



Gas-Fired Hot Water Boiler

PRODUCT SPECIFICATIONS

Bulletin No. 210651

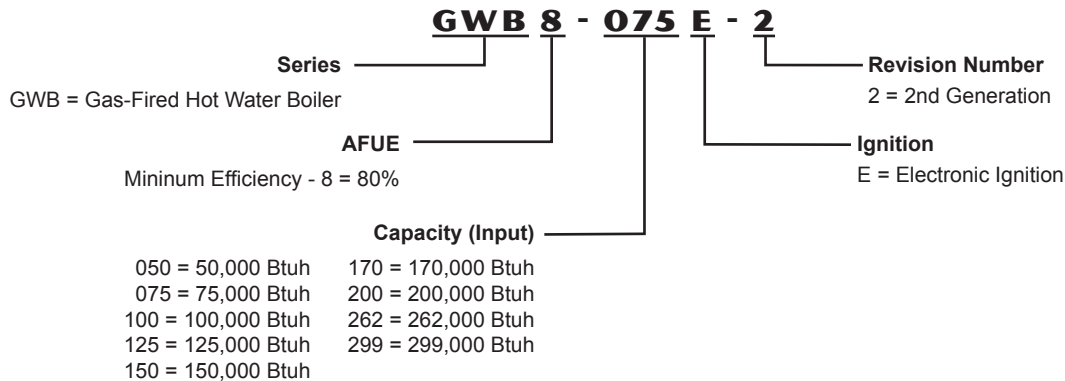
September 2012

Supersedes Bulletin No. 210262



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

MODEL NUMBER IDENTIFICATION



FEATURES

CONTENTS

Dimensions	6
Features.....	1
High Altitude Derate.....	5
Installation Clearances	5
Model Number Identification	1
Specifications.....	4

WARRANTY

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

All other covered components - Limited one 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.

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 for field installation in top of cabinet.

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 for field installation in drain outlet on side of cabinet.

See dimension drawing for location.

OPTIONS

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

VENTING

Blocked Vent Shutoff Sensor

Pressure 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.

CONTROLS

Integrated Boiler Control Module

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

Also provides limit rated water temperature control in conjunction with a sensor.

Display LEDs - Three, seven segment LEDs display alpha-numeric information related to diagnostics as well as system operation and status. Diagnostic codes are held in non-volatile memory, immune from power interruptions.

Should flame fail to ignite, control will initiate 3 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.

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

Flame Rollout Switch

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

Fuse 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

50VA transformer furnished for control module operation.

OPTIONS

Thermostat

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

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.

Controls are shipped factory installed on right side of cabinet.

Controls may be field relocated to left side of cabinet.

Water supply and return connections are furnished on both sides of cabinet.

Burner access panel is easily removed for servicing.

Integral draft diverter is part of unit cabinet.

SPECIFICATIONS

		Model No.	GWB8-050E-2	GWB8-075E-2	GWB8-100E-2	GWB8-125E-2	GWB8-150E-2
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		1	2	2	3	3
	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
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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-2	GWB8-200E-2	GWB8-262E-2	GWB8-299E-2
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		4	4	7	8
	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
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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	6 (152)	6 (152)
Front	¹ Alcove	¹ Alcove
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)

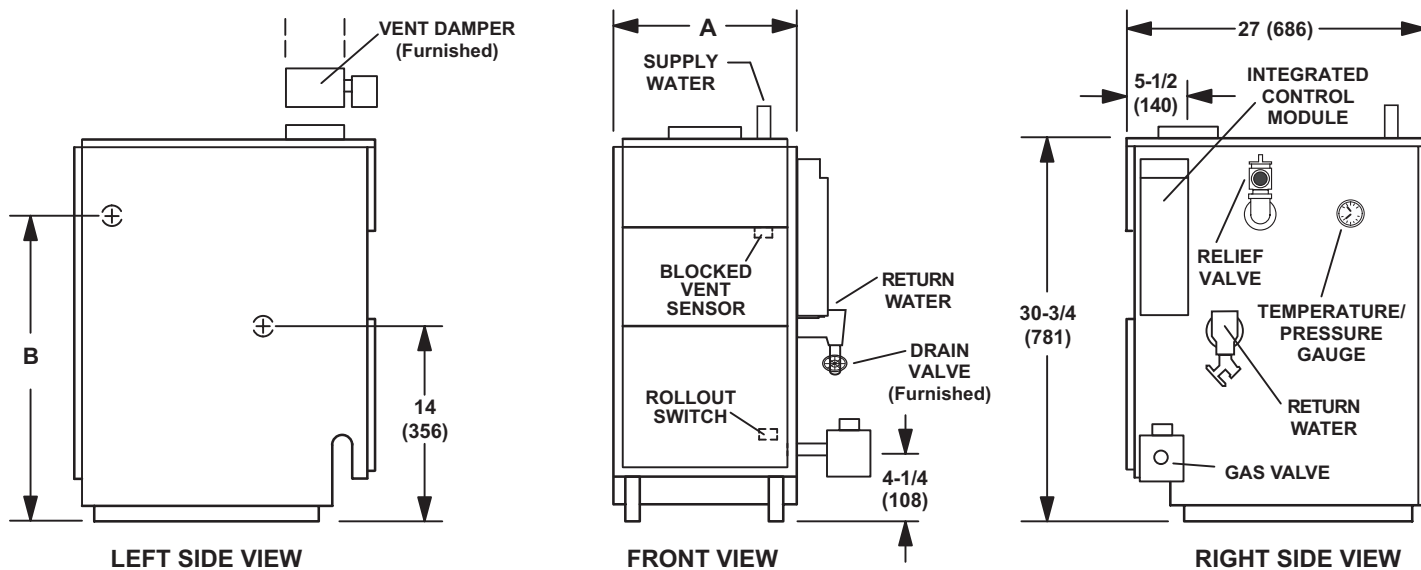
NOTE - Air for combustion must conform to the methods outlined in the National Fuel Gas Code (NFPA 54/ANSI-Z223.1) or the National Standard of Canada CAN/CSA-B149.1 "Natural Gas and Propane Installation Code".

