



**GAS FURNACES**

**ML180UH**

**MERIT® SERIES**

**Upflow / Horizontal**

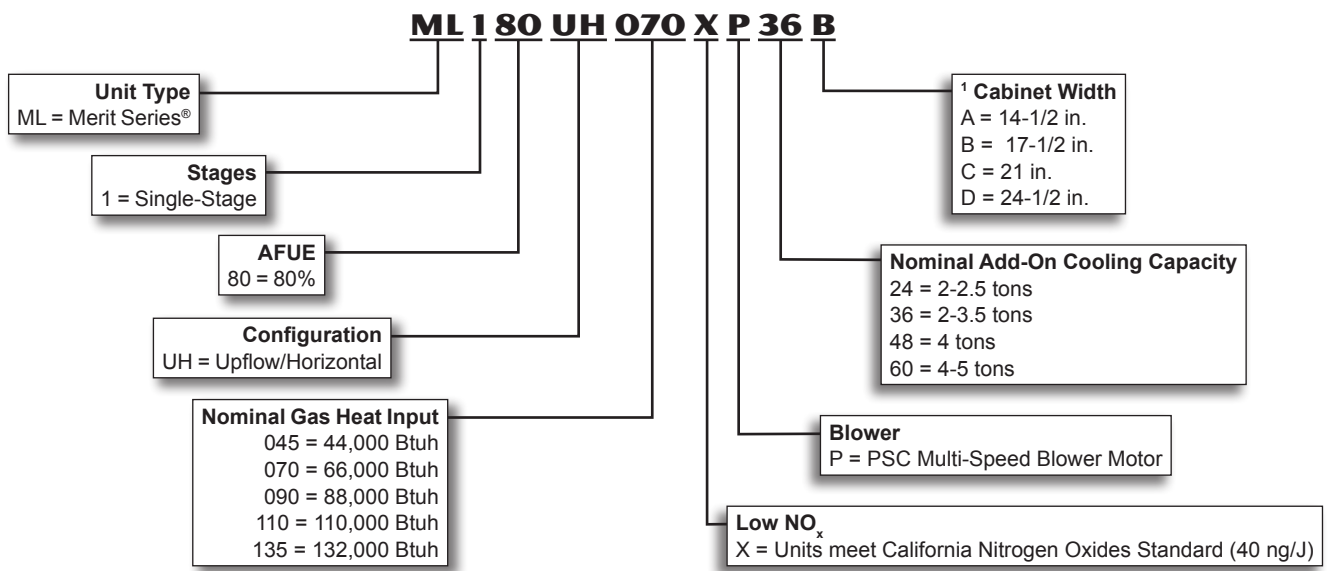
**PRODUCT SPECIFICATIONS**

Bulletin No. 210590  
 April 2019  
 Supersedes October 2018



**AFUE - 80%**  
**Input - 44,000 to 132,000 Btuh**  
**Nominal Add-on Cooling - 2 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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**NOTE - ML180UH FURNACES ARE NOT AVAILABLE IN CANADA!**

### WARRANTY

**Duralok™ Aluminized Steel Heat Exchanger** - Limited twenty year warranty in residential applications, 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 tested and rated according to US DOE test procedures and FTC labeling regulations.

“X” models approved by the California Energy Commission and meet California Seasonal Efficiency requirements and California Nitrogen Oxides (NO<sub>x</sub>) Standards.

ISO 9001 Registered Manufacturing Quality System.

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

#### California Only

If installed in South Coast Air Quality Management District (SCAQMD) only:

This furnace does not meet the SCAQMD Rule 1111 NO<sub>x</sub> emission limit (14 ng/J), and thus is subject to a mitigation fee of up to \$450. This furnace is not eligible for the Clean Air Furnace Rebate Program:

[www.CleanAirFurnaceRebate.com](http://www.CleanAirFurnaceRebate.com).

If installed in San Joaquin Valley Air Pollution Control District (SJVAPCD) only:

This furnace does not meet the SJVAPCD Rule 4905 NO<sub>x</sub> emission limit (14 ng/J), and thus is subject to a mitigation fee of up to \$450.



### APPLICATIONS

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

Energy efficiency (AFUE) of 80%.

Compact cabinet for 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.

Ready for installation in upflow or horizontal right-hand position without any modifications. Horizontal left-hand position requires repositioning of pressure switch. Removable bottom seal panel shipped in place for side return air is easily removed for bottom/end return air applications.

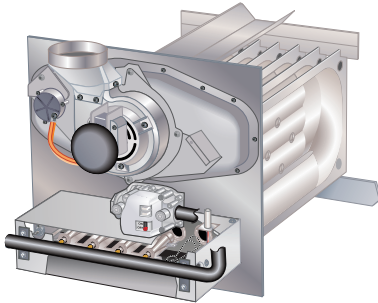
Each unit factory test operated to ensure proper operation.

## FEATURES

### HEATING SYSTEM

#### 1 Lennox Duralok™ Heat Exchanger Assembly

Heavy gauge aluminized steel heat exchanger.  
Crimped seam clamshell type design.  
Designed for normal expansion and contraction.



Minimum resistance to air flow.  
Heat exchanger has been laboratory life cycle tested in excess of industry standards.  
Compact size of heat exchanger permits low overall design of furnace cabinet.

#### 2 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.

#### 3 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.

#### 4 Gas Control Valve

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

#### 5 Combustion Air Inducer

Shaded pole heavy duty blower prepurges heat exchanger and safely vents flue products.  
Pressure switch proves blower operation before allowing gas valve to open.  
Operates only during heating cycle.  
Direct access allows inducer assembly to be rotated 90° clockwise or counterclockwise to facilitate easy vent attachment in horizontal applications.

#### 6 Flame Rollout Switches (2)

Manual reset switches are factory installed on the front of the burner box.  
Switches 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 Pressure Switch Kit

Required on most units for proper unit operation at altitudes from 4,501 to 7500 ft.

