

Bryan Electric **BE Series Steam & Water Boilers**

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



Steam Boiler
BE-90-Q4T3



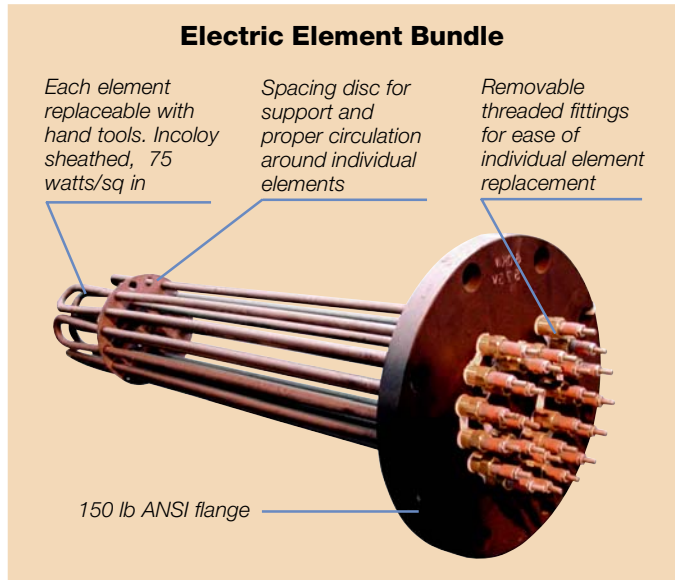
Water Boiler
BE-210-W4T7

BTM 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.

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" 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

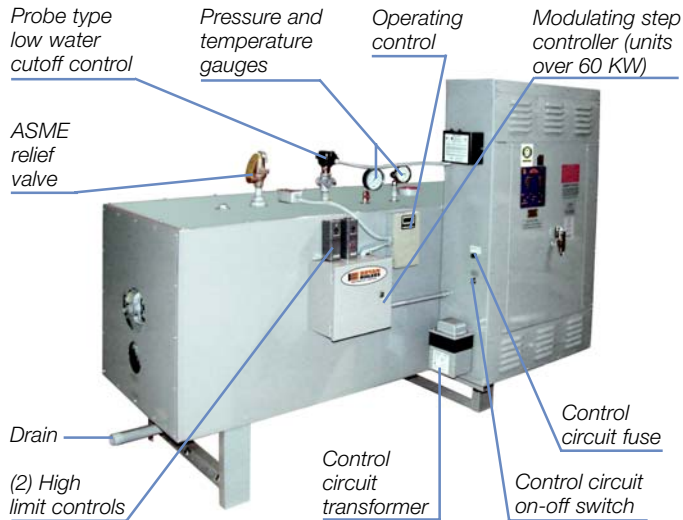
Vessel is designed for proper circulation around individual elements to maximize heat transfer. High velocities, i.e. heat pump applications, are handled with very little pressure drop when using a horizontal tank for the pressure vessel. Supply and return nozzle sizes can be made larger to accommodate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

Bryan BE Series Boiler Specifications

Model	Input	Nominal Output		Steam Output*	Approximate Total Load Amps					Shipping Wt. lbs (kg)
	KW	MBH	BHP	lbs/hr (kg/hr)	208V	240V	380V	480V	575V	
BE-30	30	98	3	104 (47)	84	73	47	37	31	800 (365)
BE-45	45	147	4.5	155 (70)	126	109	69	55	46	825 (375)
BE-60	60	196	6	207 (93)	168	146	92	73	61	850 (390)
BE-75	75	245	7.5	259 (117)	209	182	115	91	76	875 (400)
BE-90	90	294	9	311 (141)	251	218	138	109	91	1000 (455)
BE-105	105	343	10.5	362 (164)	293	254	161	127	107	1050 (480)
BE-120	120	393	12	414 (187)	334	290	184	146	122	1100 (500)
BE-135	135	441	13.5	466 (211)	376	326	206	164	137	1300 (590)
BE-150	150	491	15	518 (234)	418	362	229	182	152	1325 (600)
BE-165	165	539	16.5	569 (258)	460	398	252	200	167	1350 (615)
BE-180	180	589	18	621 (281)	501	435	275	218	182	1400 (635)
BE-195	195	637	19.5	673 (305)	543	471	298	236	197	1450 (660)
BE-210	210	687	21	725 (328)	585	507	320	254	212	1950 (885)
BE-240	240	786	24	828 (375)	668	579	366	290	242	2000 (910)
BE-270	270	884	27	932 (422)	751	651	412	326	272	2450 (1115)
BE-300	300	982	30	1035 (469)	835	724	457	362	303	2500 (1135)
BE-330	330	1081	33	1139 (516)	918	796	503	398	333	2550 (1160)
BE-360	360	1179	36	1242 (563)	1001	868	549	435	363	2600 (1180)
BE-390	390	1277	39	1346 (610)	1085	940	594	471	393	2650 (1205)

