

# Vertical Round (VR) 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.

## Additional Details

- **Stainless Steel Options Available.**
- **ASME Tank Construction**—Standard.
- **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.
- **Insulation System**—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.
- **Protective Anode Rods**—Provide added protection against corrosion for long-term, trouble-free service.
- **3" (76mm) Handhole Cleanout**—Allows inspection of tank interior and facilitates the removal of sediment deposits.
- **Terminal Block Connections**—Easy and safe wiring connections are made possible by factory installed terminal blocks.
- **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.
- **Voltages Available**—208, 240, 277, 380, 400, 415, 480 and 600.
- **180°F Temperature Operation**—Every Commercial Electric Vertical Round Heater is approved for 180°F (82°C) operation for sanitizing and other high-temperature requirements.
- **Temperature and Pressure Relief Valve**—Factory provided ASME rated relief valve protects against excessive temperature and/or pressure buildup within the tank.
- **Working Pressure**—150 PSI ASME construction.
- **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.
- **Channel Iron Skid Base**—all models.
- **Lifting Lug Access.**
- **UL-1453 Certified.**



150 to 2500 (568 to 9464L)  
Gallons Storage  
15 to 360 kW Models



### Warranty varies based upon lining and tank construction.

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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## Commercial Electric Water Heater

### 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.
- **Electronic Step Controller (36 kW & higher)**—Electronic sequencing thermostats available in four-step increments.
- **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.
- **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.
- **Pilot Lights and Manual Limiting Switches**—With indicating lights – permits manual limitation of heating input by switching off current to each contactor.
- **Alarm Bell**—Warns of various control failures.
- **Safety Door Interlock**—Prevents opening of access door while heater is energized.
- **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.†
- **Stainless Steel**—316L Passivated (10 Year Limited Warranty), and 2205 passivated duplex (25 Year Limited Warranty).\*
- **Double Vitraglas® Lining with Microban®**—Extends tank warranty to six years.
- **Tube Bundle(s).**
- **Solar Coil(s).**

† Separate mounting.

