



PERFORMANCE FEATURES

- Quality construction
- Low maintenance
- Wide turndown ratio
- Reliable, proven operation
- Utilizes a variety of fuels
- Direct electric spark ignition of heavy oil without intermediate fuel
- Minimal cooling air when out of service
- Entire igniter is removable from burner deck
- Oil gun and spark rod are easily removed for inspection
- Modular construction for ease of handling & maintenance
- Bearings with graphite packing eliminate binding
- Adjustable insertion depth
- Flame detection by flame rod or optical scanner (COEN *iScan2*[™])
- Available with flame gate or aspirating air

WHEN NECESSARY, COEN ALSO PROVIDES

- Valve trains
- Cooling air blower skirts
- Fuel and air pressure controls
- Local control cabinets
- PLC-based warm-up gun management systems (BMS)

Fyr-Storm[™] Igniter Systems

Rugged, Reliable Ignition and Warm-up Systems for the Utility Industry

Coen's **Fyr-Storm** oil and gas igniter systems provide superior combustion performance along with easy installation, low maintenance, and reliable operation. The igniters may be installed as complete assemblies for new burners, or as retrofit components for upgrading the performance of existing igniter equipment. Designed to produce a clean burning flame, opacity with the **Fyr-Storm** smokeless oil igniter is less than 10% even on a cold boiler startup.

The igniter assembly provides a low profile through the burner to minimize airflow obstructions, and can be located either in the air annulus zone or the center of the burner. The igniter can be used to provide the initial ignition energy to the furnace, warm-up of the furnace, and for the routine light-off of the main burners.

The **Fyr-Storm** is a packaged assembly of two widely used COEN[®] brand components: a gas or oil burner and a High-Energy Electric Igniter (HEEI). Together, these produce a clean burning ignition system that requires little maintenance. The igniter is equipped with a custom designed flame stabilizer to provide a strong recirculation zone at the base of the burner for stable flames at any burner load. The high-quality construction material withstands radiation from normal operation.

The **Fyr-Storm** is often configured as a Class 1 igniter, with the additional functions of stabilizing the main pulverized coal flame and extending the turn-down range of the main burner. When supplied with variable flow control, the igniter offers turndown as a warm-up gun.

Fyr-Storm™ Igniter Systems

OIL ATOMIZER

The igniter's oil gun will fire a variety of fuel oils, ranging from the lightest distillate to the heaviest residual grade fuels, using air, steam or mechanical atomization. These designs were developed using proprietary technology which ensures optimum spray quality, droplet size, velocity, and distribution.

Alternatively, the *Fyr-Storm* design can use a gas gun instead of the oil atomizer, or be supplied with interchangeable gas and oil guns to achieve maximum flexibility.

HEEI ASSEMBLY

The COEN HEEI is a high-energy capacitive discharge device capable of igniting gas or fuel oil directly by means of a pulsed spark. The aircraft-type surface discharge spark tip cannot be quenched and is non-fouling. A peak power of more than 12 Joules at 10Hz provides powerful ignition energy during each spark and blasts any contaminants from the end of the igniter rod.

The power pack is enclosed in a compact NEMA 4 steel enclosure and includes five LEDs located on the PC board for troubleshooting.

RETRACTABLE OR FIXED OPTIONS

Fyr-Storm igniters are available as either a retractable design, which provides longer life for the firing end components, or as non-retractable igniters, which have fewer moving parts. Both provide reliable, long-term performance and are available depending on the customer's preference.

When retraction is required, the assembly consists of a pneumatic cylinder with heavy duty advance and retract position limit switches (either mechanical or non-contacting) and a solenoid valve. An optional NEMA 4 junction box is available to terminate the local wiring.

FLEXIBLE COMPONENTS

Fyr-Storm igniters are available with flexible components to permit operation in tangential-fired boilers by fitting into the existing tilting buckets without modification, or for burners with difficult accessibility.



Fyr-Storm Igniter Assembly



Annulus Zone Stabilizer



Retract Assembly



Burner Center Stabilizer



HEEI Spark Tip



Flexible Fyr-Storm Igniters



HEEI Power Pack

Contact your Coen representative

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

FYRSTORM™

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