

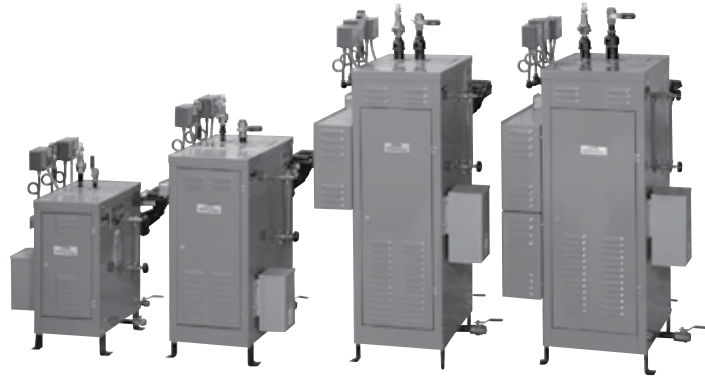
CSSB-A Stainless Steel Vertical Steam Boiler

- **Steam Capacity**
(18.1 - 542 Lbs/Hr @ 90 psig)
(8.2 - 246 kg/Hr @ 6.2 barg)
- 6-180 kW (20.5 - 614 Mwh)
- 400 or 480 Volt, 3 Phase (208, 240, and 600V Available)
- PED 2014/68/EU (6.89 barg)
- ASME Section I Pressure Vessel Stainless Steel Code "M" (100 psig)(CRN Available)
- 0.430 Dia. Incoloy 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)
- PED or ASME Safety Relief Valve
- Optional Transformer
- Optional Pressure Trims of 15, 30, and 50 psig

Applications

CSSB All Stainless Steel Steam Boilers are specifically designed for use where the purity of the heating fluid must be maintained. Typical applications include sterilizers and autoclaves in research, biological and pharmaceutical laboratories and humidification equipment for the electronics industry (solid state substrates).

CSSB boilers utilize de-ionized, demineralized or distilled water to provide pure steam, free of minerals or undesirable chemical additives. Pure steam eliminates the possibility of carry over of contaminants into the process.



Features

CSSB Steam Boilers are Trimmed at 100 psig for operation to 90 psig and come complete, factory tested and ready to operate. Boilers are available (on order) with 15, 30 and 50 psig. All catalog CSSB boilers are UL Listed, CSA, or CE Certified.

Stainless Steel Construction — Pressure vessel and all wetted parts are made of 304 stainless steel for operation with pure water. Type 316 stainless steel construction is available.

Low Water Cutoff and Level Control — Float type constructed of stainless steel automatically maintains correct water level in the boiler and shuts down the boiler if the level drops below safe operating limits.

Operating Controls — All stainless steel pressure controls provide accurate regulation of steam pressure.

High Pressure Limit Control — All stainless steel manual reset pressure limit control shuts down boiler if operating pressure exceeds set point.

Water Level Sight Glass — Furnished with stainless steel valves, provides for constant visual observation of the water level in the boiler.

Pressure Gauge, Safety Valve, Drain and Blow Down Valves are constructed of stainless steel for compatibility with basic boiler.

Optional Equipment

All optional equipment is available in stainless steel construction for compatibility with the basic boiler.

Auxiliary Low Water Cutoff uses vertical ball float with electronic control. This option is required by some state or local boiler codes.

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

Low or High Pressure Water Feed System for mounting on boiler or remote installation.

Heavy Duty Vacuum Breaker prevents siphoning of condensate from condensate return systems.

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

Note — A water feed system supplying distilled, de-ionized or demineralized water is required on all CSSB boilers. (See Caution note.)

CAUTION — The use of chlorinated or regular tap water in stainless steel boilers is specifically prohibited by the ASME Code. The feed water for CSSB boilers must be distilled, de-ionized or demineralized water with a minimum specific resistivity of 1 megohm/cm. Failure to use the correct type of water will damage the equipment and void the factory warranty.