\* For Other Stainless Steel Options Consult factory

| Standard kW Input and Amperage |                                  |                                 |                       |                                     |                                  |                          |  |  |               |      |             |      |      |      |      |      |      |
|--------------------------------|----------------------------------|---------------------------------|-----------------------|-------------------------------------|----------------------------------|--------------------------|--|--|---------------|------|-------------|------|------|------|------|------|------|
| kW                             | GPH<br>Recovery<br>100°F<br>Rise | LPH<br>Recovery<br>56°C<br>Rise | BTU/Hr.<br>Equivalent | Typical<br>Number of<br>Thermostats | Typical<br>Number of<br>Elements | Typical<br>Element<br>kW | Typical Number<br>of Contactors<br>(208,240) /<br>(380,400<br>415,480) | Suggested<br>Control Steps<br>(208,240) /<br>(380,400,<br>415,480) | Amperage Draw |      |             |      |      |      |      |      |      |
|                                |                                  |                                 |                       |                                     |                                  |                          |  |  | Single Phase  |      | Three Phase |      |      |      |      |      |      |
|                                |                                  |                                 |                       |                                     |                                  |                          |  |  | 208V          | 240V | 208V        | 240V | 380V | 400V | 415V | 480V | 600V |
| 15                             | 62                               | 235                             | 51,180                | 1                                   | 1                                | 15                       | 1/1  | —  | 72            | 63   | 42          | 36   | 23   | 22   | 21   | 18   | 14   |
| 18                             | 74                               | 280                             | 61,416                | 1                                   | 1                                | 18                       | 2/1  | —  | 87            | 75   | 50          | 43   | 27   | 26   | 25   | 22   | 17   |
| 30                             | 123                              | 466                             | 102,360               | 1                                   | 2                                | 15                       | 2/1  | —  | 144           | 125  | 83          | 72   | 46   | 43   | 42   | 36   | 29   |
| 36                             | 148                              | 560                             | 122,832               | 1                                   | 2                                | 18                       | 4/2  | 4/2  | 174           | 150  | 100         | 87   | 55   | 52   | 50   | 43   | 35   |
| 45                             | 185                              | 700                             | 153,540               | 1                                   | 3                                | 15                       | 3/2  | 3/2  | 216           | 188  | 125         | 108  | 68   | 65   | 63   | 54   | 43   |
| 54                             | 221                              | 837                             | 184,248               | 1                                   | 3                                | 18                       | 6/2  | 3/2  | 260           | 225  | 150         | 130  | 83   | 78   | 75   | 65   | 52   |
| 60                             | 246                              | 931                             | 204,720               | 2                                   | 4                                | 15                       | 4/2  | 4/3  | 289           | 250  | 167         | 144  | 91   | 87   | 83   | 72   | 58   |
| 72                             | 295                              | 1117                            | 245,664               | 2                                   | 4                                | 18                       | 8/4  | 4/4  | —             | —    | 200         | 173  | 109  | 104  | 100  | 87   | 69   |
| 90                             | 369                              | 1397                            | 307,080               | 3                                   | 6                                | 15                       | 6/3*   | 3/3  | —             | —    | 250         | 217  | 137  | 130  | 125  | 108  | 87   |
| 108                            | 443                              | 1677                            | 368,496               | 2                                   | 6                                | 18                       | 12/4**   | 4/4  | —             | —    | 300         | 260  | 164  | 156  | 150  | 130  | 104  |
| 120                            | 492                              | 1862                            | 409,440               | 3                                   | 8                                | 15                       | 8/4***   | 4/4  | —             | —    | 333         | 289  | 182  | 173  | 167  | 144  | 115  |
| 135                            | 554                              | 2097                            | 460,620               | 3                                   | 9                                | 15                       | 9/6  | 4/4  | —             | —    | 375         | 325  | 205  | 195  | 188  | 162  | 130  |
| 144                            | 590                              | 2233                            | 491,328               | 4                                   | 8                                | 18                       | 16/8   | 4/4  | —             | —    | 400         | 346  | 219  | 208  | 200  | 173  | 139  |
| 162                            | 664                              | 2514                            | 552,744               | 3                                   | 9                                | 18                       | 18/6****   | 8/6  | —             | —    | 450         | 390  | 246  | 234  | 225  | 195  | 156  |
| 180                            | 738                              | 2794                            | 614,160               | 4                                   | 10                               | 18                       | 20/10  | 8/8  | —             | —    | 500         | 433  | 273  | 260  | 250  | 217  | 173  |
| 216                            | 886                              | 3354                            | 736,992               | 4                                   | 12                               | 18                       | 24/8   | 8/8  | —             | —    | 600         | 520  | 328  | 312  | 301  | 260  | 208  |
| 234                            | 959                              | 3630                            | 798,408               | 5                                   | 13                               | 18                       | 26/13  | 9/7  | —             | —    | 650         | 563  | 356  | 338  | 326  | 281  | 225  |
| 252                            | 1033                             | 3910                            | 859,824               | 5                                   | 14                               | 18                       | 28/14  | 9/7  | —             | —    | 700         | 606  | 383  | 364  | 351  | 303  | 242  |
| 270                            | 1107                             | 4190                            | 921,240               | 5                                   | 15                               | 18                       | 30/10  | 12/10  | —             | —    | 749         | 650  | 410  | 390  | 376  | 325  | 260  |
| 288                            | 1181                             | 4471                            | 982,656               | 6                                   | 16                               | 18                       | 32/16  | 12/12  | —             | —    | 799         | 693  | 438  | 416  | 401  | 346  | 277  |
| 306                            | 1255                             | 4751                            | 1,044,072             | 6                                   | 17                               | 18                       | 34/17  | 9/9  | —             | —    | 849         | 736  | 465  | 442  | 426  | 368  | 294  |
| 324                            | 1328                             | 5027                            | 1,105,488             | 6                                   | 18                               | 18                       | 36/12  | 9/6  | —             | —    | 899         | 779  | 492  | 468  | 451  | 390  | 312  |
| 342                            | 1402                             | 5307                            | 1,166,904             | 7                                   | 19                               | 18                       | 38/19  | 10/10  | —             | —    | 949         | 823  | 520  | 494  | 476  | 411  | 329  |
| 360                            | 1476                             | 5587                            | 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

