

EFFICIENT & ECONOMICAL COMMERCIAL GAS-FIRED HOT WATER HEATING



SERIES 8B



**HEATING CAPACITIES
212 TO 475 MBH OUTPUT**



SERIES 8B COMMERCIAL ATMOSPHERIC GAS-FIRED HOT WATER BOILER

Maximum Working Pressure: 50 PSI

Adaptable to Any Job

The Burnham® Commercial Series 8B boiler provides outstanding single and multiple boiler performance and reliability. The boiler can be arranged for space heating or combination space heating and domestic hot water heating with the use of an Alliance™ indirect-fired water heater. The compact design and one inch minimum side clearance make the Series 8B ideal for modular and multiple boiler installations*. Large homes, multi-family dwellings, small businesses and office complexes are typical applications for the Series 8B boiler.

Cast Iron Dependability

The Series 8B boiler is constructed with durable cast iron sections. Cast iron has the unique ability to absorb and transfer heat

quickly and efficiently while providing unmatched durability. The pinned heating surface and vertical flue design extracts maximum heat while maintaining low draft losses. This results in higher efficiencies and lower fuel costs.



sections they join, ensuring the integrity of the entire section assembly. Cast iron nipples resist petroleum based chemicals, including corrosion inhibitors, pump lubricants and antifreeze, they do not break down from contact with boiler flue gases, all of which can deteriorate the gaskets commonly used in some competitors' boiler assemblies.

The Cast Iron Nipple Difference

Burnham Commercial's Series 8B boiler sections are joined with quality cast iron nipples that last the life of the boiler. They expand and contract along with the



Features Beyond the Standard

A flame roll-out switch and blocked vent switch are standard equipment on all Series 8B boilers. The flame roll-out switch senses temperature in the vestibule and the blocked vent switch senses temperature at the flue outlet.

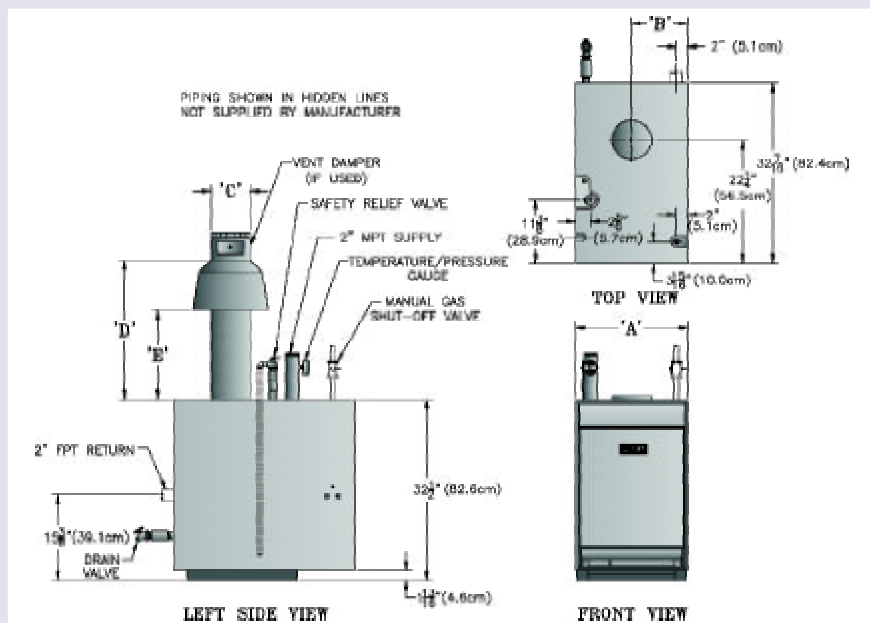
The switches will safely shut down the boiler in the event the boiler, chimney or venting system becomes blocked or restricted.

