

Plate Heat Exchanger Indirect Fired Water Heater

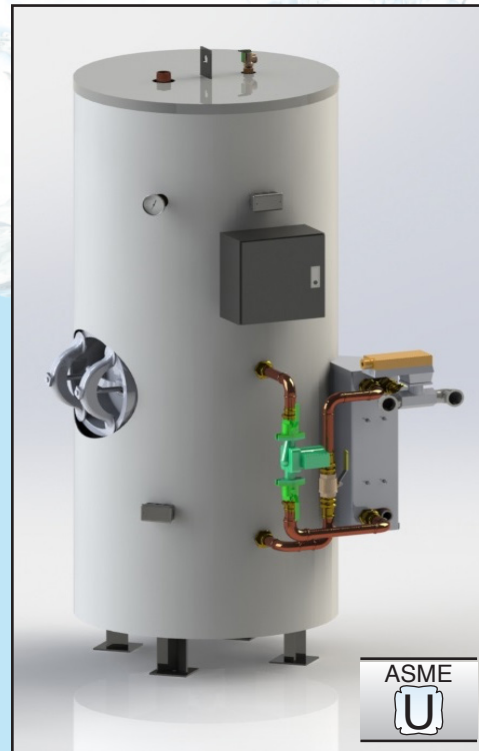
Utilizing Low Temperature Boiler Water To Heat Domestic Water

Features

- **Reliable**
 - ✓ Only non-ferrous components on domestic wetted side
 - ✓ Replaceable brazed plate or serviceable plate and frame heat exchanger
 - ✓ Heavy duty construction withstands demanding commercial/industrial use
- **Packaged System**
 - ✓ Factory selected and sized boiler water control valve & domestic water circulator simplifies installation and ensures reliable operation
- **Versatile**
 - ✓ Full range of styles, sizes, and optional features to meet your exact heating needs

Applications

- Schools
- Office Buildings
- Sports Venues
- Hotels
- Industrial Facilities
- Nursing Homes
- Hospitals
- Heat Recovery Systems



Model BWP Storage Type

The Model BWP is equipped with all operating controls and is ready for immediate installation



A Heavy Duty Indirect Fired Water Heater

The Model BWP is a fully packaged indirect fired water heater utilizing boiler water from a condensing boiler as the energy source for heating potable water. By utilizing a plate type heat exchanger, the system can provide efficient heat transfer at boiler water temperatures below the capabilities of traditional U-tube bundles. The entire package is designed to be a reliable and long lasting source of hot water. Each component is carefully selected to ensure high performance in even the most

demanding applications. All components on the potable water side will be constructed with non-ferrous material. Whether you are heating potable water in a commercial building or process water for an industrial application, you can select a Hubbell BWP to do the job. When you specify and install a Hubbell water heater, you will be provided with a quality product that is a long lasting and trouble free source of hot water.

Cement Lined Tanks Provide Longer Service Life



What is the most common reason why a water heater fails?



Failure of a tank's protective lining allows water to come into direct contact with the steel tank, causing it to corrode and leak.

Therefore, the type of protective lining is the single most important feature when determining the quality of any water heater. The ability of a lining to protect the steel tank is primarily based upon its thickness and complete coverage of all steel surfaces.

Two common internal tank linings are Glass & Cement.

Glass

Glass lining is approximately 5 mils (.005") thick & *does not cover* all internal surfaces.

To compensate, all glass lined tanks require a sacrificial anode rod which must be periodically inspected and replaced.

Cement

Hydrastone cement lining is a minimum of 1/2" thick (100 times thicker than glass lining) and is guaranteed to uniformly cover 100% of all internal tank surfaces. The result is a significantly longer lasting tank which does not require a sacrificial anode.

Threaded tapping material is critical for tank longevity.

Glass lined tanks are constructed with regular steel tappings which are continuously attacked by corrosive hot water due to the lack of glass lining on the internal threads. The Hubbell Model BWP water heater tank is constructed with *solid non-ferrous tank tappings* which are impervious to the corrosive effects of hot water.

The Hubbell Storage Tank is a longer lasting water heater based on the construction features found in the Hydrastone cement lining. When you specify and install a Hubbell Model BWP, you will have confidence in knowing that the owner will be provided with a trouble-free source of hot water.

