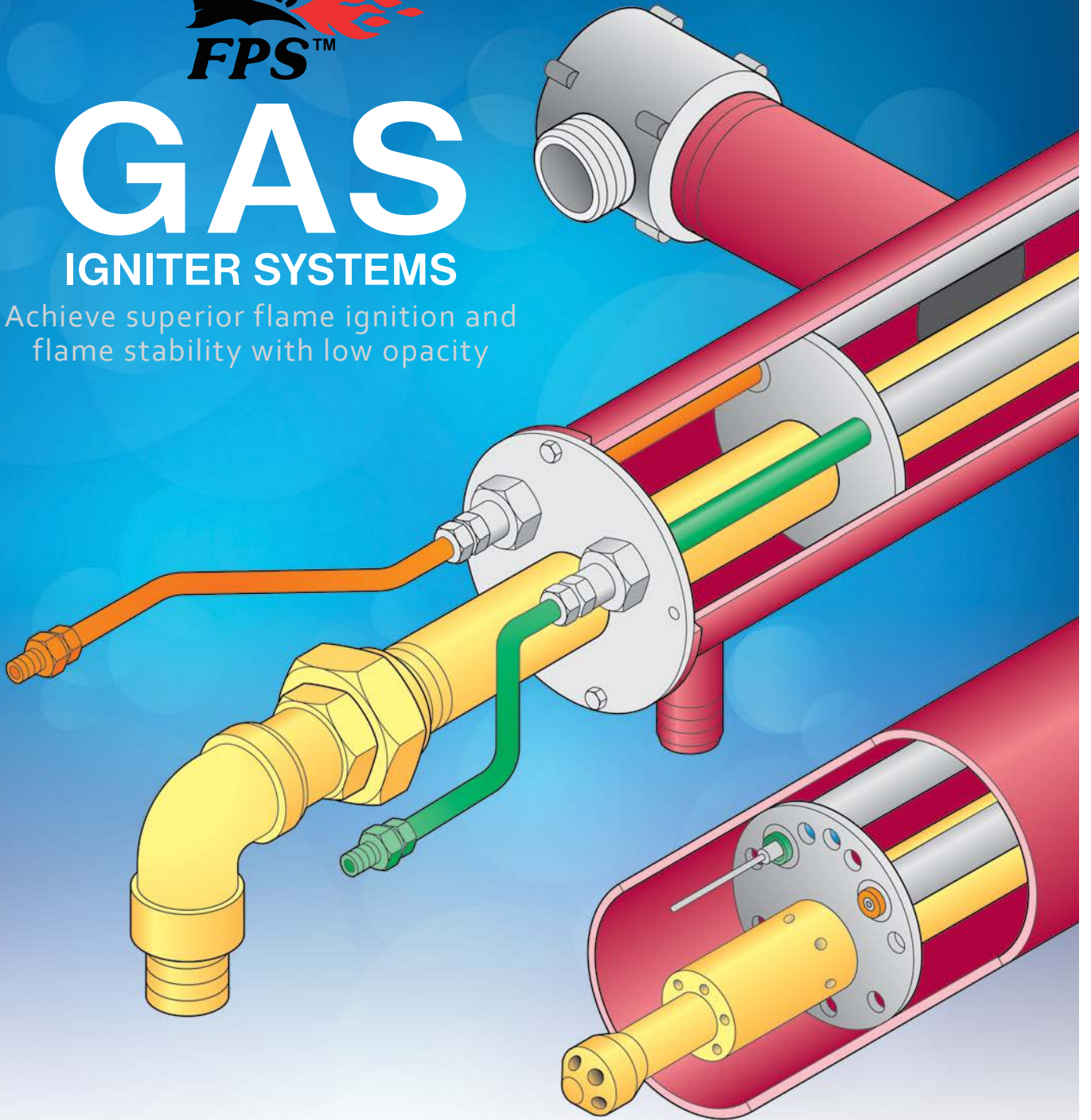




GAS

IGNITER SYSTEMS

Achieve superior flame ignition and
flame stability with low opacity



RENEWABLE | ENVIRONMENTAL | THERMAL

FPS GAS IGNITER SYSTEMS

Babcock & Wilcox (B&W) has successfully used the FPS® igniter in a variety of burner and fuel applications. Such applications include new low NO_x burners as well as replacement of old igniters in existing burners.