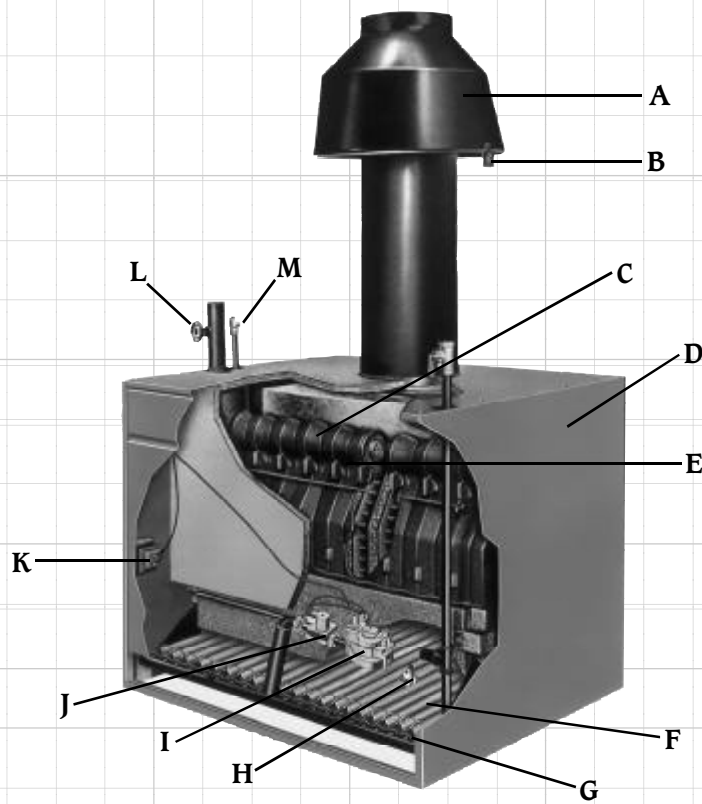
Dimensions (in inches)

| Boiler Number | A | B | C | D | | E | |
|---------------|--------|--------|----|--------|--------|--------|--------|
| | | | | USA | Canada | USA | Canada |
| 805B | 20 | 10 | 7 | 24-3/4 | 24-3/4 | 16-1/8 | 16-1/8 |
| 806B | 23-3/4 | 11-7/8 | 8 | 27-3/4 | 25-3/4 | 18 | 16 |
| 807B | 27-1/2 | 13-3/4 | 9 | 28-3/4 | 25-3/4 | 18 | 16 |
| 808B | 31-1/4 | 15-5/8 | 9 | 30-3/4 | 26-5/8 | 20 | 16 |
| 809B | 35 | 17-1/2 | 10 | 33-1/2 | 26-3/8 | 22 | 15 |
| 810B | 38-3/4 | 19-3/8 | 10 | 33-1/2 | 26-3/8 | 22 | 15 |

*Minimum recommended side-to-side clearance for modular/multiple boiler applications is one inch or as required by local authorities. New EP and OP electronic control sets are designed to mount on top of the boiler and do not affect side clearances.

*Please refer to the Modular/Multiple Boiler and Controls literature and Modular manual for detailed installation information.





- A. Top mounted draft hood
- B. Blocked vent switch (BVS)—All sizes
- C. Rugged cast iron nipples join sections
- D. Deluxe insulated jacket
- E. Durable cast iron sections for long life
- F. Aluminized steel burners—provide optimum air flow for high combustion efficiency, smooth and quiet light-off and long life
- G. Factory assembled gas manifold with plugged test tapping saves installation time and money
- H. Flame roll-out switch (FRS)—All sizes
- I. 100% step-opening gas valve—redundant type on EI
- J. Solenoid valve—standing pilot version only
- K. 50 VA voltage transformer
- L. Pressure temperature gauge
- M. Safety relief valve

Modular or Multiple

ASME Section IV differentiates between modular and multiple boiler installation. According to ASME, a modular boiler system consists of individual modules with a maximum input of 400 MBH each. Each module is to be equipped with a pressure temperature gauge, safety relief valve and drain valve. The modules are to be manifolded together on site without any intervening stop valve. The modular boiler assembly is to be equipped with a common temperature limit control, low water cutoff, makeup water connection, provision for thermal expansion and supply and return stop valves.

Multiple boiler installations require a stop valve in the supply and return pipe connection of each boiler. Each boiler needs to be equipped with a pressure temperature gauge, two temperature limit controls, safety relief valve and drain valve. Boilers over 400 MBH must also include an automatic low water cutoff. Sizes 805, 6 and 7 can be installed as modular or multiple boilers. Sizes 808, 9 and 10 are to be installed as multiple boilers. In both cases, minimum recommended side-to-side clearance is one inch or as required by local codes.

Commitment to Quality

Burnham Commercial, America's Boiler Company, has earned a reputation for dependability and quality. For single or multiple applications, the Series 8B is right for your next job.

