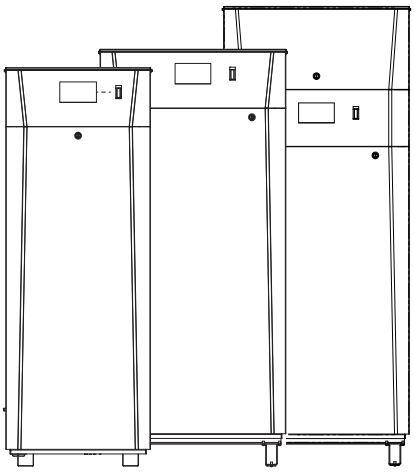
Brute OmniTech®

Volume Water Heater

BONV	Volume Water Heater, CAT I / III

Indoor / Outdoor, Sizes 1250 - 2500



Date:

Project #:

Engineer:

Prepared By:

Bid Date:

BRADFORD WHITE®

Submittal Data

Project Name:

Location:

Contractor:

Standard Features

- ASME "HLW" stamp
- 160 psi maximum working pressure
- Meets NSF/ANSI-372 Low Lead Content certification
- Certified for Category I fan-assisted and Category III vent
- Cat III horizontal / vertical direct vent
- Cat III vent & air pipe lengths of up to 100 equivalent feet (each)
- Indoor/outdoor
- Low NOx system exceeds the most stringent NOx regulations
- Sophisticated gas/air valve allows for constant control of combustion
- Sealed combustion chamber
- Stainless steel heat exchanger with welded construction
- Pre-mix stainless steel burner
- Electronic PID control with large touchscreen and color display
- Multiple independent heat demands
- Controller cascades with up to eight OmniTech BONV heaters
- Accepts 4-20ma or 0-10VDC external set point control
- Modbus RTU & BACnet MSTP on board
- Sensor for DHW tank
- Domestic water pump control with time delay
- High and low gas pressure switches
- Vent temperature cutoff
- Normally open alarm contact
- Air filter
- Water flow switch
- Temperature & pressure gauge
- Low water cutoff
- 125 psi (861kPa) ASME rated pressure relief valve
- Groove lock fittings (optional flange adapter)
- Burner site glass
- 10-Year limited warranty

Heater Data

Number of Units ☐

Fuel

☐ Natural

Voltage

☐ 120V, single ph (1250-2000)
☐ 208V, single ph (1500-2500)
☐ 220/240V, single ph (1500-2500)
☐ 208V, three ph (2500)
☐ 480V, three ph (2500)
☐ 600V, three ph (2500)

Factory Mounted Options

☐ ASME CSD-1
☐ ASME "H" Stamp (instead of standard "HLW" Stamp)
☐ BACnet IP gateway
☐ LonWorks gateway
☐ Additional auto & manual reset high limit switches
☐ Alarm bell with silence switch
☐ Groove lock to flange connections
☐ 125 psi pressure relief valve (std)
☐ 30 psi pressure relief valve
☐ 50 psi pressure relief valve
☐ 60 psi pressure relief valve
☐ 75 psi pressure relief valve
☐ 150 psi pressure relief valve

Low Lead Content NSF/ANSI 372

HLW

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Accessories for Field Mounting

- ☐ Gateway for BACnet IP
- ☐ Gateway for LonWorks
- ☐ Cat III horizontal vent terminal
- ☐ Screen for air terminal
- ☐ Vent terminal for outdoor unit
- ☐ Air pipe screen for outdoor unit
- ☐ Condensate neutralizer
- ☐ Condensate neutralizer with pump

Sizing Data

		Input Rate		Output Rate		Thermal Efficiency	Product Weight		Operating Weight		Shipping Weight		Water Content	
	Model	**MBH**	***kw***	**MBH**	***kw***	**%**	lbs	*kg*	lbs	*kg*	lbs	*kg*	*gal*	*l*
☐	**1250**	1250	*366*	1063	*311*	85	541	*246*	575	*261*	741	*336*	*3.8*	*14*
☐	**1500**	1500	*440*	1260	*369*	84	541	*246*	575	*261*	741	*336*	*3.8*	*14*
☐	**1750**	1750	*513*	1488	*436*	85	947	*430*	1025	*465*	1197	*543*	*8.9*	*34*
☐	**2000**	1999.9	*586*	1720	*504*	86	1030	*468*	1125	*511*	1280	*581*	*10.8*	*41*
☐	**2500**	2499.9	*733*	2150	*630*	86	1030	*468*	1125	*511*	1280	*581*	*10.8*	*41*

