



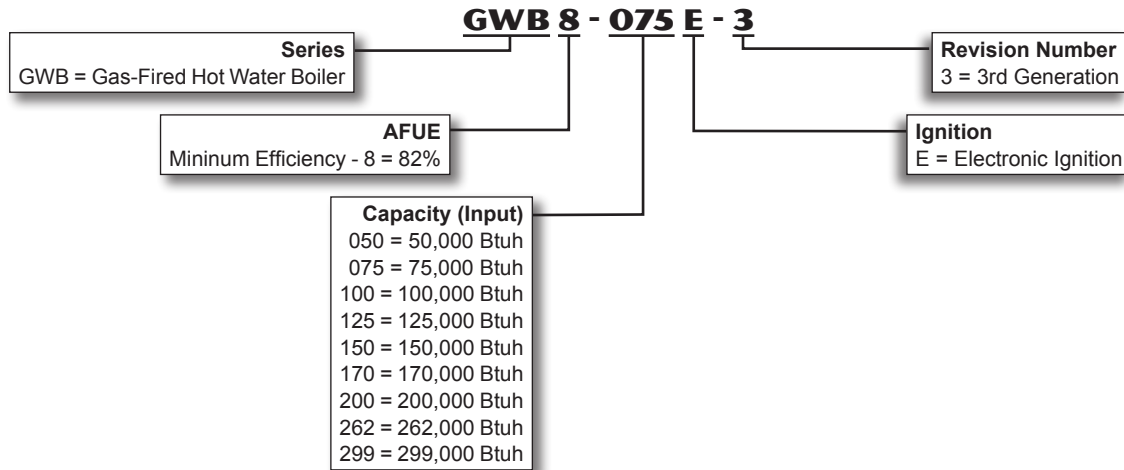
PRODUCT SPECIFICATIONS

Bulletin No. 210651
July 2016
Supersedes September 2015



AFUE up to 83.9%
Heating Input – 50,000 to 299,000 Btuh

MODEL NUMBER IDENTIFICATION



FEATURES

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WARRANTY

Cast iron boiler assembly - Limited twenty-year warranty in residential applications only.

All other covered components - Limited five-year warranty in residential applications.

Refer to Lennox Equipment Limited Warranty certificate included with equipment for details.

FEATURES

APPROVALS

Low pressure, sectional cast iron boilers are design certified by CSA for use with natural gas or LPG/Propane.

Annual Fuel Utilization Efficiencies are based on US DOE test procedures and FTC labeling regulations.

Units are certified by AHRI.

Boiler heat exchanger assemblies are constructed and hydrostatically tested in accordance with American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section IV Standards for cast iron heating boilers..

APPLICATIONS

Heating inputs of 50,000 to 299,000 Btuh.

AFUE's of up to 83.9%.

Natural gas or LPG/Propane (LPG with optional conversion kit).

Boiler applications include radiant floor heating, baseboard heating and zoned heating systems.

Compact size allows easy installation in a basement or utility room.

All units are completely factory assembled with all controls installed and wired.

Each unit is factory test operated to ensure dependable performance.

HEATING SYSTEM

Cast Iron Boiler Assembly

Boiler sections and push nipples are constructed of long life cast iron.

Boiler sections and push nipples expand and contract together, providing positive watertight seal.

Boiler components are easily accessible for cleaning and servicing.

Electronic Ignition

Electronic spark igniter provides positive ignition of pilot burner on each operating cycle.

Pilot gas is ignited and burns during each running cycle of the boiler.

Main burners and pilot gas are extinguished during the off cycle.

Ignition system permits main gas valve to open only when the pilot burner is proven to be lit.

Should flame fail to ignite, control will continue to re-attempt ignition.

Pilot operation is fully automatic on demand for heat.

Should a loss of flame occur, the main valve closes, shutting down the unit.

Automatic Gas Control

Silent operating gas controls provide 100% safety shut off.

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

Dual valve design provides double assurance of 100% close off of gas to the pilot and main burners on each off cycle.

