



Simulation software is powerful yet intuitive

Chemstations' intuitive suite of chemical process simulation software broadens an engineer's capabilities and increases productivity



For over 20 years, **Chemstations** and its chemical process simulation software CHEMCAD have been evolving with the highly dynamic chemical engineering industry. Today's CHEMCAD suite has the power to meet an engineer's process simulation needs – from day-to-day challenges to large, multifaceted projects.

The user-friendly CHEMCAD interface is striking in its simplicity and highly customizable. The workspace consists of a central pane for creating and working with process flow diagrams (PFDs); an Explorer pane to make navigating simulations easy; a Palette pane for easy drag-and-drop of flowsheet objects; a Message pane to view

diagnostics while working with a simulation; and a toolbar for common tasks.

The CHEMCAD suite is scalable, enabling users to purchase only the features they need for a specific industry and process, effectively creating their own customized version. While each module in the suite can be licensed separately, all modules work seamlessly together, using the same calculation engine and user interface. This results in maximum flexibility and affordability.

CHEMCAD includes libraries of chemical components, thermodynamic methods, and unit operations to allow steady-state or dynamic simulation of chemical processes – from lab scale to full scale. Users can design processes, rate existing processes, work on de-bottlenecking, or even integrate with control and operator training systems. CHEMCAD also interacts with programs such as Microsoft Excel and MathWorks' MATLAB; users can customize many aspects of the program via VBA, and even run the CHEMCAD engine using OPC,

Visual Basic, or VBA from within Microsoft Office programs.

Beyond steady-state and dynamic modeling, CHEMCAD's more specialized modules further enhance the engineer's toolset. The CC-THERM module offers rigorous calculation of heat transfer coefficient for a heat exchanger. Users choosing CC-SAFETY NET can model hydraulic flow balance on a piping network. CC-BATCH enables users to model batch distillation operations.

The CHEMCAD team constantly reviews feedback from current users, whose needs and input shape the course of ongoing software development. Each new version of the software incorporates additional features and improvements to process modeling calculations that directly benefit users. This responsiveness to, and anticipation of, customer needs is a reflection of Chemstations' commitment to provide the best simulation tools possible for chemical engineers worldwide.

www.chemstations.com

Better flame, lower NOx, less EFGR

Reduce thermal NOx levels and CO₂ footprints efficiently and effectively with Zeeco's patented Next Generation Ultra-Low NOx Free-Jet Boiler Burner

As a world leader in combustion solutions, **Zeeco** understands the challenges of meeting emissions regulations in the Gulf Coast region. Zeeco's Free-Jet design dramatically reduces or eliminates the need for external flue gas recirculation (EFGR) by maximizing the amount of internal flue gas recirculation (IFGR). This reduces thermal NOx emissions without sacrificing burner performance; most applications can realize 30 ppm NOx without EFGR, and 9 ppm NOx with minimal EFGR. For multi-burner applications, Zeeco's Free-Jet burner technology produces a stable flame profile with very limited flame-to-flame interaction and one of the lowest costs of ownership. The Free-Jet can reduce combustion air fan power usage, increase turndown, reduce maintenance and improve flame quality when retrofitted into existing systems as well:

- turndown of up to 20:1 for most cases;
- optimal flame stability for each application;
- tips have only a single firing port and do

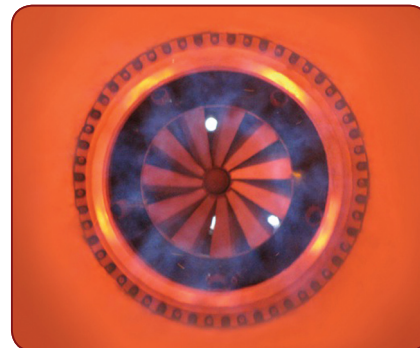
not require a small ignition port, dramatically reducing plugging;

- robust, compact design;
 - applicable to all boiler designs; and
 - maintain boiler capacity and hit emissions targets with little or no EFGR.
- Designed to fit, even in tight retrofit situations, Zeeco's boiler burner series can reduce the headaches inherent in a retrofit project. The firm's experienced project management team develops custom boiler burner solutions tailored to the needs of each customer. The team eliminates hassles by assuming single-point responsibility for combustion system upgrades. With a Zeeco turnkey solution, there are no contractual layers between the customer, the OEM burner equipment supplier, and the contractors.

Zeeco is dedicated to delivering on time and on budget to its customers in the Gulf Coast region and around the world. Zeeco's only business is the combustion business, leading to the company's reputation as a worldwide leader in combustion

solutions. The new Zeeco Houston Service Center provides local service 24/7 including boiler/heater tuning, burner cleaning, controls upgrading, and more. Thousands of installed burners, flares and thermal oxidizers worldwide and hundreds of combustion experts on staff show why the Gulf Coast continues to trust Zeeco.

www.zeeco.com



Zeeco's patented GLSF Free-Jet Burner