THERMON PRECISION BOILERS

PCW Compact Electric Hot Water Boiler

A Robust and Powerful Electric Boiler that Fits into Smaller Spaces

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

PCW Compact Electric Hot Water Boiler

Power, efficiency, and precise temperature control in a compact electric hot water boiler that is also easy to install. The PCW can be engineered to order, including skid packages. The vertical design doesn't require horizontal removal clearance, making it a great fit in existing piping systems or standing alone in smaller spaces.

Key Features

Small footprint saves installation and building construction costs.

Accessible temperature control with the control sensor located in the outlet pipe.

Individual immersion heating elements are 2 1/2" square flanged for ease of replacement. The elements are made of a highly corrosion resistant Incoloy 800 sheath, and nickel-chromium resistance wire packed in magnesium oxide powder encased in a U-tube design.

Design Adantages

Ideal for new boiler applications or to RETROFIT existing installations, because it fits through many existing doorways with ease.

Available in ratings up to 600V and 842 KW

Requires less square footage floor space and does not require horizontal clearance for element removal.

Individual flanged U-tube design heating element

Shorter down time for element replacement.

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STANDARDS

PCW Compact Electric Hot Water Boiler

Stringent Standards

- ASME Section IV “H” Code
- UL Subject 834
- NEC/NFPA Article 424-G
- ASME Safety Code CSD-1 (>117 KW)

Standard Features and Accessories

- Vessel (150 PSI / 250°F)
- Heavy Duty Steel Boiler Vessel Housing
- Four Inch Fiberglass Insulation
- Three Inch NPT Inlet and Outlet
- ASME Safety Relief Valve
- Pressure Gauge w/ Cock
- Drain Valve
- Incoloy-Sheathed Elements
- Electronic Digital Temperature Readout
- Integral Electric Control Panel with Key-Locked Door
- Internal Branch Circuit Fusing
- Main Supply Circuit Lugs
- 120 Volt Fused Control Transformer
- On/Off Switch w/ Pilot Light
- Manual Limit Toggle Switches (one per step)
- Status Pilot Light for each Stage/Step
- Probe-type Low Water Cut-Off
- Two Adjustable High Limit Cutouts: (1) Auto Reset (1) Manual Reset Note: Manual Reset provided only on units > 2 stages
- Automatic Temperature Control

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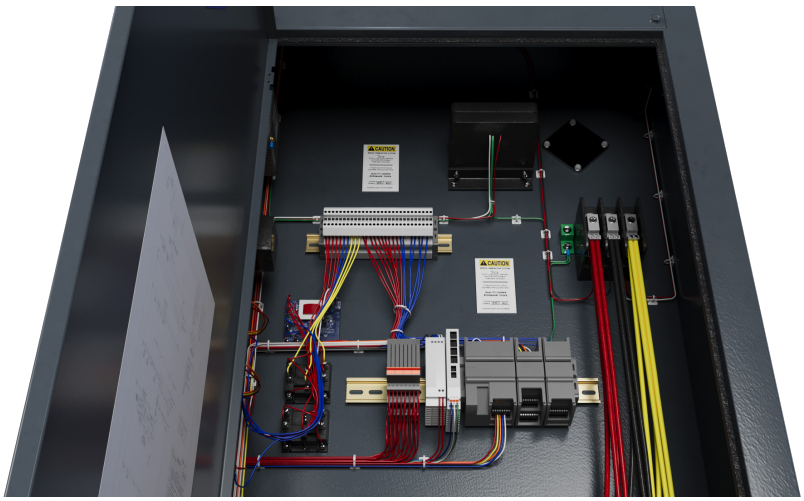
OPTIONAL EQUIPMENT AND ACCESSORIES

PCW Compact Electric Hot Water Boiler

- Non-Fused Disconnect or Non-Auto Breaker
- Fused Disconnect or Automatic Breaker
- Shunt Trip Circuit Interrupter
- Ground Fault Detection System
- Multi-functional power and energy meter
- Time Clock (24 hour or 7 day)
- Safety Door Interlock
- Low Temperature Switch/Alarm
- PLC's and Other Interface Provisions (Consult Factory)
- Outdoor Reset Control
- Flow Switch (Installed)
- Auxiliary Low Water Cut-off (float or probe type) (Auxillary probe type standard on units > 117 KW)
- 4" Connection Size (PCW3 or PCW4)
- Linear Sequence Step Control SCR Rating 5kA (standard) up to 100 kA available
- Contact Factory for many other options to meet your specific requirements.



