

Bryan BE-Series Electric Hot Water or Steam Boilers



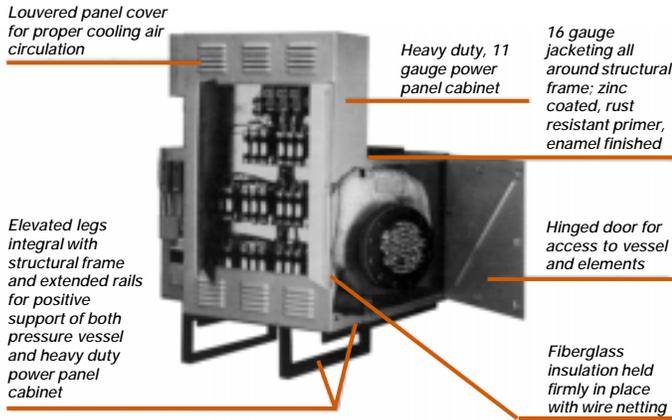
B **BRYAN BOILERS**



Bryan electric hot water or steam boilers...

For commercial, institutional and industrial applications

Pressure vessel, frame and jacking

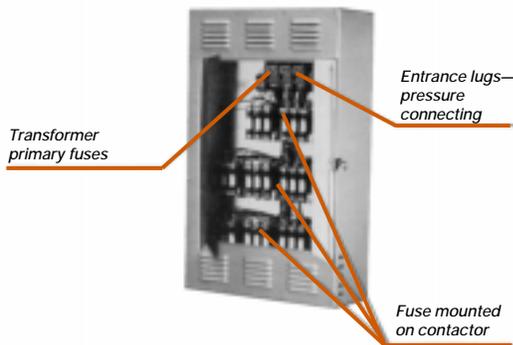


Bryan Series BE electric hot water or steam boilers are compact, completely packaged and wired units with automatic controls featuring long life Incoloy sheathed elements. Applications include hot water heating, steam heating, process heating, and supplemental heat for heat pump type equipment. Size ranges from 15 to 390 KW (49,000 to 1,278,000 BTUH output) with the following voltage options: 15 to 390 KW, 460 or 480 volt, 3 phase; 15 to 195 KW, 208 or 240 volt, 3 or 15 to 120 KW, 240 volt, 1 phase. Boilers are ASME and UL listed.

Standard equipment

- ASME vessel • Incoloy sheathed element • 2" fiberglass insulation • 16 gauge steel jacketing • Power panel and enclosures • Modulating step controller (units over 60 KW) • Recycle relay • Individual circuit fusing • ASME safety relief valve • Pressure connecting type lugs • On-off circuit control switch • 120 volt control circuit transformer single phase units • High limit—automatic reset • Magnetic contactors with 120 volt coil • Key operated lock in power panel cabinet

Typical power panel layout (Water boiler panel shown)



Water units only, standard equipment

- Combination pressure/temperature gauge • Operating temperature control • Low water cutoff

