



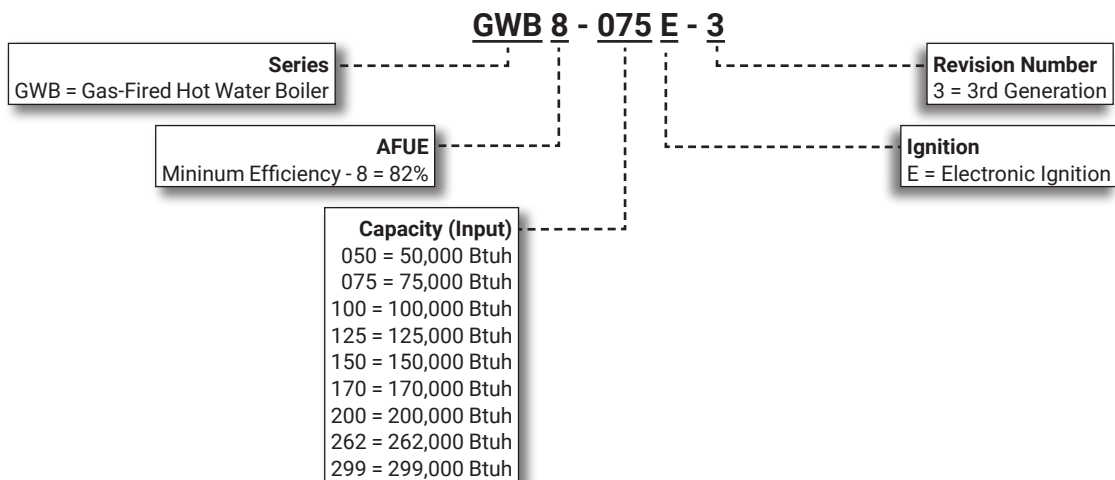
**RESIDENTIAL  
PRODUCT SPECIFICATIONS**

Bulletin No. 210651  
March 2018  
Supersedes July 2016



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

**MODEL NUMBER IDENTIFICATION**



## CONTENTS

Approvals And Warranty . . . . .	2
Circulating Pump Flow Rate . . . . .	8
Dimensions . . . . .	7
Features . . . . .	2
High Altitude Derate . . . . .	6
Installation Clearances . . . . .	6
Specifications . . . . .	5

## APPROVALS AND WARRANTY

### APPROVALS

- AHRI Certified
- Annual Fuel Utilization Efficiencies based on US DOE test procedures and FTC labeling regulations
- Certified by CSA International
- 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

### WARRANTY

- Cast iron boiler assembly:
  - Limited twenty years in residential applications only
  - Limited one year in non-residential applications
- All other covered components:
  - Limited five-years in residential applications
  - Limited one year in non-residential installations

**NOTE** - Refer to Lennox Equipment Limited Warranty certificate included with unit for specific details.

## FEATURES

### APPLICATIONS

- Nine models with heating inputs of 50,000 to 299,000 Btuh
- AFUE - 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
- Shipped 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 flame fail to ignite, control will continue to re-attempt ignition
- 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

## FEATURES

### HEATING SYSTEM (continued)

#### 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

- 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
- 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
- Field 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

### 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

## FEATURES

### 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

- Thermostat is not furnished with unit
- Lennox Price Book for selection

### 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

- Heavy gauge steel
- Baked-on enamel paint finish
- Fully insulated with fiberglass insulation, keeping cabinet surface temperatures low
- Hole for drain valve (furnished) 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
<b>Gas Heating Performance</b>	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
	<sup>1</sup> Net AHRI I=B=R rating - Btuh		37,000	55,000	72,000	90,000	108,000
	<sup>2</sup> AFUE		83.5%	83.1%	83.0%	82.0%	83.0%
<b>Boiler Data</b>	Number of boiler sections		2	3	3	4	4
	Boiler capacity - U.S. gallons		2.4	4.0	4.0	5.6	5.6
<b>Connections in.</b>	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
<b>Electrical characteristics</b>	120 volts - 60 hertz - 1 phase (less than 12 amps)						
<b>Shipping Data</b>	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
----------------------------	-------	-------	-------	-------	-------

<sup>1</sup> 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.

