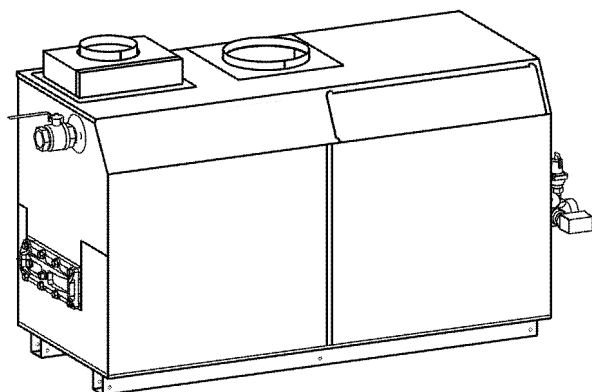


Brute® Deluxe

Boiler & Water Heater

BMT2H Hydronic Heater
BMT2V Volume Water Heater
Indoor/Outdoor Sizes 500-2000



Date:

Project #:

Engineer:

Prepared By:

Bid Date:

Submittal Data

Project Name:

Location:

Contractor:

Standard Equipment

- ASME 160 psi working pressure heat exchanger
- ASME "H" stamp
- Meets NSF/ANSI-372 Low Lead Content Certification (BMT2V)
- Two-stage firing
- Flanged water connections
- Glass-lined headers
- External header gaskets
- 75 psi (517 kPa) ASME rated pressure relief valve (BMT2H)
- 125 psi (861 kPa) ASME rated pressure relief valve (BMT2V)
- 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
- 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

Boiler Data

Model:

- ☐ Boiler BMT2H
☐ Water Heater BMT2V

Number of Units:

Fuel

- ☐ Natural
☐ Propane

Heat Exchanger

- ☐ Copper (std. on BMT2H N/A on BMT2V)
☐ Cupro-Nickel (std. on BMT2V)
☐ Copper, Reversed (N/A on BMT2V)
☐ Cupro-Nickel, Reversed

Water Trim

- ☐ Glass-Lined Cast Iron
☐ Bronze Trim (standard (std. on BMT2V)

Options

- ☐ CSD-1
☐ 200°F Max Controls (std. on BMT2V)
☐ 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 (BMT2V only)
☐ Reversed heat exchanger



Sizing Data

Size	Input ^{1,3} BTU/h	Output ^{1,3} BTU/h	Gas Conn. Size inches ²	Water Conn. Size inches ²	Shipping Weight lbs. kg	
 500	500,000	425,000	1¼	2	630	286
 750	750,000	638,000	1¼	2	725	329
 1000	999,000	849,000	1½	2½	820	372
 1250	1,250,000	1,064,000	2	2½	915	415
 1500	1,500,000	1,277,000	2	2½	1010	458
 1750	1,750,000	1,489,000	2	2½	1105	501
 BMT2H 2000	1,999,000	1,701,000	2	2½	1200	544
 BMT2V 2000	2,000,000	1,701,000	2	2½	1200	544

- NOTES:**
1. Input and output must be derated 4% per 1000 feet above sea level when installed above 2000 feet altitude.
 2. Dimensions are nominal.
 3. For other boiler ratings:
Boiler Horsepower: $HP = \frac{\text{Output}}{33,475}$ Radiation Surface: $EDR \text{ sq. ft.} = \frac{\text{Output}}{150}$
 4. Shipping weight is approximate, based on previous units shipped and can be effected by several variables including the green or dry wood used in the crate.

Accessories

-  Side-wall vent terminal for indoor unit with horizontal venting
-  Vent terminal for outdoor unit
-  Air terminal for outdoor unit
-  Side-wall combustion air terminal for indoor unit with horizontal ducted air
-  Propane conversion kit
-  Natural gas conversion kit

Water Flow Data

BMT2H (Boiler)
TEMPERATURE RISE IN DEGREES

Size	20°F		11°C		25°F		14°C		30°F		17°C		35°F		19°C	
	Flow gpm	H/L feet	Flow lpm	H/L m	Flow gpm	H/L feet	Flow lpm	H/L m	Flow gpm	H/L feet	Flow lpm	H/L m	Flow gpm	H/L feet	Flow lpm	H/L m
500	43	1.7	161	0.5	34	1.1	129	0.3	28	0.9	107	0.3	24	0.7	92	0.2
750	64	3.3	242	1.0	51	2.3	193	0.7	43	1.7	161	0.5	36	1.2	138	0.4
1000	85	5.0	321	1.5	68	3.6	257	1.1	57	3.1	214	0.9	49	2.2	184	0.7
1250	106	8.1	402	2.5	85	6.1	322	1.9	71	4.7	268	1.4	61	3.4	230	1.0
1500	128	10.0	483	3.0	102	7.2	386	2.2	85	5.5	322	1.7	73	4.2	276	1.3
1750	N/R	N/R	N/R	N/R	119	10.5	451	3.2	99	8.4	375	2.6	85	5.8	322	1.8
2000	N/R	N/R	N/R	N/R	136	12.5	515	3.8	113	10.4	429	3.2	97	8.3	368	2.5

