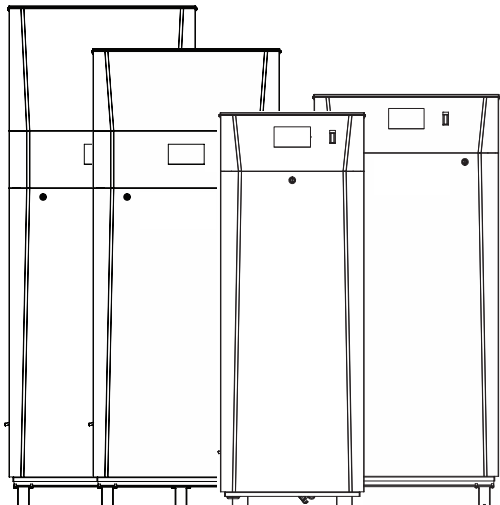


Brute OmniTech®



Date:

Project #:

Engineer:

Prepared By:

Bid Date:

Hydronic Boiler

BOCH Hydronic Boiler, CAT II / IV

Indoor/Outdoor, Sizes 1250 - 3000



Submittal Data

Project Name:

Location:

Contractor:

Standard Features

- ASME "H" stamp
- 160 psi maximum working pressure
- Certified for Category II & IV vent
- 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 modulating control with large touchscreen and color display
- Multiple independent heat demands
- Variable speed boiler pump control with fixed delta T control for variable flow through boiler
- Controller cascades with up to eight OmniTech BOCH boilers
- Accepts 4-20ma or 0-10VDC external modulation or external set point control
- Modbus RTU & BACnet MSTP on board
- Multiple pump control for boiler pump, system pump, and indirect domestic water pump, each with delay
- Indirect water heater priority
- Sensor for indirect DHW tank
- Outdoor reset with air sensor
- Cat IV vent & air pipe lengths of up to 100 equivalent feet (each)
- High and low gas pressure switches
- Vent temperature cutoff
- Normally open alarm contact
- Air filter
- Water flow switch
- Temperature & pressure gauge
- Low water cutoff
- 75 psi (517kPa) ASME rated pressure relief valve
- Groove lock fittings (optional flange adapter)
- Burner site glass
- 10-Year limited warranty

Boiler Data

Number of Units

Fuel

☐ Natural

Voltage

☐ 120V, single ph (1250-2000)

☐ 208V, single ph (1500-3000)

☐ 220/240V, single ph (1500-3000)

☐ 208V, three ph (2500-3000)

☐ 480V, three ph (2500-3000)

☐ 600V, three ph (2500-3000)

Factory Mounted Options

☐ ASME CSD-1

☐ BACnet IP gateway

☐ LonWorks gateway

☐ Additional auto & manual

reset high limit switches

☐ Alarm bell with silence switch

☐ Groove lock to flange connections

☐ 75 psi pressure relief valve (std)

☐ 30 psi pressure relief valve

☐ 50 psi pressure relief valve

☐ 60 psi pressure relief valve

☐ 125 psi pressure relief valve

☐ 150 psi pressure relief valve



Accessories for Field Mounting

- ☐ Gateway for BACnet IP
☐ Gateway for LonWorks

- ☐ Cat IV 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

Model	Input Rate		Output Rate		Thermal Efficiency	Combustion Efficiency	Turndown
	MBH	kw	MBH	kw	%	%	Ratio
☐ 1250	1250	366	1098	322	87.8	87.7	5:1
☐ 1500	1500	440	1307	383	87.1	87.2	7:1
☐ 1750	1750	513	1523	446	87.0	86.7	7:1
☐ 2000	1999.9	586	1756	514	87.8	87.5	5:1
☐ 2500	2499.9	733	2192	642	87.7	87.0	7:1
☐ 3000	3000	879	2589	759	86.3	86.6	7:1