■ Thickness

Each Hubbell Model BWP is lined with a minimum of 1/2" thick Hydrastone cement to ensure protection of the steel tank.

■ Coverage

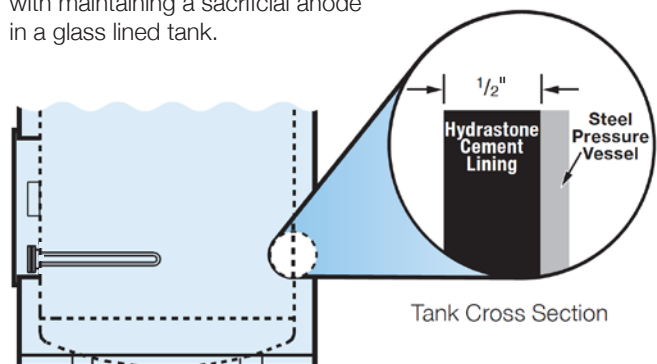
The Hydrastone cement lining covers a guaranteed 100% of all interior tank surfaces and is free from flaws or imperfections. Full coverage is achieved by injecting the precise amount of Hydrastone cement into each tank and then centrifugally spinning it at 250 RPM to ensure complete and uniform coverage of the lining on all interior surfaces.

■ Corrosion Resistance

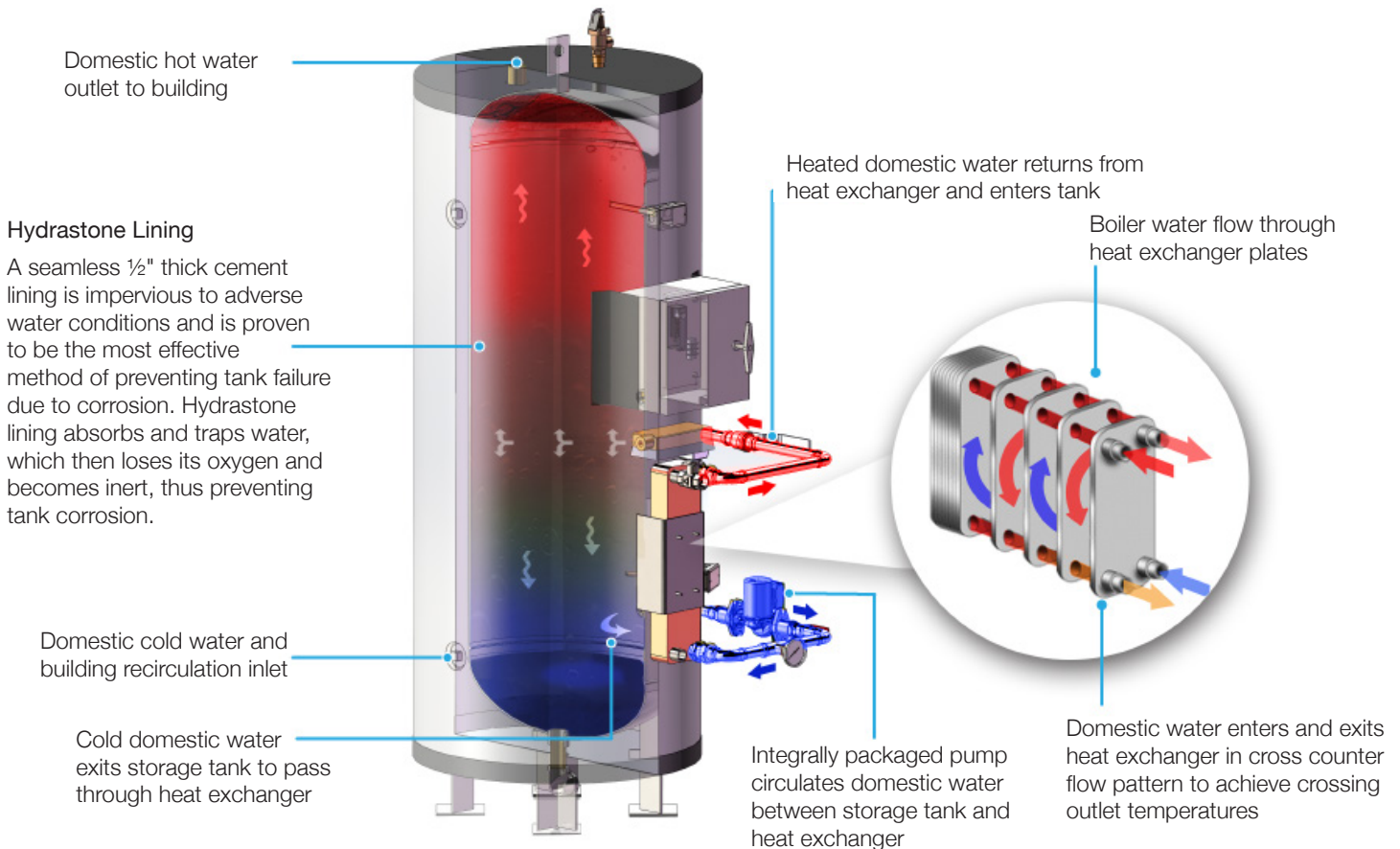
Hydrastone cement is a specifically formulated high density lining designed to provide maximum protection from the corrosive effects of hot water.

