GSB8

CONSERVATOR™
Gas-Fired Steam Boiler

PRODUCT SPECIFICATIONS

Bulletin No. 210263
October 2010
Supersedes September 2008

AFUE up to 82.7%
Heating Input – 75,000 to 299,000 Btuh

MODEL NUMBER IDENTIFICATION

GSB 8 - 075 S

Series
GSB = Gas-Fired Steam Boiler

AFUE
8 = 80%

Capacity (Input)
075 =75,000 Btuh
112 =112,000 Btuh
150 = 150,000 Btuh
187 = 187,000 Btuh
225 = 225,000 Btuh
262 = 262,000 Btuh
299 = 299,000 Btuh

Ignition
E = Electronic Ignition
S = Standing Pilot Ignition

FEATURES

CONTENTS

NOTE - GSB8 BOILERS ARE NOT AVAILABLE IN CANADA!

WARRANTY

Cast iron boiler assembly - Limited twelve 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 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.

I=B=R ratings are certified in accordance with standards set by The Hydronics Institute.

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

Gas fired steam boilers are available in seven sizes with heating inputs of 75,000 to 299,000 Btuh.

AFUE's of up to 82.7%.

Available with a choice of electronic or standing pilot ignition systems.

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

Boilers may be used in a wide variety of applications including standing cast iron radiators, steam air handlers and convectors.

May also be used in conjunction with chilled water 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 insure 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 ("E" Models Only)

Solid-state electronic spark igniter provides positive ignition of pilot burner on each operating cycle.

Pilot gas is ignited and burns during each running cycle (intermittent pilot) 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.

Standing Pilot Ignition ("S" Models Only)

Manual lighted standing pilot provides dependable and safe burner ignition.

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.

Titanium Burners

Titanium composite burners resist corrosion and oxidation.

Superior strength and longevity.

Used with natural or LPG/Propane gas.

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 15 psig and is approved by ASME.

Steam Pressure Gauge

Located in top of unit cabinet.

Gauge monitors system for safe and reliable operation.

Water Level Gauge

Furnished on side of unit.

Allows a visual inspection for correct cold water level in the boiler.

Correct level is stamped on cabinet side behind glass tube.

Brass Drain Valve

3/4 in. brass drain valve is furnished for field installation in return piping.

OPTIONS

LPG/Propane Conversion Kit

Conversion kit required for field changeover from natural gas.

See Specifications tables.

FEATURES

VENTING

Blocked Vent Shutoff Sensor

Temperature sensitive fusible-link device prevents unit operation in case of flue blockage.

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

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

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.

Steam Pressure Limit Control

Factory installed control gives protection against abnormal operating conditions.

Adjustable control automatically shuts off gas to the burners if steam pressure reaches cut-off setpoint.

Factory installed on side of unit cabinet.

Low Water Cut-Off

Electronic probe type control automatically shuts off gas to the burners if water level drops below minimum safe levels.

Factory installed in boiler.

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.

Controls are shipped factory installed on right side of cabinet and may be field relocated to left side of cabinet.

Supply and return steam lines are furnished on both sides of cabinet.

Plugs are furnished for unused side.

Burner access panel is easily removed for servicing.

Integral draft diverter is part of unit cabinet.

Transformer/Wiring Junction Box

24 volt control transformer and wiring junction box is furnished on side of unit cabinet for field wiring connections.

OPTIONS

Combustible Flooring Base

For applications where it is necessary to locate boiler on a combustible floor, a combustible floor base must be ordered extra for field installation.

See Specifications tables for order no.

SPECIFICATIONS

Model No.			Electronic Ignition	GSB8 -075E	GSB8 -112E	GSB8 -150E	GSB8 -187E	GSB8 -225E	GSB8 -262E	GSB8 -299E
			Standing Pilot	GSB8 -075S	GSB8 -112S	GSB8 -150S	GSB8 -187S	GSB8 -225S	GSB8 -262S	GSB8 -299S
Gas Heating Performance	Heating capacity Btuh	Input	Natural gas	75,000	112,500	150,000	187,000	225,000	262,500	299,000
			LPG/Propane	70,000	105,000	140,000	175,000	210,000	245,000	280,000
		Output	Natural gas	62,000	91,000	122,000	153,000	183,000	214,000	245,000
			LPG/Propane	58,000	85,000	114,000	143,000	171,000	200,000	229,000
	[1] Net I=B=R rating Btuh		Natural gas	42,000	68,000	92,000	115,000	137,000	161,000	184,000
			LPG/Propane	44,000	64,000	86,000	107,000	128,000	150,000	172,000
	[1] Net I=B=R rating sq. ft. radiation		Natural gas	196	283	383	479	571	671	767
			LPG/Propane	183	267	358	446	553	625	717
	[2] AFUE - "E" electronic ignition models			82.7%	80.4%	80.6%	80.9%	81.1%	81.3%	81.5%
	[2] AFUE - "S" standing pilot models			81.1%	78.8%	79.2%	79.6%	80.1%	80.5%	80.9%
Boiler Data	Number of boiler sections			3	4	5	6	7	8	9
	Net boiler heating area - sq. ft.			8.38	11.17	14.73	18.29	21.85	25.41	28.97
	Boiler capacity - U.S. gallons		Full	4.2	5.90	7.60	9.30	11.00	12.70	14.40
			Water level	2.6	3.80	5.00	6.20	7.40	8.60	9.80
Connections in.	Flue size diameter (round)			5	6	6	7	7	7	7
	Gas piping		Natural gas	1/2	1/2	1/2	3/4	3/4	3/4	3/4
			LPG/Propane	3/4	3/4	3/4	3/4	3/4	3/4	3/4
	Water supply size			2-1/2 NPT						
	Water return size			2-1/2 NPT						
	Drain size			3/4 NPT						
Electrical characteristics				120 volts - 60 hertz - 1 phase (less than 12 amps)						
Shipping weight - lbs. 1 package				325	404	483	564	649	719	800

