



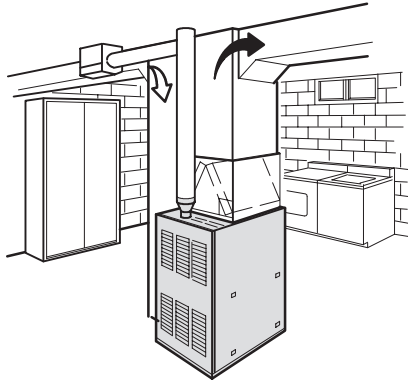
# G34M/MV MULTI – POSITION TWO STAGE GAS FURNACE

# G34M/MV

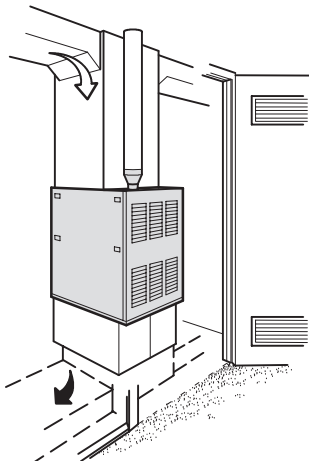
Bulletin #69/490045  
Sept 2003

12.4 to 31.0 kW Output 52.7 to 131.9 Mj Input Hi-Fire  
7.3 to 18.0 kW Output 35.8 to 89.7 Mj Input Lo-Fire  
5.3 to 17.6 kW Nominal Add-on Cooling

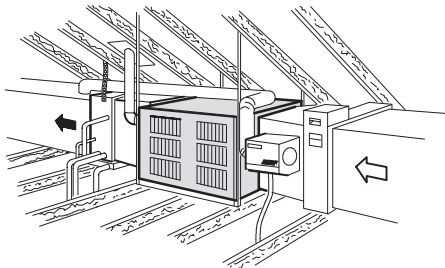
### Typical Applications



Up-Flow Utility Room Installation  
With Cooling Coil  
and Automatic Humidifier



Down-Flow Closet Installation  
With Cooling Coil



Horizontal Attic Installation  
With Cooling Coil, Electronic Air Cleaner  
and Automatic Humidifier



UP or DOWNFLOW



HORIZONTAL

## LENNOX HEATING & AIR CONDITIONING - DIVISION OF HEATCRAFT AUSTRALIA PTY LTD

NOTE: Due to the ongoing commitment to quality by Heatcraft Australia Pty Ltd, specifications, ratings and dimensions are subject to change without notice or liability.



## APPLICATIONS

- G34M / MV series gas fired furnaces include six models (natural gas or LPG/Propane) with input capacities of 52.7 to 131.9 Mj (Hi-Fire) and 35.8 to 89.7 Mj (Lo-Fire).
- Upflow, Downflow or Horizontal applications.
- Lennox add-on evaporator coils, electronic air cleaners and power humidifiers can be easily added to the furnace.
- Units shipped factory assembled with all controls installed and wired.
- Factory run tested to insure dependable operation in the field.

## FEATURES

### Crimp-Tite™ Aluminised Steel Heat Exchanger

- Aluminised steel construction ensures superior resistance to corrosion and oxidation.
- Design allows complete exposure of heating surfaces to supply air stream.
- Crimp-tite surfaces create minimum air resistance and allow air to flow around all surfaces for excellent heat transfer.
- Compact design reduces space requirements in unit cabinet.
- Heat exchanger has been laboratory life cycle tested.

### Induced Draft Combustion Blower

- Induced draft blower pre-purges heat exchanger and safely vents flue products with negative pressure, relative to air stream pressure, assuring maximum safety.
- Inducted draft blower is controlled by the furnace control centre board for a pre-purge cycle (15 seconds) and a post-purge cycle (5 seconds).
- Pressure switch proves blower operation before allowing gas valve to open.
- Induced draft blower operates only during heating cycle.

### In-shot Burners

- 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 and each burner may be removed individually.

### Gas Control Valve

- 24 volt redundant combination single or two stage gas control valve combines a manual main shutoff valve, pressure regulation and automatic electric valve into one compact combination control.