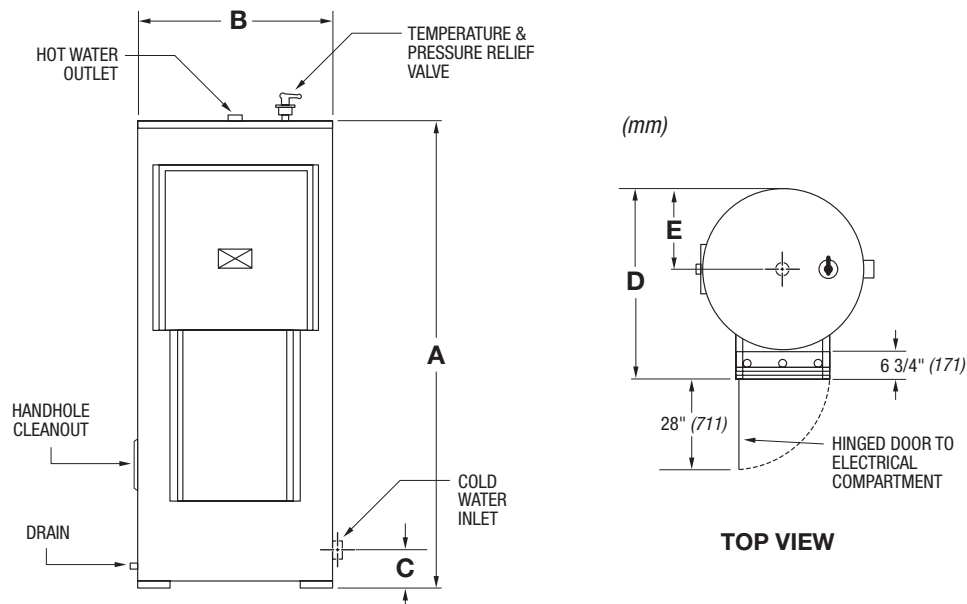
\*\*\*380V has 8

\*\*\*380V has 6

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

# Vertical Round (VR)

## Commercial Electric Water Heater



### Vertical Round (VR) Series

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

| Model Number | Rated Nominal Capacity | Maximum kW | A<br>Floor to Top of Heater | B<br>Jacket Dia. | C<br>Floor to Cold Water Inlet | D<br>Depth | E<br>Back of Heater to Hot Water Outlet | Water Conn. | Approx. Shipping Weight |
|--------------|------------------------|------------|-----------------------------|------------------|--------------------------------|------------|---|-------------|-------------------------|
|              | Gallons                |            | in.                         | in.              | in.                            | in.        | in.                                     | in.         | 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 | Rated Nominal Capacity | Maximum kW | A<br>Floor to Top of Heater | B<br>Jacket Dia. | C<br>Floor to Cold Water Inlet | D<br>Depth | E<br>Back of Heater to Hot Water Outlet | Water Conn. | Approx. Shipping Weight |
|--------------|------------------------|------------|-----------------------------|------------------|--------------------------------|------------|---|-------------|-------------------------|
|              | Liters                 |            | mm.                         | mm.              | mm.                            | mm.        | mm.                                     | mm.         | 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.

# Vertical Round (VR)

## Commercial Electric Water Heater

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### Sample Specification

Water Heater(s) shall be Bradford White Commercial Electric Vertical Round (VR) 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® with Microban®, fired at 1600°F (871°C) by a process which provides a molecular interchange of glass and steel.

The Commercial Electric Vertical Round (VR) 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.

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



Sales: 800-523-2931

24/7 Technical Support: 800-334-3393 • Email TechServ@bradfordwhite.com

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