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

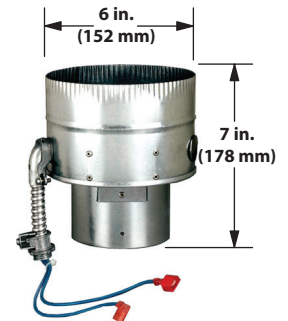
Required for field changeover from natural gas to LPG/Propane.

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

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

#### Vent Adaptor (Upflow Applications Only)

Allows venting through a masonry chimney without the need of a flue liner.  
Manual reset temperature sensor protects against abnormal operating conditions.  
Sensor wiring may be routed from either side of adaptor.  
Minimum winter design temperatures:



-10°F when used with interior masonry chimneys.

+5°F when used with exterior masonry chimneys.

Refer to Winter Design Temperatures Map on page 7 for application information. Also refer to the installation instructions for detailed information.

### BLOWER

#### 7 Multi-speed direct drive blower.

Statically and dynamically balanced.

Resiliently mounted.

Blower assembly easily removed for servicing.

Blower speeds are easily changed on the integrated furnace control. See blower performance tables.

## FEATURES

### 8 CONTROLS

#### SureLight® Integrated Furnace Control

Contains all necessary controls and relays to operate furnace.

Combustion air inducer is controlled 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, flame sensor controls 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 120 seconds) and fixed blower timed-on delay (45 seconds).

For air-conditioning applications, blower is automatically energized on thermostat demand for cooling.

Integrated furnace control has one red LED to indicate status and indicate diagnostic codes. Push button recall of the last 5 diagnostic codes aids in troubleshooting.

Integrated furnace control has built-in twinning capability ("TWIN" terminal on control) to operate two furnaces simultaneously without any additional controls. A field supplied isolation relay is required to operate the twinned (no thermostat connection) furnace.

Two accessory terminals furnished for additional power supply requirements for 120 volt (less than 1 amp) power humidifiers and powered air cleaners.

#### 24 Volt Transformer

Furnished and factory installed on outside of control box. 40VA transformer has fuse 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 on right side of furnace.

### Optional Accessories

#### iComfort® M30 Smart Wi-Fi Thermostat

Wi-Fi-enabled, electronic 7-day, universal, multi-stage, programmable, touchscreen thermostat.

4 Heat/2 Cool.

Auto-changeover.

Dual-fuel control with optional outdoor sensor.

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 4.3 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 IQ™.

One-Touch Away Mode - A quick and easy way to set the cooling and heating setpoints while away.

Smart Away™ - 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.

Amazon® Alexa-enabled, smart-home-compatible. It works with Amazon Echo, Echo Dot and Tap devices.

Wi-Fi remote monitoring and adjustment through a home wireless network for desktop PCs, laptops and apps for smartphones or tablets.

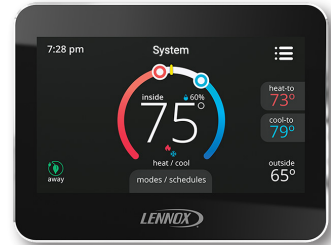
See the iComfort® M30 Smart Wi-Fi Thermostat Product Specifications bulletin in the Controls section for more information.

#### Remote Outdoor Temperature Sensor

Used with the iComfort® M30 Smart Thermostat.

When installed outdoors, sensor allows thermostat to display outdoor temperature. Sensor is auto-detected when connected to thermostat.

*NOTE - Sensor is required for the Enhanced Dehumidification Accessory (EDA).*



## FEATURES

### **CONTROLS (continued)**

#### **Optional Accessories (continued)**

##### **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
- Ignitor
- Flame sensor
- Gas valve
- Transformer

##### **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.

### **CABINET**

Low-profile, narrow width cabinet allows easy installation.

Heavy-gauge, cold rolled steel construction.

Pre-painted cabinet finish.

Flue outlet on top of cabinet for upflow applications, can be relocated to either side of cabinet for horizontal applications.

Flanges provided on supply air opening for ease of plenum connection or alignment with indoor coil.

- 9 Insulated cabinet with foil faced insulation on sides and back of heating compartment.

Complete service access.

- 10 Safety interlock switch automatically shuts off power to unit when blower compartment access panel is removed.

- 11 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 drawings.

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

1. 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.
2. Bottom return air.
3. Return air from both sides.
4. 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 and meet ANSI/ASHRAE Standard 193-2010 "Method of Test for Determining the Air Tightness of HVAC Equipment".

## FEATURES

### **CABINET (continued)**

#### **Optional Accessories**

##### **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.

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

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.

Base 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.

## 99% WINTER DESIGN TEMPERATURES FOR THE CONTIGUOUS UNITED STATES



This map is a necessarily generalized guide to temperatures in the contiguous United States. Temperatures shown for areas such as mountainous regions and large urban centers may not be accurate. The data used to develop this map was taken from the 1993 ASHRAE Fundamentals Handbook (Chapter 24, Table 1: Climate Conditions for the United States).

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## SPECIFICATIONS

Gas Heating Performance	Model No.	Model No. - Low Nox	ML180UH045P24A	ML180UH045P36A ML180UH045XP36A	ML180UH070P24A	ML180UH070P36A ML180UH070XP36A
AHRI Ref. No.	Non "X" Models		4208204	4208205	4208206	4208207
	"X" Models		---	4208213	---	4208214
	<sup>1</sup> AFUE		80%	80%	80%	80%
	Input - Btuh		44,000	44,000	66,000	66,000
	Output - Btuh		35,000	35,000	54,000	54,000
	Temperature rise range - °F		20 - 50	15 - 45	30 - 60	30 - 60
	Gas Manifold Pressure (in. w.g.) Nat. Gas / LPG/Propane		3.5 / 10.0	3.5 / 10.0	3.5 / 10.0	3.5 / 10.0
<b>High Static - in. w.g.</b>			0.50	0.50	0.50	0.50
<b>Connections in.</b>	Flue connection - in. round		4	4	4	4
	Gas pipe size IPS		1/2	1/2	1/2	1/2
<b>Indoor Blower</b>	Wheel nom. dia. x width - in.		10 x 7	10 x 8	10 x 7	10 x 8
	Motor output - hp		1/5	1/3	1/5	1/3
	Tons of add-on cooling		1.5 - 2	2 - 3	1.5 - 2	2 - 3
	Air Volume Range - cfm		345 - 1130	650 - 1670	420 - 1160	785 - 1660
<b>Electrical Data</b>	Voltage		120 volts - 60 hertz - 1 phase			
	Blower motor full load amps		3.1	6.1	3.1	6.1
	Maximum overcurrent protection		15	15	15	15
<b>Shipping Data</b>	lbs. - 1 package		105	110	114	119

