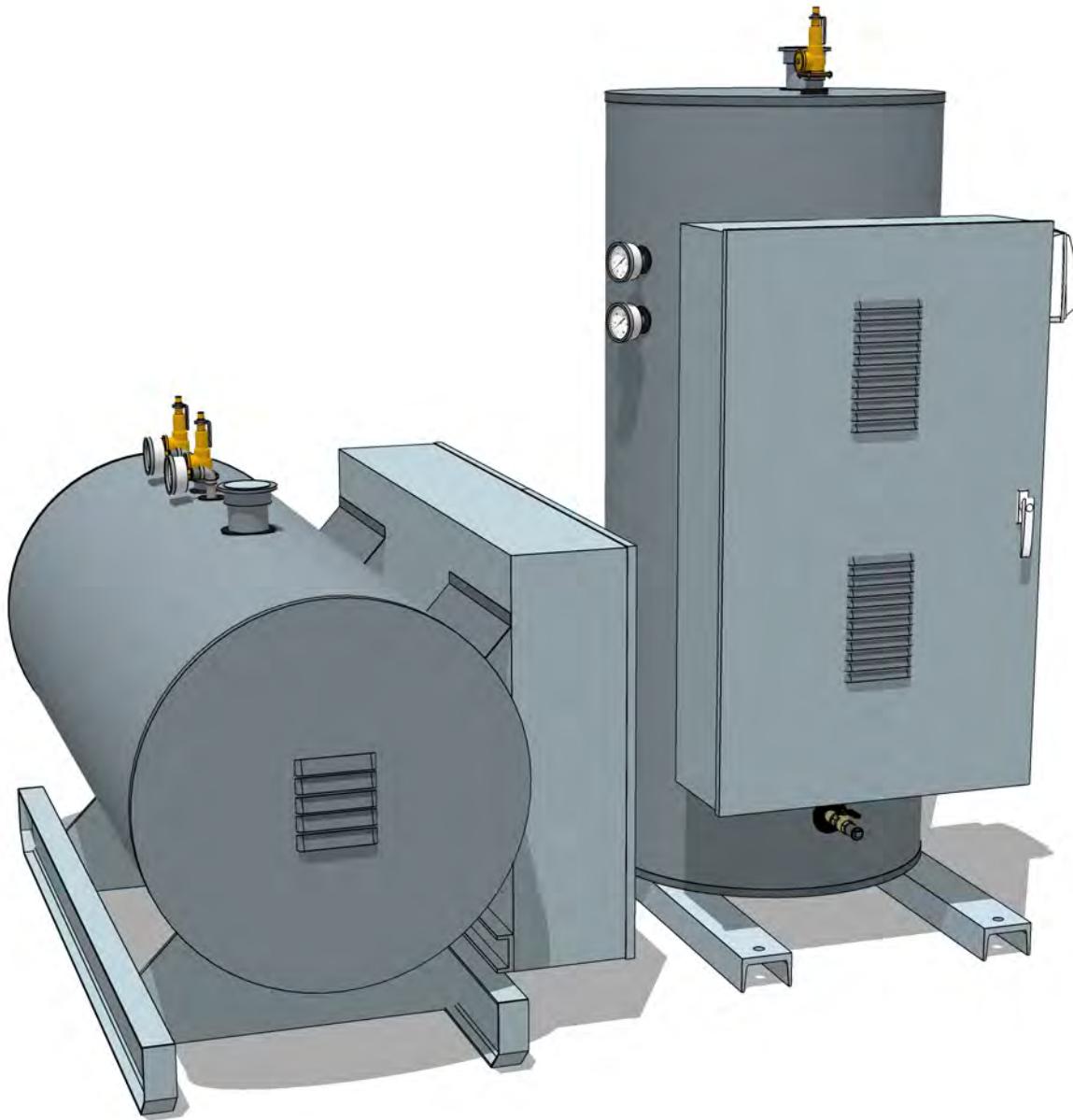


# Electric Boilers



## Hot Water and Steam Heating

*Vertical or Horizontal*



**CEMLINE CORPORATION**

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# Cemline® Electric Boilers Standard Equipment

**Cemline Electric Boilers are designed for hydronic heating systems and process heating. Cemline Electric Boilers are furnished as a complete factory package for one source responsibility. Installation requires only pipe lines and power leads. We offer many optional extras for applications where such features are desired.**

## Standard EB Package

## Features

<b>Storage tank—A.S.M.E. Code Constructed National Board Registered—H or S Stamp</b>	A.S.M.E. Code stamping and registration offer the assurance of quality controlled construction.
<b>3" fiberglass insulation</b>	Prevents heat loss to cut operation costs—meets or exceeds latest ASHRAE standards.
<b>20 Gauge steel jacket with hammer-tone enamel-painted exterior</b>	Protects insulation & provides neat finished appearance.
<b>A.S.M.E. Pressure Relief Valves</b>	Safety feature against excess pressure.
<b>Thermometer &amp; Pressure Gauge</b>	Easy to read dials to monitor operating temperature and pressure.
<b>Incoloy sheathed immersion</b>	Long life elements of incoloy. Provides ease in field maintenance. Each rod individually removable and replaceable.
<b>Standard operating controls</b>	All components necessary for safe-complete operation—all thermostats, high limit resets, contactors, transformer, fusing pilot lights, and low water cut off wired to a NEMA terminal box.
<b>Solid State Step Controller</b>	Proportioning type controller with adjustable settings, LED stage indicators, outdoor reset, remote enable/disable and night setback.
<b>UL Listing</b>	Boilers meet testing and inspection requirements of Underwriters' Laboratories and are so labeled and listed.
<b>Warranty</b>	One year against defects in materials or workmanship.

## Optional Extras Available:

- Circuit breaker
- Fused or non-fused disconnect
- Power meter
- Time clock
- Element watt density to suit customer request
- Alarm bell
- Flow switch
- Outdoor sensor
- BACnet
- Remote Setpoint
- Manual reset low water level cut off
- High pressure cut off
- Ground fault detection
- 4" thick fiberglass insulation
- Indoor/outdoor reset
- Timers
- Safety door interlock
- Remote on/off
- Remote alarm

# Electric Boilers Standard Equipment

**Cemline Electric Boilers are furnished with all accessories factory sized and mounted to insure the finest quality and most efficient package.**

## Tank

Cemline Boilers are constructed and stamped in strict accordance with the latest A.S.M.E. code using pressure vessel quality plate welded by certified welders. Tanks used in the boilers are built in accordance with Section IV or Section I of the A.S.M.E. Code and form H or S certificates are provided. All tanks are registered with the National Board of Boiler Pressure Vessel Inspectors and so certified. Vessels are normally built for 150 psi maximum water working pressure, or 15 psi steam. Boilers can be furnished for up to 150 psi steam working pressure.

