



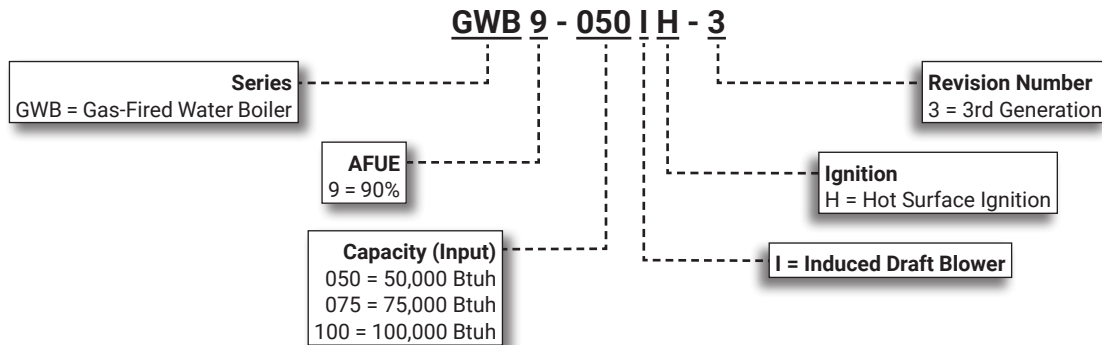
**RESIDENTIAL
PRODUCT SPECIFICATIONS**

Bulletin No. 210652
December 2020
Supersedes October 2020



AFUE - 90%
Input - 50,000 to 100,000 Btuh

MODEL NUMBER IDENTIFICATION



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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 hydro-statically tested in accordance with American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section IV Standards for cast iron heating boilers
- ENERGY STAR® certified units are designed to use less energy, help save money on utility bills, and help protect the environment

WARRANTY

- Cast iron boiler assembly:
 - Limited fifteen years in residential applications only
 - Limited one year in non-residential applications
- All other covered components:
 - Limited ten 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

- Three models with heating input capacities of 50,000, 75,000 and 100,000 Btuh.
- AFUE - 90%
- Natural gas or LPG/Propane (LPG with optional conversion kit)
- Boiler applications include radiant floor heating, baseboard heating and zoned heating systems

NOTE - For use in closed hydronic heating system only.

- 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 Aluminum Boiler Assembly

- Boiler sections are constructed of long life cast aluminum
- Push nipples are constructed of wrought aluminum
- Boiler sections and push nipples expand and contract together, providing positive watertight seal
- Sightglass is furnished for flame viewing

Hot Surface Igniter

- Tough, reliable, long-life, trouble-free performance
- Silicon nitride ignitor

Automatic Gas Control

- 24 volt redundant combination gas control valve combines 100% safety shut-off, manual shut off valve (On-Off), automatic electric valve and gas pressure regulation into a compact combination control

Stainless Steel Premix Inshot Burner

- Inshot burner provides efficient, trouble-free operation
- Burner mixes air and gas in correct proportion for proper combustion

FEATURES

HEATING SYSTEM (continued)

Induced Draft Blower

- Heavy-duty blower safely vents flue products
- Differential pressure switch prevents unit operation in case of flue blockage of intake or exhaust air
- Pressure switch controlled by Integrated Boiler Control Module for a pre-purge and a post purge cycle
- Pressure switch proves blower operation before allowing gas valve to open
- Five minute lockout if lack of adequate differential pressure
- Blower operates only during heating cycle
- Adjustable exhaust vent (front, right side or rear)

Circulating Pump

- Shipped separately for field installation

Relief Valve and Air Vent

- 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
- Approved by ASME

Combination Temperature/Pressure Gauge

- Located on supply piping
- Gauge monitors system for safe and reliable operation

Brass Drain Valve

- Factory installed 3/4 in. brass drain valve is furnished in the first boiler section

Optional Accessories

LPG/Propane Conversion Kit

- Required for field changeover from natural gas to LPG/Propane
- See Specifications table

