MPC HIGH EFFICIENCY
CAST IRON MULTI-PASS COMMERCIAL WATER BOILER

3 PASS DESIGN
UP TO 87.3% THERMAL EFFICIENCY

PROVEN THERMAL SHOCK PROTECTION

OIL, GAS OR OIL/GAS COMBINATION

COMMERCIAL-GRADE HIGH SILICON CAST IRON

FROM 4 TO 18 SECTIONS, RATED AT 500,000 TO 3.6 MILLION BTUs

EXCLUSIVE OPTIONAL SBC™ BOILER CONTROL MAXIMIZES SYSTEM EFFICIENCY

LOW NOx OPTION AVAILABLE (TO 9PPM)

BURNHAM Commercial Boilers
**MPC Features & Benefits**

**High Efficiency Commercial Boiler—Best In Class!**
- Thermal efficiencies of up to 87% without the use of a secondary, condensing heat exchanger provides for exceptional fuel savings
- Capable of extremely low NOx operation—less than 9 ppm
- Fully compliant with LEEDS® building standards, MPC is the most environmentally friendly commercial boiler on the market

**3-Pass Design**
- Advanced 3-pass cast iron sections engineered and manufactured in the U.S.A., designed to maximize heating system efficiencies and provide substantial energy savings over single-pass boilers
- MPC sections are assembled with Burnham Commercial’s proven cast iron nipple construction that does not degrade with heat, thus eliminating any concerns associated with competitive section sealing techniques
- Advanced high-temperature silicon-coated rope gasket is compressed into a tongue-and-groove area cast into each boiler section to ensure a durable, gas-tight seal between sections

**Burner Swing Door**
- Left or right opening, provides unobstructed access to the combustion chamber and all flue passages
- Optional cover panels provide a sleek look

**American-Made Cast Iron Construction**
Burnham Commercial’s unique eutectic cast iron has an extremely high silicon content, making it stronger and more flexible
- Offers better thermal shock resistance and greater heat transfer capabilities than other cast iron products

**Built-In Thermal Shock Protection**
- Designed to operate at unprecedented 80°F minimum return water temperature
  - Minimum supply water temperature is 130°F
  - Maximum water temperature differential (ΔT) of 80°F
- Equipped with integral return water mixing tube (RWMT) that evenly distributes the return water into each section
- No need for external mixing devices or complicated piping, saving installation time and money

**New Jacket Design**
- Standard 4-inch insulation on all sizes reduces jacket heat loss, reduces boiler room temperatures and helps increase efficiency
- Jacket side panels interlock and mount to the frame without screws
- A concealed chaseway, located in the top panels, hides wiring for a clean, modern appearance

**Multiple Burner Offerings**
- The MPC is optimized for “full modulating” operation
  - Also available for low-high-low firing
- Application tested and approved for use with Beckett oil and gas burners and Power Flame oil, gas, and gas/oil burners
- Burnham Commercial’s SBC module is an available option. SBC comes integrated into the Power Flame or Beckett burner control panel to provide unsurpassed boiler and system control
  - Factory installed SBC modules are UL Listed

**UL Listed - A Burnham Commercial Exclusive!**
- Only American-made commercial cast iron boiler with UL Listing
- Standard on factory packaged / firetested MPC boilers
- Safety benefit, virtually unmatched in the industry
The Burnham Commercial SBC is a complete boiler monitoring and automation system. Available as an option, this exclusive feature was designed and developed by Burnham Commercial engineers and is available ONLY on Burnham Commercial products.

- Designed to maximize system efficiency and minimize energy usage
- Easily connected to building management systems
- Proven control platform
- Fail-safe design ensures boiler operation

Only available from Burnham Commercial!