## Jacket

Cemline Boilers are neatly and attractively covered with a 20 gauge steel jacket over the fiberglass insulation. The jacket protects the insulation, and is professionally painted with superior quality enamel to allow the added advantage of an easy to maintain surface.

## Insulation

Cemline Boilers are furnished with 3" thick fiberglass insulation. This high quality insulation has proven to be an extremely reliable means of minimizing heat loss and complies with current ASHRAE Standards.

## Base—Support

Vertical heaters are supplied with leg supports with leveling bolts and couplings to receive pipe legs. This provides the option of mounting the unit directly on a floor or raising it with pipe legs to any desired height. Cemline Horizontal Boilers are mounted on structural I-Beam support skids which are engineered to provide correct support for the heater as a permanent base.

## Electric Heating Elements

Cemline Boiler heating elements consist of one or more incoloy sheathed removable immersion rods. These rods are grouped together as three phase deltas to achieve required total kilowatt. Each rod contains resistance wire surrounded by an ample thickness of compressed magnesium oxide. Individual rods are removable and replaceable with ordinary hand tools for in the field replacement to insure worry free maintenance of the heater.

## Control Circuit System

Cemline Electric Boiler control circuits are equipped with a line voltage to 120 volt isolation transformer to provide 120 volt control. This transformer is fused on the primary side and fused and grounded on the secondary side in accordance with A.S.M.E. Code, National Electric Code, and Underwriters' Laboratories.

## High Limit Thermostats or Pressure Switch

Cemline Electric Boilers are provided with built in safety protection against high temperature conditions. Electric boilers are furnished with both an adjustable automatic reset type high limit and a manual reset high limit thermostat with a manual reset button. These thermostats open the control circuit if the temperature of the boiler exceeds the set point. On steam boilers, pressure switches perform the same function if the steam pressure exceeds the desired pressure.

## Contactors

Cemline Electric Boilers are equipped with heavy duty magnetic contactors to close and open circuits as required for load control. The contactors are controlled by a solid state step controller.

## Final Assembly & Testing

Cemline Electric Boilers are thoroughly tested prior to shipment. All components and workmanship are guaranteed for a period of one year from date of start-up or eighteen months from the date of shipment.

## Fuses

Cemline Electric Boilers utilize "Class J" type fuses. Each contactor line is protected by an individual fuse which is designed to interrupt power in the event of an overload condition in that circuit.

# Electric Boilers

## Standard Equipment (Continued)

*Cemline Electric Boilers are furnished as a complete factory package and are UL listed.*

### Wiring

Cemline Electric Boilers are factory wired, utilizing heat resistant, color coded copper wire. All components are factory wired to a generously sized terminal strip for solderless connections. Heaters furnished with circuit breaker or disconnect switch are factory wired to load side of breaker switch.

### Low Water Cut-Off

Cemline Electric Boilers are furnished with float type low water cut-off, wired to open the control circuit on a low water condition.

### Electric Control Cabinet

Cemline electric elements and controls are mounted in a NEMA I enclosure with key lock door.

### Pilot Lights

Pilot lights are supplied to enable the operator to see the status at a glance.

### Relief Valves

Cemline Electric Boilers are provided with a A.S.M.E. pressure relief valve. The valve is sized to relieve the total BTU input of the heating elements.

### UL Listing

Cemline Electric Boilers meet testing and inspection requirements of Underwriters' Laboratories and are listed and labeled as required by Underwriters' Laboratories.

### Thermometer and Pressure Gauge

Cemline Electric Boilers are furnished with a thermometer to monitor vessel temperature and a dial pressure gauge to monitor pressure within the vessel. These gauges are mounted in an easily accessible position so that they may be read from the floor. Steam boilers are furnished with pressure gauge only.

### Step Controller

Cemline Electric Boilers are furnished with a solid state step controller. The step controller is programmable to allow for multiple rotation options to promote even wear on the elements. The controller can operate the boiler based upon temperature or outdoor reset. The controller can be configured to run a system pump and has an adjustable night setting to help reduce electrical consumption. Optionally, Cemline can provide remote set point via 4-20 from the building management system or can provide BACnet IP communication.

### Steam Boilers

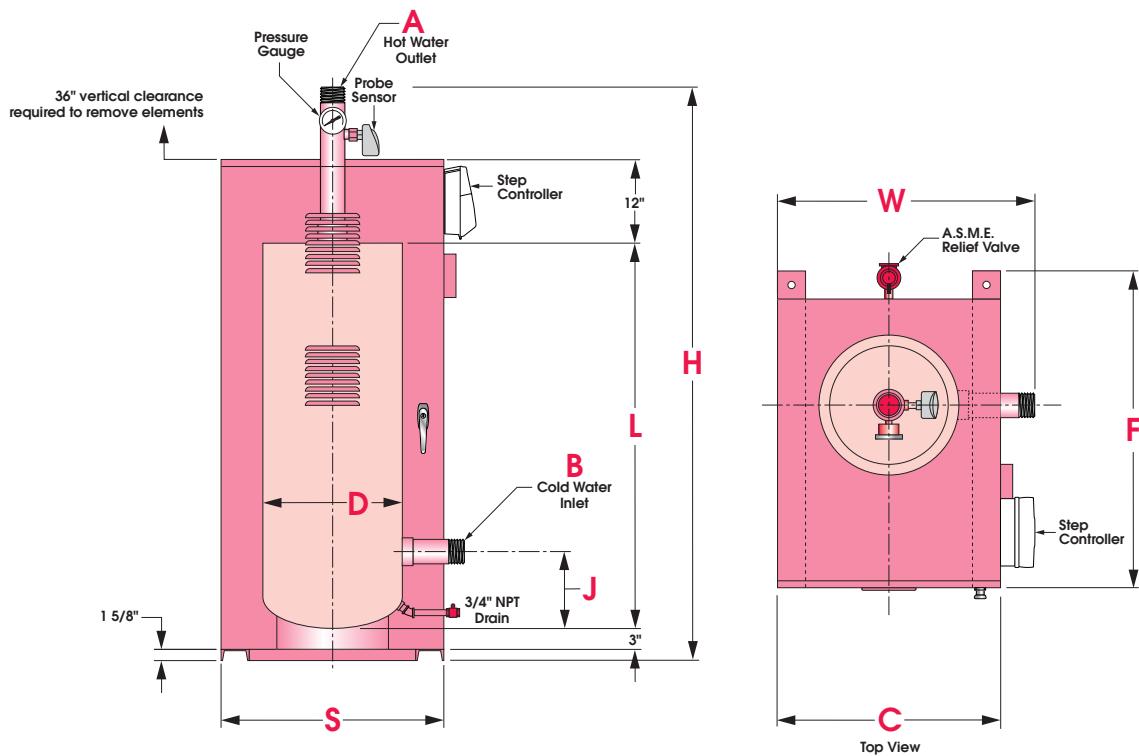
Cemline Electric Steam Boilers operating up to 15# steam are built to Section IV of the A.S.M.E. Code and bear the "H" stamp. Cemline Electric Steam Boilers above 15# steam are built to Section I of the A.S.M.E. Code and bear the "S" stamp. Steam boilers are furnished with gauge glass and water feeder or pump controller.



