



# Sandblaster®

## Surface mount thermostats -

## CSB-SFE series

## COMMERCIAL ELECTRIC

## WATER HEATERS

### CSB - 82/120

Designed for use as a recovery heater having its own storage tank.

- Meets the standby loss requirements of the U.S. Department of Energy and current edition of AHRAE/IES 90.1.
- CSB models ship with industrial grade low watt density incoloy immersion elements with Ni-chrome resistance wire embedded in magnesium oxide.
- Glass-lined tank. Two sizes: 73 and 107 gallon capacity. Tank interior is coated with glass specially developed by State Water Heaters for water heater use. Tanks rated at 150 psi (1034 kPa) working pressure.
- 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.
- Terminal block. Factory installed. Just bring the electrical service to the heater and connect to block.
- Controls. One temperature control (adjustable through a range of 120° to 181°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.
- 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 Certified and ASME rated T&P relief valve
- Single panel control box
- Foam insulation reduces costly heat loss.

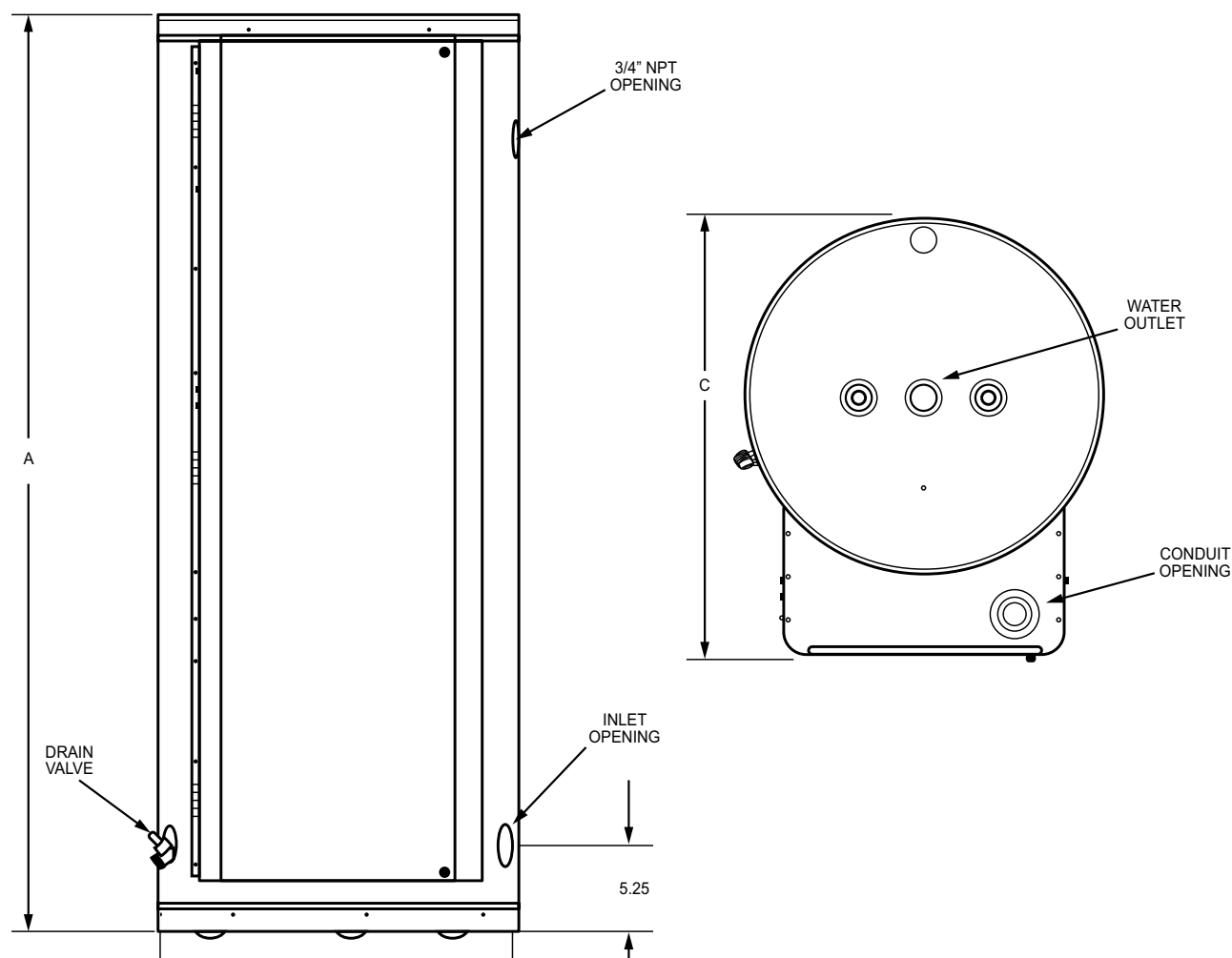
#### SAMPLE SPECIFICATION

The heater(s) shall be Sandblaster® Surface Mount Thermostat CSB Series Model Number \_\_\_\_\_ -SFE(A) as manufactured by State Water Heaters. Heater(s) 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 \_\_\_\_\_ (73 or 105) gallon capacity. Tanks shall have \_\_\_\_\_ (150 [Std] or 160 [ASME]) psi working pressure and be equipped with extruded high density anode. All internal surfaces of the heater(s) exposed to water shall be glasslined 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 low watt density Goldenrod 1" 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 standby loss requirements of the U. S. Department of Energy and current edition of ASHRAE/IES 90.1.



## Options

- ASME 160 psi (1103 kPa) 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
- Potable water expansion tank ETC 10X for installations where a check valve is installed in cold water supply line



Model number	Gallon capacity		Dimensions						Inlet/Outlet (NPT)	Approx. shipping weight	
			A		B		C				
