



Commercial Electric Brute
Horizontal and Vertical Square

**VERTICAL
SQUARE
MODELS
200 GALS.
TO 2500 GALS.**



**HORIZONTAL SQUARE MODELS
150 GALS. TO 2500 GALS.**



Standard Equipment Features

Energy-saving performance – a heavy blanket of high-density fiberglass insulation is used to meet the demanding ASHRAE 90.1b 1992 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.)

Built-in safety drain pan – all models feature a built-in, sealed drain pan system...complete with a 3/4" drain connection. This assists in protecting against water damage from tank or component leakage. Not available on round models.

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 – available for 250 gallons and larger.

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. (Available only for 36 KW or higher)

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 gallons and larger.

Working pressure – 150 PSI or 160 PSI ASME construction.

†Separate mounting – Field Installed.

Specifications

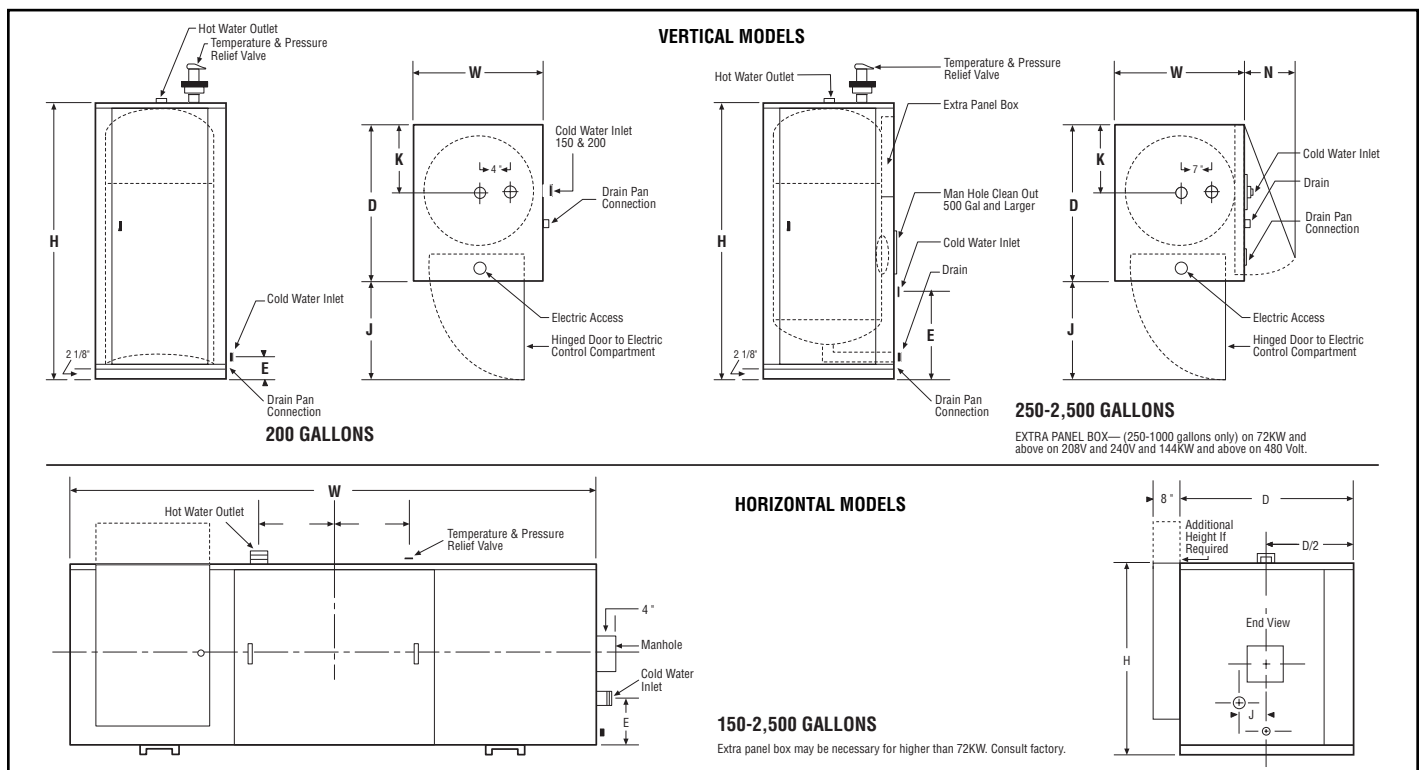
Vertical Square

Model (Gallon Cap.)	Max. KW Load	Dimensions							Water Conn.'s	Approx. Shpg. Wt. (Lbs.)
		W	D	H	E	J	K	N		
V200-(KW)	180	34 $\frac{3}{8}$ "	38 $\frac{3}{8}$ "	82 $\frac{3}{4}$ "	6"	25 $\frac{3}{4}$ "	17"	—	1 $\frac{1}{2}$ "	1000
V250-(KW)	216	40 $\frac{3}{8}$ "	40 $\frac{3}{8}$ "	92 $\frac{1}{2}$ "	19 $\frac{5}{8}$ "	24"	20 $\frac{3}{16}$ "	24"	1 $\frac{1}{2}$ "	1280
