



[fulton.com/flamebywire](http://fulton.com/flamebywire)  
 Call: (315) 298-5121

# Modernize Your Combustion Control with Flame-by-Wire™

Advanced combustion control maximizes efficiency while reducing carbon emissions with real-time O<sub>2</sub> Compensation™

## FLAME BY WIRE™

### Innovative Combustion Technology

Inspired by advances in automotive and aviation, Flame-by-Wire™ technology replaces the use of conventional pneumatic (“neg-reg”) and mechanical linkage systems with a modern system of independent air and gas valves.

Real-time O<sub>2</sub> Compensation™ continuously tunes the burner air-fuel ratio, automatically optimizing for seasonality.

- ▶ Simplifies Start-Up & Maintenance
- ▶ Maximizes Condensing Operation
- ▶ High Turndown & High Efficiency

#### VARIABLE SPEED BLOWER

Energy-saving premix combustion blower reduces electrical costs.

#### ELECTRONIC AIR VALVE

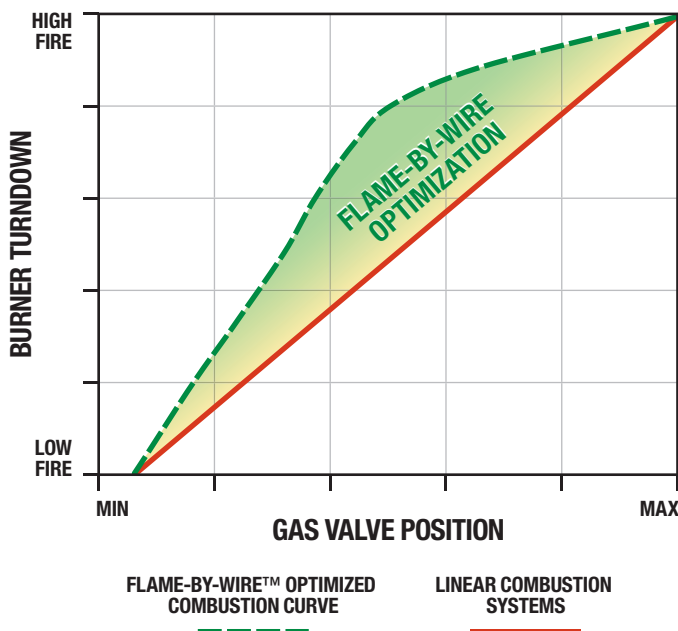
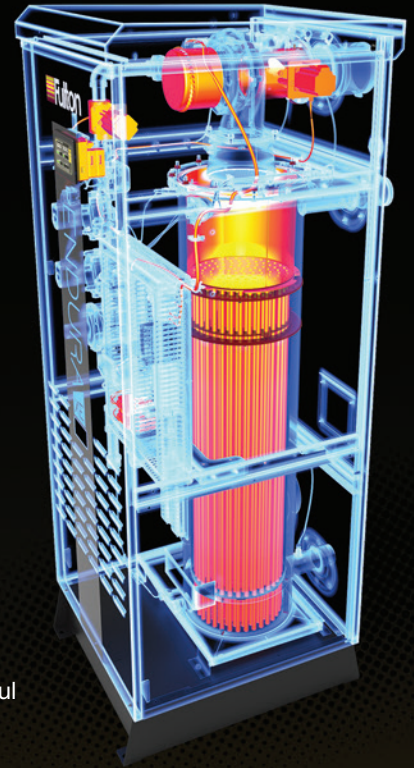
Maximize combustion efficiency and condensing potential by optimizing excess air.

#### ELECTRONIC GAS VALVE

Precisely dial-in the fuel mixture to minimize carbon emissions and reduce energy use.

#### MODERN USER INTERFACE

Monitor and fine-tune boiler performance with the powerful and intuitive PURE Control.



### Fully Optimized Air/Fuel Ratio

Conventional combustion controls rely on linkages and venturi-effect which can only be adjusted at two points: low and high fire. These systems are difficult to tune and are susceptible to nuisance lockouts from wind and draft.

Flame-by-Wire provides more reliable and efficient operation in real-world conditions by optimizing burner modulation rates at all points, not just the extreme ends.

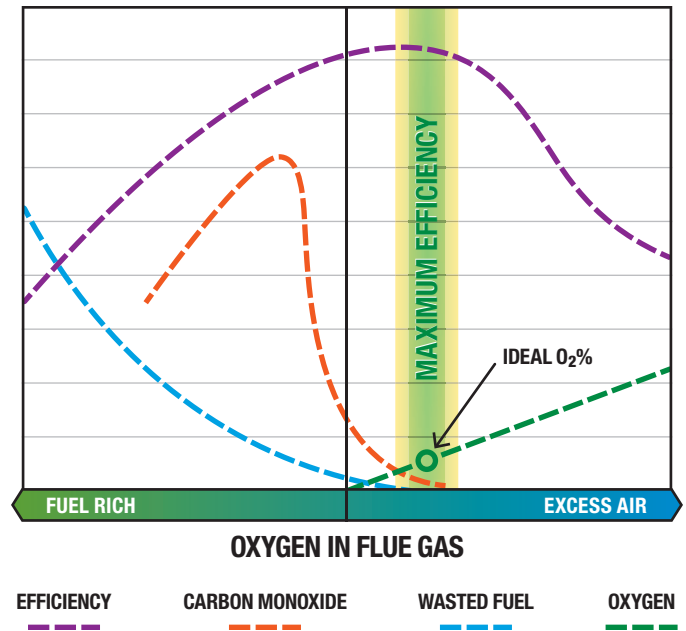
- ▶ Perfectly Tuned for Site Conditions
- ▶ Reduce Fuel Use & Carbon Emissions
- ▶ Ensures Reliable, Worry-Free Heat

## Real-Time O<sub>2</sub> Compensation

Fulton's O<sub>2</sub> Compensation continuously and autonomously tunes the burner air-fuel ratio to achieve the highest seasonal efficiency.

This self-tuning system maintains O<sub>2</sub> conditions in the "Goldilocks Zone," preventing the flame from drifting too rich, or too lean. This provides the maximum boiler efficiency through repeatable and reliable combustion.

- ▶ **Maintains Ideal Excess Air Levels (O<sub>2</sub>%)**
- ▶ **Automatically Optimize for Seasonality**
- ▶ **Maximize Combustion Efficiencies**



## Products Featuring Flame-by-Wire

			
<b>ENDURA<sup>XE</sup></b>	<b>ENDURA</b>	<b>ENDURA<sup>+</sup></b>	<b>VSRT</b>
399k – 750k BTU/Hr	750k – 2 Million BTU/Hr	2.5 Million – 12 Million BTU/Hr	250 BHP
Flame-by-Wire™ Combustion Real-Time O <sub>2</sub> Compensation™ Up to 15:1 Turndown	Flame-by-Wire™ Combustion Real-Time O <sub>2</sub> Compensation™ Up to 15:1 Turndown	Flame-by-Wire™ Combustion Real-Time O <sub>2</sub> Compensation™ Up to 30:1 Turndown	Flame-by-Wire™ Combustion Real-Time O <sub>2</sub> Compensation™ Fully-Wetted Pressure Vessel
<a href="http://fulton.com/xe">fulton.com/xe</a>	<a href="http://fulton.com/endura">fulton.com/endura</a>	<a href="http://fulton.com/plus">fulton.com/plus</a>	<a href="http://fulton.com/vsrt250">fulton.com/vsrt250</a>



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