<sup>2</sup> 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
<b>Gas Heating Performance</b>	Heating capacity input - Btuh		170,000	200,000	262,000	299,000
	Heating capacity output - Btuh		139,000	165,000	220,000	251,000
	<sup>1</sup> Net I=B=R rating - Btuh		121,000	143,000	191,000	218,000
	<sup>2</sup> AFUE		82.0%	82.0%	83.9%	83.7%
<b>Boiler Data</b>	Number of boiler sections		5	5	8	9
	Boiler capacity - U.S. gallons		7.2	7.2	12.7	14.4
<b>Connections in.</b>	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
<b>Electrical characteristics</b>	120 volts - 60 hertz - 1 phase (less than 12 amps)					
<b>Shipping Data</b>	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
----------------------------	-------	-------	-------	-------

<sup>1</sup> 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.

<sup>2</sup> 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

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	<sup>1</sup> Alcove	<sup>1</sup> Alcove
Rear	4 (102)	6 (152)
Service Clearance (Front and Right Side)	24 (610)	24 (610)
<sup>2</sup> 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".

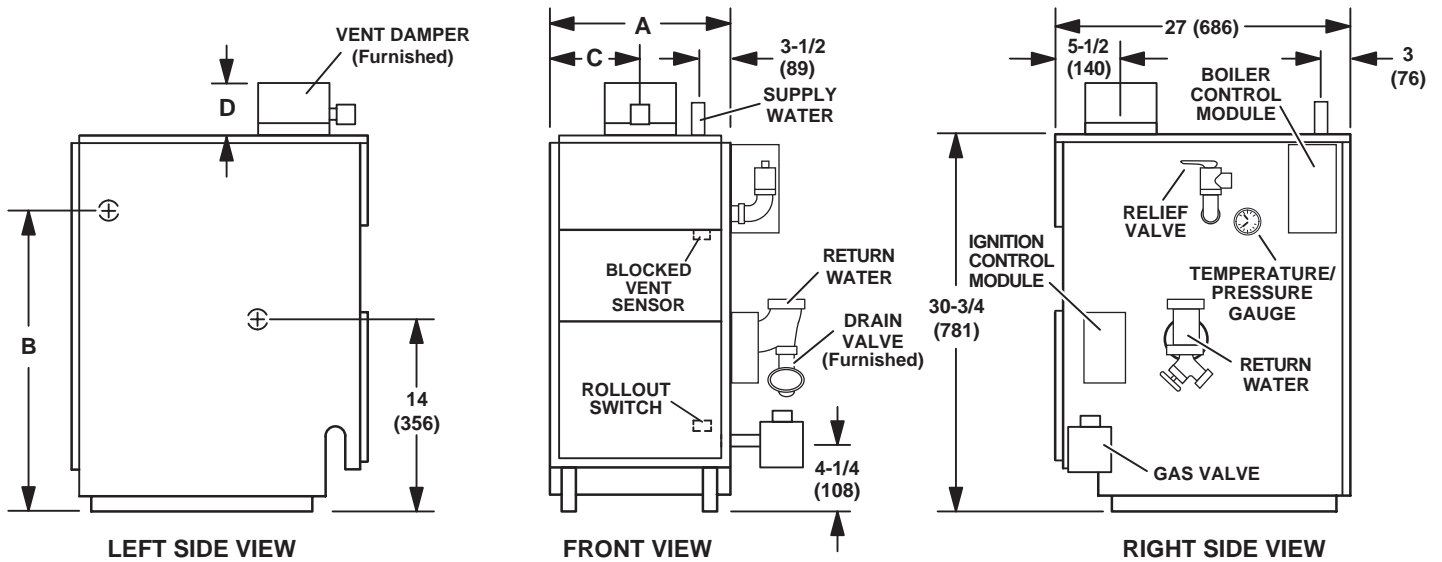
NOTE - In the U.S. flue sizing must conform to the methods outlined in the current National Fuel Gas Code (NFPA 54/ANSI-Z223.1) or applicable provisions of local building codes. In Canada flue sizing must conform to the methods outlined in National Standard of Canada CAN/CSA-B149.1.