Model	Product Weight		Operating Weight		Shipping Weight		Water Content	
	lbs	kg	lbs	kg	lbs	kg	gal	l
☐ 1250	541	245	574	261	741	336	3.8	14
☐ 1500	541	245	574	261	741	336	3.8	14
☐ 1750	947	460	1025	465	1390	631	8.9	34
☐ 2000	1030	467	1125	510	1490	676	10.8	41
☐ 2500	1030	467	1125	510	1490	676	10.8	41
☐ 3000	1085	493					11.6	44

Clearances

Model	Certified Clearances to Combustibles									
	Front		Back		Left		Right		Top	
	inches	cm	inches	cm	inches	cm	inches	cm	inches	cm
1250-3000	closet*	-	0	0	0	0	0	0	0	0

*With required openings

Model	Suggested Service Clearances									
	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
1750-3000	24	61	24	61	8	20	8	20	17	43

Electrical Data

Voltage	1250 Current			1500 Current			1750 Current			2000 Current			2500 Current			3000 Current		
	FLA	MCA	MOP	FLA	MCA	MOP	FLA	MCA	MOP	FLA	MCA	MOP	FLA	MCA	MOP	FLA	MCA	MOP
120V, 1 phase	9.4	11.8	23.5	9.4	11.8	23.5	9.2	11.5	23.0	9.2	11.5	23.0	N/A	N/A	N/A	N/A	N/A	N/A
208V, 1 phase	N/A	N/A	N/A	4.8	6.0	12.0	5.0	6.3	12.5	5.0	6.3	12.5	5.0	6.3	12.5	5.0	6.3	12.5
220/240V, 1 ph	N/A	N/A	N/A	4.8	5.8	11.5	4.8	6.0	12.0	4.8	6.0	12.0	4.8	6.0	12.0	4.8	6.0	12.0
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	13.0	5.2	6.5	13.0
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	5.5	2.2	2.8	5.5
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	4.5	1.8	2.3	4.5

Vent System

Model	Air Collar Size		Ducted Air Pipe Size		Maximum Ducted Air Pipe Length		Vent Collar Size		Category IV Vent Pipe Size		Maximum Category IV Vent Pipe Length		Typical** Category II Vent Pipe Size	
	inches	cm	inches	cm	ft*	m	inches	cm	inches	cm	ft*	m	inches	cm
1250	6	15	6	15	100	30.5	6	15	6	15	100	30.5	12	30
1500	6	15	6	15	100	30.5	6	15	6	15	100	30.5	12	30
1750	8	20	8	20	100	30.5	8	20	8	20	100	30.5	14	36
2000	8	20	8	20	100	30.5	8	20	8	20	100	30.5	14	36
2500	8	20	8	20	100	30.5	8	20	8	20	100	30.5	16	41
3000	10	25	10	25	100	30.5	10	25	10	25	100	30.5	18	46

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

**Category II vent pipe size must be engineered for vent system configuration, and may differ from what is shown.

Notes:

1. Installations in the U.S. require exhaust vent pipe that is CPVC complying with ANSI/ASTM D1785 F441, stainless steel complying with UL1735, or polypropylene complying with ULC S636.
2. Intake air pipe may be single-wall galvanized steel pipe, 24 gauge minimum, and properly sealed.

Water Flow Requirements

Model	Temperature Rise									
	20°F		25°F		30°F		35°F		40°F	
	Flow gpm	Headloss* ft	Flow gpm	Headloss* ft	Flow gpm	Headloss* ft	Flow gpm	Headloss* ft	Flow gpm	Headloss* ft
1250	110	23.6	88	15.4	73	11.1	63	8.2	55	6.2
1500	131	33.0	105	21.9	87	16.1	75	12.0	65	9.0
1750	152	18.4	122	12.9	102	8.2	87	5.9	76	3.8
2000	176	24.4	140	15.7	117	11.2	100	7.8	88	5.9
2500	219	33.7	175	23.9	146	17.2	125	12.9	110	9.8
3000	259	43.9	207	32.1	173	25.0	148	17.3	129	11.5

