



# SMART SHOWER CLEAN SYSTEM

## The SMART answer for boiler availability

The SMART Shower Clean System is the most advanced cleaning solution for the waste to energy and biomass industries, giving users the ultimate advantage over the toughest fouling conditions. Combining the power of on-line water cleaning, with our unique targeted cleaning module offers the most efficient and cost-effective answer to address your boiler cleaning demands. The result is extending your run time by months.

Using waste or biomass as a fuel is an operational challenge. The inconsistency of the fuel results in a wide range of fly ash composition. The quantity and distribution of ash-forming particles in the fuel, as well as the operating parameters, are major factors that influence the fouling tendency. The SMART Shower Clean System is the ultimate weapon against boiler fouling.

The SMART Shower Clean System can be operated as a conventional cleaning device (typically a timed sequence), or tied to our SMART Clean system that applies real-time feedback of fouling conditions to automatically create a targeted cleaning strategy to optimize boiler availability.

Patented dual VFD motor design of the SMART Shower Clean System allows independent and variable traveling and rotation speeds. Multiple operational modes offer the ability to clean based on the severity of fouling in a given area.

On-demand, targeted cleaning increases boiler runtime by controlling slag build-up and maintains a higher heat transfer rate. A key feature of this targeted cleaning system is its zone based cleaning. Depending on the severity of the slag, different locations in the boiler have different cleaning needs. By defining zones along the path of the nozzle, different cleaning methods can be used to specify where and how intensely the SMART Shower Clean System clean, with the ability to change multiple times during the same cleaning event.





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### The ultimate in cleaning performance

Located on the boiler roof, the SMART Shower Clean System can remove deposits from the furnace walls and pendant tubes. The cleaning nozzle is mounted on a flexible, temperature-resistant metal hose. The nozzle enters the boiler guided by a flange, which is opened and closed through an electro-pneumatic valve. After cleaning, the metal hose will be completely retracted and rolled up by the hose reel.

The cleaning nozzle forms a water jet with a defined spectrum of water droplets and momentum. To achieve successful cleaning, it is important that the frequency of cleaning, water impact and quantity hitting the deposits are specifically set to match the requirements of each individual plant. When using waste and biomass as the fuel, the cleaning effectiveness of water based on-load boiler cleaning system depends on the actual fuel composition and the consequential deposit characteristics. By using different nozzle designs and cleaning parameters, the cleaning efficiency can be adjusted to specific surface deposit characteristic.

### Benefits

- Increased plant availability
- Extended run times
- Stable flue gas temperature
- Reduced corrosion rate

#### Three different versions are available:

- Stand-alone: recommended for open passes with small, uniform cross-section
- Single-Row: allows one Shower Clean System to be moved along a track beam in one direction for multiple entry points
- Multiple-Row: allows one Shower Clean System to be moved along a track beam in two directions for multiple entry points



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COMPANY WITH  
QUALITY SYSTEM  
CERTIFIED BY DNV GL  
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