

Brute Deluxe Volume Water Heater
Indoor or Outdoor 500,000 - 1,999,000 BTU/Hr.
84.2% Thermal Efficiency



10-Year Limited Heat Exchanger Warranty / 1-Year Limited Warranty on Component Parts.

For more information on warranty, please visit www.bradfordwhite.com

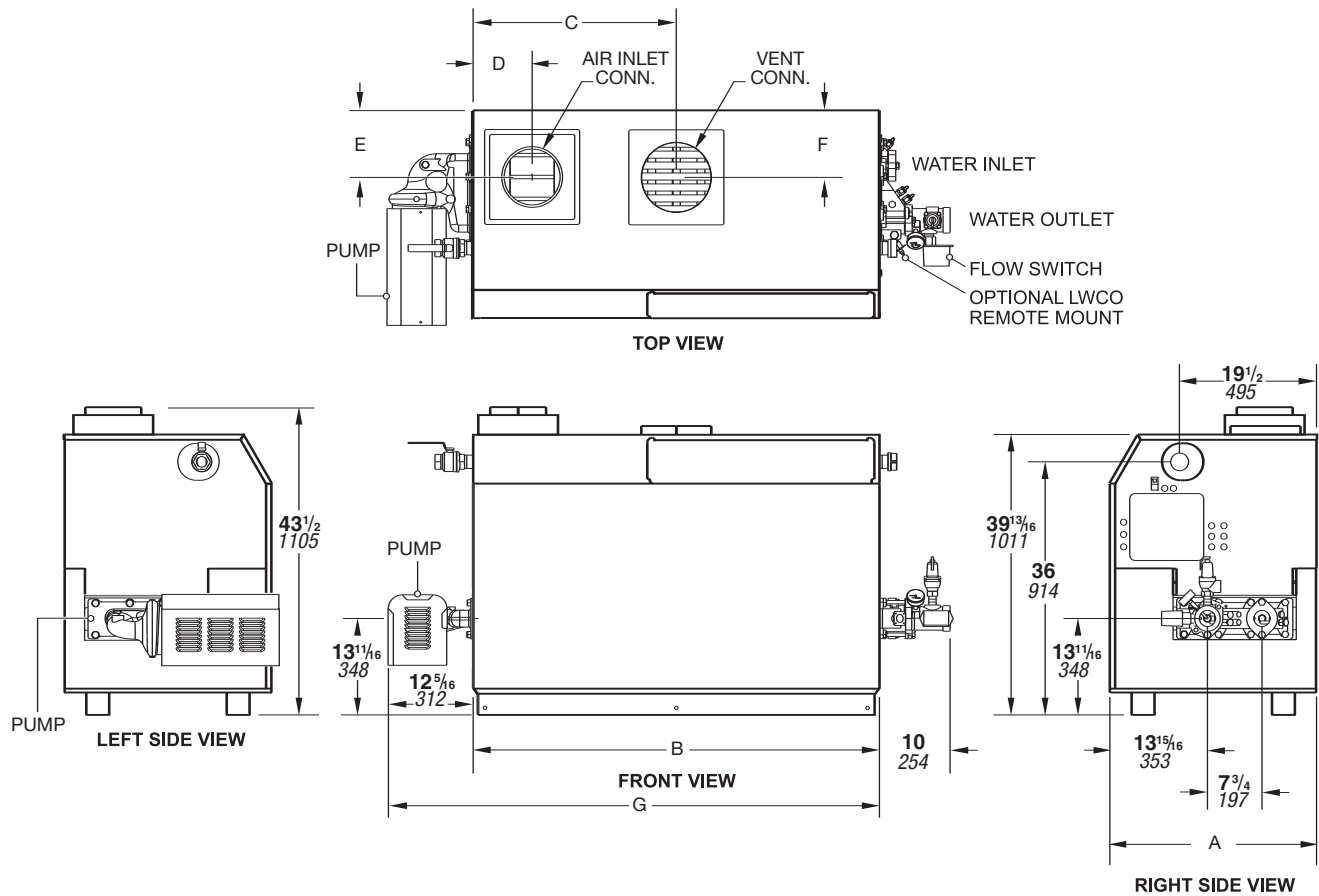
For products installed in USA, Canada and Puerto Rico. Some states do not allow limitations on warranties.

See complete copy of the warranty included with the heater.

