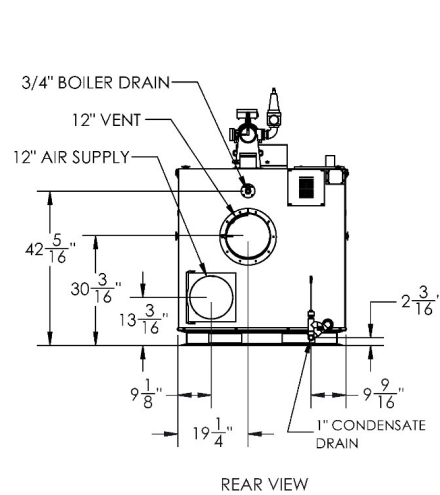
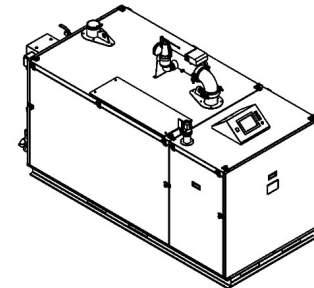
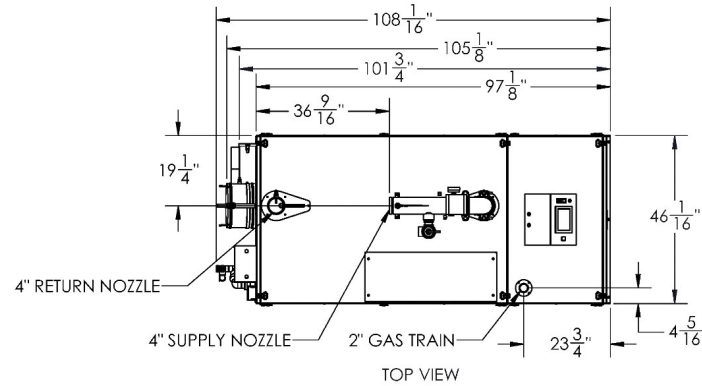
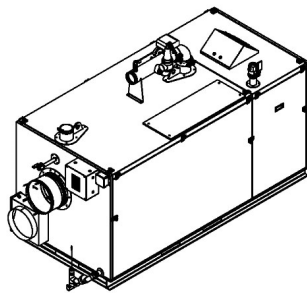
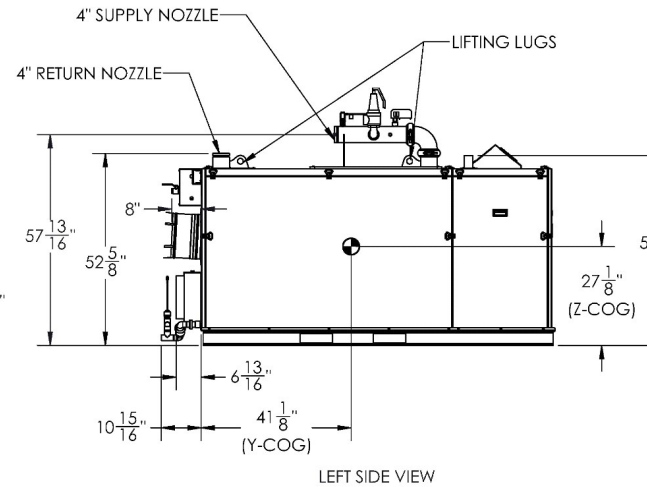




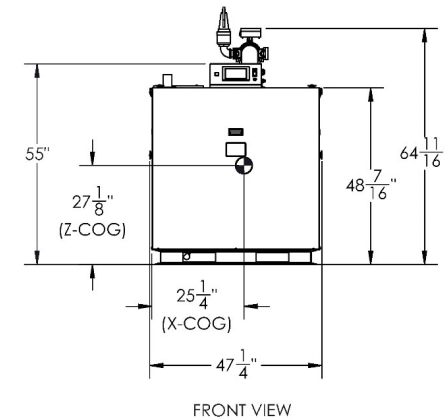
# Boiler SUBMITTAL DATA SHEET



REAR VIEW



LEFT SIDE VIEW



FRONT VIEW



PO BOX 3244 | LANCASTER, PA 17601

AMP-3500

INNOVATIVE EQUIPMENT FOR  
HOT WATER SYSTEMS

WWW.THERMALSOLUTIONS.COM

Updated 9/16/2025

ABCP-20250901



# Boiler SUBMITTAL DATA SHEET

## RATINGS AND CAPACITIES

|                               |                       |         |
|-------------------------------|-----------------------|---------|
| Input - Low fire:             | 700,000               | BTU/HR  |
| Input - High Fire:            | 3,500,000             | BTU/HR  |
| Output - High Fire:           | 3,395,000             | BTU/HR  |
| Boiler Horsepower:            | 101.4                 | BHP     |
| Thermal Efficiency:           | 97.0%                 |         |
| Low Fire Thermal Efficiency:  | Up to 99%             |         |
| Heating Surface:              | 403                   | Sq.Ft.  |
| Water Content:                | 47.1                  | Gallons |
| Fuel:                         | Natural Gas or LP Gas |         |
| Firing Rate:                  | Full Modulation       |         |
| Burner Turndown:              | 5:1                   |         |
| Low NOx Emissions:            | < 10 ppm              |         |
| Inlet Gas Pressure (NG):      | 4" wc                 | Min.    |
| Inlet Gas Pressure (LP):      | 8" wc                 | Min.    |
|                               | 14" wc                | Max.    |
| Shipping Weight, Approximate: | 2,485                 | lbs     |

ASME Section IV (Max 160 PSIG / 210°F)

Setpoint range is 60-185°F

Adjustable, manual reset high limit setting of ≤ 200°F.

