

## Commercial Vertical Round Electric Brute



150 to 1000 Gallons Storage  
15 to 396 kW  
Round Vertical Models  
Outstanding Safety Features

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

- 125 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
- Hand Hole Cleanout
- Approved for 180°F (82.2°C) Operation
- Three-year Limited Warranty

### *Optional Equipment Features:*

- Low Water Cut-off
- Pilot Lights
- Manual Limiting Switches
- Alarm Bell
- Low or High Pressure Switch
- Time Clock (7 Day or 24 Hour)†
- Safety Door Interlock
- Temperature and Pressure Gauge
- Man Hole Cleanout (250 Gallons and Larger)
- 150 PSI Working Pressure
- Electronic Step Controller (36kW & Higher)
- Shunt Trip Disconnect†

†Separate mounting.



### **3 Year Limited Tank Warranties.**

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:

**Energy-Saving Performance** - A heavy blanket of high-density fiberglass insulation is used to meet the demanding ASHRAE 90.1b current standard for minimizing heat loss. This requirement, allowing a maximum 4 watts per square foot of tank surface energy loss, offers big savings and operating efficiency.

**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** - Incoloy elements are used by Bradford White because of their many superior characteristics to copper-sheathed elements in rigorous water heating applications. This tough alloy successfully resists the effects of prolonged high operating temperatures, hard water, acids, corrosion, and thermal shock. Their nominally higher initial cost is more than offset by much longer life expectancies and reduced service and replacement labor costs. Incoloy elements are designed to "burn in air" to prevent failures caused by water void.

**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.

**Glass-Lined Tank** - Vitreous glass is applied to the inside surface of the steel tank and fired to 1600°F. (All models are constructed in accordance with the ASME code and approved for 125 PSI working pressure.)

**Magnesium Tank Saver** - Provides anodic protection against corrosion of the tank due to electrolysis.

**Galvanized Jacket** - The heavy 16-gauge steel jacket is galvanized on both sides and beautifully finished in durable acrylic enamel. This combines attractive appearance with maximum protection.

**Full-Length Hinged Door with Key Lock** - Quality requires full-length hinged doors for ease of inspection and maintenance. Keyed door lock provides additional safety and security at no extra charge.

**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.

**Hand Hole Cleanout** - Provides easy access to the heater interior for inspection and cleaning.

**UL Listed** - All models are listed by Underwriters Laboratories, Inc. as commercial electric water heaters. This assures competent design and proper testing.

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

**Channel iron skid base.**

## Optional Equipment Features:

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

**Pilot Lights** - Monitor on/off cycle for each contactor.

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

**Solid State Modulating Control (Electronic Step Controller)** - Modulates power input and balances load to demand. Contactors are staged automatically and sequentially to equalize element usage. Unit reprograms to "off" position on power failure.

**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.

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

**Time Clock†** - To control off/on cycles of the heater as programmed by the owner or electric utility requirements. (7 day or 24 hour).

