



PRECISION BOILERS

Electric Steam Boilers: ST Series



WE MAKE THE COMPLEX SIMPLE

Achieving clean, efficient energy conversion may seem complicated, but Precision Boilers makes it easy. Count on our electric boiler solutions to help you reach your sustainability goals.

INTRODUCTION

Model ST, Series Electric Steam Boiler

Engineered for durability and efficiency, the Model ST is constructed with a heavy-duty 16-gauge cabinet and a robust structural steel base, ensuring strength and longevity in demanding environments.

The Model ST Steam Generator is a great solution for those seeking reliability, efficiency, and customizable options in steam generation. Advanced features and ease of maintenance make it the ideal choice for industrial applications demanding consistent and high-quality steam production.

All wiring is color-coded and all electrical components are readily accessible for ease of field service.

Individual immersion heating elements are 2 1/2" square flanged for ease of replacement. The elements are made of a highly corrosion-resistant Incoloy-sheath (332 SS), with nickel-chromium resistance wire packed in magnesium oxide powder

and configured in a U-tube design. Elements are available in both 1-phase and 3-phase ratings and are limited to 75 watts per square inch power density to assure long life.

Precision Boilers has been producing electric boilers and electric steam boilers in the U.S. for 75 years.



KEY FEATURES

Model ST, Series Electric Steam Boiler

- 1. Durable Construction:** The 16-gauge cabinet and structural steel base provides greater strength, ensuring reliable performance and extended service life.
- 2. High-Quality Steam Production:** The large steam chest is designed to produce high-quality steam with minimal carryover, optimizing efficiency and performance.
- 3. Customizable Options:** With a variety of optional features and trim, the Model ST can be tailored to meet any custom design criteria, providing flexibility for unique applications.
- 4. Spacious Control Cabinets:** Generous control cabinets offer ample space for the addition of options or field-mounted interfaces. All wiring is color-coded, and electrical components are easily accessible, simplifying field service and maintenance.
- 5. Advanced Heating Elements:** Individual immersion heating elements are designed for ease of replacement and superior performance.

STRINGENT STANDARDS

- ASME Section IV “H” Code (< 15PSI)
- ASME Section I “S” Code (> 15PSI)
- UL Subject 834
- NEC/NFPA Article 424-G
- ASME Safety Code CSD-1

Contact your Sales Representative for many other options to meet your specific requirements



DESIGN ADVANTAGES

Model ST, Series Electric Steam Boiler

Precision Boilers product designs are engineered for quality performance and accessibility to facilitate service and operation.

With the ST Series the large steam chest produces higher quality steam with a minimum amount of carryover. All wiring is color coded, and all electrical components are readily accessible for ease of field service.

Individual immersion heating elements are 2 1/2" square flanged for ease of replacement. The elements are made of a highly corrosion-resistant Incoloy-sheath (332 SS), with nickel-chromium resistance wire packed in magnesium oxide powder, and configured in a U-tube design. Elements are available in both 1-phase and 3-phase ratings and are limited to 75 watts per square inch power density to assure long life.

APPLICATIONS, MARKETS, AND FACILITIES

Precision Boilers ST Series II is an ideal choice for industrial applications demanding consistent, high quality steam production.

- Central Steam Plants
- Hospitals, Universities, Institutional Facilities
- Food Processing
- Pharmaceutical
- Beverage Distillation and Production



DESIGN ADVANTAGES

Model ST, Series Electric Steam Boiler

STANDARD FEATURES AND ACCESSORIES

The ST Series II comes well equipped with these standard features:

- ASME National Board Registered Pressure Vessel ("H" or "S" Code)
- Full Size Structural Steel Base
- Heavy Duty Steel Boiler Vessel Housing
- Three Inch Fiberglass Insulation
- ASME Safety Valve(s) (2 on units >1100KW)
- Pressure Gauge with Gauge Cock
- Feedwater Stop & Check Valves
- Full-Port Bottom Blowdown Valve
- Combination Float-Type Level Control/ Low Water Cutoff with Blowdown Valve
- Water Level Sight Gauge with Blowdown Valve
- Manual Reset Probe-type Low Water Cutoff with Pilot Light
- Surface Blowoff Provision
- Integral Electric Control Panel with Key-Locked Door(s)
- Internal Branch Circuit Fusing
- Magnetic Contactors rated 500,000 Cycles
- Main Supply Circuit Lugs
- 120 Volt Fused Control Transformer
- On/Off Switch with Pilot Light
- Status Pilot Light for each Step
- Two Adjustable High Limit Cut-offs: w/ Common Pilot Light (1) Auto Reset (1) Manual Reset
- Automatic Pressure Control