# Hot Water Boilers

## Vertical High Capacity - Small Footprint

The dimensions suggested below are well proportioned and suitable for most installations. When building space or other conditions demand, other sizes are readily available. Please consult factory.



MODEL NUMBER	H	W	C	D	L	F	J	S	A&B
VB30ETB	72"	23"	20"	12 3/4"	44"	33 1/2"	11"	20"	3" NPT
VB40ETB	72"	27"	24"	16"	44"	36 3/4"	11"	24"	3" NPT
VB60ETB	72"	31"	28"	20"	44"	40 3/4"	11"	28"	3" NPT
VB80ETB	72"	35"	32"	24"	44"	44 3/4"	11"	32"	3" NPT

# Electric Boilers - Hot Water - 3 Phase Vertical High Capacity - Small Footprint

**600V, 480V,  
415V, 380V**

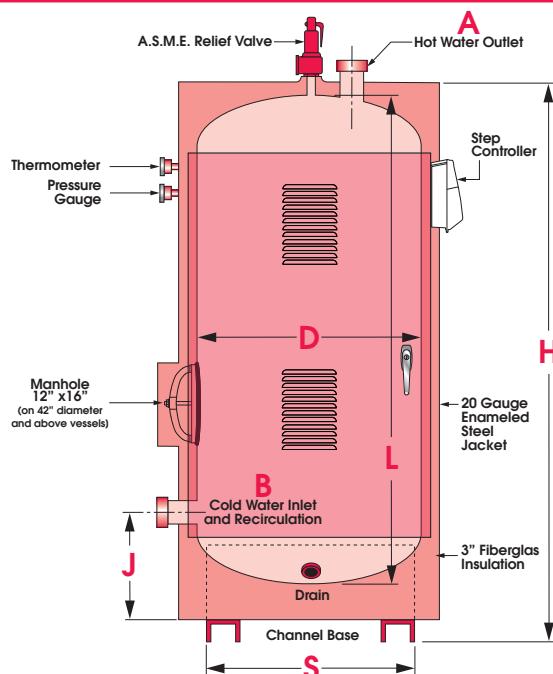
Model No.	KW	Btu/Hr	Contactors	KW Per Circuit	Steps	KW Per Step	KW Per Element	Total # Elements	600V 3 Phase Amps	480V 3 Phase Amps	415V 3 Phase Amps	380V 3 Phase Amps
<b>VB30ETB12</b>	12	40,980	1	12	1	12	12	1	12	14	17	18
<b>VB30ETB15</b>	15	51,225	1	15	1	15	15	1	14	18	21	23
<b>VB30ETB18</b>	18	61,470	1	18	1	18	18	1	17	22	25	27
<b>VB30ETB20</b>	20	68,304	1	20	1	20	20	1	19	24	28	30
<b>VB30ETB24</b>	24	81,960	2	12	2	12	12	2	23	29	33	37
<b>VB30ETB30</b>	30	102,450	2	15	2	15	15	2	29	36	42	46
<b>VB30ETB36</b>	36	122,940	2	18	2	18	18	2	35	43	50	55
<b>VB30ETB40</b>	40	136,607	2	20	2	20	20	3	39	48	56	61
<b>VB30ETB45</b>	45	153,675	2	1@15, 1@30	2	1@15, 1@30	15	3	43	54	63	68
<b>VB30ETB54</b>	54	184,410	3	18	3	18	18	3	52	65	75	82
<b>VB30ETB60</b>	60	204,900	3	20	3	20	20	3	58	72	84	91
<b>VB30ETB72</b>	72	245,880	3	2@18, 1@36	3	2@18, 1@36	18	4	69	87	100	110
<b>VB30ETB75</b>	75	256,125	3	1@15, 2@30	3	1@15, 2@30	15	5	72	90	104	114
<b>VB30ETB80</b>	80	273,214	4	20	4	20	20	4	77	96	111	123
<b>VB30ETB90</b>	90	307,350	5	18	5	18	18	5	87	108	125	137
<b>VB30ETB100</b>	100	341,518	5	20	5	40	20	5	96	120	139	152
<b>VB30ETB108</b>	108	368,820	3	36	3	36	18	6	104	130	150	164
<b>VB30ETB120</b>	120	409,800	3	40	3	40	20	6	116	145	167	183
<b>VB40ETB144</b>	144	491,760	4	36	4	36	18	8	139	173	201	219
<b>VB40ETB150</b>	150	512,250	5	30	5	30	15	10	145	181	209	228
<b>VB40ETB180</b>	180	614,700	5	1@20, 4@40	5	1@20, 4@40	20	9	173	217	251	274
<b>VB60ETB210</b>	210	717,150	7	30	7	30	15	14	202	253	292	319
<b>VB60ETB240</b>	240	819,600	6	40	6	40	20	12	231	289	334	365
<b>VB60ETB270</b>	270	922,098	8	1@18, 7@36	8	1@18, 7@36	18	15	260	325	376	411
<b>VB60ETB300</b>	300	1,024,500	8	1@20, 7@40	8	1@20, 7@40	20	15	289	361	418	456
<b>VB60ETB320</b>	320	1,092,857	8	40	8	40	20	16	308	385	446	487
<b>VB60ETB360</b>	360	1,229,400	9	40	9	40	20	18	347	434	501	548
<b>VB60ETB400</b>	400	1,366,072	10	40	10	40	20	20	385	482	557	609
<b>VB60ETB440</b>	440	1,502,679	11	40	11	40	20	22	424	530	613	669
<b>VB80ETB480</b>	480	1,639,200	12	40	8	4@40, 4@80	20	24	462	578	669	730
<b>VB80ETB520</b>	520	1,775,893	13	40	7	1@40, 6@80	20	26	501	626	724	791
<b>VB80ETB560</b>	560	1,912,500	14	40	7	80	20	27	539	674	780	852
<b>VB80ETB600</b>	600	2,049,000	15	40	8	1@40, 7@80	20	30	578	723	836	913

