



# Liberty US400 High Efficiency Gas Condensing Boiler & Water Heater

## Submittal Sheet

Section 1 - Specifications  
Section 2 - Dimensions  
Section 3 - Electrical

Project Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Engineer: \_\_\_\_\_  
 Contractor: \_\_\_\_\_ Rep: \_\_\_\_\_

### 1 SPECIFICATIONS

#### General Specifications

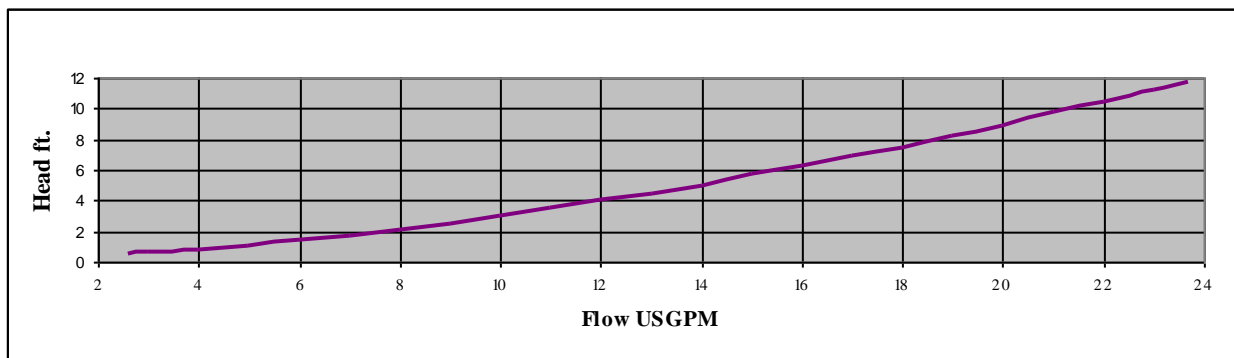
- ▶ Product Features
  - Certified to ANSI Z21.13 / CSA 4.9 Gas-fired Boiler Standard
  - Certified to ANSI Z21.10.3 / CSA 4.3 Gas Water Heater Standard
  - ASME “H” stamped boiler, designed and constructed in compliance with the ASME Boiler and Pressure Vessel Code Section IV
  - SA-249 TP316L Stainless Steel Heat Exchanger
  - Maximum operating pressure 145 psi [1000 kPa]
  - Field conversion from Natural Gas (factory) to Propane
  - Modulating burner, 5.3:1 turndown
  - Direct Spark Ignition
  - Wall or floor mounting
  - Zero clearance to combustibles
- ▶ Optional Side Wall Vent Terminal Kit
- ▶ Factory Supplied Items
  - 1 – 500ml bottle Fernox F1 Protector
  - 10k thermistor Outdoor and System sensors
  - 30PSI & 125PSI ASME Relief Valves
  - 30PSI & 160PSI Pressure Gauges
- ▶ Control Features
  - Integral microprocessor safety control
  - 2 central heat inputs (high & low temperature)
  - Domestic Hot Water Priority
  - Outdoor reset
  - Warm weather shutdown
  - Lead-Lag up to 8 US series boilers
  - Integrated Modbus RTU for connection to BMS gateways

Water Connections NPT, in.	Gas Connection NPT, in.	Vent/Air-inlet Pipe Diameter, in.	Vent/Air-inlet Max. Length, NG/LP, ft.	Approx. Weight with Water, lb.
1-1/4 (Female)	3/4 (Female)	4	100	225
		6	100	

#### Heating Specifications

Input Modulation, MBH	Gross Output Capacity, MBH	Combustion Efficiency, %	Thermal Efficiency, %	Net I=B=R Rating, MBH	Recovery Rate @ 100°F Rise, USGPH
75 – 399	375	95	94	326	450