Stainless Steel Burners (050 to 200 Models)

Each burner has rows of continuous ports which result in quiet and clean combustion.

Titanium Burners (262 and 299 Models)

Titanium composite burners resist corrosion and oxidation.

Slotted port design results in quiet, clean combustion.

Superior strength and longevity.

Circulating Pump

Heavy duty pump is constructed of cast iron.

Pump motor is impedance protected.

Motor and impeller is removeable as a single unit for servicing.

Pump is shipped separately for field installation.

Relief Valve

Furnished as standard and factory installed on 50 to 200 models. Field installed on top of cabinet on 260 and 299 models.

Valve provides for pressure relief of heating system in case of abnormal operating conditions.

Valve opens at 30 psig and is approved by ASME.

Combination Temperature/Pressure Gauge

Gauge monitors system for safe and reliable operation.

Brass Drain Valve

3/4 in. brass drain valve is furnished as standard and factory installed in drain outlet on side of cabinet on 50 to 200 models. Filed installed on 260 and 300 models.

See dimension drawing for location.

Optional Accessories

LPG/Propane Conversion Kit

Conversion kit required for field changeover from natural gas.

Kits available for standard and high altitude operation.

See Specifications tables.

FEATURES

IGNITION CONTROL MODULE

Control module provides ignition sequence, flame monitoring and safety shutoff for intermittent pilot spark ignition heating system.

BOILER CONTROL MODULE

On-board microprocessor saves fuel by adjusting boiler temperature based on heating demand.

Easy dial-in settings for low/high temperature limits and economy settings.

Installed external to the boiler cabinet in durable protective housing with display window.



Thermal Targeting

Microprocessor-based algorithm monitors thermostat activity and continually evaluates how much heat the house requires. When it is very cold outside, heat demand is high and the control raises the boiler Target Temperature to provide needed heat to the house. When the outside temperature is milder, heat demand is lower. During these periods, the control lowers the boiler Target Temperature - saving fuel - while continuing to provide comfort to the house.

Thermal Pre-Purge

Enhances boiler efficiency by supplying latent heat that may remain in the boiler from a previous run cycle to the heating zone requiring heat. The control activates the burner only when it determines that the latent heat will not be adequate to satisfy the heating demand.

Enhanced Condensing Protection (Optional Setting)

Allows the boiler to heat to 125°F before energizing the circulating pump, reducing the potential for condensing. Once activated, the control continues to monitor boiler temperature and interrupts the pump if it drops below 115°F.

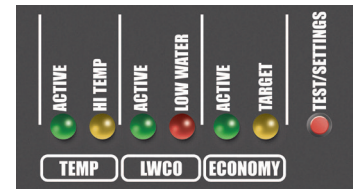
Display LEDs

Three, seven segment LEDs continually displays boiler temperature. Instantly changes to display control settings when any dial is adjusted. Indicator light for heating call.

Fahrenheit or Celsius display.

LED Status Lights

Status lights on top of control continually indicates which functions are active and if the control is holding the burner off for any reason.



TEMP

- ACTIVE – Indicates the control is powered and the temperature function is active.
- HI TEMP – Illuminates any time the burner is off as a result of the boiler reaching the high limit setting.

LWCO

- ACTIVE – Illuminates when the control is providing low water cut-off protection.
- LOW WATER – Indicates a low water condition in the boiler.

ECONOMY

- ACTIVE – Indicates that the Economy dial is turned on and that Thermal Targeting function is active.
- TARGET – Illuminates any time the burner is off as a result of the boiler reaching the Target temperature determined by Thermal Targeting.
- TEST SETTINGS BUTTON – Automatic or Manual reset mode. and test settings for initial control setup.

ADDITIONAL CONTROLS

Flame Rollout Switch

Temperature sensitive fusible-link device is furnished and factory installed on the boiler base just outside of the burner box.

Prevents unit operation in the event combustion products passageway through the flueway is reduced or blocked.

Junction Box

Furnished in Control Module housing for easy field wiring.

Limit Sensor

Factory installed immersion type limit sensor provides protection against abnormal operating conditions.

Transformer

40VA transformer furnished for control module operation.

