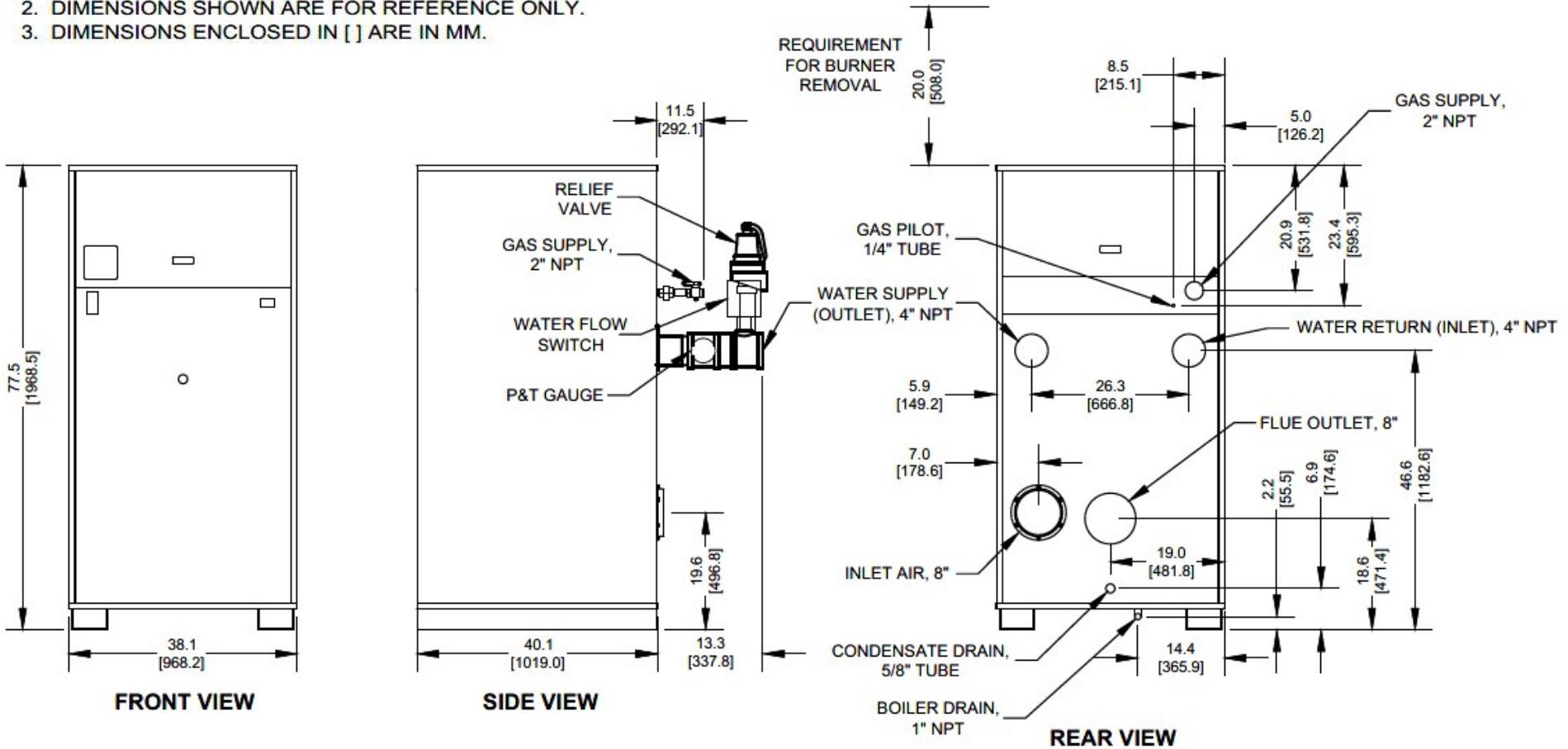


# Submittal Data Sheet

**NOTES:**

1. SEE O&M FOR REQUIRED INSTALLATION CLEARANCES.
2. DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.
3. DIMENSIONS ENCLOSED IN [ ] ARE IN MM.



# Submittal Data Sheet

## RATINGS AND CAPACITIES

Input (MBH):	<b>2,500,000</b>	BTU/HR
Output (MBH):	<b>2,170,000</b>	BTU/HR
Boiler Horsepower:	<b>64.8</b>	BTU/HR
Thermal Efficiency:	<b>86.8%</b>	BHP
Heating Surface:	<b>518</b>	Sq.Ft.
Water Content:	<b>41.6</b>	Gallons
Fuel:	<b>Natural Gas or LP Gas</b>	
Firing Rate:	<b>Reliable Modulation</b>	
Burner Turndown:	<b>3:1</b>	
Low NOx Emissions:	<b>&lt;10 ppm</b>	
Inlet Gas Pressure (NG):	<b>See Chart at right</b>	
Inlet Gas Pressure (LP):	<b>See Chart at right</b>	

\* This data supersedes data found on Table 3 of I&O Manual, per PRODUCT UPDATE issued June 6, 2024.

