

JETBLOWER™

On-load cleaning technology for increased efficiency of rotary air preheaters and gas reheaters

The challenge

In the highly competitive energy markets of today, it is essential for plant operators to keep operating costs minimal but at the same time ensuring high efficiency and availability.

One major factor which contributes to low output and high costs is the insulating effects of slagging and fouling on heat transfer surfaces as a result of by-products from the combustion process. Areas affected by this include furnace walls, superheaters, reheaters, economisers, rotary air preheaters and gas reheaters.

Blockages which occur in rotary air preheater and gas reheat preheater baskets can lead to diminished MW output, additional requirement of fan power, reduced heat transfer and additional unplanned outages.

The most efficient and cost effective method of eliminating these blockages is by using proven cleaning technology designed to remove the ash deposits while the rotary air or gas reheat is still in operation.

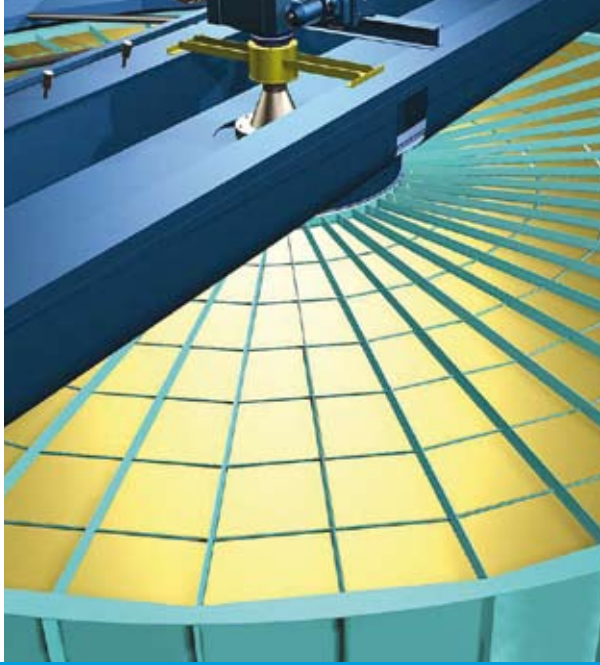
Our solution

The Clyde Bergemann Jetblower™ is the most advanced cleaning device for the cleaning of heat transfer surfaces in rotary air preheaters and gas reheaters.

Its unique features were designed for the demanding service requirements of gas reheat installations associated with flue gas desulphurisation (FGD) plants. It offers the operator a choice of cleaning modes, including the option of on-load high-pressure water jetting to clear heavy blockages.

On conventional regenerative air preheaters its superior cleaning performance contributes to improved thermal efficiency and the prevention of unplanned outages. The cleaning performance allows for the installation of air preheater heat exchange element configurations with higher efficiency characteristics, where fouling problems had previously prevented this.





Increased efficiency whilst lowering operational costs

Operation sequence

When the blower is activated the lance moves forward to its full extent. At the furthest extent of travel, a limit switch is tripped which reverses the mechanism.

Cleaning is carried out on the reverse stroke in timed steps. For air, steam and low pressure water operation the stepping distance is normally 75 mm. For high pressure water operation, the stepping distance is reduced to 15 mm. The dwell period between steps is dependent on the speed of the rotation of the heater.

After cleaning is completed, the cleaning medium supply is automatically switched off and the lance is retracted to its rest position. In gas reheater applications, cleaning may take place on the forward stroke followed by a dwell period at full extension to evaporate any corrosive fluids condensed on the lance before its withdrawal.

Jetblower technical details	
Blowing medium	steam, air or LP water and HP water
Steam pressure	up to 40 bar
Air pressure	7 bar min
Low pressure water	typically 5 bar
High pressure water	100-200 bar
Water consumption	LP 600-700 l/min, HP 100-140 l/min

Benefits

- Blowing medium (medium pressure steam or air, high pressure water or low pressure water) can be selected to suit operational requirements.
- The sootblower tracks across the heater in steps timed to match one or more rotations of the element assembly, to ensure full and even cleaning coverage without "banding".
- The single, fully retractable multi-medium lance is made from corrosion resistant materials to resist damage from acidic gases, and is parked outside the gas stream when not in use. The lance can be fully removed for inspection or maintenance without affecting the operation of the heater.
- High pressure water jetting on-load ensures heater availability at all times. Unplanned outages due to basket blockage are eliminated.
- High pressure water jetting off-load to clear specific basket blockages can be carried out without removal of basket elements or use of paid contractors.
- The design has been tested and proven under the most severe operating conditions in over 50 installations in 17 countries around the world.
- Optimum cleaning performance effected from the unique and patented cluster nozzle design.



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