



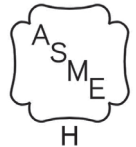
## Utica Boilers MAC-150 - Submittal

Engineer: \_\_\_\_\_

Project Name: \_\_\_\_\_

Project Location: \_\_\_\_\_

Contractor: \_\_\_\_\_



### APPLICATION:

Modulating Gas fired Combi boiler for indoor installation. Approved for closet or alcove installations. For use with natural or liquefied petroleum (LP/Propane) fuel gases. Wall mounted – optional floor stand available. All boilers are factory assembled with controls and wiring and test fired to ensure dependable performance. Boiler shall be certified for Direct Vent applications only.

### CERTIFICATION AND APPROVALS:

Stainless Steel heat exchanger is manufactured and tested in accordance with American Society of Mechanical Engineers (ASME) and certified by Canadian Standards Association (CSA), AHRI, NRCAN. Registered with National Board BPVI, and Massachusetts Board. Stainless steel heat exchanger is tested for maximum allowable working pressure of 43.5 psig in accordance with ASME boiler and pressure vessel code, section IV, rules for construction of heating boilers. A 30 psig safety relief valve is shipped standard.

### BOILERS INCLUDE:

- Wall mount bracket, mounting hardware and actual size Wall Mount Template
- Boiler is equipped with internal stainless steel brazed plate heat exchanger for potable hot water and automatic 3 way diverting valve to allow Domestic Hot Water Priority operation.
- Boiler includes factory installed and wired 2 speed circulator pump.
- Digital Boiler Control:
  - ▶ Control is Self Commissioning, auto adjusts to fuel type and self-calibrates at start-up for correct fuel/air mixture. Control continuously monitors flame signal and adjusts the gas valve during normal operation for maximum efficiency.
  - ▶ Control system is PCB integral controller with LCD digital/graphical display.
  - ▶ Control senses supply water temperature and adjusts the boiler firing rate to deliver the amount of heat needed.
  - ▶ Control can sense and display supply water temperature and indicate when boiler is in central heating or domestic water mode.
  - ▶ Control has selectable DHW preheat mode. Preheat mode will maintain brazed plate heat exchanger temperature to speed DHW delivery.
  - ▶ Control can accept a Outdoor Air sensor and has field adjustable reset curves.
  - ▶ Control displays Error Codes and Diagnostic information.



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- Boiler Combustion System:
  - ▶ The Gas valve is a modulating valve capable of firing from:
    - 153,000 BTU input down to 22,000 BTU input in Combi mode (7:1 turn down).
    - 125,000 BTU input down to 22,000 BTU input in Heat mode (5.7:1 turn down).
  - ▶ Induced draft blower is variable speed controlled by the PCB.
  - ▶ Burner is constructed of 316L stainless steel.
  - ▶ Ignition system shall incorporate a Direct Spark Igniter and a separate Flame Sensing rod.
- Heat Exchanger:
  - ▶ Boiler's primary heat exchanger is constructed of 316L stainless steel.
  - ▶ DHW brazed plate is constructed of Stainless Steel.
- Electrical
  - ▶ 120 volts AC, 60 Hertz, 1-phase; less than 15 amps.
  - ▶ Factory wired 3-foot appliance cord with male plug end.
  - ▶ Low voltage terminal strip for Thermostat, and Outdoor Air Sensor.
- Other:
  - ▶ Field supplied Anti-Scald valve is required for Domestic Hot Water Supply.
- Warranty
  - ▶ Factory Standard Warranty is 10 years on heat exchanger, one year on parts.
  - ▶ Warranty is extended to 10 years on heat exchanger, two years parts plus two years labor upon online warranty registration and completion of contractor registration.
- Optional Equipment
  - ▶ Outdoor Air Sensor Kit
  - ▶ Coaxial and Two-pipe venting components
  - ▶ Floor Stand Kit