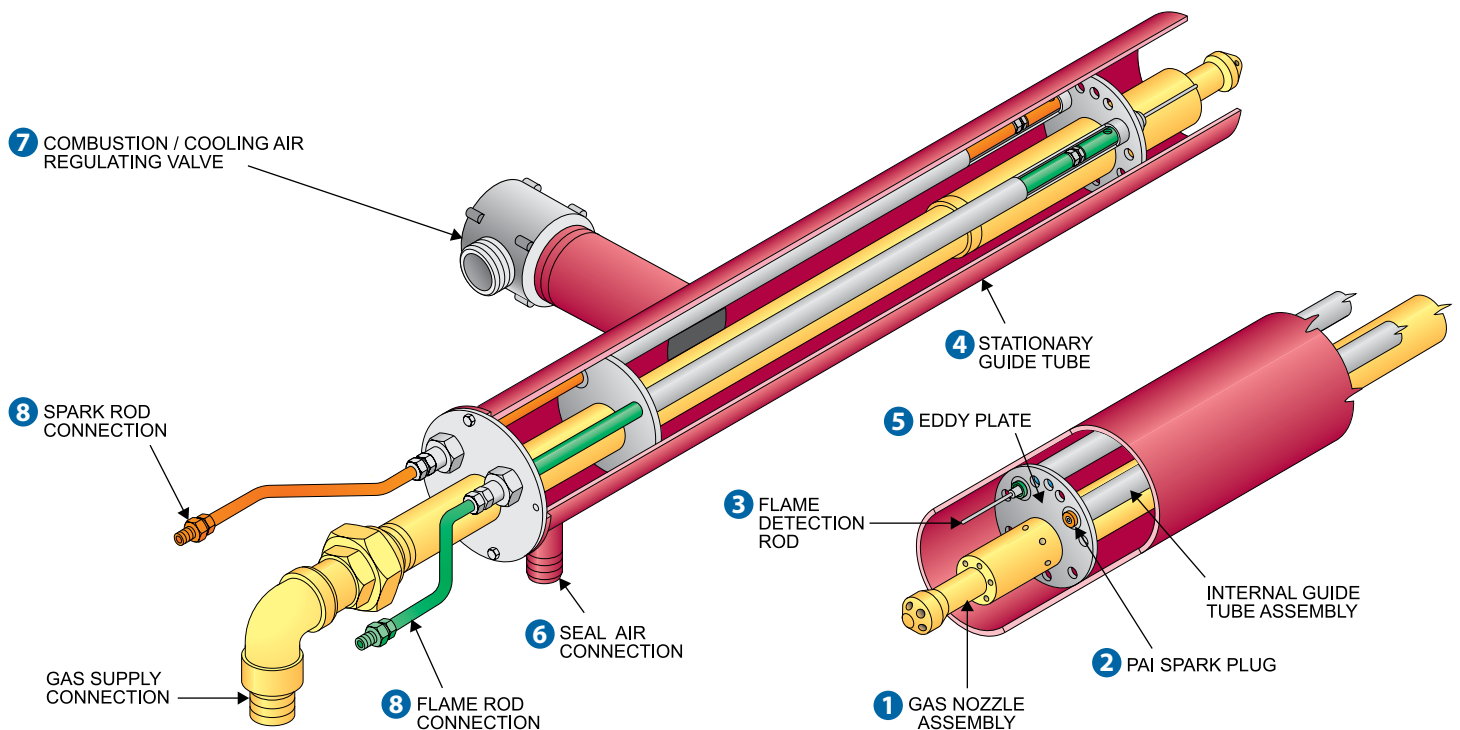
This advanced igniter design was developed to achieve superior flame ignition and flame stability with low opacity. The FPS gas igniter serves as a dual purpose igniter for boiler warm-up, burner light-off and support during unstable pulverizer conditions. With the proper controls, the igniter can be operated at a fixed heat input of Class 1, 2 or 3. The igniter features a proven flame rod technology for detecting the igniter flame while discriminating from other flames in the boiler.

