

PHANTOM XL(W) SUBMITTAL DATA SHEET

JOB NAME: _____ DATE: _____

LOCATION: _____

ENGINEER: _____

WHOLESALER: _____

CONTRACTOR: _____

SUBMITTED TO: _____

MODEL DESIGNATION: _____ FUEL: _____



CHECK ONE: _____ REFERENCE (NOT FOR PRODUCTION)

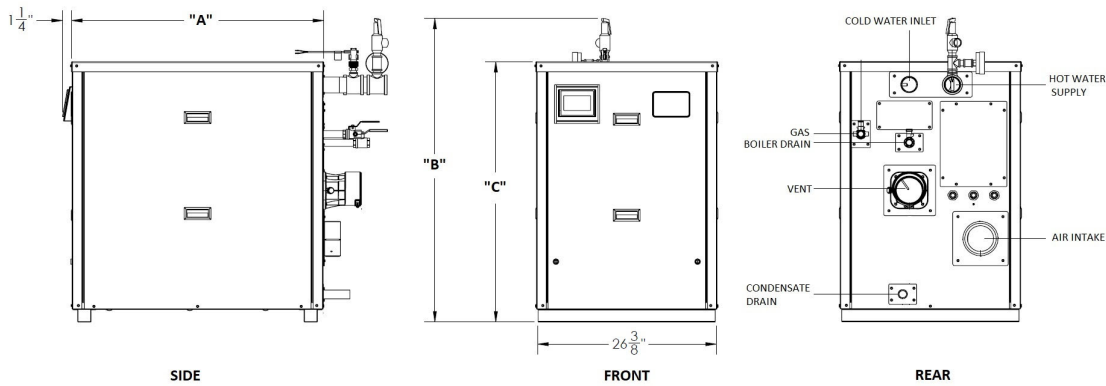
_____ APPROVED (IMMEDIATE PRODUCTION)

_____ APPROVED WITH CHANGES NOTED (IMMEDIATE PRODUCTION)

RATINGS AND TECHNICAL DATA

PHANTOM XL WATER HEATER MODELS	INPUT		GROSS OUTPUT (MBH)	THERMAL EFFICIENCY (%)	*DHW RECOVERY (GPH)	WATER CONTENT (GAL.)	**FUEL		SHIPPING WEIGHT (LBS)
	MIN	MAX					NAT. GAS	PROPANE	
	(MBH)	(MBH)	(MBH)	(%)	(GPH)	(GAL.)	MIN / MAX	MIN / MAX	(LBS)
PHXW 400	40	399	391	98.0%	470	3.8	4"/14"wc	8"/14"wc	460
PHXW 500	50	500	490	98.0%	588	4.3	4"/14"wc	8"/14"wc	470
PHXW 650	65	650	637	98.0%	764	5.6	4"/14"wc	8"/14"wc	530
PHXW 800	80	800	784	98.0%	941	6.6	4"/14"wc	8"/14"wc	560
PHXW 1000L	100	999	980	98.0%	1176	8.1	4"/14"wc	8"/14"wc	600

DIMENSIONS



PHANTOM XL WATER HEATER MODELS	"A"	WIDTH	"B"	"C"	VENT / AIR INTAKE		SUPPLY	RETURN	
	LENGTH				O/A HGT.	HEIGHT			SIZE
	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	LENGTH (Ft.)	(Inches)	NPT Female	NPT Male
PHXW 400	36 1/2	26 3/8	46 7/8	38 1/2	4	Up to 200	3/4 NPT	2	2
PHXW 500	36 1/2	26 3/8	46 7/8	38 1/2	4	Up to 200	3/4 NPT	2	2
PHXW 650	52 3/8	26 3/8	66 3/8	38 1/2	6	Up to 200	1 NPT	2	2
PHXW 800	52 3/8	26 3/8	66 3/8	38 1/2	6	Up to 200	1 NPT	2	2
PHXW 1000L	52 3/8	26 3/8	66 3/8	38 1/2	6	Up to 200	1 NPT	2	2

Percent Derate per 1000 ft. for Altitudes Above 2000 ft.*

Model	Altitude (ft)	2001-6000	6001-8000	8001-10,100
400	NG	2.5%	No Application	
	LP	2.5%		
500	NG	2.6%		
	LP	2.6%		
650	NG	0.0%	2.0%	2.1%
	LP	0.0%	2.0%	2.7%
800	NG	2.7%	3.4%	3.4%
	LP	3.1%	3.8%	3.5%
1000L	NG	3.8%	3.4%	3.4%
	LP	3.4%	4.1%	4.1%

- *Notes:
- Percentages are per 1000 ft. above sea level.
 - Venting Derate should be applied after the altitude derate.
 - Installations of 400 and 500 models above 6000 ft. is not recommended.