DIRECT VENT

SEALED COMBUSTION SYSTEM

- Boiler features a "sealed combustion" system and can only be installed in Direct Vent (two pipe) applications
- In Direct Vent applications, combustion air is supplied from outdoors and flue gases are discharged outdoors

Intake/Exhaust Piping

- 2 or 3 in. PVC pipe used for both intake and exhaust air
- 2 in. connection from unit but may be transitioned to 3 in. PVC in a vertical run
- Vent pipe connector with integral condensate drain furnished as standard
- CPVC pipe MUST be used in the first five feet of the exhaust piping
- Unit ships with 5 ft. of 2 in. CPVC pipe, one 2 in. CPVC coupling, elbow and short nipple
- See Intake/Exhaust Pipe Vent Lengths Table

Condensate Trap

- Integrated low profile condensate drain trap assembly is included on the unit
- Internal condensate drain tubing is furnished

Optional Accessories

Termination Kit - Concentric

- 2 or 3 inch kit contains concentric termination assembly, reducer bushing and 45° elbow
- Kit requires single hole penetration of roof or wall for installation
- Roof penetration applications requires field supplied boot/flashing
- CSA certified

CONTROLS

Integrated Boiler Control Module

- Control module provides ignition sequence, flame monitoring and safety shutoff for hot surface ignition heating system
- Five diagnostic LEDs (POWER, PURGE, IGNITOR, VALVE, FLAME) aid in servicing
- 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

Thermal Purge Operation

- Boiler control incorporates automatic means to insure usable residual heated water in the boiler is circulated until it is sufficiently depleted from the system before the burner is allowed to fire

Casting Temperature Safety Switch

- Protects the boiler in case of lack or loss of water
- Installed in the top of the boiler section, the switch will turn off the power to the Integrated Boiler Control when the temperature reaches setpoint, 300°F
- Manual reset

Differential Pressure Air Proving Switch/Blocked Vent Safety Shutoff

- Prevents unit operation in the event combustion air products passage through the flueway is reduced or blocked
- Automatic reset

FEATURES

CONTROLS (continued)

Hydrostat Combination High Limit Control / Low Water Cut Off With Boiler Temperature Reset

- High Limit Control is factory set at 180°F
- Rotary DIP switch is field adjustable (100°F to 190°F)
- Automatic differential based on control settings and boiler temperature
- Integral manual reset low water cutoff
- LED indicators for the following conditions:



HI TEMP

- Indicates boiler water temperature has reached high limit setting
- Remains lit until water temperature decreases 10°F below the high limit setting, preventing burner operation

[LWCO - Low Water Cut Off]

ACTIVE

- Indicates low water cut-off operation

LOW WATER

- Indicates boiler low water condition

[ECONOMY]

ACTIVE

- Indicates thermal targeting function is operating and boiler control has reduced boiler temperature to conserve fuel

TARGET

- When active, boiler control continuously sets target temperature below high limit setting maximizing fuel efficiency
 - When boiler reaches target temperature, LED illuminates and burner shuts down
 - Boiler water continues to circulate for heating as long as thermostat demand continues
 - LED remains lit until boiler temperature drops below differential, allowing the boiler to fire again

PURGE

- Boiler control is purging latent heat from boiler and will not fire until temperature drops to 135°F

TEST

- Allows testing of low water operation

ECONOMY

- Rotary DIP switch allows setting of number of heating zones for maximum efficiency by reducing boiler temperature required

NOTE - Default setting is one zone.