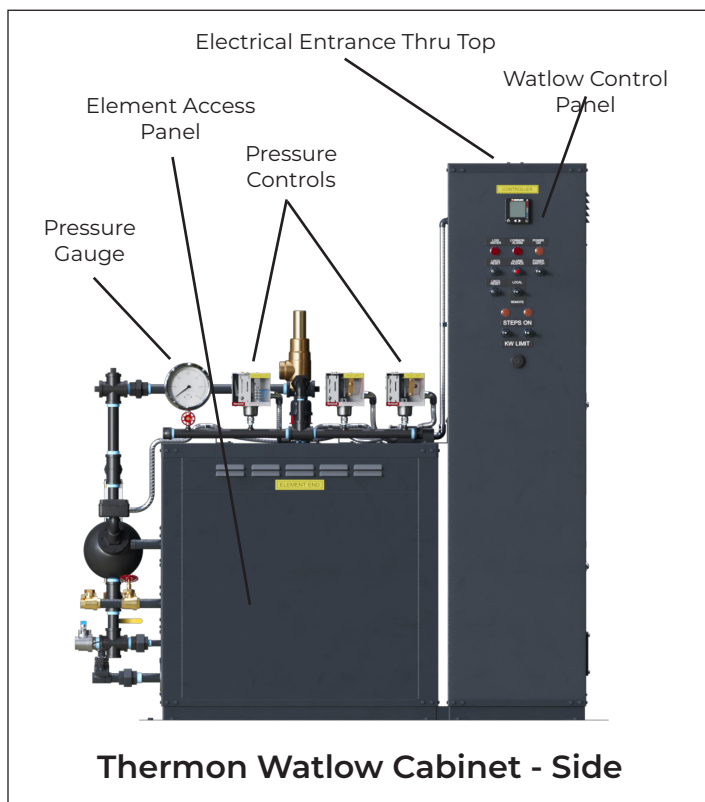
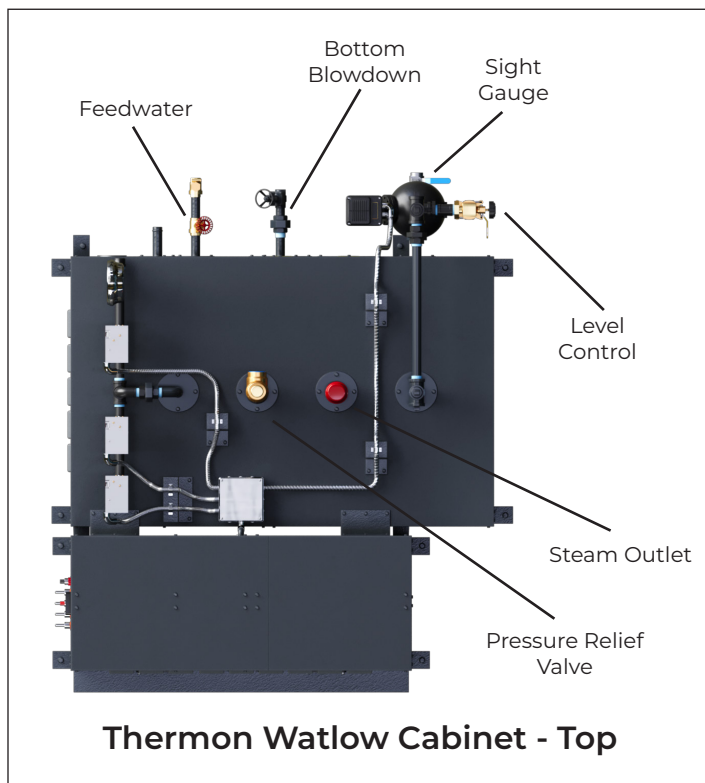
Current Transformer
(With Power Meter or GFI Optional Adders)

DESIGN ADVANTAGES

Model ST, Series Electric Steam Boiler

OPTIONAL EQUIPMENT AND ACCESSORIES

- Non-Fused Disconnect or Non-Auto Breaker
- Fused Disconnect or Automatic Breaker
- Shunt Trip Circuit Interrupter
- Ground Fault Detection System
- Time Clock (24 hour or 7 day)
- Alarm Buzzer with Silencing Switch
- Safety Door Interlock
- Auxiliary Float-Type Low Water Cutoff
- Vacuum Breaker (Installed)
- Cabinet Over-Temperature Alarm System
- Stainless Steel Construction (100PSI / 200KW Max)
- Packaged with Feed Systems and Blowdown Tank
- Automatic Feedwater Solenoid Valve (Installed)
- Automatic Timed Surface Blowoff System (Installed)
- Low Pressure Switch/Alarm