**240V, 208V**

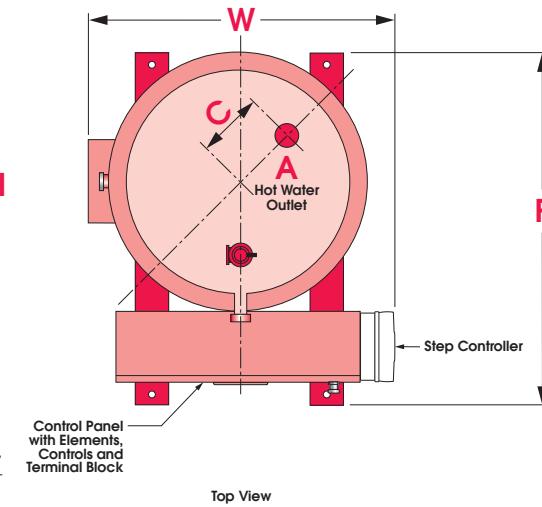
Model No.	KW	Btu/Hr	Contactors	KW Per Circuit	Steps	KW Per Step	KW Per Element	Total # Elements	240V 3 Phase Amps	208V 3 Phase Amps
<b>VB30ETB12</b>	12	40,980	1	12	1	12	12	1	29	33
<b>VB30ETB15</b>	15	51,225	1	15	1	15	15	1	36	42
<b>VB30ETB24</b>	24	81,960	2	12	2	12	12	2	58	67
<b>VB30ETB30</b>	30	102,450	2	15	2	15	15	2	72	83
<b>VB30ETB45</b>	45	153,675	3	15	3	15	15	3	108	125
<b>VB30ETB60</b>	60	204,900	4	15	4	15	15	4	145	167
<b>VB30ETB75</b>	75	256,125	5	15	5	15	15	5	181	208
<b>VB30ETB90</b>	90	307,366	6	15	6	15	15	6	217	250
<b>VB30ETB105</b>	105	358,594	7	15	7	15	15	7	253	292
<b>VB30ETB120</b>	120	409,800	8	15	8	15	15	8	289	333
<b>VB40ETB150</b>	150	512,250	10	15	5	30	15	10	361	417
<b>VB40ETB180</b>	180	614,700	12	15	6	30	15	12	434	500
<b>VB60ETB210</b>	210	717,150	14	15	7	30	15	14	506	583
<b>VB60ETB240</b>	240	819,600	16	15	8	30	15	16	578	666
<b>VB60ETB270</b>	270	922,098	18	15	9	30	15	18	650	750
<b>VB60FTB300</b>	300	1,024,500	20	15	10	30	15	20	723	833

# Hot Water Boilers

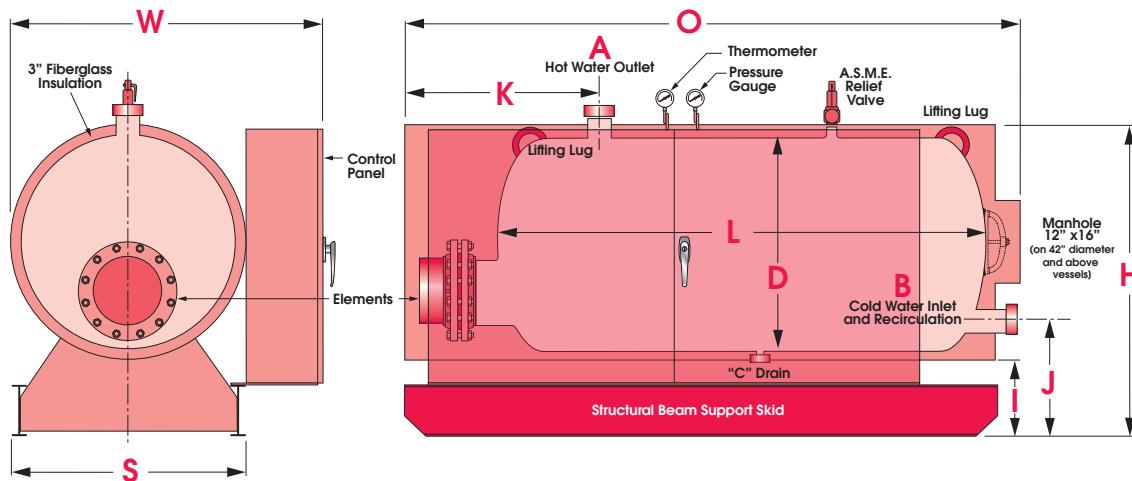
## Classic Vertical and Horizontal



The dimensions suggested below are well proportioned and suitable for most installations. When building space or other conditions demand, other sizes are readily available. Please consult factory.



MODEL NUMBER	H	W	F	D	L	J	C	S	A & B
VB30EHB	37 1/2"	28"	28"	16"	30"	13 1/2"	4"	14"	1-1/2" NPT
VB40EHB	55 1/2"	28"	28"	16"	48"	13 1/2"	4"	14"	2-1/2" NPT
VB120EHB	70 1/2"	38"	36"	24"	63"	17 1/2"	6"	18"	3" NPT
VB200EHB	78 1/2"	42"	42"	30"	72"	19 1/2"	8"	24"	4" FLG.
VB300FTB	79 1/2"	48"	50"	36"	72"	21 1/2"	8"	30"	5" FLG.
VB450FTB	97 1/2"	56"	54"	42"	90"	25 1/2"	10"	36"	6" FLG.
VB600FTB	91 1/2"	60"	60"	48"	84"	26 1/2"	10"	42"	6" FLG.
VB750FTB	91 1/2"	66"	66"	54"	84"	27 1/2"	10"	48"	6" FLG.
VB950FTB	91 1/2"	72"	72"	60"	84"	29 1/2"	10"	54"	8" FLG.



MODEL NUMBER	H	W	O	D	L	K	S	I	J	C	A&B
HB30EHB	30"	36"	51"	16"	30"	21"	20"	10"	16"	1"	1 1/2" NPT
HB40EHB	30"	36"	60"	16"	48"	21"	20"	10"	16"	1"	2 1/2" NPT
HB120EHB	38"	43"	93"	24"	60"	44"	28"	10"	16"	1"	3" NPT
HB200EHB	44"	49"	93"	30"	72"	44"	34"	10"	18"	1"	4" FLG.
HB300EHB	50"	55"	93"	36"	72"	44"	40"	10"	19"	1 1/2"	5" FLG.
HB450FTB	56"	61"	108"	42"	90"	44"	46"	10"	19"	1 1/2"	6" FLG.
HB600FTB	62"	67"	102"	48"	84"	44"	52"	10"	19"	1 1/2"	6" FLG.
HB750FTB	68"	73"	102"	54"	84"	44"	58"	10"	19"	1 1/2"	6" FLG.
HB950FTB	74"	79"	102"	60"	84"	44"	64"	10"	24"	1 1/2"	8" FLG.

