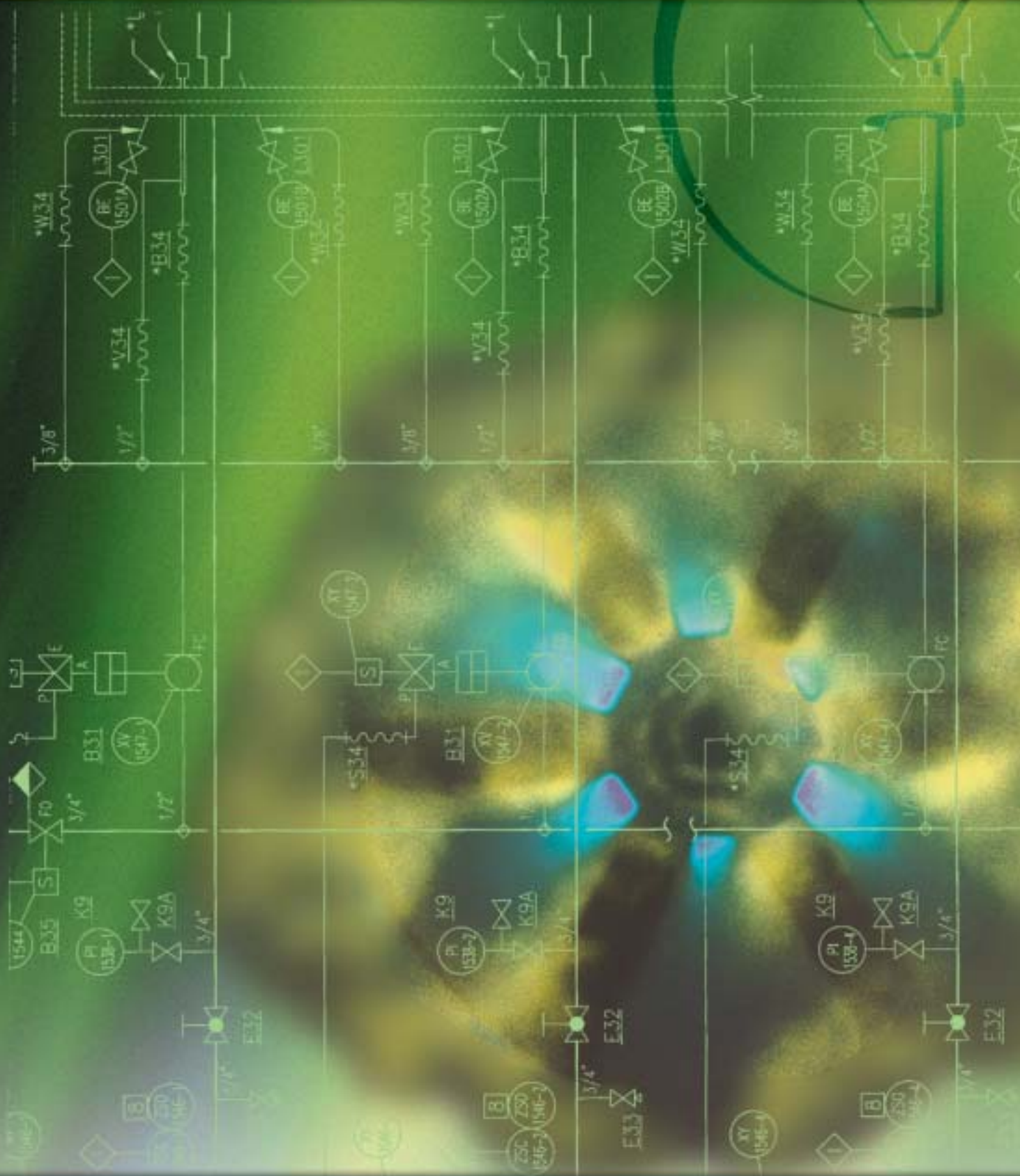


COEN



RESEARCH & DEVELOPMENT

TURNING COMBUSTION TECHNOLOGY
INNOVATIONS INTO SOLUTIONS

INNOVATION

TURNING COMBUSTION TECHNOLOGY INNOVATIONS INTO SOLUTIONS

COEN was founded in 1912 on the principle that success is achieved by defining technology for the future. Because of this dedication to research and development, our ultra low emission designs and innovative environmental solutions have led the way for decades. Today, we take pride in delivering the most advanced capabilities in the industry and providing our clients an R&D team of exceptional combustion experts.

COEN has developed a wide array of burner designs and combustion solutions for the industrial, commercial and utility markets. Our experienced staff is committed to helping you get the optimal system, whatever your needs. From short term consulting to major developmental projects, we have the expertise to do the job right.

