



Commercial Round Vertical Electric Brute



Standard Equipment Features:

- 125 PSI ASME code glass-lined tank
- Incoloy heating elements
- Internal fusing
- Galvanized steel jacket
- Magnesium anode rods
- Immersion thermostats
- Magnetic contactors
- Manual reset high limit
- Hinged door with key lock
- Temperature and pressure relief valve
- Channel iron skid base
- Hand hole cleanout
- 180°F (82.2°C) operation
- Three-year limited warranty
- Meets or exceeds ASHRAE 90.1b (current standard)

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 sequencer (36KW & higher)
- Shunt trip disconnect†

†Separate mounting



150 to 1000 Gallons Storage
15 to 162 KW
Round Vertical Models
Outstanding Safety Features

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. Key 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 **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.

Channel iron skid base

UL listed – all models are listed by Underwriters Laboratories, Inc. as commercial electric water heaters...your assurance of competent design and proper testing.

Three-year limited warranty – provides warranty protection against tank failure resulting from defects in material and workmanship.

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 manually limiting heating input by switching off current to each contactor.

Solid state modulating control (electronic sequencer) – 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. (Separate mounting).

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. (Separate mounting) (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.

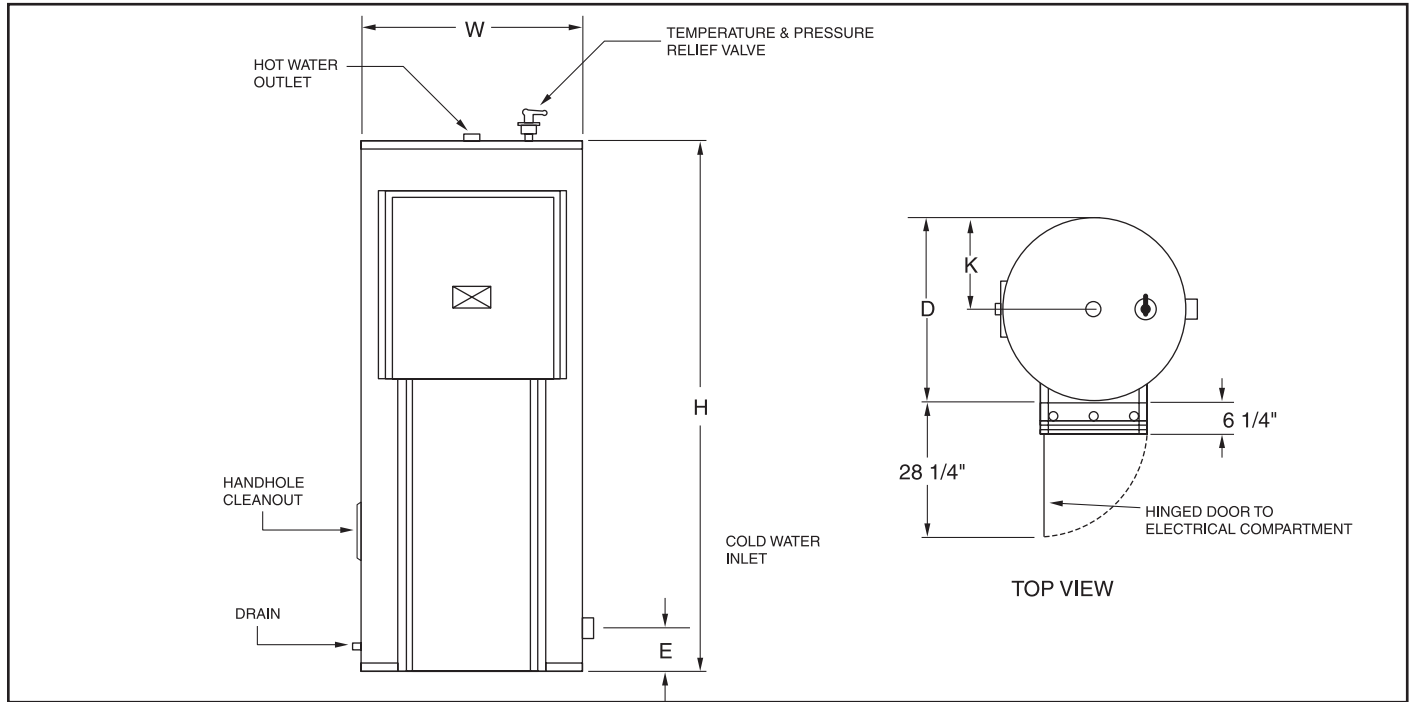
Man hole – provides means to easily remove sediment from the heater; optional on 250 gallon and larger.