Induced Draft Blower Temperature Safety Switch

- Temperature safety switch prevents unit operation in case of high temperature of discharge flue gases
- Sensor is furnished as standard and factory installed on the induced draft blower outlet port

Junction Box

- Furnished on right side of cabinet for easy field wiring

Transformer

- 50VA transformer furnished for control module operation
- Mounted on control panel

Optional Accessories

Thermostat

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

CABINET

- Heavy gauge steel
- Baked-on enamel paint finish
- Gas connection and flue connections are furnished on the right side of cabinet
- Supply and return water connections are furnished on top of cabinet
- Alternate connection openings are located on the left side of the cabinet
- Front access panel is easily removed for servicing
- See dimension drawing

SPECIFICATIONS

| Model No. | | GWB9-050IH-3 | GWB9-075IH-3 | GWB9-100IH-3 |
|-----------------------------------|--|--|----------------|----------------|
| Gas Heating Performance | Heating capacity input - Btuh | 50,000 | 75,000 | 100,000 |
| | Heating capacity output - Btuh | 45,000 | 68,000 | 90,000 |
| | ¹ Net AHRI I=B=R rating - Btuh | 39,000 | 59,000 | 78,000 |
| | ² AFUE | 90% | 90% | 90% |
| Boiler Data | Number of boiler sections | 2 | 2 | 2 |
| | Boiler capacity | 2.6 US gallons | 2.6 US gallons | 2.6 US gallons |
| Connections in. | ³ Flue size connection diameter - round | 2 | 2 | 2 |
| | Gas piping size I.P.S. | 1/2 | 1/2 | 1/2 |
| | Water supply and return connection size | 1-1/4 NPT | 1-1/4 NPT | 1-1/4 NPT |
| | Drain connection size | 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 | 220 | 220 | 220 |

¹ AHRI I=B=R 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 Heating Capacity and AFUE (Annual Fuel Utilization Efficiency) based on US DOE test procedures and FTC labeling regulations.

³ CPVC pipe MUST be used in the first five feet. Unit ships with 5 ft. of 2 in. CPVC pipe, one 2 in CPVC coupling, one nipple and one elbow.

OPTIONAL ACCESSORIES - ORDER SEPARATELY

| | Model No. | GWB9-050IH-3 | GWB9-075IH-3 | GWB9-100IH-3 |
|--|-------------------|--------------|--------------|--------------|
| VENTING | | | | |
| Concentric Vent Termination Kits | US - 2 inch | 69M29 | 69M29 | 69M29 |
| | 3 inch | 60L46 | 60L46 | 60L46 |
| | Canada - 2 inch | 44W92 | 44W92 | 44W92 |
| | 3 inch | 44W93 | 44W93 | 44W93 |
| Natural to LPG/Propane Conversion Kits | 0 - 10,000 ft. | 75E01 | - - - | 10T27 |
| | 0 - 5000 ft. | - - - | 70E01 | - - - |
| | 5001 - 10,000 ft. | - - - | 77E01 | - - - |
| LPG/Propane to Natural Conversion Kits | 0 - 10,000 ft. | 21U80 | 21U81 | 21U82 |

NOTE - Termination Kits **44W92**, **44W93** are certified to ULC S636 standard for use in Canada only.

OPTIONAL ACCESSORIES - ORDER SEPARATELY (continued)

| | | Catalog No. |
|---|---------------|-------------|
| PLUMBING | | |
| Automatic Air Vent Valve (3/4 in. sweat) | | 29K49 |
| Automatic Air Vent Valve (1 in. sweat) | | 29K50 |
| Air Eliminator (1 in. sweat) | | X6447 |
| Air Eliminator (1-1/4 in. sweat) | | X6449 |
| Boiler Trim Kit w/ Check Valve, 1 in. NPT Air Eliminator, 4.4 Gal. Expansion Tank | | X6524 |
| Boiler Trim Kit w/ Check Valve, 1-1/4 in. NPT Air Eliminator, 4.4 Gal. Expansion Tank | | X6525 |
| Flow Check Valve (3/4 in.) | | 78Y08 |
| Water Mixing Valve (3/4 in.) | | 99L99 |
| Water Mixing Valve (1 in.) | | 10M00 |
| WATER HEATING/STORAGE | | |
| Indirect Water Heater - 316L Stainless Steel Tank/Coil | 40 US gallons | 20X33 |
| | 60 US gallons | 20X34 |
| ZONING | | |
| Boiler Reset Control - Used with Zone Pump Control - Boiler and Outdoor Sensors furnished | | X2965 |
| Zone Pump Control - Four Zones (expandable to 15 zones with Expansion Module) | | 20X37 |
| Zone Pump Control - Six Zones (expandable to 15 zones with Expansion Module) | | 20X38 |
| Boiler Control Expansion Module (One Zone with 18 in. cable) | | 20X35 |
| Boiler Control Expansion Module (Four Zones with 18 in. cable) | | 20X36 |
| Zone Valve Control - Four Zones with Priority | | 20X39 |
| Zone Valve Control - Six Zones with Priority | | 20X40 |
| Zone Valve (3/4 in.) | | 78Y03 |
| Zone Valve (1 in.) | | 78Y04 |
| Zone Valve (1-1/4 in.) | | 78Y05 |

