

B R A D F O R D W H I T E



eF Series® Residential Condensing  
Power Vent Water Heaters



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# eF Series® Residential Water Heaters



The high efficiency eF Series® residential power vent water heater from Bradford White represents a new level of product innovation. With a Thermal Efficiency over 90% and a higher hot water recovery than similar BTU/Hr. input models, the eF Series® residential water heater is the energy-saving solution to high hot water demand in almost any home.

The key to the performance of the eF Series® residential water heater is the dual-pass heat exchanger system. Heat and combustion gases are forced through both helical-finned and baffled heat exchanger tubes for highly efficient heat transfer.

## Highlights

- ***Outstanding Thermal Efficiency over 90% helps heat water faster to conserve energy and save money***
- ***Vertical, dual-pass heat exchanger system is protected by Vitraglas® and helps eliminate corrosion challenges associated with other heat exchanger designs***
- ***Internal self-priming condensate trap***
- ***ICON System™ Intelligent gas control***
- ***Long vent lengths help resolve difficult venting situations with power venting through a roof or sidewall, adding installation flexibility***
- ***Powerful yet quiet blower motor designed for greater resistance to outside winds***

*\*Based on 90.5% Thermal Efficiency.*



# The eF Series® - High Efficiency

## Residential eF Series® Design Features

**Vertical, dual-pass heat exchanger system design** - eliminates the corrosion protection challenges associated with condensing water heaters that feature a coil-type heat exchanger where gravity pulls acidic condensate along the same path, eroding the coil in the same location over time.

**Flue core pipe centered in the 5-inch primary heat exchange tube** - forces hot combustion gases through the helical-finned portion of the tube to increase heat transfer efficiency

**Internal self-priming condensate trap** - eliminates the need to provide an external trap configuration, saving installation time and cost. All internal condensate connections are complete. Depending on the installation, only the discharge port from the self-priming trap requires connection to a condensate pump when necessary or to an available drain.

**Vitraglas®** - is an exclusively engineered enamel formula that provides superior protection from the highly corrosive effects of hot water and condensate. It is applied to the tank interior, to the 5" primary heat exchanger tube exterior, and to both the interior and exterior of the three 2" secondary heat exchanger tubes.

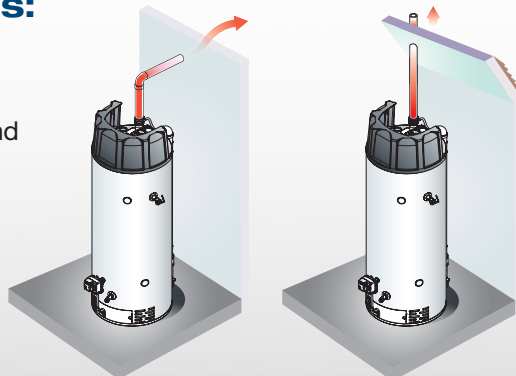
**The Bradford White ICON System™ Intelligent gas control** - offers energy savings, enhanced performance, advanced temperature control, tighter temperature differentials, and intelligent diagnostics.

## Venting:

The eF Series® residential power vent water heater uses inside air for combustion, and therefore, only a single wall penetration for venting is necessary. Venting flexibility is unsurpassed with long vent lengths and the ability to vent with 2", 3", or 4" PVC, ABS, CPVC, or PP.

