

ML180DFE

MERIT® SERIES

Downflow - Constant Torque Blower Motor - 60 Hz

RESIDENTIAL PRODUCT SPECIFICATIONS

Bulletin No. 210826 April 2024 Supersedes all previous versions





AFUE - 80% Input - 44,000 to 110,000 Btuh Nominal Add-on Cooling - 1.5 to 5 Tons

MODEL NUMBER IDENTIFICATION ML 1 80 DF 070 E 36 B **Unit Type Cabinet Width** ML = Merit® Series A = 14-1/2 in. B = 17-1/2 in. C = 21 in. **Stages** = Single-Stage **AFUE Nominal Add-On Cooling Capacity** 80 = 80% 36 = 1.5-3 tons48 = 2.5-4 tons60 = 3-5 tonsConfiguration DF = Downflow Blower Nominal Gas Heat Input 045 = 44,000 Btuh E = High Efficiency Constant Torque Blower Motor 070 = 66,000 Btuh 090 = 88,000 Btuh 110 = 110,000 Btuh ¹ Downflow indoor coils with the same letter designation physically match the

furnace supply air opening.

FEATURE HIGHLIGHTS

- 1. Lennox Duralok™ Heat Exchanger Assembly
- 2. Inshot Burners
- 3. SureLight® Hot Surface Ignitor
- 4. Gas Control Valve
- 5. Combustion Air Inducer
- 6. Flame Rollout Switches
- 7. Power Saver™ Constant Torque Blower
- 8. SureLight® Integrated Furnace Control
- 9. Insulated Cabinet
- 10. Safety Interlock Switch
- 11. Gas Piping And Electrical Inlets



NOTE - ML180E FURNACES ARE NOT AVAILABLE IN CANADA!

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APPROVALS AND WARRANTY

APPROVALS

- · AHRI Certified
- Tested and rated according to US DOE test procedures and FTC labeling regulations
- "X" models approved by the California Energy Commission and meets California Nitrogen Oxides Standard (NOx) limits of 40 ng/J
- ISO 9001 Registered Manufacturing Quality System
- · Blower data from unit tests conducted in Lennox Laboratory air test chamber

NOTE - This furnace has not been CSA International design certified for installation in mobile homes, recreational vehicles, or outdoors.

California Only

 These furnaces <u>do not meet</u> 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 cannot be installed within the SCAQMD, SJVAPCD and Bay Area

WARRANTY

- · Heat Exchanger:
 - · Limited twenty years 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 www.Lennox.com for additional details.

FEATURES

APPLICATIONS

- Input capacities of 44,000, 66,000, 88,000 and 110,000 Btuh
- Energy efficiency (AFUE) 80%
- Compact cabinet for downflow applications without any internal modifications to the unit
- 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

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

2 Inshot Burners

- Aluminized steel inshot burners provide efficient, troublefree 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

6 Flame Rollout Switch

- Factory installed inside burner box
- Switches provides protection from abnormal operating conditions
- · Manual reset

Limit Controls

- Primary limit factory installed on vestibule panel
- Secondary limit factory installed on blower housing
- Automatic reset

FEATURES

HEATING SYSTEM (continued)

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

CABINET

- Low-profile, narrow width cabinet allows easy installation in downflow 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
- Insulated with foil faced insulation on sides and back of heating compartment
- · Complete service access
- 8 Safety interlock switch automatically shuts off power to unit when blower compartment access panel is removed
- Gas piping and electrical inlets are provided in both sides of cabinet

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"

Coil Match-up

 All Lennox downflow indoor coils will physically match the furnace supply air opening with the same letter designation (A, B, C, D) as in the furnace model number

Optional Accessories

Downflow Combustible Flooring Base

- Required for heating only units installed on combustible floors
- Not required in add-on cooling applications
- · See Dimension Drawing