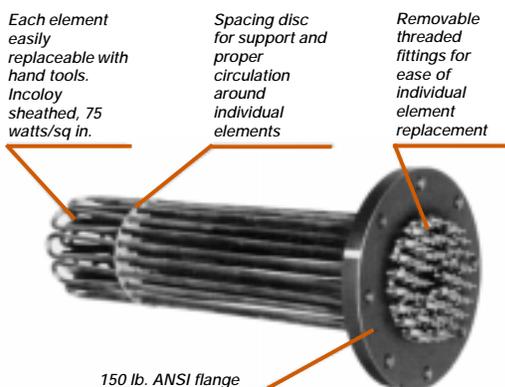
Water units only, standard equipment

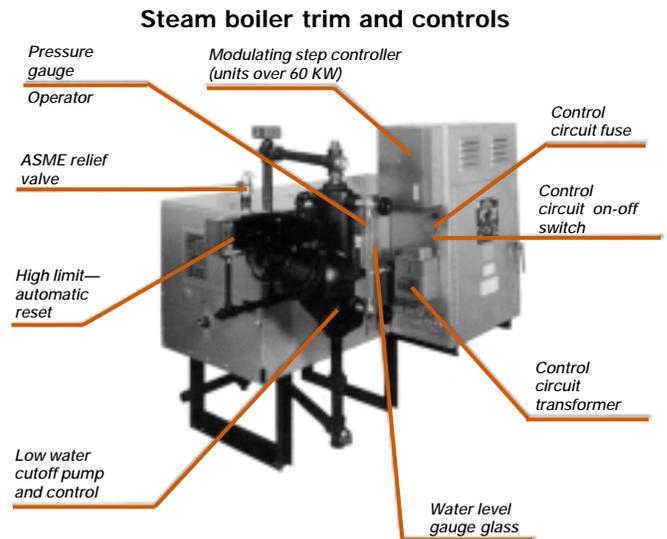
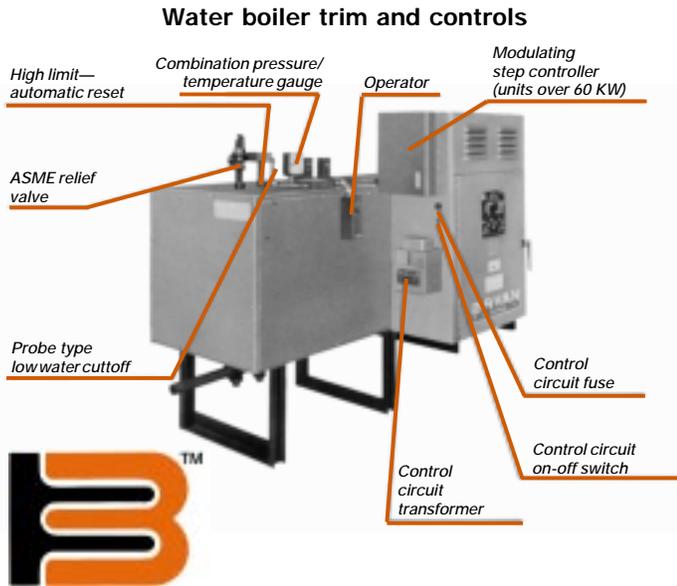
- Pressure gauge • Operating pressure control • Low water cutoff and pump control • Water gauge

Optional equipment available

- Power panel door electric interlock • Preheat switch • Voltmeter • Time clock (24 hours) • Flow switch • Outdoor reset control • Manual high limit control • Auxiliary low water cutoff • Manual reset low water cutoff • Low water cutoff drain • Boiler drain valve • Boiler blowdown valve • Automatic boiler blowdown with 24 hour time clock • National Board inspection • Alarm bell(s) • Alarm silencing switch • Special indicating or pilot lights • Isolation relays • KW load limiter • Boiler feed system • Factory operating test

Electric element bundle





Sample specifications for electric hot water or steam boilers

General

Furnish and install where shown on the plans (1, 2, 3, etc.) package type electric hot water (steam) boiler(s) Model _____ as manufactured by Bryan Steam Corporation. Unit shall be completely factory assembled including accessories as described herein, prewired, factory tested and UL labeled.

Each boiler shall have an input of ___ KW at ___ volts. The pressure vessel insulation, jacket, electrical cabinet(s) controls shall be mounted on elevated structural. Each boiler shall be equipped with a temperature-pressure gauge (pressure gauge only for steam).

Pressure

The pressure vessel shall be of all-welded steel construction, designed for a pressure of ___ psig in accordance with the ASME Boiler & Pressure Vessel Code and stamped with the appropriate ASME symbol.

The vessel shall be provided with:

The necessary inspection openings as required by the ASME Code, opening for flanged element and controls, two inches of fiberglass insulation, wire netting to hold insulation in place drain line of a size as required by ASME Code, threaded outlet ___ inch pipe size, threaded inlet _____ inch pipe thread ASME safety relief valve with capacity and size as required by the ASME Code, set to relieve at ___ psig. A 16 ga. zinc coated metal jacket painted with two coats of enamel shall be provided.