Optional Accessories

Thermostat

See Thermostat bulletins in Controls section and Lennox Price Book for a complete list of thermostats.

FEATURES

VENTING

Blocked Vent Shutoff Sensor

Temperature Switch prevents unit operation in case of flue blockage.

Sensor is furnished as standard and factory installed at the relief opening of the draft diverter.

Integral Draft Hood

Reduces the overall height and footprint of the boiler making it ideal for low clearance/space limited installations.

Vent Damper

Motorized vent damper electrically interlocks with the gas ignition system to increase efficiency of heating system by reducing loss of heated air up the chimney after burner shut off.

Also reduces chimney infiltration during boiler off cycle.

Furnished as standard for field installation.

CABINET

Constructed of heavy gauge steel with a baked-on enamel paint finish.

Cabinet is fully insulated with fiberglass insulation, keeping cabinet surface temperatures low.

Hole for drain valve (furnished) is furnished on left side of cabinet for 262 and 299 models only.

Controls are shipped factory installed on right side of cabinet.

Burner access panel is easily removed for servicing.

Integral draft diverter is part of unit cabinet.

SPECIFICATIONS

| | | Model No. | GWB8-050E-3 | GWB8-075E-3 | GWB8-100E-3 | GWB8-125E-3 | GWB8-150E-3 |
|-----------------------------------|--|-------------|-------------|-------------|-------------|-------------|-------------|
| Gas Heating Performance | Heating capacity input - Btuh | | 50,000 | 75,000 | 100,000 | 125,000 | 150,000 |
| | Heating capacity output - Btuh | | 42,000 | 63,000 | 83,000 | 104,000 | 124,000 |
| | ¹ Net AHRI I=B=R rating - Btuh | | 37,000 | 55,000 | 72,000 | 90,000 | 108,000 |
| | ² AFUE | | 83.5% | 83.1% | 83.0% | 82.0% | 83.0% |
| Boiler Data | Number of boiler sections | | 2 | 3 | 3 | 4 | 4 |
| | Boiler capacity - U.S. gallons | | 2.4 | 4.0 | 4.0 | 5.6 | 5.6 |
| Connections in. | Flue Size diameter (round) | | 4 | 5 | 6 | 6 | 7 |
| | Gas piping size I.P.S. | Natural gas | 1/2 NPT | 1/2 NPT | 1/2 NPT | 1/2 NPT | 1/2 NPT |
| | | LPG/Propane | 1/2 NPT | 1/2 NPT | 1/2 NPT | 1/2 NPT | 1/2 NPT |
| | Water supply and return size | | 1-1/4 NPT | 1-1/4 NPT | 1-1/4 NPT | 1-1/4 NPT | 1-1/4 NPT |
| | Drain connection size | | 3/4 NPT | 3/4 NPT | 3/4 NPT | 3/4 NPT | 3/4 NPT |
| Electrical characteristics | 120 volts - 60 hertz - 1 phase (less than 12 amps) | | | | | | |
| Shipping Data | lbs. - 1 package | | 205 | 253 | 253 | 315 | 315 |

OPTIONAL ACCESSORIES

See Lennox Price Book For Complete Listing of Optional Accessories

| LPG/Propane Conversion Kit | 68E01 | 76E01 | 68E01 | 71E01 | 68E01 |
|----------------------------|-------|-------|-------|-------|-------|
|----------------------------|-------|-------|-------|-------|-------|

¹ Net AHRI water ratings indicate the amount of equivalent direct radiation each boiler will produce under normal conditions and thermostatic control. Ratings based on an allowance of 1.15 in accordance with the factors shown on the I=B=R Standard as published by The Hydronics Institute. Selection of boiler size should be based on "Net I=B=R Rating" being equal to or greater than the calculated heat loss of the building.

² Annual Fuel Utilization Efficiency based on US DOE test procedures and FTC labeling regulations.