FILTER

Filter and provisions for external mounting must be field provided

Optional Accessories

Downflow Filter Cabinet

- Filter cabinet mounts directly on top of furnace
- "A" width cabinet includes one filter
- "B and "C" width cabinets have two filters
- · Filter rails are furnished
- Front access for servicing
- Cleanable filter(s) are furnished
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BLOWER

10 Power Saver™ Constant Torque Blower Motor

- Programmable high efficiency multi-speed blower motor.
 By maintaining constant torque output, blower motor can deliver more uniform (but not constant) airflow over the static pressure range
- Programmable multi-speed operation is achieved by the use of an ECM (Electronically Commutated Motor) motor
- Leadless blower motor features simple plug-in connections
- Controlled by the Integrated Furnace Control
- Blower speeds are easily changed on the integrated furnace control. See Blower Data tables

Blower Assembly

- · Lennox designed and built, direct drive blower
- Each blower is statically and dynamically balanced as an assembly before installation in the unit
- Blower motor is resiliently mounted to blower assembly
- · Blower is easily removed for servicing

CONTROLS

11 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)
- For air-conditioning applications, blower is automatically energized on thermostat demand for cooling
- Control has low speed continuous blower speed setting for humidifier or air cleaner operation
- Two accessory terminals furnished for additional power supply requirements for 120 volt (less than 1 amp) power humidifiers and powered air cleaners
- One additional terminal is furnished for power supply requirements for 24V (less than 0.5 amp) low voltage accessories
- Ignition control has single red LED to indicate status and as an aid in troubleshooting
- Last five codes are stored in non-volatile memory (accessible by recall button on control) for servicing

FEATURES

CONTROLS (continued)

24 Volt Transformer (40VA)

- Furnished and factory installed on outside of control box
- · Circuit breaker (furnished) is 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 on right side of furnace

Optional Accessories

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 $\ensuremath{\mathsf{IQ}}^{\ensuremath{\mathsf{T}}}$
- 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
- 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 Amazon Alexa[®], Google Assistant and IFTTT
- Service Dashboard features online real-time monitoring of installed Lennox® thermostats

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

Remote Outdoor Temperature Sensor

- · Used with the M30 Smart Thermostat
- Outdoor sensor allows thermostat to display outdoor temperature

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

Thermostat

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

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

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

Transformer (75VA)

- Recommended when furnace is used with zoning or defrost thermostats and other 24V accessories requiring a higher VA rating
- · Circuit breaker (furnished) is wired in series
- Replaces the standard 40VA transformer

| SPECIFIC | ATIONS | | | |
|---------------------|--|----------------|--------------------------------|----------------|
| Gas | Model No. | ML180DF045E36A | ML180DF070E36A | ML180DF070E36B |
| Heating Performance | ¹ AFUE | 80% | 80% | 80% |
| Periormance | Input - Btuh | 44,000 | 66,000 | 66,000 |
| | Output - Btuh | 36,000 | 53,000 | 54,000 |
| | Temperature rise range - °F | 15 - 45 | 30 - 60 | 30 - 60 |
| Ga | s Manifold Pressure (in. w.g.) Nat. Gas / LPG/Propane | 3.5 / 10.0 | 3.5 / 10.0 | 3.5 / 10.0 |
| High Static - i | n. w.g. | 0.50 | 0.50 | 0.50 |
| Connections | Flue connection - in. round | 4 | 4 | 4 |
| in. | Gas pipe size IPS | 1/2 | 1/2 | 1/2 |
| Indoor | Wheel nom. dia. x width - in. | 10 x 8 | 10 x 10 | 10 x 10 |
| Blower | Motor Type | DC Brushless | DC Brushless | DC Brushless |
| | Motor output - hp | 1/2 | 1/2 | 1/2 |
| | Tons of add-on cooling | 1.5 - 3 | 1.5 - 3 | 1.5 - 3 |
| | Air Volume Range - cfm | 355 - 1430 | 675 - 1460 | 430 - 1475 |
| Electrical Dat | a Voltage | | 120 volts - 60 hertz - 1 phase | |
| | Blower motor full load amps | 6.8 | 6.8 | 6.8 |
| Max | kimum overcurrent protection | 15 | 15 | 15 |
| Shipping Data | lbs 1 package | 113 | 119 | 128 |