OPTIONAL ACCESSORIES

See Lennox Price Book For Complete Listing of Optional Accessories

LPG/Propane Conversion Kit	Standard Kit	**57L60**	**54L59**	**54L61**	**54L63**	**54L65**	**54L67**	**54L69**
	High Altitude (over 5000 ft.)	**57L61**	**54L60**	**54L62**	**54L64**	**54L66**	**54L68**	**54L70**
Combustible Flooring Base		**92P79**	**92P79**	**92P79**	**92P79**	**18P26**	**18P26**	**18P26**

[1] I=B=R ratings indicate the amount of equivalent direct radiation each boiler will produce under normal conditions and thermostatic control. Steam ratings based on an allowance of 1.333 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 installed radiation in square feet (m2).

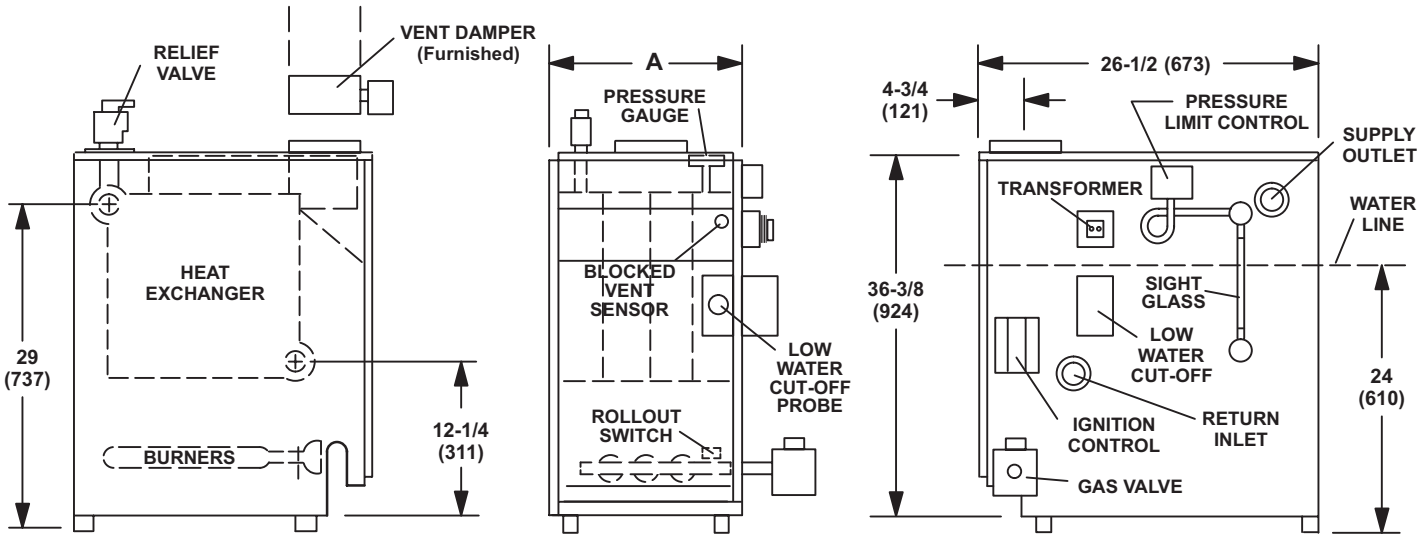
[2] Annual Fuel Utilization Efficiency based on US DOE test procedures and FTC labeling regulations.

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%.

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

DIMENSIONS - INCHES (MM)



Model No.	A	
	in.	mm
GSB8-75	11-1/4	286
GSB8-112	14-1/2	368
GSB8-150	17-3/4	451
GSB8-187	21	533
GSB8-225	24-1/4	616
GSB8-262	27-1/2	699
GSB8-299	30-3/4	781

INSTALLATION CLEARANCES - INCHES (MM)

Side	6 (152)
Gas Supply/Control Side	24 (610)
Rear	6 (152)
Top	6 (152)
Service Clearance (Front)	24 (610)
[1] Floor	*Combustible
Flue Pipe	6 (152)

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

NOTE - 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] Clearance for installation on combustible floor if optional combustible flooring base is installed between the boiler and the combustible floor. See Specifications Tables.

REVISIONS

Sections	Description of Change
Document	Updated to new publishing software. No changes to data.

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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.