V300-(KW)	234	46 $\frac{3}{8}$ "	46 $\frac{3}{8}$ "	80 $\frac{1}{2}$ "	21 $\frac{1}{8}$ "	30"	23 $\frac{3}{16}$ "	30"	2"	1430
V400-(KW)	360	46 $\frac{3}{8}$ "	46 $\frac{3}{8}$ "	104 $\frac{1}{2}$ "	21 $\frac{1}{8}$ "	30"	23 $\frac{3}{16}$ "	30"	2"	2030
V500-(KW)	432	52 $\frac{3}{8}$ "	52 $\frac{3}{8}$ "	93"	21 $\frac{1}{8}$ "	36"	26 $\frac{3}{16}$ "	36"	2"	2600
V600-(KW)	540	52 $\frac{3}{8}$ "	52 $\frac{3}{8}$ "	116 $\frac{1}{2}$ "	22 $\frac{1}{2}$ "	36"	26 $\frac{3}{16}$ "	36"	2 $\frac{1}{2}$ "	3150
V700-(KW)	630	52 $\frac{3}{8}$ "	52 $\frac{3}{8}$ "	132 $\frac{1}{2}$ "	22 $\frac{1}{2}$ "	36"	26 $\frac{3}{16}$ "	36"	2 $\frac{1}{2}$ "	3700
V800-(KW)	720	58 $\frac{3}{8}$ "	58 $\frac{3}{8}$ "	126 $\frac{1}{2}$ "	24 $\frac{1}{8}$ "	42"	29 $\frac{3}{16}$ "	42"	2 $\frac{1}{2}$ "	4300
V1000-(KW)	900	58 $\frac{3}{8}$ "	58 $\frac{3}{8}$ "	140 $\frac{1}{2}$ "	24 $\frac{1}{8}$ "	42"	29 $\frac{3}{16}$ "	42"	2 $\frac{1}{2}$ "	4800
V1250-(KW)	900	64 $\frac{1}{2}$ "	64 $\frac{1}{2}$ "	132 $\frac{1}{2}$ "	23 $\frac{3}{4}$ "	48"	32 $\frac{3}{16}$ "	48"	3"	5600
V1500-(KW)	900	70 $\frac{1}{2}$ "	70 $\frac{1}{2}$ "	128 $\frac{1}{2}$ "	25 $\frac{1}{4}$ "	46"	35 $\frac{3}{16}$ "	46"	3"	6200
V2000-(KW)	900	76 $\frac{1}{2}$ "	76 $\frac{1}{2}$ "	140 $\frac{1}{2}$ "	27 $\frac{1}{4}$ "	60"	38 $\frac{3}{16}$ "	60"	3"	8000
V2500-(KW)	900	82 $\frac{1}{2}$ "	82 $\frac{1}{2}$ "	146 $\frac{1}{2}$ "	29"	66"	41 $\frac{3}{16}$ "	66"	3"	8600

