

# ASME

## Commercial Electric Water Heater

### Features

- **Vitraglas® Lining with Microban®**—An exclusively engineered enamel formula that provides superior tank protection from the corrosive effects of water; and with Microban® antimicrobial product protection to help prevent the growth of bacteria, mold and mildew on the surface of the tank lining.
- **Hydrojet® Total Performance System**—Sediment reducing device that minimizes temperature build-up in tank.

### Additional Details

- **ASME Tank Construction**—Standard.
- **Immersion Thermostats**—Immersion type for accurate temperature control up to 180°F (82°C) with manual reset high limit control.
- **Low Watt Density INCOLOY® Elements**—Screw in style. The increased surface area and lower watts per square inch ratio of INCOLOY® elements (compared to copper elements) allows for increased resistance to dry fire burnout and lime buildup associated with hard water conditions.
- **Insulation System**—Non-CFC foam covers the sides and top of the tank, reducing heat loss. This results in less energy consumption, improved efficiencies, and jacket rigidity.
- **Water Connections**—Factory-installed true dielectric fittings extend water heater life and simplify water line connections.
- **Protective Anode Rod**—Provides added protection against corrosion for long-term, trouble-free service.
- **Completely Pre-wired**—With pressure lug terminal block eliminating need for splicing or taping of wires.
- **Handhole Cleanout**—With pressure lug terminal block eliminating need for splicing or taping of wires (not available on models below 20 gallons).
- **T&P Relief Valve**—Installed.
- **Low Restriction Brass Drain Valve**—Durable tamper proof design.
- **NSF Construction Available on All Models.**



Photo is of CEA30-36-3



### 3 or 5-Year Limited Tank Warranties / 1-Year Limited Warranty on Component Parts.

For more information on warranty, please visit [www.bradfordwhite.com](http://www.bradfordwhite.com)

For products installed in USA, Canada, and Puerto Rico. See complete copy of the warranty included with the heater for limitations.

Microban® antimicrobial product protection helps prevent the growth of bacteria, mold and mildew that may affect the product. The built-in antimicrobial properties do not protect users or others from disease-causing organisms. Microban® is a registered trademark of Microban Products Company.

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### ASME Series

These water heaters meet or exceed all or portions of (where applicable) the minimum efficiency requirements of ASHRAE Standard 90.1 (latest edition).

Model Number	Rated Nominal Capacity		Min. - Max. kW Input Range	A Floor to Top of Heater	B Jacket Dia.	C Floor to Hot Water Conn. in.	E Floor to C/L of Cold Water Conn. in.	F Floor to T&P Conn. in.	G Floor to Top of Control Box in.	Water Conn. NPT in.	Approx. Shipping Weight lbs.
	U.S. Gal.	Imp. Gal.		in.	in.						
CEA6-KW-3	6	5	3	17 1⁄8	16	18 1⁄4	6 1⁄8	18 1⁄16	17	3⁄4	83
CEA12-KW-3	12	10	3 - 9	28	16	29	6 1⁄8	28 15⁄16	28	3⁄4	118
CEA20-KW-3	19	17	3 - 18	27 5⁄8	20	28 1⁄2	6 1⁄8	28	27	3⁄4	145
CEA30-KW-3	30	25	13.5 - 36	38	20	39	6 1⁄8	40 1⁄4	38	3⁄4	180
CEA40-KW-3	40	33	13.5 - 36	48 11⁄16	20	49 11⁄16	6 1⁄8	50 9⁄16	38 7⁄16	3⁄4	220
CEA50-KW-3	48	40	13.5 - 81	49 3⁄8	24	49 7⁄8	7 5⁄8	41 3⁄8	47 1⁄8	1 1⁄2	270
CEA80-KW-3	78	65	13.5 - 81	60 7⁄8	26	62 3⁄8	7 5⁄8	52 7⁄8	47 1⁄8	1 1⁄2	335
CEA120-KW-3	119	100	13.5 - 81	65 1⁄8	30 1⁄4	66 7⁄16	7 5⁄8	55 1⁄4	50 7⁄8	1 1⁄2	430

