

## CES-B

### Vertical Steam Boiler

- Steam Pressures to 135 psig
- Steam Capacity (18 - 542 Lbs/Hr @ 0 - 135 psig)
- 6 - 180 kW (21 - 614 Mbh)
- 208, 240 and 480 Volt, 1 & 3 Phase
- ASME Section I Pressure Vessel Carbon Steel Code "M" (100 psig)
- 0.430 Dia. Copper Sheath Heating Elements
- One or Two Operating Controls Manual Reset High Limit
- Mechanical Float Water Feed Control with Low Water Cutoff
- Pressure Gauge, Water Level Sight Glass and Blow Down Drain Valve(s)
- ASME Safety Relief Valve
- Optional Transformer (Standard on Stock CES Boilers)

### Applications

CES-B Medium Capacity Steam Boilers are sized to match the most common requirements for steam in many commercial applications, laboratories, hospitals and industrial plants. CES-B boilers are ideal for stand-by operations requiring high pressure steam in remote areas of an industrial plant which might incur excessive pipe losses or expensive piping costs to supply from a central steam supply. They are ideal for off season periods when steam is needed for critical processes or humidification when the main boiler is shut down.



### Features

CES-B Stock Steam Boilers are Trimmed at 100 psig for operation to 90 psig — They are also available (on order) with 15, 30, 50 and 150 psig trim. Boilers trimmed at 150 psig can be operated up to 135 psig corresponding to 353°F. Boilers trimmed at 150 psig use a special ASME Section I, Code "S" pressure vessel. All catalog CES boilers are UL Listed and CSA Certified.

### Optional Equipment

**Auxiliary Electronic Low Water Cutoff** — This option is required by some state or local boiler codes.

**Low or High Pressure Water Feed or Condensate Return System** for boiler water feed.

**Heavy Duty Vacuum Breaker** prevents siphoning of condensate in condensate return systems.

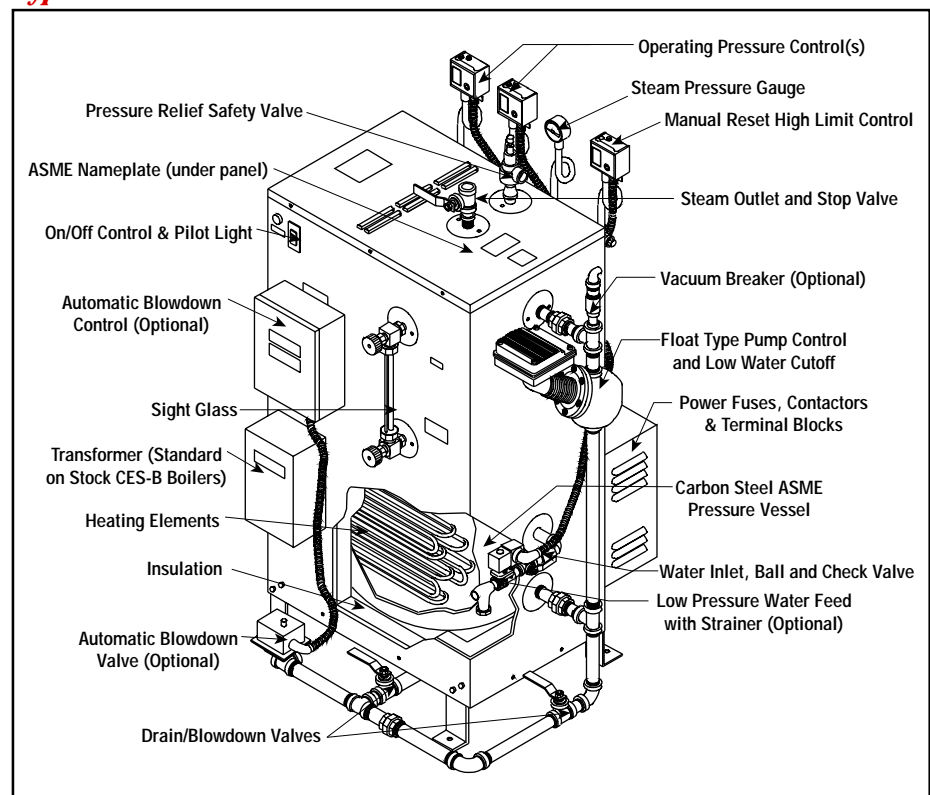
**Automatic Blow Down System** eliminates daily manual blow-down maintenance.

