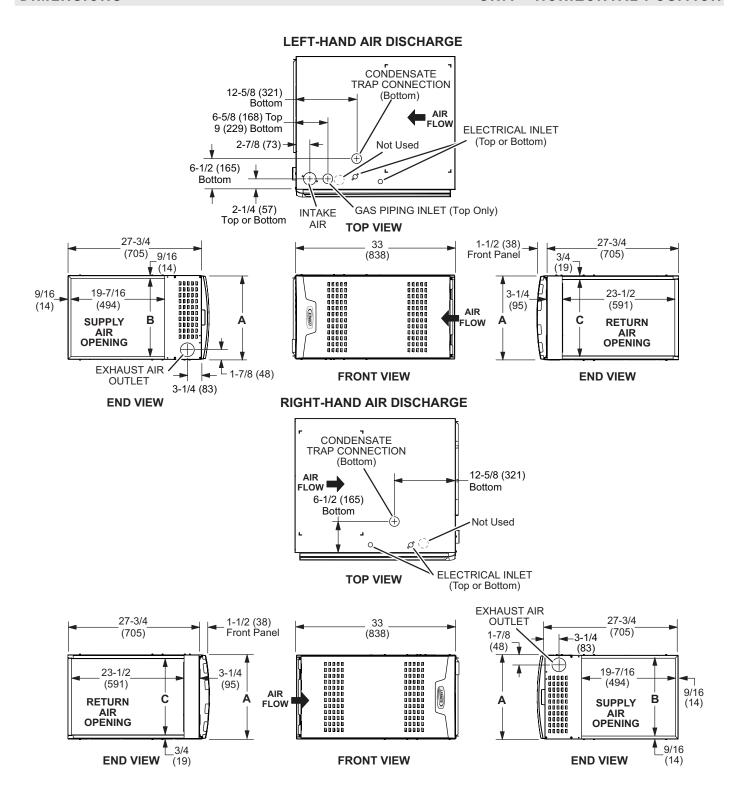
**TOP VIEW** 





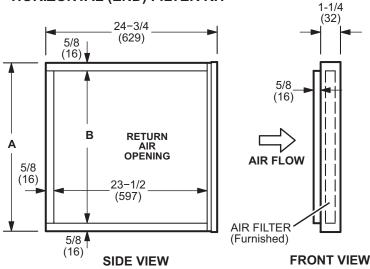
**FRONT VIEW** 

Model No.		A	E	3	С		
woder No.	in.	mm	in.	mm	in.	mm	
EL195UH040NE36B EL195UH060NE36B	17-1/2	445	16-3/8	416	16	406	
EL195UH080NE48C EL195UH100NE60C	21	533	19-7/8	505	19-1/2	495	



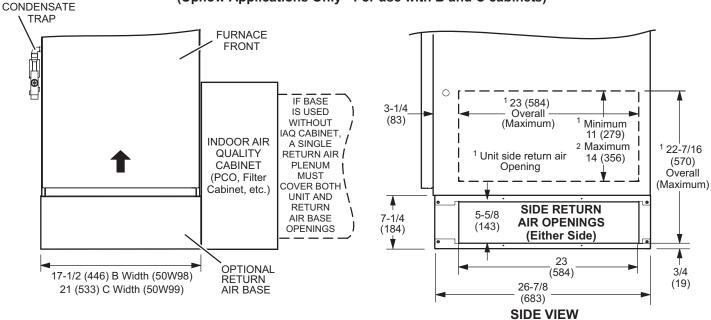
Model No.	-	A	E	3	С		
woder No.	in.	mm	in.	mm	in.	mm	
EL195UH040NE36B EL195UH060NE36B	17-1/2	445	16-3/8	416	16	406	
EL195UH080NE48C EL195UH100NE60C	21	533	19-7/8	505	19-1/2	495	

## HORIZONTAL (END) FILTER KIT



Furnace	Catalog		A	В		
Cabinet Width	Number	in.	mm	in.	mm	
В	87L96	18	457	16-3/4	425	
С	87L97	21	533	18-3/4	476	