■ Reduced Operating Costs

The Hubbell Model BWP water heater significantly reduces the total ownership cost of a water heater due to the longer life and maintenance-free benefits derived from a Hydrastone cement lined tank. Longer tank life is directly attributable to the unmatched tank protection provided by the Hydrastone cement lining and copper-silicon tappings. Additionally, the Hubbell Model BWP reduces operating expenses by eliminating the periodic inspection and replacement costs associated with maintaining a sacrificial anode in a glass lined tank.



HOW IT WORKS



STANDARD EQUIPMENT

Vessel Construction

1. All welded carbon steel pressure vessel designed and built in strict accordance with the ASME Code Section VIII and stamped, certified, and registered with the National Board of Boiler and Pressure Vessel Inspectors
2. All internal tank surfaces are lined with a minimum 1/2" thick Hydrastone cement for superior protection and tank longevity
3. Designed for 150 psi working pressure and hydrostatically tested

Plate Type Heat Exchanger

1. Factory sized and installed with a generous heating surface designed to ensure reliable operation
2. Insulation and housing
3. Single wall brazed plate type heat exchanger
4. Isolation valves for heat exchanger servicing
5. T&P gauges

Boiler Water Operating Controls

1. Operating controls are factory selected, sized, piped and tested to ensure reliable operation
2. All components are factory piped and ready for boiler water connections
3. Modulating control valve (Specify: 2-way or 3-way) to regulate the flow of boiler water through the heat exchanger
4. Non-ferrous material on domestic side of system

General

1. Heavy duty rigid foam insulation for maximum operating efficiency and minimal stand-by heat loss
2. High impact composite protective outer jacket
3. Heavy duty integrally welded steel supports for floor mounting
4. Full five (5) year Non Pro-Rated tank warranty and a one (1) year component warranty
5. ASME rated combination T&P relief valve set at the tank working pressure and 210°F
6. Tank to heat exchanger circulation pump

OPTIONAL EQUIPMENT

■ Vessel

- 1.** Alternate vessel construction:
Stainless Steel Type 304 or 316L, 90/10 Copper-Nickel, Other: _____
- 2.** Alternate working pressure:
Please specify _____
- 3.** Horizontal construction

■ Heat Exchanger

- 4.** Double wall brazed plate heat exchanger
- 5.** Plate and frame type heat exchanger (Single or double wall)

■ Boiler Water Operating Controls

- 6.** Single solenoid safety system closes the boiler water supply to the heating coil should the water temperature in the tank reach the hi-limit set point. Requires 120 volt 5 amp electrical service
- 7.** Alternate water temperature range

■ General

- 8.** Skid mounting on heavy duty all welded I Beam
- 9.** Type 304 stainless steel protective outer jacket, please specify if painted.
- 10.** Fiberglass insulation with painted galvanized steel jacket