SPECIFICATIONS

Model ST, Series Electric Steam Boiler



Steam from:
1.5-400 BHP

Capacities:
51-13, 800 PPH

kW Rating:
Up to 4,860 kW

Pressures:
250 Max Design PSI

Voltages:
Up to 600 V

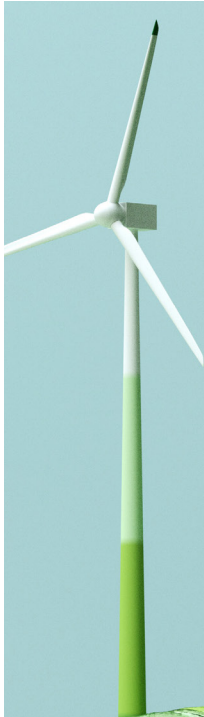


DECARBONIZATION

From healthcare and manufacturing to food and beverage, power generation and beyond, Precision Boilers offers a full line of energy-efficient commercial and industrial electric boilers and steam generators to help you reduce fossil fuel use, improve energy efficiency and lower emissions. Utilizing electricity as a power source our electric options help lower emissions and boost efficiency in your operations. As the world transitions to a future powered by more renewable resources, Precision Boilers is helping to engineer a better tomorrow by electrifying the industry with sustainable industrial heating solutions.

Steam & Hot Water Boilers for When Sustainability is Key

- Reduce dependency on fossil fuels and reach sustainability targets by replacing outdated fuel-fired boilers with electric boilers.
- Lower expenses and increase energy efficiency by using electricity as a fuel source.
- Improve your operational performance with electric boilers which come online faster and are less expensive to run in standby mode than traditional fuel-fired boilers.



CASE STUDY

Electric Steam Boilers in Health Care

Major medical complex replaces fossil fueled boilers with Electric Steam Boilers

Precision Boilers recently outfitted one of the largest medical centers in the world with ST Series Electric Steam Boilers. The medical complex consists of 50 million developed square feet, with \$3 billion in construction projects now underway. The hospitals serve 10 million patients per year, with 9200 patient beds, and performs more than 180,000 annual surgeries, and 750,000 ER visits each year.



Utilizing the CUP Design, in a move away from centralized steam, condensing hydronic boilers were installed. The dual fuel capacity of the boilers maximizes system efficiency and eliminates stationary engineer requirements.

Steam is a requirement for sterilization in medical facilities, and in this case, steam generation takes place in a separate building, not connected to the CUP design. Steam generation occurs in the mechanical room on the second floor of the five-story medical facility, which made venting a gas appliance a challenge. Installing two (2) ST Series II Electric Steam Boilers provided a solution without the need to vent gas.

The clients considered a competitor's product, the Fulton FB-L Electric Steam Boiler, but the boiler's vertical height, the elements used and the necessary roof clearance for the element pull from the top of the unit made this product less desirable.

With a lack of skilled field labor, manufacturers and third-party vendors have begun to offer pre-piped skid packages. General contractors are buying out equipment and offering pre-fab piping, which offers lower quality and fewer options to meet customers' needs.



DESIGN ADVANTAGES

LIMITED WARRANTY

PRECISION warrants all electrical components (except pilot lights and fuses), pressure vessel and heating elements, if found defective in workmanship or material while under normal use and service within the first year of operation or until 18 months after shipment from **PRECISION'S** factory, whichever occurs first, after authorized return by purchaser to PRECISION (at purchaser's expense) and after examination discloses to PRECISION'S reasonable satisfaction to be defective. The repair or replacement of defective parts will be made by **PRECISION** without charge. **PRECISION** will not be held responsible for any field charges in connection with the removal or replacement of allegedly defective parts, nor for incidental or consequential damages. This guarantee does not include damage resulting from unsuitable water.

NOTE: In pursuing our policy of continuous development of products, **PRECISION** reserves the right to vary any detail in this bulletin without notice.

Other Precision Boilers Products

Electric Steam Generators

[Model STH: Electric High Pressure Steam Boiler](#)

Fuel Fired Steam Generators

[Model FPS Vertical Firetube Steam Boiler](#)

Electric Hot Water Boilers

[PCW Compac Electric Hot Water Boiler](#)

[Model HW Electric Hot Water Boiler](#)

Fuel Fired Hot Water Boilers

[Model FPH Vertical Firetube Hot Water Boiler](#)

Electrode Boilers

[Model HVJ High Voltage Jet Electrode Boiler](#)

Electric Hot Water Heaters

[Model HWS Electric Water Heaters](#)

Fuel Fired Hot Water Heaters

[Model PHWS Hot Water Generator](#)

[Model FPW Vertical Firetube Water Heater](#)

Electric Superheaters

[Model ISH Instantaneous Superheater](#)



PCW Electric Hot Water Boiler



HW Electric Hot Water Boiler



STH Electric Steam Generator