Condensing with the Power to Fit

1000-4000 MBH

97% Efficient
46% Smaller
Why do so many condensing boilers look the same and why are they so BIG?
Tall welded boxes, virtual copies of each other, mimicking designs decades old. And BIG…is being kind. Most point to lackluster transfer properties of stainless steel. Maybe…we think the industry got lazy. Technology improves overtime and condensing is not immune. The era of BIG, welded, copy cat boxes is over!

GAME CHANGING ADVANCEMENT
The AMP Series from Thermal Solutions will redefine how you look at condensing boilers and boiler room layouts. AHRI certified at 97%, the AMP is highly efficient and remarkably compact, requiring only half the square footage of everyone else…no one comes close to this package. Large diameter tubes deliver desired waterside characteristics for variable and full flow designs. It is also uniquely serviceable, providing complete access to the burner and combustion chamber. Available in 1000, 1250, 1500, 2000, 2500, 3000, 3500 and 4000 mbh inputs. The AMP has the POWER to FIT.

SPACE SAVING INNOVATION
Averaging 46% less required space than everyone else, AMP is the perfect solution for tight and shrinking boiler rooms. AMP 1000-2000 models fit through standard doorways and are compact for easy maneuvering. Top water connections further reduce requirements commonly added to rear dimensions. Talk about the Power to Fit! An optional racking system doubles the btu’s vs. competitive install limitations.

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, diluting your condensing efficiency at low fire. Reliability is our cornerstone and answering each and every call for heat is paramount.

SERVICE & CLEANING
Can it get any easier? The burner is mounted and fully supported on a swing-out door providing unique and complete access to the burner and combustion chamber. Service, inspections, and cleanings can be completed effortlessly, ensuring long-lasting efficiency year after year.

VARIABLE & FULL FLOW PIPING
Optimized for smaller pump selections and electrical conservation, advanced fluidics allow for single pump variable flow systems or primary/secondary layouts. Large diameter, double row tube design delivers desired traits reducing pump sizing vs. competition.

VENTING
Individual venting out of the box or common venting with an engineered venting system for CAT II or CAT IV. Capable of up to 300 equivalent feet of vent in AL29-4C, polypropylene or CPVC.

DUAL FUEL
The AMP series is 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.
Intuitive Icon Navigation
“Touch” and move through our control menus effortlessly. Whether it be commissioning the boiler 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 boiler performance and make value-added adjustments to maximize boiler & system efficiency.

Self-Guiding Diagnostics
Troubleshooting boiler 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 boiler’s performance and pinpointing adjustment for improvement. The boiler’s onboard energy management system is a true step above all others!

Peer-To-Peer Boiler Sequencing
Unique control logic uses both temperature and firing rate of the connected boilers 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 (boiler, 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.

HARMONIZING BOILERS WITH SYSTEMS
Optional control panel integrates all makes of boilers (water or steam) for seamless, single-point connection with EMS. Improves efficiency and operation of condensing, non-condensing, hybrid or steam systems up to 8 units. “Smart Ops” select boiler type (condensing or non-condensing) based on load requirements and inputs of boilers of any size. Selectable Unison and/or Sequential modulation with base load ensures peak efficiency and maximum run time for all types of boiler technologies.

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

PRESSURE VESSEL DESIGN
Waturbine stainless steel heat exchanger
ASME Section IV-certified, “H” Stamp
MOWP 160 PSIG & design temp 210°F
Five year limited heat exchanger warranty
Ten year limited pressure vessel warranty
One year parts and labor warranty

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” w.c to 14” wc inlet gas pressure
8” w.c 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 (dual fuel)

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

BOILER EQUIPMENT
Concert Control®
High limit w/ manual reset safety temperature control
Low water cutoff w/ manual reset

CONCERT CONTROL
Dashboard - color touch screen display, 4.3”
- 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
- 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*
- 4-20mA input/output
- ModBus Input/Output
- Simultaneous interface with peer-to-peer
USB data port transfer*
- Upload settings between boilers
- Download parameters for troubleshooting
- Upload settings between boilers
- Simultaneous interface with peer-to-peer
- Alarm buzzer w/ silencing switch
- Extended Warranty
- Stackable Rack (AMP1000-2000)

AMP OPTIONAL EQUIPMENT
- Hydronic kit (boiler pump & condensate neutralizer)
- Condensate neutralizer
- 30, 36, 60, 75, 100 & 125 psig ASME safety relief valve
- External high limit w/ manual reset safety switch
- Alarm buzzer w/ silencing switch
- Extended Warranty
- Stackable Rack (AMP1000-2000)

ELECTRICAL DESIGN
High voltage printed circuit board (PCB)
AMP-1000-2500: 208, 240 VAC / 60 Hz / 3PH power supply
AMP-1500-3500: 208 or 240 VAC / 60 Hz / 3PH power supply
VAC manual reset external limit contacts
Three sets of pump contacts
PCB fused connections

Printed Circuit Board (PCB)
24 VAC enable/disable sensor contacts
24 to 120 VAC proving switch or auto reset external limit contacts
24 to 120 VAC lockout alarm contacts
24 VAC EntraCon thermostat contacts
DHW demand contacts
Remote header sensor contacts
DHW tank sensor contacts
Outdoor air sensor contacts
Peer-to-peer communication contacts
EMS interface contacts
Remote 4-20mA contacts

SPECIFICATIONS, DIMENSIONS, & RATINGS

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<thead>
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<th>Models</th>
<th>Input Min (MBH)</th>
<th>Input Max (MBH)</th>
<th>Gross Output (MBH)</th>
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<th>“B” Width (In)</th>
<th>“C” Height (In)</th>
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<th>Return Grooved Conn.</th>
<th>Vents Size (In)</th>
<th>Air Intake Size (In)</th>
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*AMP-1500 LP connection (inches) 1 NPT

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