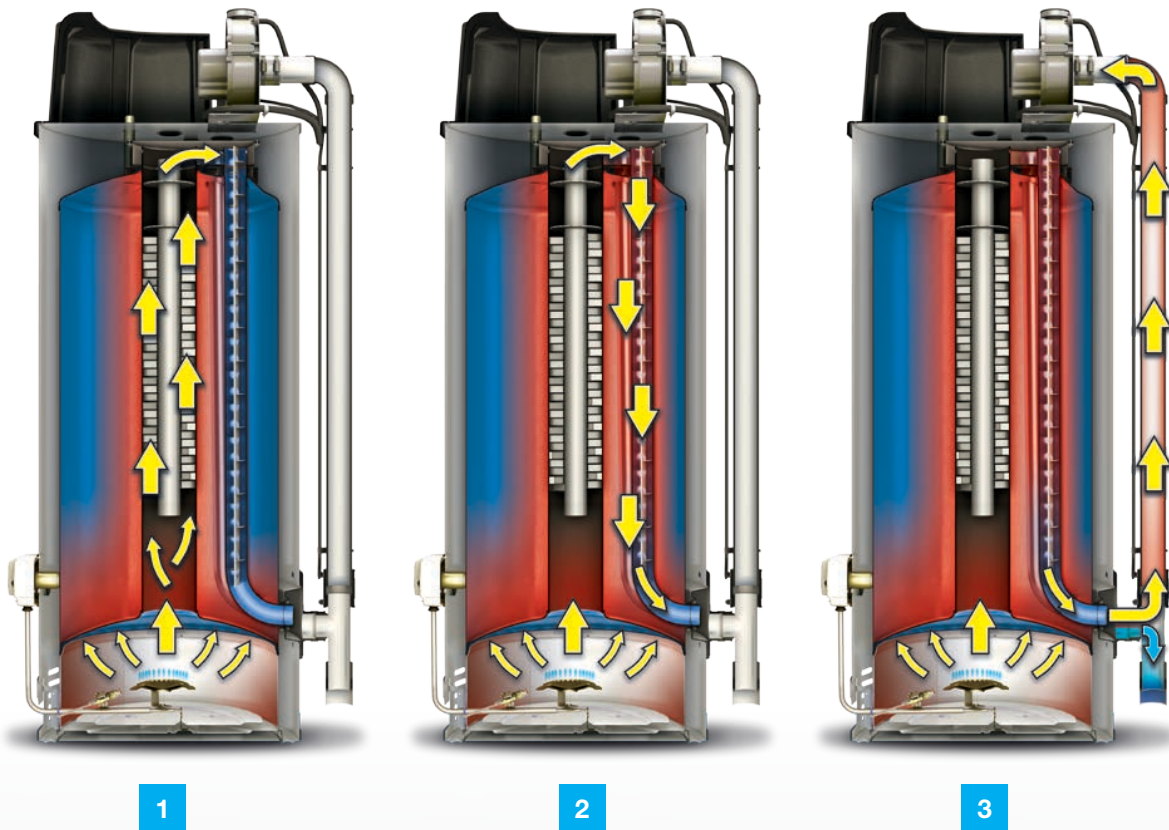
## Venting Options:

The eF Series® residential power vent water heater offers through-the-wall and through-the-roof venting.



# Meets Design Simplicity.

## Sequence of Operation



1. Combustion gases and heat generated by the burner travel up through the 5", helical-finned primary heat exchange flue tube. A flue core pipe forces gases through the helical flue fins. Heat is transferred into the water by means of the tank base exposed to the combustion chamber and the combustion gases traveling through the primary flue.

2. Combustion gases enter a flue collector and are then distributed into three 2" secondary flue tubes. Each 2" diameter tube is Vitraglas® lined internally to protect the flues from corrosion due to condensate. Heat is further transferred into the water as the combustion gases pass through the baffled flues, dramatically reducing the exhaust temperature, producing condensate.

3. Combustion gases are pulled from the secondary heat exchanger tubes into an exhaust collector, funneling them into a single 2" discharge. From there, the combustion gases are pulled into the blower for venting. The condensate is collected into a self-priming trap and discharged into a suitable location.