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

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

| SPECIFIC | ATIONS | | | |
|----------------------|--|---------------------------|--|--|
| Gas | Model No. | ML180DF090E48B | ML180DF110E60C | |
| Heating | ¹ AFUE | 80% | 80% | |
| Performance | Input - Btuh | 88,000 | 110,000 | |
| | Output - Btuh | 72,000 | 90,000 | |
| | Temperature rise range - °F | 30 - 60 | 30 - 60 | |
| Gas | s Manifold Pressure (in. w.g.) Nat. Gas / LPG/Propane | 3.5 / 10.0 | 3.5 / 10.0 | |
| High Static - in | n. w.g. | 0.50 | | |
| Connections | Flue connection - in. round | 4 | 4 | |
| in. | Gas pipe size IPS | 1/2 | 80% 80% 88,000 110,000 72,000 90,000 30 - 60 30 - 60 3.5 / 10.0 3.5 / 10.0 0.50 0.50 4 4 1/2 1/2 10 x 10 11-1/2 x 10 | |
| 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 | 110,000 90,000 30 - 60 3.5 / 10.0 0.50 4 1/2 11-1/2 x 10 DC Brushless 1 3 - 5 990 - 2410 its - 60 hertz - 1 phase 10.9 15 | |
| | Tons of add-on cooling | 2.5 - 4 | 3 - 5 | |
| | Air Volume Range - cfm | 680 - 1750 | 990 - 2410 | |
| Electrical Data | a Voltage | cfm 680 - 1750 990 - 2410 | | |
| | Blower motor full load amps | 8.4 | 10.9 | |
| Max | imum overcurrent protection | 15 | 15 | |
| Shipping Data | lbs 1 package | 140 | 160 | |

 $[\]ensuremath{\mathsf{NOTE}}$ - Filters and provisions for mounting are not furnished and must be field provided.

¹ 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 SEPARATI | ELY | | |
|--|---------------------|---------------------|---------------------|
| | "A" Width Models | "B" Width Models | "C" Width Models |
| CABINET ACCESSORIES | | | |
| Downflow Combustible Flooring Base | 11M59 | 11M60 | 11M61 |
| CONTROLS | | | |
| M30 Smart Wi-Fi Thermostat | 15Z69 | 15Z69 | 15Z69 |
| Remote Outdoor Air Temperature Sensor | X2658 | X2658 | X2658 |
| Blower Relay Kit (for two-stage outdoor units) | 85W66 | 85W66 | 85W66 |
| Furnace Twinning Panel | Y3653 | Y3653 | Y3653 |
| Furnace Twinning Kit | 16W72 | 16W72 | 16W72 |
| Transformer (75VA) | 27J32 | 27J32 | 27J32 |
| FILTERS | | | |
| ¹ Downflow Filter Cabinet | 51W06 | 51W07 | 51W08 |
| No. and Size of filter - in. | (1) 20 x 20 x 1 | (2) 20 x 16 x 1 | (2) 20 x 16 x 1 |

¹ Cleanable polyurethane, frame-type filter.

| GAS H | GAS HEAT ACCESSORIES | | | | | | | | | | |
|-------|----------------------|----------------------------------|-------------------|--------------|-----------------------|-----------------------------------|---|--|--|--|--|
| Input | F | High Altitude Pressure Switch | Kit | | l Gas to opane Kit | LPG/Propane to Natural Gas Kit | Natural Gas High Altitude Orifice Kit | | | | |
| | 0 - 4500 ft. 450 | 4501 - 7500 ft. | 7501 - 10,000 ft. | 0 - 7500 ft. | 7501 - 10,000 ft. | 0 - 7500 ft. | 7501 - 10,000 ft. | | | | |
| 045 | No Change | No Change | 80W51 | 11K49 | 11K44 | 73W81 | 73W37 | | | | |
| 070 | No Change | 80W52 | 80W51 | 11K49 | 11K44 | 73W81 | 73W37 | | | | |
| 090 | No Change | No Change | 80W51 | 11K49 | 11K44 | 73W81 | 73W37 | | | | |
| 110 | No Change | 80W52 | 80W51 | 11K49 | 11K44 | 73W81 | 73W37 | | | | |