#### Performance Specifications



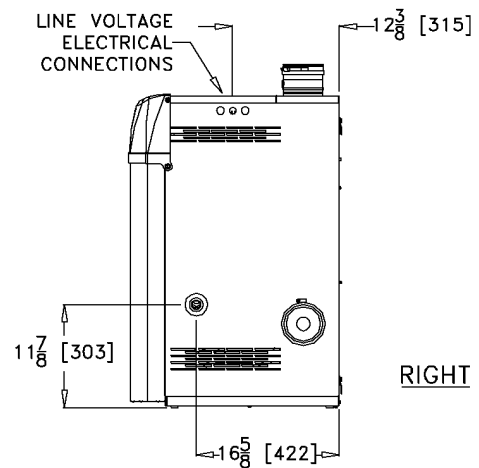
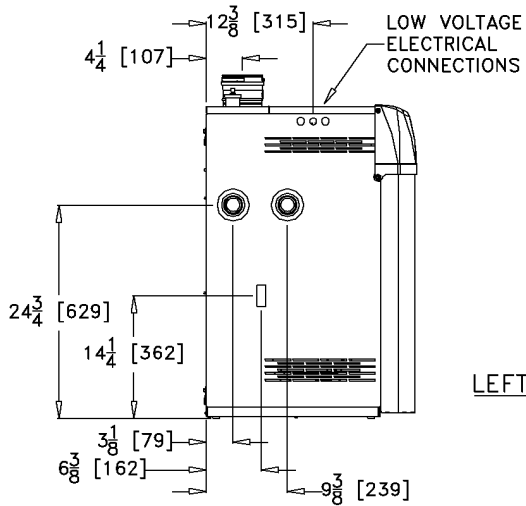
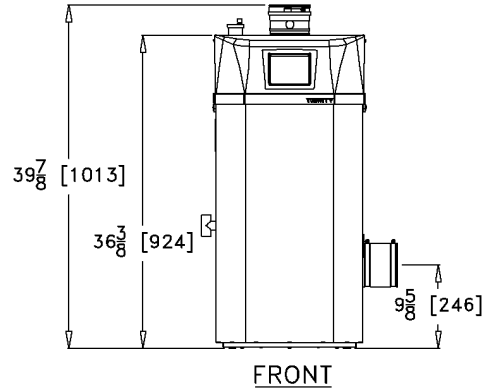
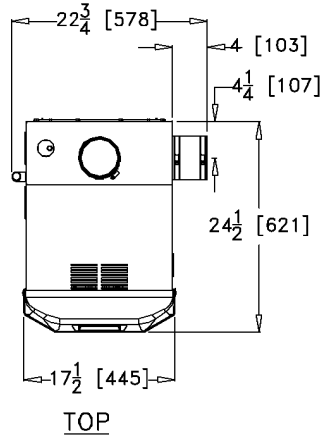