### Direct Spark Ignition

- Solid-state electronic direct spark ignition control provides positive and safe main burner ignition.
- Spark is intermittent and occurs only when required.
- Separate electronic flame sensor control assures safe and reliable operation.
- Should loss of flame occur during ignition or heating operation, the control will initiate 5 tries at re-ignition trial before defaulting to "lock-out" mode. "Lock-out" can be reset manually by powering unit off, then on.
- Ignition control has light emitting diode (LED) to indicate status and as an aid in troubleshooting

### Cabinet

- Constructed of heavy gauge, cold rolled steel with a primed and pre-painted topcoat finish.
- Cabinet surface temperatures are low due to foil faced fibreglass insulation on side and back panels of heat section.
- Blower section is completely insulated with matt faced fibreglass insulation.
- Complete service access is accomplished by removing one piece front panel and interior blower access door.
- Blower assembly may be completely removed from unit for service.
- Safety interlock switch located on access door automatically shuts off power to the unit when door is removed.
- Gas piping inlets are provided in sides of cabinet.
- Electrical knockouts are provided in both sides of cabinet. Return air entry possible on either side of cabinet.

### Limit Controls

- Factory installed and accurately located limit controls provide protection from abnormal operating conditions.
- Primary limit is located on heating compartment vestibule panel.
- Two secondary limits are located on either side of the blower housing.
- If the limits fail 5 times during an unsatisfied thermostat demand, the control will default to the 60 minute "Watchguard" mode.
- The Watch-guard circuit automatically resets ignition control after one hour of continuous thermostat demand, eliminating nuisance service calls.

### Direct Drive Blower

- Quiet multi-speed direct drive blower.
- Uses all speeds automatically.
- Blower assembly statically and dynamically balanced.
- Multiple speed motor resiliently mounted.
- See blower performance tables.

### Furnace Control Centre Board

- Furnished and factory installed near access door.
- Solid- state board contains all necessary controls and relays to operate blower, gas valve, combustion air blower and ignition.
- Board also monitors flame, limit and gas valve operation.
- Fan control consists of blower timed-off delay and non-adjustable blower timed-on delay (45 seconds).
- For air conditioning applications, blower is automatically energized on thermostat demand for cooling.
- Continuous low speed blower operation is furnished on board.
- Also included is a low voltage terminal strip for thermostat connections.
- Subject to control fitted, one or two stage diagnostic LED's are furnished on board as an aid to servicing the system.
- Two 240 volt accessory terminals are provided on control board for operation of accessories during unit operation.

### Flame Rollout Switches

- Manual reset switch is furnished as standard and is factory installed on the burner box. Switch prevents unit operation in the event combustion products' passage through the flueway is reduced or blocked.

### Transformer

- 24 volt (40VA) control transformer is furnished as standard equipment and is factory installed on control panel.

**OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA**

**LPG/Propane Conversion Kit (Optional)**

For propane models a conversion kit is required for field changeover from natural gas.

Kit is not furnished and must be ordered extra. See specifications table for order number.

**Thermostat (Optional)**

Heating thermostat is not furnished and must be ordered extra. See Lennox Price Book.

For all season applications, heating and cooling thermostat is also available with or without automatic programming features.

**Evaporator Coils (Optional)**

Cooling Coils are available for field installation in supply air duct.

**Humidifier (Optional)**

Lennox Humidifier range is fully compatible and is available for attachment.

**Electronic Air Filter (Optional)**

Lennox Electronic air filters are fully compatible and are available for attachment.

**SPECIFICATIONS**

Model	G34M3-050	G34MV3-050	G34M3-080	G34MV3-080	G34M4-080	G34MV4-080	G34M4-110	G34MV4-110
Input Mj - Hi-Fire	52.7	52.7	79.1	79.1	79.1	79.1	105.5	105.5
Input Mj - Lo-Fire	-	35.8	-	53.8	-	53.8	-	71.7
Output kW - Hi-Fire	12.4	12.4	18.5	18.5	18.5	18.5	25.0	25.0
Output kW - Lo-Fire	-	7.32	-	11.0	-	11.0	-	15.0
Flue size connector diameter: mm	102							
Temperature rise range: °C	25 to 42							
Maximum external static pressure: Pa	175							
Gas connection iron pipe size: in	1/2							
Blower wheel nom. diameter x width: mm	254 x 152	254 x 152	254 x 152	254 x 152	305 x 230	305 x 230	305 x 203	305 x 203
Blower motor: Watts - HP	224 - 1/3	224 - 1/3	224 - 1/3	224 - 1/3	750 - 1.0	750 - 1.0	750 - 1.0	750 - 1.0
Maximum cooling add-on: kW	10.0	10.0	10.0	10.0	14.0	14.0	14.0	14.0
Shipping weight: kg	47.6	47.6	51.2	51.2	61	61	64	64
Electrical characteristics	240V / 50Hz / 1Ph							
<b>OPTIONAL EXTRAS (MUST BE ORDERED SEPARATELY)</b>								
Propane kit	P/N R20490601							