**Blow Down Separator** for blow down of a boiler where steam and hot water cannot be discharged directly into a drain.

**Electronic Water Level Control** with automatic water feed and low water cutoff (dual probe).

**Proportional Control** with electronic solid state sequencer for modulated pressure control.

### Typical CES-B Construction



**Note** — A water feed system or condensate return system is required. See Optional Equipment.

## CES-B

### Vertical Steam Boiler (cont'd.)

#### Specifications and Ordering Information

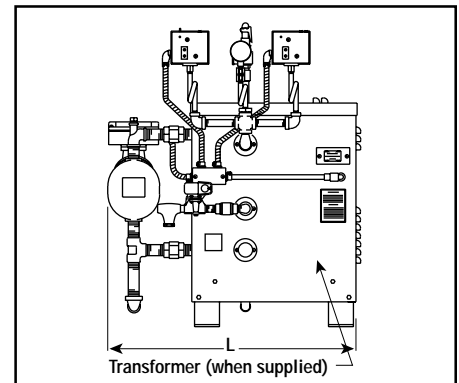
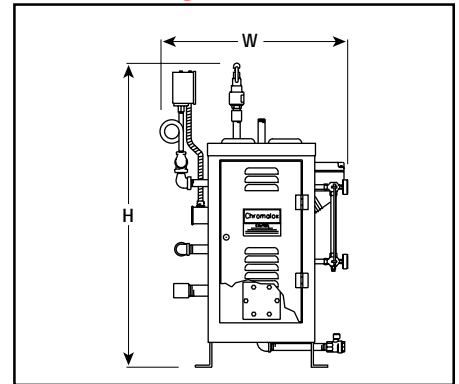
Steam <sup>1</sup> Lbs/Hr	Bhp	kW	Volts <sup>2</sup>	Ph	3 Ph <sup>2</sup> Amps	Service <sup>4</sup> Wire Size	Dimensions (In.)			Model	Stock	PCN	Wt. (Lbs.)
							W	L <sup>5</sup>	H				
<b>CES-B with One Operating Pressure Control and a 1 kVA Transformer<sup>3</sup></b>													
18.1	0.61	6	208	3	17	12	23	31	35	CES-006B	NS	—	230
18.1	0.61	6	240	3	15	12	23	31	37	CES-006B	NS	—	230
18.1	0.61	6	480	3	8	12	23	31	37	CES-006B	NS	—	230
27.1	0.92	9	208	3	25	10	23	31	37	CES-009B	NS	—	235
27.1	0.92	9	240	3	22	10	23	31	37	CES-009B	NS	—	235
27.1	0.92	9	480	3	11	12	23	31	37	CES-009B	NS	—	235
36.2	1.22	12	208	3	34	8	23	31	37	CES-012B	NS	—	240
36.2	1.22	12	240	3	29	10	23	31	37	CES-012B	NS	—	240
36.2	1.22	12	480	3	15	12	23	31	37	CES-012B	NS	—	240
51.2	1.73	17	208	3	48	6	23	31	37	CES-018B	AS	109057	245
51.2	1.73	17	240	3	42	6	23	31	37	CES-018B	AS	109065	245
51.2	1.73	17	480	3	21	12	23	31	37	CES-018B	AS	—	245
72.3	2.45	24	208	3	67	4	28	35	44	CES-024B	NS	—	300
72.3	2.45	24	240	3	58	4	28	35	44	CES-024B	AS	—	300
72.3	2.45	24	480	3	29	10	28	35	44	CES-024B	AS	109081	300
87.4	2.95	29	208	3	81	3	28	35	44	CES-030B	NS	—	310
87.4	2.95	29	240	3	70	4	28	35	44	CES-030B	AS	—	310
87.4	2.95	29	480	3	35	8	28	35	44	CES-030B	AS	—	310
102.5	3.47	34	208	3	95	2	28	35	44	CES-036B	NS	—	315
102.5	3.47	34	240	3	82	3	28	35	44	CES-036B	AS	109305	315
102.5	3.47	34	480	3	41	6	28	35	44	CES-036B	AS	109102	315
138.7	4.69	46	208	3	128	2/0	28	35	44	CES-048B	NS	—	320
138.7	4.69	46	240	3	111	1	28	35	44	CES-048B	AS	109129	320
138.7	4.69	46	480	3	56	6	28	35	44	CES-048B	AS	109137	320
174.8	5.91	58	208	3	161	3/0	28	35	44	CES-060B	NS	—	380
174.8	5.91	58	240	3	140	2/0	28	35	44	CES-060B	AS	—	380
174.8	5.91	58	480	3	70	4	28	35	44	CES-060B	AS	109188	380
205	6.93	68	208	3	189	250 MCM	28	35	44	CES-072B	NS	—	390
205	6.93	68	240	3	164	3/0	28	35	44	CES-072B	AS	—	390
205	6.93	68	480	3	82	3	28	35	44	CES-072B	AS	109153	390
<b>CES-B with Two Operating Pressure Controls and a 1.5 kVA Transformer<sup>3</sup></b>													
307	10.4	102	208	3	284	400 MCM	32	38	58	CES-100B	NS	—	625
307	10.4	102	240	3	246	350 MCM	32	38	58	CES-100B	AS	—	625
307	10.4	102	480	3	123	1/0	32	38	58	CES-100B	AS	109161	625
410	13.6	136	240	3	327	600 MCM	32	38	64	CES-135B	AS	—	785
410	13.6	136	480	3	164	3/0	32	38	64	CES-135B	AS	—	785
475	16.1	158	240	3	379	700 MCM	32	38	64	CES-160B	AS	—	785
475	16.1	158	480	3	190	250 MCM	32	38	64	CES-160B	AS	—	785
542	18.4	180	240	3	433	2-300 MCM	32	38	64	CES-180B	NS	—	790
542	18.4	180	480	3	217	300 MCM	32	38	64	CES-180B	AS	109348	790

