

## Commercial Electric Brute™ Series



150 to 2500 Gallons Storage  
12 to 360 kW Models

### *The Electric Brute™ Water Heater Models Feature:*

- 150 PSI ASME Code Glass-Lined Tank
- INCOLOY® Heating Elements
- Internal Fusing (above 120 amps)
- Enamel Finished Steel Jacket
- Magnesium Anode Rods
- Immersion Thermostats
- Magnetic Contactors
- Manual Reset High Limit
- Hinged Door with Keyed Lock
- ASME Temperature and Pressure Relief Valve
- Channel Iron Skid Base (all models)
- Cleanout
- Lifting Lug Access
- Approved for 180°F (82.2°C) Operation
- Three-Year Limited Warranty
- UL-1453 certified

### *Optional Equipment Features:*

- Low Water Cut-off
- Pilot Lights and Manual Limiting Switches
- Alarm Bell
- Low Pressure Switch
- High Pressure Switch
- Time Clock (7 Day or 24 Hour)†
- Safety Door Interlock
- Temperature and Pressure Gauge
- 12" x 16" (305mm x 406mm) Manway (250 Gallon (946L) and Larger)
- Electronic Step Controller (36kW & Higher)
- Shunt Trip Disconnect†
- BMS Contacts

†Separate mounting.

### **3-or 6-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.



MANUFACTURED UNDER ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,682,666; 7,634,976; 5,660,165; 5,954,492; 6,056,542; 6,935,280; 5,372,185; 5,485,879; 5,574,822; 7,971,560; 7,992,526; 6,684,821; 6,442,178; 7,334,419; 7,866,168; 7,270,087; 7,007,748; 5,596,952; 6,142,216; 7,699,026; 5,341,770; 7,337,517; 7,665,211; 7,665,210; 7,063,132; 7,063,133; 7,559,293; 7,900,589; 5,943,984; 8,082,888; 5,988,117; 7,621,238; 7,650,859; 5,761,379; 7,409,925; 5,277,171; 8,146,772; 7,458,341; 2,262,174. OTHER U.S. AND FOREIGN PATENT APPLICATIONS PENDING. CURRENT CANADIAN PATENTS: 2,314,845; 2,504,824; 2,108,186; 2,143,031; 2,409,271; 2,548,958; 2,112,515; 2,476,685; 2,239,007; 2,092,105; 2,107,012.

# Commercial Electric Brute™ Water Heaters

## Standard Equipment Features:

**Insulation System** - 2" (51mm) Non-CFC foam insulation covers the sides and top of the tank, reducing heat loss. This results in less energy consumption, improved efficiencies, and jacket rigidity.

**Magnetic Contactors with Immersion Thermostats** - 120 volt control circuit with built in transformer. Elements are thermostatically controlled in 54kW (max) increments.

**Low Watt Density INCOLOY® Elements** - 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.

**Internal Fusing** - All elements and circuits are fused in 48 amp increments, providing complete electrical protection. Cartridge type fuses are rated at 200,000 ampere interrupting capacity.

**Vitraglas® Lining** - An exclusively engineered enamel formula that provides superior tank protection from the highly corrosive effects of hot water. This formula (Vitraglas®) is fused to the steel surface by firing at a temperature of over 1600°F (871°C).

**Protective Magnesium Anode Rods** - Provide added protection against corrosion for long-term, trouble-free service.

**Steel Jacket** - The steel jacket is beautifully finished in durable acrylic enamel. This combines attractive appearance with maximum protection.

**Hinged Door with Key Lock** - Keyed door lock provides additional safety and security.

**Temperature and Pressure Relief Valve** - Factory provided ASME rated relief valve protects against excessive temperature and/or pressure buildup within the tank.

**Terminal Block Connections** - Easy and safe wiring connections are made possible by factory installed terminal blocks.

**180°F Temperature Operation** - Every Electric Brute Heater is approved for 180°F operation for sanitizing and other high-temperature requirements.

