

Brute FT



Residential Hydronic Combination Boiler

Date:

Project #:

Engineer:

Prepared By:

Bid Date:

BMFTCW | Wall Mounted Combination

Boiler / Water Heater

Indoor, Sizes 140, 199



Submittal Data

Project Name:

Location:

Contractor:

Standard Equipment

- High condensing efficiency 95% AFUE
- Low pressure drop, fire tube heat exchanger design
- Full modulation
 - 140MBH: 100% down to 20% of full fire (5:1 turndown)
 - 199MBH: 100% down to 10% of full fire (10:1 turndown)
- Sealed combustion chamber
- Pre-mix ceramic fiber burner
- Low NOx system exceeds the most stringent regulations for air quality – 17ppm NOx
- Horizontal or vertical direct vent
- Vent and air pipe lengths of up to 100 equivalent feet (each)
- Stainless steel heat exchanger with finned aluminum core fire tubes, welded construction
- ASME 30 psi (207kPa) working pressure heat exchanger
- ASME "H" stamp
- Inlet DHW filter
- Vent with PVC, CPVC or Polypropylene
- Natural gas or propane
- 30 psi (207kPa) ASME pressure relief valve
- Low lead compliant
- Gas leak detection
- Stainless Steel DHW indirect tank storage heat exchanger with priority for on-demand hot water
- Boiler pump wired and mounted inside jacket
- Built-in condensate trap and drain, priming not required
- Automatic air vent
- Pressure gauge
- Boiler water pressure switch
- Blocked vent pressure switch
- Blocked condensate pressure switch
- Burner site glass
- Electronic PID modulating control
- Direct spark ignition
- Customizable Freeze Protection
- Anti-short cycling
- Large user-interface and display
- Accepts external (0-10VDC) temperature setpoint signal
- Outdoor reset (sensor included)
- Outdoor air reset curve
- Manual reset high limit
- Wall mount bracket
- Field convertible between natural gas and propane
- 10-Year limited warranty

Boiler Data

Number of Units:

Fuel

Natural*

Options

Low Water Cut-off (shipped loose)

*Boilers shipped set up for use with Natural Gas and includes a Propane conversion kit.



Sizing Data

Model	Input		Output		AFUE	Gas Conn. Size inches	Heating Supply & Return Conn. Size inches	DHW Conn. Size inches	Shipping Weight lbs kg
	BTU/h	kW	BTU/h	kW					
BMFTCW 140	140,000	41	133,000	39	95%	3/4 NPT	1 NPT	3/4 NPT	111 50
BMFTCW 199	199,000	58	189,050	55	95%	3/4 NPT	1 NPT	3/4 NPT	130 59

NOTES:

1. For other boiler ratings:

Boiler Horsepower: $HP = \frac{\text{Output}}{33,475}$ Radiation Surface: $EDR \text{ sq. ft.} = \frac{\text{Output}}{150}$

Domestic Hot Water Capacity

Model	35°F Rise		45°F Rise		77°F Rise		Stored DHW	
	GPM	l/m	GPM	l/m	GPM	l/m	Gallons	liters
BMFTCW 140	7.1	27	5.5	21	3.2	12	0.5	1.9
BMFTCW 199	9.8	37	7.7	29	4.8	18	0.5	1.9

Clearances

APPLIANCE SURFACE	SUGGESTED SERVICE ACCESS CLEARANCE	
	INCHES	CM
Left Side	8	20
Right Side	8	20
Top	18	46
Back	5/8	1.5
Closet, Front	3	8
Front	40	101
Bottom	24	61
Vent	1	3