# Electric Boilers - Hot Water - 3 Phase Classic

**600V, 480V,  
415V, 380V**

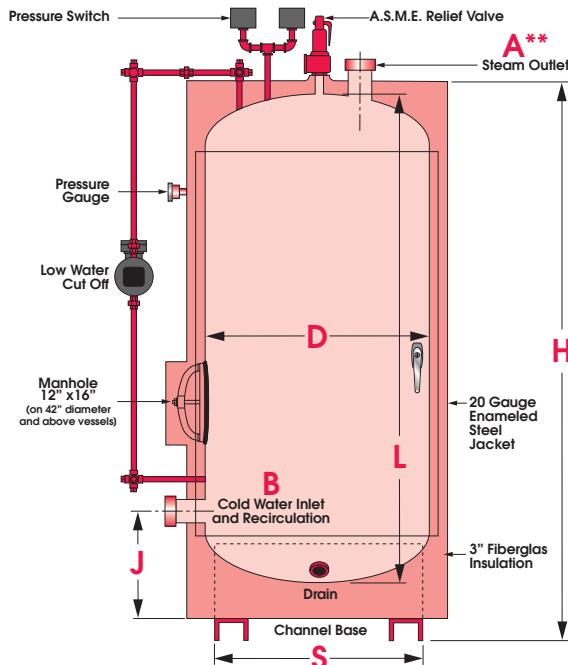
Model No.	KW	Btu/Hr	Circuits	KW Per Circuit	Steps	KW Per Step	KW Per Element	Total # Elements	600V 3 Phase Amps	480V 3 Phase Amps	415V 3 Phase Amps	380V 3 Phase Amps
<b>B30EHB12</b>	12	40,980	1	12	1	12	4	3	12	14	17	18
<b>B30EHB15</b>	15	51,225	1	15	1	15	5	3	14	18	21	23
<b>B30EHB18</b>	18	61,470	1	18	1	18	6	3	17	22	25	27
<b>B30EHB24</b>	24	81,960	2	12	2	12	4	6	23	29	33	37
<b>B30EHB27</b>	27	92,205	2	13.5	2	13.5	4.5	6	26	33	38	41
<b>B30EHB30</b>	30	102,450	2	15	2	15	5	6	29	36	42	46
<b>B30EHB36</b>	36	122,940	2	18	2	18	6	6	35	43	50	55
<b>B30EHB40.5</b>	40.5	138,308	3	13.5	3	13.5	4.5	9	39	49	56	62
<b>B30EHB45</b>	45	153,675	3	15	3	15	5	9	43	54	63	68
<b>B30EHB54</b>	54	184,410	3	18	3	18	6	9	52	65	75	82
<b>B40EHB60</b>	60	204,900	4	15	4	15	5	12	58	72	84	91
<b>B40EHB72</b>	72	245,880	4	18	4	18	6	12	69	87	100	110
<b>B40EHB75</b>	75	256,125	5	15	5	15	5	15	72	90	104	114
<b>B40EHB81</b>	81	276,615	5	3@15, 2@18	5	3@15, 2@18	5 & 6	15	78	98	113	123
<b>B40EHB90</b>	90	307,350	5	18	5	18	6	15	87	108	125	137
<b>B40EHB96</b>	96	327,840	6	4@18, 2@12	6	4@18, 2@12	6 & 4	18	92	116	134	146
<b>B40EHB108</b>	108	368,820	6	18	6	18	6	18	104	130	150	164
<b>B120EHB120</b>	120	409,800	7	6@18, 1@12	7	6@18, 1@12	10	12	116	145	167	183
<b>B120EHB144</b>	144	491,760	8	18	8	18	6	24	139	173	201	219
<b>B120EHB150</b>	150	512,250	5	30	5	30	10	15	145	181	209	228
<b>B200EHB180</b>	180	614,700	6	30	6	30	10	18	173	217	251	274
<b>B200EHB210</b>	210	717,150	7	30	7	30	10	21	202	253	292	319
<b>B300EHB240</b>	240	819,600	8	30	8	30	10	24	231	289	334	365
<b>B300EHB300</b>	300	1,024,500	10	30	10	30	10	30	289	361	418	456
<b>B300FTB330</b>	330	1,126,950	11	30	11	30	10	33	318	397	460	502
<b>B300FTB360</b>	360	1,229,400	12	30	12	30	10	36	347	434	501	548
<b>B300FTB390</b>	390	1,331,850	13	30	13	30	10	39	376	470	543	593
<b>B300FTB420</b>	420	1,434,300	14	30	14	30	10	42	405	506	585	639
<b>B300FTB450</b>	450	1,536,750	15	30	15	30	10	45	434	542	627	685
<b>B450FTB480</b>	480	1,639,200	16	30	16	30	10	48	462	578	669	730
<b>B450FTB540</b>	540	1,844,100	18	30	9	60	10	54	520	650	752	821
<b>B450FTB600</b>	600	2,049,000	20	30	10	60	10	60	578	723	836	913
<b>B450FTB660</b>	660	2,253,900	22	30	11	60	10	66	636	795	919	1004
<b>B600FTB720</b>	720	2,458,800	24	30	12	60	10	72	694	867	1003	1095
<b>B600FTB810</b>	810	2,766,150	27	30	14	13@60, 1@30	10	81	780	975	1128	1232
<b>B600FTB900</b>	900	3,073,500	30	30	15	60	10	90	867	1084	1254	1369
<b>B750FTB1080</b>	1080	3,688,200	36	30	18	60	10	108	1040	1301	1504	1643
<b>B750FTB1260</b>	1260	4,302,900	42	30	21	60	10	126	1214	1517	1755	1917
<b>B750FTB1440</b>	1440	4,917,600	48	30	24	60	10	144	1387	1734	2006	2190
<b>B750FTB1560</b>	1560	5,327,400	52	30	24	20@60, 4@90	10	156	1503	1879	2173	2373
<b>B950FTB1680</b>	1680	5,732,200	56	30	24	16@60, 8@90	10	168	1618	2023	2340	2556
<b>B950FTB1800</b>	1800	6,147,000	60	30	24	12@60, 12@90	10	180	1734	2168	2507	2738
<b>B950FTB2040</b>	2040	6,966,600	68	30	24	4@60, 20@90	10	204	1965	2457	2841	3103