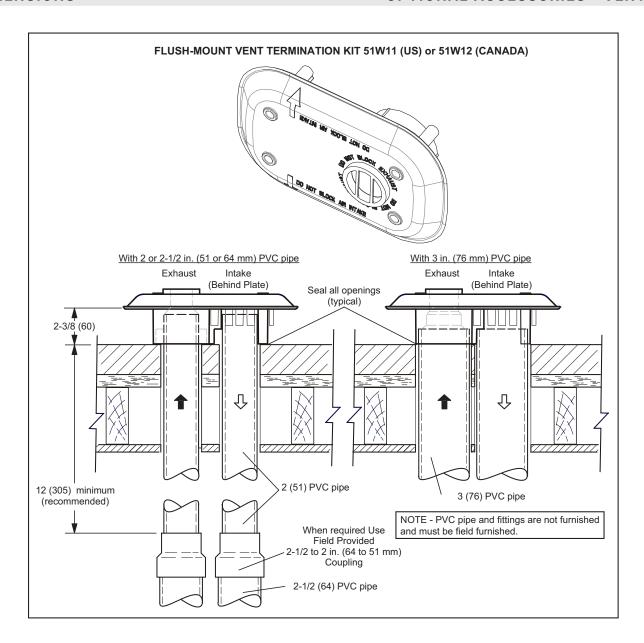
# Optional Return Air Base (Upflow Applications Only - For use with B and C cabinets)

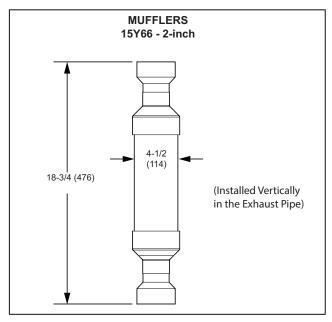


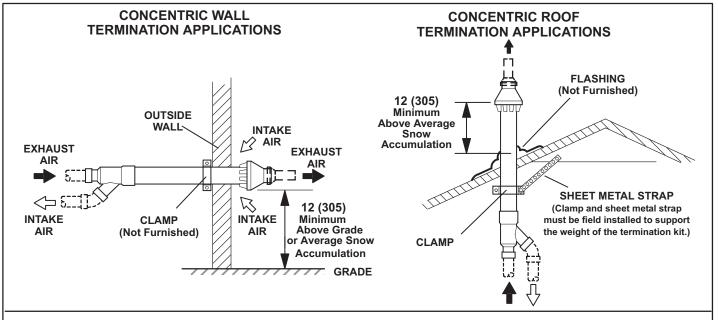
NOTE- Optional Side Return Air Filter Kits are not for use with Optional Return Air Base.

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

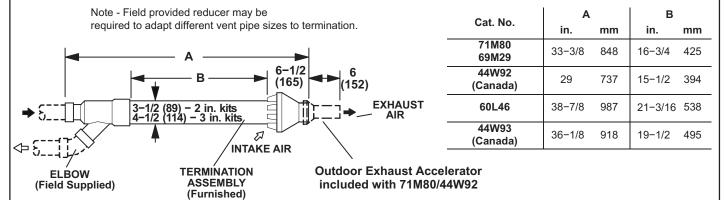
<sup>&</sup>lt;sup>1</sup> Both the unit return air opening and the base return air opening must be covered by a single plenum or IAQ cabinet. Minimum unit side return air opening dimensions for units requiring 1800 cfm or more of air (W x H): 23 x 11 in. (584 x 279 mm). The opening can be cut as needed 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.