ASME H stamp MAWT is 210°F for the vessel. (For max setpoint, see Setpoint range.)

ETL Certified to ANSI Z21.13 / CSA 4.9

ETL Certified to UL 795 / CSA 3.1



## DIMENSIONS / CONNECTIONS

|                                       |            |          |
|---------------------------------------|------------|----------|
| Height:                               | 55"        | (Note 1) |
| Width:                                | 46"        | (Note 2) |
| Length:                               | 97 1/8"    | (Note 3) |
| Supply Connection:                    | 4" Grooved |          |
| Return Connection:                    | 4" Grooved |          |
| Vent / Air Intake Connections:        | 12"        |          |
| Condensate / Boiler Drain Connection: | 1"         |          |
| Gas Connection:                       | 2" NPT     |          |

## FLOWS AND PRESSURE DROPS

| Delta T  | Flow (GPM) | Head Loss (ft) |
|----------|------------|----------------|
| 20°F Δ T | 339        | 14.4           |
| 30°F Δ T | 226        | 7.6            |
| 40°F Δ T | 170        | 5.2            |

## Electrical Requirements: (Appliance Only)

| Model     | Voltage | Phase | Hz | Max. Amp Draw |
|-----------|---------|-------|----|---------------|
| 1000-1250 | 120     | 1     | 60 | 11            |
|           | 208     |       |    | 7.4           |
|           | 240     |       |    | 6.5           |
| 1500-2500 | 120     | 1     | 60 | 13.5          |
|           | 208     |       |    | 8.2           |
|           | 240     |       |    | 7.7           |
|           | 208     | 3     | 60 | 11            |
|           | 240     |       |    | 9.9           |
|           | 480     |       |    | 6.4           |
| 3000      | 208     | 1     | 60 | 14.1          |
|           | 240     |       |    | 12.6          |
|           | 208     | 3     | 60 | 9.9           |
|           | 480     |       |    | 6.4           |
| 3500-4000 | 208     | 3     | 60 | 11            |
|           | 240     |       |    | 9.9           |
|           | 480     |       |    | 6.4           |

### NOTES:

1. Height dimension is from floor to top of jacket.
2. Length is from jacket front to jacket rear.
3. Dimensions shown are for reference only
4. Refer to manual for gas supply piping charts



# Boiler SUBMITTAL DATA SHEET

## STANDARD EQUIPMENT

### PRESSURE VESSEL DESIGN

Stainless Steel Heat Exchanger

ASME Section IV Certified, "H" Stamp

MAWP 160 PSIG & Max Temp 210°F

Setpoint range is 60-185°F

Adjustable, manual reset high limit setting of  $\leq 200^{\circ}\text{F}$ .

ASME H stamp MAWT is 210°F for the vessel. (For max setpoint, see Setpoint range.)

Ten Year Limited Pressure Vessel Warranty

### COMBUSTION DESIGN

Stainless Steel Pre-Mix Burner

Zero governor gas valve

Low NOx Emissions ( < 10 ppm)

Variable Speed Combustion Blower

Full Modulation, 5:1 Turndown

Air Proving Switch

Blocked Vent Switch

Blocked Vent Switch

Natural Gas, Propane or Dual Fuel (Gas/Gas)

4" wc (8" wc Propane) to 14" wc inlet gas pressure

Manual fuel changeover switch (Dual Fuel Only)

4" wc (8" wc Propane) to 14" wc inlet gas pressure

High/Low gas pressure switches, manual reset

Direct Spark Ignition System with UV Scanner

### 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

### BOILER EQUIPMENT

Concert™ Control (24 Vac)

Water Flow Switch

High Limit Temp Control, Manual Reset

Condensate trap

Low water cutoff, manual reset

Blocked Condensate Switch

Supply & Return Water Temperature  
Sensors

Pressure & Temperature Gauge  
Flue Gas Temperature Sensor

ASME Relief Valve: (Available: 30, 50, 60, 75, 100, 125 or 150 psig)

### 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
- 208-230-240-460VAC/60HZ/3PH - High Voltage

#### Models 3500-4000:

- 208-230-240-460VAC/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

\* 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.



# Boiler SUBMITTAL DATA SHEET

## 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
- ☐ Universal Communications Gateway (BACnet, Metasys, Modbus or Lonworks)
- ☐ Stackable Rack
- ☐ 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.

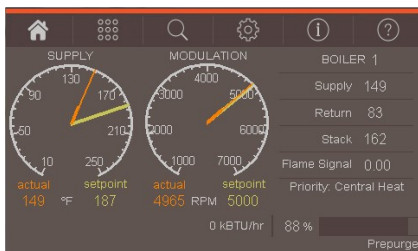
## EXTENDED WARRANTY

- ☐ 3-Year Parts      ☐ 5-Year Parts      ☐ 10-Year Parts      ☐ 5-Year Parts/Labor      ☐ 10-Year Parts/Labor



# Boiler SUBMITTAL DATA SHEET

## CONCERT CONTROL FEATURES



### **Dashboard - Color Touchscreen Display, 4"**

- 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  
(Envirocom 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 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
- 420mAdc Input/Output (010Vdc 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

**\* Unique to Concert**



### **Energy Efficiency Enhancer**

- AntiCycling Technology
- Multiplier boiler base load common rate
- Outdoor Air Temperature Reset Curve
- Warm Weather Shutdown
- Boost Temperature & Time
- Ramp Delay
- OverTemperature 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, DHW, Sequencer and Fan