Electrical

An electrical power panel cabinet shall be provided. There shall be no operating nor limit controls mounted in this cabinet. It shall be equipped with louvers which will facilitate natural air circulation to minimize temperature rise. The cabinet hinged door(s) shall be equipped with a key handle to prevent access by unauthorized personnel. The

main power supply to the boiler shall be ___ (208, 240, 480, etc.) volts, 3 phase, 60 Hz, 3 wire system supplied to the electrical cabinet by ___ (1, 2, 3, etc.) ___ (250, 350, 500, etc.) MCM conductors per phase.

All power wiring in the unit shall terminate in the box type connectors. Crimp connections in the power circuit will not be acceptable. The power wiring shall be of a rating not than 8 AWG with insulation of a rating not less than 75°C.

Elements

The boiler shall be equipped with immersion type heating elements mounted in standard 150 lb. ANSI flange. Each element shall be mechanically mounted and field replace-without, welding or brazing. Elements shall be Incoloy sheathed and have maximum watt density of 75 watts per inch. Elements shall be rated for voltage specified.

Controls

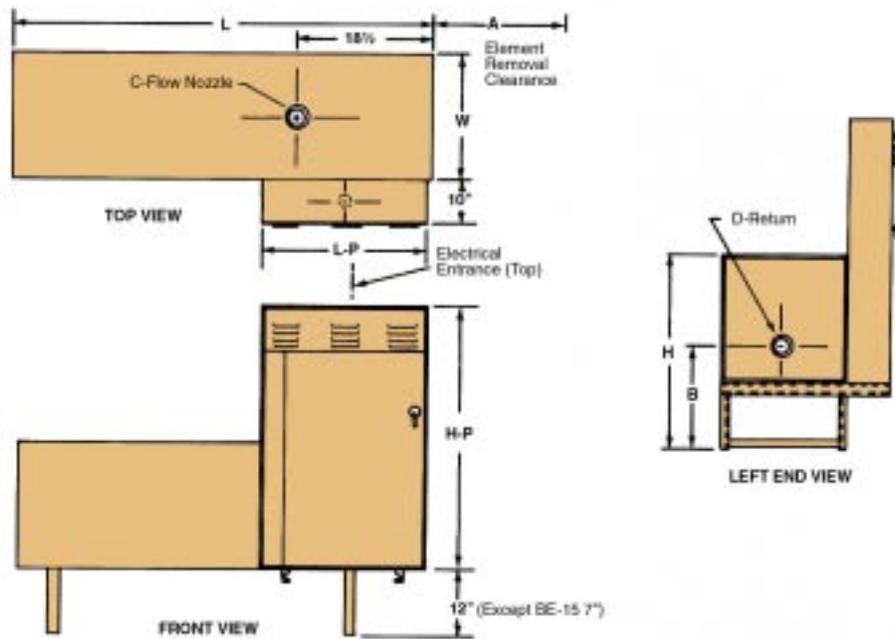
The control circuit shall be 120 volts, single phase, 60 Hz,, supplied by a stepdown transformer of the proper size. Both sides of control transformer primary shall be protected by fuses located in the electrical cabinet. One side of the control transformer secondary shall be grounded and the other side fused.

The control circuit shall also include:

An on-off switch to shut off current to controls, control circuit fuse, high limit, control which will interrupt control circuit if operating conditions are exceeded, low water cutoff, operating control and modulating step controller (units over 60 KW), recycle relay which will cause the modulating step controller to modulate to the start position before the circuit will be re-energized.

The operating control shall be set to maintain an outlet temperature (steam pressure) of ___°F (psi steam).