Model Number	Rated Nominal Capacity		Min. - Max. kW Input Range	A Floor to Top of Heater	B Jacket Dia.	C Floor to Hot Water Conn. mm.	E Floor to C/L of Cold Water Conn. mm.	F Floor to T&P Conn. mm.	G Floor to Top of Control Box mm.	Water Conn. NPT mm.	Approx. Shipping Weight kg.
	Liters			mm.	mm.						
CEA6-KW-3	23		3	435	406	464	156	459	432	19	38
CEA12-KW-3	45		3 - 9	711	406	737	156	735	711	19	54
CEA20-KW-3	72		3 - 18	702	508	724	156	711	686	19	66
CEA30-KW-3	114		13.5 - 36	965	508	991	156	1022	965	19	82
CEA40-KW-3	152		13.5 - 36	1237	508	1262	156	1284	976	19	100
CEA50-KW-3	182		13.5 - 81	1254	610	1267	194	1051	1197	38	123
CEA80-KW-3	295		13.5 - 81	1546	661	1584	194	1343	1197	38	152
CEA120-KW-3	451		13.5 - 81	1654	766	1688	194	1403	1292	38	195

Voltage and phase must be specified when ordering. Example: CEA80-18-3, 240 Volt, 3 phase.

Minimum kW inputs for 30 gallons through 119 gallons is 13.5 kW.

