

Rothemühle® air preheater upgrade

Overview

SPX Heat Transfer LLC now offers high quality upgrades, modernization and re-engineering for Rothemühle air preheaters. These changes increase performance, reduce leakage, reduce pressure drop and wear, increasing overall heat efficiency and fuel savings for our customers.

Primary Benefits

- Less pressure drop by modernizing the heating element profiles
- Higher heat efficiency as a result of new baskets, profiles and heating element designs
- Lower leakage and less wear with advanced design sealing systems
- Cleaner heating elements by providing modern soot blowing systems

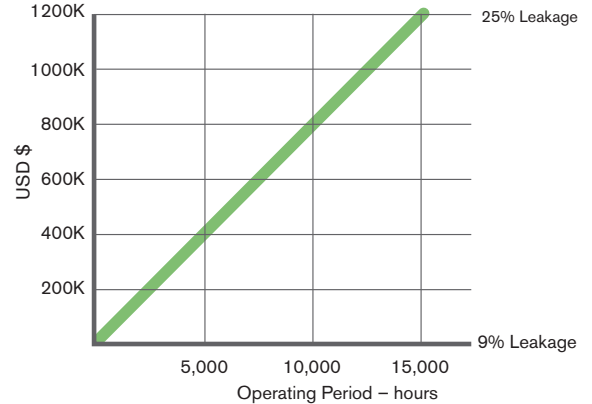
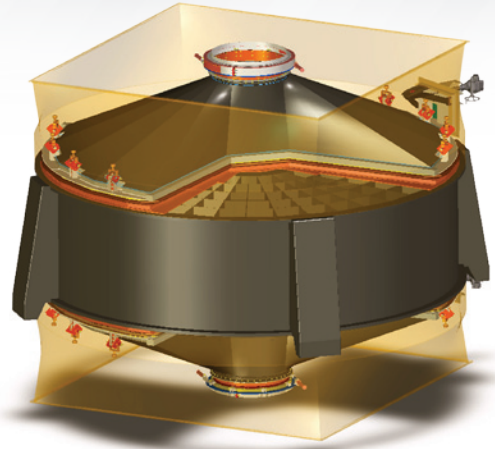
Added Benefits

- Increased precipitator efficiency by lowering flue gas velocity and mass flow
- Decreased power consumption of related induced fans, gaining back lost MWs

Available Component Upgrades

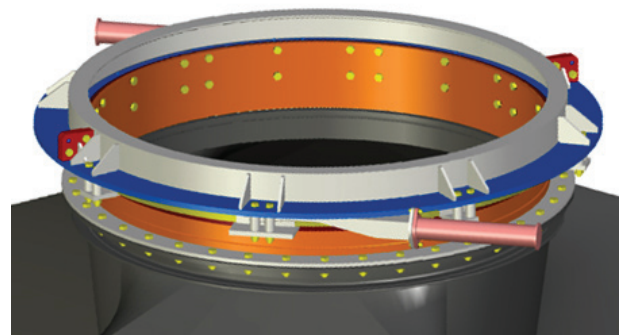
- Newly redesigned seal frames with asymmetrical seal shoes help minimize unwanted pulsations and wear
- New open design collar seals with minimum number of tangential acting tension springs (maximum of four spring positions)
New collar seal designs provide:
 - less leakage
 - longer service life
 - reduced maintenance cost, easy inspection and service
- Sensor controlled automatic seal setting systems reduce leakage in all load cases with no wear

more



Added cost due to Leakage

Example: 300MW Boiler – Savings of operation costs over a two year period



Redesigned Collar Seal

Available Component Upgrades

Heating Elements / Heat Efficiency:

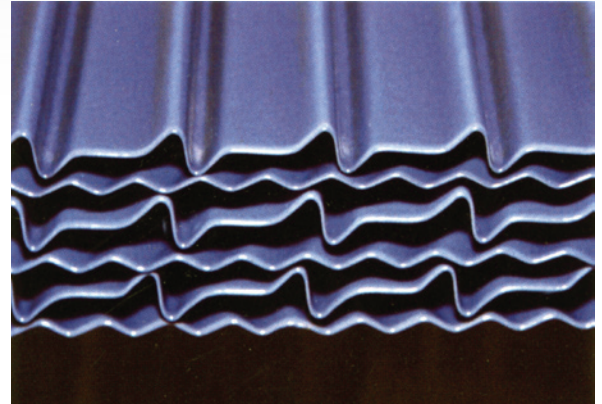
- Increased heat efficiency by using a wide range of various heating element profiles with different materials
- Use of enameled heating elements for SCR (selective catalytic reduction) and FGD (flue gas desulphurisation) applications to prevent against acid attack from clogging and ensuring easy cleaning

Heating Element Details

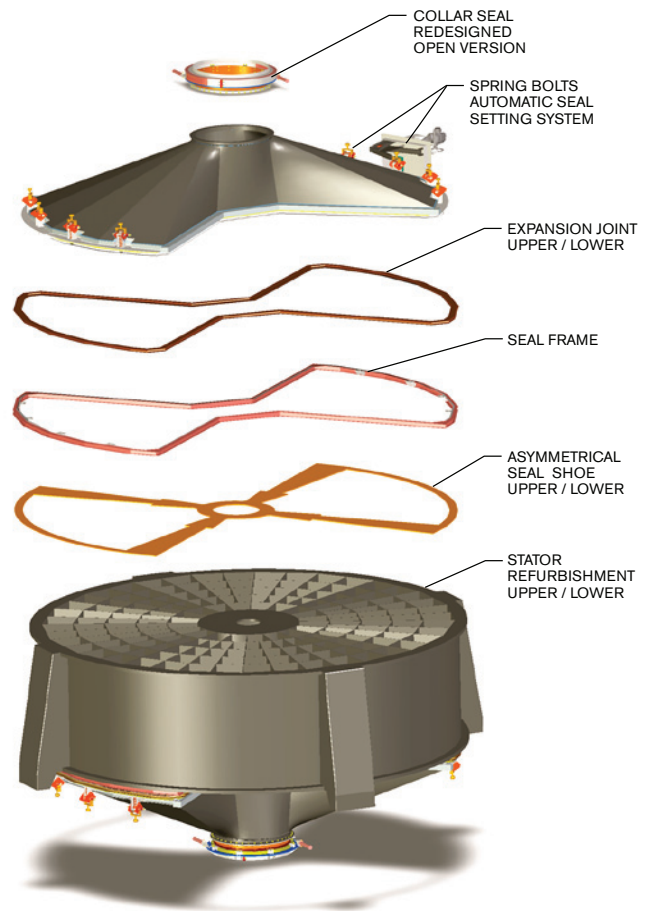
- Custom Designed
- Low plugging tendency and low pressure resistance
- High heat transfer rate
- Easy to clean surface
- Resistant to corrosion and erosion
- Patented enameling process for long life under severe industrial conditions — ideal for SCR operation
- Temperature, shock resistant
- Basket arrangement for fast and easy replacement
- Adjustable plate thickness to withstand flue gas erosion

Special Capabilities and Considerations

- Design calculations
- Layout design
- Design engineering
- Project management
- Manufacturing supervision
- Quality Management
- Manufacturing of key components
- Shipping logistics
- Site supervision
- Commissioning
- Performance testing
- After sales service



Heating Elements



HEAT TRANSFER

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