The FPS igniter is designed as a simple plug-in replacement of your existing igniter with little or no modification necessary to the rest of the burner. Igniters are shop-assembled and inspected before shipment. Each is backed by our outstanding customer service as well as more than 145 years of quality, integrity and field experience in the power generation industry.

Count on B&W's system approach for the engineering expertise necessary to meet your burner and boiler needs.

FPS igniters offer:

- Proven performance
- Lower opacity
- Reliable ignition
- Superior flame stability
- Integral flame detection
- Fixed position; no moving parts
- Low cost plug-in design
- Lower maintenance
- Proven mechanical reliability and operation



SPECIFICATIONS

FPS Gas Igniter

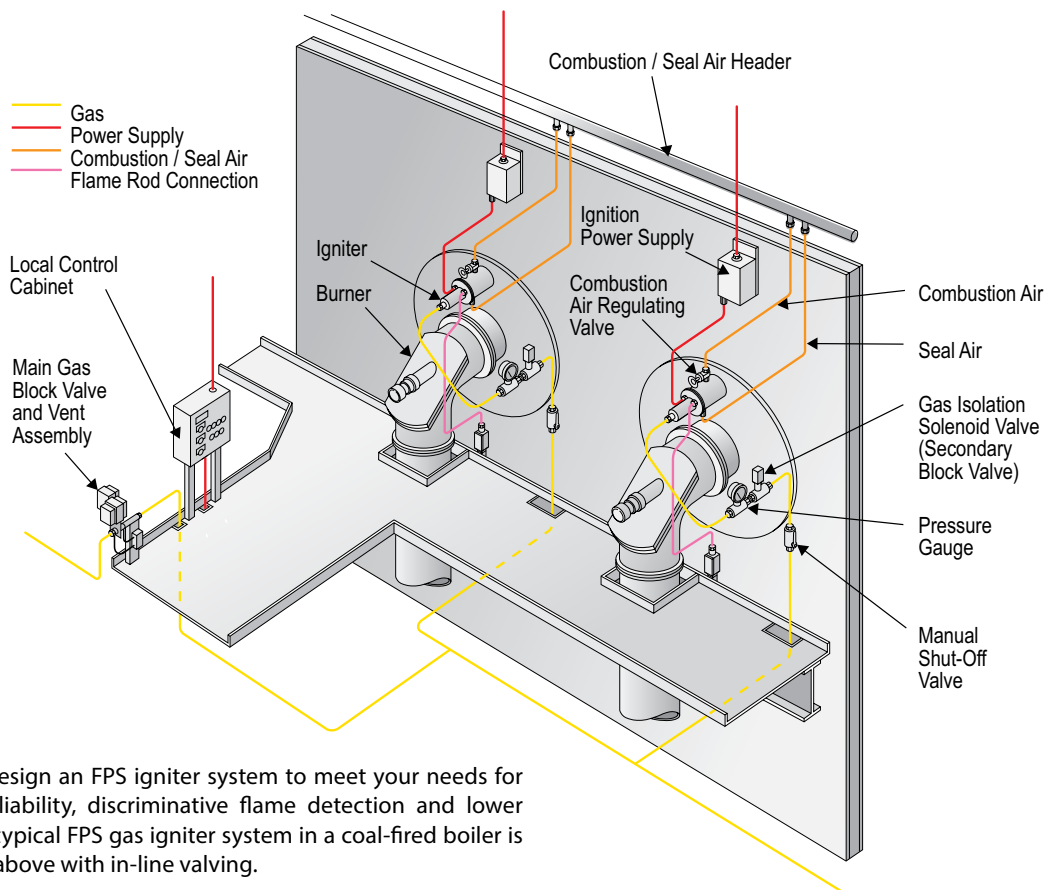
- Capacity: 1 to 35 million Btu/hr
- Gas flow: 1,000 to 35,000 SCFH
- Gas pressure: 5 to 25 psi
- Combustion air: 85 to 250 SCFM @ 2 to 6 in. above furnace

Flame Detection – Sunspot

- Input: 120 VAC, 1/8 amp
- Output from two form C relay contacts:
 - 1) 5 amp @ 30 or 120 VAC (resistive)
 - 2) 3 amp @ 120 VAC (inductive)

Plasma Arc Ignition

- Input: 120 VAC, 50/60 Hz, 100 VA
- Output energy: 8 joules @ 3 arcs/sec



B&W will design an FPS igniter system to meet your needs for start-up reliability, discriminative flame detection and lower opacity. A typical FPS gas igniter system in a coal-fired boiler is illustrated above with in-line valving.