## SPECIFICATIONS

Gas Heating Performance	Model No.	Model No. - Low Nox	ML180UH090P36B	ML180UH090P48B ML180UH090XP48B	ML180UH110P48C
AHRI Ref. No.	Non "X" Models		4208208	4208209	4208210
	"X" Models		---	4208215	---
	<sup>1</sup> AFUE		80%	80%	80%
	Input - Btuh		88,000	88,000	110,000
	Output - Btuh		71,000	71,000	89,000
	Temperature rise range - °F		25 - 55	25 - 55	25 - 55
	Gas Manifold Pressure (in. w.g.) Nat. Gas / LPG/Propane		3.5 / 10.0	3.5 / 10.0	3.5 / 10.0
<b>High Static - in. w.g.</b>			0.50	0.50	0.50
<b>Connections in.</b>	Flue connection - in. round		4	4	4
	Gas pipe size IPS		1/2	1/2	1/2
<b>Indoor Blower</b>	Wheel nom. dia. x width - in.		10 x 9	10 x 10	10 x 10
	Motor output - hp		1/3	1/2	1/2
	Tons of add-on cooling		2 - 3	3 - 4	3 - 4
	Air Volume Range - cfm		680 - 1795	920 - 2160	910 - 2170
<b>Electrical Data</b>	Voltage		120 volts - 60 hertz - 1 phase		
	Blower motor full load amps		6.1	8.2	8.2
	Maximum overcurrent protection		15	15	15
<b>Shipping Data</b>	lbs. - 1 package		131	138	151

## SPECIFICATIONS

Gas Heating Performance	Model No.	Model No. - Low Nox	ML180UH110P60C ML180UH110XP60C	ML180UH135P60D
AHRI Ref. No.	Non "X" Models		4208211	4208212
	"X" Models		4208216	---
	<sup>1</sup> AFUE		80%	80%
	Input - Btuh		110,000	132,000
	Output - Btuh		89,000	107,000
	Temperature rise range - °F		25 - 55	30 - 60
	Gas Manifold Pressure (in. w.g.) Nat. Gas / LPG/Propane		3.5 / 10.0	3.5 / 10.0
<b>High Static - in. w.g.</b>			0.50	0.50
<b>Connections in.</b>	Flue connection - in. round		4	4
	Gas pipe size IPS		1/2	1/2
<b>Indoor Blower</b>	Wheel nom. dia. x width - in.		11-1/2 x 10	11 x 11
	Motor output - hp		1	1
	Tons of add-on cooling		4 - 5	4 - 5
	Air Volume Range - cfm		1355 - 2715	1380 - 2810
<b>Electrical Data</b>	Voltage		120 volts - 60 hertz - 1 phase	
	Blower motor full load amps		10	11.5
	Maximum overcurrent protection		15	15
<b>Shipping Data</b>	lbs. - 1 package		161	174

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

		"A" Width Models	"B" Width Models	"C" Width Models	"D" Width Models
<b>CABINET ACCESSORIES</b>					
Horizontal Suspension Kit - Horizontal only		51W10	51W10	51W10	51W10
Return Air Base - Upflow only		65W75	50W98	50W99	51W00
High Performance Economizer (Commercial Only)		10U53	10U53	10U53	10U53
<b>CONTROLS</b>					
iComfort® M30 Smart Wi-Fi Thermostat		15Z69	15Z69	15Z69	15Z69
Remote Outdoor Air Temperature Sensor		X2658	X2658	X2658	X2658
<b>FILTERS</b>					
1 Air Filter and Rack Kit	Horizontal (end)	87L95	87L96	87L97	87L98
	Size of filter - in.	14 x 25 x 1	18 x 25 x 1	20 x 25 x 1	25 x 25 x 1
	Side Return	44J22	44J22	44J22	44J22
	Single Ten Pack	66K63	66K63	66K63	66K63
	Size of filter - in.	16 x 25 x 1	16 x 25 x 1	16 x 25 x 1	16 x 25 x 1
<b>NIGHT SERVICE KITS</b>					
Night Service Kit		68W80	68W80	68W80	68W80
<b>VENTING</b>					
Vent Adaptor – 6 in. conn. size upflow applications only		18M79	18M79	18M79	18M79

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

## 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
	0 - 4500 ft.	4501 - 7500 ft.	7501 - 10,000 ft.	0 - 7500 ft.	7501 - 10,000 ft.	0 - 7500 ft.	7501 - 10,000 ft.
045	No Change	80W52	80W51	11K49	11K44	73W81	73W37
070	No Change	80W52	80W51	11K49	11K44	73W81	73W37
090	No Change	80W52	80W51	11K49	11K44	73W81	73W37
110	No Change	80W57	80W52	11K49	11K44	73W81	73W37
135	No Change	80W52	80W51	11K49	11K44	73W81	73W37

## HIGH ALTITUDE DERATE

NOTE - Units may be installed at altitudes up to 2000 ft. above sea level without any modifications.

At altitudes above 2000 ft. units must be derated to match information in the shaded areas shown below.

