



PRIMARY COMPONENTS

- Smokeless oil gun and atomizer or gas gun assembly
- High-energy electric ignition system
- Flame detectors (COEN *iScan2*[™] or flame rods)
- Oil and air pressure regulators
- Oil flow switch
- Optional control cabinet
- Optional complete igniter horn assembly
- Optional fuel valve trains

BENEFITS

- Reliable light-off
- Low opacity, less than 10% at start-up

POTENTIAL ADDITIONAL BENEFITS (depending on existing equipment)

- Reduced igniter maintenance
- Decreased start-up time
- Reduced igniter fuel usage

Fyr-Ball[™] Igniter Systems

Coen's practical, reliable, cost-effective solution to common boiler issues

Coen's **Fyr-Ball** gas or oil igniter systems are cost-effective, high-performance upgrades to the original oil-fired sidewall igniter equipment on tangentially fired boilers. Coen's **Fyr-Ball** igniter systems provide customers with reliable and practical solutions for overcoming problems such as high opacity, soot and carbon build-up in the horn, fouled flame rods, plugged ΔP tubes, and unburned fuel dripping from the horn.

Coen's **Fyr-Ball** systems overcome oil igniter problems by modifying the fuel atomization process using our proprietary smokeless atomizing technology. A new oil gun and internal-mix atomizer are supplied as direct replacements of the original gun. The COEN brand atomizer produces the optimum spray pattern and fuel oil droplet size distribution to match the aerodynamics of the igniter horn.

The result is a clean flame that burns all of the fuel and minimizes the production of soot or coke. Additional benefits include improved reliability of the flame detection and spark equipment, reduced opacity, and elimination of unburned fuel carryover into the backpass of the furnace, air heater, ESP or baghouse. For even cleaner combustion, the **Fyr-Ball** igniter system can be designed to use natural gas as the ignition fuel.

Coen's **Fyr-Ball** igniters can be applied as either single gun or dual gun systems, with heat inputs ranging from 4 to 12 mmBtu/hr for oil firing, and up to 20 mmBtu/hr for gas firing. Depending on the heat input, the **Fyr-Ball** can be classified as an NFPA Class 1, 2, or 3 igniter.

Fyr-Ball™ Igniter Systems

Coen has upgraded more than 1,000 sidewall igniters at power plants with a cumulative generating capacity in excess of 15,000-MWe.

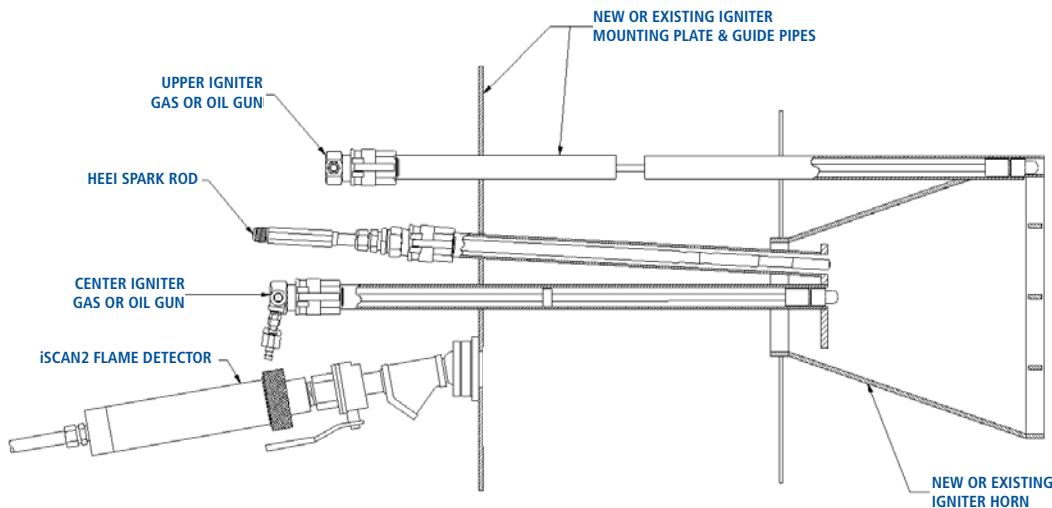
ATOMIZER PRESSURE CONTROL

To achieve optimal atomization, it is essential to control fuel oil and atomizing air pressures at the igniter gun. The existing igniter oil flow control valve can be unreliable and not provide adequate pressure control to the individual igniter. As part of the retrofit, Coen supplies oil pressure and atomizing air pressure regulators that are installed between the igniter shutoff valves and flexible hoses. The flow switch that is internal to the existing oil flow control valve at each igniter cabinet is replaced with an adjustable flow switch, requiring no modifications to the igniter control scheme.

FYR-BALL IGNITER CONTROL CABINET (FICC)

If the existing igniter cabinets are difficult to repair or require frequent maintenance, Coen has developed a direct replacement igniter control cabinet that is designed to tie directly into the existing control signals without modification.

The NEMA 4 enclosure can be mounted to directly replace the existing cabinet. Wiring connections are identical to the original equipment and new quick disconnect pigtailed can be provided.



RETROFIT SIDEWALL IGNITER, DUAL GUN ARRANGEMENT

Coen's Fyr-Ball igniter system replaces only the necessary components.

FICC COMPONENTS

- NEMA 4 steel enclosure
- High-energy electric igniter
 - 12 Joule capacitive discharge exciter
 - Spark cable
 - Spark rod with replaceable tip
- Oil and air shutoff valves, automatic
- Purge valve
- Oil flow switch
- Sequencing relays
- Electrical quick disconnect pigtailed

Coen's other combustion solutions for tangentially fired boilers include partial or complete retrofit of main gas or oil-firing components and ancillaries.

Contact your Coen representative

about Fyr-Ball Igniter Systems or any of Coen's other outstanding products.

FYRBALL™

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