SPECIFICATIONS



SERIES 8B RATINGS* Natural and LP Gas



| BOILER NUMBER (1) | RATINGS | | I=B=R NET RATING WATER MBH (2) | MINIMUM NATURAL GAS PRESSURE (INCHES) | | MINIMUM RECOMMENDED CHIMNEY SIZE ROUND DIA. (In.) X HT. (Ft.)(3) | WATER CONTENT (Gal.) | APPROX. SHIPPING WEIGHT (Lbs.) |
|-------------------|-----------|------------------|--------------------------------|---------------------------------------|-----|--|----------------------|--------------------------------|
| | INPUT MBH | GROSS OUTPUT MBH | | 24V | EI | | | |
| 805B | 264 | 212.0 (4) | 184 | N/A | 4.5 | 7 X 15 | 11.9 | 700 |
| 806B | 330 | 264.0 | 230 | 4.5 | 4.5 | 8 X 15 | 13.9 | 780 |
| 807B | 396 | 316.8 | 275 | 5.0 | 4.5 | 9 X 15 | 15.9 | 885 |
| 808B | 462 | 369.6 | 321 | N/A | 4.5 | 9 X 15 | 17.9 | 990 |
| 809B | 528 | 422.4 | 367 | N/A | 5.0 | 10 X 15 | 19.9 | 1095 |
| 810B | 594 | 475.2 | 413 | N/A | 5.0 | 10 X 15 | 21.9 | 1206 |

*Ratings shown are for installations at sea level and elevations up to 2,000 feet. For elevations above 2,000 feet, ratings should be reduced at the rate of four percent (4%) for each 1,000 feet above sea level.

- When ordering use prefix P for packaged and K for knockdown. Use suffix NSP for natural gas, standing pilot; NEI for natural gas, electronic ignition; PSP for LP gas, standing pilot; PEI for LP gas, electronic ignition.
- Net I=B=R ratings shown are based on normal I=B=R piping and pickup allowance of 1.15. Consult the manufacturer for installations having unusual piping and pickup requirements such as intermittent system of operation, extensive piping systems, etc.
- 15 foot height is measured from top of drafthood to top of chimney.
- DOE heating capacity. Furnished with electronic ignition and vent damper. AFUE is 80.1%.

Maximum allowable working pressure: 50 PSI (30 PSI optional). Water only.

Standard Equipment

| | |
|-----------------------------------|--|
| Cast Iron Section Assembly | Blocked Vent Switch (BVS) - All Sizes |
| Deluxe Insulated Jacket | Flame Roll-Out Switch (FRS) - All Sizes |
| 100% Shut-off Gas Controls | L4080D High Limit Control |
| Boiler Drain Valve | 750P-MT-120 Probe LWCO - 808B-810B only |
| 50VA Transformer and Junction Box | High Limit Control with Manual Reset - L4006E (in addition to L4080) - Packaged Boilers Only |
| Aluminized Steel Burners | Electronic Ignition on 805B, 808B-810B for Natural or LP Gas |
| 1" Gas Connection | 24V Standing Pilot on 806B, 807B for Natural or LP Gas |
| 2" Supply And Return Connections | Pressure Temperature Gauge |
| 50 PSI Safety Relief Valve | |

Packaged units are shipped packaged and wired. The relief valve, pressure temperature gauge, boiler drain valve, drafthood, LWCO and vent damper (when furnished) are shipped in separate cartons. **Knockdown units** are shipped with sections assembled and mounted on the base with manifold and burners installed. Controls, trim, jacket and vent damper (when furnished) are shipped separately.

Optional Equipment

| | |
|--|--|
| 30 PSI Safety Relief Valve | Electronic Control Sets to meet CSD-1 |
| Electronic Ignition on 806B and 807B (standard on 805B, 808B-810B) | Vent Damper - 806B thru 810B (standard on 805B), available on standing pilot and electronic ignition models only - not available with Electronic Control Sets. |
| Intermittent Circulation (24V) | Combustible Floor Shield |

NOTE: NOT FOR DIRECT INSTALLATION ON COMBUSTIBLE FLOORING. A HEAT SHIELD IS REQUIRED AND AVAILABLE FOR COMBUSTIBLE FLOOR INSTALLATION AND CONCRETE INSTALLATION WHICH IS OVER A MATERIAL THAT IS SUBJECT TO MELTING (PVC, PEX RADIANT TUBING ETC.). NOT FOR INSTALLATIONS ON CARPET, EVEN WITH A HEAT SHIELD.