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

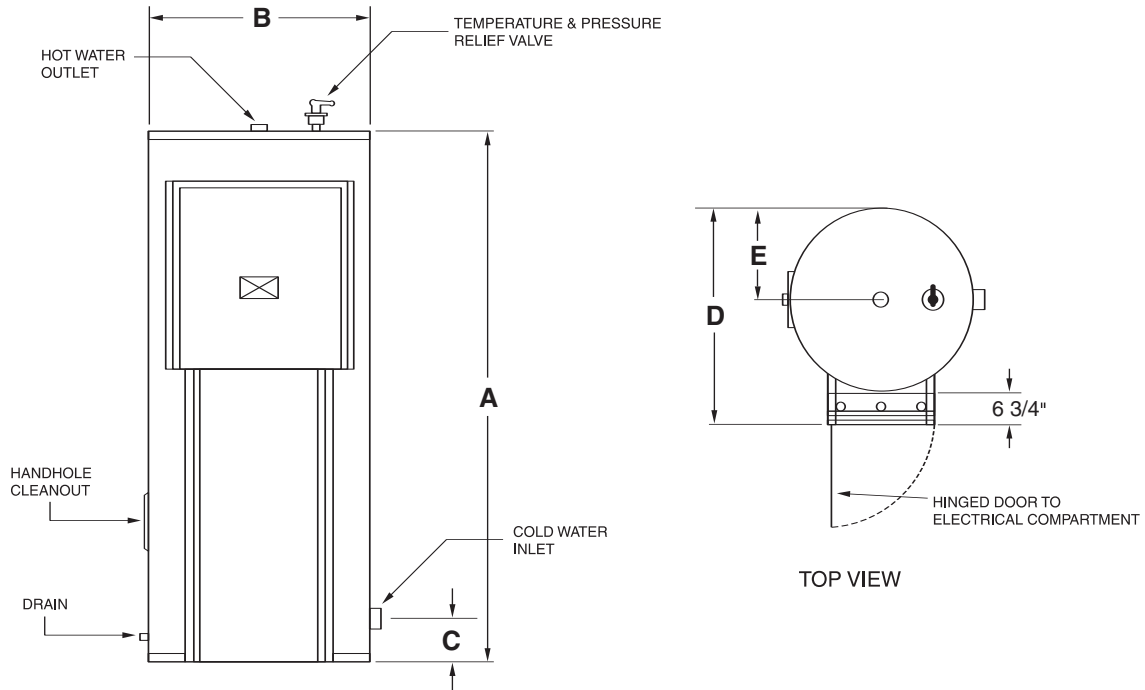
**Temperature and Pressure Gauges** - Jacket mounted for convenient viewing.

**Man Hole** - Provides means to easily remove sediment from the heater; optional on 250 gallon and larger.

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

†Separate mounting.

# Commercial Electric Brute Water Heaters



## Commercial Vertical Round Electric Brute

Meet or exceed ASHRAE 90.1b (current standard)

| Model Number | Gallon Capacity | Maximum kW Load at 208/240/380V with Single Panel | Maximum kW Load at 415/480V with Single Panel | Maximum kW Load with Multiple Panels** | 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. |
|--------------|-----------------|---|---|--|--------------------------------|-------------------|---------------------------------|--------------------------------|--|-------------------------------|------------------------------|
| VR150-(kW)   | 150             | 72  | 144   | 162                                    | 65 <sup>1</sup> / <sub>2</sub> | 32                | 7 <sup>3</sup> / <sub>4</sub>   | 38 <sup>3</sup> / <sub>4</sub> | 16                                       | 1 <sup>1</sup> / <sub>2</sub> | 800                          |
| VR200-(kW)   | 200             | 90  | 162   | 162                                    | 78                             | 32                | 7 <sup>3</sup> / <sub>4</sub>   | 38 <sup>3</sup> / <sub>4</sub> | 17                                       | 1 <sup>1</sup> / <sub>2</sub> | 900                          |
| VR250-(kW)   | 250             | 90  | 162   | 162                                    | 92                             | 34                | 19 <sup>1</sup> / <sub>2</sub>  | 40 <sup>3</sup> / <sub>4</sub> | 17                                       | 1 <sup>1</sup> / <sub>2</sub> | 1050                         |
| VR300-(kW)   | 300             | 90  | 162   | 360                                    | 80                             | 40                | 21                              | 46 <sup>3</sup> / <sub>4</sub> | 20                                       | 2                             | 1150                         |
| VR400-(kW)   | 400             | 90  | 162   | 396                                    | 80                             | 46                | 22 <sup>1</sup> / <sub>2</sub>  | 52 <sup>3</sup> / <sub>4</sub> | 23                                       | 2                             | 1300                         |
| VR500-(kW)   | 500             | 90  | 162   | 396                                    | 92                             | 46                | 22 <sup>1</sup> / <sub>2</sub>  | 52 <sup>3</sup> / <sub>4</sub> | 23                                       | 2                             | 1500                         |
| VR600-(kW)   | 600             | 90  | 162   | 396                                    | 92                             | 54                | 24 <sup>1</sup> / <sub>2</sub>  | 60 <sup>3</sup> / <sub>4</sub> | 27                                       | 2 <sup>1</sup> / <sub>2</sub> | 1750                         |
| VR800-(kW)   | 800             | 90  | 162   | 396                                    | 104                            | 54                | 24 <sup>1</sup> / <sub>2</sub>  | 60 <sup>3</sup> / <sub>4</sub> | 27                                       | 2 <sup>1</sup> / <sub>2</sub> | 2000                         |
| VR1000-(kW)  | 1000            | 90  | 162   | 396                                    | 128                            | 54                | 24 <sup>1</sup> / <sub>2</sub>  | 60 <sup>3</sup> / <sub>4</sub> | 27                                       | 2 <sup>1</sup> / <sub>2</sub> | 2300                         |

