



SentrySeries™ Controls

Diamond Power
International, Inc.

Controls That Optimize Your Performance



Diamond Power® SentrySeries™ Controls

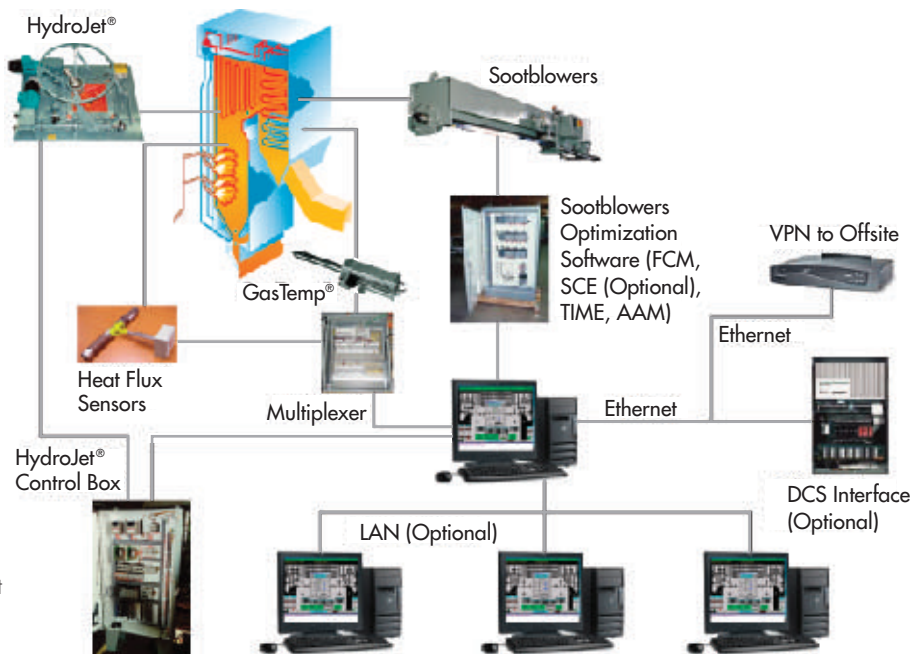
Putting you in control of your boiler cleaning needs

Today's, electric utilities, pulp and paper mills and refineries face the challenge of operating in a constantly changing environment. Responding to changing demands like government regulations, fuel switching, staff reductions and longer times between outages while working to do more with less requires flexibility. Having systems that support a changing environment by operating effectively, increasing efficiency and producing positive bottom-line results are essential. Delivering what you need, when you need it - that is what **Diamond Power® SentrySeries™ Controls** is about!



SentrySeries™ 1500 Control System - an intelligent cleaning solution

SentrySeries™ 1500 System (Intelligent Cleaning) solution provides real-time decisions to enable operators to maximize boiler cleaning and operating decisions under changing operating conditions. This closed loop control system utilizes sensors and software that go beyond conventional control systems. The **SentrySeries™ 1500** control system anticipates and adapts to changes within the boiler. Direct measurements, first principle models, expert system software and genetic algorithm software (U.S. Patent Nos. 6,425,352 & 6,325,025) are used to determine cleaning needs and the cleaning performance of individual sootblowers. This system finds the optimal system setting to account for fuel changes, season changes, off nominal operation, etc. Adjustments to the sootblowing process are made at the blower level to maximize boiler performance and boiler component life. Diamond Power implemented this feature to insure proper cleaning routines, maximize heat transfer, reduce emissions and mitigate unplanned unit outages due to excessive cleaning operations.



Diamond Power® SentrySeries™

Controls is a suite of boiler cleaning solutions built with industry standard hardware (Allen-Bradley® and Modicon®) and Human Machine Interface (HMI) software packages (Intellution®, Wonderware® and RSView®) that provides an easy-to-use environment and helps reduce acquisition, training, development and maintenance costs.



Providing you the flexibility to stay competitive

With the use of industry standard Programmable Logic Controllers (PLC) hardware and HMI packages, you can expand your systems capabilities and performance by simply installing software upgrades—much like upgrading your PC and operating system. Each upgrade incorporates all the latest innovations and improvements available ensuring your operations remain in top form.

Diamond Power® SentrySeries™ Controls were developed using a combination of new capabilities and many of the familiar and proven features used in earlier sootblower control systems. Diamond Power's goal is to help make the conversion from your old control system less disruptive. Plant personnel will recognize the familiar operating conditions and have an array of new valuable capabilities. Additionally, when it is time to replace older components, the SentrySeries™ Sequences and Settings Migration (SSM) Wizard will configure your new processor with all of the previous system settings, sequences and set-point modules.