**Cleanout** - Allows inspection of tank interior and facilitates the removal of sediment deposits.

**Working pressure** - 150 PSI ASME construction.

**Three or Five-Year Limited Warranty** - Provides warranty protection against tank failure resulting from defects in material and workmanship.

**Channel Iron Skid Base** - all models.

**Lifting Lug Access.**

**Voltages Available** - 208, 240, 277, 380, 400, 415, 480 and 600.

## Optional Equipment Features:

**BMS Contacts** = 120 V on/off only.

**Low Water Cut Off** - Prevents energizing of the heater when not filled with water or upon low water condition.

**Pilot Lights and Manual Limiting Switches** - With indicating lights - permits manual limitation of heating input by switching off current to each contactor.

**Electronic Step Controller (36 kW & higher)** - Electronic sequencing thermostats available in four-step increments.

**Alarm Bell** - Warns of various control failures.

**Shunt Trip Disconnect†** - Provides maximum protection by interrupting all power to the system in the event of a control sensed malfunction or overcurrent. Specifications may vary as they are dependent on the electrical configuration of the water heater. Contact Factory for Actual Specification.

**Low / High Pressure Switch** - Turns off control circuit when water pressure drops below a set minimum, or above a set maximum.

**Time Clock†** - Digital display. Used to control on/off cycles of the water heater as programmed by the owner or responsible party. Available in 7 day or 24 hour types.

**Safety Door Interlock** - Prevents opening of access door while heater is energized.

**Temperature and Pressure Gauge** - Jacket mounted for convenient viewing.

**Manway** - Allows removal of sediment and inspection of interior surface. Available on tanks 250 gallons and larger.

**Double Vitraglas® Lining** - Extends tank warranty to six years.

**Powered Anode(s)**

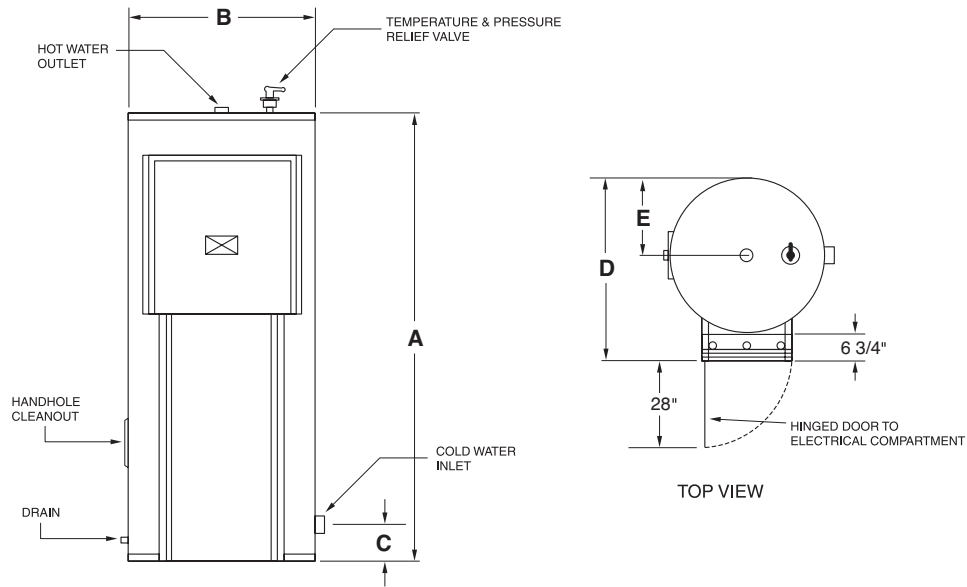
**Epoxy Lining**

**Solar Coil(s)**

**Tube Bundle(s)**

†Separate mounting.

