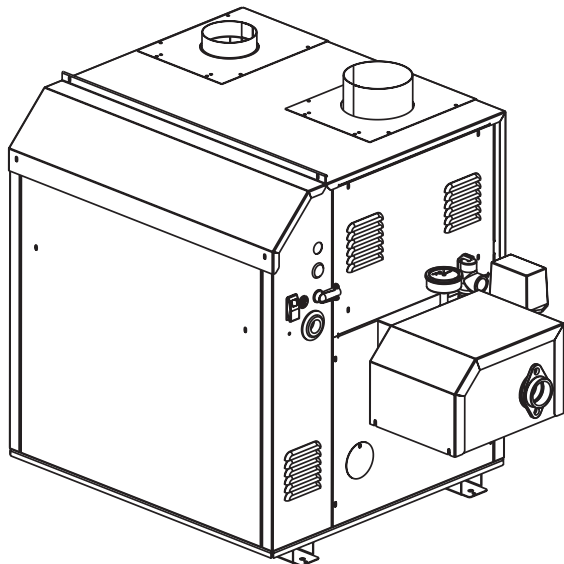


Brute Deluxe



Pump Mounted Boiler & Water Heater

BMT2H | Hydronic Heater

BMT2V | Volume Water Heater

Indoor/Outdoor Sizes 200-400

Submittal Data



Date:

Project #:

Engineer:

Prepared By:

Bid Date:

Project Name:

Location:

Contractor:

Standard Equipment

- ASME 160 psi working pressure heat exchanger
- ASME "H" stamp
- Pump, mounted and wired
- 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)
- Low lead construction (BMT2V)
- Temperature pressure gauge
- Multiple operating gas valve/pressure regulators
- Manual "A" gas valve
- Intake air filter
- Removable burner tray(s)
- Stainless steel burners
- Built-in fan for Category I or III vent systems
- Air pressure switch
- Blocked vent switch
- Burner site glass
- PI controller
- Outdoor reset with ratios of 0.4 to 3.6 (BMT2H)
- Warm weather shutdown (BMT2H)
- Indicator lights for power, heat call, DHW call and WWSD
- DHW operation
- Automatic boiler differential
- Pump pre-purge, post-purge and exercise
- Blower pre-purge and post-purge
- Inlet, outlet, outdoor and supply sensors
- Codes for sensor errors
- 24V control system
- 115/24V transformer
- Flow switch
- Manual reset high limit
- Fusible link (size 200)
- On-off firing
- Certified for indoor or outdoor use
- Hot surface ignition
- On/off toggle switch
- Pump time delay
- CSD-1 compliant
- Less than 10ppm NOx

Boiler Data

Model:

- ☐ Boiler BMT2H
☐ Water Heater BMT2V

Number of Units:

Fuel

- ☐ Natural
☐ Propane

Configuration

- ☐ On/Off (standard)
☐ Two-Stage (optional)

Heat Exchanger

- ☐ Copper
☐ Cupro-Nickel
☐ Copper, Reversed
☐ Cupro-Nickel, Reversed

Pump

- ☐ Normal Water
☐ Soft Water (BMT2V only)

Water Trim

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

Options

- ☐ 200°F Max Controls (std. on BMT2V)
☐ Low Water Cutoff
☐ ASME "HLW" Stamp (BMT2V only)



Sizing Data

Model	Input		Output		A.F.U.E. %	Thermal Efficiency %	Gas Conn Size NPT	Water Conn. Size NPT	Shipping Weight	
	BTU/h	kW	BTU/h	kW					lbs	kg
 BMT2H0200	200,000	58.6	170,000	50.4	85.1	N/A	3/4	1-1/2	290	132
 BMT2H0300	299,000	87.6	255,000	74.7	85.1	N/A	3/4	1-1/2	320	145
 BMT2H0400	399,000	116.9	340,000	99.6	N/A	85.3	3/4	1-1/2	350	159
 BMT2V0200	199,900	58.6	169,915	49.8	N/A	85.0	3/4	1-1/2	290	132
 BMT2V0300	300,000	87.9	255,000	74.7	N/A	85.0	3/4	1-1/2	320	145
 BMT2V0400	399,900	117.2	339,915	99.6	N/A	85.0	3/4	1-1/2	350	159

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 sq. ft. = $\frac{\text{Output}}{150}$

Accessories

-  Side-wall vent terminal for indoor installation (required for side-wall venting)
-  Side-wall combustion air terminal for indoor installation (required only for ducted combustion air)
-  Outdoor vent terminal and combustion air terminal

Water Flow Data

BMT2H (Boiler) TEMPERATURE RISE

Size	20°F Flow gpm	11°C Flow lpm	25°F Flow gpm	14°C Flow lpm	30°F Flow gpm	17°C Flow lpm	35°F Flow gpm	19°C Flow lpm
200	17	64	14	53	11	42	10	38
300	26	97	20	76	17	64	15	57
400	34	129	27	102	23	87	19	72

BMT2V (Water Heater)

Size	HARD WATER				NORMAL WATER				SOFT WATER			
	Flow gpm	Temp Rise °F	Flow lpm	Temp Rise °C	Flow gpm	Temp Rise °F	Flow lpm	Temp Rise °C	Flow gpm	Temp Rise °F	Flow lpm	Temp Rise °C
200	45	8	170	4	35	10	133	6	23	15	87	8
300	45	11	170	6	35	15	133	8	23	22	87	12
400	45	15	170	8	35	19	133	11	23	30	87	17

Recovery Data

WATER TEMPERATURE RISE IN °F									
Size	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
200	510	408	340	291	255	227	204	170	146
300	765	612	510	437	383	340	306	255	219
400	1020	816	680	583	510	453	408	340	291

NOTE: GPH = gallons per hour.