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.

Water boiler trim and controls



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)

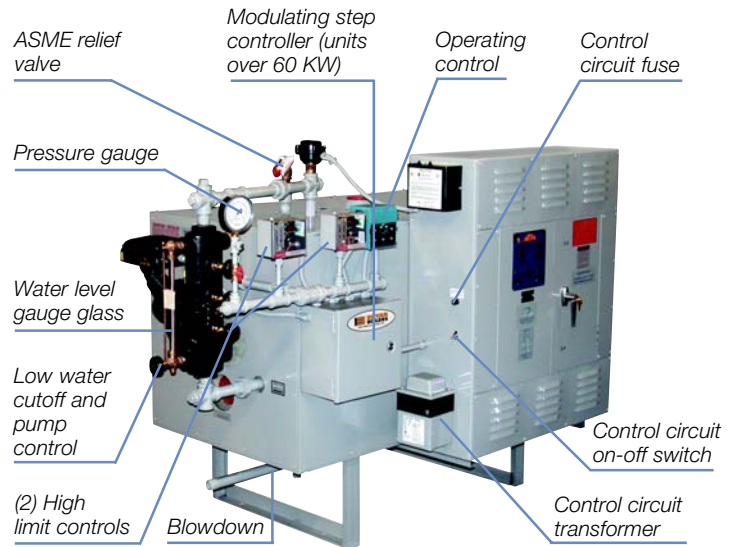
Optional Equipment Available:

Power panel door electric interlock. Preheat switch. Flow switch. Manual reset controls. Manual blowdown valve. Automatic blowdown with 24 hour time clock. Alarms. Indicating lights. Larger connection for heat pump applications.

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)

Steam boiler trim and controls



Standard Equipment Supplied:

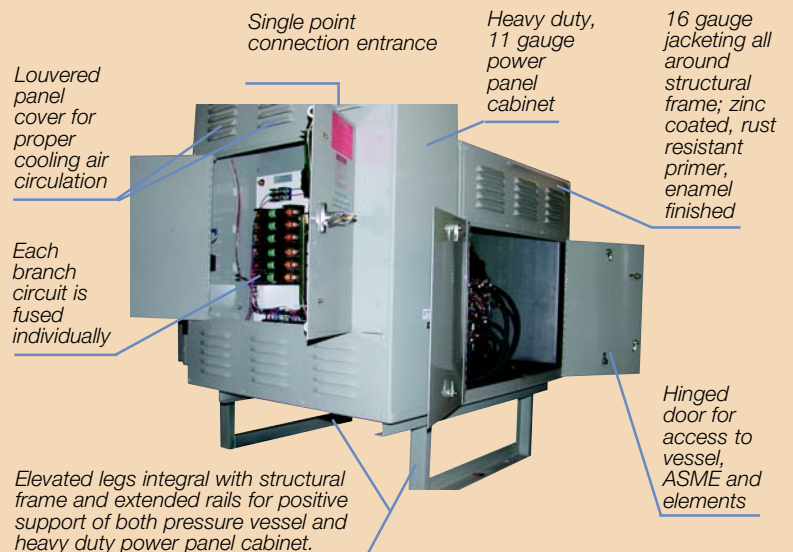
STEAM DESIGN BOILERS:

Model "S" (15# ASME Design)