| Size                           | Input Rate<br>(MBH)<br>0-2000ft | Heating<br>Capacity<br>(MBH)<br>0-2000ft | Net AHRI Rating,<br>Water (MBH)<br>0-2000ft | Vent<br>Diameter<br>O.D.<br>Coaxial | Vent<br>Diameter<br>2-pipe | AFUE (%) |
|--------------------------------|---------------------------------|------------------------------------------|---------------------------------------------|-------------------------------------|----------------------------|----------|
| <b>MAC-150</b><br>Heating Mode | 125,000                         | 113,000                                  | 98,000                                      | 3.93"                               | 3"                         | 95.0     |
| <b>MAC-150</b><br>DHW Mode     | 153,000                         | 136,000                                  | N/A                                         | 3.93"                               | 3"                         | N/A      |

|                                                                                                                                                            |                                                                                 |                                                        |                                   |                |                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------------|-----------------------------------|----------------|-----------------|
| <b>Clearances</b><br><br><sup>(2)</sup> Required distances measured from boiler.<br><br><sup>(3)</sup> Service, proper operation clearance recommendation. |                                                                                 | <b>Combustible Materials (Required) <sup>(2)</sup></b> | <b>Service <sup>(2) (3)</sup></b> |                |                 |
|                                                                                                                                                            | <b>Top</b>                                                                      | 0" (0 cm)                                              |                                   | 8.66" (22 cm)  |                 |
|                                                                                                                                                            | <b>Left Side</b>                                                                | 1.77" (4.5 cm)                                         |                                   | 1.77" (4.5 cm) |                 |
|                                                                                                                                                            | <b>Right Side</b>                                                               | 1.77" (4.5 cm)                                         |                                   | 1.77" (4.5 cm) |                 |
|                                                                                                                                                            | <b>Front</b>                                                                    | 1.57" (4.0 cm)                                         |                                   | 1.77" (4.5 cm) |                 |
|                                                                                                                                                            | <b>Back</b>                                                                     | 0" (0 cm)                                              |                                   | 0" (0 cm)      |                 |
|                                                                                                                                                            | <b>Bottom</b>                                                                   | 0" (0 cm)                                              |                                   | 9.84" (25 cm)  |                 |
|                                                                                                                                                            | <b>Combustion Air/Venting Piping</b>                                            | 0" for Concentric                                      |                                   | 3.9            |                 |
| <b>Connections MAC-150</b>                                                                                                                                 | 3/4" NPT (Male) Heating Supply & Return, Gas Connection3/4" NPT (Female)        |                                                        |                                   |                |                 |
| <b>Connections MAC-150 DHW</b>                                                                                                                             | 1/2" MPT Inlet & Outlet                                                         |                                                        |                                   |                |                 |
| <b>Electrical</b>                                                                                                                                          | 120 Volts AC, 60 Hertz, 1 phase, less than 12 amps (15 amp circuit recommended) |                                                        |                                   |                |                 |
| <b>DHW Flow Rate</b>                                                                                                                                       | 3.5 GPM @ 70°F                                                                  |                                                        |                                   |                |                 |
| <b>Dimension/Weights</b>                                                                                                                                   | <b>Model</b>                                                                    | <b>"Width"</b>                                         | <b>"Height"</b>                   | <b>"Depth"</b> | <b>"Weight"</b> |
|                                                                                                                                                            | MAC-150                                                                         | 17-23/32"                                              | 30"                               | 13-19/32"      | 103             |



| <b>MAC-150</b>                                |                      |
|-----------------------------------------------|----------------------|
| <b><i>Central Heating (Sealed System)</i></b> |                      |
| Max System Pressure                           | 30.00 psi / 2.11 bar |
| Min System Pressure                           | 7.25 psi / 0.50 bar  |
| Max System Temperature                        | 176°F / 80°C         |
| Pressure Relief Valve Setting                 | 30.00 psi / 2.11 bar |
| Flow Connection                               | 3/4" / 22.2 mm Sweat |
| Return Connection                             | 3/4" / 22.2 mm Sweat |
| Relief Valve Connection                       | 3/4" / 22.2 mm Sweat |
| Recommended Operational System Pressure       | 21.7 psi / 1.5 bar   |

| <b>MAC-150</b>                   |                       |
|----------------------------------|-----------------------|
| <b><i>Domestic Hot Water</i></b> |                       |
| Max Inlet Pressure               | 116.00 psi / 8 bar    |
| Min Inlet Pressure               | 2.9 psi / 0.2 bar     |
| Min DHW Flow Rate                | 0.55 gpm / 2.50 l/min |
| Cold Water Inlet Connection      | 1/2" / 15.9 mm        |
| DHW Outlet Connection            | 1/2" / 15.9 mm        |
| Max DHW Temperature              | 140°F/60°C            |
| DHW Water Content                | 0.05 gal/ 0.23 L      |