WATER TEMPERATURE RISE IN °C									
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
200	1928	1542	1285	1100	964	858	771	643	552
300	2892	2313	1928	1652	1448	1285	1157	964	828
400	3856	3084	2570	2204	1928	1712	1542	1285	1100

NOTE: L/h = Liters per hour.

Clearances

Appliance Surface	Required Clearance from Combustible Material		Suggested Service Access Clearance	
	inches	cm	inches	cm
Left Side	1	2.5	24	61.0
Right Side	1	2.5	24	61.0
Top	1	2.5	12	30.5
Back*	1	2.5	12	30.5
Front	1	2.5	36	91.4
Vertical Vent** (Category 1)	6	15.2		
Horizontal Vent (Category 3)	per UL1738 venting system supplier's instructions			

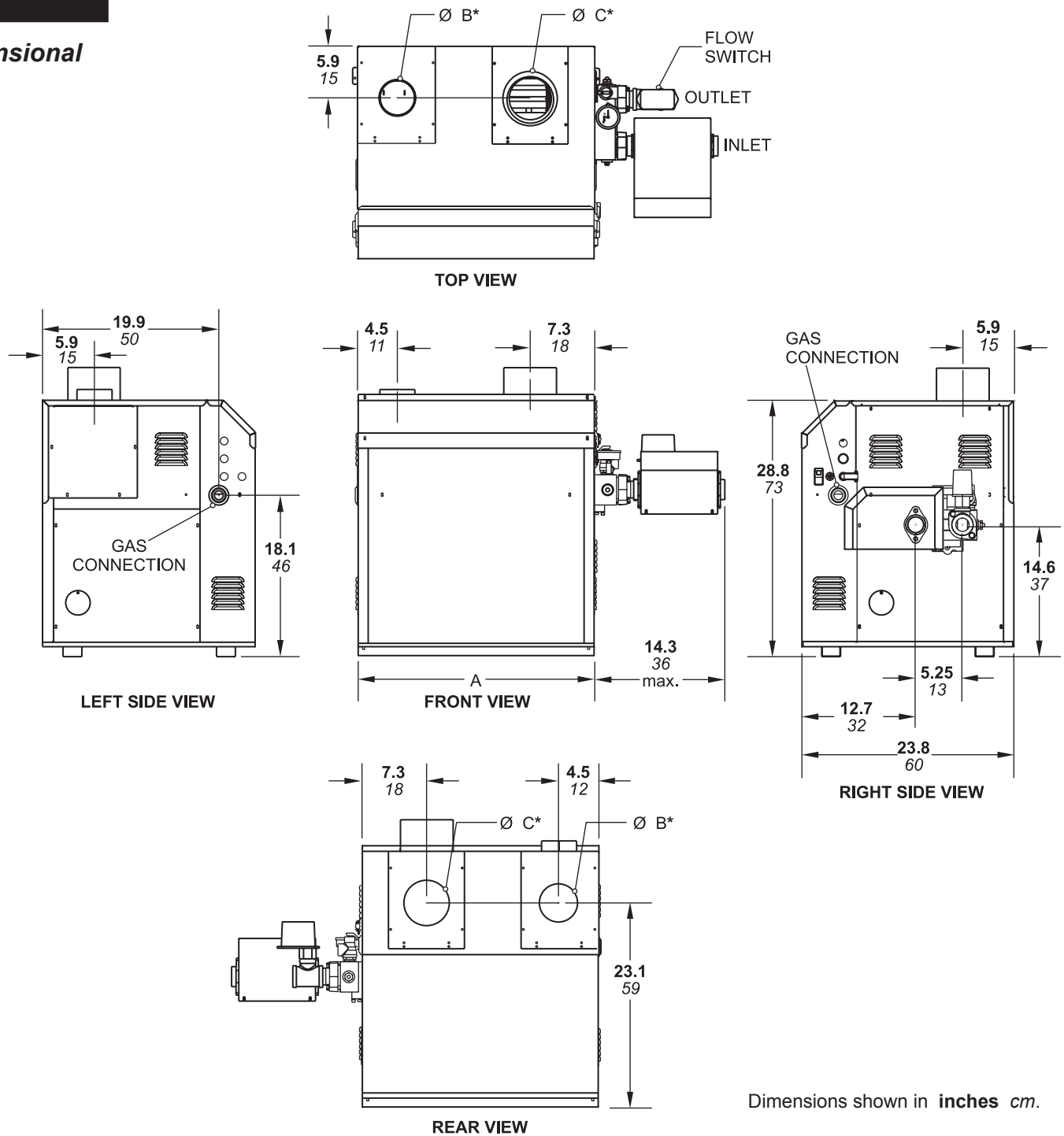
* When vent and/or combustion air connects to the back, recommended clearance is 36" 91cm.

** 1" when b-vent is used.

Electrical Data

BMT2H & BMT2V (pump mounted) Size	Boiler / Heater Circuit Size			Pump	Blower
	Volts	Phase	Amps		
200–400	120	Single	15	Included in Boiler Connection	Included in Boiler Connection

Dimensional Data



Dimensions shown in **inches cm.**

Size	A		Air Conn. B*		Vent Conn. C*		Horiz Vent Pipe	
	in	cm	in	cm	in	cm	in	cm
200	20½	52	4	10	5	13	4	10
300	26½	67	4	10	6	15	5	13
400	33½	85	6	15	7	18	6	15

*Air and vent connections may be on top or back of the Brute Deluxe and are field convertible.

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