



**MODELS
CSB 52, 82, 120
SURFACE MOUNT THERMOSTATS**



**SANDBLASTER
COMMERCIAL ELECTRIC WATER HEATERS**

Designed for use as a recovery heater having its own storage tank. Note: Not recommended for sanitizing water application.

FEATURES

Meets or exceeds the requirements of ASHRAE 90.1b-1992 and ASHRAE/IESNA 90.1-2004.

GOLD ELEMENTS - CSB models ship with the gold plated elements (see element availability chart on back). Patented gold elements provide long life and superior scaling resistance. Low watt density means lower surface temperature to minimize scale buildup and more surface to heat water. Gold elements carry a one-year warranty against failure due to lime scale build-up.

GLASS-LINED TANK - Three sizes: 50, 80 and 119 gallon capacity. Tank interior is coated with glass specially developed for water heater use. Tanks rated at 150 psi (1034 kPa) working pressure (ASME 150 psi). Foam insulation reduces costly heat loss, and is vermin proof.

FUSING - Protects all elements, thermostats, and internal wiring circuits against excess current flow. Meets National Electrical Code requirements that non-ASME tanks must have internal fusing when current draw exceeds 48 amps.

STANDARD VOLTAGES - 208, 240 and 480V single-phase and three-phase delta. Convertible from three-phase to single-phase (in field) and vice versa. 277V single-phase also available.

TERMINAL BLOCK - Factory installed. Just bring the service to the heater and connect to block.

CONTROLS - One temperature control (adjustable through a range of 120° to 180°F) and manual reset high temperature cut-off per element. Thermostat step control may be achieved by varying settings on individual temperature controls. Located behind hinged control compartment door for quick, easy access.

OTHER STANDARD FEATURES -

- Surface mounted thermostats
- Simplified circuitry, color coded for ease of service
- Two anode rods for maximum corrosion protection
- Cabinet has bonderized undercoat with baked enamel finish
- Bottom inlet and top outlet openings
- Brass drain valve
- CSA / ASME temperature and pressure relief valve
- Single panel control box.
- **THREE YEAR LIMITED TANK WARRANTY** - For complete warranty information, consult written warranty or contact State Water Heaters.

OPTIONS -

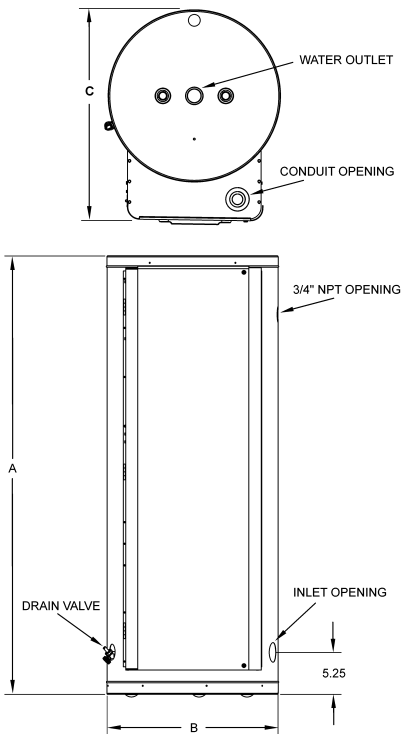
- UL and cUL listed conversion kits to adjust voltage and kW requirements in the field before and after installation
- ASME 150 psi tank construction
- International voltages - 220, 380, 400, 415, 575, and 600 volts, three phase available with Y connected elements
- **MANIFOLD KITS** - for multiple tank installations. Two heaters -part # 9003429205, three heaters- part # 9003430205 and four heaters- part # 9003431205



RECOVERY RATE IN GALLONS PER HOUR AT TEMPERATURE RISE OF

Standard kW Input	BTU/ Hour	30°F 17°C	40°F 22°C	50°F 28°C	60°F 33°C	70°F 39°C	80°F 45°C	90°F 50°C	100°F 56°C	110°F 61°C	120°F 67°C	130°F 72°C	140°F 78°C
6	20,478	82 310	62 233	49 166	41 155	35 133	31 116	27 103	25 93	22 85	21 78	19 72	18 66
9	30,717	123 465	92 349	74 279	62 233	53 199	46 174	41 155	37 140	34 127	31 116	28 107	26 100
12	40,956	164 620	123 465	98 372	82 310	70 266	61 233	55 207	49 186	45 169	41 155	38 143	35 133
13.5	46,075	184 698	138 523	111 419	92 349	79 299	69 262	62 233	55 209	50 190	46 174	43 161	40 150
15	51,195	205 775	154 582	123 465	102 388	88 332	77 291	68 258	61 233	56 211	51 194	47 149	44 166
18	61,434	246 930	184 698	148 558	123 465	105 399	92 349	82 310	74 279	67 254	62 233	57 215	53 199
24	81,912	328 1241	246 930	197 744	164 620	140 532	123 465	109 414	98 372	90 338	82 310	76 286	70 266
27	92,151	369 1396	276 1047	221 938	185 609	158 509	138 523	123 465	111 410	101 391	92 340	85 322	79 299
30	102,390	410 1551	307 1163	246 930	205 775	176 665	154 582	137 517	123 465	112 423	102 388	95 358	88 332
36	122,868	492 1861	369 1396	295 1117	246 930	211 798	184 698	164 620	148 556	134 508	123 465	113 429	105 399
40.5	138,226	554 2094	418 1570	332 1256	277 1047	237 897	208 785	185 698	166 628	151 634	138 582	128 537	119 498
45	153,585	615 2326	461 1745	369 1398	307 1163	263 997	230 872	205 755	184 698	168 634	154 582	142 537	132 498
54	184,302	738 2791	554 2094	443 1675	359 1396	316 1196	277 1047	246 930	221 837	204 761	185 696	170 644	158 598

Figured at 1 kW (3413 BTU) = 4.1 Gallons at 100°F temperature rise.