Model	G34M5-110	G34MV5-110	G34M5-130	G34MV5-130
Input Mj - Hi-Fire	105.5	105.5	131.9	131.9
Input Mj - Lo-Fire	-	71.7	-	89.7
Output kW - Hi-Fire	25.0	25.0	31.0	31.0
Output kW - Lo-Fire	-	15.0	-	17.7
Flue size connector diameter: mm	102			
Temperature rise range: °C	25 to 42			
Maximum external static pressure: Pa	175			
Gas connection iron pipe size: in	1/2			
Blower wheel nom. diameter x width: mm	305 x 305			
Blower motor: Watts - HP	750 - 1.0			
Maximum cooling add-on: kW	17.5			
Shipping weight: kg	72.1	72.1	75.7	75.7
Electrical characteristics	240V / 50Hz / 1Ph			
<b>OPTIONAL EXTRAS (MUST BE ORDERED SEPARATELY)</b>				
Propane kit	P/N R20490601			

**ADD ON COOLING NOTES.**

The cooling kW shown in this document are rated at 35°C DB outdoor ambient and indoor entering air temperatures of 27°C DB and 19°C WB. All values are nominal gross capacities and do not include evaporator coil blower motor heat deduction. Refer to HS29 Engineering data for cooling coil to condenser rating tables for variations due to differing ambient, entering air and air flow volumes.

### INSTALLATION CLEARANCES mm

Up flow or Down flow		Horizontal	
Sides	25	Sides	50
Rear	25	Rear	25
Top	25	Top	25
Front (note 1)	50	Front (see note 1)	50
Floor up-flow	Combustible 0	Floor (note 3)	Combustible 0
Floor down-flow	Combustible (note 2)		
Flue	To AG601 regulations	Flue	To AG601 regulations

NOTE 1: Front clearance for alcove installation and service 600mm.

NOTE 2: If floor is combustible, installation of insulated metal skirting is required. See Optional accessories page 6.

NOTE 3: These furnaces have an exemption notice ESD/95/01 exempting them from the requirements of Clause 5.3.11 AG601 1995. by both Gas and Fuel and AGL Gas Network, allowing installation in horizontal and upflow configuration without fire resistant material or an air gap.

### G34M/MV BLOWER DATA

#### G34M/MV3-050 AND G34M/MV3-080 BLOWER PERFORMANCE

EXTERNAL STATIC PRESSURE (Pa)	AIR VOLUME AT VARIOUS BLOWER SPEEDS (L/s)		
	HIGH	MEDIUM	LOW
50	674	529	366
75	648	503	343
100	619	476	320
125	589	448	294
150	558	418	270
175	525	386	241

#### G34M/MV4-080 AND G34M/MV4-110 BLOWER PERFORMANCE

EXTERNAL STATIC PRESSURE (Pa)	AIR VOLUME AT VARIOUS BLOWER SPEEDS (L/s)		
	HIGH	MEDIUM	LOW
50	931	764	603
75	908	755	593
100	884	744	582
125	857	733	570
150	828	720	556
175	797	707	541