Diamond Power® SentrySeries™ Controls open architecture is designed to eliminate the problems encountered when supporting multi-purpose control

systems with proprietary languages. SentrySeries™ controls are based on the industry standard IEC 61131-3 protocol providing a broad base of standard control languages for programming or modifying your system. HMI provides standard system protocols for modifying or adding information to system displays.

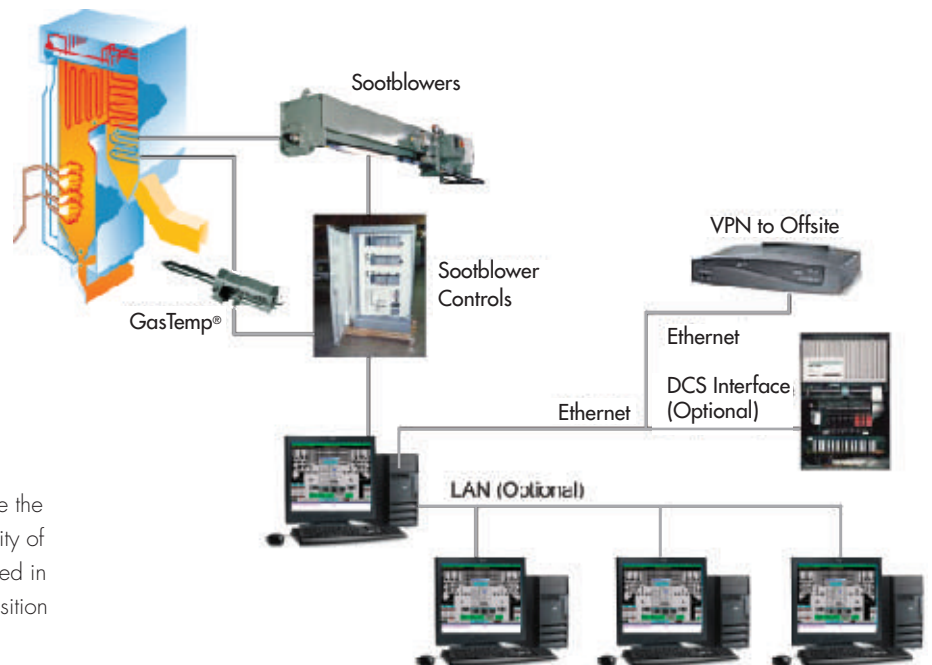
Since the SentrySeries™ is OPC for Process Control (OPC) - based, connectivity to other systems is easily accomplished via Ethernet or other serial data link and is accomplished without expensive linking devices. The SentrySeries™ control software is designed to run in a PLC-based control system with the HMI function provided by a stand-alone PC workstation or by the Distributed Control Systems (DCS). This approach is more cost effective as compared to a total sootblower control system implementation in the DCS due to the lower cost per I/O point.

Diamond Power® SentrySeries™ Controls provides added system accessibility to real-time data for remote users via Virtual Private Networks (VPN). VPN provides a secure interface for accessing real-time system data for system diagnostics, upgrades, performance monitoring (boiler performance) and system tuning.

SentrySeries™ 1000 Control System - for advanced control solutions

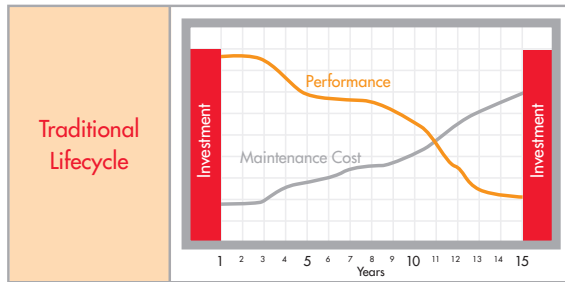
SentrySeries™ 1000 control system is a PLC-based advanced control system that provides real time information for decision support. Designed to maximize boiler performance, SentrySeries™ 1000 control systems provide easy-to-use interface for monitoring and controlling boiler cleaning operations. User-friendly HMI interface provides standardized views of system data with easy-to-modify customized views and a programmable interface to customize boiler cleaning routines. System alarm, maintenance support and trend analysis packages are also available.

For Diamond Power BOS® system owners, the SentrySeries™ 1000 control system is designed to be the BOS® system replacement and more. The functionality of the BOS® system and screens have been implemented in SentrySeries™ 1000 control system, making the transition transparent to your operators.

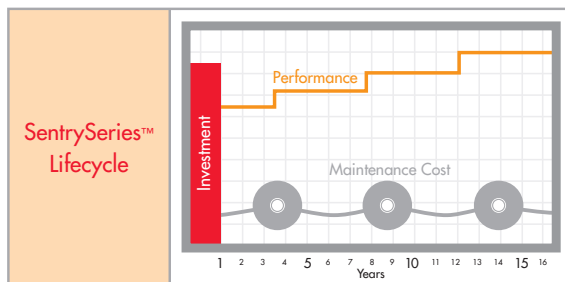


Protecting your assets to produce greater returns on your investments

Traditionally, as control systems become obsolete, system performance deteriorates and maintenance cost rise. Upgrading or replacing a control system usually required large investments in new technology and hardware every five to ten years.