MECHANICAL DESIGN FEATURES

1. Gas Nozzle Assembly

Stainless steel gas spud with multi-port tip, provides a large stable flame for main fuel light-off.

2. PAI Spark Probe

High temperature extension with removable spark plug

3. Flame Detection Rod

Integral flame detection for igniter; high temperature extension with removable flame rod

4. Stationary Guide Tube

Stationary guide tube with stainless steel end mounts easily into the burner

5. Eddy Plate

Provides proper mixing of the combustion air and fuel for reliable ignition and flame stability

6. Seal/Aspirating Air Connection (pressure-fired units only)

Seal air chamber allows removal of the spark and flame rods

7. Combustion/Cooling Air Inlet

Supplies combustion/cooling air to the igniter

8. Spark and Flame Rod Connections

Flexible conduit connections allow removal of the flame and spark rods without electrical disconnects

B&W's system approach increases reliability, reduces opacity and maintenance

- Flexible application of PLC logic to meet your burner management system requirements
- Comprehensive analysis for customized control to meet your individual design and operational requirements
- Increased reliability
- Improved mixing of fuel and air to reduce opacity
- Elimination of moving parts allowing a near maintenance-free igniter
- Integral flame rod detector which senses only the igniter in any burner/boiler configuration

Control Features

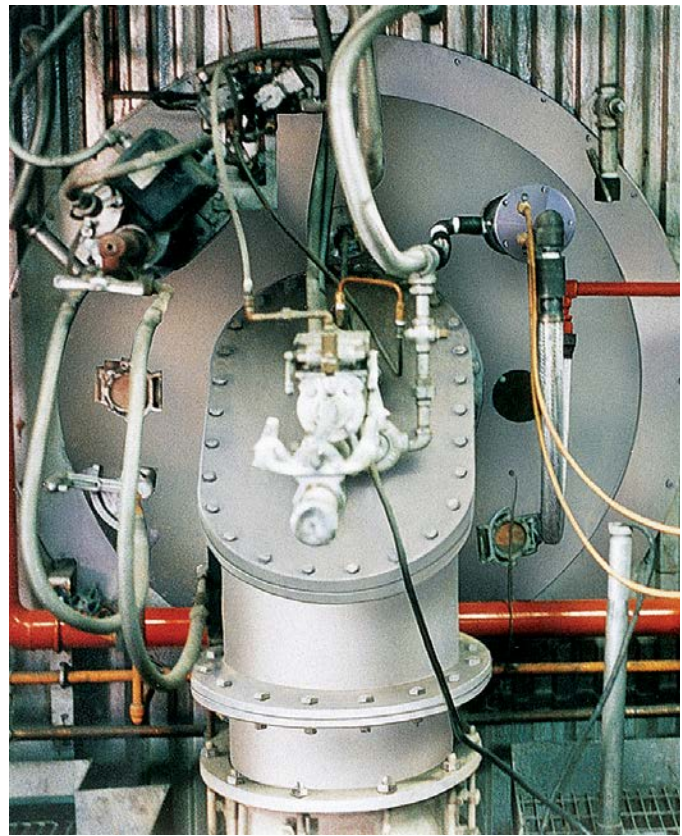
- Programmable logic control (PLC) based
- Pre-wired, factory tested
- Pre-assembled valve rack – allows simple pipe-in / pipe-out design
- A151 B31.1 power piping code
- Fail-safe closed valving
- Power requirement: 115 VAC, 50/60 Hz, 10 amps
- Factory Mutual approved with Sunspot flame detector
- Remote or local operation
- NEMA 4 control cabinet

Other B&W/FPS igniter and equipment solutions

- Oil-only igniter
- Dual fuel oil and gas igniter
- Replacement for corner-fired horn igniters
- Flame scanners
- Boiler/burner control systems

For more specific information on our igniter systems, please contact us at:

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Established in 1867, Babcock & Wilcox is a global leader in renewable, environmental and thermal technologies and services for power and industrial applications.

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