SPECIFICATIONS

| | | Model No. | GWB8-170E-3 | GWB8-200E-3 | GWB8-262E-3 | GWB8-299E-3 |
|-----------------------------------|--|-------------|-------------|-------------|-------------|-------------|
| Gas Heating Performance | Heating capacity input - Btuh | | 170,000 | 200,000 | 262,000 | 299,000 |
| | Heating capacity output - Btuh | | 139,000 | 165,000 | 220,000 | 251,000 |
| | ¹ Net I=B=R rating - Btuh | | 121,000 | 143,000 | 191,000 | 218,000 |
| | ² AFUE | | 82.0% | 82.0% | 83.9% | 83.7% |
| Boiler Data | Number of boiler sections | | 5 | 5 | 8 | 9 |
| | Boiler capacity - U.S. gallons | | 7.2 | 7.2 | 12.7 | 14.4 |
| Connections in. | Flue Size diameter (round) | | 7 | 8 | 7 | 7 |
| | Gas piping size I.P.S. | Natural gas | 1/2 NPT | 1/2 NPT | 3/4 NPT | 3/4 NPT |
| | | LPG/Propane | 1/2 NPT | 1/2 NPT | 1/2 NPT | 1/2 NPT |
| | Water supply and return size | | 1-1/4 NPT | 1-1/4 NPT | 1-1/4 NPT | 1-1/4 NPT |
| | Drain connection size | | 3/4 NPT | 3/4 NPT | 3/4 NPT | 3/4 NPT |
| Electrical characteristics | 120 volts - 60 hertz - 1 phase (less than 12 amps) | | | | | |
| Shipping Data | lbs. - 1 package | | 377 | 377 | 552 | 616 |

OPTIONAL ACCESSORIES

See Lennox Price Book For Complete Listing of Optional Accessories

| LPG/Propane Conversion Kit | 71E01 | 68E01 | 72E01 | 74E01 |
|----------------------------|-------|-------|-------|-------|
|----------------------------|-------|-------|-------|-------|

¹ Net AHRI water ratings indicate the amount of equivalent direct radiation each boiler will produce under normal conditions and thermostatic control. Ratings based on an allowance of 1.15 in accordance with the factors shown on the I=B=R Standard as published by The Hydronics Institute. Selection of boiler size should be based on "Net I=B=R Rating" being equal to or greater than the calculated heat loss of the building.

² Annual Fuel Utilization Efficiency based on US DOE test procedures and FTC labeling regulations.

HIGH ALTITUDE DERATE

CSA certified units for the U.S. must be derated when installed at an elevation of more than 2000 feet above sea level. If unit is installed at an altitude higher than 2000 feet, the unit must be derated 4% for every 1000 feet above sea level. Thus, at an altitude of 4000 feet, the unit would require a derate of 16%.

CSA certified units for Canada must be derated when installed at an elevation of more than 2000 feet above sea level. If unit is installed at an altitude higher than 2000 feet, the unit must be derated 10% for elevations between 2000 feet and 4500 feet above sea level.

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

INSTALLATION CLEARANCES - INCHES (MM)

| Size | 050 to 200 Models | 262 to 299 Models |
|--|---------------------|---------------------|
| Left Side | 3 (76) | 6 (152) |
| Right Side Gas Supply/Control Side | 9 (229) | 7 (178) |
| Top | 18 (457) | 6 (152) |
| Front | ¹ Alcove | ¹ Alcove |
| Rear | 4 (102) | 6 (152) |
| Service Clearance (Front and Right Side) | 24 (610) | 24 (610) |
| ² Floor | Non-Combustible | Non-Combustible |
| Flue Pipe | Vertical | 6 (152) |
| | Horizontal | 6 (152) |
| Type "B" vent pipe (vertical venting only) | 1 (25) | 1 (25) |
| Hot Water Piping | 2 (51) | 2 (51) |