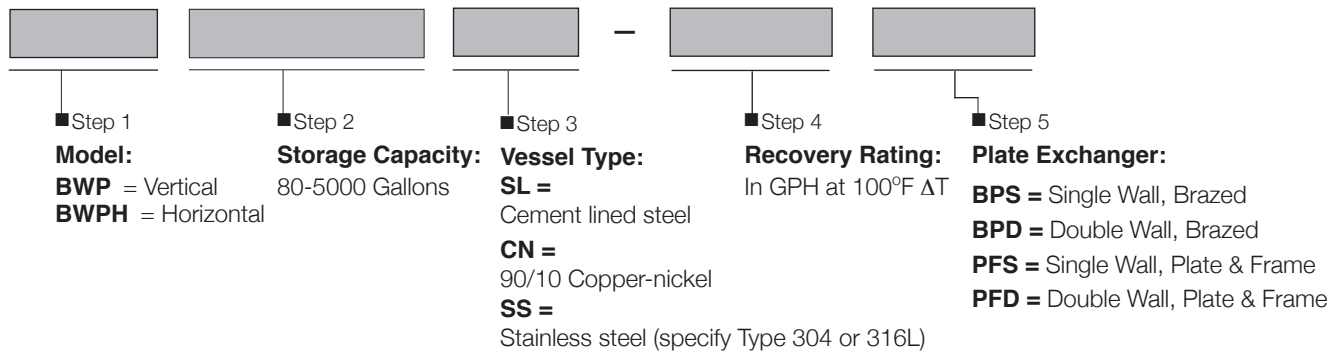
■ Additional Options:

- 11.** Remote start/stop
- 12.** Dry contacts for over temperature indication
- 13.** Alarm bell/horn
- 14.** Pump enable (HVAC only)
- 15.** RS-485 modbus communication port for remote operation of the temperature controller

Note:

Any and all optional equipment for a water heater must be called out in the written specifications. A model number in and of itself does not reflect any optional equipment selected. **Please note:** optional equipment may impact overall dimensions and weight. Please request submittal drawing from factory.

MODEL NUMBER DESIGNATION

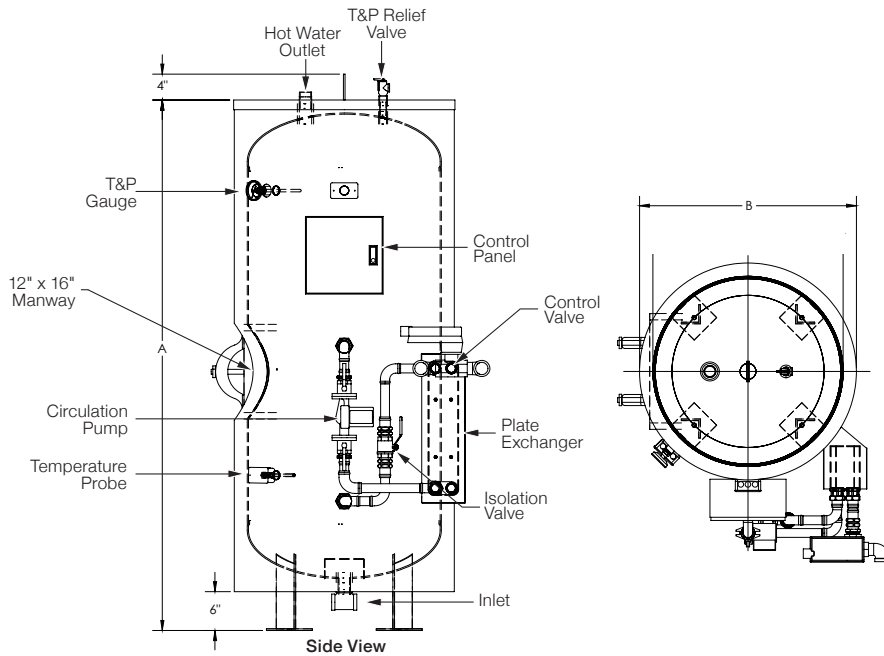


Example:

BWP200SL-850BPS

A vertically installed 200 gallon storage capacity indirect fired water heater with a cement lined steel storage tank and a single wall brazed plate exchanger rated to heat 850 GPH at a 100°F temperature rise.

OUTLINE DIMENSIONS



OVERALL DIMENSIONS

Actual Storage Capacity (Gallons)	Overall Dimensions (Inches)		Storage Tank Diameter Length	Nominal Storage Capacity (Gallons)	Inlet Outlet Sizing (NPT)	Approx. Shipping Weight (Lbs.)
	Vertical					
	Diameter "A"	Height "B"				
80*	26	65	22 x 54	90	1.5	700
120*	28	75	24 x 64	140	1.5	900
150*	30	79	26 x 68	170	1.5	1100
200	34	82	30 x 72	220	1.5	1700
250	40	74	36 x 64	285	1.5	1850
300	40	88	36 x 78	345	1.5	2180
350	40	94	36 x 84	370	1.5	2500
400	46	85	42 x 75	450	1.5	2700
450	46	93	42 x 83	500	1.5	3000
500	52	82	48 x 72	565	2	3225
550	52	89	48 x 79	620	2	3400
600	52	95	48 x 85	665	2	3650
800	52	119	48 x 109	850	2	4300
1000	52	145	48 x 135	1060	2	5200
1500	58	174	54 x 164	1625	2	6000
2000	64	185	60 x 175	2145	3	8100
3000	76	197	72 x 187	3300	3	8300