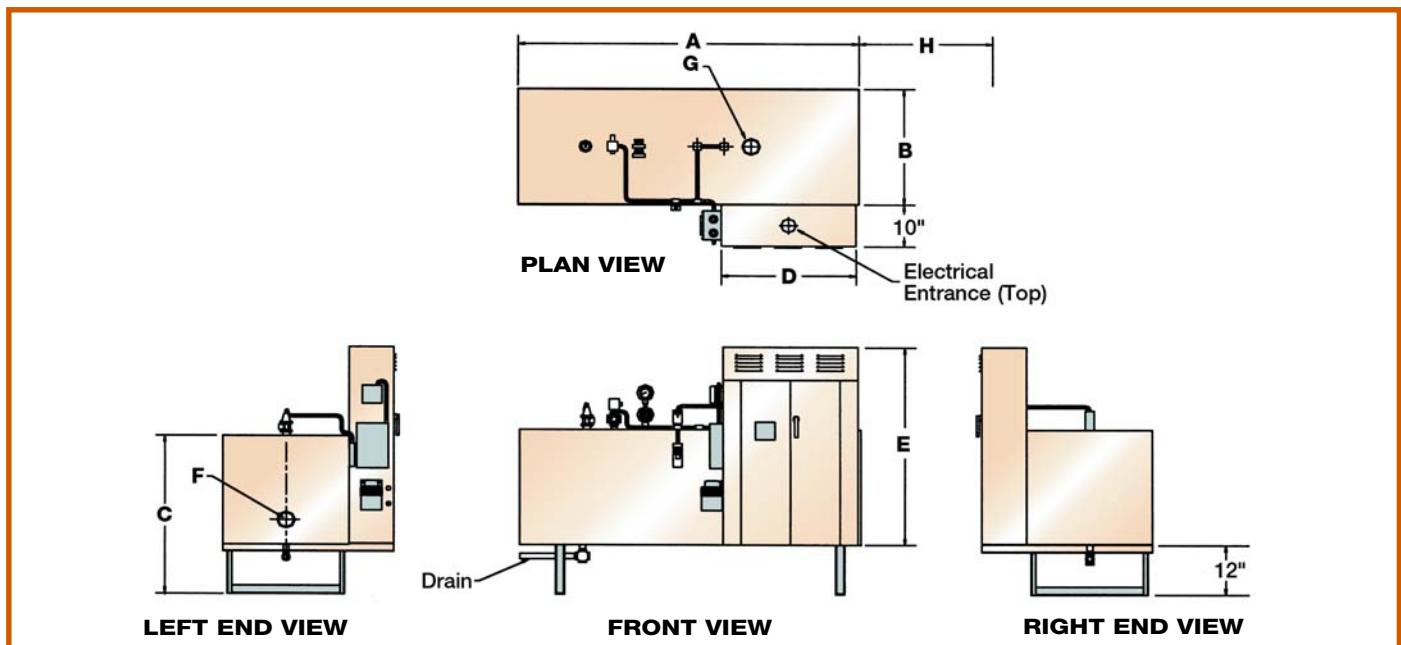
Model "Q" (150# ASME Design)