Clearances

	Certified Clearances to Combustibles									
Model	Front		Back		Left		Right		Top	
	inches	*cm*	inches	*cm*	inches	*cm*	inches	*cm*	inches	*cm*
1250-2500	closet*	-	0	*0*	0	*0*	0	*0*	0	*0*

*With required openings

	Suggested Service Clearances									
Model	Front		Back		Left		Right		Top	
	inches	*cm*	inches	*cm*	inches	*cm*	inches	*cm*	inches	*cm*
1250-1500	24	*61*	*24*	*61*	8	*20*	8	*20*	18	*46*
1750-2500	24	*61*	24	*61*	8	*20*	8	*20*	17	*43*

Electrical Data

	1250 Current			1500 Current			1750 Current			2000 Current			2500 Current		
Voltage	FLA	MCA	MOP	FLA	MCA	MOP	FLA	MCA	MOP	FLA	MCA	MOP	FLA	MCA	MOP
120V, 1 phase	9.4	11.8	20	9.4	11.8	20	9.2	11.5	20	9.2	11.5	20	N/A	N/A	N/A
208V, 1 phase	N/A	N/A	N/A	4.8	6.0	15	5.0	6.3	15	5.0	6.3	15	5.0	6.3	15
220/240V, 1 phase	N/A	N/A	N/A	4.8	6.0	15	4.8	6.0	15	4.8	6.0	15	4.8	6.0	15
208V, 3 phase	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2	6.5	15
480V, 3 phase	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.2	2.8	15
600V, 3 phase	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.8	2.3	15

Vent System

Model	Air Collar Size		Ducted Air Pipe Size		Maximum Ducted Air Pipe Length		Vent Collar Size		Typical** Category I Vent Pipe Size		Category III Vent Pipe Size		Maximum Category III Vent Pipe Length	
	inches	*cm*	inches	*cm*	ft*	*m*	inches	*cm*	inches	*cm*	inches	*cm*	ft*	*m*
1250	6	*15*	6	*15*	100	*30.5*	12	*30*	12	*30*	6	*15*	100	*30.5*
1500	6	*15*	6	*15*	100	*30.5*	12	*30*	12	*30*	6	*15*	100	*30.5*
1750	8	*20*	8	*20*	100	*30.5*	14	*36*	14	*36*	8	*20*	100	*30.5*
2000	8	*20*	8	*20*	100	*30.5*	14	*36*	14	*36*	8	*20*	100	*30.5*
2500	8	*20*	8	*20*	100	*30.5*	16	*41*	16	*41*	8	*20*	100	*30.5*

*Equivalent Feet: To calculate, measure the linear feet of the pipe and add 5 ft (1.5m) for each elbow used.

**Category I vent must be sized in the U.S. per the National Fuel Gas Code ANSI Z223.1, or in Canada per CSA B149.1 as a fan-assisted Category I appliance. Pipe sizes shown are typical, but may not meet the requirements of every system.

Notes:

1. Category III vent pipe must be stainless steel complying with UL1738, and properly sealed.
2. Intake air pipe may be single-wall galvanized steel pipe, 24 gauge minimum, and properly sealed.

Water Flow Requirements

	1-10 Grains Per Gallon Hardness			11-15 Grains Per Gallon Hardness		
Model	Flow Rate (gpm)	Headloss* (ft)	Temp Rise (°F)	Flow Rate (gpm)	Headloss* (ft)	Temp Rise (°F)
1250	85	16.1	25	104	23.6	20
1500	90	17.9	28	110	26.3	23
1750	120	12.9	25	150	19.6	20
2000	135	16.1	25	170	24.4	20
2500	140	17.2	31	170	24.4	25
	1-10 Grains Per Gallon Hardness			*11-15 Grains Per Gallon Hardness*		
Model	*Flow Rate (l/m)*	*Headloss* (m)*	*Temp Rise (°C)*	*Flow Rate (l/m)*	*Headloss* (m)*	*Temp Rise (°C)*
1250	*322*	*4.9*	*14*	*394*	*7.2*	*11*
1500	*341*	*5.5*	*16*	*416*	*8.0*	*13*
1750	*454*	*3.9*	*14*	*568*	*6.0*	*11*
2000	*511*	*4.9*	*14*	*644*	*7.4*	*11*
2500	*530*	*5.2*	*17*	*644*	*7.4*	*14*

*Headloss is for the heater only (no piping)

