RATINGS AND TECHNICAL DATA

<table>
<thead>
<tr>
<th>AMP-W WATER HEATER MODELS</th>
<th>INPUT</th>
<th>GROSS</th>
<th>THERMAL</th>
<th>*DHW</th>
<th>WATER</th>
<th>**FUELS</th>
<th>SHIPPING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MIN</td>
<td>MAX</td>
<td>OUTPUT</td>
<td>EFFICIENCY</td>
<td>RECOVERY</td>
<td>CONTENT</td>
<td>MIN / MAX</td>
</tr>
<tr>
<td>AMPW-400</td>
<td>40</td>
<td>399</td>
<td>391</td>
<td>98.0%</td>
<td>475</td>
<td>3.8</td>
<td>4”/14”wc</td>
</tr>
<tr>
<td>AMPW-500</td>
<td>50</td>
<td>500</td>
<td>490</td>
<td>98.0%</td>
<td>594</td>
<td>4.3</td>
<td>4”/14”wc</td>
</tr>
<tr>
<td>AMPW-650</td>
<td>65</td>
<td>650</td>
<td>637</td>
<td>98.0%</td>
<td>772</td>
<td>5.6</td>
<td>4”/14”wc</td>
</tr>
<tr>
<td>AMPW-800</td>
<td>80</td>
<td>800</td>
<td>784</td>
<td>98.0%</td>
<td>950</td>
<td>6.6</td>
<td>4”/14”wc</td>
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<tr>
<td>AMPW-1000L</td>
<td>100</td>
<td>1000</td>
<td>980</td>
<td>98.0%</td>
<td>1188</td>
<td>8.1</td>
<td>4”/14”wc</td>
</tr>
</tbody>
</table>

DIMENSIONS

<table>
<thead>
<tr>
<th>AMP-L WATER HEATER MODELS</th>
<th>&quot;A&quot; LENGTH</th>
<th>&quot;A&quot; WIDTH</th>
<th>&quot;B&quot; LENGTH</th>
<th>&quot;B&quot; WIDTH</th>
<th>&quot;C&quot; HEIGHT</th>
<th>VENT / AIR INTAKE SIZE</th>
<th>EQUIV. GAS OUTLET NPT Female</th>
<th>SUPPLY RETURN NPT Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMPW-400</td>
<td>37 3/4</td>
<td>26 3/8</td>
<td>46 7/8</td>
<td>38 1/2</td>
<td>4</td>
<td>Up to 200</td>
<td>3/4 NPT</td>
<td>2</td>
</tr>
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<td>37 3/4</td>
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<td>46 7/8</td>
<td>38 1/2</td>
<td>4</td>
<td>Up to 200</td>
<td>3/4 NPT</td>
<td>2</td>
</tr>
<tr>
<td>AMPW-650</td>
<td>53 7/8</td>
<td>26 3/8</td>
<td>66 3/8</td>
<td>38 1/2</td>
<td>6</td>
<td>Up to 200</td>
<td>1 NPT</td>
<td>2</td>
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<td>AMPW-800</td>
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<td>2</td>
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</table>
**STANDARD EQUIPMENT**

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

**WATER HEATER EQUIPMENT**
- Concert ™ Control (24 Vac)
- High Limit Temp Control, Manual Reset
- Low water cutoff, manual reset
- Water Flow Switch
- Supply, Return & DHW Water Temperature Sensors
- Flue Gas Temperature Sensor
- Condensate trap
- Blocked Condensate Switch
- Pressure & Temperature Gauge
- ASME Temperature & Pressure Relief Valve, 150 psi

**COMBUSTION DESIGN**
- Stainless Steel Pre-Mix Burner
- Low NOx Emissions (< 10 ppm)
- Full Modulation, 10:1 Turndown
- Natural Gas or Propane
- 4" wc (8" wc Propane) to 14" wc inlet gas pressure
- Direct Spark Ignition System
- High/Low gas pressure switches, manual reset
- Variable Speed Combustion Blower
- Air Proving Switch
- Blocked Vent Switch

**ELECTRICAL DESIGN**
- Models 400-500:
  - 120 VAC Only
  - Amp Draw: 7.0 Amps
- Models 650-1000L:
  - 120 VAC Only
  - Amp Draw: 8.0 Amps
  - PCB (Printed Circuit Board) Fused Connections
  - 24VAC/5VDC - Low Voltage PCB
  - EMS Communications
  - (Dual RJ45 Jacks for Peer-To-Peer or ModBus)
  - DHW Demand Contacts
  - Remote Header Sensor Contacts
  - Remote 4-20mA Contacts

**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**

- External High Limit Temperature Control, Manual Reset
- Condensate Neutralizer
- Hot Water Header Temperature Sensor: □ Direct Immersion □ Well Immersion (with Well)
- EMS Signal Converter Kit (Converts Energy or Building Management System 0-10v signal to 4-20mA)
- Alarm Buzzer with Silencing Switch
- Vent Adapter - CPVC, Polypropylene, or Stainless Steel
- Universal Communications Gateway (BACnet, Metasys, Modbus or Lonworks)
- Conductor Sequencing Panel

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, 4"
- Intuitive Icon Navigation
- "Quick" Setup Menus
- *Real Time BTU/H Display

Temperature Demand Inputs
- Time of Day Setback Capability
  (Enviracom Thermostat must be installed)

Two (2) Pump Control
- System Pump
- Alternative Control to 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 Unit Sequencing Up to 8 Units
- 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 settings
- 4-20mAdc Input/Output (0-10Vdc Optional Converter)
- ModBus Input/Output (BACnet or LonWorks
  Optional Gateway)
- Simultaneous Interface with Peer-to-Peer

Energy Efficiency Enhancer
- Anti-Cycling Technology
- Multipler Unit Base Load Common Rate
- 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 - Water Heaters & Pumps
- Resettable (Lockouts/Alarms/Cycles & Run Time)

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
  DWH, Sequencer and Fan
- Built-in Brown-Out Protection

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

* Unique to Concert