# Commercial Electric Brute™ Water Heaters



## Commercial Electric Brute™ Series

Meet or exceed ASHRAE 90.1b (current standard)

Model Number	Gallon Capacity	Maximum kW	A Floor to Top of Heater in.	B Jacket Dia. in.	C Floor to Cold Water Inlet in.	D Depth in.	E Back of Heater to Hot Water Outlet in.	Water Conn. in.	Approx. Shipping Weight lbs.
VR-150-(kW)	150	90	65½	32	7¾	38¾	16	1½	650
VR-200-(kW)	200	162	78	32	7¾	38¾	17	1½	750
VR-250-(kW)	250	162	92	34	19½	40¾	17	1½	1165
VR-300-(kW)	300	162	80	40	21	46¾	20	2	1350
VR-400-(kW)	400	162	80	46	22½	52¾	23	2	1590
VR-500-(kW)	500	162	92	46	22½	52¾	23	2	1700
VR-600-(kW)	600	216	92	52	24½	58¾	26	2½	2010
VR-800-(kW)	800	270	104	52	24½	58¾	26	2½	2450
VR-1000-(kW)	1000	360	128	52	24½	58¾	26	2½	3160
VR-1250-(kW)	1250	360	133	58	26	64¾	29	3	3792
VR-1500-(kW)	1500	360	129	64	27½	70¾	32	3	4550
VR-2000-(kW)	2000	360	141	70	29½	76¾	35	3	5460
VR-2500-(kW)	2500	360	147	76	30½	82¾	38	3	6553

Model Number	Liter Capacity	Maximum kW	A Floor to Top of Heater mm.	B Jacket Dia. mm.	C Floor to Cold Water Inlet mm.	D Depth mm.	E Back of Heater to Hot Water Outlet mm.	Water Conn. mm.	Approx. Shipping Weight kg.
VR-150-(kW)	568	90	1664	813	197	984	406	38	295
VR-200-(kW)	757	162	1981	813	197	984	432	38	340
VR-250-(kW)	946	162	2337	864	495	1035	432	38	528
VR-300-(kW)	1136	162	2032	1016	533	1187	508	51	612
VR-400-(kW)	1514	162	2032	1168	572	1340	584	51	721
VR-500-(kW)	1893	162	2337	1168	572	1340	584	51	771
VR-600-(kW)	2271	216	2337	1321	622	1492	660	64	912
VR-800-(kW)	3028	270	2642	1321	622	1492	660	64	1111
VR-1000-(kW)	3785	360	3251	1321	622	1492	660	64	1433
VR-1250-(kW)	4732	360	3378	1473	660	1645	737	76	1720
VR-1500-(kW)	5678	360	3277	1626	697	1797	813	76	2064
VR-2000-(kW)	7571	360	3581	1778	749	1949	889	76	2477
VR-2500-(kW)	9464	360	3734	1930	775	2102	965	76	2972

\*\*Note: Models above 90kW at 208V, 240V or 380V, and 162kW at 400V, 415V or 480V, exceed the capacity of a single control panel and may require multiple control panels. Consult the factory for specific details and optional construction.