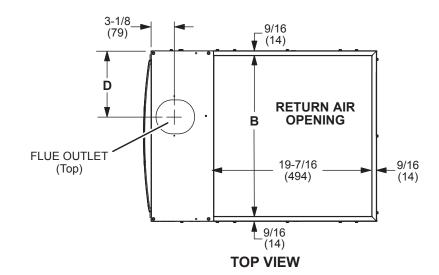
HIGH ALTITUDE DERATE

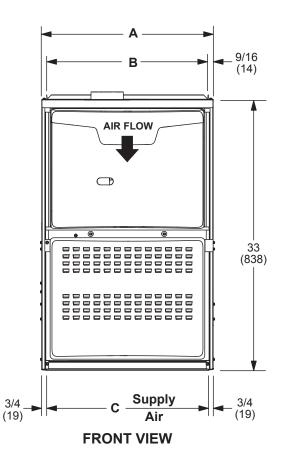
NOTE - Units may be installed at altitudes up to 4500 ft. above sea level without any modifications. At altitudes above 4500 ft. units must be derated to match information in the shaded areas shown below.

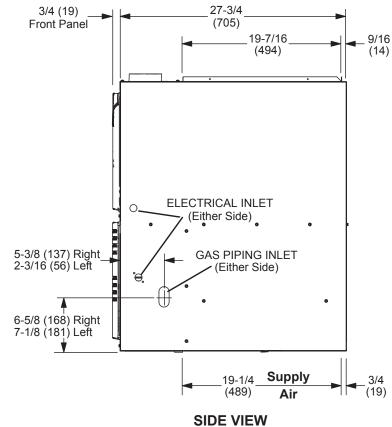
 $\ensuremath{\mathsf{NOTE}}$ - This is the only permissible derate for these units.

| | | Gas Ma | anifold Press | ure (Outlet) | in. w.g. | | Line Pressure - in. w.g. | | | |
|-------|----------------|-----------------|----------------|-----------------|-----------------------------|-----------------|--------------------------|-----------------|---------|--|
| Input | 0 - 450 | 00 Feet | 4501 - 7 | 500 Feet | 7501 - 1 | 0,000 ft. | Mini | | | |
| | Natural Gas | LPG/ Propane | Natural Gas | LPG/ Propane | ¹ Natural Gas | LPG/ Propane | Natural Gas | LPG/ Propane | Maximum | |
| 045 | 3.5 | 10 | 3.5 | 10 | 3.5 | 10 | 4.5 | 11 | 13 | |
| 070 | 3.5 | 10 | 3.3 | 10 | 3.5 | 10 | 4.5 | 11 | 13 | |
| 090 | 3.5 | 10 | 3.3 | 10 | 3.5 | 10 | 4.5 | 11 | 13 | |
| 110 | 3.5 | 10 | 3.3 | 10 | 3.5 | 10 | 4.5 | 11 | 13 | |

¹ Natural Gas High Altitude Orifice Kit required.