#### G34M/MV5-110 AND G34M/MV5-130 BLOWER PERFORMANCE

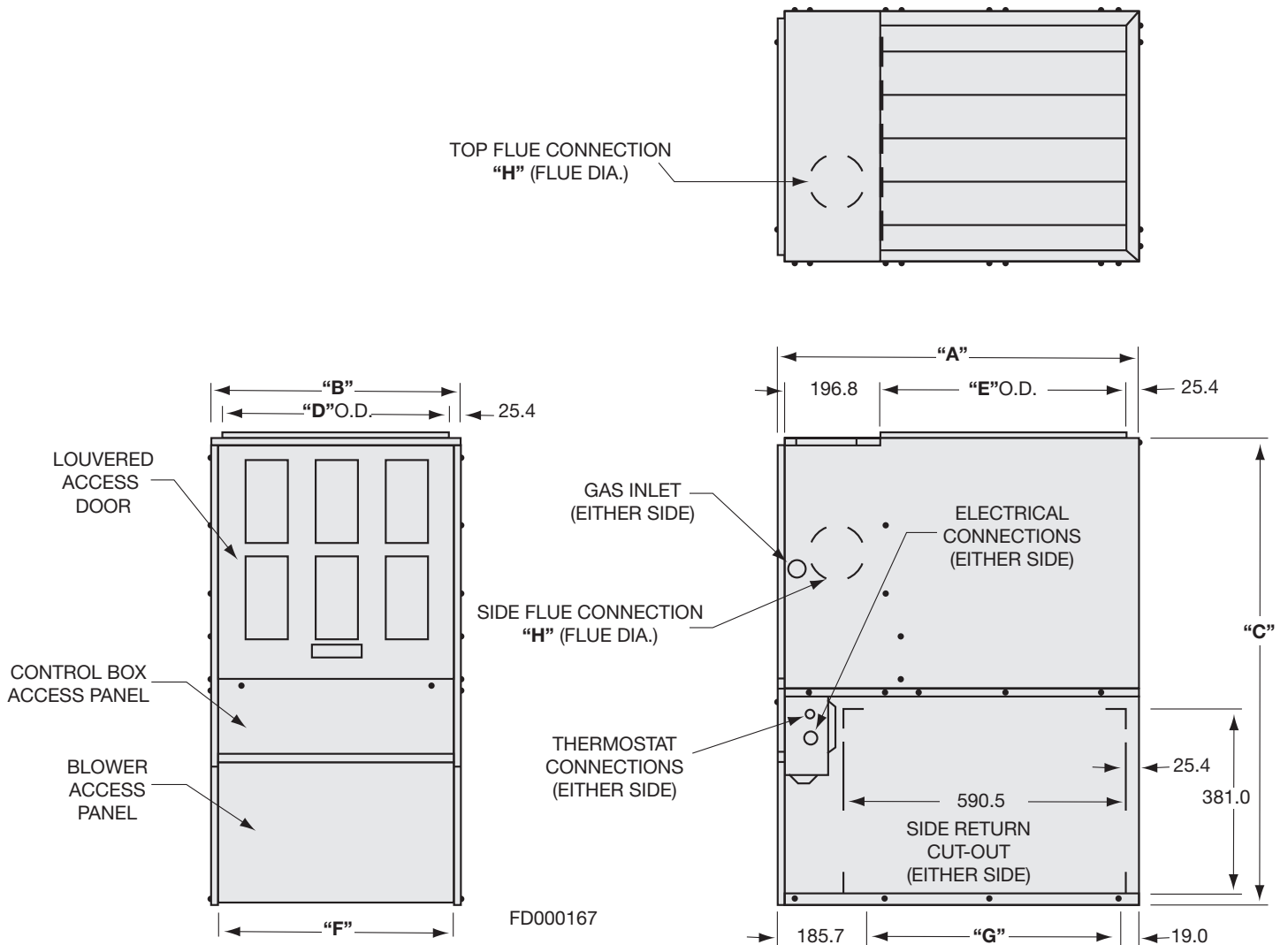
EXTERNAL STATIC PRESSURE (Pa)	AIR VOLUME AT VARIOUS BLOWER SPEEDS (L/s)		
	HIGH	MEDIUM	LOW
50	1178	944	761
75	1152	908	725
100	1126	875	687
125	1100	846	647
150	1075	818	604
175	1050	794	558