Shipping Weight, Approximate: **2,052** lbs

ASME Section IV (Max 160 PSIG / 250°F)

Setpoint range is 145-230°F



Adjustable, manual reset high limit setting of ≤ 240°F.

ASME H stamp MAWT is 250°F for the vessel. (For max setpoint, see Setpoint range.)

UL Certified to ANSI Z21.13 / CSA 4.9

UL Certified to UL 795 / CSA 3.1



## DIMENSIONS / CONNECTIONS

Height:	<b>77 1/2"</b>	(Note 1)
Width:	<b>38 1/8"</b>	(Note 2)
Length:	<b>40 1/8"</b>	(Note 3)
Supply Connection:	<b>4"</b>	
Return Connection:	<b>4"</b>	
Vent / Air Intake Connections:	<b>8" Vent</b>	<b>8" Intake</b>
Condensate / Appliance Drain Connection:	<b>5/8" Condensate Tube</b>	<b>1" NPT Drain</b>
Gas Connection:	<b>2"</b>	

### 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

## FLOWS AND PRESSURE DROPS

Delta T	Flow (GPM)	ΔP (Ft. Hd)
20°FΔT	<b>217 (Max)</b>	<b>4.34</b>
40°FΔT	<b>109 (Min)</b>	<b>1.43</b>

## Electrical Supply Options

<input checked="" type="checkbox"/> 120v/60hz/1ph (Standard)	N/A
<input type="checkbox"/> 208v/60hz/1ph	8 amps
<input type="checkbox"/> 230v/60hz/1ph	7.8 amps
<input type="checkbox"/> 208v/60hz/3ph	7.4 amps
<input type="checkbox"/> 230v/60hz/3ph	7.3 amps
<input type="checkbox"/> 460v/60hz/3ph	3.7 amps

## Blower Motor (hp)

1-1/2

## Relief Valve Options

<input type="checkbox"/> 30 psi	<input type="checkbox"/> 50 psi	<input type="checkbox"/> 60 psi
<input type="checkbox"/> 75 psi	<input type="checkbox"/> 100 psi	<input type="checkbox"/> 125 psi
<input type="checkbox"/> 150 psi		

## Inlet Gas Pressure

SIZE	Nat. Gas Min. ("w.c.)	LP Min. ("w.c.)	Max
500	5.0" w.c.	8.0" w.c.	14.0" w.c.
750	7.0" w.c.*		
1000	7.0" w.c.*		
1500	7.0" w.c.*		
2000	9.0" w.c.*		
2000s	7.0" w.c.		
2500	6.0" w.c.		
3000	6.0" w.c.		

\* NOTE: Optional natural gas train with 4" w.c. minimum inlet gas pressure  
ONLY AVAILABLE on sizes 750, 1000, 1500 & 2000.



