

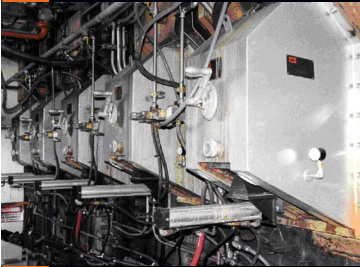


**JANSEN**  
Combustion and Boiler  
Technologies, Inc.

# CAPABILITIES

Customized Engineered Solutions

[www.jansenboiler.com](http://www.jansenboiler.com)



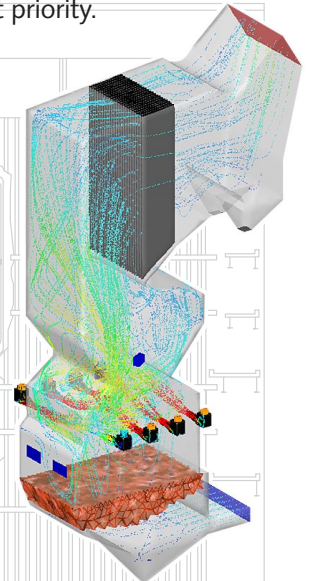
*The Jansen Commitment.* We are committed to helping you achieve higher operational and production goals through innovative customized engineering solutions that optimize your existing boiler processes and equipment. From high performance combustion air and fuel delivery system and superheater capacity upgrades to retrofits to meet regulatory emissions limitations, our combination of engineering expertise, operations experience and proven innovative technologies makes your biomass or waste fuel-fired boiler operate more efficiently.

Our staff is composed of dedicated, experienced engineering professionals. Specializing in combustion of difficult fuels and industrial boiler technology, we consistently make your goals our highest priority.

Our team is flexible and responsive, listening to determine your needs and expectations. By teaming with you, we utilize our proven expertise to develop creative and viable solutions. And that means you'll receive problem-solving capabilities second to none.

*Recognized as industry experts,* the JANSEN team of engineering professionals has established a reputation for unmatched technical expertise in the field of biomass, waste-to-energy, and chemical recovery boilers. Flexible and responsive to client needs, JANSEN's problem-solving skills and customized approach are respected throughout plants worldwide.

*With over 35 years of operation,* Jansen Combustion and Boiler Technologies, Inc. (JANSEN) continues to deliver the highest standards of professional engineering services and fully engineered solutions for plants in the Forest Products and Energy-from-Waste Industries, as well as Independent Power Producers. Recognized as experienced specialists who provide full-service process and design engineering, equipment procurement, construction capabilities, field services, and maintenance support, we improve the operational performance, fuel economy, and up-time of your biomass, chemical recovery, municipal solid waste (MSW), refuse derived fuel (RDF), and fossil fuel-fired boilers.



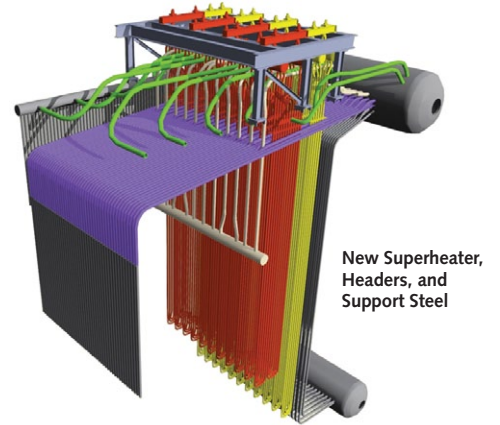
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## *Ever responsive to client needs.*

Jansen Combustion and Boiler Technologies, Inc. has the capability to function as your one-source solution to boiler retrofit projects. With the ability to define, engineer, contract and manage design-construct projects, we offer full service Engineer-Procure-Construct (EPC) capabilities. In addition, we provide a broad range of highly technical and specialized services, including:

- Full-service engineering design for steam, power and combustion systems
- Biomass and waste fuel, fossil fuel and chemical recovery boiler performance evaluations and operational reviews
- Superheater replacement and upgrade design and supply
- Boiler circulation analyses
- Computational Fluid Dynamics (CFD) Modeling
- Feasibility studies and cost/benefit analyses
- Project scope definition, equipment specifications and cost estimating
- ASME Boiler and Pressure Vessel Code Section I, "S" stamp power boiler design and NBIC "R" stamp for alterations to pressure parts
- Boiler downtime and pressure part failure analyses
- Boiler MACT and CISWI compliance review and implementation
- Piping stress analyses
- Operations support and training
- NCG incineration in power and chemical recovery boilers
- NO<sub>x</sub> emissions reduction



Jansen High Energy Combustion Air Nozzles™ have been installed on over 85 boilers

## *What sets JANSEN apart from the competition?*

- We are a non-O.E.M. firm that provides design-construct services to retrofit chemical recovery, biomass, and waste fuel-fired (RDF/MSW) boilers.
- We are flexible and responsive.
- We designed and hold the patent on innovative combustion air systems for chemical recovery and biomass/waste fuel boilers.
- We provide fully engineered solutions.

## OUR MISSION

### *Our Company provides combustion and boiler technology, products, and services.*

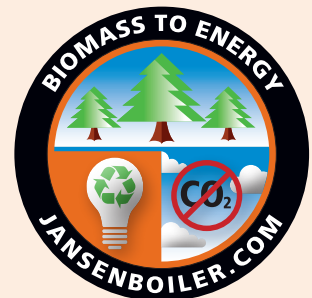
We are dedicated to working with our clients to achieve their production, reliability, efficiency, safety, and environmental goals.

We accomplish this by:

- Listening and understanding.
- Providing a flexible approach to problem solving.
- Developing creative and innovative solutions.
- Working with clients to implement these solutions.

Our team of talented and experienced individuals is committed to the highest standards of professional ethics.

We commit ourselves to creating a challenging and supportive work environment that fosters opportunity for professional growth, fulfillment, and rewards.





**Edward "Ned" C. Dye, P.E.**  
*President*

Mr. Dye has over 40 years in mechanical project engineering, thermal energy system design and design-procure-construct project management. With the firm since 1988, Mr. Dye's technical expertise includes conceptual and detail design engineering and extensive Project Management in the forest products and utility industries. Under his direction, JANSEN has conducted combustion air and flue gas system upgrades, kraft black liquor recovery boiler low odor conversions, boiler equipment and ancillary system retrofits, and industrial co-generation projects.



**Arie Verloop, P.E.**  
*Vice President, Technology and Client Relations*

With a focus on providing boiler and combustion technology client services, Mr. Verloop has been with JANSEN since 1980, specializing in chemical recovery and biomass boiler processes. He is a recognized process expert and valuable resource in chemical recovery and biomass/waste fuel-fired boiler performance evaluations, capacity upgrade feasibility studies, operational reviews, and troubleshooting. He has co-authored numerous technical papers and has conducted dozens of Recovery Boiler Operations Training Seminars and Biomass Boiler Workshops.



**John L. Van Aelstyn, C.P.A.**  
*Vice President, Finance and Administration*

Mr. Van Aelstyn has extensive accounting experience in the areas of taxation, construction and real estate. With over 30 years in public accounting and private industry, Mr. Van Aelstyn served as a financial and management consultant to the firm for three years prior to becoming Vice President in 1992. A graduate of the University of Washington, he has a B.A. in Business Administration with an Accounting emphasis. Mr. Van Aelstyn is a member of the Washington Society of Certified Public Accountants (WSCPAs) and American Institute of Certified Public Accountants (AICPA).



