TOP VIEW

- 86 9/16"
- 83 11/16"
- 80 3/8"
- 75 5/8"
- 20 3/8"
- 19 1/4"
- 46 1/16"
- 4" RETURN NOZZLE
- 4" SUPPLY NOZZLE
- 5 9/16"
- 16 3/4"
- 2 3/4"
- 1-1/2" GAS TRAIN

REAR VIEW

- 3/4" BOILER DRAIN
- 10" VENT
- 10" AIR SUPPLY
- 42 5/16"
- 30 1/8"
- 11 3/16"
- 7 1/8"
- 19 1/4"
- 9 9/16"
- 2 3/16"
- 1" CONDENSATION DRAIN

LEFT SIDE VIEW

- 4" SUPPLY NOZZLE
- 4" RETURN NOZZLE
- LIFTING LUGS
- 8 1/16"
- 57 13/16"
- 52 5/8"
- 50 13/16"
- 27 1/4" (Z-COG)
- 6 5/16"
- 32 5/8" (Y-COG)
- 10 15/16"

FRONT VIEW

- 55"
- 64 11/16"
- 48 7/16"
- 27 1/4" (X-COG)
- 25 1/8" (X-COG)
- 47 1/4"

THERMAL SOLUTIONS
Innovative Equipment for Hot Water Systems
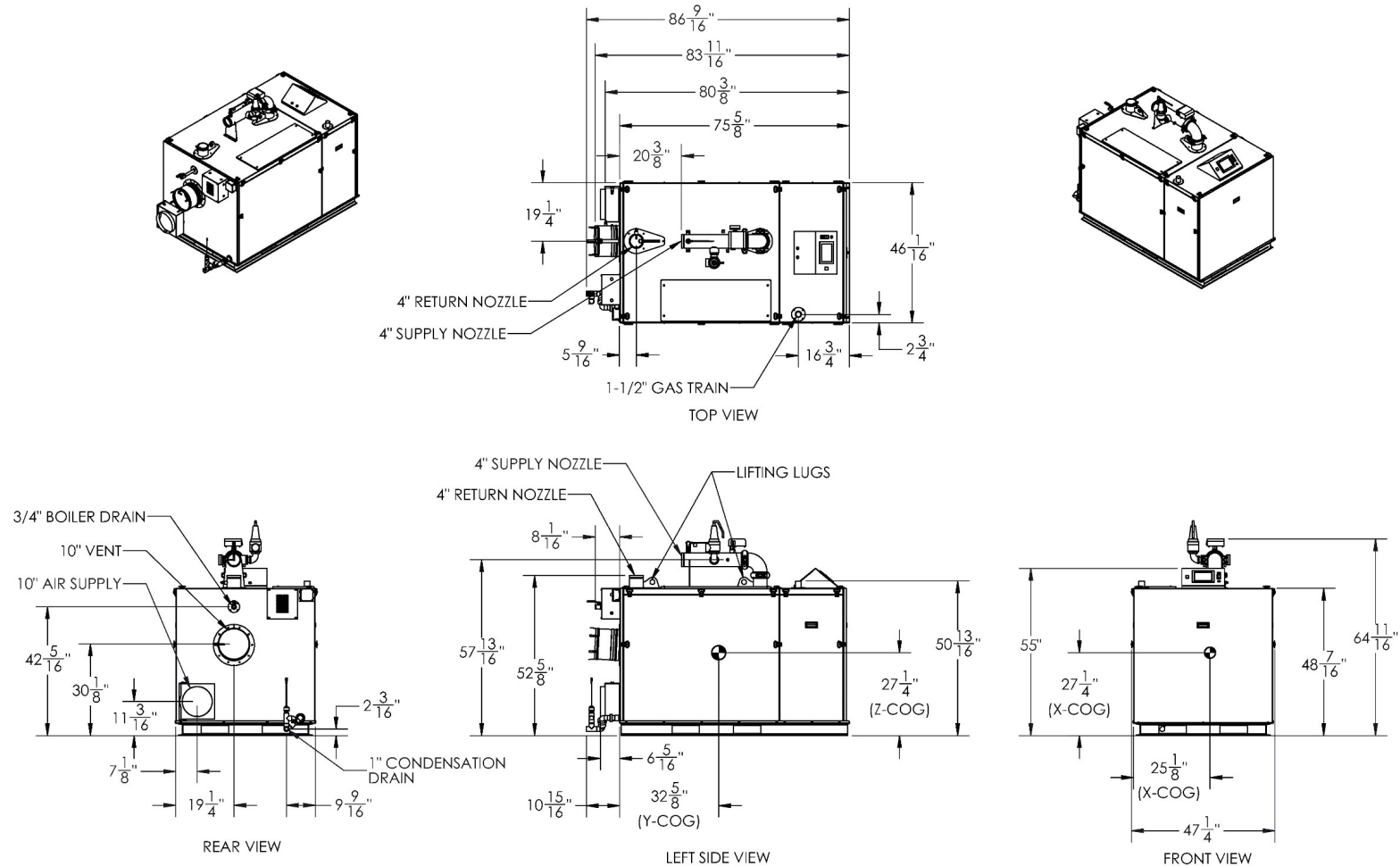PO BOX 3244 | LANCASTER, PA 17601

MODEL-2500

INNOVATIVE EQUIPMENT FOR HOT WATER SYSTEMS
WWW.THERMALSOLUTIONS.COM

Updated 9/16/2025
ABCPC-20250901

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Boiler SUBMITTAL DATA SHEET

RATINGS AND CAPACITIES

Input - Low fire:	**500,000**	BTU/HR
Input - High Fire:	**2,500,000**	BTU/HR
Output - High Fire:	**2,425,000**	BTU/HR
Boiler Horsepower:	**72.4**	BHP
Thermal Efficiency:	**97.0%**	
Low Fire Thermal Efficiency:	**Up to 99%**	
Heating Surface:	**301**	Sq.Ft.
Water Content:	**34.6**	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:	**2,038**	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:	**54 7/8"**	(Note 1)
Width:	**46**	(Note 2)
Length:	**75 5/8"**	(Note 3)
Supply Connection:	**4" Grooved**	
Return Connection:	**4" Grooved**	
Vent / Air Intake Connections:	**10"**	
Condensate / Boiler Drain Connection:	**1"**	
Gas Connection:	**1 1/2" NPT**	

FLOWS AND PRESSURE DROPS

Delta T	Flow (GPM)	Head Loss (ft)
20°F △ T	242	15.4
30°F △ T	161	8.9
40°F △ T	121	6.1

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 **S**UBMITTAL **D**ATA **S**HEET

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 ≤ 200°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

Indivdual 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.

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   ☐ 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.
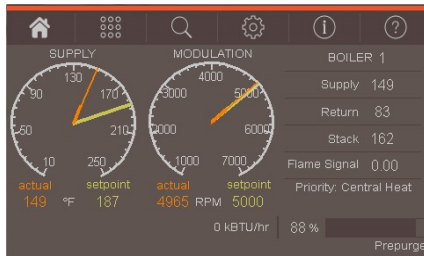
EXTENDED WARRANTY

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

AMP
BY THERMAL SOLUTIONS

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
 (Enviracom Thermastat 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 Overun 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
Multipler 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