Model Number	Tank Capacity		Dimensions						Inlet/Outlet (NPT)		Approx. Ship. Wt. (Lbs.)	
			A		B		C					
	gal.	litre	in.	cm	in.	cm	in.	cm	in.	cm	lb	kg
CSB 52**SFE	50	189	55 3/4	142	21 3/4	55.2	27	68.6	1 1/4	3.2	265	120
CSB 82**SFE	80	300	60 1/4	153	25 1/2	64.8	31	78.7	1 1/4	3.2	280	127
CSB 120**SFE	119	450	62 1/4	158.1	29 1/2	75.0	35	88.9	1 1/4	3.2	390	177

kW Input	Model Numbers			Number Of Elements	Element Wattage	Full Load Current in Amperes						
	Tank Capacity in Gallons					Single Phase			Three Phase			
	50	80	119			208V	240V	277V	480V	208V	240V	480V
6	CSB 52 6 SFE	CSB 82 6 SFE	CSB 120 6 SFE	3	2,000	28.8	25.0	21.7	12.5	16.7	14.4	7.2
9	CSB 52 9 SFE	CSB 82 9 SFE	CSB 120 9 SFE	3	3,000	43.3	37.5	**32.5	18.8	25.0	21.7	10.8
12	CSB 52 12 SFE	CSB 82 12 SFE	CSB 120 12 SFE	3	4,000	57.7	50.0	43.3	25.0	33.3	28.9	14.4
13.5	CSB 52 135 SFE	CSB 82 135 SFE	CSB 120 135 SFE	3	4,500	64.9	56.3	**48.7	28.1	37.5	32.5	16.2
15	CSB 52 15 SFE	CSB 82 15 SFE	CSB 120 15 SFE	3	5,000	72.1	62.5	**54.2	31.3	41.6	36.1	18.0
18	CSB 52 18 SFE	CSB 82 18 SFE	CSB 120 18 SFE	3*	6,000	86.5	75.0	65.0	37.5	50.0	43.3	21.7
24	CSB 52 24 SFE	CSB 82 24 SFE	CSB 120 24 SFE	6	4,000	115.4	100.0	86.6	50.0	66.6	57.7	28.9
27	CSB 52 27 SFE	CSB 82 27 SFE	CSB 120 27 SFE	6	4,500	129.8	112.5	**97.5	56.3	74.9	65.0	32.5
30	CSB 52 30 SFE	CSB 82 30 SFE	CSB 120 30 SFE	6	5,000	144.2	125.0	**108.3	62.5	83.3	72.2	36.1
36	CSB 52 36 SFE	CSB 82 36 SFE	CSB 120 36 SFE	6*	6,000	173.1	150.0	130.0	75.0	99.9	86.6	43.3
40.5	N/A	CSB 82 405 SFE	CSB 120 405 SFE	9	4,500	194.7	168.8	**146.2	84.4	112.4	97.4	48.7
45	N/A	CSB 82 45 SFE	CSB 120 45 SFE	9	5,000	216.3	187.5	**162.5	93.8	124.9	108.3	54.1
54	N/A	CSB 82 54 SFE	CSB 120 54 SFE	9	6,000	N/A	225.0	194.9	112.5	149.9	129.9	65.0

*208 volt models may contain three (3) additional elements. ** Elements available in incoloy only.

SUGGESTED SPECIFICATION

The heater(s) shall be SandBlaster CSB Series Commercial Electric Model Number _____ as manufactured by State Industries shall be rated at _____ kW, _____ volts, _____ phase, 60 cycle AC, and listed by Underwriters' Laboratories and approved to the NSF Standard 5 by UL. Tank(s) shall be _____ gallon capacity. Tanks shall be 50, 80 and 119 gallon capacity and shall have 150 psi working pressure and be equipped with extruded high density anode. All internal surfaces of the heater(s) exposed to water shall be glass-lined with an alkaline borosilicate composition that has been fused-to-steel by firing at a temperature range of 1400°F to 1600°F. Electric heating elements shall be gold plated low watt density screw-in type. Each element shall be controlled by an individually mounted thermostat and high temperature cut-off switch. All internal circuits shall be fused. The outer jacket shall be of baked enamel finish and shall be provided with full size control compartment for performance of service and maintenance through hinged front panel and shall enclose the tank with foam insulation. Electrical junction box with heavy duty terminal block shall be provided. The drain valve shall be located in the front for ease of servicing. Heater tank shall have a three year limited warranty as outlined in the written warranty. Manufacturer shall supply ASME rated temperature and pressure relief valve. Fully illustrated instruction manual to be included. Meets ASHRAE 90.1b -1992 and ASHRAE/IESNA 90.1-2004.