

## 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
- Digital Temperature Display
- 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.



# 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.

**Digital Temperature Display** - Easy to read digital temperature display located on front cabinet.

**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.

**3" Handhole 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.

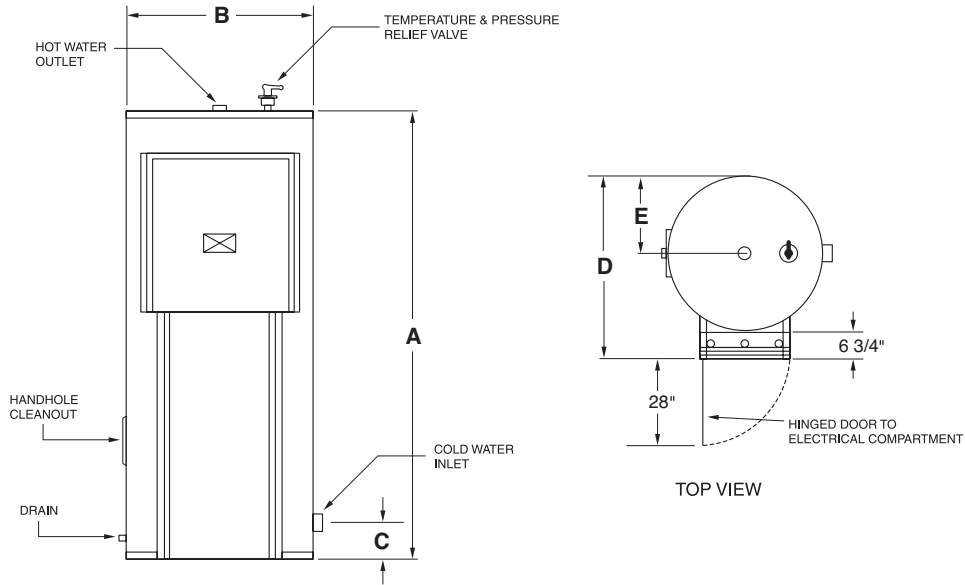
**Epoxy Lining**

**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<br>in. | B Jacket Dia.<br>in. | C Floor to Cold Water Inlet<br>in. | D Depth<br>in. | E Back of Heater to Hot Water Outlet<br>in. | Water Conn.<br>in. | Approx. Shipping Weight<br>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<br>mm. | B Jacket Dia.<br>mm. | C Floor to Cold Water Inlet<br>mm. | D Depth<br>mm. | E Back of Heater to Hot Water Outlet<br>mm. | Water Conn.<br>mm. | Approx. Shipping Weight<br>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 |
| 12  | 49                      | 40,944             | 1                             | 1                          | 12                 | 1/1  | —   | 58            | 50   | 33          | 29   | 18   | 17   | 14   | 12   |
| 15  | 62                      | 51,180             | 1                             | 1                          | 15                 | 1/1  | —   | 72            | 63   | 42          | 36   | 23   | 22   | 21   | 18   |
| 18  | 74                      | 61,416             | 1                             | 1                          | 18                 | 2/1  | —   | 87            | 75   | 50          | 43   | 27   | 26   | 25   | 22   |
| 30  | 123                     | 102,360            | 1                             | 2                          | 15                 | 2/1  | —   | 144           | 125  | 83          | 72   | 46   | 43   | 42   | 36   |
| 36  | 148                     | 122,832            | 1                             | 2                          | 18                 | 4/2  | 4/2   | 174           | 150  | 100         | 87   | 55   | 52   | 50   | 43   |
| 45  | 185                     | 153,540            | 1                             | 3                          | 15                 | 3/2  | 3/2   | 216           | 188  | 125         | 108  | 68   | 65   | 63   | 54   |
| 54  | 221                     | 184,248            | 1                             | 3                          | 18                 | 6/2  | 3/2   | 260           | 225  | 150         | 130  | 83   | 78   | 75   | 65   |
| 60  | 246                     | 204,720            | 2                             | 4                          | 15                 | 4/2  | 4/3   | 289           | 250  | 167         | 144  | 91   | 87   | 83   | 72   |
| 72  | 295                     | 245,664            | 2                             | 4                          | 18                 | 8/4  | 4/4   | —             | —    | 200         | 173  | 109  | 104  | 100  | 87   |
| 90  | 369                     | 307,080            | 3                             | 6                          | 15                 | 6/3*   | 3/3   | —             | —    | 250         | 217  | 137  | 130  | 125  | 108  |
| 108 | 443                     | 368,496            | 2                             | 6                          | 18                 | 12/4**   | 4/4   | —             | —    | 300         | 260  | 164  | 156  | 150  | 130  |
| 120 | 492                     | 409,440            | 3                             | 8                          | 15                 | 8/4***   | 4/4   | —             | —    | 333         | 289  | 182  | 173  | 167  | 144  |
| 135 | 554                     | 460,620            | 3                             | 9                          | 15                 | 9/6  | 4/4   | —             | —    | 375         | 325  | 205  | 195  | 188  | 162  |
| 144 | 590                     | 491,328            | 4                             | 8                          | 18                 | 16/8   | 4/4   | —             | —    | 400         | 346  | 219  | 208  | 200  | 173  |
| 162 | 664                     | 552,744            | 3                             | 9                          | 18                 | 18/6****   | 8/6   | —             | —    | 450         | 390  | 246  | 234  | 225  | 195  |
| 180 | 738                     | 614,160            | 4                             | 10                         | 18                 | 20/10  | 8/8   | —             | —    | 500         | 433  | 273  | 260  | 250  | 217  |
| 216 | 886                     | 736,992            | 4                             | 12                         | 18                 | 24/8   | 8/8   | —             | —    | 600         | 520  | 328  | 312  | 301  | 260  |
| 234 | 959                     | 798,408            | 5                             | 13                         | 18                 | 26/13  | 9/7   | —             | —    | 650         | 563  | 356  | 338  | 326  | 281  |
| 252 | 1033                    | 859,824            | 5                             | 14                         | 18                 | 28/14  | 9/7   | —             | —    | 700         | 606  | 383  | 364  | 351  | 303  |
| 270 | 1107                    | 921,240            | 5                             | 15                         | 18                 | 30/10  | 12/10   | —             | —    | 749         | 650  | 410  | 390  | 376  | 325  |
| 288 | 1181                    | 982,656            | 6                             | 16                         | 18                 | 32/16  | 12/12   | —             | —    | 799         | 693  | 438  | 416  | 401  | 346  |
| 306 | 1255                    | 1,044,072          | 6                             | 17                         | 18                 | 34/17  | 9/9   | —             | —    | 849         | 736  | 465  | 442  | 426  | 368  |
| 324 | 1328                    | 1,105,488          | 6                             | 18                         | 18                 | 36/12  | 9/6   | —             | —    | 899         | 779  | 492  | 468  | 451  | 390  |
| 342 | 1402                    | 1,166,904          | 7                             | 19                         | 18                 | 38/19  | 10/10   | —             | —    | 949         | 823  | 520  | 494  | 476  | 411  |
| 360 | 1476                    | 1,228,320          | 7                             | 20                         | 18                 | 40/20  | 10/10   | —             | —    | 999         | 866  | 547  | 520  | 501  | 433  |

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



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