THERMON'S ST SERIES

ELECTRIC HOT WATER BOILER FROM THE PRECISION BOILER FAMILY

THERMON
PRECISION BOILERS

PRECISION-ENGINEERED ELECTRIC STEAM BOILER DELIVERING CLEAN, CONSISTENT STEAM FOR CRITICAL APPLICATIONS.

INTRODUCTION

ST SERIES 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 more than 80 years.

KEY FEATURES

ST SERIES 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.

DESIGN ADVANTAGES

- 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

ST SERIES 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 nickelchromium 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

ST SERIES 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 KeyLocked 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
- Progressive Step Control

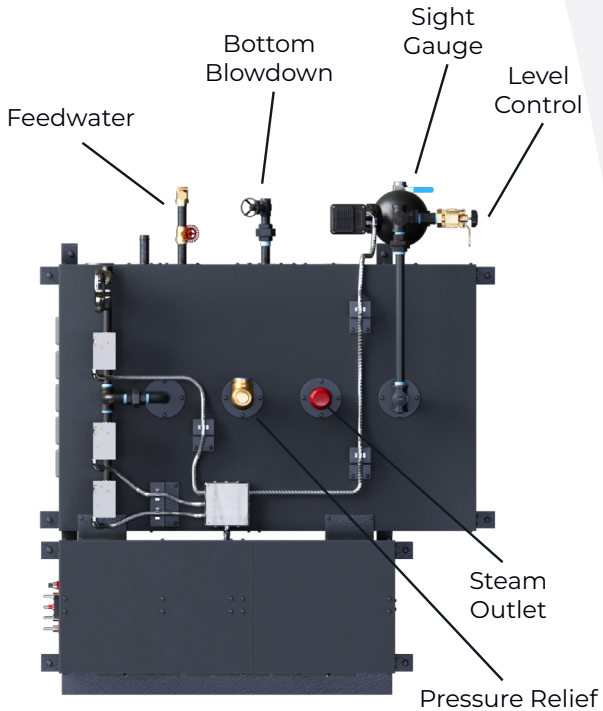
Current Transformer
(With Power Meter or GFI Optional Adders)

DESIGN ADVANTAGES

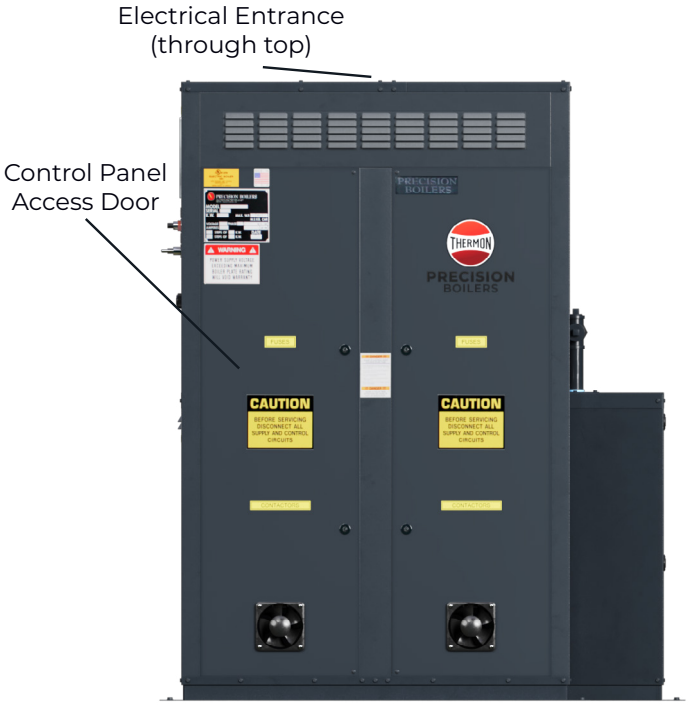
ST SERIES BOILER

STANDARD FEATURES AND ACCESSORIES

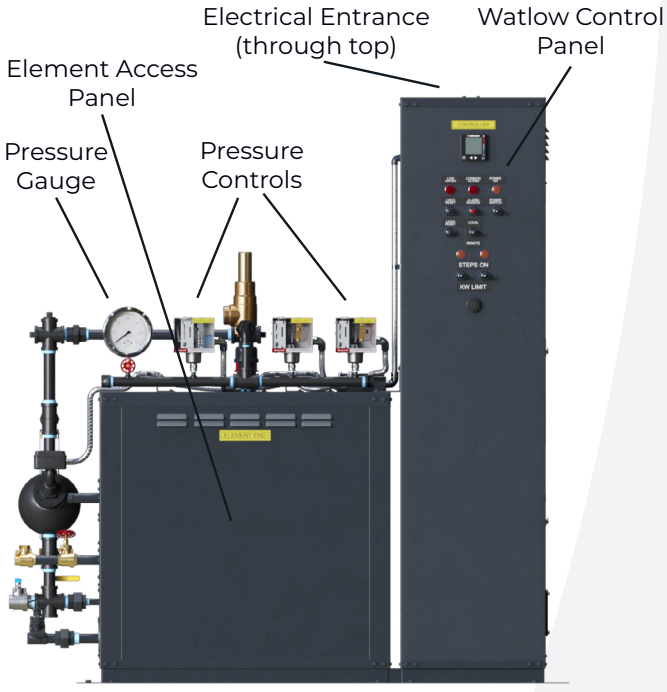
- Non-Fused Disconnect
- Fused Disconnect or Automatic Breaker
- Shunt Trip Circuit Interrupter
- Ground Fault Detection System
- Time Clock (24 hour or 7 day)
- Alarm Buzzer with Silencing Switch
- Auxiliary Float-Type Low Water Cutoff
- Vaccuum Breaker (Installed)
- Cabinet Over-Temperature Alarm System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



TOP VIEW



FRONT VIEW



SIDE VIEW

SPECIFICATIONS

ST SERIES BOILER

STEAM FROM:

2-400 BHP

CAPACITIES:

2-400 BHP

KW RATING:

Up to 4,000 kW

PRESSURES:

Up to 300 Max Design PSI

VOLTAGES:

Up to 600V

CASE STUDY

ST SERIES BOILER

ELECTRIC STEAM BOILERS IN HEALTH CARE

Thermon's Precision Boilers product line 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 prepiped skid packages. General contractors are buying out equipment and offering pre-fab piping, which offers lower quality and fewer options to meet customers' needs.

WHY CHOOSE THERMON?

ST SERIES BOILER

Thermon is a diversified technology company and a global leader in industrial process heating, temperature maintenance, environmental monitoring, and temporary power distribution solutions. We deliver engineered solutions that enhance operational awareness, safety, reliability, and efficiency to deliver the lowest total cost of ownership.

Thermon offers over 250 products, software and services across multiple brands, providing a range of offerings from boilers, transportation heaters, and liquid load banks to tubing bundles and heat trace. We are the silent guardians of critical infrastructure. From the relentless demands of chemical plants and the intricate networks of rail and transit to the vital pulse of power generation, we innovate solutions that ensure optimal operation, protect critical assets, and maximize efficiency.

We care deeply about the success of our customers, the well-being of our people, and the reliability of every product we design. This drives our unwavering commitment to safety and integrity in everything we do. Through collaboration, we unite a rich legacy of expertise with a trusted global team, partnering side-by-side with our customers. We transfer the warmth needed to make life work.

LIMITED WARRANTY

ST SERIES BOILER

Thermon's Precision Boilers Family 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 Thermon products: *https://thermon.com/products/*

For more information, email ***info@thermon.com***