



G34E SINGLE STAGE - G34EV TWO STAGE EXTERNAL GAS FURNACES

G34E/EV

Issue: July 2005

12.4 to 31.0 kW Output, 52.7 to 131.0 Mj Input
10.0 to 17.5 kW Nominal Add-on Cooling



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

- G34E/EV series gas fired furnaces include four models with high/low fire input capacities of 79.1/53.8, 105.5/71.7, 128.0/87.3 Mj.
- Two-stage heating operation, controlled by two stage or single stage manual thermostat.
- 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.

In-shot 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 and each burner may be removed individually.

Two Stage Gas Control Valve

- 24 volt redundant combination two stage gas control valve combines a manual main shutoff valve, pressure regulation and automatic electric valve (dual) 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 blower access door automatically shuts off power to the unit when door is removed.
- Gas piping inlets are provided in centre front 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 Watchguard 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.
- Blower assembly statically and dynamically balanced.
- Multiple speed motor resiliently mounted.
- See blower performance tables.

Furnace Control Centre Board

- Furnished and factory installed on interior blower 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.
- Diagnostic LED's are furnished on board as an aid in servicing the system.
- Two 240 volt accessory terminals are provided on control board for operation of accessories during unit operation.

Flame Rollout Switches

- Dual manual reset switches are furnished as standard and are factory installed on either side of the burner box.
- Switches prevent 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 SEPARATELY

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 available with automatic programming and two stage features.

Evaporator Coils (Optional)

Coils are available for field insertion in space provided in unit cabinet.

Attic mounting kit (optional)

For applications where installation within an enclosed space is required.

SPECIFICATIONS

Model Number	G34E/EV4-080	G34E/EV4-110	
Input - Mj - Hi Fire	79.1	105.5	
Input - Mj - Lo Fire	53.8	71.7	
Output - kW - Hi Fire	18.5	25.0	
Output - kW - Lo Fire	11.0	15.0	
Flue size connector diameter-mm / in-round	102 / 4		
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 230	305 x 203	
Blower motor - Watts - HP	750 - 1.0	750 -1.0	
Max Nominal cooling add-on - kW	14.0	14.0	
Shipping weight - kg	61.0	64.0	
Electrical characteristics	240V-50Hz-1Ph.		
OPTIONAL ACCESSORIES (MUST BE ORDERED SEPARATELY)			
Propane kit	P/N R20490601		

Model Number	G34E/EV5-110	G34E/EV5-130	
Input - Mj - Hi Fire	105.5	131.9	
Input - Mj - Lo Fire	71.7	89.7	
Output - kW - Hi Fire	25.0	31.0	
Output - kW - Lo Fire	15.0	17.7	
Flue size connector diameter-mm round	102 / 4		
Temperature rise range - °C	25 to 42	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	305 x 305	
Blower motor - Watts - HP	750 - 1.0	750 - 1.0	
Max Nominal cooling add-on - kW	17.5	17.5	
Shipping weight - kg	72.1	75.7	
Electrical characteristics	240V-50Hz-1Ph.		
OPTIONAL ACCESSORIES (MUST BE ORDERED SEPARATELY)			
Propane kit	P/N R20490601		

ADD ON COOLING NOTES.

The cooling kW shown in this document are rated at 35°C DB out door 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.

G34E/EV BLOWER DATA

G34E/EV4-80 AND G34E/EV4-110

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

G34E/EV5-110 AND G34E/EV5-130

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.

