

# Combi1<sup>®</sup>

## Residential Atmospheric Vent Gas Water Heater System

### Features

- **Defender Safety System<sup>®</sup>**—Designed to be the safest & most reliable flammable vapor ignition resistant system in the industry with a proven track record since 2003. Featuring an advanced ScreenLok<sup>®</sup> technology flame arrestor design, resettable thermal switch, sight window, and designed to be maintenance-free.
- **Bradford White ICON System<sup>®</sup>**—Intelligent gas control with no need for external electricity. Proprietary algorithms provide tighter temperature differential and consistent water temperature levels up to 180°F (82°C). LED light indicates operation status/service required.
- **Vitraglas<sup>®</sup> Lining with Microban<sup>®</sup>**—An exclusively engineered enamel formula that provides superior tank protection from the corrosive effects of water; and with Microban<sup>®</sup> antimicrobial product protection to help prevent the growth of bacteria, mold and mildew on the surface of the tank lining.
- **Hydrojet<sup>®</sup> Total Performance System**—Sediment reducing device that also increases first hour delivery of hot water while minimizing temperature build-up in tank.

### Additional Details

- **Internal Single Wall Heat Exchanger**—Single wall 1½" (38mm) O.D. glass coated (Vitraglas<sup>®</sup>) carbon steel coil.
  - **1" (51mm) NPT Front Supply and Return Connections.**
  - **Low Heat Exchanger Head Loss**—Up to 10 GPM (38L) flow, with less than 5 ft. (1.5m) of head loss. Greatly reduces the required pump size for heat exchange.
- **Insulation System**—Non-CFC foam covers the tank, reducing heat loss, energy consumption, and improves efficiency and jacket rigidity.
- **Pedestal Base**—Rugged and durable base allows easy transport and positioning while providing corrosion-resistant contact with floor.
- **Water Connections**—¾" (19mm) NPT factory installed true dielectric fittings.
- **Two Protective Anode Rods**—Provides added protection against corrosion for long-term, trouble-free service.
- **T&P Relief Valve**—Installed.
- **Low Restrictive Brass Drain Valve**—Durable tamper proof design.
- **Thermostatic Mixing Valve (ASSE Approved)**—Included.



C-SW2-504T10FBN

Bradford White  
**DEFENDER**  
Safety System<sup>®</sup>

BRADFORD WHITE  
**ICON**  
System

**VITRAGLAS**  
SUPERIOR PROTECTION SINCE 1981  
+  
**MICROBAN**<sup>®</sup>

**Hydrojet**<sup>®</sup>



### 10-Year Limited Tank Warranties / 6-Year Limited Warranty on Component Parts.

For more information on warranty, please visit [www.bradfordwhite.com](http://www.bradfordwhite.com)

For products installed in USA, Canada, and Puerto Rico. See complete copy of the warranty included with the heater for limitations.

Microban<sup>®</sup> antimicrobial product protection helps prevent the growth of bacteria, mold and mildew that may affect the product. The built-in antimicrobial properties do not protect users or others from disease-causing organisms. Microban<sup>®</sup> is a registered trademark of Microban Products Company.

C549-0825 CANADA

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## Residential Atmospheric Vent Gas Water Heater System

### SPECIFICATIONS

These water heaters meet or exceed all or portions of (where applicable) the minimum efficiency requirements of ASHRAE Standard 90.1 (latest edition), 80% Recovery Efficiency.

