

## Commercial ASME Electric Water Heaters



Photo is of  
CEA30-36-3

**The ASME Electric Models feature:**

- **A.S.M.E. Code Tank Construction**—Standard.
- **Immersion Thermostats**—Immersion type for accurate temperature control from up to 180°F (82°C) with manual reset high limit control.
- **Vitraglas<sup>®</sup> Lining with Microban<sup>®</sup>**—An exclusively engineered enamel formula that provides superior tank protection from the corrosive effects of water; and with Microban<sup>®</sup> antimicrobial product protection to help prevent the growth of bacteria, mold and mildew on the surface of the tank lining.
- **Factory Installed Hydrojet<sup>®</sup> Sediment Reduction System**—Cold water inlet sediment reducing device helps prevent sediment build up in the tank.
- **Water Connections**— Factory-installed true dielectric fittings extend water heater life and simplify water line connections.
- **Elements**—screw in style. Low watt density INCOLOY<sup>®</sup> material helps to minimize dry fire and prevents lime build up.
- **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.
- **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.
- **Hand Hole Cleanout**—(20 (76L) thru 120 (454L) gallon models only).
- **T&P Relief Valve**—Installed.
- **Low Restriction Brass Drain Valve**—Durable tamper proof design.
- **NSF Construction Available on All Models.**

**FEATURING:**



**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. Some states do not allow limitations on warranties. See complete copy of the warranty included with the heater.

Microban<sup>®</sup> 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<sup>®</sup> is a registered trademark of Microban Products Company.

# Commercial Electric Water Heater

## ASME Electric Models

Meet or exceed ASHRAE 90.1 (latest edition). C.E.C. Listed

Model Number	Rated Nominal Capacity		Min. - Max. kW Input Range	A Floor to Top of Heater in.	B Jacket Dia. in.	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.									
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 mm.	B Jacket Dia. mm.	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										
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)\*

Input kW	208V Phase		240V Phase		277V Phase		380V Phase		415V Phase		480V Phase		600V Phase	
	1	3	1	3	1	3	1	3	1	3	1	3	1	3
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	3	3	3	3	3	3	3	3	3	3	3	3	3	3
9	3	3	3	3	3	3	3	3	3	3	3	3	3	3
12	3	3	3	3	3	3	3	3	3	3	3	3	3	3
13.5	3	3	3	3	3	3	3	3	3	3	3	3	3	3
15	3	3	3	3	3	3	3	3	3	3	3	3	3	3
18	3	3	3	3	3	3	3	3	3	3	3	3	3	3
24	4	6	4	6	4	6	4	6	4	6	4	6	4	6
27	6	6	6	6	6	6	6	6	6	6	6	6	6	6
30	6	6	6	6	6	6	6	6	6	6	6	6	6	6
36	6	6	6	6	6	6	6	6	6	6	6	6	6	6
45	9	9	9	9	9	9	9	9	9	9	9	9	9	9
54	9	9	9	9	9	9	9	9	9	9	9	9	9	9
81	9	9	9	9	9	9	9	9	9	9	9	9	9	9

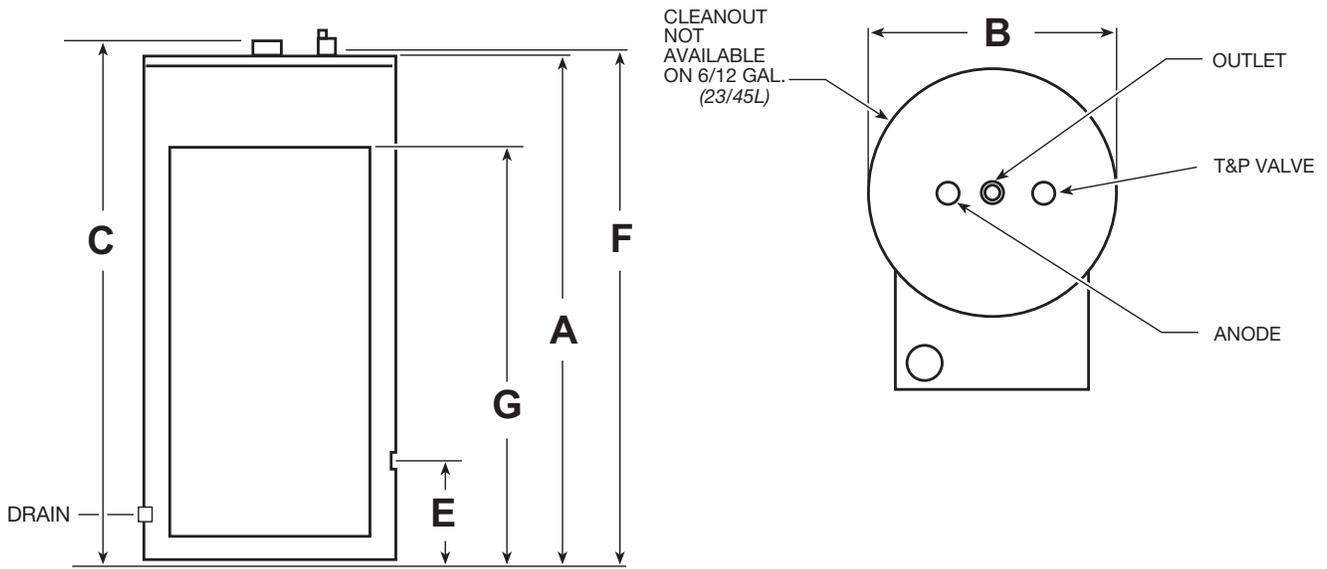
Full Load Current Amperes (Fused Models)\*

