**RATINGS AND TECHNICAL DATA**

<table>
<thead>
<tr>
<th>MODELS</th>
<th>MIN (MBH)</th>
<th>MAX (MBH)</th>
<th>GROSS OUTPUT (MBH)</th>
<th>THERMAL EFFICIENCY (%)</th>
<th>HEATING SURFACE (SQ/FT)</th>
<th>WATER CONTENT (GAL.)</th>
<th>*FUEL</th>
<th>SHIPPING WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMP-1000</td>
<td>200</td>
<td>1000</td>
<td>970</td>
<td>97.0%</td>
<td>100</td>
<td>12.0</td>
<td>4&quot;/14&quot;wc</td>
<td>8&quot;/14&quot;wc</td>
</tr>
<tr>
<td>AMP-1250</td>
<td>250</td>
<td>1250</td>
<td>1213</td>
<td>97.0%</td>
<td>100</td>
<td>12.0</td>
<td>4&quot;/14&quot;wc</td>
<td>8&quot;/14&quot;wc</td>
</tr>
<tr>
<td>AMP-1500</td>
<td>300</td>
<td>1500</td>
<td>1455</td>
<td>97.0%</td>
<td>120</td>
<td>13.9</td>
<td>4&quot;/14&quot;wc</td>
<td>8&quot;/14&quot;wc</td>
</tr>
<tr>
<td>AMP-2000</td>
<td>400</td>
<td>2000</td>
<td>1940</td>
<td>97.0%</td>
<td>153</td>
<td>17.2</td>
<td>4&quot;/14&quot;wc</td>
<td>8&quot;/14&quot;wc</td>
</tr>
<tr>
<td>AMP-2500</td>
<td>500</td>
<td>2500</td>
<td>2425</td>
<td>97.0%</td>
<td>301</td>
<td>34.6</td>
<td>4&quot;/14&quot;wc</td>
<td>8&quot;/14&quot;wc</td>
</tr>
<tr>
<td>AMP-3000</td>
<td>600</td>
<td>3000</td>
<td>2910</td>
<td>97.0%</td>
<td>301</td>
<td>34.6</td>
<td>4&quot;/14&quot;wc</td>
<td>8&quot;/14&quot;wc</td>
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<tr>
<td>AMP-3500</td>
<td>700</td>
<td>3500</td>
<td>3395</td>
<td>97.0%</td>
<td>403</td>
<td>47.1</td>
<td>4&quot;/14&quot;wc</td>
<td>8&quot;/14&quot;wc</td>
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<tr>
<td>AMP-4000</td>
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<td>403</td>
<td>47.1</td>
<td>4&quot;/14&quot;wc</td>
<td>8&quot;/14&quot;wc</td>
</tr>
</tbody>
</table>