INTAKE/EXHAUST PIPE VENT LENGTHS

| Vent Pipe Diameter | GWB9-050-075 | | GWB9-100 | |
|--------------------|--------------|---------|----------|---------|
| | Minimum | Maximum | Minimum | Maximum |
| 2 in. | 2 ft. | 26 ft. | 2 ft. | 21 ft. |
| 3 in. | 20 ft. | 112 ft. | 15 ft. | 92 ft. |

NOTES:

One 90° elbow = 5 ft.
 One 45° elbow = 3.5 ft.
 One 2 x 3 in. adaptor = 0 ft.
 Concentric Vent Kit (optional) = 5 ft.

INSTALLATION CLEARANCES

| | in. | mm |
|-----------------------|-----------------|-----|
| Top | 1 | 25 |
| Top Service | 8 | 203 |
| Left Side | 1 | 25 |
| Right Side | 11 | 279 |
| Front | 1 | 25 |
| Front (Service) | 24 | 610 |
| Back | 1 | 25 |
| Base | Non-Combustible | |
| Intake/Exhaust Piping | 0 | 0 |
| Hot Water Piping | 1 | 25 |

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.

HIGH ALTITUDE DERATE

US

CSA certified units for the U.S. are factory equipped for operation from 0 to 10,000 feet above sea level. No changes to the factory settings are required for installations from 0 to 5000 feet above sea level.

At altitudes from 5001 to 10,000 feet above sea level the gas manifold pressure must be adjusted based on the value of the supply gas to achieve a Combustion Setting CO₂ range as shown in the Table below. See Installation Instructions for additional information about measuring and adjusting the manifold pressure.

CANADA

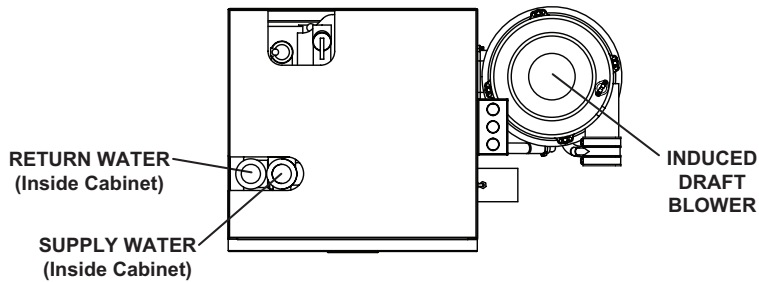
CSA certified units for Canada are factory equipped for operation from 0 to 4500 feet above sea level without any changes to the factory settings.

At altitudes over 4500 feet above sea level units must be derated according to local utility codes.