Dimensional Data



Model Numbers & Output Rating			DIMENSIONS IN INCHES																							Fluid Cap. Oper. Level Gal		
			Common to Both Water & Steam Boilers						15 PSI Steam and Water			150 PSI Steam			Water Boilers Only						Steam Boilers Only							
															L-P			H-P			Fluid Cap. Gal.	L-P			H-P			
Model	Input KW	Output BTUs	W	H	A	B	C	D	L	G	F	L	G	F	480/3 60	208/3 60	240/1 60	480/3 60	208/3 60	240/1 60		480/3 60	208/3 60	240/1 60	480/3 60	208/3 60	240/1 60	
*BE-15	15	49,140	18	25	15	12	2	2	37	18½	¾	37	17	¾	20	20	20	24	24	24	24	20	24	24	24	24	24	8
*BE-30	30	98,280	20	32	30	18	2	2	48	22½	¾	44	17	¾	20	20	20	24	24	24	24	20	20	20	24	24	30	13
*BE-45	45	147,420	20	32	30	18	2	2	48	22½	¾	44	17	¾	20	20	20	24	24	30	24	20	20	30	24	20	36	13
*BE-60	60	196,560	20	32	30	18	2	2	48	22½	¾	44	17	¾	20	20	30	24	30	36	24	20	30	30	24	36	48	13
*BE-75	75	245,700	20	32	30	18	2	2	48	22½	¾	44	17	¾	20	30	30	24	36	48	25	20	30	30	30	36	48	13
*BE-90	90	294,840	28	40	30	19½	3	3	48	25¼	1	44	18½	1	20	30	30	24	36	48	52	20	30	30	30	36	66	32
*BE-105	110	343,980	28	40	30	19½	3	3	48	25¼	1	44	18½	1	20	30	30	30	48	66	52	30	30	30	36	48	66	32
BE-120	120	393,120	28	40	30	19½	3	3	48	25¼	1	44	18½	1	20	30	30	30	48	66	52	30	30	30	36	48	66	32
BE-135	135	442,260	28	40	30	19½	3	3	48	25¼	1	44	18½	1	30	30	N/A	36	48	N/A	52	30	30	N/A	36	66	N/A	32
BE-150	150	491,400	28	40	30	19½	3	3	48	25¼	1	44	18½	1	30	30	N/A	36	48	N/A	52	30	30	N/A	36	66	N/A	32
BE-165	165	540,540	28	40	30	19½	3	3	48	25¼	1	44	18½	1	30	30	N/A	36	66	N/A	52	30	30	N/A	36	66	N/A	32
BE-180	180	589,680	28	40	30	19½	3	3	48	25¼	1	44	18½	1	30	30	N/A	36	66	N/A	52	30	30	N/A	36	66	N/A	32
BE-195	195	638,820	28	40	30	19½	3	3	48	25¼	1¼	44	18½	1	30	30	N/A	48	66	N/A	52	30	30	N/A	48	66	N/A	32
BE-210	210	687,960	28	40	55	19½	3	3	76	25¼	1¼	74	18½	1	30	N/A	N/A	48	N/A	N/A	105	30	N/A	N/A	48	N/A	N/A	69
BE-240	240	786,240	28	40	55	19½	3	3	76	25¼	1¼	74	18½	1	30	N/A	N/A	48	N/A	N/A	105	30	N/A	N/A	48	N/A	N/A	69
BE-270	270	884,520	28	40	55	19½	3	3	76	25¼	1¼	74	18½	1	30	N/A	N/A	48	N/A	N/A	105	30	N/A	N/A	66	N/A	N/A	69
BE-300	300	982,800	28	40	55	19½	3	3	76	25¼	1¼	74	18½	1	30	N/A	N/A	66	N/A	N/A	105	30	N/A	N/A	66	N/A	N/A	69
BE-330	330	1,081,080	28	40	55	19½	3	3	76	25¼	1¼	74	18½	1	30	N/A	N/A	66	N/A	N/A	105	30	N/A	N/A	66	N/A	N/A	69
BE-360	360	1,179,360	28	40	55	19½	3	3	76	25¼	1¼	74	18½	1	30	N/A	N/A	66	N/A	N/A	105	30	N/A	N/A	66	N/A	N/A	69
BE-390	390	1,277,640	28	40	55	19½	3	3	76	25¼	1¼	74	18½	1	30	N/A	N/A	66	N/A	N/A	105	30	N/A	N/A	66	N/A	N/A	69

* NOTICE: Not intended for use as a principal heating source for the living space of an individual residence.



Bryan Steam Corporation — Since 1916

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