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

Input	Gas Manifold Pressure (Outlet) in. w.g.								Line Pressure - in. w.g.		
	0 - 2000 Feet		2001 - 4500 Feet		4501 - 7500 Feet		7501 - 10,000 ft.		Minimum		Maximum
	Natural Gas	LPG/Propane	Natural Gas	LPG/Propane	Natural Gas	LPG/Propane	<sup>1</sup> Natural Gas	LPG/Propane	Natural Gas	LPG/Propane	
045	3.5	10	3.2	10	3	10	3.5	10	4.5	11	13
070	3.5	10	3.2	10	2.8	10	3.5	10	4.5	11	13
090	3.5	10	3.2	10	2.7	9.6	3.5	10	4.5	11	13
110	3.5	10	3.5	10	3	9.6	3.5	10	4.5	11	13
135	3.5	10	3.5	10	2.9	9.6	3.5	10	4.5	11	13

<sup>1</sup> Natural Gas High Altitude Orifice Kit required.

## INSTALLATION CLEARANCES

### UPFLOW POSITION

Vent Type	Type B1	Type C
Sides	0 (0)	<sup>1</sup> 0 (0)
Rear	0 (0)	0 (0)
Top	1 (25)	1 (25)
Front	2-1/4 (57)	2-1/4 (57)
Front (service/alcove)	24 (610)	24 (610)
Floor	Combustible	Combustible
Flue	1 (25)	6 (152)

NOTE - Air for combustion must conform to the methods outlined in the National Fuel Gas Code (NFPA 54/ANSI-Z223.1).

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.

<sup>1</sup> Left side requires 4 in. if single wall vent is used on 14-1/2 in. cabinets, 2 in. on 17-1/2 in. cabinets.

### HORIZONTAL POSITION

Vent Type	Type B1	Type C
End	<sup>1</sup> 2	<sup>1</sup> 2
Rear	0 (0)	0 (0)
Top	<sup>1</sup> 0 (0)	<sup>1</sup> 0 (0)
Front	2-1/4 (57)	2-1/4 (57)
Front (service)	24 (610)	24 (610)
Floor	Combustible	Combustible
Flue	1 (25)	6 (152)

NOTE - Air for combustion must conform to the methods outlined in the National Fuel Gas Code (NFPA 54/ANSI-Z223.1).

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.

<sup>1</sup> Line contact installation permissible between jacket top or sides and building joists.

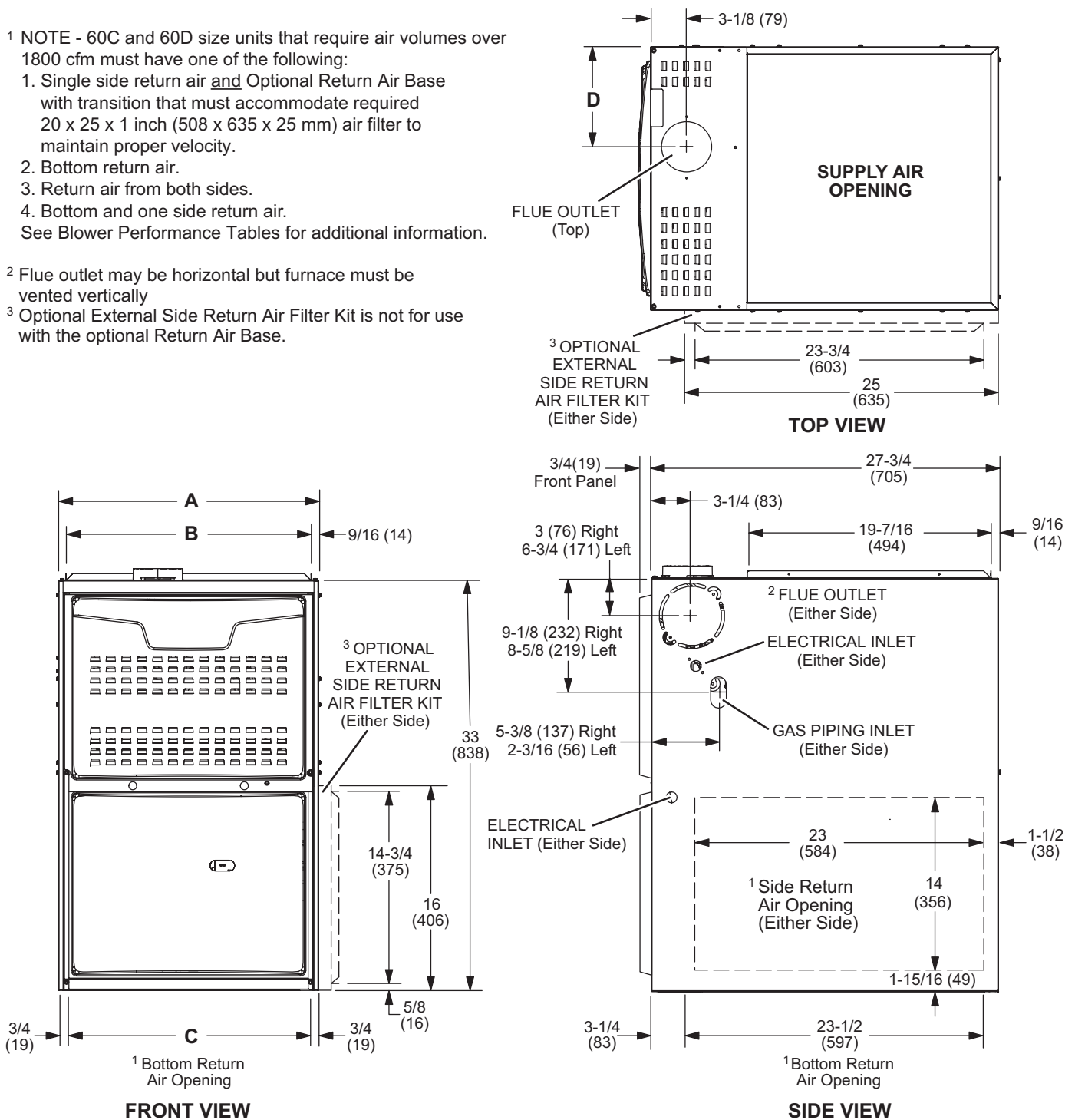
## DIMENSIONS - UPFLOW POSITION

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

1. Single side return air and 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.

<sup>2</sup> Flue outlet may be horizontal but furnace must be vented vertically

<sup>3</sup> Optional External Side Return Air Filter Kit is not for use with the optional Return Air Base.