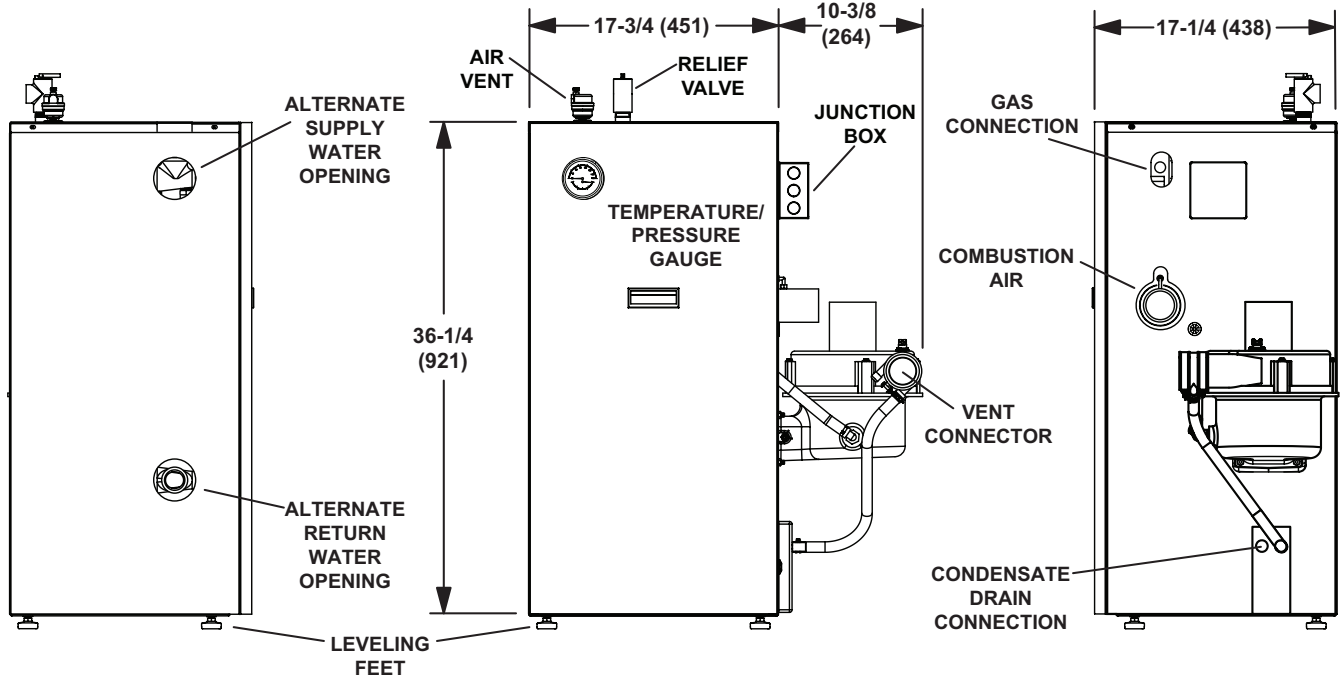
| Model No. | Factory Setting | Gas Value - NATURAL GAS (Btu) | | | | |
|---|-----------------|--|------|------|------|------|
| | | 750 | 850 | 950 | 1000 | 1050 |
| | 0-5000 ft. | 5000-10,000 ft. | | | | |
| GWB9-050IH-3 GWB9-075IH-3 GWB9-100IH-3 | | Combustion Setting (CO ₂) - 8.7 - 9.7% (CO < 100 ppm) | | | | |
| Model No. | Factory Setting | Gas Value - LPG/PROPANE (Btu) | | | | |
| | | 2300 | 2350 | 2400 | 2450 | 2500 |
| | 0-5000 ft. | 5000-10,000 ft. | | | | |
| GWB9-050IH-3 ¹ GWB9-075IH-3 GWB9-100IH-3 | | Combustion Setting (CO ₂) - 10.0 -11.1% (CO < 100 ppm) | | | | |

¹ GWB9-075IH-3 LPG/Propane applications for 5001-10,000 feet above sea level require an orifice change as well as gas manifold pressure adjustment. See installation instructions for details.