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**Submittal Sheet**

**2 DIMENSIONS**

**Product Dimensions – in. [mm]**



**Recommended Clearances – in. [mm]**

Top	Front	Left	Right	Back	Bottom
24 [610]	24 [610]	24 [610]	12 [305]	0	0



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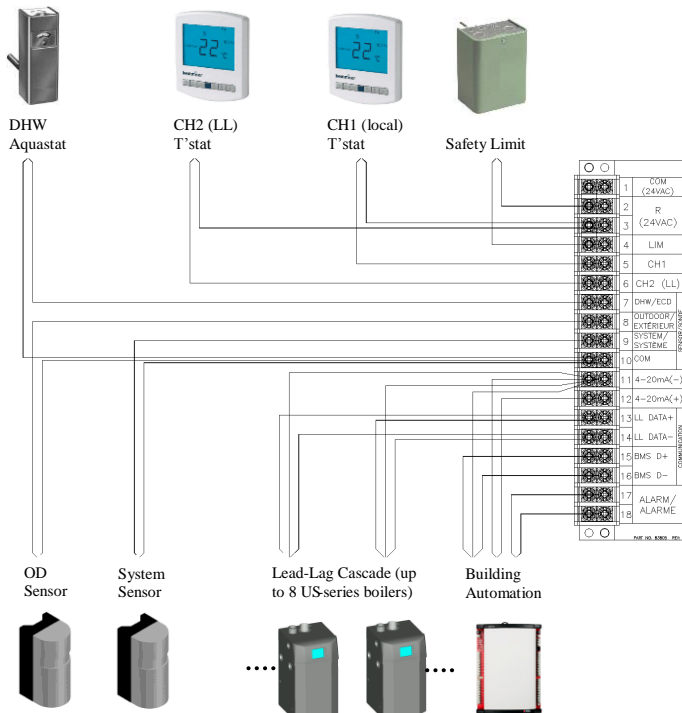
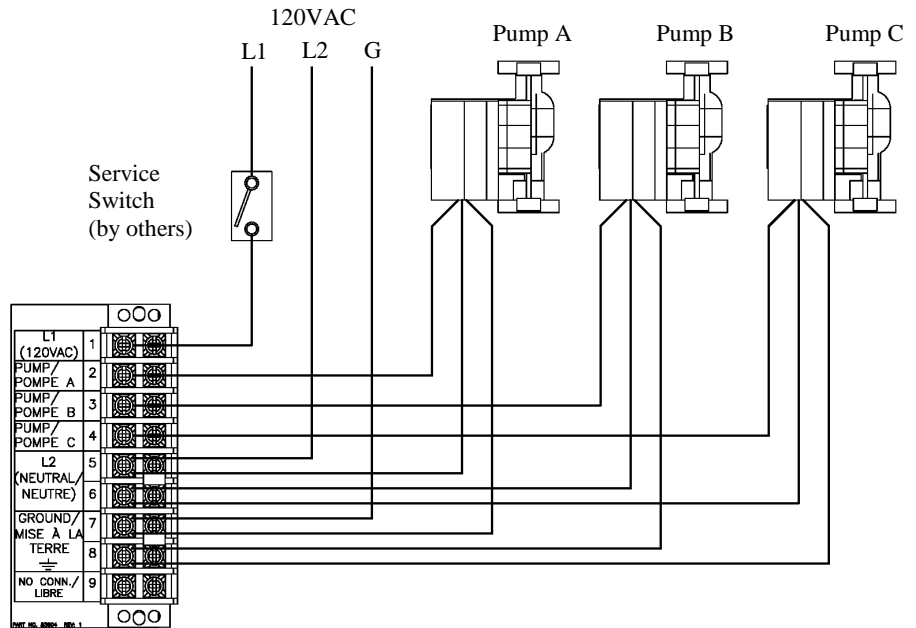
### 3 ELECTRICAL

#### Simplified Wiring Diagrams

##### Line Voltage Electrical:

- ▶ 120VAC / 60 Hz / 1 Phase / 12 Amp
- ▶ Barrier Strip for field wiring terminations
- ▶ 3 Pump outputs
  - Indirect Domestic Hot Water (Pump A)
  - Boiler (Pump B)
  - Central Heat (Pump C)

Note: Pumps are field supplied.



##### Low Voltage Electrical:

- ▶ Barrier Strip for field wiring terminations
- ▶ 120/24 VAC Transformer 40VA (factory supplied)
- ▶ Inputs
  - CH1 thermostat (by others)
  - CH2 thermostat (by others)
  - Indirect DHW aquastat (by others) or DHW Tank sensor (factory option)
  - External Limit (by others)
  - Outdoor sensor (factory supplied)
  - System sensor (factory option)
  - 4-20mA external modulating control (by others)
- ▶ Outputs
  - Alarm dry contact (24VAC 0.63A max.)
- ▶ EIA-485 Modbus communications for Lead-Lag
- ▶ EIA-485 Modbus to BMS gateways (not shown). Optional available gateways:
  - BACnet/N2
  - LonWorks

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