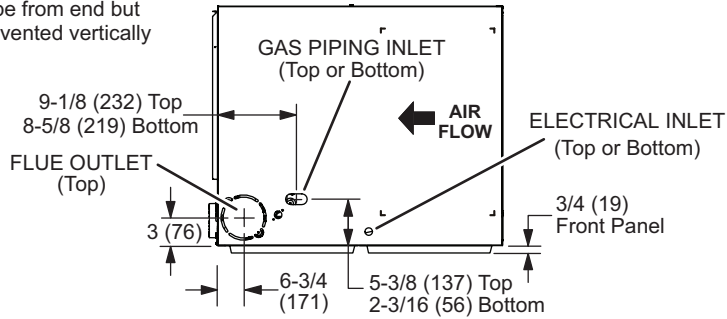


Model No.	A		B		C		D	
	in.	mm	in.	mm	in.	mm	in.	mm
ML180UH045P24A	14-1/2	368	13-3/8	340	13	330	4-3/4	121
ML180UH045P36A								
ML180UH070P24A								
ML180UH070P36A								
ML180UH090P36B	17-1/2	446	16-3/8	416	16	406	6-1/4	159
ML180UH090P48B								
ML180UH110P48C	21	533	19-7/8	504	19-1/2	495	8	203
ML180UH110P60C								
ML180UH135P60D	24-1/2	622	23-3/8	594	23	584	9-3/4	248

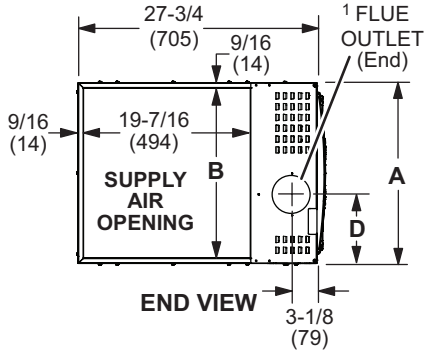
# DIMENSIONS - HORIZONTAL POSITION

## LEFT-HAND AIR DISCHARGE

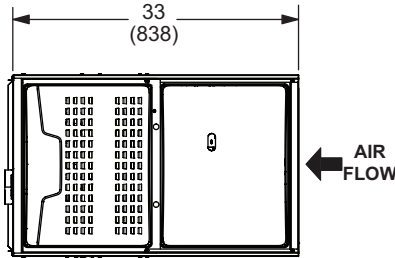
<sup>1</sup> Flue outlet may be from end but furnace must be vented vertically



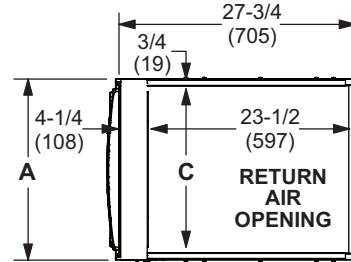
TOP VIEW



END VIEW



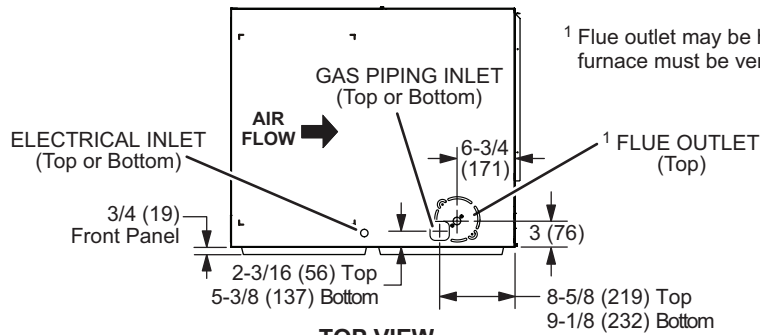
FRONT VIEW



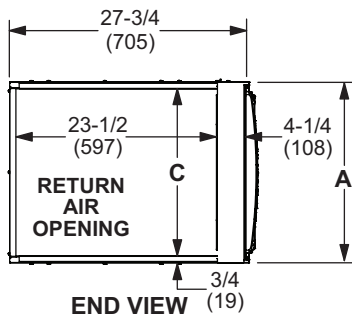
END VIEW

## RIGHT-HAND AIR DISCHARGE

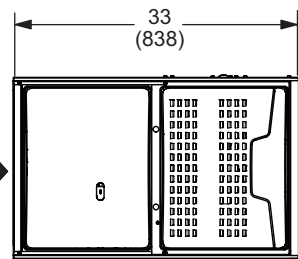
<sup>1</sup> Flue outlet may be horizontal but furnace must be vented vertically



