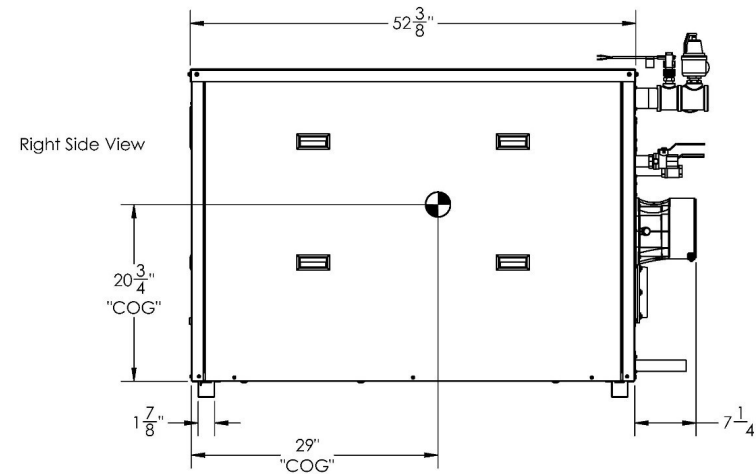
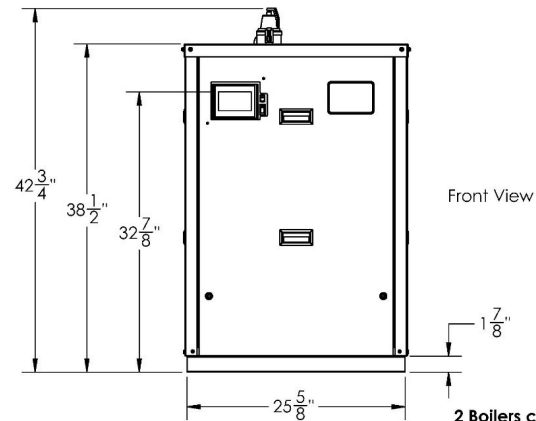
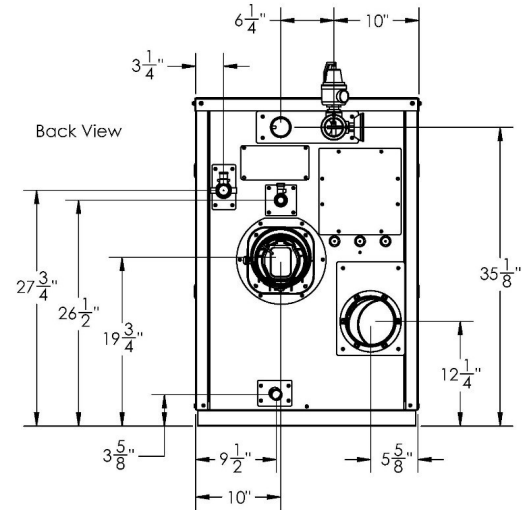
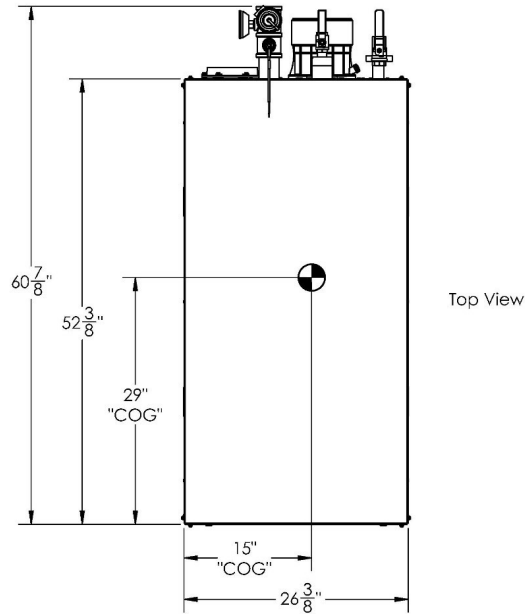




Water Heater (DHW) SUBMITTAL DATA SHEET



2 Boilers can be stacked vertically with included bracket kit.



PO BOX 3244 | LANCASTER, PA 17601

AMP-1000 V
(10:1 Turndown Model)

INNOVATIVE EQUIPMENT FOR
HOT WATER SYSTEMS
WWW.THERMALSOLUTIONS.COM

Updated 9/18/2025

ABCPV-20250901



Water Heater (DHW) SUBMITTAL DATA SHEET

RATINGS AND CAPACITIES

Input - Low fire:	99,900	BTU/HR
Input - High Fire:	999,000	BTU/HR
Output - High Fire:	969,030	BTU/HR
Boiler Horsepower:	28.9	BHP
Thermal Efficiency:	97.0%	
Heating Surface:	75.4	Sq.Ft.
Water Content:	8.1	Gallons
Fuel:	Natural Gas or LP Gas	
Firing Rate:	Full Modulation	
Burner Turndown:	10:1	
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: 600 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 HLW 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



FLOWS AND PRESSURE DROPS

Delta T	Flow (GPM)	Head Loss (ft)
20°F Δ T	97	14.6
30°F Δ T	65	7.2
40°F Δ T	49	4.4

Electrical Requirements: (Appliance Only)