PHANTOM XL(W) 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
Five Year Limited Heat Exchanger Warranty
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
Air Proving Switch
Blocked Vent Switch

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

WATER HEATER EQUIPMENT

Concert™ Control (24 Vac)
High Limit Temp Control, Manual Reset
Low water cutoff, manual reset
Water Flow Switch
Supply, Return & DHW Water Temperature Sensors
Flue Gas Temperature Sensor
Condensate trap
Blocked Condensate Switch
Pressure & Temperature Gauge
ASME Temperature & Pressure Relief Valve, 150 psi

ELECTRICAL DESIGN

Models 400-500:

- 120 VAC Only
Amp Draw: 7.0 Amps

Models 650-1000L:

- 120 VAC Only
Amp Draw: 8.0 Amps
- PCB (Printed Circuit Board) Fused Connections

24VAC/5VDC - Low Voltage PCB

- EMS Communications
(Dual RJ45 Jacks for Peer-To-Peer or ModBus)
- DHW Demand Contacts
- Remote Header Sensor Contacts
- Remote 4-20mA Contacts

* 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

_____ External High Limit Temperature Control, Manual Reset

_____ Condensate Neutralizer

_____ Hot Water Header Temperature Sensor: Direct Immersion Well Immersion (with Well)

_____ EMS Signal Converter Kit (Converts Energy or Building Management System 0-10v signal to 4-20mA)

_____ Alarm Buzzer with Silencing Switch

_____ Vent Adapter - CPVC, Polypropylene, or Stainless Steel

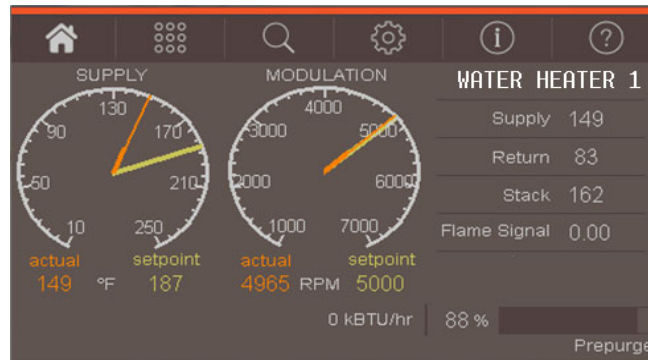
_____ Universal Communications Gateway (BACnet, Metasys, Modbus or Lonworks)

_____ 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.

PHANTOM XL(W) SUBMITTAL DATA SHEET

CONCERT CONTROL FEATURES



Dashboard - Color Touchscreen Display, 4"

- Intuitive Icon Navigation
- "Quick" Setup Menus
- *Real Time BTU/H Display

Temperature Demand Inputs

- Time of Day Setback Capability
(Envirocom Thermostat must be installed)

Two (2) Pump Control

- 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 Unit Sequencing Up to 8 Units
- 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 settings
- 4-20mA Input/Output (0-10Vdc Optional Converter)
- ModBus Input/Output (BACnet or LonWorks Optional Gateway)
- Simultaneous Interface with Peer-to-Peer

*USB Data Port Transfer

- Upload Settings Between Units
- Download Parameters for Troubleshooting
- Import Data into .CRV Formatted Files for Performance Analysis

Energy Efficiency Enhancer

- Anti-Cycling Technology
- Multiple Unit Base Load Common Rate
- Boost Temperature & Time
- Ramp Delay
- Over-Temperature 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 - Water Heaters & Pumps
- Resettable (Lockouts/Alarms/Cycles & Run Time)

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 DWH, Sequencer and Fan
- Built-in Brown-Out Protection

* Unique to Concert