PCW Wires

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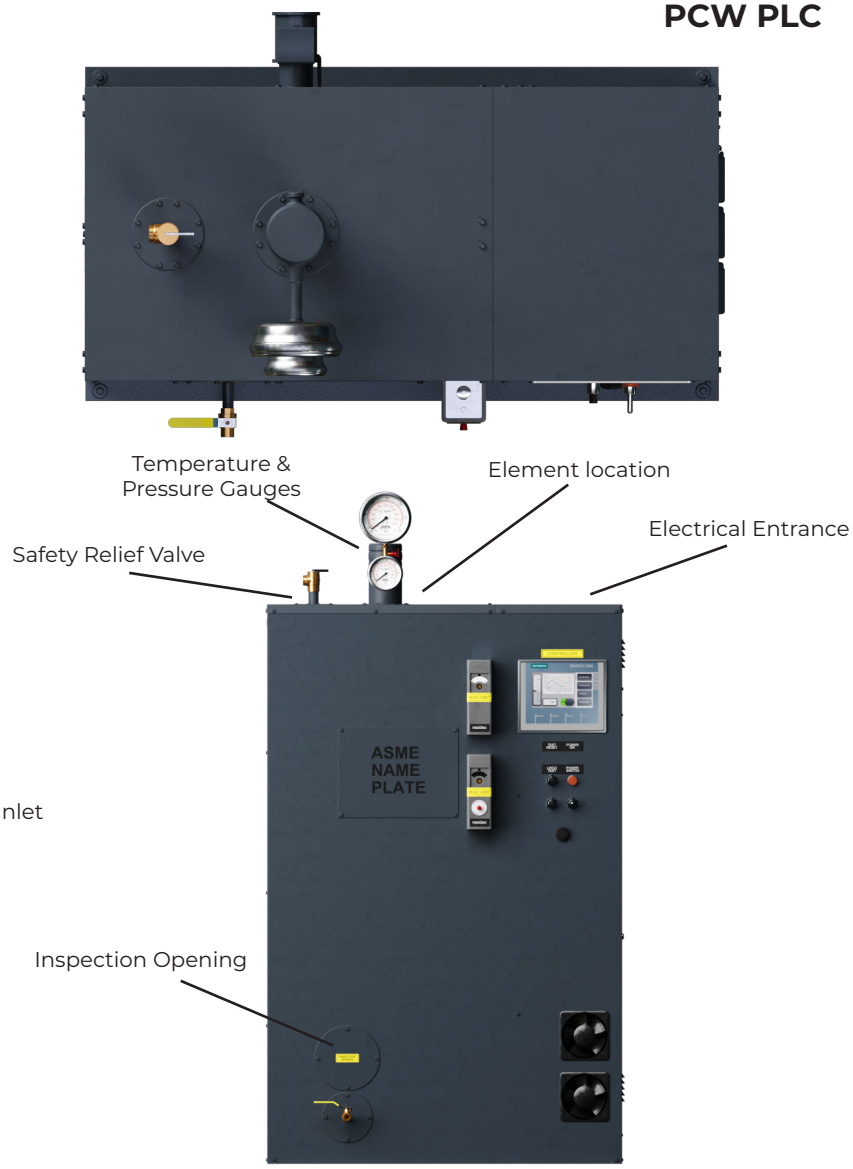
DIMENSIONAL DATA

PCW Compact Electric Hot Water Boiler

PCW PLC



COMPONENTS

Temperature Limit, Auto Reset

Temperature Limit, Manual Reset

Manual Limit Switches

Pilot Lights, Amber (Steps “ON”)

PB Switches (Low Water Cutoff “Test”/ “Reset”)

Toggle Switch (Control Power)

Pilot Light, Amber (Control Power “ON”)

Pilot Light, Red (Low Water)