*Headloss is for boiler only (no piping)

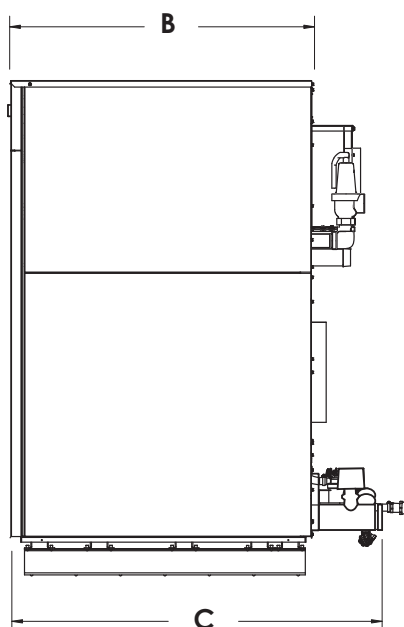
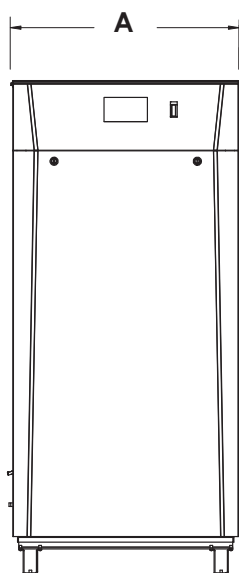
Model	Temperature Rise									
	11°C		14°C		17°C		19°C		22°C	
	Flow l/m	Headloss* (m)	Flow l/m	Headloss* (m)	Flow l/m	Headloss* (m)	Flow l/m	Headloss* (m)	Flow l/m	Headloss* (m)
1250	416	7.2	332	4.7	277	3.4	237	2.5	208	1.9
1500	495	10.1	396	6.7	330	4.9	283	3.7	247	2.7
1750	576	5.6	461	3.9	384	2.5	329	1.8	288	1.2
2000	665	7.4	532	4.8	443	3.4	380	2.4	332	1.8
2500	830	10.3	664	7.3	553	5.2	474	3.9	415	3.0
3000	980	13.4	784	9.8	653	7.6	560	5.3	490	3.5

*Headloss is for boiler only (no piping)

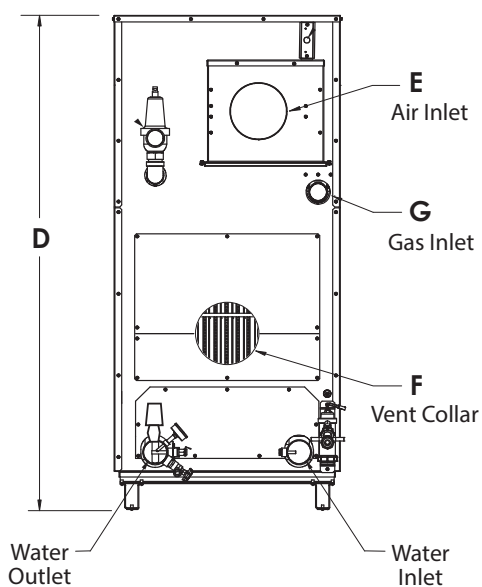
Dimensional Data

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)	6 (15)	2"	2½"
1500	24½ (62)	27 (69)	39 (99)	66 (168)	6 (15)	6 (15)	2"	2½"
1750	32 (81)	43 (109)	53 (135)	69 (175)	8 (20)	8 (20)	2"	3"
2000	32 (81)	43 (109)	53 (135)	78 (198)	8 (20)	8 (20)	2"	3"
2500	32 (81)	43 (109)	53 (135)	78 (198)	8 (20)	8 (20)	2"	3"
3000	32 (81)	43 (109)	53 (135)	85 (216)	10 (25)	10 (25)	2"	3"

All Models



Brute OmniTech®



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