<sup>1</sup> 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.

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

## DIMENSIONS

## 050 TO 200 MODELS



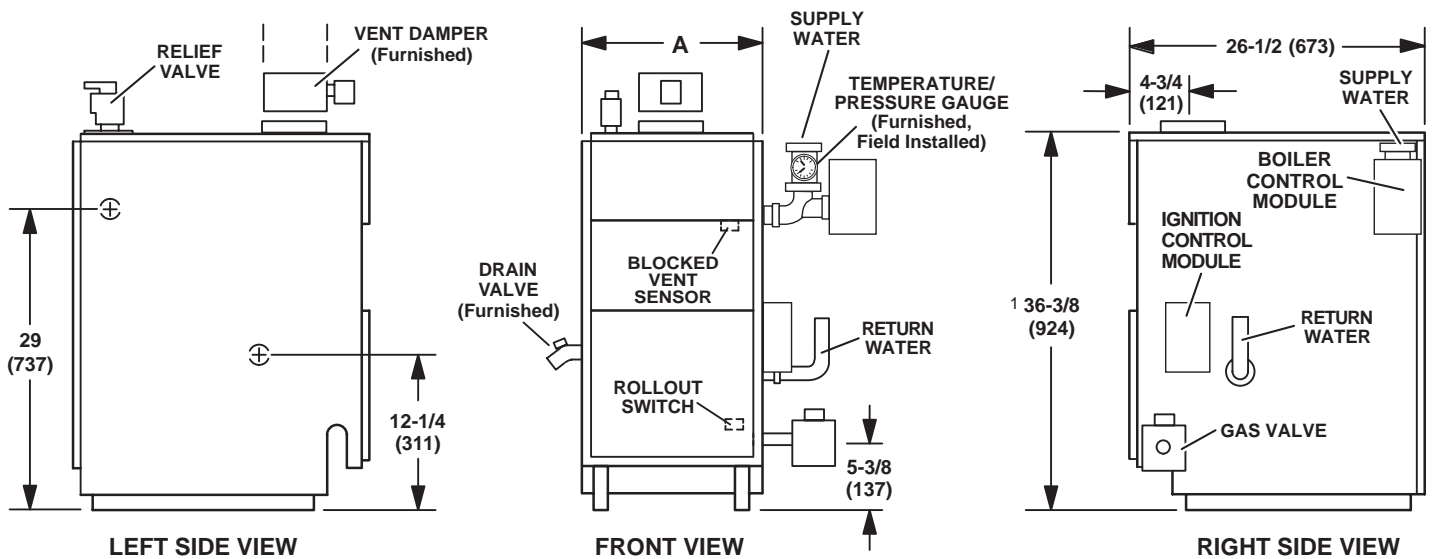
NOTE - Pump is shipped separately with unit for field installation.

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

## 262 TO 299 MODELS



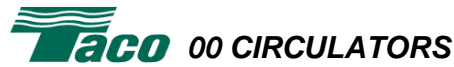
NOTE - Pump is shipped separately with unit for field installation.

<sup>1</sup> Minimum acceptable height for low water cutoff probe.