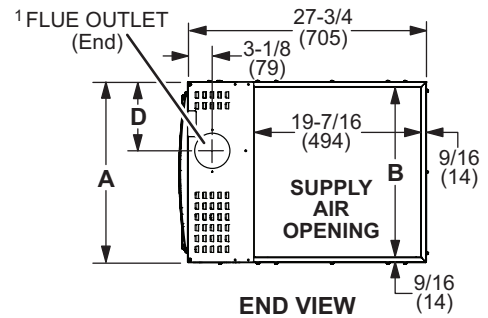
TOP VIEW



END VIEW



FRONT VIEW

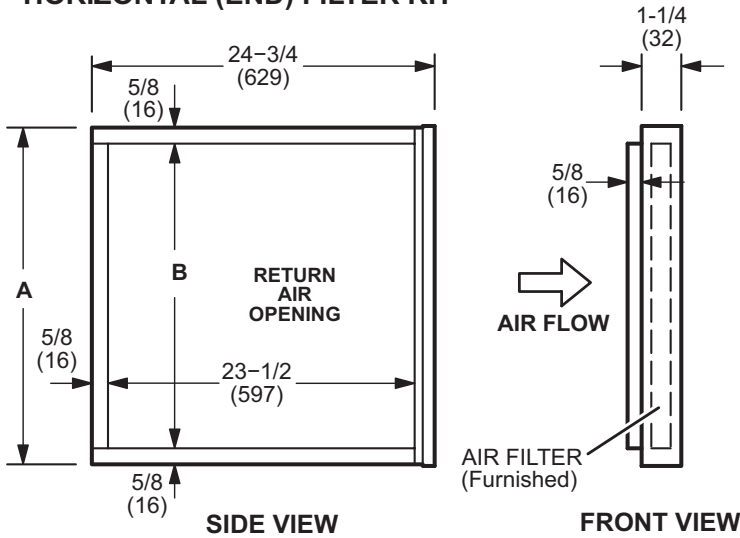


END VIEW

Model No.	A		B		C		D	
	in.	mm	in.	mm	in.	mm	in.	mm
ML180UH045P24A	14-1/2	368	13-3/8	340	13	330	4-3/4	121
ML180UH045P36A								
ML180UH070P24A								
ML180UH070P36A								
ML180UH090P36B	17-1/2	446	16-3/8	416	16	406	6-1/4	159
ML180UH090P48B								
ML180UH110P48C	21	533	19-7/8	504	19-1/2	495	8	203
ML180UH110P60C								
ML180UH135P60D	24-1/2	622	23-3/8	594	23	584	9-3/4	248

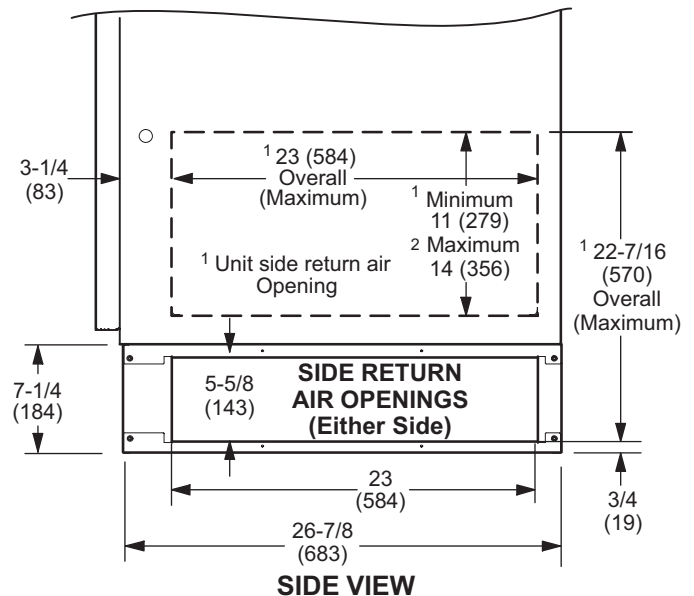
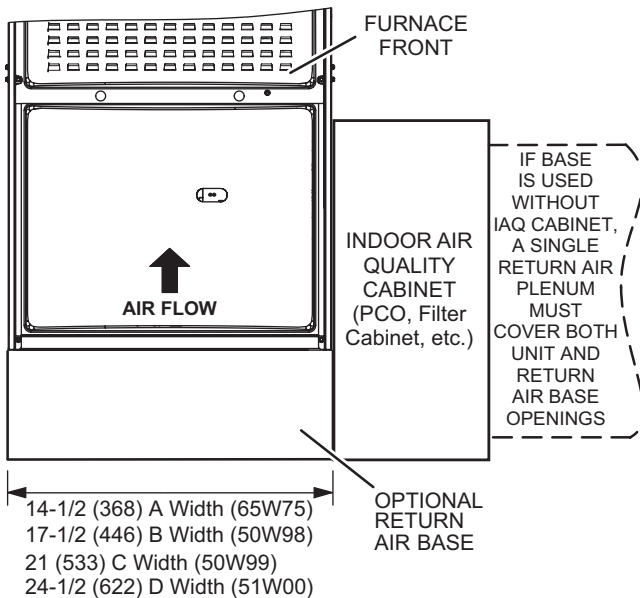
## DIMENSIONS - OPTIONAL ACCESSORIES

### HORIZONTAL (END) FILTER KIT



Furnace Cabinet Width	Catalog Number	A		B	
		in.	mm	in.	mm
A	87L95	14	356	12-3/4	324
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 A, B, C and D cabinets)



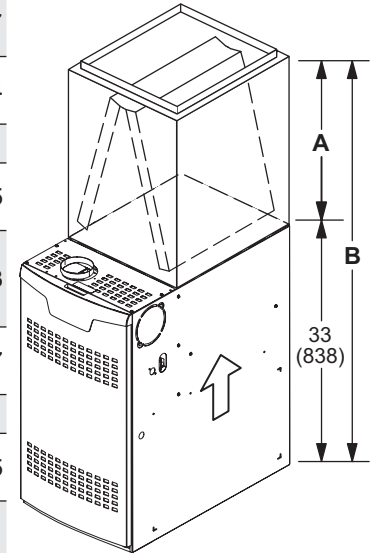
**NOTE-** Optional Side Return Air Filter Kits are not for use with Optional Return Air Base.

- 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.
- To minimize pressure drop, the largest opening height possible, up to 14 in. (356 mm), is preferred.