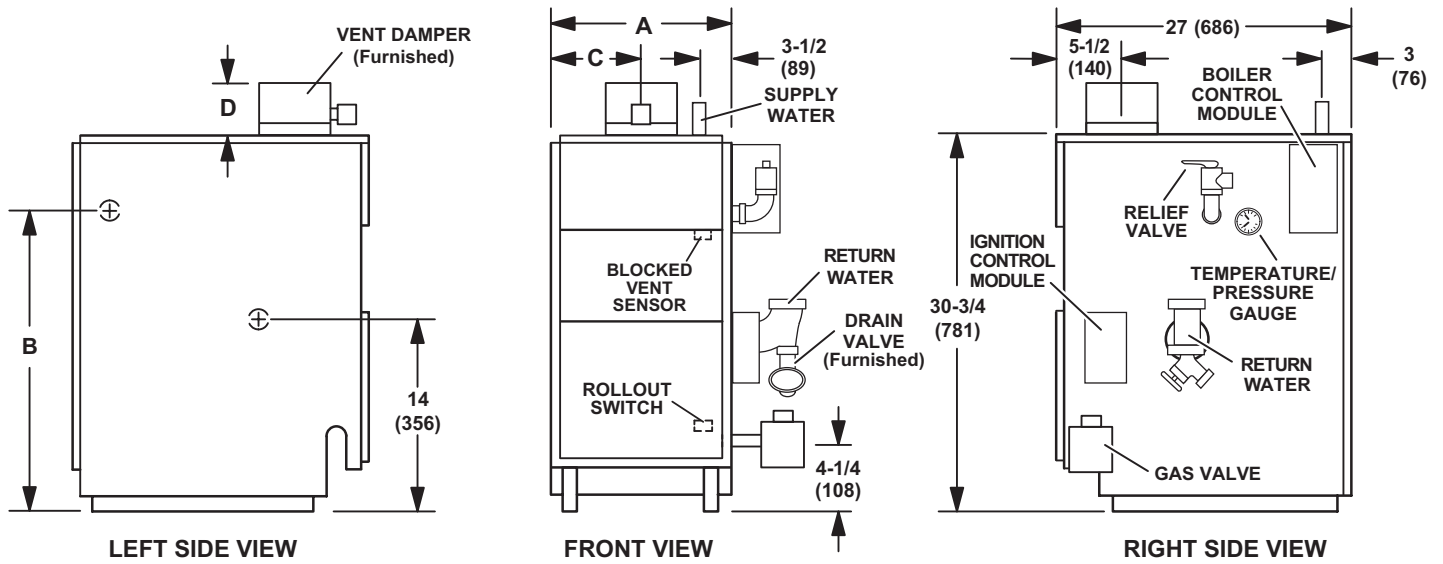
NOTE - Air for combustion must conform to the methods outlined in the National Fuel Gas Code (NFPA 54/ANSI-Z223.1) or the National Standard of Canada CAN/CSA-B149.1 "Natural Gas and Propane Installation Code".

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.

¹ Definition of Alcove is a three-sided space with no wall in front of boiler. ANSI standard for alcove is 18 inches (457 mm) from front of appliance to leading edge of side walls.

² Clearance for installation on combustible floor if combustible flooring base (field supplied) is installed between the boiler and the combustible floor.

