

SHOWER CLEANING SYSTEM SCS

Increased availability for waste and biomass fired boilers

The challenge

The use of waste and biomass as a fuel is a procedural challenge. The inconsistent structure of these fuels results in a wide range of calorific values as well as different fly ash composition. The quantity and distribution of ash-forming matters in the fuel as well as the actual operating parameters, are major influential factors for fly ash composition and therefore dictate the fouling tendency.

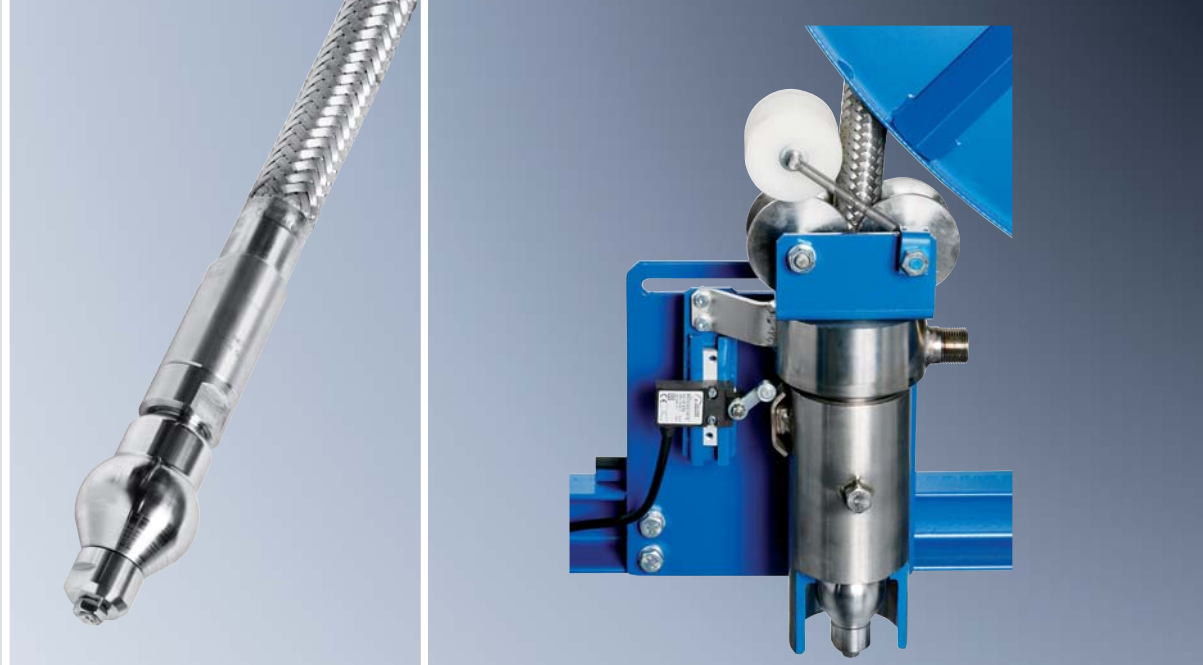
Alkali-rich ash causes the development of extensive salt melt. Noticable consequences of this are increased deposit formation in the open passes, accelerated corrosion processes and finally unplanned shutdowns.

In particular, deposits in the open passes of incinerators strongly influence the plant's availability. Fouling on the membrane walls of the open passes can lead to significantly reduced heat transfer which consequently increases the flue gas temperature before the superheaters. Raised flue gas temperature and corrosive chemical components combine to produce a substantial risk for high-temperature corrosion.

Our solution

The SCS shower cleaning system uses water as the cleaning medium. Located on the boiler roof, it removes deposit from the lower side, the membrane walls, the pendant heater and superheater surfaces. 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.





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Suited for different deposit characteristics

Principle of operation

The surfaces of deposits are characterised by different properties. Their development depends on the chemical composition of the fly ash in combination with the actual flue gas temperature.

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 a 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.

⚙️ Your advantages

- Increased plant availability due to reliable cleaning of the open passes which are important for efficient plant operation
- Stable flue gas temperature
- Lower risk for high-temperature corrosion and reduced corrosion rate
- Shorter revision period as time-consuming manual primary cleaning is almost eliminated
- The construction of SCS allows cleaning of narrow designed open passes
- Corrosion protection of the flange by applying sealing air

Three different versions are available:

- Stand-alone: recommended for open passes with small, uniform cross-section
- Single-Row: recommended for boilers with rectangular cross-section
- Multiple-Row: recommended for boilers with complex geometry – flanges are arranged in multiple rows across the boiler roof, by using a crane runway, different areas can be cleaned



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