# Commercial Electric Brute™ Water Heaters

## Standard kW Input and Amperage

kW	GPH Recovery 100°F Rise	BTU/Hr. Equivalent	Typical Number of Thermostats	Typical Number of Elements	Typical Element kW	Typical Number of Contactors (208,240) / (380,400,415,480)	Suggested Control Steps (208,240) / (380,400,415,480)	Amperage Draw								
								Single Phase		Three Phase						
								208V	240V	208V	240V	380V	400V	415V	480V	600V
12	49	40,944	1	1	12	1/1	—	58	50	33	29	18	17	17	14	12
15	62	51,180	1	1	15	1/1	—	72	63	42	36	23	22	21	18	14
18	74	61,416	1	1	18	2/1	—	87	75	50	43	27	26	25	22	17
30	123	102,360	1	2	15	2/1	—	144	125	83	72	46	43	42	36	29
36	148	122,832	1	2	18	4/2	4/2	174	150	100	87	55	52	50	43	35
45	185	153,540	1	3	15	3/2	3/2	216	188	125	108	68	65	63	54	43
54	221	184,248	1	3	18	6/2	3/2	260	225	150	130	83	78	75	65	52
60	246	204,720	2	4	15	4/2	4/3	289	250	167	144	91	87	83	72	58
72	295	245,664	2	4	18	8/4	4/4	—	—	200	173	109	104	100	87	69
90	369	307,080	3	6	15	6/3*	3/3	—	—	250	217	137	130	125	108	87
108	443	368,496	2	6	18	12/4**	4/4	—	—	300	260	164	156	150	130	104
120	492	409,440	3	8	15	8/4***	4/4	—	—	333	289	182	173	167	144	115
135	554	460,620	3	9	15	9/6	4/4	—	—	375	325	205	195	188	162	130
144	590	491,328	4	8	18	16/8	4/4	—	—	400	346	219	208	200	173	139
162	664	552,744	3	9	18	18/6****	8/6	—	—	450	390	246	234	225	195	156
180	738	614,160	4	10	18	20/10	8/8	—	—	500	433	273	260	250	217	173
216	886	736,992	4	12	18	24/8	8/8	—	—	600	520	328	312	301	260	208
234	959	798,408	5	13	18	26/13	9/7	—	—	650	563	356	338	326	281	225
252	1033	859,824	5	14	18	28/14	9/7	—	—	700	606	383	364	351	303	242
270	1107	921,240	5	15	18	30/10	12/10	—	—	749	650	410	390	376	325	260
288	1181	982,656	6	16	18	32/16	12/12	—	—	799	693	438	416	401	346	277
306	1255	1,044,072	6	17	18	34/17	9/9	—	—	849	736	465	442	426	368	294
324	1328	1,105,488	6	18	18	36/12	9/6	—	—	899	779	492	468	451	390	312
342	1402	1,166,904	7	19	18	38/19	10/10	—	—	949	823	520	494	476	411	329
360	1476	1,228,320	7	20	18	40/20	10/10	—	—	999	866	547	520	501	433	346

For kW inputs not shown above consult factory.

\*380V has 4

\*\*380V has 6

\*\*\*380V has 8

\*\*\*\*380V has 9

### Typical Specifications

Water Heater(s) shall be Bradford White Electric Brute Series model number \_\_\_\_\_ with \_\_\_\_\_ gallons storage capacity, rated at \_\_\_\_\_ kilowatts, \_\_\_\_\_ volts, \_\_\_\_\_ phase and \_\_\_\_\_ Hz. Heater to be completely insulated and jacketed for vertical installation. The jacket shall be round steel with acrylic enamel finish. Jacket shall have a hinged access door with keyed lock. Tank insulation shall be non-CFC and sufficient to meet ASHRAE 90.1b.

Tank construction shall be 150 PSI maximum allowable working pressure as per ASME standard and be ASME stamped and National Board listed. All tanks are to be lined with Vitraglas®, fired at 1600°F (871°C) by a process which provides a molecular interchange of glass and steel.

Electric Brute Series heater shall include the following standard features: magnetic contactors with immersion thermostats, internal fusing for control and load circuits, low-watt density INCOLOY® sheath elements, ASME rated temperature and pressure relief valve, terminal block wiring, 180°F (82°C) water temperature rating, 3-year limited warranty.

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



For U.S. and Canada field service, contact your professional installer or local Bradford White sales representative.

Sales 800-523-2931 • Fax 215-641-1670 / Technical Support 800-334-3393 • Fax 269-795-1089 • Warranty 800-531-2111 • Fax 269-795-1089

International: Telephone 215-641-9400 • Telefax 215-641-9750 / [www.bradfordwhite.com](http://www.bradfordwhite.com)

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## Built to be the Best™

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