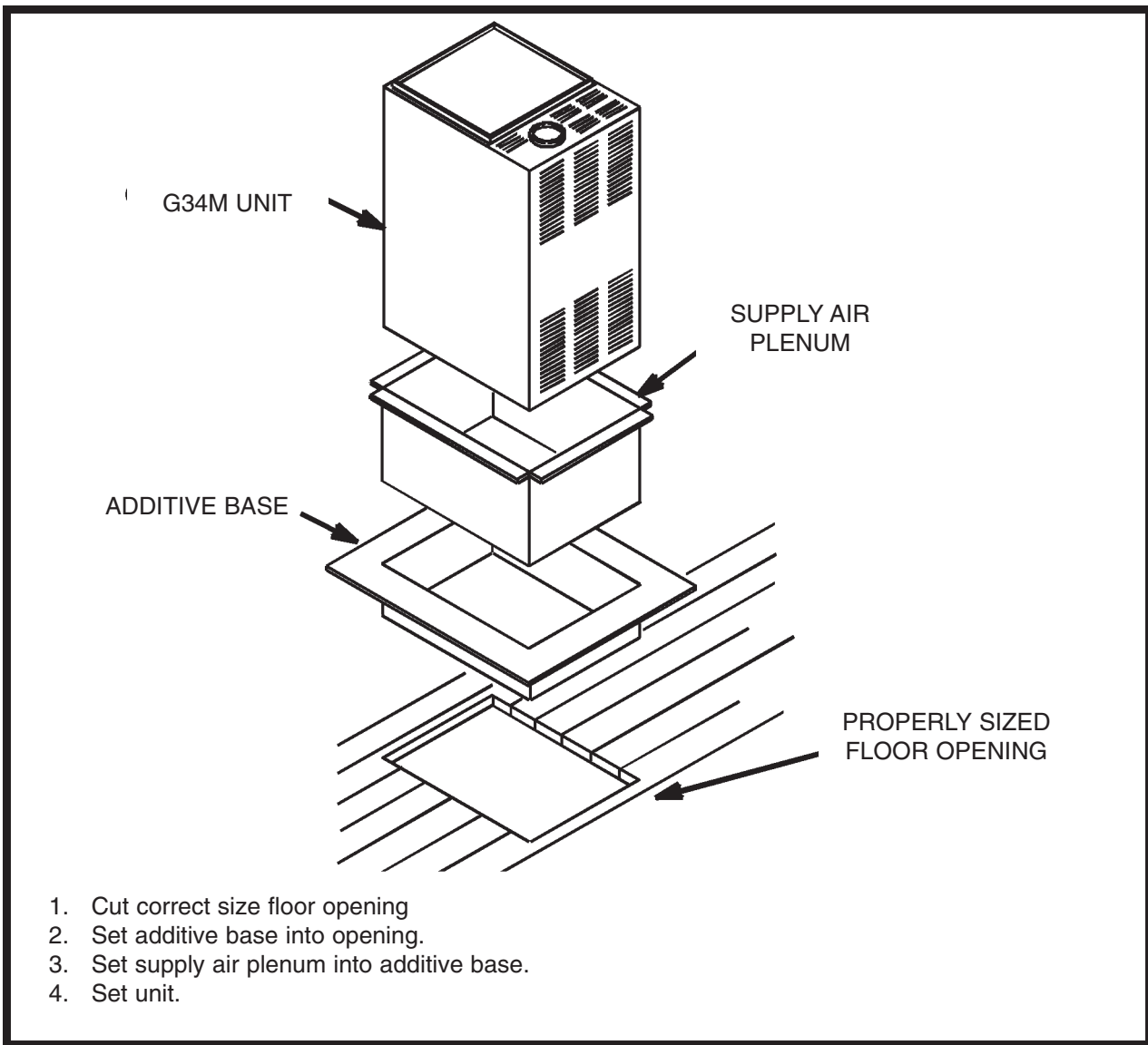
NOTE — All air data is measured external to unit.

### G34M/MV UNIT DIMENSIONS

MODEL	UNIT DIMENSIONS mm			DUCT SUPPLY OPENING (mm)		DUCT RETURN OPENING (mm)		FLUE PIPE DIA. (mm)	MAX. OVER CURRENT PROTECTION (Amps)	MAX. UNIT AMPS	ELECTRICAL SUPPLY MIN. WIRE SIZE (AWG)	NET WEIGHT kg
	LENGTH	WIDTH	HEIGHT	D	E	F	G					
	A	B	C									
G34M/MV3-050	749	343	971	292	517	305	549	102	15	9.9	14	47.6
G34M/MV3-080	749	343	971	292	517	305	549	102	15	9.9	14	51.2
G34M/MV4-080	749	432	971	381	517	394	549	102	15	11.7	14	60.8
G34M/MV4-110	749	432	971	381	517	394	549	102	15	11.7	14	63.9
G34M/MV5-110	749	521	971	470	517	483	549	102	15	11.7	14	72.1
G34M/MV5-130	749	521	971	470	517	483	549	102	20	11.7	14	75.7

Reducer supplied with furnace when connection size is different than pipe dia. required (H) for flue pipe.





Sketch showing additive insulated metal base required with down-flow configuration if down-flow add-on cooling coil is not applied.