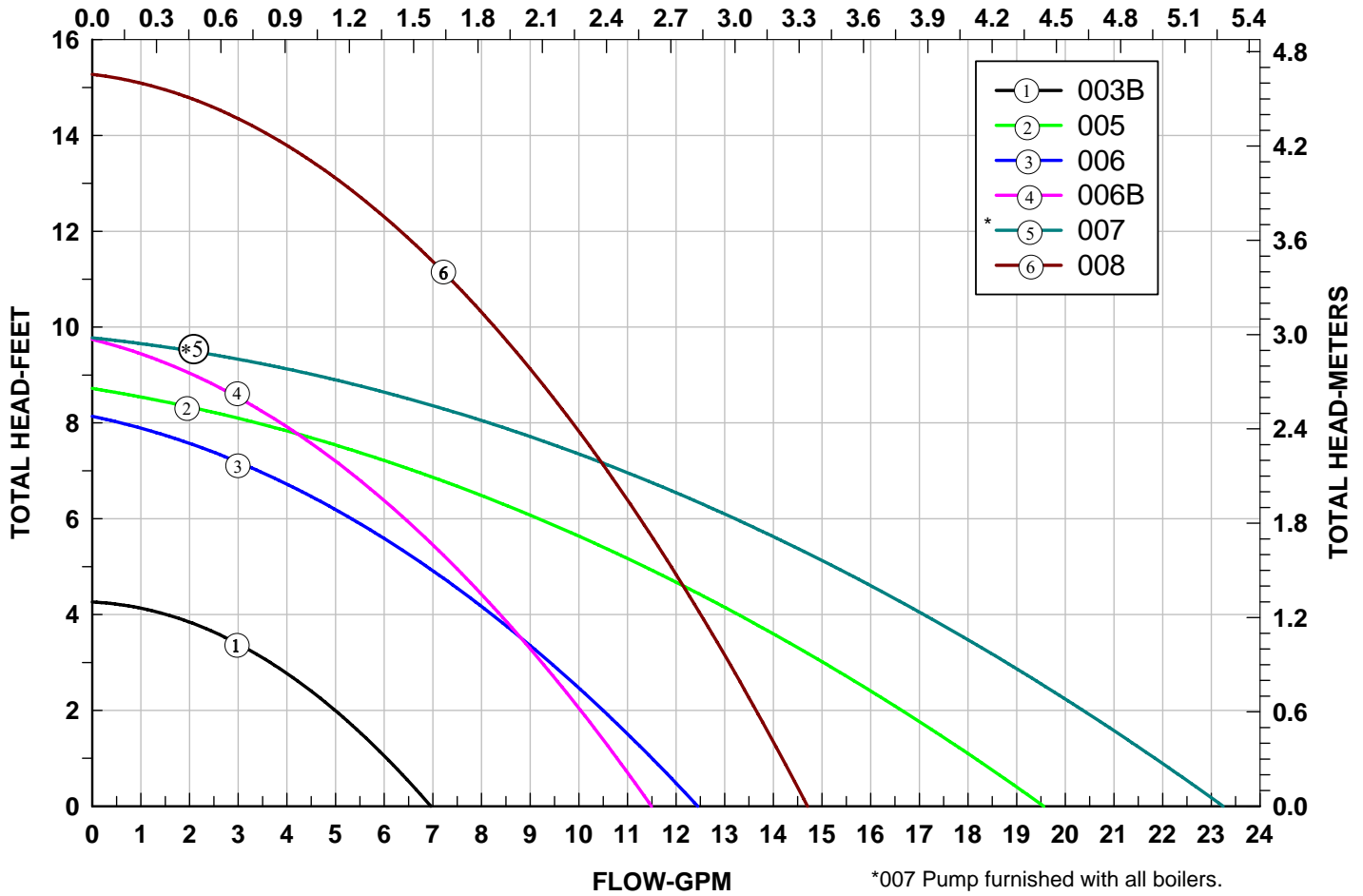
Model No.	A	
	in.	mm
GWB8-262E-3	27-1/2	699
GWB8-299E-3	30-3/4	781

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

# CIRCULATING PUMP FLOW RATE



FLOW-M3/H



## REVISIONS

Section	Description
New	Added circulator pump flow rate chart.



Visit us at [www.lennox.com](http://www.lennox.com)

For the latest technical information, [www.LennoxPros.com](http://www.LennoxPros.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.