*Single or Dual Fuel Options

**DIMENSIONS**

- **SUPPLY CONNECTION**
  - RETURN CONNECTION
  - DRAIN
  - VENT
  - AIR INTAKE
  - CONDENSATE DRAIN

**MODELS**

<table>
<thead>
<tr>
<th>MODELS</th>
<th>&quot;A&quot; LENGTH (Inches)</th>
<th>&quot;B&quot; WIDTH (Inches)</th>
<th>&quot;C&quot; HEIGHT (Inches)</th>
<th>VENT / AIR INTAKE SIZE (Inches)</th>
<th>EQUIV. LENGTH (FT)</th>
<th>GAS (Inches)</th>
<th>SUPPLY RETURN</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMP-1000</td>
<td>45-1/2&quot;</td>
<td>34-1/4&quot;</td>
<td>42-3/4&quot;</td>
<td>8</td>
<td>Up to 300</td>
<td>1 NPT</td>
<td>3 2-1/2</td>
</tr>
<tr>
<td>AMP-1250</td>
<td>45-1/2&quot;</td>
<td>34-1/4&quot;</td>
<td>42-3/4&quot;</td>
<td>8</td>
<td>Up to 300</td>
<td>1 NPT</td>
<td>3 2-1/2</td>
</tr>
<tr>
<td>AMP-1500</td>
<td>66-1/8&quot;</td>
<td>34-1/4&quot;</td>
<td>42-3/4&quot;</td>
<td>8</td>
<td>Up to 300</td>
<td>** 1-1/4 NPT</td>
<td>3 2-1/2</td>
</tr>
<tr>
<td>AMP-2000</td>
<td>66-1/8&quot;</td>
<td>34-1/4&quot;</td>
<td>42-3/4&quot;</td>
<td>8</td>
<td>Up to 200</td>
<td>1-1/4 NPT</td>
<td>3 2-1/2</td>
</tr>
<tr>
<td>AMP-2500</td>
<td>75-5/8&quot;</td>
<td>46&quot;</td>
<td>54-7/8&quot;</td>
<td>10</td>
<td>Up to 300</td>
<td>1-1/2 NPT</td>
<td>4 4</td>
</tr>
<tr>
<td>AMP-3000</td>
<td>75-5/8&quot;</td>
<td>46&quot;</td>
<td>54-7/8&quot;</td>
<td>10</td>
<td>Up to 300</td>
<td>1-1/2 NPT</td>
<td>4 4</td>
</tr>
<tr>
<td>AMP-3500</td>
<td>97-1/8&quot;</td>
<td>46&quot;</td>
<td>54-7/8&quot;</td>
<td>12</td>
<td>Up to 300</td>
<td>2 NPT</td>
<td>4 4</td>
</tr>
<tr>
<td>AMP-4000</td>
<td>97-1/8&quot;</td>
<td>46&quot;</td>
<td>54-7/8&quot;</td>
<td>12</td>
<td>Up to 300</td>
<td>2 NPT</td>
<td>4 4</td>
</tr>
</tbody>
</table>

**Propane is 1" NPT**
STANDARD EQUIPMENT

PRESSURE VESSEL DESIGN
- Stainless Steel Heat Exchanger
- ASME Section IV Certified, "H" Stamp
- MAWP 160 PSI & Max Temp 210°F
- Ten Year Limited Pressure Vessel Warranty

BOILER EQUIPMENT
- Concert ™ Control (24 Vac)
- High Limit Temp Control, Manual Reset
- Low water cutoff, manual reset
- Water Flow Switch
- Supply & Return Water Temperature Sensors
- Flue Gas Temperature Sensor
- Condensate trap
- Blocked Condensate Switch
- Pressure & Temperature Gauge
- ASME Safety Relief Valve
- (Available 30, 50, 60, 75,100, 125 or 150 psig)

COMBUSTION DESIGN
- Stainless Steel Pre-Mix Burner
- Low NOx Emissions ( < 10 ppm)
- Full Modulation, 5:1 Turndown
- Natural Gas, Propane or Dual Fuel (Gas/Gas)
- 4" wc (8" wc Propane) to 14" wc inlet gas pressure
- Direct Spark Ignition System with UV Scanner
- High/Low gas pressure switches, manual reset
- Zero governor gas valve
- Variable Speed Combustion Blower
- Air Proving Switch
- Blocked Vent Switch
- Manual fuel changeover switch (Dual Fuel Only)

ELECTRICAL DESIGN
- Models 1000-2500:
  - 120-208-230VAC/60HZ/1PH - High Voltage
  - (1500 to 2500 - Optional 208-230-460VAC/60HZ/3PH)
- Models 3000:
  - 208-230-240VAC/60HZ/1PH - High Voltage
  - 208-230-460VAC/60HZ/3PH - High Voltage
- Models 3500-4000:
  - 208-230-460VAC/60HZ/3PH - High Voltage
  - PCB (Printed Circuit Board) Fused Connections
  - 24VAC/5VDC - Low Voltage PCB
  - EMS Communications
  - (Dual RJ45 Jacks for Peer-To-Peer or ModBus)
  - Boiler Options (Sensors)
  - Pumps (Boiler, DHW, System) & Auxiliary Devices

VENTING
- Category II or IV Venting
- Individual or Common (Engineered) Vent System
- Vertical or Horizontal
- CPVC, PP or SS Venting *Materials Acceptable
- Combustion Air Intake - Sealed or Room

* Flue system material shall be capable of continuous operation at 210°F or higher and shall be certified to UL 1738 – venting system for gas-burning appliances cat II, III and IV.