MANUFACTURED UNDER ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,954,492; 5,761,379; 5,943,984; 5,081,696; 5,988,117; 6,142,216; 5,199,385; 5,574,822; 5,372,185; 5,485,879; 5,277,171; (B1)5,341,770; 5,660,165; 5,596,952; 5,682,666; 4,904,428; 5,023,031; 5,000,893; 4,669,448; 4,829,983; 4,808,356; 5,115,767; 5,092,519; 5,052,346; 4,416,222; 4,628,184; 4,861,968; 4,672,919; Re. 34,534; 7,270,087 B2. OTHER U.S. AND FOREIGN PATENT APPLICATIONS PENDING. CURRENT CANADIAN PATENTS: 1,272,914; 1,280,043; 1,289,832; 2,045,862; 2,112,515; 2,108,186; 2,107,012; 2,092,105; 2,409,271.

Brute Deluxe Volume Water Heater Specifications

Dimensions shown in **inches mm**

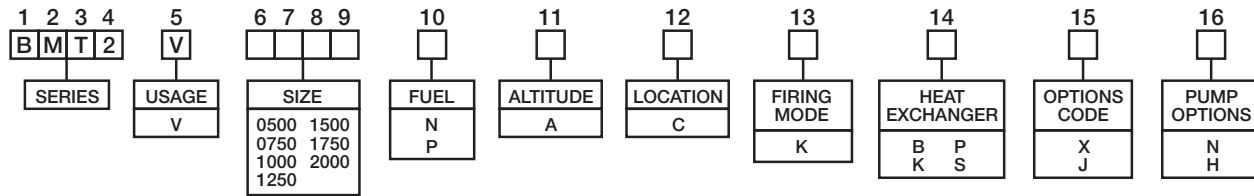


Dimensions

Model Number	A Depth	B Width	C	D	E	F	G	Air Inlet Conn.	Vent Conn.	Connections NPT Size	
	in.	in.	in.	in.	in.	in.	in.	in.	in.	Water in.	Gas in.
BMT2V0500	29 ⁷ / ₁₆	33 ³ / ₄	16 ³ / ₄	6 ¹ / ₂	10	8	46 ¹ / ₄	6	8	2 NPT	1 ¹ / ₄ NPT
BMT2V0750	29 ⁷ / ₁₆	45 ³ / ₄	22 ³ / ₄	6 ¹ / ₂	10	9 ¹ / ₂	58 ¹ / ₄	6	10	2 NPT	1 ¹ / ₄ NPT
BMT2V1000	29 ⁷ / ₁₆	57 ³ / ₄	28 ³ / ₄	6 ¹ / ₂	10	9 ¹ / ₂	70 ¹ / ₄	8	10	2 ¹ / ₂ NPT	1 ¹ / ₂ NPT
BMT2V1250	29 ⁷ / ₁₆	68 ¹ / ₄	34 ¹ / ₂	10 ¹ / ₄	10	9	80 ³ / ₄	8	12	2 ¹ / ₂ NPT	2 NPT
BMT2V1500	29 ⁷ / ₁₆	78 ³ / ₄	39 ¹ / ₂	10 ¹ / ₄	10	9	91 ¹ / ₄	8	12	2 ¹ / ₂ NPT	2 NPT
BMT2V1750	29 ⁷ / ₁₆	89 ¹ / ₄	44 ³ / ₄	10 ¹ / ₄	10	9	101 ³ / ₄	8	14	2 ¹ / ₂ NPT	2 NPT
BMT2V2000	29 ⁷ / ₁₆	99 ³ / ₄	49 ³ / ₄	10 ¹ / ₄	10	9	112 ¹ / ₄	12	14	2 ¹ / ₂ NPT	2 NPT

Model Number	A Depth	B Width	C	D	E	F	G	Air Inlet Conn.	Vent Conn.	Connections NPT Size	
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	Water mm.	Gas mm.
BMT2V0500	747	857	425	165	254	203	1175	152	203	50 NPT	32 NPT
BMT2V0750	747	1162	578	165	254	241	1480	152	254	50 NPT	32 NPT
BMT2V1000	747	1467	730	165	254	241	1784	203	254	64 NPT	38 NPT
BMT2V1250	747	1734	876	260	254	229	2051	203	305	64 NPT	50 NPT
BMT2V1500	747	2000	1003	260	254	229	2318	203	305	64 NPT	50 NPT
BMT2V1750	747	2267	1137	260	254	229	2584	203	356	64 NPT	50 NPT
BMT2V2000	747	2534	1264	260	254	229	2851	305	356	64 NPT	50 NPT