Electrical Data

Sizes	Boiler		
	Volts	Phase	Amps
140 and 199	120	Single	4

* Minimum 15A circuit required

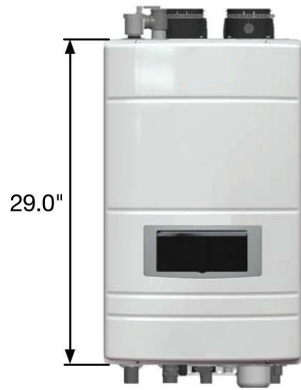
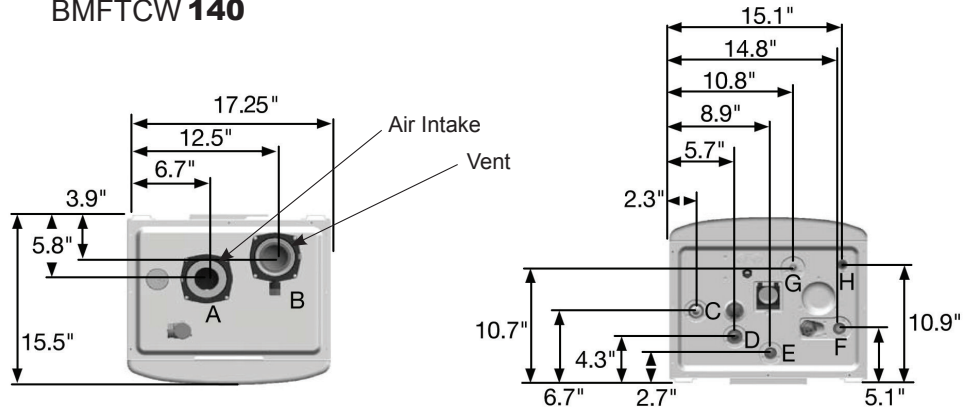
Vent System

SIZES	INTAKE / EXHAUST Max Equivalent Vent and Air Pipe Length (each)					
	STANDARD 2-PIPE			STANDARD 2-PIPE		
	DIA.	FT.	m	DIA.	FT.	m
140 and 199	2"*	50**	15.2	3"	100	30.5

* Must use 3x2 adaptor within 1ft (3cm) of boiler. Reference the Installation and Operation Manual for more details.

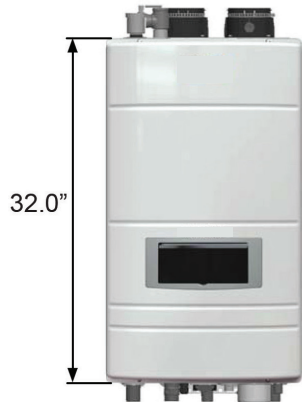
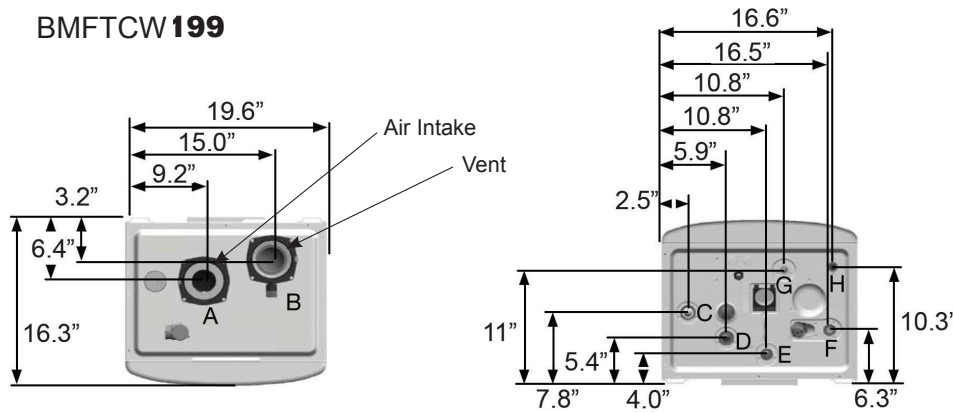
**Propane models are limited to 25 equivalent feet of 2" vent.

Dimensional Data BMFTCW 140



	Description	Diameter
A	Air Intake collar	3"
B	Vent Pipe Collar	3"
C	'CH' Supply	1" NPT
D	'CH' Return	1" NPT
E	'DHW' Outlet	3/4" NPT
F	'DHW' Inlet	3/4" NPT
G	Gas Inlet	3/4" NPT
H	Condensate Line	1/2" NPT

BMFTCW 199



	Description	Diameter
A	Air Intake collar	3"
B	Vent Pipe Collar	3"
C	'CH' Supply	1" NPT
D	'CH' Return	1" NPT
E	'DHW' Outlet	3/4" NPT
F	'DHW' Inlet	3/4" NPT
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