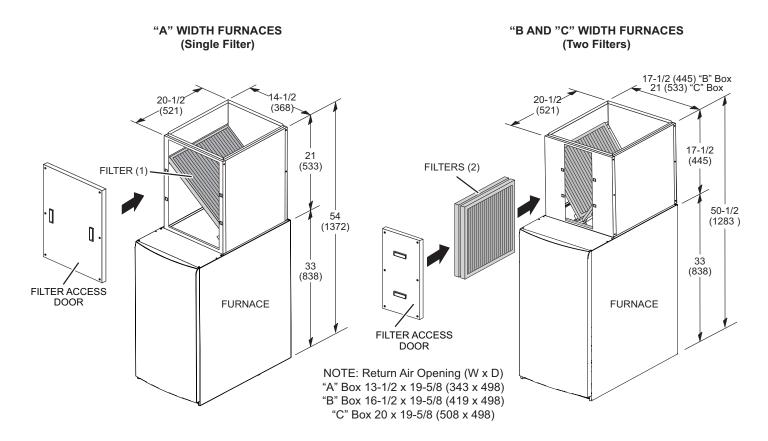






| Model No. | Α | | В | | С | | D | |
|----------------------------------|--------|-----|--------|-----|--------|-----|-------|-----|
| wodel No. | in. | mm | in. | mm | in. | mm | in. | mm |
| ML180DF045E36A ML180UH070E36A | 14-1/2 | 368 | 13-3/8 | 340 | 13 | 330 | 4-3/4 | 121 |
| ML180DF070E36B ML180DF090E48B | 17-1/2 | 446 | 16-3/8 | 416 | 16 | 406 | 6-1/4 | 159 |
| ML180DF110E60C | 21 | 533 | 19-7/8 | 505 | 19-1/2 | 495 | 8 | 203 |

DOWNFLOW FILTER CABINET



| INSTALLATION | INSTALLATION CLEARANCES | | | | | | | | | |
|------------------------|--------------------------|--------------------------|--|--|--|--|--|--|--|--|
| Vent Type | Type B1 | Type C | | | | | | | | |
| Sides | 0 in. (0 mm) | 10(0) | | | | | | | | |
| Rear | 0 in. (0 mm) | 0 (0) | | | | | | | | |
| Тор | 1 in. (25 mm) | 1 (25) | | | | | | | | |
| Front | 2-1/4 in. (57 mm) | 2-1/4 (57) | | | | | | | | |
| Front (service/alcove) | 24 in. (610 mm) | 24 (610) | | | | | | | | |
| Floor | ² Combustible | ² Combustible | | | | | | | | |
| Flue | 1 in. (25 mm) | 6 (152) | | | | | | | | |

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

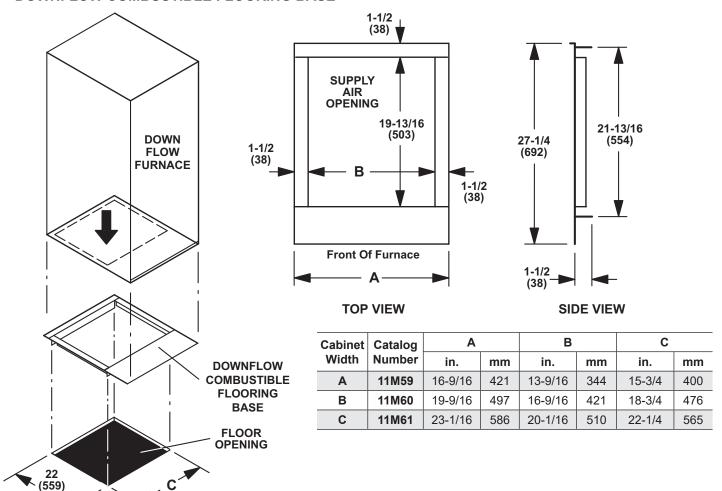
NOTE – In the U.S. flue sizing must conform to the methods outlined in the current National Fuel Gas Code (NFPA 54/ANSI-Z223.1) or applicable provisions of local building codes.

¹ Left side requires 4 in. if single wall vent is used on 14-1/2 in. "A" width cabinets, 2 in. on 17-1/2 in. "B" width cabinets.

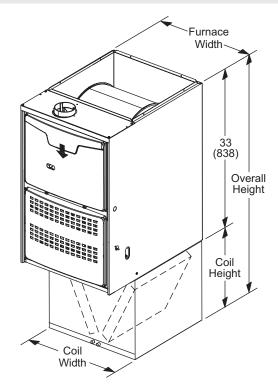
² Clearance for installation on combustible floor if Optional Downflow Combustible Flooring Base is installed between furnace and combustible floor. Not required in add-on cooling applications if installed in accordance with local codes, National Fuel Gas Code ANSI-Z223.1 or National Standard of Canada CAN/CSA-B149.1 and CAN/CSA-B149.2 Installation Code for Gas Burning Appliances". Do not install the furnace directly on carpeting, tile, or other combustible materials other than wood flooring.