**Michael L. Britt, P.E.**  
*Manager, Design and Construction*

With an interdisciplinary Engineering Management background and over 30 years of experience, Mr. Britt has solid broad-based credentials to competently manage design and design/install projects. His experience in mechanical systems and project engineering for pulp mills and power generating facilities is a valued asset. Mr. Britt has served as the senior Project Engineer and Project Manager for numerous recovery, biomass, RDF, and fossil fuel power boiler retrofits and co-generation projects.



**John F. La Fond, P.E.**  
*Manager, Process Technologies*

Offering over 28 years of project management talent and technical experience, Mr. La Fond specializes in combustion, air pollution control, and energy utilization. He is JANSEN's lead authority on Boiler MACT and CISWI regulations. His expertise includes comprehensive boiler design, combustion system modifications that enhance boiler performance and pollution control, and air/fuel delivery system analysis that maximizes performance and firing capacity. Mr. La Fond has been Manager of JANSEN's Process Technologies group since 1997.



**Allan R. Walsh, Ph.D.**  
*Technology Development Leader*

Dr. Walsh has been a key member of the JANSEN team for over 20 years. His focus has been the development of technologies that improve the performance of biomass, waste-to-energy, and chemical recovery boilers. Dr. Walsh has been responsible for the advancement of analytical capabilities including customized Computational Fluid Dynamics (CFD) modeling of combustion processes for "difficult" fuels, as well as boiler water/steam side circulation analysis and measurement. His recommendations have formed the basis for enhanced combustion air and fuel delivery systems.



**David C. Tracey**  
*Lead Designer*

Employed by JANSEN since 1988, Mr. Tracey has over 30 years of experience in the field of mechanical design of power systems. He has proven credentials in ASME boiler pressure part and power piping design, combustion air duct and flue gas breaching design, combustion controls, piping and instrumentation, and field engineering. Utilizing his expertise as a senior designer, Mr. Tracey helped develop the Jansen High Energy Combustion Air System™.



**Marcel D. Berz, P.E.**  
*Senior Process Engineer*

Mr. Berz has more than 15 years of experience in evaluating boiler systems and improving boiler combustion air systems, particularly when burning biomass, refuse, and other solid wastes. He is an authority on boiler natural circulation, carbon monoxide and nitrogen oxide emissions, ASME power test code analytical procedures, and the thermal design of superheaters, economizers, and other boiler components. Mr. Berz has (co-) authored several technical papers on these subjects.



**Chris R. Dayton, P.E.**  
*Senior Design Engineer*

Mr. Dayton has over 15 years experience at JANSEN as a mechanical design engineer and project manager. His project experience includes extensive work on biomass fired boilers, refuse derived fuel boilers, and recovery boilers. Mr. Dayton has been the project manager on more than 20 power boiler combustion air system upgrades, including system design, equipment specification and purchase, and on-site installation supervision. Chris has been the lead engineer for the design of power boiler superheaters, economizers, and furnace waterwall panel retrofits. In addition, he serves as the Quality Control Engineer for all ASME and NBIC code design activities.

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## A PARTIAL LIST OF OUR CLIENTS

- Boise
- Canfor
- Cariboo Pulp & Paper
- Clearwater Paper Corporation
- Cofely GDF-Suez
- Covanta Energy
- Domtar, Inc.
- Evergreen Packaging
- Fortistar Biomass Group
- Georgia-Pacific
- Great River Energy
- International Paper Company
- KapStone Paper
- Kimberly-Clark
- Longview Fibre Paper & Packaging Inc.
- MeadWestvaco
- Minnesota Power
- NewPage Corporation
- New Ulm Public Utilities
- Neucel Specialty Cellulose
- Nippon Paper Group
- Packaging Corporation of America
- Rayonier Inc.
- ReEnergy Holdings LLC
- SAPPI North America
- Simpson Tacoma Kraft
- Smurfit-Stone Container Corporation
- Sonoco Products Co.
- Thilmany Papers
- Tolko Industries
- Weyerhaeuser Company
- Wheelabrator Energy