On models VR250 and up dimensions include channel iron legs (not shown).

\*\*Note: Vertical Round models above 90kW at 208V, 240V or 380V, and 162kW at 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 | Number of Control Steps | Maximum Number of Elements | kW Size of Element | Contactor Option                      |   | Amperage Draw |      |             |      |      |      |      |
|-----|-------------------------|--------------------|-------------------------|----------------------------|--------------------|---------------------------------------|---|---------------|------|-------------|------|------|------|------|
|     |                         |                    |                         |                            |                    | No. of Contactors 208/240 380/415/480 | Suggested Control Steps 208/240 380/415/480 | Single Phase  |      | Three Phase |      |      |      |      |
|     |                         |                    |                         |                            |                    |                                       |   | 208V          | 240V | 208V        | 240V | 380V | 415V | 480V |
| 12  | 49                      | 40,944             | 1                       | 1                          | 12                 | 2/1                                   | —   | 58            | 50   | 33          | 29   | 19   | 17   | 14   |
| 15  | 62                      | 51,180             | 1                       | 1                          | 15                 | 2/1                                   | —   | 72            | 63   | 42          | 36   | 23   | 21   | 18   |
| 18  | 74                      | 61,416             | 1                       | 1                          | 18                 | 2/1                                   | —   | 87            | 75   | 50          | 44   | 28   | 25   | 22   |
| 30  | 123                     | 102,360            | 1                       | 2                          | 15                 | 2/1                                   | —   | 144           | 125  | 83          | 72   | 46   | 42   | 36   |
| 36  | 148                     | 122,832            | 1                       | 2                          | 18                 | 4/2                                   | 4/2   | 174           | 150  | 100         | 87   | 55   | 50   | 44   |
| 45  | 185                     | 153,540            | 1                       | 3                          | 15                 | 3/2                                   | 3/2   | 216           | 188  | 125         | 108  | 69   | 63   | 54   |
| 54  | 221                     | 184,248            | 1                       | 3                          | 18                 | 6/2                                   | 3/2   | 260           | 225  | 150         | 130  | 83   | 75   | 65   |
| 60  | 246                     | 204,720            | 2                       | 4                          | 15                 | 12/6                                  | 4/3   | 289           | 250  | 167         | 144  | 92   | 83   | 72   |
| 72  | 295                     | 245,664            | 2                       | 4                          | 18                 | 8/4                                   | 4/4   | —             | —    | 200         | 174  | 110  | 100  | 87   |
| 90  | 369                     | 307,080            | 2                       | 6                          | 15                 | 6/3                                   | 3/3   | —             | —    | 250         | 217  | 137  | 125  | 109  |
| 108 | 443                     | 368,496            | 2                       | 6                          | 18                 | 12/4                                  | 4/4   | —             | —    | 300         | 260  | 165  | 150  | 130  |
| 120 | 492                     | 409,440            | 3                       | 8                          | 15                 | 8/4                                   | 4/4   | —             | —    | 333         | 289  | 183  | 167  | 144  |
| 135 | 554                     | 460,620            | 3                       | 9                          | 15                 | 9/6                                   | 4/4   | —             | —    | 375         | 325  | 206  | 188  | 162  |
| 144 | 590                     | 491,328            | 3                       | 8                          | 18                 | 16/8                                  | 4/4   | —             | —    | 400         | 347  | 219  | 200  | 174  |