OPTIONAL EQUIPMENT

- Hydronic Kit (Boiler Circulation Pump, Pump Flange Kit and Condensate Neutralizer)
- External High Limit Temperature Control, Manual Reset
- Condensate Neutralizer
- Supply Header Temperature Sensor: □ Direct Immersion □ Well Immersion (with Well)
- Outdoor Air Temperature Sensor: □ Wired □ Wireless
- EMS Signal Converter Kit (Converts Energy or Building Management System 0-10v signal to 4-20mA)
- Motorized Isolation Valves
- Alarm Buzzer with Silencing Switch
- Gas Valve Proving Switch
- Vent Adapter - CPVC or Polypropylene
- Universal Communications Gateway (BACnet, Metasys, Modbus or Lonworks)
- Stackable Rack
- Conductor Sequencing Panel

Thermal Solutions Products LLC | P.O. Box 3244 | Lancaster, PA 17604-3244 | www.thermalsolutions.com
The Conductor manages multiple condensing & non-condensing, small & large heat output, new and/or existing boilers (full modulation or on-off), and steam or hot water applications. It helps improve system efficiency by selecting and modulating the right boiler to match operating conditions. The Conductor offers a single point boiler plant Energy Management System (EMS) interface including Modbus TCP/IP, Modbus RTU RS485, BACnet/IP and BACnet MSTP standard. If Lonworks needed, add for the separate Lonworks gateway.
CONCERT CONTROL FEATURES

Dashboard - Color Touchscreen Display, 7”
- Intuitive Icon Navigation
- "Quick" Setup Menus
- *Real Time BTU/H Display

Two (2) Temperature Demand Inputs
- Outdoor Air Reset Curve for Each Input
- Time of Day Setback Capability
  (Enviracom Thermostat must be installed)

Three (3) Pump Control
- Boiler Pump With On/Off or Variable Speed Control
- Domestic Hot Water (DHW) Pump
- System Pump
- Alternative Control to Isolation Valve, Combustion Air Damper or Standby Loss Damper
- Pump Overrun for Heat Dissipation
- Pump Exercise
- Pump Rotor Seizing Protection

Peer-to-Peer Boiler Communications
- Multiple Size Boiler Sequencing Up to 8 Units
- *Two (2) Boiler Start/Stop Trigger
- Lead Boiler Automatic Rotation

Energy Management System (EMS) Interface
- *Firing Rate and Water Temperature Based Algorithms for Multiple Boilers; loss of EMS signal defaults to local boiler settings
- 4-20mAdc Input/Output (0-10Vdc Optional Converter)
- ModBus Input/Output (BACnet or LonWorks Optional Gateway)
- Simultaneous Interface with Peer-to-Peer

*USB Data Port Transfer
- Upload Settings Between Boilers
- Download Parameters for Troubleshooting
- Import Data into .CRV Formatted Files for Performance Analysis

Energy Efficiency Enhancer
- Anti-Cycling Technology
- Multipler boiler base load common rate
- Outdoor Air Temperature Reset Curve
- Warm Weather Shutdown
- Boost Temperature & Time
- Ramp Delay
- Over-Temperature Safeguarding

Self-Guiding Diagnostics
- Identifies Fault
- Describes Possible Problems
- Provides Corrective Actions
  *Time/Date Stamp on Alarms and Lockouts

Unmatched Archives
- Historical Trends - Collects Up to 4 months Data
- Event History - Up to 3000 Alarms, Lockouts and Cycle & Run Times
- Alarm - Limit String Faults, Holds, Lockouts and Others
- Cycle & Run Time - Boilers & Pumps
- Resettable (Lockouts/Alarms/Cycles & Run Time)

Domestic Hot Water Priority
- DHW Tank Piped With Priority in the Boiler Loop
- DHW Tank Piped as a Zone in the System With the Pumps Controlled by the Concert Control
- DHW Modulation Limiting Status Screens
  Sensor Monitoring and Control

Other Features
- *Factory Default Settings
- Three Level Password Security
- Frost Protection
- Contractor Contacts (Up to 3)
- Low Water Flow Safety Control & Indication
- Proportion Integral Derivative (PID) Parameters for Central Heat, DWH, Sequencer and Fan
- Built-in Brown-Out Protection

* Unique to Concert