**240V, 208V**

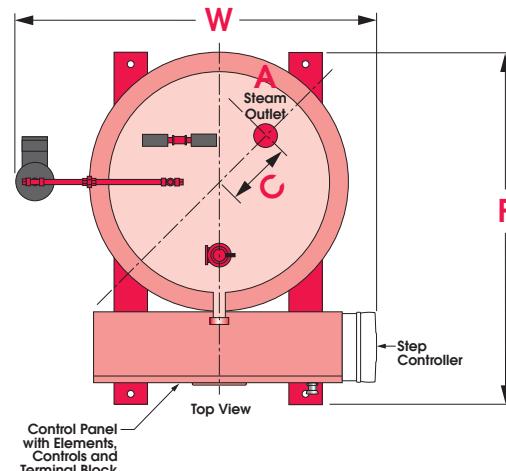
Model No.	KW	Btu/Hr	Circuits	KW Per Circuits	Steps	KW Per Step	KW Per Element	Total # Elements	240V 3 Phase Amps	208V 3 Phase Amps
<b>B30EHB12</b>	12	40,980	1	12	1	12	4	3	29	33
<b>B30EHB15</b>	15	51,225	1	15	1	15	5	3	36	42
<b>B30EHB18</b>	18	61,470	1	18	1	18	6	3	43	50
<b>B30EHB24</b>	24	81,960	2	12	2	12	4	6	58	67
<b>B30EHB27</b>	27	92,205	2	13.5	2	13.5	4.5	6	65	75
<b>B30EHB30</b>	30	102,450	2	15	2	15	5	6	72	83
<b>B30EHB36</b>	36	122,940	2	18	2	18	6	6	87	100
<b>B30EHB40.5</b>	40.5	138,308	3	13.5	3	13.5	4.5	9	98	113
<b>B30EHB45</b>	45	153,675	3	15	3	15	5	9	108	125
<b>B30EHB54</b>	54	184,410	3	18	3	18	6	9	130	150
<b>B40EHB60</b>	60	204,900	4	15	4	15	5	12	145	167
<b>B40EHB72</b>	72	245,880	4	18	4	18	6	12	173	200
<b>B40EHB75</b>	75	256,125	5	15	5	15	5	15	181	208
<b>B40EHB81</b>	81	276,615	5	3@15, 2@18	5	3@15, 2@18	5 & 6	15	195	225
<b>B40EHB90</b>	90	307,350	5	18	5	18	6	15	217	250
<b>B40EHB96</b>	96	327,840	6	4@18, 2@12	6	4@18, 2@12	6 & 4	18	231	266
<b>B40EHB108</b>	108	368,820	6	18	6	18	6	18	260	300
<b>B120EHB120</b>	120	409,800	7	6@18, 1@12	7	6@18, 1@12	6 & 4	21	289	333
<b>B120EHB144</b>	144	491,760	8	18	8	18	6	24	347	400
<b>B120EHB150</b>	150	512,250	9	7@18, 2@12	9	7@18, 2@12	6 & 4	27	361	417
<b>B120EHB180</b>	180	614,700	10	18	10	18	6	30	434	500
<b>B200FTB210</b>	210	717,150	12	11@18, 1@12	12	11@18, 1@12	6 & 4	36	506	583
<b>B300FTB240</b>	240	819,600	16	12@18, 2@12	16	12@18, 2@12	6 & 4	48	578	666
<b>B450FTB300</b>	300	1,024,500	18	14@18, 4@12	9	7@36, 2@24	6 & 4	54	723	833

# Steam Boilers

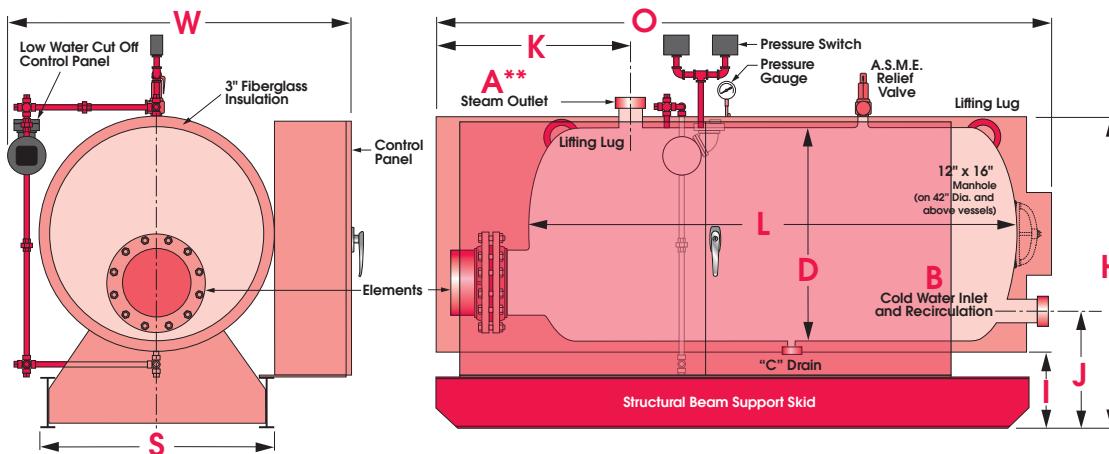
## Vertical and Horizontal



The dimensions suggested below are well proportioned and suitable for most installations. When building space or other conditions demand, other sizes are readily available. Please consult factory.



MODEL NUMBER	H	W	F	D	L	J	C	S	B
VB30EHB	37 1/2"	28"	28"	16"	30"	13 1/2"	4"	14"	1/2" NPT
VB40EHB	55 1/2"	28"	28"	16"	48"	13 1/2"	4"	14"	1/2" NPT
VB120EHB	70 1/2"	38"	36"	24"	63"	17 1/2"	6"	18"	1/2" NPT
VB200EHB	78 1/2"	42"	42"	30"	72"	19 1/2"	8"	24"	1/2" NPT
VB300FTB	79 1/2"	48"	50"	36"	72"	21 1/2"	8"	30"	1/2" NPT
VB450FTB	97 1/2"	56"	54"	42"	90"	25 1/2"	10"	36"	3/4" NPT
VB600FTB	91 1/2"	60"	60"	48"	84"	26 1/2"	10"	42"	3/4" NPT
VB750FTB	91 1/2"	66"	66"	54"	84"	27 1/2"	10"	48"	1" NPT
VB950FTB	91 1/2"	72"	72"	60"	84"	29 1/2"	10"	54"	1" NPT