DIMENSIONS - OPTIONAL ACCESSORIES

DOWNFLOW COMBUSTIBLE FLOORING BASE



DIMENSIONS - FURNACE/COIL COMBINED DIMENSIONS



| Model Number | Coil Width | | Furnace Width | | Coil Height | | Overall Height | |
|-----------------|---------------|-----|------------------|-----|----------------|-----|-------------------|------|
| Number | in. | mm | in. | mm | in. | mm | in. | mm |
| CRX35-24A-F | 14-1/2 | 368 | 14-1/2 | 368 | 18 | 457 | 51 | 1295 |
| CRX35-24B-F | 17-1/2 | 445 | 17-1/2 | 445 | 18 | 457 | 51 | 1295 |
| CRX35-30/36B-F | 17-1/2 | 445 | 17-1/2 | 445 | 23-1/2 | 597 | 56-1/2 | 1435 |
| CRX35-30/36C-F | 21 | 533 | 21 | 533 | 23-1/2 | 597 | 56-1/2 | 1435 |
| CRX35-42B-F | 17-1/2 | 445 | 17-1/2 | 445 | 23-1/2 | 597 | 56-1/2 | 1435 |
| CRX35-48C-F | 21 | 533 | 21 | 533 | 27-1/2 | 699 | 60-1/2 | 1537 |
| CRX35-50/60C-F | 21 | 533 | 21 | 533 | 27-1/2 | 699 | 60-1/2 | 1537 |

BLOWER DATA

ML180DF045E36A PERFORMANCE (Less Filter)

| External | Air Volume / Watts at Various Blower Speeds | | | | | | | | | | |
|--------------------|---|-------|------------------------|-------|-----|-------------------------|-----|----------------------|--------------|-------|--|
| Static Pressure | High (Black) | | Medium-High (Brown) | | 1 | Medium (Blue) | | m-Low low) | Low (Red) | | |
| in. w.g. | cfm | Watts | cfm | Watts | cfm | Watts | cfm | Watts | cfm | Watts | |
| 0.00 | 1384 | 268 | 1164 | 170 | 970 | 111 | 942 | 86 | 867 | 75 | |
| 0.10 | 1347 | 278 | 1137 | 179 | 947 | 120 | 880 | 94 | 787 | 76 | |
| 0.20 | 1310 | 288 | 1110 | 188 | 924 | 129 | 818 | 102 | 707 | 77 | |
| 0.30 | 1278 | 301 | 1066 | 198 | 878 | 135 | 771 | 109 | 645 | 84 | |
| 0.40 | 1259 | 312 | 1027 | 204 | 831 | 143 | 713 | 115 | 587 | 89 | |
| 0.50 | 1210 | 323 | 995 | 214 | 785 | 149 | 669 | 121 | 530 | 95 | |
| 0.60 | 1183 | 330 | 941 | 220 | 742 | 156 | 615 | 127 | 478 | 100 | |
| 0.70 | 1155 | 338 | 902 | 228 | 702 | 164 | 570 | 134 | 430 | 105 | |
| 0.80 | 1085 | 333 | 873 | 236 | 654 | 170 | 522 | 139 | 384 | 110 | |
| 0.90 | 992 | 313 | 831 | 244 | 615 | 176 | 478 | 145 | - | - | |
| 1.00 | 879 | 286 | 796 | 250 | 574 | 182 | 437 | 150 | - | - | |