| 162 | 664                     | 552,744            | 3                       | 9                          | 18                 | 18/6                                  | 8/6   | —             | —    | 450         | 389  | 247  | 225  | 195  |
| 180 | 738                     | 614,160            | 4                       | 10                         | 18                 | 20/10                                 | 8/8   | —             | —    | 500         | 434  | 273  | 250  | 217  |
| 216 | 886                     | 736,992            | 4                       | 12                         | 18                 | 24/8                                  | 8/8   | —             | —    | 600         | 519  | 328  | 301  | 260  |
| 234 | 959                     | 798,408            | 5                       | 13                         | 18                 | 26/13                                 | 8/8   | —             | —    | 650         | 563  | 355  | 326  | 282  |
| 252 | 1033                    | 859,824            | 5                       | 14                         | 18                 | 28/14                                 | 8/8   | —             | —    | 700         | 607  | 383  | 351  | 304  |
| 270 | 1107                    | 921,240            | 5                       | 15                         | 18                 | 30/10                                 | 12/10                                       | —             | —    | 750         | 649  | 410  | 376  | 325  |
| 288 | 1181                    | 982,656            | 6                       | 16                         | 18                 | 32/16                                 | 12/12                                       | —             | —    | 800         | 692  | 438  | 401  | 347  |
| 306 | 1255                    | 1,044,072          | 6                       | 17                         | 18                 | 34/17                                 | 12/12                                       | —             | —    | 850         | 736  | 465  | 426  | 368  |
| 324 | 1328                    | 1,105,488          | 6                       | 18                         | 18                 | 36/12                                 | 12/12                                       | —             | —    | 900         | 780  | 492  | 451  | 390  |
| 342 | 1402                    | 1,166,904          | 7                       | 19                         | 18                 | 38/19                                 | 12/12                                       | —             | —    | 950         | 822  | 520  | 476  | 412  |
| 360 | 1476                    | 1,228,320          | 7                       | 20                         | 18                 | 40/20                                 | 12/12                                       | —             | —    | 1,000       | 865  | 547  | 501  | 435  |
| 378 | 1550                    | 1,289,736          | 7                       | 21                         | 18                 | 42/14                                 | 14/14                                       | —             | —    | 1,050       | 909  | 574  | 526  | 455  |
| 396 | 1624                    | 1,351,152          | 8                       | 22                         | 18                 | 44/22                                 | 15/16                                       | —             | —    | 1,100       | 952  | 602  | 551  | 477  |

For kW inputs not shown above consult factory.

### Typical Specifications

Water Heater(s) shall be Bradford White Electric Brute Series model number \_\_\_\_\_ with \_\_\_\_\_ gallons storage capacity, rated at \_\_\_\_\_ kilowatts, \_\_\_\_\_ volts, \_\_\_\_\_ phase. Heater to be completely insulated and jacketed for vertical installation. The jacket shall be round 16-gauge galvanized steel with acrylic enamel finish. Jacket shall have a full-length hinged access door with keyed lock. Tank insulation shall be high-density fiberglass sufficient to meet ASHRAE 90.1b current standard standards of 4 watts per square foot of tank surface maximum energy loss. Keyed Lock Door provides additional safety and security.

Tank construction shall be of maximum allowable working pressure as per ASME standard and be ASME stamped and National Board listed. All tanks are to be lined with vitreous glass, fired at 1600°F 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 water temperature approval, UL listing, 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.

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