DIMENSIONS



TOP VIEW



LEFT SIDE VIEW

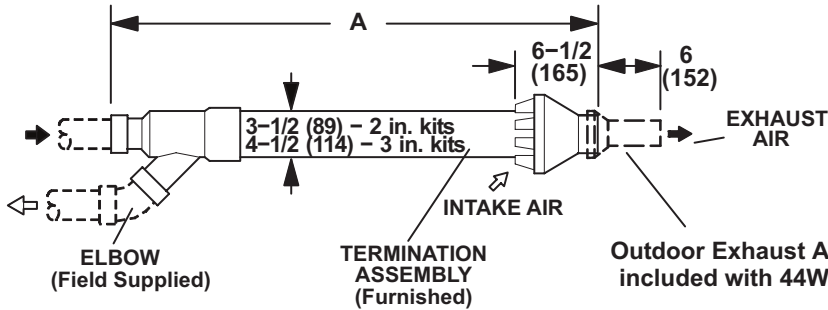
FRONT VIEW

RIGHT SIDE VIEW

DIMENSIONS - ACCESSORIES

69M29 / 44W92 – 2 inch kits
60L46 / 44W93 – 3 inch kits
See Installation Instructions for additional information.

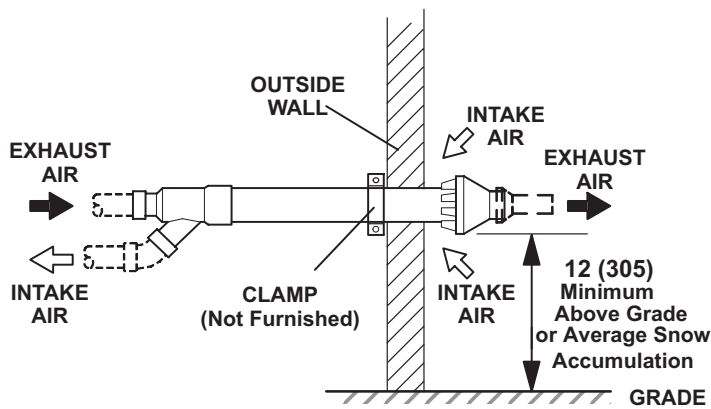
Note - Field provided reducer may be required to adapt larger vent pipe size to termination.



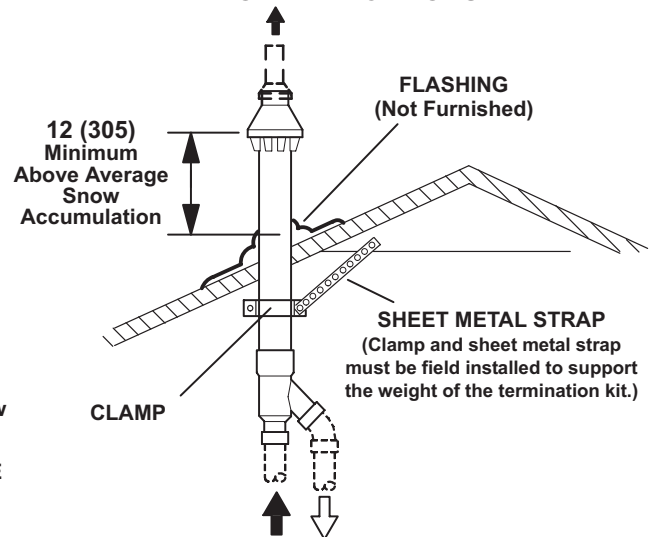
| Cat. No. | A | | B | |
|-------------------|--------|-----|---------|-----|
| | in. | mm | in. | mm |
| 69M29 | 33-3/8 | 848 | 16-3/4 | 425 |
| 44W92 (Canada) | 29 | 737 | 15-1/2 | 394 |
| 60L46 | 38-7/8 | 987 | 21-3/16 | 538 |
| 44W93 (Canada) | 36-1/8 | 918 | 19-1/2 | 495 |

NOTE – Typical illustration for dimensions only. Design may vary depending on kit ordered.