ML180DF070E36A PERFORMANCE (Less Filter)

| External | | Air Volume / Watts at Various Blower Speeds | | | | | | | | | | | |
|--------------------------------|-----------------|---|------------------------|-------|------|-------------------------|------|------------------------|------|--------------|--|--|--|
| Static Pressure in. w.g. | High (Black) | | Medium-High (Brown) | | | Medium (Blue) | | Medium-Low (Yellow) | | Low (Red) | | | |
| | cfm | Watts | cfm | Watts | cfm | Watts | cfm | Watts | cfm | Watts | | | |
| 0.00 | 1485 | 305 | 1297 | 210 | 1203 | 167 | 1176 | 159 | 1033 | 111 | | | |
| 0.10 | 1444 | 316 | 1262 | 219 | 1162 | 176 | 1144 | 169 | 986 | 119 | | | |
| 0.20 | 1403 | 327 | 1227 | 228 | 1121 | 185 | 1112 | 179 | 939 | 127 | | | |
| 0.30 | 1373 | 337 | 1186 | 236 | 1078 | 194 | 1064 | 187 | 894 | 132 | | | |
| 0.40 | 1350 | 348 | 1151 | 244 | 1045 | 202 | 1034 | 196 | 861 | 143 | | | |
| 0.50 | 1321 | 361 | 1117 | 255 | 1012 | 212 | 992 | 205 | 816 | 150 | | | |
| 0.60 | 1279 | 371 | 1082 | 263 | 969 | 219 | 948 | 212 | 773 | 157 | | | |
| 0.70 | 1250 | 382 | 1049 | 272 | 937 | 230 | 914 | 222 | 730 | 165 | | | |
| 0.80 | 1214 | 384 | 1018 | 283 | 898 | 238 | 872 | 229 | 682 | 172 | | | |
| 0.90 | 1131 | 370 | 966 | 291 | 862 | 247 | 840 | 238 | 639 | 179 | | | |
| 1.00 | 1029 | 343 | 930 | 300 | 825 | 255 | 798 | 247 | 595 | 186 | | | |

ML180DF070E36B PERFORMANCE (Less Filter)

| External | | | ` | | / Watts at \ | /arious Blo | wer Speeds | | | |
|--------------------|-----------------|-------|------------------------|-------|--------------|------------------|------------|----------------------|--------------|-------|
| Static Pressure | High (Black) | | Medium-High (Brown) | | Med | Medium (Blue) | | m-Low low) | Low (Red) | |
| in. w.g. | cfm | Watts | cfm | Watts | cfm | Watts | cfm | Watts | cfm | Watts |
| 0.00 | 1572 | 290 | 1340 | 182 | 1248 | 149 | 1215 | 138 | 1078 | 84 |
| 0.10 | 1526 | 302 | 1291 | 192 | 1202 | 158 | 1166 | 146 | 1003 | 97 |
| 0.20 | 1480 | 314 | 1241 | 202 | 1156 | 166 | 1117 | 154 | 928 | 109 |
| 0.30 | 1434 | 327 | 1194 | 212 | 1089 | 178 | 1059 | 164 | 860 | 116 |
| 0.40 | 1388 | 338 | 1163 | 219 | 1040 | 187 | 1003 | 174 | 804 | 125 |
| 0.50 | 1353 | 350 | 1095 | 231 | 986 | 195 | 951 | 183 | 736 | 133 |
| 0.60 | 1309 | 360 | 1046 | 244 | 928 | 205 | 900 | 189 | 642 | 137 |
| 0.70 | 1237 | 355 | 1000 | 251 | 878 | 213 | 842 | 202 | 567 | 149 |
| 0.80 | 1123 | 330 | 947 | 262 | 816 | 223 | 750 | 209 | 488 | 154 |
| 0.90 | 969 | 298 | 888 | 268 | 723 | 231 | 673 | 219 | 444 | 161 |
| 1.00 | 753 | 264 | 700 | 251 | 635 | 236 | 609 | 226 | - | - |