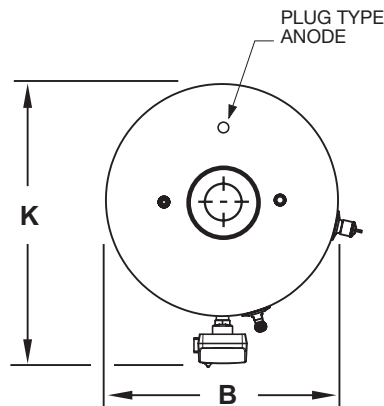
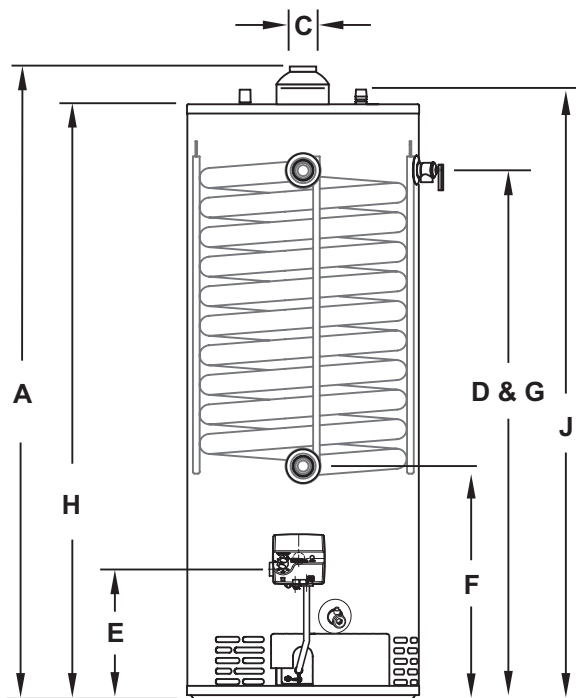
Model Number	Capacity		Recovery 90°F Rise*				A	B	C	D	E	F	G	H	J	K	Approx. Shipping Weight		
	U.S. Gal.	Imp. Gal.	Nat. BTU/Hr. Input	LP BTU/Hr. Input	Nat. U.S. GPH	Nat. Imp. U.S. GPH	Floor to Flue Conn. in.	Jacket Dia. in.	Vent Size in.	Floor to T&P Conn. in.	Floor to Gas Conn. in.	Floor to Exchanger Inlet in.	Floor to Exchanger Outlet in.	Floor to Top of Heater in.	Floor to Water Conn. in.	Depth in.			
C-SW2-504T10FBN	45	38	65,000	61,000	70	59	66	55	59½	22	4	50	13	31½	50	56%	60%	24½	236

Model Number	Capacity		Recovery 50°C Rise*				A	B	C	D	E	F	G	H	J	K	Approx. Shipping Weight
	Liters	Nat. kW Input	LP kW Input	Nat. Liters/Hour	LP Liters/Hour	Floor to Flue Conn. mm.	Jacket Dia. mm.	Vent Size mm.	Floor to T&P Conn. mm.	Floor to Gas Conn. mm.	Floor to Exchanger Inlet mm.	Floor to Exchanger Outlet mm.	Floor to Top of Heater mm.	Floor to Water Conn. mm.	Depth mm.		
C-SW2-504T10FBN	170	19.1	17.9	265	250	1505	559	102	1270	330	800	1270	1432	1534	622	107	

Propane model features a Titanium Stainless Steel propane burner. For propane (LP) models change suffix "BN" to "SX".

\*Based on manufacturers rated recovery efficiency.



Heat Exchanger Head Loss		Heat Exchanger Head Loss	
GPM	Ft. of Hd. Loss	LPM	m of Hd. Loss
2	0.03	7.6	0.0091
5	0.20	18.9	0.0609
8	0.51	30.2	0.1554
10	0.80	37.9	0.2438
12	1.15	45.4	0.3505

#### Heat Exchanger Values\*

Supply Temperature	140°F	60°C	120°F	49°C	100°F	38°C
Return Temperature	120°F	49°C	100°F	38°C	80°F	27°C
Differential	20°F	11°C	20°F	11°C	20°F	11°C
Flow Rate	4.1 GPM	15.5 LPM	4.6 GPM	17.4 LPM	4.6 GPM	17.4 LPM
Net Output	35,500 BTU/Hr.	10.4 kW	39,500 BTU/Hr.	11.6 kW	39,500 BTU/Hr.	11.6 kW

\*These values were obtained using 180°F stored tank temperature.

Net Output is the space heating capacity based on normal piping and pickup allowance of 15%.

Actual values may vary based on circulator flow rate, number of zones, water and space heating demands. Numbers subject to change.

### GENERAL:

#### Meets NAECA Requirements.

All gas water heaters are certified at 300 PSI test pressure (2068 kPa) and 150 PSI working pressure (1034 kPa). All potable water connections are 3/4" NPT (19mm) on 11" (203mm) centers. All heat exchanger connections are 1" NPT (25mm). All gas connections 1/2" (13mm). All models design certified by CSA International, ANSI Z21.10.3 and peak performance rated.

#### Suitable for Water (Potable) Heating and Space Heating.

Toxic chemicals, such as those used for boiler treatment, shall NEVER be introduced into the potable side of this system. The potable side may NEVER be connected to any existing heating system or component(s) previously used with a non-potable water heating appliance. The heat exchanger side of the unit may be used in space heating applications.

*Dimensions and specifications subject to change without notice in accordance with our policy of continuous product improvement.*



Customer Service / Sales: 1-866-690-0961 / 905-203-0600  
24/7 Technical Support: 800-334-3393 • Email TechServ@bradfordwhite.com

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