Note: All dimensions are approximate and subject to change. Please reference the submittal drawing for actual dimensions. The tank selections above are shown for convenience. A full selection of storage capacities is available by entering the desired capacity into the model number.

* 80, 120 and 150 gallon tanks do not come equipped with a manway. Please consult factory if desired on these sizes.

MASTER SPECIFICATION

Job Name:

Engineer:

Representative:

Contractor:

General

Provide a quantity of _____ packaged BWP plate type indirect fired storage heater(s) Model No. _____ as manufactured by Hubbell Water Heaters, Stratford, CT. The pressure vessel shall be mounted on structural supports and be suitably insulated, jacketed, painted, and provided with lifting lugs. The entire unit is to be packaged ready for service connections.

Pressure Vessel

The pressure vessel shall be all welded construction and ASME Code Section VIII stamped for a working pressure of 150 psi (Optional specification: _____psi) and contain a minimum of _____ gallons of storage. The storage vessel shall be carbon steel and lined with seamless Hydrastone cement to a minimum thickness of 1/2" on 100% of all interior tank surfaces (Optional specifications: solid type 304 or 316L stainless steel tank, solid 90/10 copper-nickel tank). The pressure vessel shall be insulated with a minimum 2" thick polyurethane foam insulation at minimum value of R-7 per inch and for a minimum total value of R-14. Insulating value shall exceed the ASHRAE standard 90.1-2013, requiring an R-value of 12.5 for stand-by heat loss by a minimum of 10%. (Optional specification: 3" R-21) 3" thick polyurethane foam insulation at minimum value of R-7 per inch and for a minimum total value of R-21. Insulating value shall exceed the ASHRAE standard 90.1-2013, requiring an R-value of 12.5 for stand-by heat loss by a minimum of 60%. An ASME approved automatic reseating combination temperature and pressure relief valve set at the tank WP and 210°F shall protect the vessel.

Heating Section

The heat exchanger shall be single wall brazed plate design (Optional specification: double wall brazed plate, single wall plate and frame, double wall plate and frame) shall be rated to heat _____ GPH from _____°F to _____°F when supplied with _____ GPM of boiler water from _____°F to _____°F. The domestic heating section will include an integral recirc pump sized for the demand and T&P gauges on both the inlet and outlet of the domestic side of the heat exchanger.

Controls

The water heater controls shall be factory assembled and piped. A two-way diverting valve will regulate the flow of boiler water to the heat exchanger without diverting back to the boiler. (Optional specification: three-way temperature regulating valve) will regulate the flow of boiler water to the heat exchanger and divert unused boiler water back to the hydronic loop. (Optional specification: thermostat to provide ON/OFF control of pump or solenoid). In addition, the water heater may be supplied with the following optional features: Single solenoid safety system to close the boiler water supply to the heat exchanger should the water temperature in the tank reach the hi-limit set point. Requires 5 AMP, 120 Volt service.

Warranty

The water heater manufacturer shall warranty all components against defects in workmanship and material for a period of one (1) year from date of start-up, and the pressure vessel for a full five (5) years Non Pro-Rated (Optional specification: full ten (10) years Non Pro-Rated) from date of start-up, provided that the unit is started within three (3) months of date of shipment and installed and operated within the scope of the tank design and operating capability. Each water heater shall be shipped with a complete set of installation and operating instructions, including a spare parts list and approved drawing.

About Us

Hubbell water heaters and water heating systems are trusted all over the world by engineers, mechanical contractors, building owners, specifiers, architects, and more. Whatever the application, fuel source, or industry, Hubbell can provide a solution to your water heating needs. We offer an extensive range of water heating products and turnkey/modular packages for Commercial, Industrial, Foodservice, Marine/Offshore and Naval markets.