

# Titanium™ Boiler Cleaning Control System

The Titanium™ boiler cleaning control system is the foundation of the Babcock & Wilcox (B&W) Titanium performance suite. This system integrates and upgrades B&W's legacy SentrySeries® and Power Clean® intelligent sootblowing (ISB) systems into a modern platform. The result is a system designed to provide optimum boiler cleanliness in a user-friendly package. The system includes advanced sootblower controls with an option for Titanium ISB using B&W's performance-based model.



## Benefits

Reduction of boiler tube erosion and thermal fatigue cracking

Stabilization of temperature and attemperating spray swings

Improvement of heat rate and unit efficiency

Consistent operation adjusted for load and maintained across shifts

Continuous and immediate decision making based on real-time data

## System Features Overview

**Advanced sootblower controls with enhanced automated features (included in base offering)**

- Maintains boiler parameters in optimal ranges using closed-loop sootblowing, thereby improving heat rate
- Key parameters (goals) for each boiler section are defined and determine the cleaning devices to be operated automatically

**Flexible design logic (expert system)**

- Custom strategies based on boiler performance and key operational values
- Readily accommodates abnormal situations which often are not easily accounted for in a DCS-based control system

**Intelligent sootblowing (ISB) using B&W's performance-based model**

(optional)

- Real-time, unit-specific performance modeling
- B&W boiler design standards used as basis
- Available for both B&W and non-B&W units
- Measured and calculated information continuously updated and available for a wide range of performance factors
  - Cleanliness calculations for each boiler section
  - Interbank gas temperatures
  - Platen inlet gas temperature
  - Furnace exit gas temperature
  - Efficiency
  - Plant heat rate

**Ease of use**

- HMI developed based on user-centered design principles for exceptional clarity and ease of use
- An engineering workstation provides a valuable tool for performance monitoring and plant parameter trending

**Advanced features**

- Priority sootblowing: cleaning devices with highest effectiveness are identified by the system and given priority
- Patented furnace wall protection with water cleaning and heat transfer sensors provides automatic system tuning to minimize thermal shock and prolong boiler tube life

(Continued on reverse side)

The screenshot shows the Titanium Performance Suite interface for Advanced Sootblower Controls. The interface includes a navigation menu at the top with options like 'Home Screen', 'RETRACT ALL', 'Reports', 'System Info', 'User Defined Patterns', 'Analog Table', 'Header Information', 'Legend', 'Contract Information', 'System Configuration', 'Alarm Defaults', 'About', 'Manuals', and 'ISB'. The main display area contains a detailed piping diagram with various components labeled, including 'MAIN STEAM HEADER', 'AH HEADER', 'FURNACE GOAL', 'CONVECTION GOAL', and 'HJ PUMP'. A 'SEQUENCE STATUS' table on the right lists steps 1 through 40. The bottom status bar shows 'Waiting for Alarm Events.' and 'Current User: DEMOPC-PC/DEMO PC'.

The Titanium system's home screen features a simple and clean design that draws attention to immediate action items accessible from a single screen.

The Titanium performance suite includes ash handling controls, package boiler controls, electrostatic precipitator controls, and process diagnostics for combustion and emissions control.

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