Allowable pH is 6.5 to 9.5

Recovery

Model	Temperature Rise						
	40°F	50°F	60°F	70°F	80°F	90°F	100°F
	gph	gph	gph	gph	gph	gph	gph
1250	3188	2550	2125	1821	1594	1417	1275
1500	3780	3024	2520	2160	1890	1680	1512
1750	4463	3570	2975	2550	2231	1983	1785
2000	5160	4128	3440	2948	2580	2293	2064
2500	6450	5160	4300	3686	3225	2867	2580

Model	*Temperature Rise*						
	22°C	*28°C*	*33°C*	*39°C*	*44°C*	*50°C*	*56°C*
	L/h	*L/h*	*L/h*	*L/h*	*L/h*	*L/h*	*L/h*
1250	*12049*	*9639*	*8033*	*6885*	*6024*	*5355*	*4820*
1500	*14288*	*11431*	*9526*	*8165*	*7144*	*6350*	*5715*
1750	*16868*	*13495*	*11246*	*9639*	*8434*	*7497*	*6747*
2000	*19504*	*15603*	*13003*	*11145*	*9752*	*8668*	*7802*
2500	*24380*	*19504*	*16253*	*13931*	*12190*	*10836*	*9752*

Dimensional Data

Model	"A"		"B"		"C"		"D"		"E" Air Inlet Diameter		"F" Vent Collar Diameter		"G" Gas Conn.	Water Inlet & Outlet
	in.	(cm)	in.	(cm)	in.	(cm)	in.	(cm)	in.	(cm)	in.	(cm)	NPT	
1250	24½	(62)	27	(69)	39	(99)	66	(168)	6	(15)	12	(30)	2"	2½"
1500	24½	(62)	27	(69)	39	(99)	66	(168)	6	(15)	12	(30)	2"	2½"
1750	32	(81)	43	(109)	53	(135)	69	(175)	8	(20)	14	(36)	2"	3"
2000	32	(81)	43	(109)	53	(135)	78	(198)	8	(20)	14	(36)	2"	3"
2500	32	(81)	43	(109)	53	(135)	78	(198)	8	(20)	16	(41)	2"	3"

All Models

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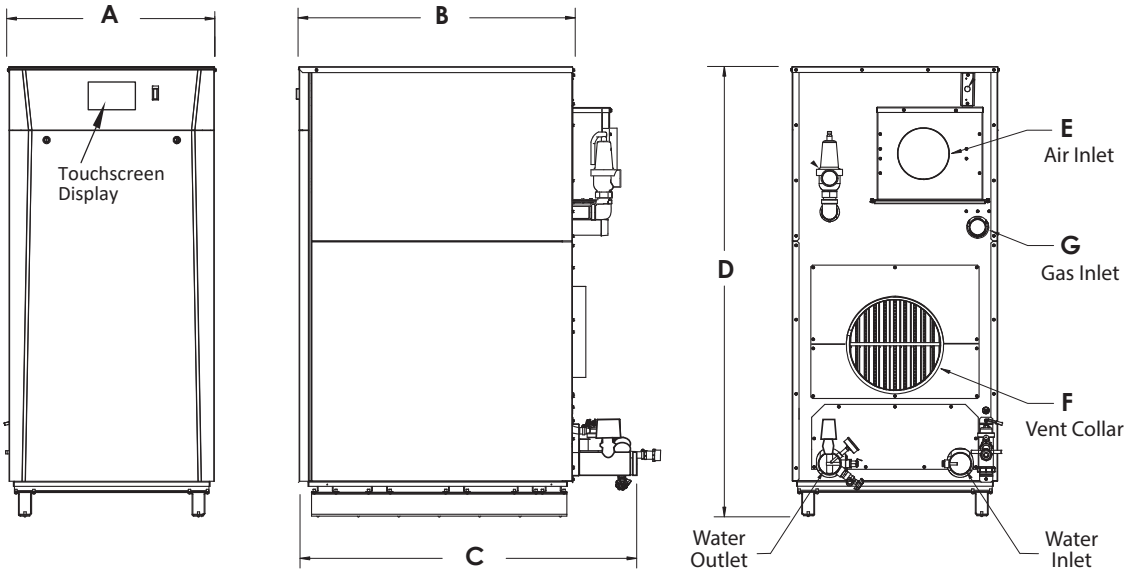

Bradford White Corporation reserves the right to change specifications, components, features, or to discontinue products without notice.

BRADFORD WHITE®

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