BMT2V (Water Heater)

Temp Size	HARD WATER						NORMAL WATER						SOFT WATER					
	Temp			Temp			Temp			Temp			Temp			Temp		
	Flow gpm	H/L feet	rise °F	Flow lpm	H/L m	rise °C	Flow gpm	H/L feet	rise °F	Flow lpm	H/L m	rise °C	Flow gpm	H/L feet	rise °F	Flow lpm	H/L m	rise °C
500	90	3.5	9	341	1.1	5	68	2.3	13	257	0.7	7	45	1.8	19	170	0.5	10
750	90	6.0	14	341	1.8	8	68	3.0	19	257	0.9	10	45	2.1	28	170	0.6	16
1000	90	6.1	19	341	1.9	10	68	3.6	25	257	1.1	14	45	2.3	38	170	0.7	21
1250	90	6.3	24	341	1.9	13	68	3.8	31	257	1.2	17	68	3.8	31	257	1.2	17
1500	90	6.5	28	341	2.0	16	68	3.9	38	257	1.2	21	68	3.9	38	257	1.2	21
1750	90	6.7	33	341	2.0	18	68	4.0	44	257	1.2	24	68	4.0	44	257	1.2	24
2000	112	10.0	30	424	3.0	17	112	10.0	30	424	3.0	17	112	10.0	30	424	3.0	17

NOTE: Headloss (H/L) shown is for the heat exchanger only.

Recovery Data

Size	WATER TEMPERATURE RISE IN DEGREES								
	40°F gph	50°F gph	60°F gph	70°F gph	80°F gph	90°F gph	100°F gph	120°F gph	140°F gph
500	1276	1020	850	729	638	567	510	425	364
750	1915	1532	1277	1094	957	851	766	638	547
1000	2548	2038	1699	1456	1274	1132	1019	849	728
1250	3189	2551	2126	1822	1594	1417	1276	1063	911
1500	3827	3061	2551	2187	1913	1701	1531	1276	1093
1750	4464	3571	2976	2551	2232	1984	1786	1488	1276
2000	5099	4079	3399	2914	2550	2266	2040	1700	1457
Size	22°C L/h	28°C L/h	33°C L/h	39°C L/h	44°C L/h	50°C L/h	56°C L/h	67°C L/h	78°C L/h
500	4821	3857	3214	2755	2411	2143	1929	1607	1378
750	7238	5790	4825	4136	3619	3217	2895	2413	2068
1000	9632	7705	6421	5504	4816	4281	3853	3211	2752
1250	12054	9643	8036	6888	6027	5357	4821	4018	3444
1500	14464	11571	9643	8265	7232	6429	5786	4821	4133
1750	16875	13500	11250	9643	8438	7500	6750	5625	4821
2000	19274	15419	12850	11014	9637	8566	7710	6425	5507

NOTE: gph = gallons per hour, L/h = Liters per hour.