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

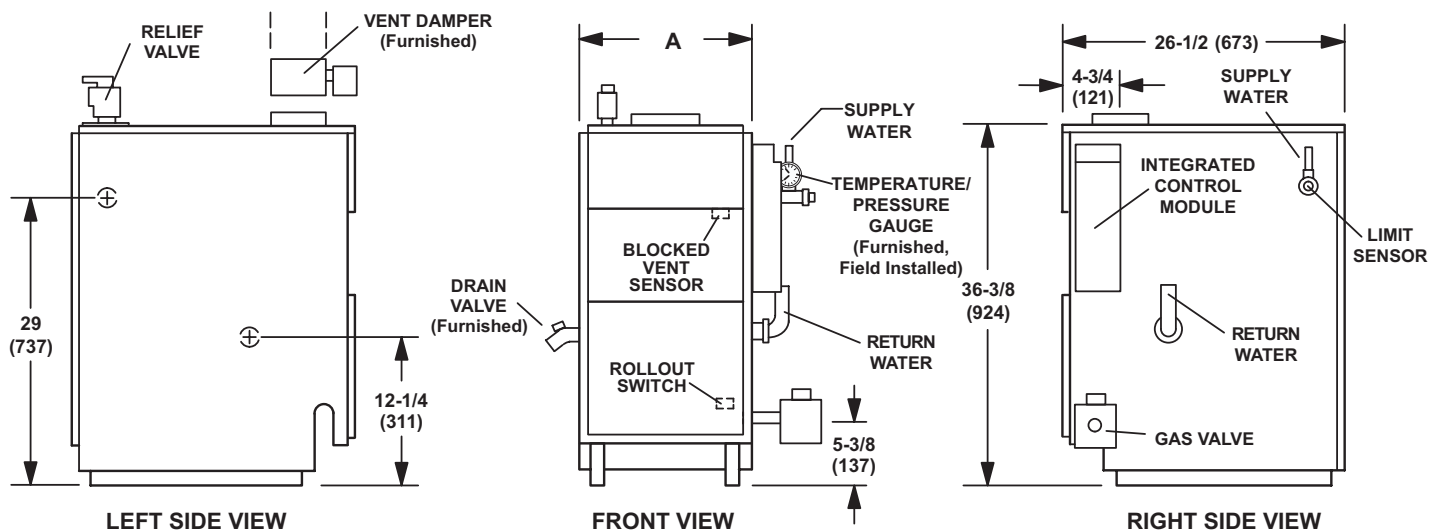


NOTE - Pump is shipped separately with unit for field installation.

Model No.	A		B	
	in.	mm	in.	mm
GWB8-050E-2	11-1/8	283	36-1/4	921
GWB8-075E-2	15	381	37-3/4	959
GWB8-100E-2	15	381	37-1/4	946
GWB8-125E-2	18-7/8	479	37-1/4	946
GWB8-150E-2	18-7/8	479	37-3/4	959
GWB8-170E-2	22-3/4	578	38-3/4	984
GWB8-200E-2	22-3/4	578	38-3/4	984

NOTE - Add 5-1/2 (140 mm) to height for Vent Damper.

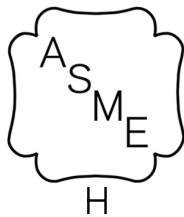
DIMENSIONS - INCHES (MM) - 262 TO 299 MODELS



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

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

NOTE - Add 5-1/2 (140 mm) to height for Vent Damper.



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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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