Temperature Setpoint / Control / Readout

Safety Relief Valve

Temperature and Pressure Gauges

Drain Valve

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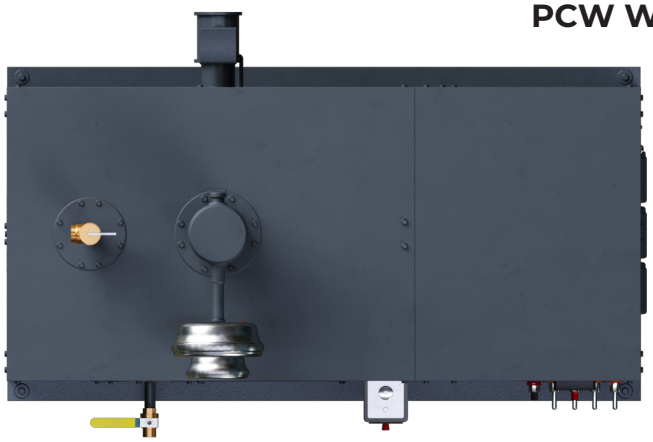
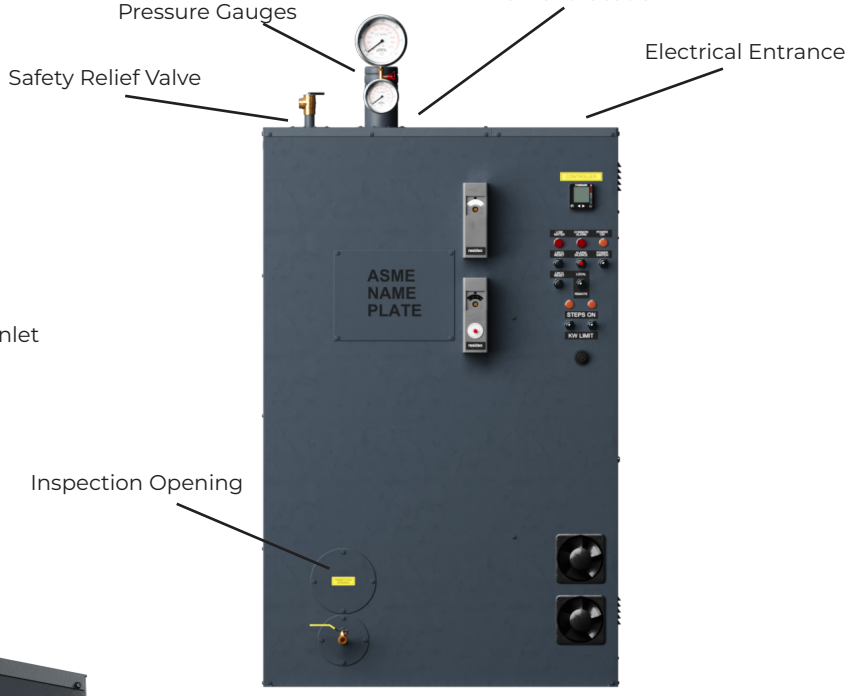
DIMENSIONAL DATA

PCW Compact Electric Hot Water Boiler

PCW WATLOW





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WHY CHOOSE PRECISION BOILERS

PCW Compact Electric Hot Water Boiler

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

Market leader in boiler technology: Known for expertise in electric hot water and steam boiler technology.

In-house manufacturing: We manufacture our own panels in a UL 508 panel shop, with in-house programming of all types of PLC controls.

Extensive industry experience: 75 years' experience producing electric boilers. Hundreds of years combined in-house industry experience

Engineered solutions: Specializing in providing engineered solutions tailored to meet customer's needs.

Deaerator Manufacturer: Established as a deaerator manufacturer since 2000.

Wide product range: A wide range of product offerings including Steam Boilers, Hot Water Boilers, Electrode Boilers, Water Heaters, Superheaters, Feedwater & Deaerators, Blowdown Tanks, Storage Tanks, and Skid Packaging.

Comprehensive Service: In-house service, aftermarket parts, and field service assistance available.

U.S.A. produced

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APPLICATIONS, MARKETS, AND FACILITIES

PCW Compact Electric Hot Water Boiler

PCW Compact Electric Hot Water Boilers are 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

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DECARBONIZATION

PCW Compact Electric Hot Water Boiler

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 that reduce fossil fuel use, improve production and energy efficiency, and lower emissions. As the world transitions toward 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

- Replacing outdated fuel-fired boilers with electric boilers reduces dependency on fossil fuels and contributes to achieving sustainability targets.
- Using electricity as a fuel source lowers expenses and increases energy efficiency.
- 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.

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CASE STUDY

PCW Compact Electric Hot Water Boiler

Data Center Uses Hot Water Boilers to Test Server Cooling Equipment in a Custom Engineered Design

Customer: Large Data Center located in northern U.S.

Application: Large data processing requires cooling equipment for servers, and in order to test the functionality of the cooling equipment system, a method that simulates full-load heat is required.

Methodology: Electric water boilers on configured skids used as a method to produce heat for testing (very large) data center's server cooling equipment.

Products: A quantity of 65 PCW3 and PCW5s on custom configured skids, using PLC Lead Lag to control and integrate into building systems. PCW5 using upgraded Thermon elements.

Solution: We are providing custom-voltage boiler skids to provide hot water to server racks to simulate their full-load heat. This then tests the cooling capabilities of their HVAC system.

Our Value Proposition: Our key solution was our ability to provide custom-voltage boilers which allowed the end users to tie into existing building electrical without cumbersome power change conversions. Other boiler manufacturers were not able to do this, so our engineered-to-order approach helped secure the job.

Adaption Strategy: We essentially created the spec and are now repeating it on several upcoming repeat projects.

Decarbonization: Using electric resistance boilers hot water rather than gas boilers to produce the full-level heat.

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DESIGN ADVANTAGES

PCW Compact Electric Hot Water Boiler

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

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