Bryan Electric

BE Series
Steam & Water Boilers

98,000 to 1,277,000 BTUH
30 to 390 KW

Steam Boiler
BE-90-Q4T3

Water Boiler
BE-210-W4T7

BRYAN BOILERS
Bryan electric hot water or steam boilers...
For commercial, institutional and industrial applications

Bryan Series BE electric hot water** or steam boilers are compact, completely packaged and wired units with automatic controls featuring long life Incoloy sheathed elements. Applications include hot water heating, steam heating, process heating, and supplemental heat for heat pump type equipment.

All Bryan Boilers are built in accordance with the requirements of the ASME boiler and pressure vessel code and are UL listed. Water boilers are 150 psig MAWP and steam boilers either 15 psig or 150 psig. Higher pressures are available.

### Bryan BE Series Boiler Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Input Nominal Output</th>
<th>Steam Output*</th>
<th>Approximate Total Load Amps</th>
<th>Shipping Wt. lbs (kg)</th>
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<tr>
<td></td>
<td>KW</td>
<td>MBH</td>
<td>BHP</td>
<td>lbs/hr (kg/hr)</td>
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<tr>
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<td>98</td>
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<td>196</td>
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</table>

**NOTES:** * Lbs. steam per hour from and at 212°F. ** Not intended for use as a principal heating source for living space of any individual residence.

### Efficiency
Bryan Electric Boilers are nearly 95% efficient at all load levels. Varying loads do not effect the efficiency since the resistive type heating elements are immersed and designed to heat the water directly. With a modulating step control only the elements that are required to heat the water to the desired temperature/pressure will be energized in order to encourage a balanced load during operation.

### Replaceable Hairpins
Each element hairpin is field replaceable with no welding, soldering, or brazing required. Each hairpin, as standard for all Bryan Electric Boilers, is Incoloy sheathed and industrial size 0.430\hspace{1em}/H11542\hspace{1em}diameter. Elements are designed for 75 watts/sq. inch for long life (optional 50 W/D available). Elements are individually installed in a standard ANSI 150 lb. blind flange.

### Steam Disengaging Area
Steam release area is near the middle of the horizontal vessel for maximum steam disengaging area for dry steam and stable water level.

### Water Boiler Design
Vessel is designed for proper circulation around individual elements to maximize heat transfer. High velocities, i.e. heat pump applications, are handled with very little pressure drop when using a horizontal tank for the pressure vessel. Supply and return nozzle sizes can be made larger to accommodate the flow requirements.
Standard Equipment Supplied:

**HOT WATER DESIGN BOILERS:**

**Model “W” (150# ASME Design)**
Thermometer and pressure gauge, Operating immersion aquastat, 2 high limit aquastats, Low water cutoff, Relief valve, Metal jacket with 2" fiberglass, 75 W/D Incoloy sheathed elements with pressure connector power lugs. Control panel with Key lock, On/Off control switch, 120 volt control transformer (fused), Magnetic contactors with 120 volt coil, Individual circuit fusing, Step indicating lamps, First on/first off progressive step controller (3 thru 40 steps), National Board Inspection and UL Label.

**Model “WT”**
Includes items in Model “W” design, plus Indirect heat exchanger — Max. discharge, Heat exchanger relief valve, Expansion tank, Boiler fill and drain valves and Boiler drain cock. (See Form 4800)

**Optional Equipment Available:**

**Other Designs Available:**
1) **BH** – Our upgrade to the BE Series (Form 3200)
2) **WT** – Indirect Hot Water Supply Heaters (Form 4800)
3) **Energy Selector Boiler** – Electric plus gas, oil or gas/oil. A boiler with multiple energy source choice (Form 3500)

Standard Equipment Supplied:

**STEAM DESIGN BOILERS:**

**Model “S” (15# ASME Design)**
Model “Q” (150# ASME Design)
Steam pressure gauge w/gauge clock, Operating pressure control, 2 high limit pressure controls, Combination low water cutoff and pump control, Auxiliary low water cutoff, Relief valve, Water glass set, Metal jacket with 2" fiberglass, 75 W/D Incoloy sheathed elements with pressure connector power lugs. Control panel with: Key lock, On/off control switch, 120 volt control transformer, Magnetic contactors with 120 volt coil, Individual circuit fusing, Step indicating lamps, First on/first off progressive step controller (3 thru 40 steps), National Board Inspection and UL Label.

**Standard Design Features**
- Single point connection entrance
- Heavy duty, 11 gauge power panel cabinet
- 16 gauge jacketing all around structural frame; zinc coated, rust resistant primer, enamel finished
- Elevated legs integral with structural frame and extended rails for positive support of both pressure vessel and heavy duty power panel cabinet
- Hinged door for access to vessel, ASME and elements
- Louvered panel cover for proper cooling air circulation
- Each branch circuit is fused individually
- Elevated legs integral with structural frame and extended rails for positive support of both pressure vessel and heavy duty power panel cabinet
- Hinged door for access to vessel, ASME and elements
## Bryan BE Series Steam & Hot Water Boilers

Specifications subject to change without notice. Consult factory to consult on other boiler options.

### MODELS "W" WATER / "S" 15# STEAM Dimensions in (cm)

<table>
<thead>
<tr>
<th>KW</th>
<th>Boiler Dimensions</th>
<th>Power Panel Dimensions</th>
<th>Inlet</th>
<th>Outlet</th>
<th>Boiler Dimensions</th>
<th>Power Panel Dimensions</th>
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<td>height</td>
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