# A Look Inside

## Primary 5-inch Helical-finned Heat Exchanger Tube

disperses combustion gases evenly into three 2" secondary heat exchanger tubes for highly efficient heat transfer throughout the tank

## A Flue Core Pipe

centered in the 5-inch primary heat exchange tube, forces hot combustion gases through helical-finned portion of the tube to increase heat transfer efficiency

## Simple Installation and Operation

with the ICON System™ Intelligent gas control and traditional burner configuration

## Exhaust Collector

funnels combustion products into a single 2" discharge tube

## Powerful and Quiet Blower Motor

pulls combustion products from collector and vents them outside

## Corrosion-Resistant Stainless Steel Baffling

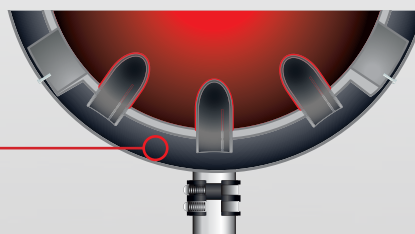
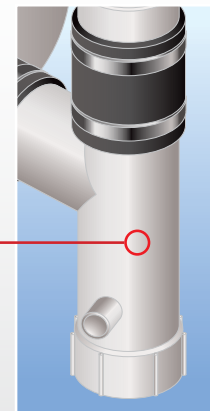
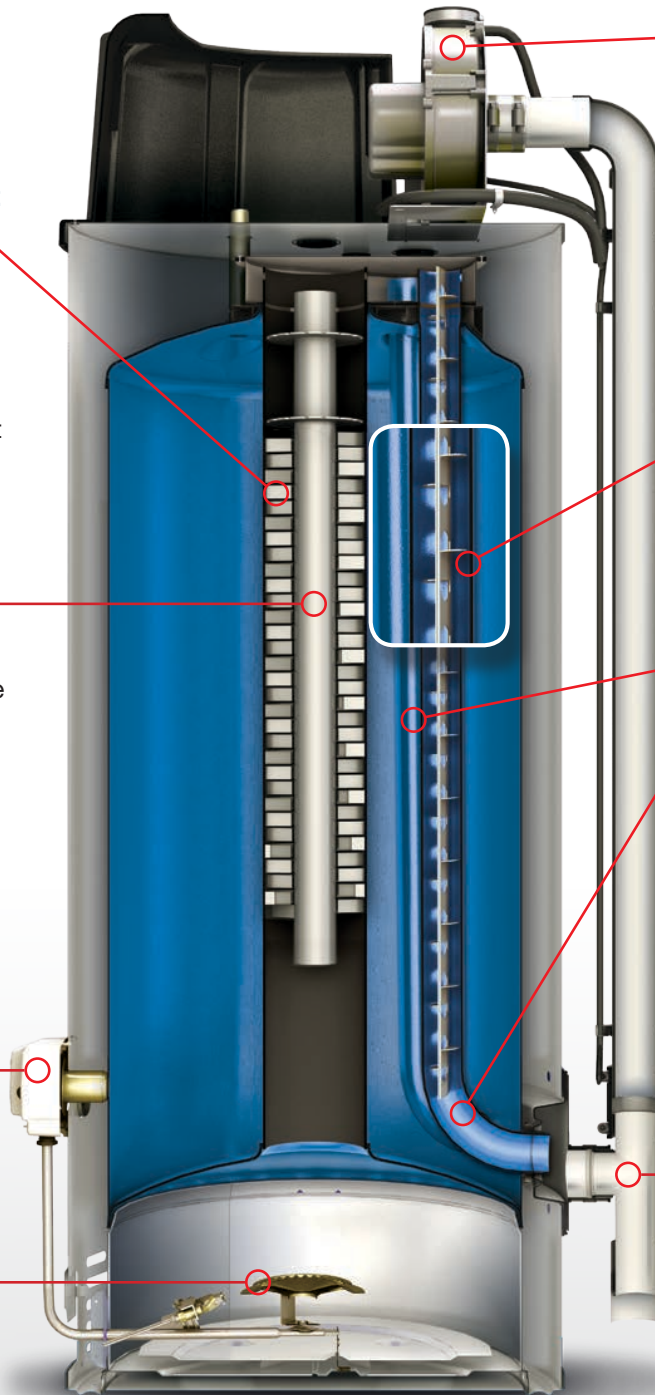
inside secondary heat exchanger tubes to increase heat transfer efficiency