CSSB-A

Specifications and Ordering Information

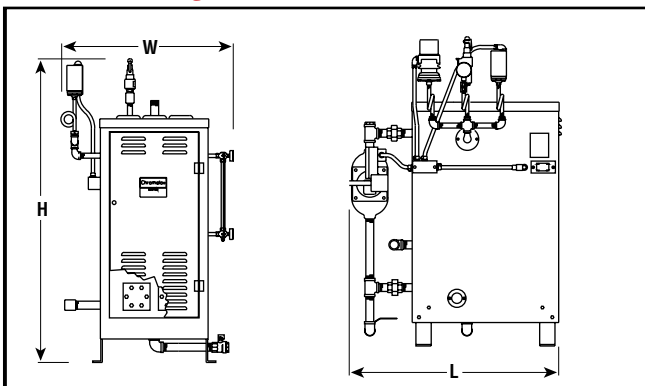
Steam*		BHP	kW	MBH	Volts**	Phase	Trim		Cert.	Dimensions (in/cm)***			Weight		
lbs/hr	kg/hr						Psig	Barg		W***	L	H	Model	Lbs	kg
CES-B with One Operating Pressure Control															
18.1	8.2	0.61	6	20.5	400	3	100	6.89	EUR	23" / 58.5cm	31" / 79cm	37" / 94cm	CSSB-6A	230	105
18.1	8.2	0.61	6	20.5	480	3	100	6.89	US	23" / 58.5cm	31" / 79cm	37" / 94cm	CSSB-6A	230	105
27.1	12.3	0.92	9	30.7	400	3	100	6.89	EUR	23" / 58.5cm	31" / 79cm	37" / 94cm	CSSB-9A	235	107
27.1	12.3	0.92	9	30.7	480	3	100	6.89	US	23" / 58.5cm	31" / 79cm	37" / 94cm	CSSB-9A	235	107
36.2	16.4	1.22	12	40.9	400	3	100	6.89	EUR	23" / 58.5cm	31" / 79cm	37" / 94cm	CSSB-12A	240	109
36.2	16.4	1.22	12	40.9	480	3	100	6.89	US	23" / 58.5cm	31" / 79cm	37" / 94cm	CSSB-12A	240	109
51.2	23.2	1.73	17	58	400	3	100	6.89	EUR	23" / 58.5cm	31" / 79cm	37" / 94cm	CSSB-17A	245	111
51.2	23.2	1.73	17	58	480	3	100	6.89	US	23" / 58.5cm	31" / 79cm	37" / 94cm	CSSB-17A	245	111
72.3	32.8	2.45	24	81.9	400	3	100	6.89	EUR	28" / 71cm	35" / 89cm	44" / 112cm	CSSB-24A	300	136
72.3	32.8	2.45	24	81.9	480	3	100	6.89	US	28" / 71cm	35" / 89cm	44" / 112cm	CSSB-24A	300	136
87.4	39.6	2.95	29	99	400	3	100	6.89	EUR	28" / 71cm	35" / 89cm	44" / 112cm	CSSB-29A	310	141
87.4	39.6	2.95	29	99	480	3	100	6.89	US	28" / 71cm	35" / 89cm	44" / 112cm	CSSB-29A	310	141
102.5	46.5	3.47	34	116	400	3	100	6.89	EUR	28" / 71cm	35" / 89cm	44" / 112cm	CSSB-34A	315	143
102.5	46.5	3.47	34	116	480	3	100	6.89	US	28" / 71cm	35" / 89cm	44" / 112cm	CSSB-34A	315	143
138.7	62.9	4.69	46	157	400	3	100	6.89	EUR	28" / 71cm	35" / 89cm	44" / 112cm	CSSB-46A	320	145
138.7	62.9	4.69	46	157	480	3	100	6.89	US	28" / 71cm	35" / 89cm	44" / 112cm	CSSB-46A	320	145
174.8	79.3	5.91	58	197.9	400	3	100	6.89	EUR	28" / 71cm	35" / 89cm	44" / 112cm	CSSB-58A	380	172
174.8	79.3	5.91	58	197.9	480	3	100	6.89	US	28" / 71cm	35" / 89cm	44" / 112cm	CSSB-58A	380	172
205	93	6.93	68	232	400	3	100	6.89	EUR	28" / 71cm	35" / 89cm	44" / 112cm	CSSB-68A	390	177
205	93	6.93	68	232	480	3	100	6.89	US	28" / 71cm	35" / 89cm	44" / 112cm	CSSB-68A	390	177
CES-B with Two Operating Pressure Control															
307	139	10.4	102	348	400	3	100	6.89	EUR	32" / 82cm	38" / 97cm	58" / 148cm	CSSB-102A	625	284
307	139	10.4	102	348	480	3	100	6.89	US	32" / 82cm	38" / 97cm	58" / 148cm	CSSB-102A	625	284
410	186	13.6	136	464	400	3	100	6.89	EUR	32" / 82cm	38" / 97cm	64" / 163cm	CSSB-136A	785	356
410	186	13.6	136	464	480	3	100	6.89	US	32" / 82cm	38" / 97cm	64" / 163cm	CSSB-136A	785	356
475	215.5	16.1	158	539	400	3	100	6.89	EUR	32" / 82cm	38" / 97cm	64" / 163cm	CSSB-158A	785	356
475	215.5	16.1	158	539	480	3	100	6.89	US	32" / 82cm	38" / 97cm	64" / 163cm	CSSB-158A	785	356
542	246	18.4	180	614	400	3	100	6.89	EUR	32" / 82cm	38" / 97cm	64" / 163cm	CSSB-180A	790	359
542	246	18.4	180	614	480	3	100	6.89	US	32" / 82cm	38" / 97cm	64" / 163cm	CSSB-180A	790	359

