AMP
Commercial Condensing Water Heater
THERMAL® SOLUTIONS

1000-4000 MBH

Thermal Solutions LLC | PO Box 3244, Lancaster, PA 17604-3244 | 717-239-7642

98% EFFICIENT
EFFICIENCY MEETS SERVICEABILITY

The AMP Condensing Water Heater Series (AMPW) from Thermal Solutions delivers efficiency with unprecedented space saving innovation in a service friendly design. Available in 1000, 1250, 1500, 2000, 2500, 3000, 3500 and 4000 MBH input levels, all models are 98% Thermal Efficient. The 316L stainless steel heat exchanger features cavernous internal circuits with commercially sized tubes that minimize pressure drop and proactively reduce pump in sizing, saving on install and electrical operations.

WATER HEATER ADVANCEMENT

Commercial grade tubes, nearly twice the size of competitive models, promote self-cleaning and flushing of particulates. Expanded tube and header dimensions promote smaller pumps and more efficient operations.

SPACE SAVING INNOVATION

We moved the burner from the traditional top to the side and reduced required install space by 46%, dramatically limiting the height of the heater. Models 1000-2000mbh fit through standard doorways and are compact for easy maneuvering. All models can be Field Knock Down, with dimensions and instructions for disassembling and assembly on site. Top water and gas connections reduce requirements commonly added to rear dimensions. Designed to fit...an optional racking system doubles the BTUs vs competitive install requirements.

DUAL FUEL

AMP Water Heaters are dual fuel (natural gas and LP gas) rated. Providing assurances if primary fuel is unavailable or planned change in the future. Separate gas trains included and center-locking switch for manual transfer provide simple and safe change of fuels.

SERVICEABLE

Doesn't seem like much, but moving that burner “opened up” the industry. The AMP commercial water heater platform from 1000-4000mbh is focused on service, reliability, and longevity. All AMPW models come with supported swing-out door providing complete access to burner and combustion chamber. Service, inspections, and cleanings can be completed with ease, ensuring new, out of the box efficiency and performance for the life of the product.

5:1 TURNDOWN

Why 5:1 turndown? Because it works and is proven time after time. No need for multiple set-ups in summer and winter or excess amounts of air, robbing your heater’s condensing performance.

VENTING

Cat II or IV venting for either individual or common (engineered) venting systems. Capable of up to 300 equivalent feet of vent in stainless steel, polypropylene or CPVC.
ADVANCED CONTROL PLATFORM – CONCERT™ CONTROL

Intuitive Icon Navigation
“Touch” and move through our control menus effortlessly. Whether it be commissioning with the “Quick Setup” menu, pinpointing fault codes with corrective actions in seconds or seamlessly connecting to an EMS. Extensive data archives with graphical displays are available to evaluate performance and make value-added adjustments to maximize heater efficiency.

Self-Guiding Diagnostics
Troubleshooting issues has never been this easy! The industry-leading fault identification and correction feature allows the service technician to quickly drill down on the issue, with cause and corrective measures.

Unmatched Archives
With the largest collection of stored operational data (4 months), no stone is left unturned when it comes to evaluating a heater’s performance and pinpointing adjustment for improvement. The heater’s onboard energy management system is a true step above all others!

Peer-To-Peer Sequencing
Unique control logic uses both temperature and firing rate of the connected s to sequence up to eight units in unison to optimize system efficiency. Included dual RJ45 connections make peer-to-peer and/or simultaneous EMS communications (ModBus Standard / Other Protocols Optional) a snap without the need of a separate splitter.

SIMPLIFIED WIRING AND SERVICEABILITY
Low and high voltage fused printed circuit boards (PCB) simplifies wiring, enhances serviceability & troubleshooting with easy to read labeling, and provides electrical protection (spare fuses located on PCB for quick replacement). Other connections include: 120/1/60 voltage and pumps (, system & domestic hot water); alarm; auto & manual reset external limits; enable/disable; DHW demand; 4-20mA remote; sensors (outdoor, remote and DHW); EnviraCOM thermostat; low water cutoff; and flow switch.

TANKS & PACKAGING
AMP Water Heaters are commonly paired with storage tanks. Tanks are available to suit all applications: vertical or horizontal orientation; glass, epoxy or cement-lined; metal jacketing and insulation, sprayed foam insulation or bare exterior; and in various shell materials (i.e. stainless steel). Shipped separately for field installation or skid mounted as a factory package.