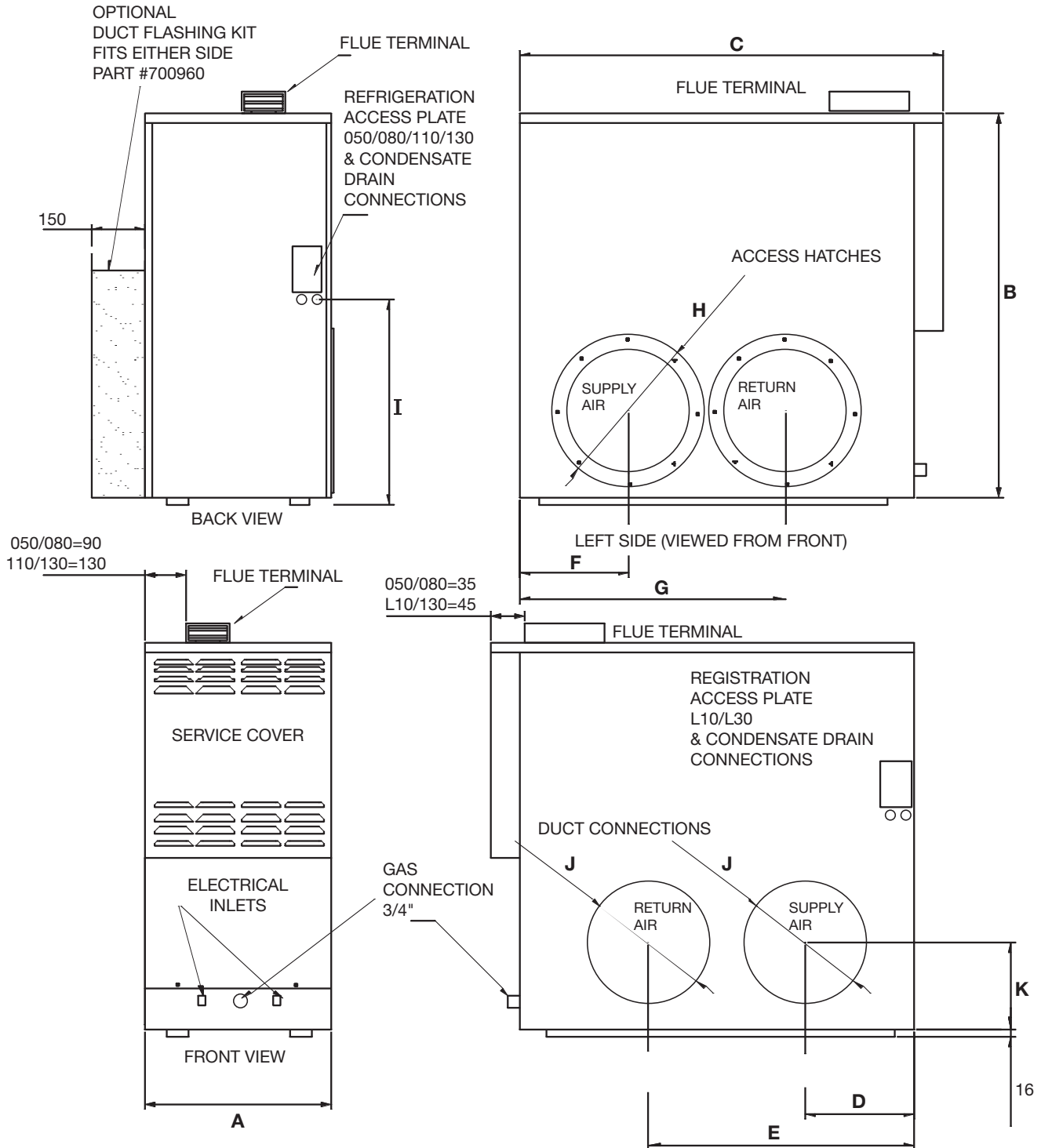
HIGH ALTITUDE DERATE

Units must be derated when installed at an elevation of more than 610 m (2000 feet) above sea level. If unit is installed at an altitude higher than 610 m (2000 feet), the unit must be derated 4% for every 305 m (1000 feet) above sea level. Thus, at an altitude of 1210 m (4000 feet), the unit would require a derate of 16%.

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

G34E/EV FURNACE SPECIFICATIONS

MODEL	DIMENSIONS mm									
	A	B	C	D	E	F	G	I	J	K
G34E/EVQ4-80	443	1023	1345	259	803	259	803	-	356	235
G34E/EVQ4-110	443	1060	1485	259	803	259	898	444	356	235
G34E/EVQ5-110	529	1060	1485	308	898	308	898	444	356	231
G34E/EVQ5-130	529	1060	1485	308	898	308	898	444	356	231



NOTE:
DUCT CONNECTIONS AND ACCESS HATCHES
ARE INTERCHANGEABLE FROM SIDE TO SIDE