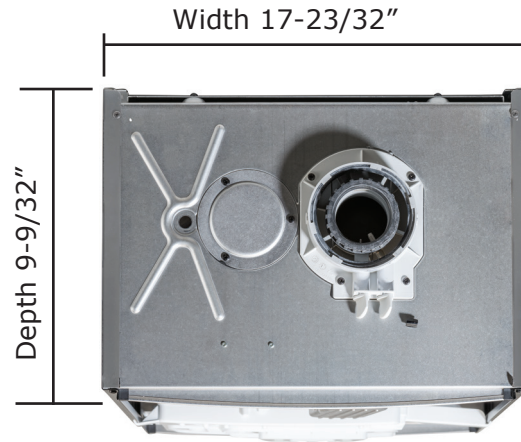


## Venting

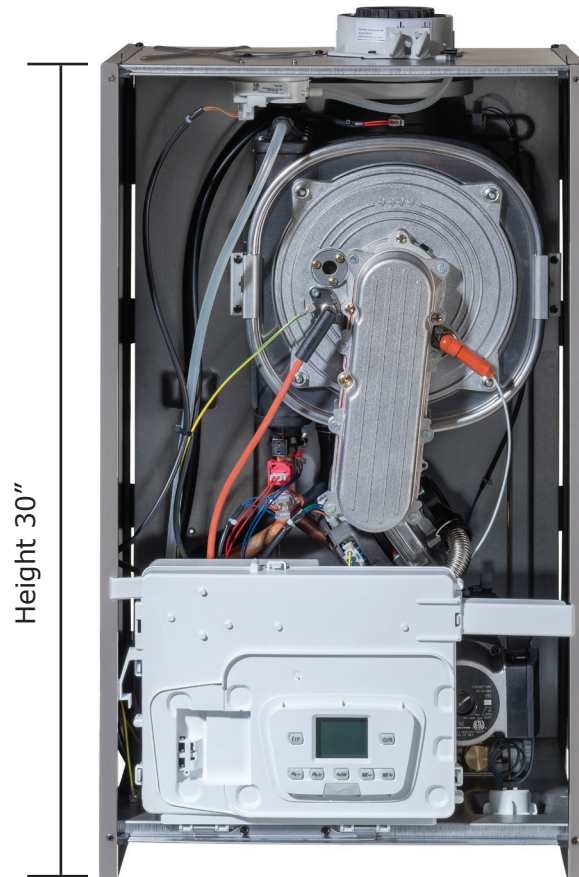
|                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Coaxial Venting</b><br>Connects directly to the top of the boiler         |
| <b>2-Pipe Venting - Optional Kit</b><br>Using polypropylene - 80 mm venting  |
| <b>2-Pipe Venting - Optional Kit</b><br>Using CPVC UL1738/S626 - 3" venting  |

| Total Vent Equivalent Lengths - Account for fittings as listed in the table                                      |                                                                                                                            |                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>Coaxial -60/100 mm</b><br> | <b>2-pipe - 80 mm Polypropylene</b><br> | <b>2-pipe - 3" CPVC UL1738/S636</b><br> |
| Total = 32.8 feet (10 m)                                                                                         | <i>Air intake must not exceed 42.9 feet (15m)</i><br>Total allowed for<br>Air Intake + Exhaust Flue = 196.8 feet (60 m)    | <i>Air intake must not exceed 42.9 feet (15m)</i><br>Total allowed for<br>Air Intake + Exhaust Flue = 196.8 feet (60 m)      |
| <b>Coaxial Fittings</b><br>90° elbows = 3.28 feet (1.0 m)<br>45° elbows = 1.64 feet (0.50 m)                     | <b>Polypropylene 80 mm Fittings</b><br>90° elbows = 1.64 feet (0.50 m)<br>45° elbows = .82 feet (0.25 m)                   | <b>CPVC 3" Fittings</b><br>90° elbows = 1.64 feet (0.50 m)<br>45° elbows = .82 feet (0.25 m)                                 |





View - Front of Boiler



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