Since 1912, Coen Company’s technical in-house engineering team has been advancing the science of combustion through the development of next-generation gas and oil burner technologies and igniter products. Coen’s dependable, efficient COEN® and TODD® brand burners, igniters and safety systems are proven to help utility plants optimize performance while significantly lowering emissions.

**CUSTOM ENGINEERING**

Coen is committed to delivering comprehensive utility solutions that will achieve your environmental and performance goals effectively and reliably. From fundamental burner products to complex systems and complete package options, Coen develops customized combustion solutions for your specific utility application, helping you meet even the toughest requirements.

**SUPERIOR SERVICE**

With dedicated in-house engineers that provide immediate evaluations, as well as a global network of factory-trained field technicians, Coen ensures that your combustion systems will perform safely and efficiently for many years to come.

- Installation supervision and start-up assistance
- NFPA evaluations and compliance
- Instrumentation calibration for efficiency and safety
- Inspections and preventative maintenance
- Emergency service
- Parts recommendations and equipment evaluations
- Operator training/education

- **Safe, reliable and efficient combustion equipment**
- **In-house engineering expertise**
- **Simple or complex customized solutions**
- **Complete package options**
- **Superior customer service**

State-of-the-art Manufacturing Facility in Tulsa, Oklahoma
Coen brings the utility industry a full complement of high-quality igniter and warm-up hardware for any type of boiler application or igniter fuel with a wide range of heat inputs.

Coen’s igniter systems include a smokeless design for oil firing to achieve less than 5% opacity under the most difficult combustion conditions. A variety of oil atomizers and flame stabilizers help optimize atomization, fuel-air mixing and flame shape, making Coen’s igniters ideal for cold start-up conditions.

Coen provides both retractable and non-retractable igniters designed for long-term performance. Each igniter system is custom-designed and fit to a specific boiler and burner arrangement ensuring optimum combustion conditions.

Coen’s rugged igniters achieve consistent light-off, excellent flame stability and low opacity on cold boiler startup.

- Reliable
- Low maintenance
- Efficient
- Smokeless
- Long life
- Proven installations
Because utility plants often need more than a burner to solve their challenges, Coen offers state-of-the-art ancillary equipment to support its burners, including burner management systems, control systems, flame scanners, valve trains, piping skids, and blower skids. Coen’s combustion systems and controls are reliable, rugged and safe. Each system is evaluated for fuel-firing configuration, individual burner characteristics, boiler operation requirements and operator interface preference. They are built to last in tough conditions.

- Enhanced flame scanning technology
- Pre-designed control systems with operator interface
- Standard or custom-engineered burner management systems
- Distributive Control Systems (DCS) or Programmable Logic Controller (PLC) platforms
Coen’s utility-grade gas and oil burners optimize system efficiency and emissions performance. They achieve extremely low NOx, CO, particulate and opacity emissions, easily keeping your facility in compliance with environmental regulations.

The simple design and heavy-duty construction provide reliable, trouble-free performance. Coen’s burners are easy to maintain, resulting in less downtime and reduced fuel and operating costs.

**GAS AND OIL BURNERS**

**Gases**

**Waste gases**

**Light and heavy oil**
*(mechanical, steam or air atomized)*

**Waste liquids**

**BURNER UPGRADES**

A COEN brand burner upgrade is a cost-effective option for enhancing operating performance and reducing emissions at utility plants. Coen’s Reduced Emissions and Advanced Combustion Hardware (REACH) technologies allow you to retain much of the existing hardware, minimizing modifications to your burner. As a result, installation, capital costs and downtime are reduced.

Coen’s burner upgrades are custom engineered to adapt to the existing fuel supply equipment and operating conditions at your specific facility. REACH can also be applied to new burners when complete burner replacement is warranted.

**Gas REACH**

Easily retrofitted to all types of burners, gas REACH injectors and flame stabilizers readily adapt to existing gas supply piping and pressures.

**Oil REACH**

Coen’s patented oil REACH components replace oil atomizers and flame stabilizers, leaving the remainder of the burner intact. Minimize downtime by upgrading heavy oil firing performance while simultaneously reducing NOx and particulate matter emissions.
**FLUID BED BOILER START-UP BURNERS**

As the preferred start-up burner supplier for major circulating fluid bed (CFB) boiler OEMs, Coen has designed and installed the largest capacity burners firing both natural gas and fuel oil in units sized to more than 300 MW. Boiler manufacturers can operate fewer burners, thereby reducing equipment, operating and maintenance costs.

**Utility-grade construction**

**Low maintenance**

**Wide turndown ratio**

**Proven performance**

**Reliable**

**Multi-fuel capability**

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**DUCT BURNERS FOR FLUE-GAS AND COAL MILL HEATING**

Coen’s natural gas and fuel oil duct burners improve combustion performance and solve operational problems. The company specializes in designing retrofit packages complete with fuel trains and burner management systems.

**Flue-Gas Heating**

Located in the exhaust stream, the duct burner increases the temperature to an acceptable level enabling back-end cleanup equipment such as selective catalytic reduction (SCR) or flue-gas desulfurization (FGD) systems to operate effectively.

**Coal Mill Heating**

Pre-heating coal mill primary air with a COEN brand inline duct burner allows utility plants to fire high-moisture Western (Powder River Basin) coal.
MODELING SERVICES

Using state-of-the-art physical and computational fluid dynamics (CFD) modeling techniques, Coen can maximize your facility's operating performance and achieve your emission requirements. Modeling can be used to evaluate your current combustion system, and to recommend and implement specific system modifications to achieve performance targets. Coen's modeling techniques can predict flame shape and length, enhance flame stability, minimize system vibration, increase turndown, and maximize combustion efficiency.

Coen uses its physical and CFD modeling techniques to design and optimize a variety of other emission control systems.

**Burner staging**

**Over-fire air design, penetration and mixing**

**SCR and selective non-catalytic reduction (SNCR) systems**

**Sorbent injection**

EXPERIENCE

Coen is the global leader in developing gas and oil burner technologies and igniter products. With proven performance in thousands of installations, TODD and COEN brand burners, igniters, warm-up guns, and safety systems are the preferred combustion equipment for power generation applications.

- COEN brand equipment has been installed on more than 500 utility boilers that generate more than 50,000 MW of electricity.
- Coen has supplied more than 2,700 igniters on more than 200 utility boilers.
- Coen has supplied more than 900 gas- or oil-fired burners on more than 50 utility boilers.
- Coen has supplied gas- or oil-firing fuel conversions on more than 300 utility boilers.