CONCENTRIC WALL TERMINATION APPLICATIONS



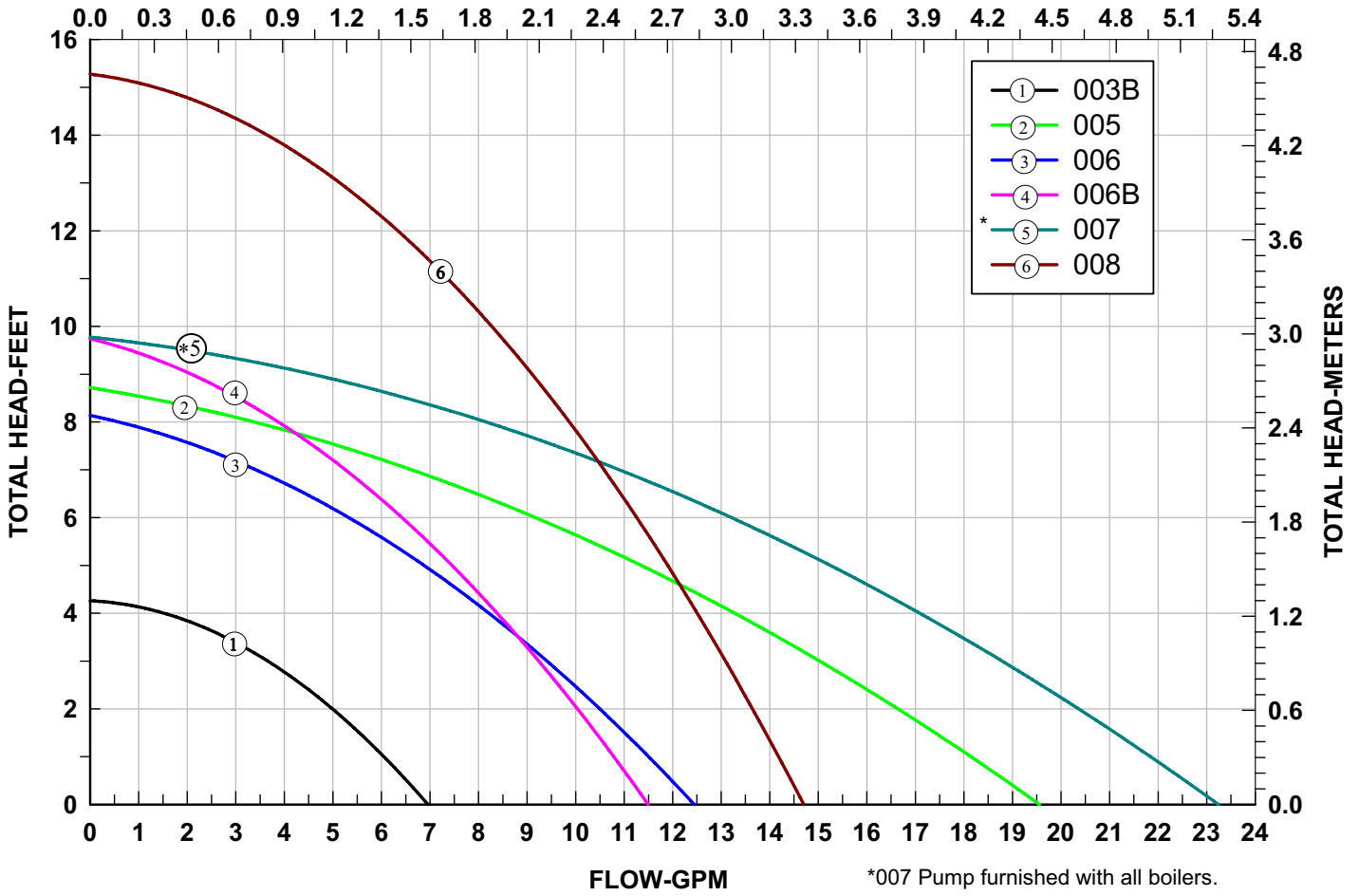
CONCENTRIC ROOF TERMINATION APPLICATIONS



CIRCULATING PUMP FLOW RATE

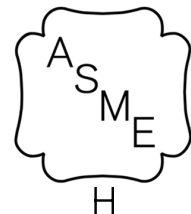


FLOW-M3/H



REVISIONS

| Sections | Description of Change |
|----------------------|---|
| Optional Accessories | Removed Magnetic Dirt Separators - Not available. |



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For the latest technical information, 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.

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