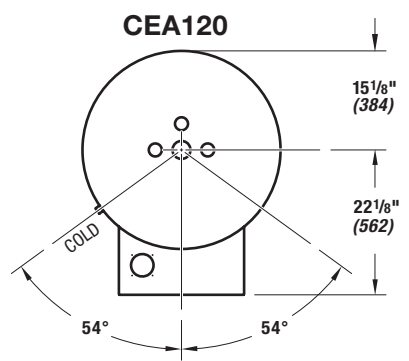
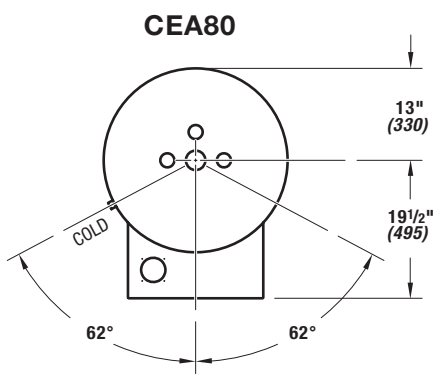
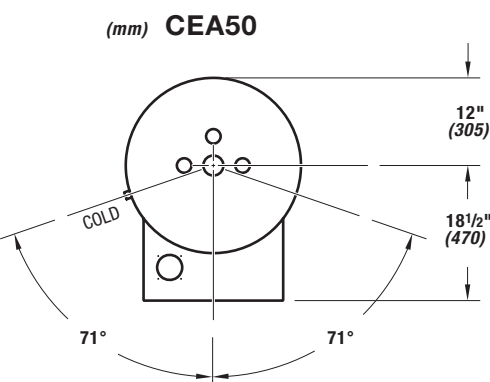
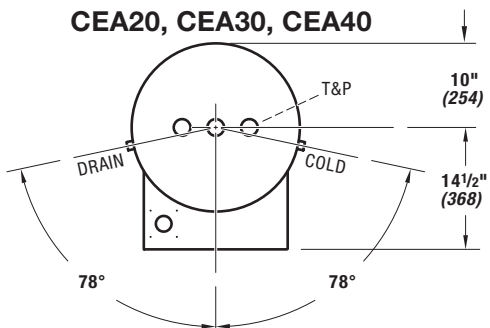
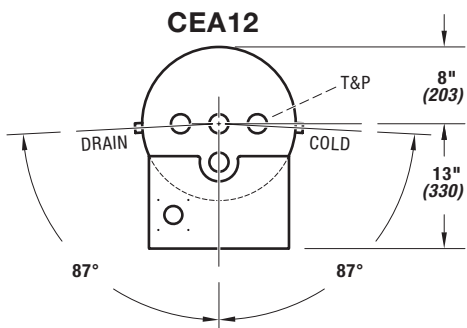
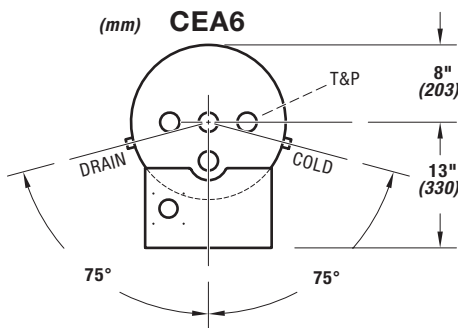
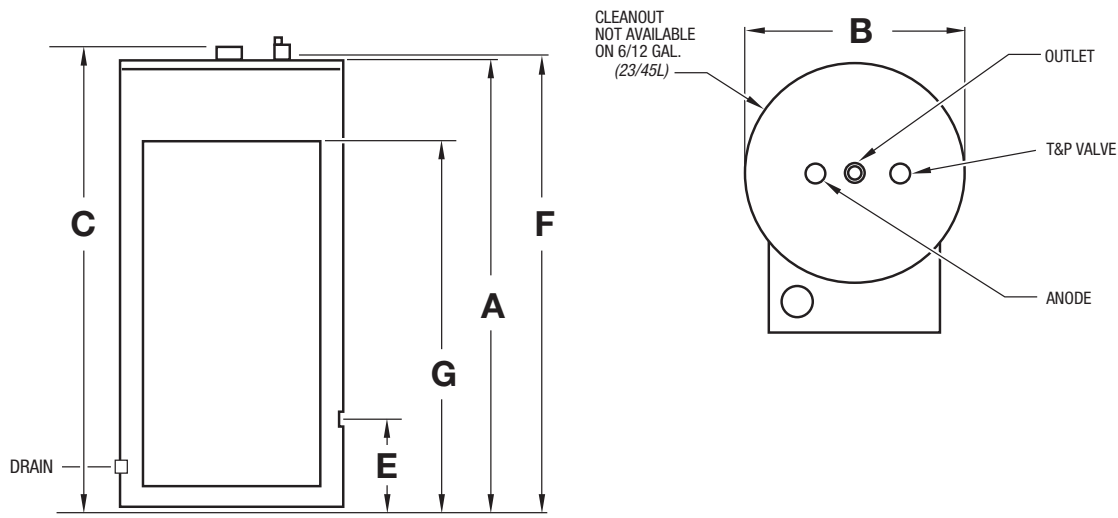
Number of Elements (Fused Models)*											Full Load Current Amperes (Fused Models)*																
Input kW	208V Phase		240V Phase		277V Phase	380V Phase		415V Phase		480V Phase		600V Phase	Input kW	208V Phase		240V Phase		277V Phase	380V Phase		400V Phase		415V Phase	480V Phase		600V Phase	
	1	3	1	3	1	3	3	1	3	3	1	3		1	3	1	3	1	3	3	1	3	1	3	1	3	3
3	1	1	1	1	1	1	1	1	1	1	1	3	14	14	13	13	11	5	8	N/A	6	6	2.8	6	6	2.8	
6	3	3	3	3	3	3	3	3	3	3	3	6	29(2)	17	25(2)	14	22(2)	9	9	8	13(2)	7	6	13(2)	7	6	
9	3	3	3	3	3	3	3	3	3	3	3	9	43	25	38	22	33	14	13	13	19	11	9	19	11	9	
12	3	3	3	3	3	3	3	3	3	3	3	12	58	33	50	29	43(2)	18	17	17	25(2)	14	12	25(2)	14	12	
13.5	3	3	3	3	3	3	3	3	3	3	3	13.5	65	37	56	32	49	21	20	19	28	16	13	28	16	13	
15	3	3	3	3	3	3	3	3	3	3	3	15	72	42	63	36	54	23	22	21	31	18	14	31	18	14	
18	3	3	3	3	3	3	3	3	3	3	3	18	87	50	75	43	65	27	26	25	38	22	17	38	22	17	
24	4	6	4	6	4	6	4	4	6	6	6	24	115	67	100	58	87	36	35	33	50	29	23	50	29	23	
27	6	6	6	6	6	6	6	6	6	6	6	27	130	75	113	65	97	41	39	38	56	32	26	56	32	26	
30	6	6	6	6	6	6	6	6	6	6	6	30	144	83	125	72	108	46	43	42	63	36	29	63	36	29	
36	6	6	6	6	6	6	6	6	6	6	6	36	173	100	150	87	130	55	52	50	75	43	35	75	43	35	
45	9	9	9	9	9	9	9	9	9	9	9	45	216	125	188	108	163	68	65	63	94	54	43	94	54	43	
54	9	9	9	9	9	9	9	9	9	9	9	54	260	150	225	130	195	82	78	75	113	65	52	113	65	52	
81	9	9	9	9	9	9	9	9	9	9	9	81	389	225	338	195	292	123	117	113	169	97	78	169	97	78	

ASME units with amperage draw of 120 amps or more require factory installed internal fusing. \*If the number of elements on non-fused models is different, it is located in parentheses ( ), following the amp draw.