MODEL NUMBER	H	W	O	D	L	K	S	I	J	C	B
HB30EHB	30"	36"	51"	16"	30"	21"	20"	10"	16"	1"	1/2" NPT
HB40EHB	30"	36"	60"	16"	48"	21"	20"	10"	16"	1"	1/2" NPT
HB120EHB	38"	51"	93"	24"	60"	44"	28"	10"	16"	1"	1/2" NPT
HB200EHB	44"	57"	93"	30"	72"	44"	34"	10"	18"	1"	1/2" NPT
HB300EHB	50"	63"	93"	36"	72"	44"	40"	10"	19"	1 1/2"	1/2" NPT
HB450FTB	56"	69"	108"	42"	90"	44"	46"	10"	19"	1 1/2"	3/4" NPT
HB600FTB	62"	75"	102"	48"	84"	44"	52"	10"	19"	1 1/2"	3/4" NPT
HB750FTB	68"	81"	102"	54"	84"	44"	58"	10"	19"	1 1/2"	1" NPT
HB950FTB	74"	87"	102"	60"	84"	44"	64"	10"	24"	1 1/2"	1" NPT

\*\* Dimension A is sized to suit generated steam capacity.

# Electric Boilers - Steam - 3 Phase

**600V, 480V,  
415V, 380V**

Model No.	KW	Btu/Hr	Steam #/Hr	Circuits	KW Per Circuit	Steps	KW Per Step	KW Per Element	Total # Elements	480V 3 Phase Amps	415V 3 Phase Amps	380V 3 Phase Amps
<b>B30EHB12</b>	12	40,980	42	1	12	1	12	4	3	14	17	18
<b>B30EHB15</b>	15	51,225	52	1	15	1	15	5	3	18	21	23
<b>B30EHB18</b>	18	61,470	63	1	18	1	18	6	3	22	25	27
<b>B30EHB24</b>	24	81,960	84	2	12	2	12	4	6	29	33	37
<b>B30EHB27</b>	27	92,205	94	2	13.5	2	13.5	4.5	6	33	38	41
<b>B30EHB30</b>	30	102,450	105	2	15	2	15	5	6	36	42	46
<b>B30EHB36</b>	36	122,940	126	2	18	2	18	6	6	43	50	55
<b>B30EHB40.5</b>	40.5	138,308	142	3	13.5	3	13.5	4.5	9	49	56	62
<b>B30EHB45</b>	45	153,675	157	3	15	3	15	5	9	54	63	68
<b>B30EHB54</b>	54	184,410	189	3	18	3	18	6	9	65	75	82
<b>B40EHB60</b>	60	204,900	210	4	15	4	15	5	12	72	84	91
<b>B40EHB72</b>	72	245,880	252	4	18	4	18	6	12	87	100	110
<b>B40EHB75</b>	75	256,125	262	5	15	5	15	5	15	90	104	114
<b>B40EHB81</b>	81	276,615	283	5	3@15, 2@18	5	3@15, 2@18	5 & 6	15	98	113	123
<b>B40EHB90</b>	90	307,350	315	5	18	5	18	6	15	108	125	137
<b>B40EHB96</b>	96	327,840	336	6	4@18, 2@12	6	4@18, 2@12	6 & 4	18	116	134	146
<b>B40EHB108</b>	108	368,820	378	6	18	6	18	6	18	130	150	164
<b>B120EHB120</b>	120	409,800	420	7	6@18, 1@12	7	6@18, 1@12	10	12	145	167	183
<b>B120EHB144</b>	144	491,760	504	8	18	8	18	6	24	173	201	219
<b>B120EHB150</b>	150	512,250	525	5	30	5	30	10	15	181	209	228
<b>B200EHB180</b>	180	614,700	630	6	30	6	30	10	18	217	251	274
<b>B200EHB210</b>	210	717,150	735	7	30	7	30	10	21	253	292	319
<b>B300EHB240</b>	240	819,600	840	8	30	8	30	10	24	289	334	365
<b>B300EHB300</b>	300	1,024,500	1050	10	30	10	30	10	30	361	418	456
<b>B300FTB330</b>	330	1,126,950	1162	11	30	11	30	10	33	397	460	502
<b>B300FTB360</b>	360	1,229,400	1260	12	30	12	30	10	36	434	501	548
<b>B300FTB390</b>	390	1,331,850	1373	13	30	13	30	10	39	470	543	593
<b>B300FTB420</b>	420	1,434,300	1470	14	30	14	30	10	42	506	585	639
<b>B300FTB450</b>	450	1,536,750	1584	15	30	15	30	10	45	542	627	685
<b>B450FTB480</b>	480	1,639,200	1680	16	30	16	30	10	48	578	669	730
<b>B450FTB540</b>	540	1,844,100	1890	18	30	9	60	10	54	650	752	821
<b>B450FTB600</b>	600	2,049,000	2100	20	30	10	60	10	60	723	836	913
<b>B450FTB660</b>	660	2,253,900	2310	22	30	11	60	10	66	795	919	1004
<b>B600FTB720</b>	720	2,458,800	2520	24	30	12	60	10	72	867	1003	1095
<b>B600FTB810</b>	810	2,766,150	2850	27	30	14	13@60, 1@30	10	81	975	1128	1232
<b>B600FTB900</b>	900	3,073,500	3150	30	30	15	60	10	90	1084	1254	1369
<b>B750FTB1080</b>	1080	3,688,200	3780	36	30	18	60	10	108	1301	1504	1643
<b>B750FTB1260</b>	1260	4,302,900	4400	42	30	21	60	10	126	1517	1755	1917
<b>B750FTB1440</b>	1440	4,917,600	5070	48	30	24	60	10	144	1734	2006	2190
<b>B750FTB1560</b>	1560	5,327,400	5400	52	30	24	20@60, 4@90	10	156	1879	2173	2373
<b>B950FTB1680</b>	1680	5,732,200	5900	56	30	24	16@60, 8@90	10	168	2023	2340	2556
<b>B950FTB1800</b>	1800	6,147,000	6300	60	30	24	12@60, 12@90	10	180	2168	2507	2738
<b>B950FTB2040</b>	2040	6,966,600	7180	68	30	24	4@60, 20@90	10	204	2457	2841	3103

