The MACH® Boiler requires category II venting (condensing—negative pressure) or category IV venting (condensing—positive pressure) as defined in ANSI Z223.1/NFPA 54/CSA-6.149 Latest Edition. Harsco Industrial, Patterson-Kelley reserves the right to make changes at any time without notification.

**BOILER CONNECTIONS:**
- Combustion Air Inlet: 6" pipe (under canopy)
- Condensate Drain: 3/4"
- Exhaust Vent: 200mm ID (6"nom ID)
- Main Gas Connection: 1" NPT-F
- Wiring Junction Boxes: as marked
- Pressure Relief Valve: see list for selection
- Boiler Water Return, Victaulic® clamp: 2" pipe, grooved
- Boiler Water Supply, Victaulic® clamp: 2" pipe, grooved

**BOILER CONTROLS:** A5ME CSD-1 is standard.
- Complies with GE GAP (R) guidelines GAP.4.1.0 and GAP.4.1.3.
- Complies with FM Global 6-4/12-69 Section 1.0
- Main Gas Train: see gas train submittal
- Integrated Boiler Control, ENVI Series
- Operating Thermostat, 70°–195°F (21°–91°C)
- High Limit Thermostat, Manual Reset, 100–200°F (38°–93°C)
- High Exhaust Pressure Switch
- LWCO, Probe Type, Manual Reset
- Air Switch, Differential Pressure Type
- Combustion Blower, Variable Speed, 300 watt (0.4 hp)

**C.S.A. CERTIFIED RATINGS AND CAPACITIES**

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Natural Gas (NG)</th>
<th>Propane (LP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input, BTU/hr</td>
<td>1,030,000</td>
<td></td>
</tr>
<tr>
<td>Output, BTU/hr</td>
<td>987,000</td>
<td></td>
</tr>
<tr>
<td>Boiler HP</td>
<td>29.5</td>
<td></td>
</tr>
<tr>
<td>Maximum Inlet Gas Pressure</td>
<td>14&quot; w.c.</td>
<td></td>
</tr>
<tr>
<td>Minimum Inlet Gas Pressure</td>
<td>3.5&quot; w.c.</td>
<td></td>
</tr>
<tr>
<td>Electrical Requirements</td>
<td>120V, 1ph, 60Hz</td>
<td></td>
</tr>
<tr>
<td>Total Operating Amps</td>
<td>less than 5 amps</td>
<td></td>
</tr>
<tr>
<td>Operating Weight</td>
<td>840 lbs</td>
<td></td>
</tr>
<tr>
<td>Water Content</td>
<td>7.3 gallons</td>
<td></td>
</tr>
</tbody>
</table>

**A.S.M.E. Section IV Design Data**
- Maximum Pressure: 80 psig
- Maximum Allowable Temperature: 200°F
- Maximum Operating Temperature: 194°F
- Heated Wet Surface Area: 25.69 sq.ft.
- Flow rate @ 20°F ΔT: 99 GPM
- Flow rate @ 40°F ΔT: 50 GPM

**Pressure Relief Valve**
- 80 PSIG 3/4" x 1" (standard) 0–240 psi/30–240°F
- 30 PSIG 1" 0–100 psi/30–240°F
- 50 PSIG 3/4" x 1" 0–100 psi/30–240°F
- 60 PSIG 3/4" 0–100 psi/30–240°F
- 75 PSIG 3/4" x 1" 0–240 psi/30–240°F

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