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

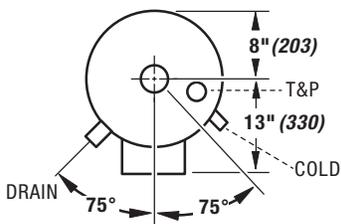
ASME units with amperage draw of 120 amps or more require factory installed internal fusing. \*If the number of elements on non-fused models is different, it is located in parentheses ( ), following the amp draw.

kW Input	Recovery GPH Temperature Rise °F									kW Input	Recovery LPH Temperature Rise °C								
	40	50	60	70	80	90	100	120	140		23	28	34	40	45	50	56	67	78
3	31	25	21	18	16	14	12	10	9	3	117	95	79	68	61	53	45	38	34
6	62	50	41	35	31	28	25	21	18	6	235	189	155	132	117	106	95	79	68
9	93	74	62	53	47	42	37	31	27	9	352	280	235	201	178	159	140	117	102
12	124	99	83	71	62	55	50	41	35	12	469	375	314	269	235	208	189	155	132
13.5	140	112	93	80	70	62	56	47	40	13.5	530	424	352	303	265	235	212	178	151
15	155	124	103	89	78	69	62	52	44	15	587	469	390	337	295	261	235	197	167
18	186	149	124	106	93	83	74	62	53	18	704	564	469	401	352	314	280	235	201
24	248	199	164	142	124	110	99	83	71	24	939	753	621	538	469	416	375	314	269
27	279	223	186	160	140	124	112	93	80	27	1056	844	704	606	530	469	424	352	303
30	310	248	207	177	155	138	124	103	89	30	1173	939	784	670	587	522	469	390	337
36	372	298	248	213	186	165	149	124	106	36	1408	1128	939	806	704	625	564	469	401
45	465	372	310	266	233	207	186	155	133	45	1760	1408	1173	1007	882	784	704	587	503
54	558	447	372	319	279	248	223	186	160	54	2112	1692	1408	1208	1056	939	844	704	606
81	852	671	558	477	418	371	334	278	238	81	3225	2540	2112	1806	1582	1404	1264	1052	901

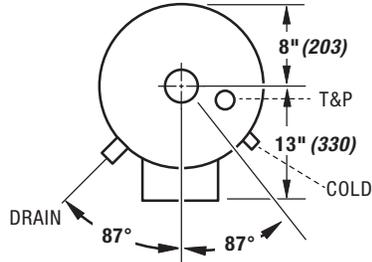
# Commercial Electric Water Heater



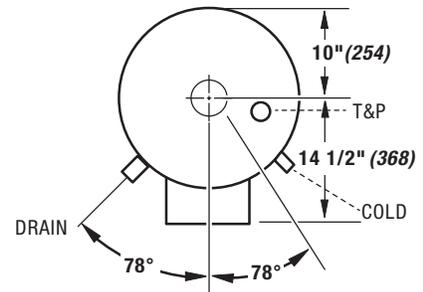
(mm) **CEA6**



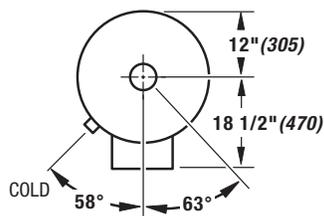
**CEA12**



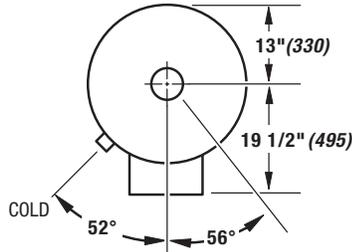
**CEA20, CEA30, CEA40**



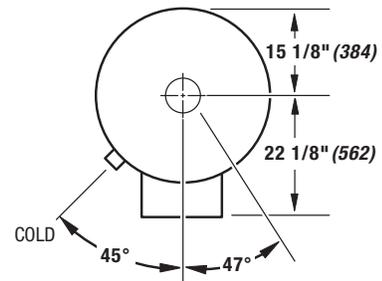
(mm) **CEA50**



**CEA80**



**CEA120**



# Commercial Electric Water Heater

## Optional Components

- **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
- **Modulating 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, it will supply 180°F (82°C) sanitizing and lower temperature general purpose hot water simultaneously. These models can be used either as a single unit or in multiples connected in series or parallel (recommended).

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

— BRADFORD WHITE IS —

**AMERICAN  
STRONG**

**Sales: 800-523-2931 ■ Fax 215-641-1612**

**24/7 Technical Support: 800-334-3393 ■ Email [techserv@bradfordwhite.com](mailto:techserv@bradfordwhite.com)**

Products made by Bradford White are manufactured in the United States using the finest raw materials and components from around the world.

**Built to be the Best®**