DIMENSIONS - INCHES (MM) - 050 TO 200 MODELS

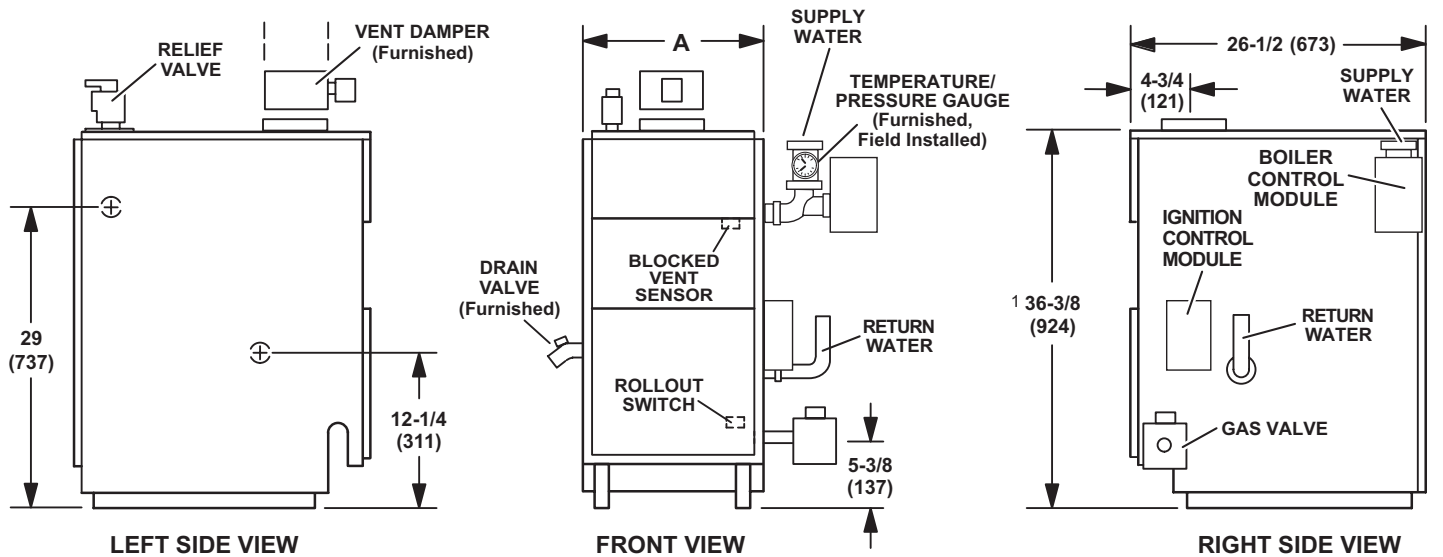


NOTE - Pump is shipped separately with unit for field installation.

| Model No. | A | | B | | C | | D | |
|-------------|--------|-----|--------|-----|--------|-----|-------|-----|
| | in. | mm | in. | mm | in. | mm | in. | mm |
| GWB8-050E-3 | 11-1/8 | 283 | 36-1/4 | 921 | 5-1/2 | 140 | 5-3/4 | 146 |
| GWB8-075E-3 | 15 | 381 | 37-3/4 | 959 | 7-1/2 | 191 | 5-3/4 | 146 |
| GWB8-100E-3 | 15 | 381 | 37-1/4 | 946 | 7-1/2 | 191 | 6 | 152 |
| GWB8-125E-3 | 18-7/8 | 479 | 37-1/4 | 946 | 9-1/2 | 241 | 6 | 152 |
| GWB8-150E-3 | 18-7/8 | 479 | 37-3/4 | 959 | 9-1/2 | 241 | 6-3/4 | 171 |
| GWB8-170E-3 | 22-3/4 | 578 | 38-3/4 | 984 | 11-1/2 | 292 | 6-3/4 | 171 |
| GWB8-200E-3 | 22-3/4 | 578 | 38-3/4 | 984 | 11-1/2 | 292 | 7-3/4 | 197 |

NOTE - Add 6 (152 mm) to height for Vent Damper.

DIMENSIONS - INCHES (MM) - 262 TO 299 MODELS



NOTE - Pump is shipped separately with unit for field installation.

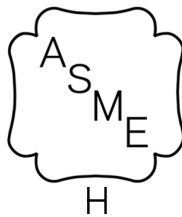
¹ Minimum acceptable height for low water cutoff probe.

| Model No. | A | |
|-------------|--------|-----|
| | in. | mm |
| GWB8-262E-3 | 27-1/2 | 699 |
| GWB8-299E-3 | 30-3/4 | 781 |

NOTE - Add 7 (178 mm) to height for Vent Damper.

REVISIONS

| Section | Description |
|----------|----------------------------|
| Features | New Boiler Control Module. |



Visit us at www.lennox.com

For the latest technical information, www.lennox.com

Contact us at 1-800-4-LENNOX

NOTE - Due to Lennox' ongoing commitment to quality, Specifications, Ratings and Dimensions subject to change without notice and without incurring liability. Improper installation, adjustment, alteration, service or maintenance can cause property damage or personal injury. Installation and service must be performed by a qualified installer and servicing agency.

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