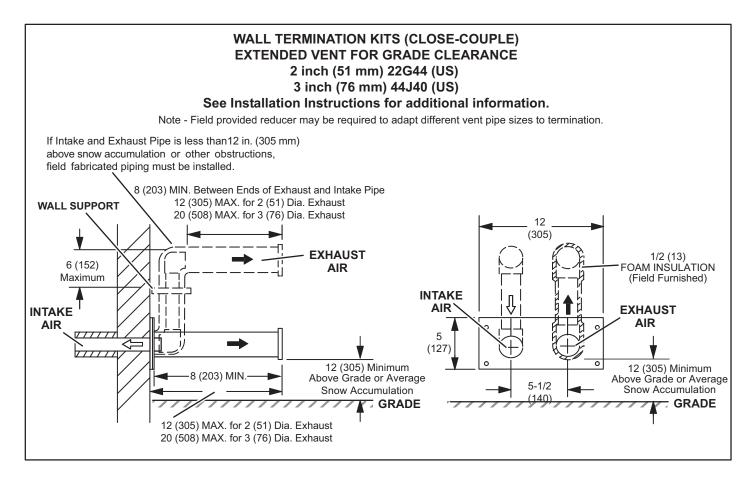


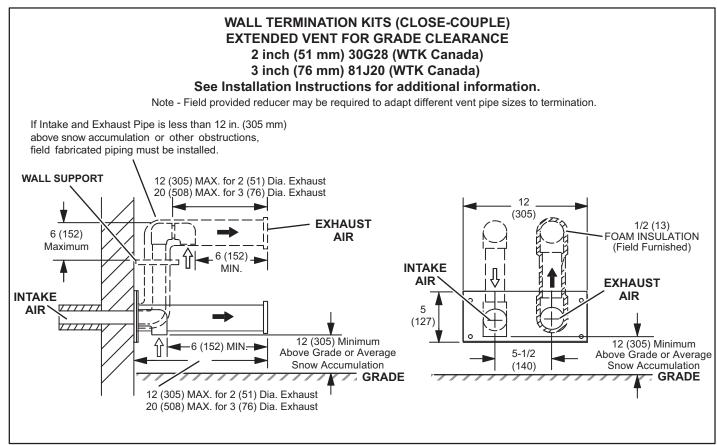


## 71M80 / 69M29 / 44W92 - 2 inch kits 60L46 / 44W93 - 3 inch kits See Installation Instructions for additional information.



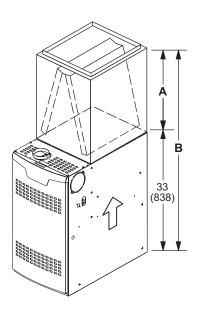
NOTE - Typical illustration for dimensions only. Design may vary depending on kit ordered.

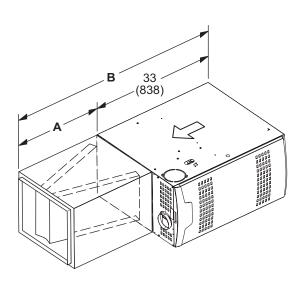




## **UPFLOW POSITION**

Model No			CX35 sed		C35 Uncased				
	Α		В		Α		В		
C35/CX35	in.	mm	in.	mm	in.	mm	in.	mm	
C35/CX35-18/24A C35/CX35-18/24B	16-1/2	419	49-1/2	1257	14-1/8	359	47-1/8	1197	
C35/CX35-24A C35/CX35-24B	18-1/2	470	51-1/2	1308	16-3/8	416	49-3/8	1254	
C35/CX35-30A C35/CX35-30B	22-1/2	572	55-1/2	1410	20-3/4	527	53-3/4	1365	
C35/CX35-30/36A C35/CX35-30/36B C35/CX35-30/36C	24-1/2	622	57-1/2	1461	22-1/4	565	55-1/4	1403	
C35/CX35-36A C35/CX35-36B	24-1/2	622	57-1/2	1461	22-3/8	568	55-3/8	1407	
C35/CX35-48B C35/CX35-48C	27-1/2	699	60-1/2	1537	26-1/4	667	59-1/4	1505	
C35/CX35-49C	29-1/2	749	62-1/2	1588	28-1/2	724	61-1/2	1562	
C35/CX35-50/60C	27-1/2	699	60-1/2	1537	25-7/8	657	58-7/8	1495	
CX35-60C	31-1/2	800	64-1/2	1638	30-5/8	778	63-5/8	1616	





## **HORIZONTAL POSITION**

Ma	del No.	_ A	4	В		
IVIO	dei No.	in.	mm	in.	mm	
	С	H35				
CH35-18A, CH35-24A, CH35-24B, CH35-30B,	CH35-36A, CH35-36B, CH35-36C, CH35-42C, CH35-48C	26-1/2	673	59-1/2	1511	
CH35-30A, CH35-42B, CH35-48B,	CH35-51C	31-1/2	880	64-1/2	1638	
	CH	1X35				
CHX35-18A, CHX35-24A, CHX35-24B, CHX35-30B,	CHX35-36A, CHX35-36B, CHX35-36C, CHX35-42C, CHX35-48C	26-1/2	673	59-1/2	1511	
CHX35-30A, CHX35-42B, CHX35-48B,	CHX35-51/61C	31-1/2	880	64-1/2	1638	

REVISIONS	
Sections	Description of Change
Specifications	Outputs updated.







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