Diamond Power® SentrySeries™ Controls minimizes disruptions associated with system lifecycles by utilizing industry standard hardware and providing a cost effective migration path for acquiring new technology and hardware. Diamond Power understands your need to keep your business running and to generate greater returns on major investments.



Diamond Power® SentrySeries™ Controls provides you the ability and flexibility to make cost-effective, performance enhancing upgrades with the simple installation of SentrySeries™ software updates. SentrySeries™ software updates will help to optimize business performance by:

- Keeping equipment running to specifications - allowing for on-going system performance improvements
- Providing stabilized maintenance costs
- Reducing unplanned downtime events
- Decreasing time needed to implement changes

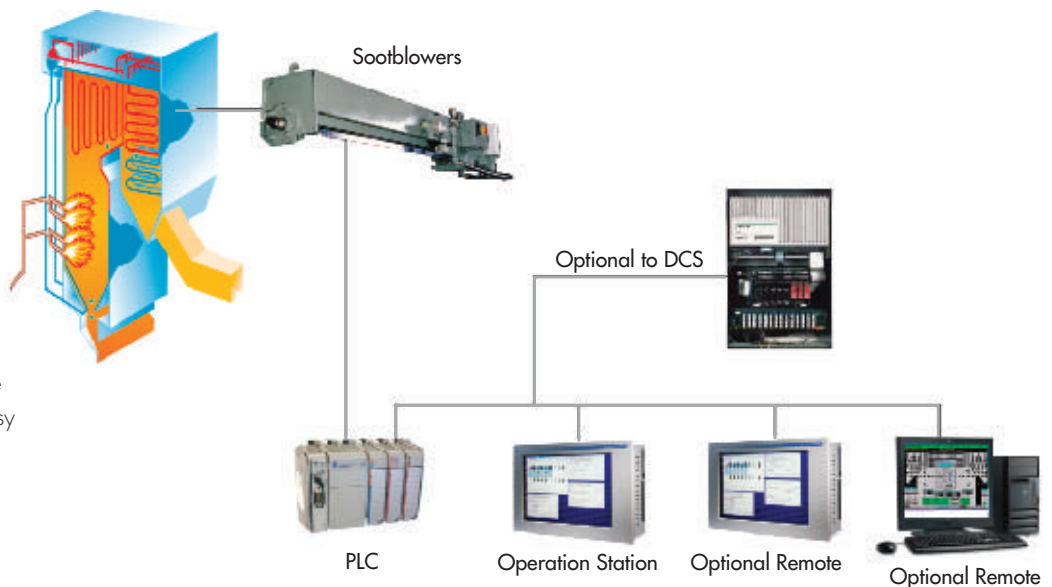
Quality products you can count on

As a leading supplier of boiler cleaning control systems, Diamond Power strives to maintain the highest standards of quality for all of our products. Before delivery, each of our control systems goes through extensive quality checks and inspections to ensure that our products:

- Meet full compliance with customer specifications
- Undergo extensive system testing with the use of live inputs and outputs, checking operational functionality and alarms
- Meet Factory Acceptance Testing (FAT) requirements prior to shipping

SentrySeries™ 100 and 200 Control Systems

SentrySeries™ 100 and 200 control systems provide a cost effective programmable logic control (PLC) for modular solutions. The SentrySeries™ 100 control system provides simple switch and light operator interface. The SentrySeries™ 200 control system provides an industrial NEMA 4 touch screen work station. Designed to provide control for 10 to 48 sootblowers these foundation systems provide cost effective, easy-to-configure cleaning solutions which provide an easy path for system upgrades



SentrySeries™ 200 System Shown

Renowned Customer Service

Diamond Power understands that time is important and our teams of professionals are available to quickly and effectively solve any problems you may encounter. When you buy, Diamond Power® SentrySeries™ Controls you can expect:

- 24-hour customer service, call 1.800.848.5086
- Highly-qualified and experienced engineers and technical support who can access your system remotely, diagnose the problem and in many situations, provide a solution without need of a site visit
- Special service agreements on request

Diamond Power...a trusted partner

Diamond Power strives to deliver the highest return on your investment to meet your specific boiler cleaning needs. Whether your goal is to acquire new technology or the transition to Intelligent Cleaning management, Diamond Power partners with you to help ensure compatibility between your control system and boiler cleaning needs.


Take control of your boiler cleaning system today! Contact your Diamond Power sales engineer or call 1.800.848.5086 or visit www.diamondpower.com to discuss how you can increase your boiler cleaning productivity and bottom-line results for your business.

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