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# HydroJet™

boiler cleaning system

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The HydroJet™ boiler cleaning system is a rugged and reliable tool to clean any surface within its line of sight from a furnace wall penetration (100 feet max). Applications include division, furnace and wing walls and even fully across the width of the furnace with remarkable accuracy. The HydroJet boiler cleaning system controls thermal impact while cleaning previously hard-to-reach surfaces inside many utility boilers. Compared to previous water cleaning systems, the HydroJet boiler cleaning system is more accurate and uses significantly less water.

## Accurate

To minimize disruptions to boiler operation, boiler side walls and division walls are divided into targeted cleaning zones. The HydroJet boiler cleaning system's advanced control interface allows the operator to assess slag build-up and clean only selected zones, or all zones through a sensor-driven or timed programmed sequence for furnace boiler stabilization. Sequences are customized for each boiler to minimize water wall circulation upsets and furnace pressure excursions, while avoiding overlap of successive cleaning passes, splashing or draining onto unintended surfaces. The water nozzle control system incorporates open-loop vector drives for rapid response.

## Rugged and reliable

Incredibly durable, the HydroJet boiler cleaning system is designed to withstand the most severe conditions. All components, lubricants and seals are selected for the extremes of a typical boiler environment and will withstand periodic "wash downs." The universal joint, which is exposed to radiant heat from the furnace, is constructed of two advanced high temperature alloys that are highly resistant to thermal shock and corrosion and have high galling resistance. The system's hardware sits conveniently outside the boiler avoiding extreme temperatures, which increases reliability and reduces maintenance costs.

## Flexible

In addition to its adaptable cleaning areas (up to 50 different programmable patterns per HydroJet device), it moves at a  $\pm 45^\circ$  degree angle, in both the horizontal and vertical directions. At the same time, each discrete cleaning zone is

programmed for optimum jet progression velocity and multiple nozzle sizes that can clean effectively and safely up to 100 feet. Nozzles are designed to reach targeted cleaning surfaces with water jet coherence while minimizing impact on furnace pressure and heat rate. The HydroJet boiler cleaning system can reduce the heat rate impact of spraying water into the furnace.

## Convenient

The controls (Allen-Bradley® PLC and associated electrical hardware) may be located in a convenient, climate controlled area up to 1000 cable feet from the HydroJet boiler cleaning device. One control cabinet operates up to four HydroJet devices, one at a time. The control cabinet also includes a local touch-screen interface for simple calibration and operational selection. The HydroJet boiler cleaning system is also designed for installation in tight spaces (requires four feet of clear space outboard of the boiler wall, which allows room for moving water supply hose).

## Improved technology that works

The HydroJet boiler cleaning system provides boiler operators with accurate pattern control, significantly improved nozzles, unmatched mechanical reliability and cleaning flexibility. Diamond's long-standing Tube Life Database program is provided at no charge to Diamond Power customers to ensure thermal impact on boiler tube life is monitored while achieving maximum results.

With more than 33 years of water cleaning experience, Diamond continuously develops new product and design enhancements, coupled with expert assistance in designing a cleaning system that is best for you. Turn to Diamond for your boiler cleaning needs – **the proven leader for nearly 100 years.**