Brute Deluxe Volume Water Heater Specifications



Model Character Designation

(1-4) Model Series Designation

BMT2 = Brute Deluxe

(5) Usage

V = Volume Water

(6-9) Size

0500 = 500,000 BTU/Hr. input
0750 = 750,000 BTU/Hr. input
1000 = 999,000 BTU/Hr. input
1250 = 1,250,000 BTU/Hr. input
1500 = 1,500,000 BTU/Hr. input
1750 = 1,750,000 BTU/Hr. input
2000 = 1,999,000 BTU/Hr. input

(10) Fuel

N = Natural Gas
P = Propane

(11) Altitude

A = 0-10,000 ft.

(12) Location

C = Indoor or Outdoor

(13) Firing Mode

K = 2-Stage

(14) Heat Exchanger

B = Glass Lined Cast Iron with Copper Tubes Bronze Trim (Standard)
K = Bronze with Copper Tubes
P = Glass Lined Cast Iron with Cupronickel Tubes Bronze Trim
S = Bronze with Cupronickel Tubes

(15) Options

X = Standard
J = CSD-1, FM

(16) Options

N = Normal
H = Hard Water

Sizing Data

Model Number	Input ^{1,2}		Output ^{1,2}		Shipping Weight	
	BTU/Hr.	kW	BTU/Hr.	kW	lbs.	kg.
BMT2V0500	500,000	146.5	425,000	124.6	480	218
BMT2V0750	750,000	219.8	638,000	187.0	560	254
BMT2V1000	999,000	292.8	849,000	248.8	670	304
BMT2V1250	1,250,000	336.4	1,062,500	311.4	730	331
BMT2V1500	1,500,000	439.6	1,275,000	373.7	815	370
BMT2V1750	1,750,000	512.9	1,487,500	436.0	880	400
BMT2V2000	1,999,000	585.9	1,699,000	497.9	1010	459

NOTES:

1. Input and output must be derated 4% per 1000 feet above sea level when installed above 2000 feet altitude.

Electrical Data

Models	Boiler		Pump Circuit Size	Blower Circuit
	Volts	Phase Amps	Volts Phase Amps	
0500-0750	120	Single	15	Included in Boiler Circuit
1000 - 1750			20	
2000			20	

Recovery Data

Model Number	GPH Recovery at Degree Rise								
	40°F	50°F	60°F	70°F	80°F	90°F	100°F	120°F	140°F
BMT2V0500	1276	1020	850	729	638	567	510	425	364
BMT2V0750	1915	1532	1277	1094	957	851	766	638	547
BMT2V1000	2548	2038	1699	1456	1274	1132	1019	849	728
BMT2V1250	3189	2551	2126	1822	1594	1417	1276	1063	911
BMT2V1500	3827	3061	2551	2187	1913	1701	1531	1276	1093
BMT2V1750	4464	3571	2976	2551	2232	1984	1786	1488	1276
BMT2V2000	5099	4079	3399	2914	2550	2266	2040	1700	1457

Model Number	LPH Recovery at Degree Rise								
	22°C	28°C	33°C	39°C	44°C	50°C	56°C	67°C	78°C
BMT2V0500	4,821	3,857	3,214	2,755	2,411	2,143	1,929	1,607	1,378
BMT2V0750	7,238	5,790	4,825	4,136	3,619	3,217	2,895	2,413	2,068
BMT2V1000	9,632	7,705	6,421	5,504	4,816	4,281	3,853	3,211	2,752
BMT2V1250	12,054	9,643	8,036	6,888	6,027	5,357	4,821	4,018	3,444
BMT2V1500	14,464	11,571	9,643	8,265	7,232	6,429	5,786	4,821	4,133
BMT2V1750	16,875	13,500	11,250	9,643	8,438	7,500	6,750	5,625	4,821
BMT2V2000	19,274	15,419	12,850	11,014	9,637	8,566	7,710	6,425	5,507

Clearances

Appliance Surface	Required Clearance from Combustible Material		Suggested Service Access Clearance	
	in.	mm.	in.	mm.
Left Side	1	25	24	607
Right Side	1	25	24	607
Top	1	25	12	305
Back	1	25	12	305
Front	1	25	36	914
Vent	Per venting system supplier's instructions			