Visit www.ThermalSolutions.com to find out more!
AMPW STANDARD EQUIPMENT

PRESSURE VESSEL DESIGN
- Low water cutoff w/ manual reset
- Water flow switch
- Supply, return & DHW water temperature sensors
- Flue gas temperature sensor
- Condensate trap
- Blocked condensate switch
- Pressure & temperature valve
- ASME safety temperature & pressure valve
- Water circulation pump

ELECTRICAL DESIGN
- High voltage printed circuit board (PCB)
- AMPW1000-2500: 120, 208 or 240 VAC / 60 Hz / 1PH power supply
- AMPW1500-3500: 208 or 240 VAC / 60 Hz / 1PH power supply
- AMPW2000-4000: 208, 240 or 460 VAC / 60 Hz / 3PH power supply

COMBUSTION DESIGN
- Stainless steel pre-mix burner
- Low NOx emissions (<10 ppm)
- Full modulation, 5:1 turndown
- Natural gas, LP gas, or Dual Fuel
- 4” wc to 14” wc inlet gas pressure
- 8” wc LP min
- Direct spark ignition system
- High & low gas pressure switches w/ manual reset
- Zero governor gas valve
- Variable speed combustion blower
- Air proving switch
- Blocked vent switch
- Manual fuel changeover switch

VENTING
- CPVC, polypropylene or stainless steel materials acceptable
- Air intake – sealed combustion or room air
- Category II or IV venting
- Individual or common (engineered) venting systems

EQUIPMENT
- Concert Control™
- High limit w/ manual reset safety temperature control

AMPW OPTIONAL EQUIPMENT
- External high limit w/ manual reset safety switch
- Alarm buzzer w/ silencing switch
- Extended Warranty
- Stackable Rack (1000-2000)

CONCERT CONTROL

Dashboard - color touch screen display, 4.3”
- Intuitive icon navigation
- "Quick" setup menus
- "Real time" BTU/H display

Temperature demand input
- Time-of-day setback capability (EnviraCom thermostat must be installed)

Three (3) pump control
- DHW pump with On/Off or variable speed control
- System pump
- Alternative control to isolation valve, combustion air damper, or standby loss damper

Peer-to-peer communications
- Multiple size unit sequencing, up to 8 units
- Lead-unit automatic rotation

Energy management system (EMS) interface
- Firing rate and water temperature based algorithms for multiple units; loss of EMS signal faults to local settings*
- 4-20mAdc input/output
- ModBus Input/Output
- Simultaneous interface with peer-to-peer

USB data port transfer*
- Import data into .CRV formatted files for performance analysis
- Download parameters for troubleshooting

CONCERT CONTROL OPTIONS
- Communications gateway: BacNet, LonWorks, Metasys N2 or ModBus TCP/IP compatible
- 0-10v signal converter
- Header sensor, direct immersion
- Header sensor, well mounted (with well)

SPECIFICATIONS, DIMENSIONS, & RATINGS

<table>
<thead>
<tr>
<th>Models</th>
<th>Input Min (MBH)</th>
<th>Input Max (MBH)</th>
<th>Gross Output (MBH)</th>
<th>DHW Recovery (GPH)*</th>
<th>&quot;A&quot; Length (In)</th>
<th>&quot;B&quot; Width (In)</th>
<th>&quot;C&quot; Height (In)</th>
<th>Gas / LP Conn. (In)</th>
<th>Supply Grooved Conn (In)</th>
<th>Return Grooved Conn (In)</th>
<th>Vent/Air Intake Size (In)</th>
<th>Approx Shipping Weight (Lbs)</th>
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* Unique to Concert Control

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* Based on 40°F to 140°F temperature rise
** AMPW-1500 LP connection (inches) 1 NPT

- Self-guiding diagnostics
- Identifies fault
- Describes possible problems
- Provides corrective actions

Other features
- Factory default settings*
- Three level password security
- Frost protection
- Contractor contacts (up to 3)
- Low water flow control & indication
- Proportion integral derivative (PID) parameters for DHW, sequence and fan
- Built-in brown-out protection