Horizontal Square

Model (Gallon Cap.)	Max. KW Load	Dimensions						Water Conn.'s Inlet	Water Conn.'s Outlet	Approx. Shpg. Wt. (Lbs.)
		W	D	H	E	J				
H150-(KW)	144	85 $\frac{3}{4}$ "	30 $\frac{3}{4}$ "	33"	11 $\frac{1}{4}$ "	2"	2"	2"	800	
H200-(KW)	180	84 $\frac{1}{2}$ "	34 $\frac{1}{4}$ "	37"	12"	3 $\frac{3}{8}$ "	2"	2"	1000	
H250-(KW)	225	90 $\frac{1}{4}$ "	36 $\frac{3}{4}$ "	39"	12"	4"	2"	2"	1280	
H300-(KW)	270	78 $\frac{1}{4}$ "	42 $\frac{1}{4}$ "	45 $\frac{1}{2}$ "	14 $\frac{3}{4}$ "	5 $\frac{1}{4}$ "	2"	2"	1430	
H400-(KW)	360	102 $\frac{1}{4}$ "	42 $\frac{1}{4}$ "	45 $\frac{1}{2}$ "	14 $\frac{3}{4}$ "	5 $\frac{1}{4}$ "	2"	2"	2030	
H500-(KW)	450	90 $\frac{3}{4}$ "	48 $\frac{3}{4}$ "	51 $\frac{1}{2}$ "	15"	6 $\frac{3}{8}$ "	2"	2"	2600	
H600-(KW)	540	114 $\frac{1}{4}$ "	48 $\frac{3}{4}$ "	51 $\frac{1}{2}$ "	15"	6 $\frac{3}{8}$ "	2 $\frac{1}{2}$ "	2"	3150	
H700-(KW)	630	130 $\frac{3}{4}$ "	48 $\frac{3}{4}$ "	51 $\frac{1}{2}$ "	15"	6 $\frac{3}{8}$ "	2 $\frac{1}{2}$ "	2"	3700	
H800-(KW)	720	124 $\frac{1}{4}$ "	54 $\frac{1}{4}$ "	57 $\frac{1}{2}$ "	12 $\frac{3}{4}$ "	7 $\frac{1}{2}$ "	2 $\frac{1}{2}$ "	2"	4300	
H1000-(KW)	900	138 $\frac{3}{4}$ "	54 $\frac{1}{4}$ "	57 $\frac{1}{2}$ "	12 $\frac{3}{4}$ "	7 $\frac{1}{2}$ "	2 $\frac{1}{2}$ "	2"	4800	
H1250-(KW)	900	130 $\frac{3}{4}$ "	60 $\frac{3}{4}$ "	63 $\frac{1}{2}$ "	13"	8 $\frac{3}{8}$ "	3"	3"	5600	
H1500-(KW)	900	126 $\frac{3}{4}$ "	66 $\frac{3}{4}$ "	72 $\frac{1}{2}$ "	12 $\frac{1}{2}$ "	7 $\frac{1}{2}$ "	3"	3"	6200	
H2000-(KW)	900	138 $\frac{3}{4}$ "	72 $\frac{1}{4}$ "	75 $\frac{1}{2}$ "	13 $\frac{1}{2}$ "	11"	3"	3"	8000	
H2500-(KW)	900	144 $\frac{3}{4}$ "	78 $\frac{3}{4}$ "	81 $\frac{1}{2}$ "	13 $\frac{3}{4}$ "	12 $\frac{1}{8}$ "	3"	3"	8600	

Vertical and Horizontal Square Models



Standard KW Input and Amperage — Vertical and Horizontal Square

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	1/1	—	72	63	42	36	23	21	18
18	74	61,416	1	18	2/1	—	87	75	50	43	28	25	22
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
60	246	204,720	4	15	12/6	4/3	289	250	167	144	91	83	72
72	295	245,664	4	18	8/4	4/4	—	—	200	173	110	100	87
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	8/4	4/4	—	—	333	289	183	167	144
135	554	460,620	9	15	9/6	4/4	—	—	375	325	206	188	162
144	596	491,328	8	18	16/8	4/4	—	—	400	346	219	200	173
162	664	552,744	9	18	18/6	8/6	—	—	450	389	247	225	195
180	738	614,160	10	18	20/10	8/8	—	—	500	433	274	250	217
216	886	736,992	12	18	24/8	8/8	—	—	600	519	329	300	260
234	959	798,408	13	18	26/13	8/8	—	—	650	563	356	325	282
252	1033	859,824	14	18	28/14	8/8	—	—	700	606	383	350	303
270	1107	921,240	15	18	30/10	12/10	—	—	750	649	411	376	325
288	1181	982,656	16	18	32/16	12/12	—	—	800	692	438	401	347
306	1255	1,044,072	17	18	34/17	12/12	—	—	850	736	465	426	368
324	1328	1,105,488	18	18	36/12	12/12	—	—	900	779	493	451	390
342	1402	1,166,904	19	18	38/19	12/12	—	—	949	823	520	476	411
360	1476	1,228,320	20	18	40/20	12/12	—	—	999	866	547	501	433
432	1771	1,473,984	24	18	48/16	16/16	—	—	1200	1040	657	601	520

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 horizontal or vertical installation. The jacket shall be rectangular 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** 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. Man hole cleanout shall be standard on 500 through 1500 gallon models.

The Vertical and Horizontal Square heater shall include the following standard features: magnetic contactors with immersion thermostats, internal fusing for control and load circuits, built-in safety drain pan with piping connections, 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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Fax/215-641-1670

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