**240V, 208V**

Model No.	KW	Btu/Hr	Steam #/Hr	Circuits	KW Per Circuits	Steps	KW Per Step	KW Per Element	Total # Elements	Amp 240V	Amp 208V
<b>B30EHB12</b>	12	40,980	42	1	12	1	12	4	3	29	33
<b>B30EHB15</b>	15	51,225	52	1	15	1	15	5	3	36	42
<b>B30EHB18</b>	18	61,470	63	1	18	1	18	6	3	43	50
<b>B30EHB24</b>	24	81,960	84	2	12	2	12	4	6	58	67
<b>B30EHB27</b>	27	92,205	94	2	13.5	2	13.5	4.5	6	65	75
<b>B30EHB30</b>	30	102,450	105	2	15	2	15	5	6	72	83
<b>B30EHB36</b>	36	122,940	126	2	18	2	18	6	6	87	100
<b>B30EHB40.5</b>	40.5	138,308	142	3	13.5	3	13.5	4.5	9	98	113
<b>B30EHB45</b>	45	153,675	157	3	15	3	15	5	9	108	125
<b>B30EHB54</b>	54	184,410	189	3	18	3	18	6	9	130	150
<b>B40EHB60</b>	60	204,900	210	4	15	4	15	5	12	145	167
<b>B40EHB72</b>	72	245,880	252	4	18	4	18	6	12	173	200
<b>B40EHB75</b>	75	256,125	262	5	15	5	15	5	15	181	208
<b>B40EHB81</b>	81	276,615	283	5	3@15, 2@18	5	3@15, 2@18	5 & 6	15	195	225
<b>B40EHB90</b>	90	307,350	315	5	18	5	18	6	15	217	250
<b>B40EHB96</b>	96	327,840	336	6	4@18, 2@12	6	4@18, 2@12	6 & 4	18	231	266
<b>B40EHB108</b>	108	368,820	378	6	18	6	18	6	18	260	300
<b>B120EHB120</b>	120	409,800	420	7	6@18, 1@12	7	6@18, 1@12	6 & 4	21	289	333
<b>B120EHB144</b>	144	491,760	504	8	18	8	18	6	24	347	400
<b>B120EHB150</b>	150	512,250	525	9	7@18, 2@12	9	7@18, 2@12	6 & 4	27	361	417
<b>B120EHB180</b>	180	614,700	630	10	18	10	18	6	30	434	500
<b>B200FTB210</b>	210	717,150	735	12	11@18, 1@12	12	11@18, 1@12	6 & 4	36	506	583
<b>B300FTB240</b>	240	819,600	840	16	12@18, 2@12	16	12@18, 2@12	6 & 4	48	578	666
<b>B450FTB300</b>	300	1,024,500	1050	18	14@18, 4@12	9	7@36, 2@24	6 & 4	54	723	833

# Sample Specification Electric Boilers

## Steam Calculations:

Gauge Pounds	Boiling Point of Water
0	212° F.
1	215° F.
3	219° F.
5	227° F.
8	235° F.
10	239° F.
12	244° F.
15	250° F.

Boiling point of water at various pressures

Note: For steam boilers the pounds per hour column is at 212°F. The designer must add for heating the water from starting to ending temperature.

### Example:

To produce 210# per hour of steam at 15 psi with feedwater at 80°F. To heat water from 80° to 250°

(15 psi steam temperature)

250° - 80° = 170°

170° x 210# per hour = 35,700 BTU per hour

steam (from chart) 204,900 BTU per hour

Total 240,600 BTU per hour

Choose 72 KW — 245,880 BTU per hour

## Specifying Boiler Model Number

1. Select desired voltage.
  - 208, 240, 380, 415, 480 volt
2. Select KW, BTU/hour, or lbs. steam/hour.
3. Select horizontal or vertical configuration.
4. Select any optional extras as listed on page 2.



### Specifying a Cemline Boiler Model Number:

\*Example:

Interpretation:

V	B40EHB75	C3	RL
1	2	3	4

1. "V" for vertical configuration.  
"H" for horizontal configuration.

2. Cemline Boiler Number.

3. Symbol designating voltage — select from code below:

Voltage	Phase	Code
208	1	BY1
208	3	BY3
240	1	B1
240	3	B3
480	1	C1
480	3	C3
415	1	CY1
415	3	CY3
380	1	BZ1
380	3	BZ3
400	1	BX1
400	3	BX3
600	3	D3

4. Symbol for U.L. listing.

\*Example shown above is for a vertical boiler, 75 KW, 480 volt, 3 phase.



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## Specifying Electric Boilers

Electric Packaged Hot Water Boiler shall be manufactured by Cemline Corporation. Tank shall be constructed and stamped in accordance with A.S.M.E. Code for 125 lbs. working pressure, and shall be registered with the National Board of Boiler and Pressure Vessel Inspectors. The boiler shall also meet the requirements of Underwriters' Laboratories and be so labeled.

The boiler shall be furnished with 3" minimum dense fiberglass insulation and 20-gauge enameled steel jacket. Elements shall be incoloy sheathed resistance type, individually removable and replaceable.

Magnetic contactors shall be factory installed, and shall disconnect all ungrounded conductors to each heater circuit. Control circuit voltage shall be 120 volts. Factory furnished Class "J" fuses shall be provided in each ungrounded conductor of each contactor circuit.

Control circuit shall include one manual reset and one automatic reset high temperature thermostats and one automatic reset electronic low water cut-off to de-energize all contactors upon actuation.

An "on-off" control switch shall be furnished. Red indicating lights shall be provided to indicate the boiler is operating, a high temperature condition or low water condition.

Cemline Commercial Electric Boilers shall include a Boiler-trol® Solid State Electronic Sequencing Step Controller. The modulating sequencing step control with proper number of steps shall control the heater contactors with rotation options including first-on/first-off, time based - rotating stages based upon time from 1 to 40 hours, or manual rotation. Step controller shall have a digital display, LED stage indicators, outdoor reset, remote enable/disable, night setback. The digital display shall include boiler temperature, set-point temperature, and other setting information.

Boiler shall be factory prewired to a power distribution block ready for connection to external power supply wiring. All contactors and controls (except those required to be mounted on the vessel) shall be housed in a NEMA 1 enclosure with key door lock. A Safety Door Interlock shall be provided. The Safety Door Interlock shall disable or prevent power to the boiler if the door opened.

Boiler shall have a separate dial pressure gauge and A.S.M.E. rated safety relief valve. Tank shall have an accessible drain.

Boiler shall have a one-year warranty against defects in materials and workmanship.

Boiler shall be U.L. Listed

Boiler shall be Cemline Model \_\_\_\_\_. Boiler shall have \_\_\_\_ KW. Elements shall be designed to operate on \_\_\_\_ volts, \_\_\_\_ phase \_\_\_\_ cycle current with a total amp draw of \_\_\_\_ amps.



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