kW Input	Recovery GPH Temperature Rise °F								
	40	50	60	70	80	90	100	120	140
3	31	25	21	18	16	14	12	10	9
6	62	50	41	35	31	28	25	21	18
9	93	74	62	53	47	42	37	31	27
12	124	99	83	71	62	55	50	41	35
13.5	140	112	93	80	70	62	56	47	40
15	155	124	103	89	78	69	62	52	44
18	186	149	124	106	93	83	74	62	53
24	248	199	164	142	124	110	99	83	71
27	279	223	186	160	140	124	112	93	80
30	310	248	207	177	155	138	124	103	89
36	372	298	248	213	186	165	149	124	106
45	465	372	310	266	233	207	186	155	133
54	558	447	372	319	279	248	223	186	160
81	852	671	558	477	418	371	334	278	238

kW Input	Recovery LPH Temperature Rise °C								
	23	28	34	40	45	50	56	67	78
3	117	95	79	68	61	53	45	38	34
6	235	189	155	132	117	106	95	79	68
9	352	280	235	201	178	159	140	117	102
12	469	375	314	269	235	208	189	155	132
13.5	530	424	352	303	265	235	212	178	151
15	587	469	390	337	295	261	235	197	167
18	704	564	469	401	352	314	280	235	201
24	939	753	621	538	469	416	375	314	269
27	1056	844	704	606	530	469	424	352	303
30	1173	939	784	670	587	522	469	390	337
36	1408	1128	939	806	704	625	564	469	401
45	1760	1408	1173	1007	882	784	704	587	503
54	2112	1692	1408	1208	1056	939	844	704	606
81	3225	2540	2112	1806	1582	1404	1264	1052	901

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### Optional Equipment Features:

- **High and Low Water Pressure Controls**—The Controls interrupt the electrical current to the contactor coil when the pressure settings are exceeded.
- **Low Water Level Control**—This Control will interrupt the electrical current to the contactor coil when a low water level condition is sensed inside the water heater tank. When the low water level condition is corrected the control will automatically sense the new situation and electrical current will again energize the contactor coil. Normal water heater operation will be resumed.
- **Alarm Horn**—The Alarm Horn is an option specified when the installation desires an audible signal to immediately sound an alert when the water heater operation is interrupted for certain faults. Referring to the control circuit wiring diagram, the alarm will activate when any one of the following events occur:
  - The Hi-Limit control has been tripped.
  - The High Water Pressure Control senses excessive pressure.
  - The Low Water Pressure Control senses insufficient pressure.
  - The Low Water Level Control senses an insufficient quantity of water.
- **Sequencing Controls**—Heating element sequencers are available in order to stage the activation of the heating elements thereby, reducing the inrush current to the water heater. The sequencers will control one or two contactor coils depending upon the water heater voltage, phase, and kW.
- **Electrical Door Lock**—An electrical door lock is offered in order to secure the access to the water heater control cabinet. This device will lock the control cabinet door when the 120VAC control circuit voltage is applied to it.
- **Temperature and Pressure Gauge**—Displays approximate temperature of the water and approximate pressure inside the tank.
- **BMS Relays**—Allows BMS to supply power to the water heater on and off and view if the elements are in operation:
  - Relay 1- When energized by the BMS supply voltage, this will allow water heater operation (enable/disable).
  - Relay 2- Sends signal to BMS to show if the elements are in operation or not.

### Sample Specification

The water heater shall be a Bradford White model with a rated storage capacity of not less than \_\_\_\_\_ gallons (\_\_\_\_\_ liters), a minimum kW input of \_\_\_\_\_ kW (\_\_\_\_\_ BTU/Hr.), a minimum recovery of \_\_\_\_\_ GPH (\_\_\_\_\_ LPH). The tank shall be lined with Vitraglas® vitreous enamel with Microban® antimicrobial technology and have a bolted hand hole cleanout. The tank shall have \_\_\_\_\_ anode rods installed in separate tank head couplings. The heater shall have 3" Non-CFC foam insulation, and come equipped with an ASME rated T&P relief valve, a cold water inlet Hydrojet® Sediment Reduction System. It shall be design certified by UL® for 180°F (82°C) application, either with or without a separate storage tank, and comply with state and local codes and ordinances.

### GENERAL:

All electric water heaters are certified at 300 PSI test pressure (2068 kPa) and 150 PSI working pressure (1034 kPa). All models are design certified by UL®, for up to 180°F (82°C) application as an Automatic Storage Heater, and an Automatic Circulating Tank Heater. As an Automatic Storage Heater, all models are complete, self-contained water heating systems. It needs no separate storage tank, pump, wiring or elaborate piping network. When equipped with a mixing valve, all models can be stored at a sanitizing temperature of 180°F (82°C) and supply lower temperature general purpose hot water simultaneously.

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*Dimensions and specifications subject to change without notice in accordance with our policy of continuous product improvement.*



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