Working pressure – 150 PSI ASME construction.

†Separate mounting.

Dimensions

Vertical Round Models



Specifications and Dimensions

Model (Gallon Cap.)	Max. KW Load	Dimensions					Water Conn.'s	Approx. Shpg. Wt. (Lbs.)
		W	D	H	E	K		
VR150-(KW)	144	32"	38 ³ / ₄ "	65 ¹ / ₂ "	7 ³ / ₄ "	16"	1 ¹ / ₂ "	800
VR200-(KW)	162	32"	38 ³ / ₄ "	78"	7 ³ / ₄ "	17"	1 ¹ / ₂ "	900
VR250-(KW)	162	34"	40 ³ / ₄ "	92"	19 ¹ / ₂ "	17"	1 ¹ / ₂ "	1050
VR300-(KW)	162	40"	46 ³ / ₄ "	80"	21"	20"	2"	1150
VR400-(KW)	162	46"	52 ³ / ₄ "	80"	22 ¹ / ₂ "	23"	2"	1300
VR500-(KW)	162	46"	52 ³ / ₄ "	92"	22 ¹ / ₂ "	23"	2"	1500
VR600-(KW)	162	54"	60 ³ / ₄ "	92"	24 ¹ / ₂ "	27"	2 ¹ / ₂ "	1750
VR800-(KW)	162	54"	60 ³ / ₄ "	104"	24 ¹ / ₂ "	27"	2 ¹ / ₂ "	2000
VR1000-(KW)	162	54"	60 ³ / ₄ "	128"	24 ¹ / ₂ "	27"	2 ¹ / ₂ "	2300

On models 250 and up dimensions include channel iron legs. (not shown)

1. All vertical models up to 1,000 gallons and 162KW will be with round jacket model.
2. 180KW and higher must be with vertical square jackets. Refer to specification sheet for vertical square models.
3. All horizontal models must be with square jackets.

Standard KW Input and Amperage

KW	GPH Recovery 100°F Rise	BTU Input & Output	Max. No. of Elements	KW Size of Element	Contactor Option		Amperage						
					No. of Contactors 208/415 240/480 380	Suggested Cntrl. Steps 208/415 240/480 380	Single Phase		Three Phase				
							208V	240V	208V	240V	380V	415V	480V
15	62	51,180	1	15	2/1	—	72	63	42	36	23	21	18
18	74	61,416	1	18	2/1	—	87	75	50	43	28	25	22
24	99	81,888	2	12	2/1	—	115	100	67	58	37	34	29
30	123	102,360	2	15	2/1	—	144	125	83	72	46	42	36
36	148	122,832	2	18	4/2	4/2	173	150	100	87	55	50	43
45	185	153,540	3	15	3/2	3/2	216	188	125	108	69	63	54
54	221	184,248	3	18	6/2	3/2	260	225	150	130	83	75	65
72	295	245,664	4	18	8/4	4/4	—	—	200	173	110	100	87
75	308	255,900	5	15	8/4	3/3	—	—	208	180	114	105	90
90	369	307,080	5	18	6/3	3/3	—	—	250	216	137	125	108
108	443	368,496	6	18	12/4	4/4	—	—	300	260	165	150	130
120	492	409,440	8	15	16/8	5/4	—	—	333	289	183	167	144
135	554	460,620	9	15	18/9	5/5	—	—	375	325	206	188	162
144	596	491,328	8	18	16/8	5/4	—	—	400	346	219	200	173
162	664	552,744	9	18	18/6	5/5	—	—	450	389	247	225	195

For KW inputs not shown above consult factory.

Typical Specifications

WATER HEATER(s) shall be **Bradford White 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 key 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. Key Lock Door provides additional safety and security.

Tank construction shall be of 300 pound test, 125 pound working pressure and be ASME stamped and National Board listed. All tanks are to be lined with vitreous glass, fired at 1,600°F. by a process which provides a molecular interchange of glass and steel. **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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