



**POWERPLUS**  
CLEANING SYSTEMS

## FAQ

**Q. How does the IMPULSE Cleaning System work?**

A. It supersonically combusts fuel and air to create a strong impulse wave, the shockwave produced passes around obstructions, encompassing and expanding into the surrounding areas to provide highly effective cleaning energy.

**Q. Will IMPULSE waves damage my boiler?**

A. Unlike conventional soot blowers, the cleaning action of the IMPULSE Cleaning System will not damage boiler tubes.

**Q. What is your experience with this technology?**

A. We were involved in the initial research and development of the technology in 2004 at GE, and have installed over 80 IMPULSE Cleaning Systems since 2006. They have proven to increase heat transfer efficiency, reduce operational costs, and decrease or eliminate unplanned boiler outages.

**Q. How many IMPULSE Cleaning Systems are required for my boiler?**

A. It will vary based on the size and configuration of the boiler. Our Engineering team will help you determine the optimal installation parameters. Typical installations range from 2 to 6 cleaning systems.

**Q. How do I know if this technology is right for my application?**

A. This technology is most apt for friable deposits and has had great success from Superheaters to economizers of boilers burning high ash coal. It is equally effective with staggered and inline tube, finned and smooth tubes, and is recommended to provide proactive cleaning of Ljungstrom style air heaters, and for "avalanche control" in SDA's, Spray Dryers and EGC's.

**Q. How is the IMPULSE Cleaning System installed?**

A. Most installations utilize access doors or soot blower ports, thus avoiding the expense of bending tubes. The IMPULSE Cleaning System can also retrofit existing 75 Hz acoustic horn installations by replacing the 'A' section and pneumatic driver.

**Q. What is the advantage of the IMPULSE Cleaning System over steam sootblowers?**

A. No tube erosion, no steam usage, multidirectional non line of sight cleaning, easy installation, improved heat transfer efficiency, reduced opacity spikes, much lower operational and maintenance costs.

**Q. Does the boiler area need to be cleaned prior to the installation of the IMPULSE Cleaning System?**

A. We recommend starting with a clean boiler, but the IMPULSE Cleaning System can be effective on an already fouled boiler.

**Q. What is the operating cycle for the IMPULSE Cleaning System?**

A. Typically the system would be programmed to operate every 30-45 minutes, 10-20 pulses per cleaning cycle, but the cleaning cycle can easily be adjusted based on process needs or varying conditions.

**Q. Does the IMPULSE Cleaning System require instrument air for operation?**

A. No, existing plant air systems that meet ISO 8573.1 Class 5 (dirt), 4 (water), 5 (oil) are acceptable.

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