**SBC Exclusives**

**Advanced Adaptability**

- Easily integrated into existing or new building management systems
- Simplified connections available to most building management systems through Modbus® or standard 0-10 volt signals
- Uses sophisticated PID control logic for complete boiler system control
- Performs control functions for both single and multiple boilers

**Peer-To-Peer Network**

- Includes lead-lag sequencer for up to eight (8) fully modulating boilers
- Capable of auto rotation, outdoor reset and peer-to-peer communication
- “Plug and play” communication by simply connecting a RJ11 telephone line between boilers
- Provides precise boiler coordination by sequencing boilers based on both remote system water temperature and boiler modulation rate
- Boilers are modulated in “unison”, all at the same firing rate to ensure even heat distribution

**Fail-Safe System Operations**

- Allows continued boiler operation in the event of selected sensor failure or building management system failure

**Boiler Monitoring & Diagnostic Displays**

- Two-line by sixteen (16) character LCD display
- Automatically presents boiler sequence, alarm, hold and lockout messages
- Diagnostic menu displays the last 10 alarm messages and the boiler return temperature alarm history

**Modulation Rate & On/Off Modes**

- Controls the boiler modulation and on/off output based on the supply water temperature and an operator adjusted setpoint
- Can respond to remote system water, outside air temperatures, Domestic Hot Water Priority (DHWP) or Energy Management Systems (EMS)

**Outdoor Air Temperature Reset**

- Saves fuel by reducing the supply temperature of a heating boiler as the outside air temperature increases

**Warm Weather Shutdown (WWSD)**

- Prevents the boiler, boiler pump and/or the system pump from starting during warm weather

**Domestic Hot Water Priority (DHWP)**

- Continuous supply of hot water, even during warmer months

**System Control Outputs**

- Fully integrated automation of mixing valves, boiler pumps, system pumps and standby system pumps
- Controls are field selectable through simple yes/no menu selections

**Optional Burnham Commercial Universal Gateway**

- Can be connected to a building’s Energy Management System (EMS) using simple menu selections and wiring a 4-20mA input
- Connects to EMS using modbus protocol
- Optional EMS Gateway to BacNet or LonWorks
- Allows EMS controls to adjust either the SBC™ central heating setpoint or the firing rate

**Only available from Burnham Commercial!**
**Specifications**

- **Minimum return water temperature:** 80°F
- **Maximum operating temperature:** 250°F
- **Minimum supply water temperature:** 130°F
- **Maximum allowable working pressure (MAWP):** 80 PSI
- **Maximum Delta T:** 80°F

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**Notes:**
- For high altitudes, ratings should be reduced at rate of 4% per 1,000 ft. (over 1000 ft. for oil / over 2000 ft. for gas)
- Safety Relief Valve Set Pressure: Standard = 50 PSI; Optional = 30 PSI or 80 PSI
- Casting weights: Front Section: 434 lbs.; Center Section(s): 434 lbs.; Rear Section: 543 lbs.
- Certified to CSA standards: MPC Boilers are certified to CSA B140.7-05 and CSA B140.0-03 standards as well as CAN1-3.1-77.

**Dimensions**

- For servicing/annual cleaning, Flue Baffle Door (B.S.D.) Open 90°
- LEF OR RIGHT SIDE B.S.D. CLEARANCE: D = BURNER MOUNTED (OPEN); E = BURNER REMOVED (OR)
- CONCEALED WIRING CHASEWAY
- ACCESS COVERS TO INTERNAL JUNCTION BOXES (CONTROL/SAFETY CIRCUITS)
- INTERNAL WIRING HARNESS LEADS TO BURNER (CONTROL/SAFETY CIRCUITS)
- FLEXIBLE CORD (BY OTHERS)
- MIXING TUBE INSTALLATION SERVICE CLEARANCE
- SAFETY RELIEF VALVE
- BREECHING PRESSURE SENSING PORT
- 1-1/2" RETURN MAINTAIN DRAINAGE
- TOP VIEW
- NOTE: WIRING HARNESS USUALLY EXITS JACKET ON SAME SIDE AS BSD HINGES
- FRONT VIEW
- SEE MPC & O MANUAL FOR BURNER "B" DIMENSIONS (VARIOUS)
- RIGHT SIDE VIEW
- DOT FLOOR
- 3" NPT AUXILIARY TAPPING
- 128-3/8” LINING
- 3/4” NPT AUXILIARY TAPPING