Model	Voltage	Phase	Hz	Max. Amp Draw
400	120	1	60	7
500				7
650				8
800				8
100				8

Water Heater T&P Relief Valve Kits

<input type="checkbox"/>	125 PSI (STANDARD)
<input type="checkbox"/>	150 PSI (OPTIONAL)

DIMENSIONS / CONNECTIONS

Height:	38-1/2"	(Note 1)
Width:	26-3/8"	(Note 2)
Length:	52-3/8"	(Note 3)
Supply Connection:	2" NPT	
Return Connection:	2" NPT	
Vent / Air Intake Connections:	6"	
Condensate / Boiler Drain Connection:	1"	
Gas Connection:	1" NPT	

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



Water Heater (DHW) SUBMITTAL DATA SHEET

STANDARD EQUIPMENT

PRESSURE VESSEL DESIGN

Stainless Steel Heat Exchanger
ASME Section IV Certified, "HLW" Stamp
MAWP 160 PSIG & Max Temp 210°F
Setpoint range is 60-185°F
Adjustable, manual reset high limit setting of ≤ 200°F.
ASME HLW stamp MAWT is 210°F for the vessel. (For max, see Setpoint range.)
Ten Year Limited Pressure Vessel Warranty

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
Blocked Vent Switch

VENTING

Category II or IV Venting
Individual or Common (Engineered) Vent System
Vertical or Horizontal
3-in-1 Vent Connector: Accepts CPVC, PP or Stainless Steel
NOTE: PVC venting requires CPVC Vent kit; Consult I&O Manual.
Includes built-in vent gas sensor test port
Direct Vent & Sealed or Room Air or Outdoor Ready
Outdoor installations require the optional outdoor exhaust vent kit

APPLIANCE EQUIPMENT

Indoor / Outdoor Construction (Field Convertible)
Stainless steel water piping suitable for boiler or domestic (potable) water applications
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 125 PSI Relief Valve Standard (150 PSI Relief Valve Optional)

NOTE: Stacking Brace Kit (PN# 111405-00 included with all 400-1000 models. Kit includes 2 braces & 8 self-drilling screws.

NOTE: For stacking outdoor boilers, consult factory

ELECTRICAL DESIGN

Models 400-500:

- 120 VAC Only Amp Draw: 7.0 Amps

Models 650-1000:

- 120 VAC Only Amp Draw: 8.0 Amps

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.



Water Heater (DHW) SUBMITTAL DATA SHEET

OPTIONAL EQUIPMENT

- | | | |
|--|---|--|
| <input type="checkbox"/> Hydronic Kit (Boiler Circulation Pump, Pump Flange Kit and Condensate Neutralizer) | <input type="checkbox"/> 4-12 GPG Water Hardness | <input type="checkbox"/> 12-15 GPG Water Hardness |
| <input type="checkbox"/> Water Heater Pump (Circulation Pump & Pump Flange Kit) | | |
| <input type="checkbox"/> External High Limit Temperature Control, Manual Reset | | |
| <input type="checkbox"/> Condensate Neutralizer | | |
| <input type="checkbox"/> Supply Header Temperature Sensor: | <input type="checkbox"/> Direct Immersion | <input type="checkbox"/> Well Immersion (with Well) |
| <input type="checkbox"/> Outdoor Air Temperature Sensor (Wired) | | |
| <input type="checkbox"/> Domestic Hot Water Sensor with Well Kit | | |
| <input type="checkbox"/> EMS Signal Converter Kit (Converts Energy or Building Management System 0-10v signal to 4-20mA) | | |
| <input type="checkbox"/> Alarm Buzzer with Silencing Switch | | |
| <input type="checkbox"/> PVC /CPVC Vent Kit | <input type="checkbox"/> PN# 111569-01, Sizes 400-500 | <input type="checkbox"/> PN# 111569-02, Sizes 650-1000 |
| <input type="checkbox"/> Outdoor Vent Kit | <input type="checkbox"/> PN# 110644-01, Sizes 400-500 | <input type="checkbox"/> PN# 110645-01, Sizes 650-1000 |
| <input type="checkbox"/> Universal Communications Gateway | <input type="checkbox"/> BACnet, Metasys N2, Modbus | <input type="checkbox"/> LonWorks |
| <input type="checkbox"/> Conductor Sequencing Panel | <input type="checkbox"/> Optional Isolation Relay Board | |

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.

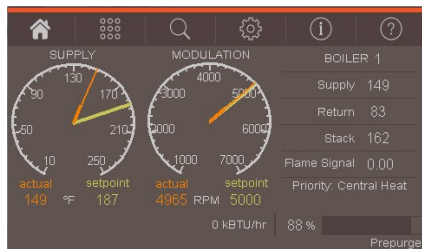
EXTENDED WARRANTY

- | | | | | |
|---------------------------------------|---------------------------------------|--|---|--|
| <input type="checkbox"/> 3-Year Parts | <input type="checkbox"/> 5-Year Parts | <input type="checkbox"/> 10-Year Parts | <input type="checkbox"/> 5-Year Parts/Labor | <input type="checkbox"/> 10-Year Parts/Labor |
|---------------------------------------|---------------------------------------|--|---|--|



Water Heater (DHW) 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, DWH, Sequencer and Fan