## DIMENSIONS - FURNACE/COIL COMBINED DIMENSIONS

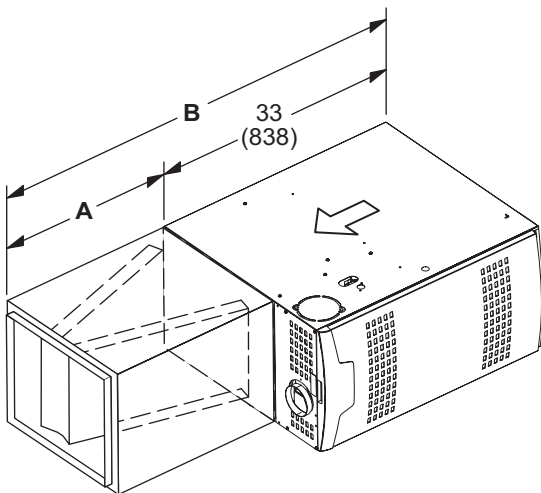
### UPFLOW POSITION

Model No			C35/C37/CX35/CX38 Cased				C35 Uncased			
			A		B		A		B	
C35/CX35	C37	CX38	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	C37-25A C37-25B	CX38-25A CX38-25B	18-1/2	470	51-1/2	1308	16-3/8	416	49-3/8	1254
---	---	CX38-30A	20-1/2	521	53-1/2	1359	---	---	---	---
C35/CX35-30A C35/CX35-30B	C37-31A C37-31B	CX38-31A CX38-31B	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	C37-36A C37-36B C37-36C	CX38-36A CX38-36B CX38-36C	24-1/2	622	57-1/2	1461	22-1/4	565	55-1/4	1403
C35/CX35-36A C35/CX35-36B	C37-38A C37-38B	CX38-38A CX38-38B	24-1/2	622	57-1/2	1461	22-3/8	568	55-3/8	1407
---	C37-42B	CX38-42B	24-1/2	622	57-1/2	1461	---	---	---	---
C35/CX35-48B C35/CX35-48C	C37-43B C37-43C	CX38-43B CX38-43C	27-1/2	699	60-1/2	1537	26-1/4	667	59-1/4	1505
---	C37-48B C37-48C	CX38-44/48B CX38-44/48C	24-1/2	622	57-1/2	1461	---	---	---	---
C35/CX35-49C	C37-49C	CX38-49C	29-1/2	749	62-1/2	1588	28-1/2	724	61-1/2	1562
C35/CX35-50/60C	C37-50/60C	CX38-50/60C	27-1/2	699	60-1/2	1537	25-7/8	657	58-7/8	1495
---	C37-60D	CX38-60D	25-1/2	648	58-1/2	1486	---	---	---	---
CX35-60C	C37-62C	CX38-62C	31-1/2	800	64-1/2	1638	30-5/8	778	63-5/8	1616
CX35-60D	C37-62D	CX38-62D	29-1/2	749	62-1/2	1588	28	711	61	1549



### 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, CH35-36A-2F, CH35-24A-2F, CH35-36B-2F, CH35-24B-2F, CH35-36C-2F, CH35-30B-2F, CH35-42C-2F, CH35-48C-2F	26-1/2	673	59-1/2	1511
CH35-30A-2F, CH35-51C-2F, CH35-42B-2F, CH35-60D-2F CH35-48B-2F,	31-1/2	880	64-1/2	1638



## BLOWER DATA

**ML180UH045P24A PERFORMANCE (Less Filter)**

External Static Pressure in. w.g.	Air Volume / Watts at Various Blower Speeds							
	High		Medium-High		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1130	453	900	328	750	261	680	237
0.10	1115	432	885	321	735	255	670	230
0.20	1100	413	870	315	720	249	655	223
0.30	1070	396	855	304	700	241	640	217
0.40	1030	375	830	294	685	234	620	209
0.50	990	356	800	283	655	223	590	200
0.60	930	335	750	261	610	207	535	186
0.70	870	315	705	245	540	193	490	175
0.80	785	285	615	223	455	175	405	158
0.90	615	247	485	196	375	157	345	143

**ML180UH070P36A PERFORMANCE (Less Filter)**

External Static Pressure in. w.g.	Air Volume / Watts at Various Blower Speeds							
	High		Medium-High		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1660	696	1370	604	1095	495	935	386
0.10	1620	658	1365	568	1115	468	945	374
0.20	1580	621	1355	535	1135	442	960	362
0.30	1520	595	1335	513	1130	423	955	350
0.40	1480	562	1300	478	1100	403	945	335
0.50	1400	520	1270	450	1080	382	925	320
0.60	1340	490	1205	420	1035	358	880	301
0.70	1245	458	1125	393	975	333	835	282
0.80	1160	434	1045	364	915	310	775	262
0.90	1045	393	940	334	830	283	785	268

**ML180UH045P36A PERFORMANCE (Less Filter)**

External Static Pressure in. w.g.	Air Volume / Watts at Various Blower Speeds							
	High		Medium-High		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1670	711	1335	614	1140	485	925	388
0.10	1620	663	1335	577	1130	470	940	376
0.20	1570	619	1330	543	1115	455	950	366
0.30	1525	598	1315	511	1140	432	950	349
0.40	1470	552	1275	491	1125	413	945	336
0.50	1400	525	1235	455	1085	384	925	317
0.60	1330	486	1185	422	1050	361	885	300
0.70	1225	450	1135	395	995	336	840	283
0.80	1135	418	1010	359	925	315	785	258
0.90	1020	388	930	329	820	278	650	227

**ML180UH090P36B PERFORMANCE (Less Filter)**

External Static Pressure in. w.g.	Air Volume / Watts at Various Blower Speeds							
	High		Medium-High		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1795	781	1450	606	1195	464	970	390
0.10	1760	730	1435	576	1185	452	970	378
0.20	1725	683	1420	547	1170	440	975	368
0.30	1685	656	1410	525	1170	420	980	356
0.40	1630	625	1370	501	1150	400	955	340
0.50	1535	569	1315	469	1125	391	925	326
0.60	1470	533	1275	440	1085	367	910	309
0.70	1365	490	1185	407	1020	344	840	290
0.80	1255	466	1105	380	935	314	785	266
0.90	1160	430	1000	352	815	285	680	258

**ML180UH070P24A PERFORMANCE (Less Filter)**

External Static Pressure in. w.g.	Air Volume / Watts at Various Blower Speeds					
	High		Medium		Low	
	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1160	450	1005	380	865	309
0.10	1135	439	990	369	845	299
0.20	1115	429	975	358	820	289
0.30	1085	410	955	348	790	279
0.40	1045	389	925	335	775	270
0.50	1015	374	885	321	735	260
0.60	965	358	835	307	700	248
0.70	890	335	780	289	635	232
0.80	810	315	700	268	560	214
0.90	715	289	565	238	420	189