BLOWER DATA

ML180DF090E48B PERFORMANCE (Less Filter)

| External Static Pressure in. w.g. | Air Volume / Watts at Various Blower Speeds | | | | | | | | | |
|--|---|-------|------------------------|-------|-------------------------|-------|------------------------|-------|--------------|-------|
| | High (Black) | | Medium-High (Brown) | | Medium (Blue) | | Medium-Low (Yellow) | | Low (Red) | |
| | cfm | Watts | cfm | Watts | cfm | Watts | cfm | Watts | cfm | Watts |
| 0.00 | 1754 | 319 | 1547 | 227 | 1408 | 180 | 1375 | 164 | 1234 | 120 |
| 0.10 | 1711 | 333 | 1499 | 237 | 1372 | 192 | 1328 | 175 | 1183 | 131 |
| 0.20 | 1668 | 347 | 1451 | 247 | 1336 | 204 | 1281 | 186 | 1132 | 142 |
| 0.30 | 1643 | 362 | 1421 | 262 | 1307 | 214 | 1240 | 196 | 1077 | 148 |
| 0.40 | 1601 | 371 | 1389 | 273 | 1261 | 227 | 1198 | 206 | 1036 | 160 |
| 0.50 | 1559 | 390 | 1352 | 287 | 1215 | 235 | 1152 | 219 | 984 | 170 |
| 0.60 | 1527 | 401 | 1312 | 297 | 1181 | 249 | 1113 | 228 | 934 | 181 |
| 0.70 | 1486 | 414 | 1265 | 309 | 1139 | 262 | 1062 | 239 | 887 | 191 |
| 0.80 | 1456 | 428 | 1236 | 321 | 1096 | 273 | 1024 | 251 | 843 | 201 |
| 0.90 | 1407 | 432 | 1195 | 335 | 1055 | 284 | 982 | 264 | 778 | 212 |
| 1.00 | 1277 | 403 | 1152 | 348 | 1005 | 294 | 940 | 273 | 716 | 222 |

ML180DF110E60C PERFORMANCE (Less Filter)

| External Static Pressure in. w.g. | Air Volume / Watts at Various Blower Speeds | | | | | | | | | |
|--|---|-------|------------------------|-------|-------------------------|-------|------------------------|-------|--------------|-------|
| | High (Black) | | Medium-High (Brown) | | Medium (Blue) | | Medium-Low (Yellow) | | Low (Red) | |
| | cfm | Watts | cfm | Watts | cfm | Watts | cfm | Watts | cfm | Watts |
| 0.00 | 2394 | 560 | 2091 | 384 | 1829 | 270 | 1725 | 215 | 1542 | 162 |
| 0.10 | 2335 | 581 | 2049 | 400 | 1798 | 283 | 1664 | 228 | 1476 | 169 |
| 0.20 | 2276 | 602 | 2007 | 416 | 1767 | 296 | 1603 | 241 | 1410 | 176 |
| 0.30 | 2243 | 613 | 1971 | 428 | 1709 | 308 | 1563 | 253 | 1347 | 188 |
| 0.40 | 2183 | 632 | 1917 | 441 | 1654 | 322 | 1500 | 263 | 1280 | 198 |
| 0.50 | 2164 | 645 | 1864 | 458 | 1598 | 331 | 1439 | 275 | 1222 | 207 |
| 0.60 | 2120 | 670 | 1818 | 474 | 1561 | 347 | 1391 | 286 | 1153 | 217 |
| 0.70 | 2083 | 682 | 1777 | 485 | 1496 | 355 | 1333 | 296 | 1100 | 228 |
| 0.80 | 2032 | 693 | 1728 | 499 | 1450 | 369 | 1272 | 305 | 1022 | 239 |
| 0.90 | 2008 | 712 | 1690 | 513 | 1395 | 380 | 1211 | 320 | 928 | 250 |
| 1.00 | 1962 | 730 | 1634 | 520 | 1345 | 393 | 1150 | 330 | 863 | 260 |

| REVISIONS | | | | |
|----------------------|-------------------------|--|--|--|
| Sections | Description of Change | | | |
| Optional Accessories | Added 75VA Transformer. | | | |







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