Clearances

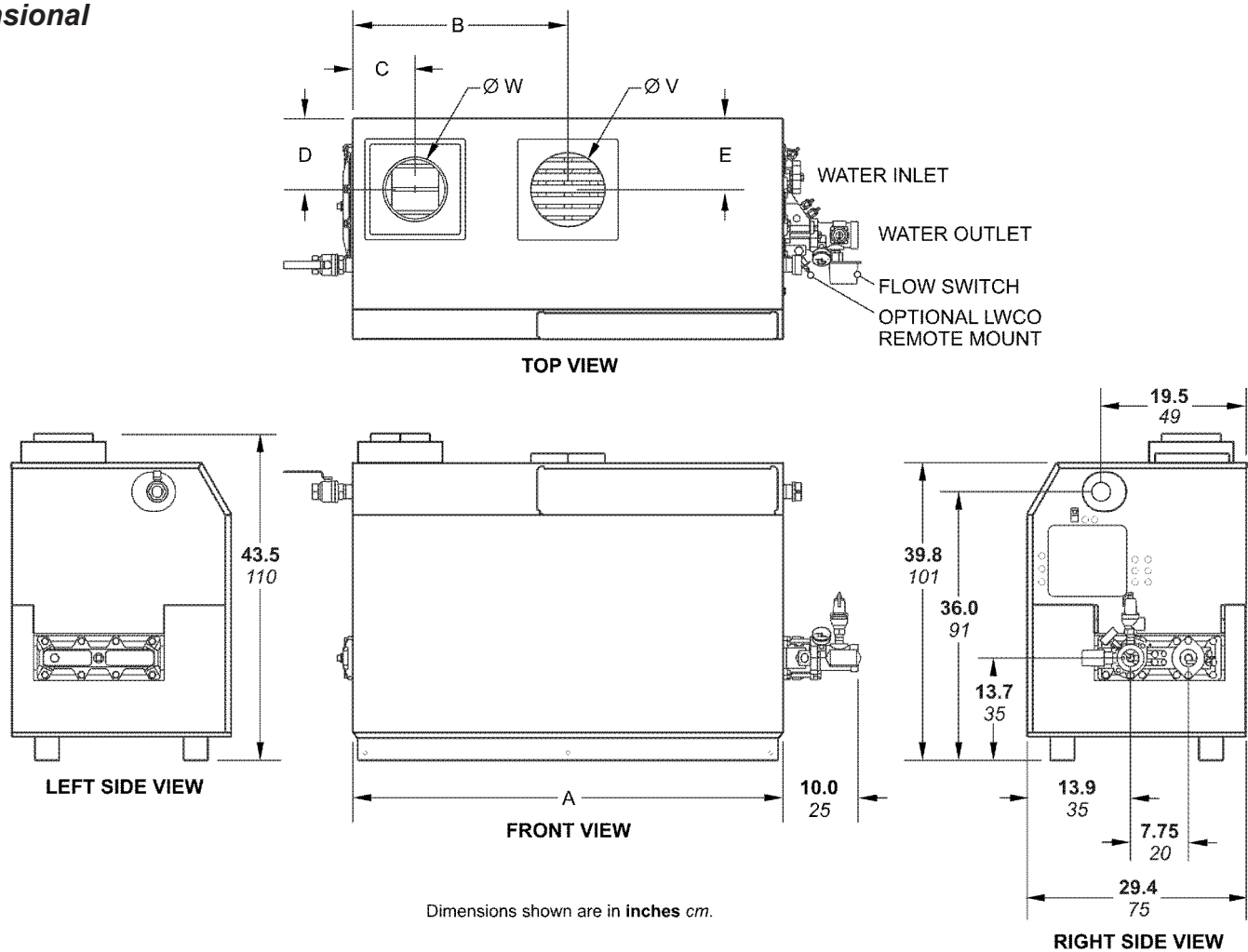
Appliance Surface	Required Clearance From Combustible Material		Suggested Service Access Clearances		Dimensions in inches <i>cm</i>
Left Side	1	2.5	24	61	
Right Side	1	2.5	24	61	
Top	1	2.5	12	30	
Back	1	2.5	12	30	
Front	1	2.5	36	91	
Vent	Per venting system supplier's instructions				

Electrical Data

Connection Rating*							
BMT2H, BMT2V (non-pump mounted)	Boiler / Heater Circuit Size			Pump Circuit Requirements			Blower Circuit
Size	Volts	Phase	Amps	Volts	Phase	Amp/hp	
500–750	120	Single	15	120	Single	15A / 1hp	Included in Boiler Circuit
1000-2000			20				

*Separate circuits required. Maximum connection rating.
Other Voltages / Phase / Amp/hp will require a pump starter.

**Dimensional
Data**



	A		B		C		D		E		Air Conn. W	Vent Conn. V		
Size														
500	33¾	85	16¾	43	6½	17	10	25	8	20	6	15	8	20
750	45¾	116	22¾	53	6½	17	10	25	9½	24	8	20	10	25
1000	57¾	147	28¾	73	6½	17	10	25	9½	24	8	20	10	25
1250	68¾	173	34	87	10¼	26	10	25	9	23	12	30	12	30
1500	78¾	200	39½	100	10¼	26	10	25	9	23	12	30	12	30
1750	89¾	227	44¾	113	10¼	26	10	25	9	23	12	30	14	36
2000	99¾	253	49¾	127	10¼	26	10	25	9	23	12	30	14	36

Dimensions shown in inches cm.

Bradford White reserves the right to change specifications, components, features, or to discontinue products without notice.



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