Water Flow Data

Model Number	Hard Water		Normal Water		Soft Water	
	Flow GPM	Flow LPS	Flow GPM	Flow LPS	Flow GPM	Flow LPS
BMT2V0500	90	341	68	257	45	170
BMT2V0750	90	341	68	257	45	170
BMT2V1000	90	341	68	257	45	170
BMT2V1250	90	341	68	257	68	257
BMT2V1500	90	341	68	257	68	257
BMT2V1750	90	341	68	257	68	257
BMT2V2000	112	424	112	424	112	424

Note: Soft water: 1 to 7.5 grains per gallon. Normal water: 7.6 to 17 grains per gallon. Hard water: More than 17 grains per gallon.

Brute Deluxe Volume Water Heater Specifications

Standard Features

- ASME 160 psi working pressure heat exchanger
- ASME "H" stamp
- Two-stage firing
- Flanged water connections
- Glass-lined headers
- External header gaskets
- 125 psi (861 kPa) ASME rated pressure relief valve
- Flow Switch
- Multiple operating gas valve/ pressure regulators
- Temperature pressure gauge
- Manual "A" gas valve
- Intake air filter
- Multiple, removable burner trays
- Stainless steel burners
- Built-in draft fan for Category I or III vent systems
- Air pressure switch Burner site glass
- Pump, mounted and wired
- Burner sight glass
- 24V control system
- 115/24VAC transformer
- Manual reset high limit
- External controller connections with selector switch
- Hot surface ignition
- On/Off toggle switch
- Pump time delay
- Less than 10 ppm NOx

Factory Mounted Options

- CSD-1
- Low Water Cutoff
- Auto reset high limit
- Ignition failure alarm with bell and dry contacts, red trouble and green main gas lights
- ASME "HLW" stamp

Accessories for Field Mounting

- Side-wall vent terminal for indoor unit with horizontal venting
- Vent terminal for outdoor unit
- Side-wall combustion air terminal for indoor unit with horizontal ducted air
- Air terminal for outdoor unit

Sample Specification

The boiler shall be a Bradford White Model BMT2V _____, rated at the input and output shown on the schedule. The unit(s) shall be design certified to comply with the current edition of the Harmonized ANSI Z21.10.3 / CSA 4.3 Standard for Gas Water Heaters, and shall be design certified for both indoor and outdoor use. The unit(s) shall be designed and constructed in accordance with the ASME Boiler & Pressure Vessel Code, Section IV requirements for 160 psi (1103 kPa) working pressure, and shall bear the ASME "H" Stamp. The unit(s) shall be constructed to comply with the efficiency requirements of the latest edition of ASHRAE Standard 90.1.

The water tube heat exchanger shall be a straight tube design with ten 7/8" (22mm) inner diameter integral finned copper tubes. The tubes shall be rolled directly into glass-lined cast iron headers, rated at 160 psi (1103 kPa) working pressure. The heat exchanger shall be a low water volume design. All gaskets shall be non-metallic, outside the jacket, and separated from the combustion chamber by at least 3.5" (89mm) to eliminate deterioration from heat. Headers shall have covers permitting visual inspection and cleaning of all internal surfaces. The heat exchanger shall have a ten year warranty.

The piping side header shall have removable flanges, and the water heater design shall permit removal of the complete heat exchanger for service from either the front or top, to facilitate maintenance.

Each unit shall have a pump time delay. The pump time delay shall be adjustable from 0.1 to 10 minutes for continued pump circulation after the call for heat has been satisfied, to remove residual heat from the unit's combustion chamber.

The units shall use a proved heat surface ignition with a 15 second pre-purge cycle to clean out the combustion chamber. Upon the call for heat, if a flame is not detected, the ignition module shall attempt 2 more time before locking out, and required manual reset. If there is a loss of flame signal during a call for heat, the ignition control shall attempt three re-ignition cycles before locking out. (Units with some options such as ASME CSD-1, are built with single-try ignition controls.) The control circuit shall be 24V. Unit shall be 120V, single-phase.

Burners shall be multi-port design, and shall be constructed of high temperature stainless steel. The burners shall be designed to mix air and gas, and burn cleanly with NOx emissions not exceeding 10ppm. Burners shall be in easily-removable burner tray assemblies with no more than 4 burners per tray.

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



Ambler, PA

For U.S. and Canada field service, contact your professional installer or local Bradford White sales representative.

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