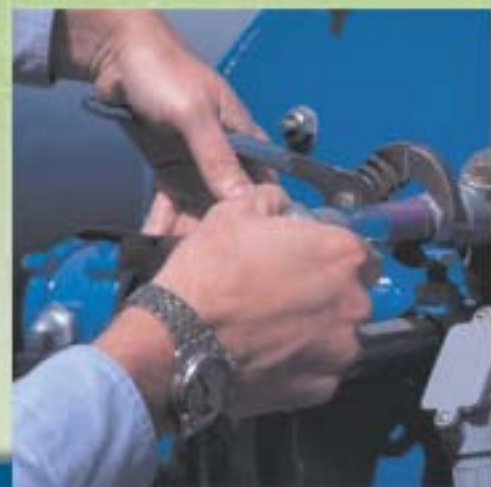
R&D Combustion Services Program

You can take advantage of COEN's decades of combustion experience through Combustion Services. The COEN R&D team is uniquely qualified to work on your problem directly. Combustion Services can be used to evaluate your current combustion system, and to recommend and implement specific system modifications to achieve performance targets. R&D Combustion Services can be contracted for:

- Overall System Evaluation
- Emissions Reduction Studies
- Combustion System Modeling
- Specialized Product Development
- Waste to Energy Projects
- Existing Burner Modifications
- Combustion Design Consulting



Detailed laser measurements being taken at University of California - Irvine combustion laboratory of a sub-scale QLN burner under a joint collaborative investigation of pollutant formation mechanisms.



FULL SCALE PROTOTYPE TEST FACILITY

COEN's fully equipped, on-site combustion test facility allows our Research and Development Program to reach above and beyond the competition to better serve you. Located in Burlingame, California, the test facility covers 10,000 square feet and includes six furnaces, each designed and constructed to simulate a different combustion application. Combustion air can be supplied to all furnaces with an indirect fired air heater capable of raising air temperature to 500°F. Gas turbine exhaust can be simulated to any desired oxygen level, temperature and humidity. A flue gas recirculation system is installed in all furnaces to aid in low NOx emission burner development.

- Boiler Simulator
- Firetube Boiler
- Duct Burner Test Section
- Air Heater / Process Heater
- Scanner Test Facility



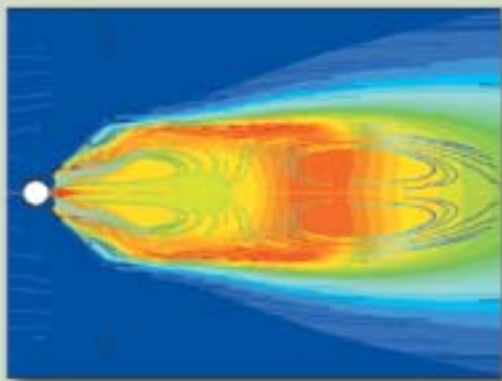
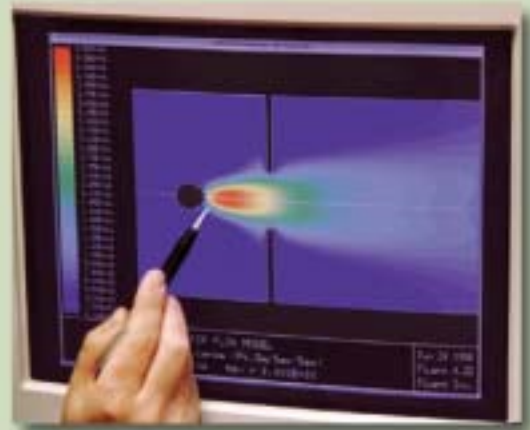
COMBUSTION ELECTRONICS LABORATORY

COEN's Combustion Electronics Laboratory is used to specifically develop superior electronic products for combustion monitoring and management. This includes an array of products like UV/IR Flame Scanners, High Energy Igniters, PLC based Burner Management Systems, and Advanced Control Systems that assist your combustion system in operating with safety and reliability.

CAPABILITIES

SUPERIOR PRODUCT PERFORMANCE THROUGH TECHNOLOGY & EXPERIENCE

COEN's superior analytical capabilities are augmented by state of the art computers. Our combustion experts utilize Computational Fluid Dynamics (CFD), a numerical technique that enables combustion system designs to be analyzed and optimized to meet your specific design goals. CFD makes it possible for COEN to deliver the most effective combustion solution for your specific needs. COEN has used CFD since 1983 as a powerful tool providing detailed understanding of the flow, combustion and mixing patterns in your system. In some cases, CFD can be used to predict potential sources of problems and correct them before the equipment is manufactured.



Using CFD alone, it is difficult to accurately predict pollutant emissions like NO_x, CO and destruction efficiencies of chemicals. Over years, COEN has developed thousands of specialized combustion algorithms. These are used in conjunction with CFD modeling to provide you with accurate information. Years of experience utilizing computational modeling has given COEN the expertise to find solutions to even the most complex problems. Let us use our advanced technology and expertise to provide superior solutions for you.

For more information, contact our R&D Department or your nearest COEN representative.



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Visit our website at
www.coen.com
for more information