# Submittal Data Sheet

STANDARD EQUIPMENT		OPTIONAL EQUIPMENT													
<b>PRESSURE VESSEL DESIGN</b>	<b>BOILER EQUIPMENT</b>														
Copper Fin-tube construction	High limit w/ manual reset safety temperature control		Low gas pressure venturi, 4" wc (AVAILABLE ONLY on Models 750-2000) [FACTORY INSTALLED OPTION ONLY]												
Carbon steel or cast iron header design	Water flow switch		<input type="checkbox"/> Honeywell 7800 Series display with ModBus Module												
Gasketless heat exchanger	Low water cut-off with manual reset safety controller		<input type="checkbox"/> Line Reactor Adds voltage / spike protection for the blower's VFD. (For areas with dirty voltage)												
ASME Section IV certified "H" stamp	Outlet temperature sensor		<input type="checkbox"/> Outdoor Air Sensor												
MAWP 160 PSI & max design temp 250°F	Combustion air switch		<input type="checkbox"/> Condensate neutralizer:												
5-year heat exchanger warranty	Pressure and temperature gauge		<input type="checkbox"/> 850 MBH <input type="checkbox"/> 1,200 MBH												
20-year thermal shock warranty	Safety relief valve (Optional pressures 30 - 150 PSI; See details above.)		<input type="checkbox"/> 2,000 MBH <input type="checkbox"/> 5,000 MBH												
<b>COMBUSTION DESIGN</b>	<b>BURNER EQUIPMENT</b>		<input type="checkbox"/> Pump Kit (Boiler Circulation Pump, Pump Flange Kit Sized based on a 20°F Delta T)												
Maintenance-free ceramic burner	Single point electrical supply: (Available in: 1 and 3 phase options. See details above.)		<input type="checkbox"/> Annual Maintenance Kit												
Ultr-low NOx emissions (<10ppm)			<input type="checkbox"/> System Temperature Sensor												
Whisper quiet operation (<50 dBA)			<input type="checkbox"/> Universal com. gateway (BacNet MS/TP, BacNet/IP, LonWorks)												
Easy to service, 99% efficient industrial air filter	UL/FM/CSD-1 gas train		<input type="checkbox"/> Local / Remote Switch for Enable / Disable												
Industrial cast aluminum blower assembly	Reliable Turndown		<input type="checkbox"/> Alarm bell with silencing switch												
VFD Driven Blower	Natural or LP gas		<input type="checkbox"/> Relays: <input type="checkbox"/> General Alarm <input type="checkbox"/> Boiler Status												
Reliable electric spark-to-pilot ignition	Pilot gas valve / Pilot gas regulator		Conductor Sequencing Panel: (Contact Regional Manager with Questions.)												
10-year burner warranty	Siemens SKP-75 gas valve														
Honeywell UV-Scanner	Low and high gas pressure switches with manual reset														
<b>VENTING</b>	<b>TSBC Control Features</b>	The Conductor Sequencing Panel manages multiple condensing & non-condensing, small & large heat output, new and/or existing boilers (full modulation ), 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.													
Sealed or room air combustion	Advanced Boiler Modulation or Setpoint														
Direct vent (sidewall or vertical) (Cat IV)	Intelligent Multipler Boiler Staging (8 Boilers)														
Conventional venting (Cat II)	Building Management (BMS) Interface														
NOTE: This is NOT a Cat 1 Vent appliance.	Outdoor Air Temperature Reset														
	Warm Weather Shutdown														
	Domester Hot Weather Priority														
	Auxiliary Device Control														
	- Boiler Pump														
	- System Pump														
	Adjustable setpoint or burner modulation with 1-9vDC input from BMS														
<b>Extended Warranty Options Available:</b>															
<table><tr><td><b>Parts Only</b></td><td><b>3-Year</b></td><td><b>5-Year</b></td><td><b>10 Year</b></td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><b>Parts and Labor</b></td><td>N/A</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table>				<b>Parts Only</b>	<b>3-Year</b>	<b>5-Year</b>	<b>10 Year</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>Parts and Labor</b>	N/A	<input type="checkbox"/>	<input type="checkbox"/>
<b>Parts Only</b>	<b>3-Year</b>	<b>5-Year</b>	<b>10 Year</b>												
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
<b>Parts and Labor</b>	N/A	<input type="checkbox"/>	<input type="checkbox"/>												

# Submittal Data Sheet

## TSBC CONTROL FEATURES



### Flexible, Field Selectable Control

- Remote Setpoint Control or Firing Rate Control
- Factory defaults simplify field programming
- Eleven settings to help control oversizing

### Boiler Monitoring and Diagnostic Displays

- Boiler inlet and outlet sensors
- (OPTIONAL) System header sensor
- (OPTIONAL) Outdoor air sensor
- Modulation rate setpoint & modulating percent
- Boiler sequencing messages, alarms, hold & lockout messages
- Event history - Up to 10 alarm messages & data

### Modulation Rate

- Modbus or 1-9vDC input boiler modulation control options
- Choice of six different control modes
- Adjustable PID for local or remote control

### Advanced Availability

- If optional header sensor fails, TSBC automatically reverts back to the outlet sensor to allow continued operation.

### Outdoor Air Reset

- Fine tune the water temp based on outdoor air temp for maximized comfort and fuel savings.

Requires optional outdoor air temp sensor.

- Frost protection enabled with optional outdoor air sensor

### Pump Control

- Domestic Hot Water (DHW) Pump
- System Pump
- Pump Overrun for Heat Dissipation
- Boiler Pump

### Peer-to-Peer Network

- Boilers used primarily for building heat will automatically shut down when outdoor temp reaches programmable WWSD setpoint.
- Saves energy by preventing boiler, pump and / or system pump from starting

### Warm Weather Shutdown (WWSD)

- Boilers used primarily for building heat will automatically shut down when outdoor temp reaches programmable WWSD setpoint.
- Saves energy by preventing boiler, pump and / or system pump from starting
- Requires the optional outdoor air sensor

### Other Features

- Domestic Hot Water Priority (DHWP)
- Rotation enable and disable
- Setpoint adjustable up to 230F for boilers and 200F for water heaters
- Defineable min. setpoint to reduce chance of condensing
- 3 pump control capable, Boiler, DHW, System