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



Bryan BE Series Steam & Hot Water Boilers



KW	MODELS "W" WATER / "S" 15# STEAM Dimensions in (cm)										MODEL "Q" 150# STEAM Dimensions in (cm)								Element Removal Clearance
	Boiler Dimensions			Power Panel Dimensions				Inlet	Outlet	Boiler Dimensions			Power Panel Dimensions				Inlet	Outlet	
	length	width	height	208-230/3/60		380,460-575				length	width	height	208-230/3/60		380,460-575				
	A	B	C	D	E	D	E	F	G	A	B	C	D	E	D	E	F	G	
30	48 (122)	20 (51)	32 (81)	30 (76)	36 (91)	20 (51)	24 (61)	2 (5)	2 (5)	43 (109)	20 (51)	32 (81)	30 (76)	36 (91)	20 (51)	24 (61)	1 (3)	2 (5)	30 (77)
45	48 (122)	20 (51)	32 (81)	30 (76)	36 (91)	20 (51)	24 (61)	2 (5)	2 (5)	43 (109)	20 (51)	32 (81)	30 (76)	36 (91)	20 (51)	24 (61)	1 (3)	2 (5)	30 (77)
60	48 (122)	20 (51)	32 (81)	30 (76)	36 (91)	20 (51)	24 (61)	2 (5)	2 (5)	43 (109)	20 (51)	32 (81)	30 (76)	36 (91)	20 (51)	24 (61)	1 (3)	2 (5)	30 (77)
90	48 (122)	25 (71)	40 (102)	30 (76)	36 (91)	20 (51)	30 (73)	3 (8)	3 (8)	43 (109)	28 (71)	40 (102)	30 (76)	36 (91)	20 (51)	30 (76)	1 (3)	3 (8)	30 (77)
105	48 (122)	28 (71)	40 (102)	30 (76)	48 (122)	20 (51)	30 (76)	3 (8)	3 (8)	43 (109)	28 (71)	40 (102)	30 (76)	48 (122)	20 (51)	30 (76)	1 (3)	3 (8)	30 (77)
120	48 (122)	28 (71)	40 (102)	30 (76)	48 (122)	20 (51)	30 (76)	3 (8)	3 (8)	43 (109)	28 (71)	40 (102)	30 (76)	48 (122)	20 (51)	30 (76)	1 (3)	3 (8)	30 (77)
135	48 (122)	28 (71)	40 (102)	30 (76)	66 (168)	30 (76)	36 (91)	3 (8)	3 (8)	43 (109)	28 (71)	40 (102)	30 (76)	66 (168)	30 (76)	36 (91)	1 (3)	3 (8)	30 (77)
150	48 (122)	28 (71)	40 (102)	30 (76)	66 (168)	30 (76)	36 (91)	3 (8)	3 (8)	43 (109)	28 (71)	40 (102)	30 (76)	66 (168)	30 (76)	36 (91)	1 (3)	3 (8)	30 (77)
165	48 (122)	28 (71)	40 (102)	30 (76)	66 (168)	30 (76)	36 (91)	3 (8)	3 (8)	43 (109)	28 (71)	40 (102)	30 (76)	66 (168)	30 (76)	36 (91)	1 (3)	3 (8)	30 (77)
180	48 (122)	28 (71)	40 (102)	30 (76)	66 (168)	30 (76)	36 (91)	3 (8)	3 (8)	43 (109)	28 (71)	40 (102)	30 (76)	66 (168)	30 (76)	36 (91)	1 (3)	3 (8)	30 (77)
195	48 (122)	28 (71)	40 (102)	30 (76)	66 (168)	30 (76)	48 (122)	3 (8)	3 (8)	43 (109)	28 (71)	40 (102)	30 (76)	66 (168)	30 (76)	48 (122)	1 (3)	3 (8)	30 (77)
210	76 (193)	28 (71)	40 (102)	N/A	N/A	30 (76)	48 (122)	3 (8)	3 (8)	76 (193)	28 (71)	40 (102)	N/A	N/A	30 (76)	48 (122)	1 (3)	3 (8)	55 (140)
240	76 (193)	28 (71)	40 (102)	N/A	N/A	30 (76)	48 (122)	3 (8)	3 (8)	76 (193)	28 (71)	40 (102)	N/A	N/A	30 (76)	48 (122)	1 (3)	3 (8)	55 (140)
270	76 (193)	28 (71)	40 (102)	N/A	N/A	30 (76)	66 (168)	3 (8)	3 (8)	76 (193)	28 (71)	40 (102)	N/A	N/A	30 (76)	66 (168)	1 (3)	3 (8)	55 (140)
300	76 (193)	28 (71)	40 (102)	N/A	N/A	30 (76)	66 (168)	3 (8)	3 (8)	76 (193)	28 (71)	40 (102)	N/A	N/A	30 (76)	66 (168)	1 (3)	3 (8)	55 (140)
330	76 (193)	28 (71)	40 (102)	N/A	N/A	30 (76)	66 (168)	3 (8)	3 (8)	76 (193)	28 (71)	40 (102)	N/A	N/A	30 (76)	66 (168)	1 (3)	3 (8)	55 (140)
360	76 (193)	28 (71)	40 (102)	N/A	N/A	30 (76)	66 (168)	3 (8)	3 (8)	76 (193)	28 (71)	40 (102)	N/A	N/A	30 (76)	66 (168)	1 (3)	3 (8)	55 (140)
390	76 (193)	28 (71)	40 (102)	N/A	N/A	30 (76)	66 (168)	3 (8)	3 (8)	76 (193)	28 (71)	40 (102)	N/A	N/A	30 (76)	66 (168)	1 (3)	3 (8)	55 (140)

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



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