EUR package includes: CE certification, PED 2014/68/EU
 US package includes: CSA and UL certification, ASME Section I Code "M"

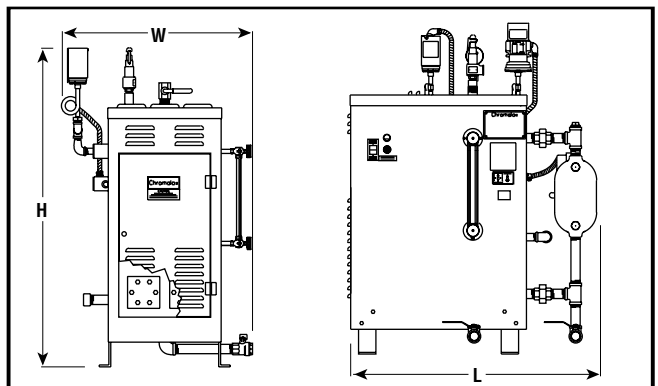
*Steaming capacity is based on producing saturated steam at 212°F 90psig with 50°F feed water. (100°C 6.2barg with 10°C feed water)
 **All boilers have a 120V/1/60Hz control circuit. 220V/1/50Hz circuits are optional.
 ***Allow 21"(54cm) for element removal and 10"(26cm) around boiler for service access. Add 2"(5cm) to width dimension for optional transformer.

Dimensions

CSSB-6A through -18A



CSSB-24A through -180A



Plumbing Connections

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

CSSB-A

Pre-Engineered Systems

Steam*		BHP	kW	MBH	Volts**	Phase	Trim		Cert.	Dimensions (in/cm)***			Model	Part#	Weight	
lbs/hr	kg/hr						Psig	Barg		W	L	H			Lbs	kg
CSSB-A with One Operating Pressure Control and a 2 kVA Transformer																
102.5	46.5	3.47	34	116	400	3	100	6.89	EUR	30" / 76cm	35" / 89cm	44" / 112cm	CSSB-34 LWXFVB	300134011	325	148
102.5	46.5	3.47	34	116	480	3	100	6.89	US	30" / 76cm	35" / 89cm	44" / 112cm	CSSB-34 LWXFVB	300134012	325	148
205	93	6.93	68	232	400	3	100	6.89	EUR	30" / 76cm	35" / 89cm	44" / 112cm	CSSB-68 LWXFVB	300134013	400	182
205	93	6.93	68	232	480	3	100	6.89	US	30" / 76cm	35" / 89cm	44" / 112cm	CSSB-68 LWXFVB	300134014	400	182
CSSB-A with Two Operating Pressure Control and a 2 kVA Transformer																
307	139	10.4	102	348	400	3	100	6.89	EUR	34" / 87cm	38" / 97cm	64" / 163cm	CSSB-102 LWXFVB	300134015	790	358
307	139	10.4	102	348	480	3	100	6.89	US	34" / 87cm	38" / 97cm	64" / 163cm	CSSB-102 LWXFVB	300134016	790	358
410	186	13.6	136	464	400	3	100	6.89	EUR	34" / 87cm	38" / 97cm	64" / 163cm	CSSB-136 LWXFVB	300134017	795	361
410	186	13.6	136	464	480	3	100	6.89	US	34" / 87cm	38" / 97cm	64" / 163cm	CSSB-136 LWXFVB	300134018	795	361
542	246	18.4	180	614	400	3	100	6.89	EUR	34" / 87cm	38" / 97cm	64" / 163cm	CSSB-180 LWXFVB	300134019	800	363
542	246	18.4	180	614	480	3	100	6.89	US	34" / 87cm	38" / 97cm	64" / 163cm	CSSB-180 LWXFVB	300134020	800	363

Included optional equipment:

- Auxiliary Electronic Low Water Cutoff
- Automatic Blowdown Control
- Heavy Duty Vacuum Breaker
- 2 kVA Transformer

EUR package includes: CE certification, PED 2014/68/EU

US package includes: CSA and UL certification, ASME Section I Code "M"

*Steaming capacity is based on producing saturated steam at 212°F 90psig with 50°F feed water. (100°C 6.2barg with 10°C feed water)

**All boilers have a 120V/1/60Hz control circuit.

***Allow 21"(54cm) for element removal and 10"(26cm) around boiler for service access.