## Secondary 2" Heat Exchanger Tubes

are Vitraglas® lined, fully protecting the area where corrosive condensate forms

## Self-Priming Condensate Tee

with internal trap allows the condensate to accumulate and flow out



## Standard Features

- **Hydrojet® Total Performance System** – Cold water inlet sediment reducing device helps prevent sediment buildup in tank. This increases first hour delivery while minimizing temperature buildup at top of tank.
- **Vitraglas® lining and coating** – Bradford White's exclusively engineered enamel formula provides superior protection from the highly corrosive effects of hot water.
- **Water Connections** – 3/4" NPT factory-installed true dielectric fittings.
- **Available in both natural gas and propane models**
- **Factory-installed Heat Traps** – Design incorporates a flexible disk that reduces heat loss in piping and eliminates the potential for noise generation.
- **2" Non-CFC foam insulation** – Covers the sides, reducing the amount of heat loss. This results in less energy consumption, improved operation efficiencies, and jacket rigidity.
- **Side connections for space heating or recirculation applications**
- **Pedestal Base** – Allows the installer to easily move the water heater into place.
- **Highly protective magnesium anode rods**
- **T&P Relief Valve**
- **Low Restriction Brass Drain Valve** – Durable, tamper-proof design eliminates accidental opening of the valve.

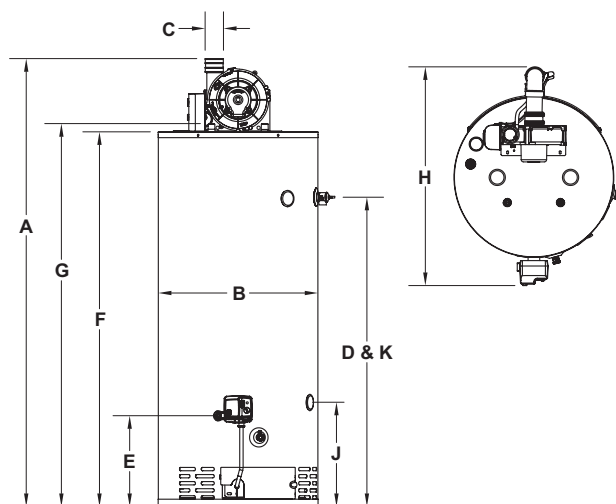
## Specs at a Glance

### VENTING

RC2PV50H6N	2" Vent Pipe	3" Vent Pipe	4" Vent Pipe
Max. Equivalent Length	†50 ft.	†120 ft.	†180 ft.
Min. Equivalent Length	7 ft.	15 ft.	15 ft.
Number of 90° Elbows	1	2	3
	45 ft.	115 ft.	175 ft.
	40 ft.	110 ft.	170 ft.
	35 ft.	105 ft.	165 ft.

Subtract 5ft. for each additional 90° elbow.

†For high altitude installations, consult the installation instructions.



### High Efficiency eF Series® Residential Power Vent Gas Models

Model Number	Capacity		Recovery at 90°F Rise*				A	B	C	D	E	F	G	H	J	K	Approx. Shipping Weight lbs.		
	U.S. Gal.	Imp. Gal.	Nat. BTU/Hr. Input	LP BTU/Hr. Input	Nat. U.S. GPH	Nat. Imp. U.S. GPH	Floor to Vent Conn in.	Jacket Dia. in.	Vent Size in.	Floor to T&P Conn. in.	Floor to Gas Conn. in.	Floor to Top of Heater in.	Floor to Water Conn. in.	Depth in.	Floor to Space Heating Inlet in.	Floor to Space Heating Outlet in.			
RC2PV50H6N	50	42	76,000	76,000	93	77	93	77	67 1/4	24	2	46 1/2	13 5/8	56 1/4	57 1/2	27 3/8	15 5/8	46 1/2	225

Propane models feature a Titanium Stabilized Stainless Steel propane burner. For propane (LP) models, change suffix "N" to "X". \*Based on 90.5% Thermal Efficiency.



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

REFBRO-0516



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Wholesale Distribution, and Professional Installation.

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