	gal.	litre	Inches	cm	Inches	cm	Inches	cm	Inches	lbs	kg
CSB 82	73	275	60-1/4	153	25-1/2	64.8	31	78.7	1-1/4	280	127
CSB 120	107	405	62-1/4	158.1	29-1/2	75	35	88.9	1-1/4	390	177

For ASME Construction add "A" to the end of the model number (example: CSB 82 24 SFEA).

Note: for Saudi Arabia only CSB 120 with 18 and 30 kW are approved for energy label requirements per SASO 2884-1

Standard kW input	BTU/ hour	30°F	40°F	50°F	60°F	70°F	80°F	90°F	100°F	110°F	120°F	130°F	140°F
		16.7°C	22.3°C	27.8°C	33.4°C	38.9°C	44.5°C	50°C	55.6°C	61.2°C	66.7°C	72.3°C	77.8°C
9	30,708	124	93	75	62	53	47	41	37	34	31	29	27
		469	352	284	235	201	178	155	140	129	117	110	102
12	40,944	166	124	99	83	71	62	55	50	45	41	38	35
		628	469	375	314	269	235	208	189	170	155	144	132
15	51,180	207	155	124	104	89	78	69	62	56	52	48	44
		783	587	469	394	337	295	261	235	212	197	182	167
18	61,416	248	186	149	124	106	93	83	75	68	62	57	53
		939	704	564	469	401	352	314	284	257	235	216	201
24	81,888	331	248	199	166	142	124	110	99	90	83	76	71
		1253	939	753	628	537	469	416	375	341	314	288	269
27	92,124	373	279	224	186	160	140	124	112	102	93	86	80
		1412	1056	848	704	606	530	469	424	386	352	326	303
30	102,360	414	311	248	207	177	155	138	124	113	104	96	89
		1567	1177	939	783	670	587	522	469	428	394	363	337
36	122,832	497	373	298	248	213	186	166	149	135	124	115	106
		1881	1412	1128	939	806	704	628	564	511	469	435	401
40.5	138,186	559	419	335	279	240	210	186	168	152	140	129	120
		2116	1586	1268	1056	908	795	704	636	575	530	488	454
45	153,540	621	466	373	311	266	233	207	186	169	155	143	133
		2350	1764	1412	1177	1007	882	783	704	640	587	541	503
54	184,248	745	559	447	373	319	279	248	224	203	186	172	160
		2820	2116	1692	1412	1207	1056	939	848	768	704	651	606

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

kW input	No. of elements	Element wattage	Full load current in amperes		
			Single phase 230V	Three phase	
				380V	400/415V
9	3	3000	37,5	13,6	12,5
12	3	4000	50,0	18,2	16,7
15	3	5000	62,5	22,7	20,8
18	3	6000	75,0	27,3	25,0
24	6	4000	100,0	36,4	33,3
27	6	4500	112,5	40,9	37,5
30	6	5000	125,0	45,5	41,7
36	6	6000	150,0	54,5	50,0
40,5	9	4500	168,8	61,4	56,3
45	9	5000	187,5	68,2	62,5
54	9	6000	225,0	81,8	75,0

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