**ML180UH090P48B PERFORMANCE (Less Filter)**

External Static Pressure in. w.g.	Air Volume / Watts at Various Blower Speeds							
	High		Medium-High		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	2160	873	1825	775	1515	649	1260	544
0.10	2030	804	1780	719	1525	613	1280	518
0.20	1910	740	1740	666	1535	580	1305	493
0.30	1840	698	1705	643	1500	551	1305	474
0.40	1770	664	1635	594	1460	517	1280	445
0.50	1665	625	1560	567	1410	483	1225	420
0.60	1585	595	1470	523	1330	451	1190	391
0.70	1470	561	1365	483	1260	421	1115	368
0.80	1355	514	1230	433	1155	392	1020	338
0.90	1200	471	1120	399	1020	345	920	315

## BLOWER DATA

### ML180UH110P48C PERFORMANCE (Less Filter)

External Static Pressure in. w.g.	Air Volume / Watts at Various Blower Speeds							
	High		Medium-High		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	2170	980	1845	792	1565	678	1270	564
0.10	2125	919	1820	747	1555	648	1300	540
0.20	2080	862	1790	705	1540	619	1335	516
0.30	2015	807	1745	652	1545	587	1335	498
0.40	1940	748	1695	629	1505	552	1320	470
0.50	1850	716	1635	581	1470	523	1295	449
0.60	1775	679	1575	560	1395	484	1235	417
0.70	1680	637	1470	508	1320	450	1170	387
0.80	1560	592	1350	469	1205	404	1050	345
0.90	1425	546	1190	424	1060	362	910	307

### ML180UH110P60C PERFORMANCE (Less Filter)

External Static Pressure in. w.g.	Air Volume / Watts at Different Blower Speeds															
	Bottom Return Air, Side Return Air from Both Sides or Return Air from Bottom and One Side.								Single Side Return Air – Air volumes in <b>bold</b> require Optional Return Air Base <u>and</u> field fabricated transition to accommodate 20 x 25 x 1 in. air filter in order to maintain proper air velocity.							
	High		Medium-High		Medium-Low		Low		High		Medium-High		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	2575	1391	2270	1050	1845	860	1430	661	<b>2715</b>	<b>1509</b>	<b>2175</b>	<b>1103</b>	1695	858	1410	653
0.10	2520	1359	2250	1034	1860	841	1455	654	<b>2605</b>	<b>1454</b>	<b>2160</b>	<b>1060</b>	1740	848	1430	651
0.20	2465	1329	2230	1018	1870	823	1480	647	<b>2505</b>	<b>1401</b>	<b>2150</b>	<b>1018</b>	1785	838	1450	649
0.30	2385	1307	2180	981	1885	809	1540	646	<b>2435</b>	<b>1349</b>	<b>2115</b>	<b>991</b>	1795	818	1485	638
0.40	2295	1256	2105	942	1865	778	1570	638	<b>2350</b>	<b>1308</b>	<b>2070</b>	<b>965</b>	<b>1805</b>	<b>801</b>	1480	631
0.50	2200	1214	2055	909	1845	762	1570	619	<b>2260</b>	<b>1274</b>	<b>2010</b>	<b>929</b>	1785	775	1480	621
0.60	2130	1186	1985	882	1795	741	1550	604	<b>2175</b>	<b>1228</b>	<b>1955</b>	<b>901</b>	1755	752	1490	611
0.70	2015	1150	1890	848	1720	711	1505	580	<b>2085</b>	<b>1186</b>	<b>1850</b>	<b>853</b>	1710	722	1460	594
0.80	1905	1105	1810	815	1675	687	1470	565	<b>1965</b>	<b>1147</b>	1785	818	1640	689	1425	567
0.90	1795	1054	1710	779	1545	647	1375	533	<b>1830</b>	<b>1094</b>	1700	794	1555	662	1355	545

### ML180UH135P60D PERFORMANCE (Less Filter)

External Static Pressure in. w.g.	Air Volume / Watts at Different Blower Speeds															
	Bottom Return Air, Side Return Air from Both Sides or Return Air from Bottom and One Side.								Single Side Return Air – Air volumes in <b>bold</b> require Optional Return Air Base <u>and</u> field fabricated transition to accommodate 20 x 25 x 1 in. air filter in order to maintain proper air velocity.							
	High		Medium-High		Medium-Low		Low		High		Medium-High		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	2785	1492	2205	1083	1665	840	1345	632	<b>2810</b>	<b>1528</b>	<b>2185</b>	<b>1100</b>	1705	835	1260	622
0.10	2750	1441	2220	1056	1725	825	1395	625	<b>2725</b>	<b>1463</b>	<b>2180</b>	<b>1075</b>	1715	827	1320	624
0.20	2720	1392	2235	1029	1785	810	1445	618	<b>2640</b>	<b>1400</b>	<b>2180</b>	<b>1051</b>	1720	819	1380	626
0.30	2605	1362	2220	1002	1820	800	1460	623	<b>2575</b>	<b>1374</b>	<b>2165</b>	<b>1005</b>	1790	803	1420	622
0.40	2495	1312	2185	968	1845	779	1485	616	<b>2495</b>	<b>1343</b>	<b>2145</b>	<b>988</b>	1775	791	1450	617
0.50	2420	1275	2135	939	1825	767	1505	605	<b>2405</b>	<b>1292</b>	<b>2105</b>	<b>948</b>	1780	777	1470	610
0.60	2335	1234	2080	909	1825	753	1495	593	<b>2305</b>	<b>1257</b>	<b>2045</b>	<b>914</b>	1775	753	1480	593
0.70	2220	1190	1995	864	1760	716	1475	576	<b>2215</b>	<b>1214</b>	<b>1970</b>	<b>884</b>	1740	727	1455	583
0.80	2120	1157	1890	835	1680	686	1435	558	<b>2110</b>	<b>1170</b>	<b>1890</b>	<b>851</b>	1675	699	1430	565
0.90	1985	1102	1790	794	1605	656	1390	536	<b>1985</b>	<b>1122</b>	1790	811	1600	667	1380	543









## REVISIONS

Sections	Description of Change
Controls	Added iComfort® M30 Smart Thermostat and Remote Outdoor Temperature Sensor.



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