**Stock Status:** S = stock AS = assembly stock NS = non-stock  
**To Order**—Specify model, volts, phase, kW and PCN, if applicable.

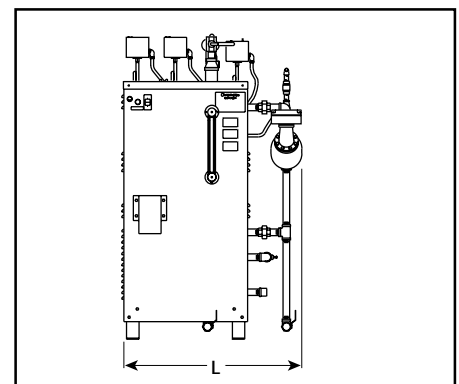
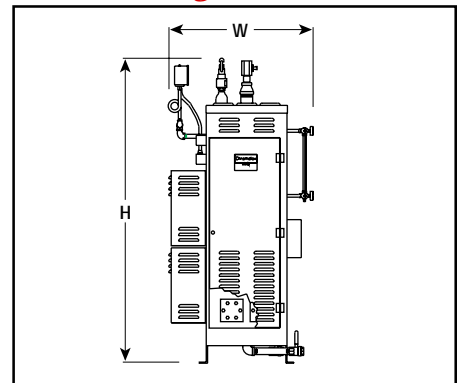
1. Steaming capacity based on producing saturated steam at 212°F with 50°F feed water.
2. Single phase and other voltages available. Contact your Local Chromalox Sales office.
3. All Stock boilers have 120V/1/60Hz control circuit with the 120 volt power supplied by an integral transformer. 220V/1/50Hz circuits are available for export boilers.
4. Copper 90°C AWG unless indicated otherwise. Contact your Local Chromalox Sales office for the size and number of contactors.
5. Allow 21" for element removal and 10" around boiler for service access. Add 2" to width dimension for optional transformer.

#### Dimensions (Inches)

#### CES-6B through -18B



#### CES-24B through -180B



#### Plumbing Connections

Boiler	NPT	
	Water Inlet	Steam Outlet
CES 6-18	1/2	1/2
CES 24-72	3/4	1
CES 100	3/4	1-1/2
CES 135-180	3/4	2