

# **LIGHTNING**®

An SPX Process Equipment Operation

## **SPX** Process Equipment

# **FGD VSF Side-Entry Mixer**



**Packaging - Processing**  
**Bid on Equipment**  
1-847-683-7720  
[www.bid-on-equipment.com](http://www.bid-on-equipment.com)

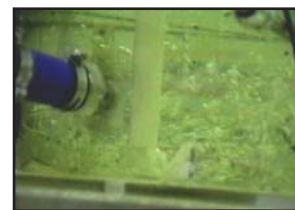
# Like your FGD process, your mixing equipment is an investment for the future.

*LIGHTNIN* has successfully applied hundreds of Top and Side Entry agitators for flue gas desulfurization processes, from the very first FGD installation in the 1960's at the Lawrence Energy Center to today's modern power plants. Since the first installation, the Boiler Systems have advanced considerably from the multiple Absorber Towers per Boiler in the 1970's and 80's to today's systems with a single tower per Boiler, capable of operation for extended periods without shutdown.

At *LIGHTNIN*, we bring over 80 years of mixing experience to your flue gas desulfurization (FGD) process. We believe that getting the job done right means providing the degree of mixing you need while striking the best balance of capital cost, energy consumption, and reliability.

## Oxidation Lance System:

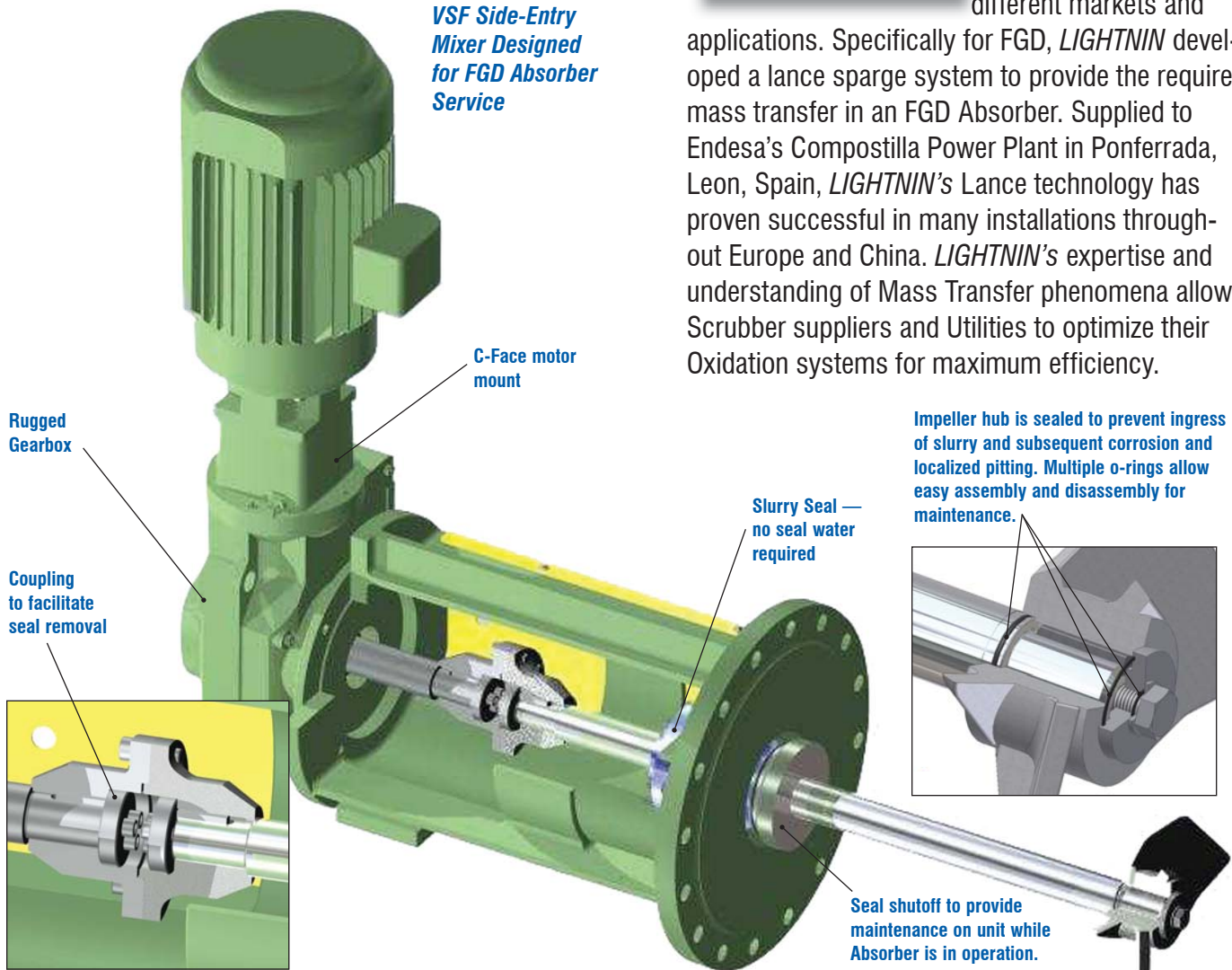
FGD Systems have evolved to Forced Oxidation with a Lance designed to feed the proper amount of Oxidation Air into the Absorber Vessel and achieve the desired Mass Transfer.



*LIGHTNIN* has extensive experience in designing and supplying Gas Sparge Systems for Mass Transfer in many different markets and

applications. Specifically for FGD, *LIGHTNIN* developed a lance sparge system to provide the required mass transfer in an FGD Absorber. Supplied to Endesa's Compostilla Power Plant in Ponferrada, Leon, Spain, *LIGHTNIN*'s Lance technology has proven successful in many installations throughout Europe and China. *LIGHTNIN*'s expertise and understanding of Mass Transfer phenomena allows Scrubber suppliers and Utilities to optimize their Oxidation systems for maximum efficiency.

*VSF Side-Entry Mixer Designed for FGD Absorber Service*



Rugged Gearbox

C-Face motor mount

Coupling to facilitate seal removal

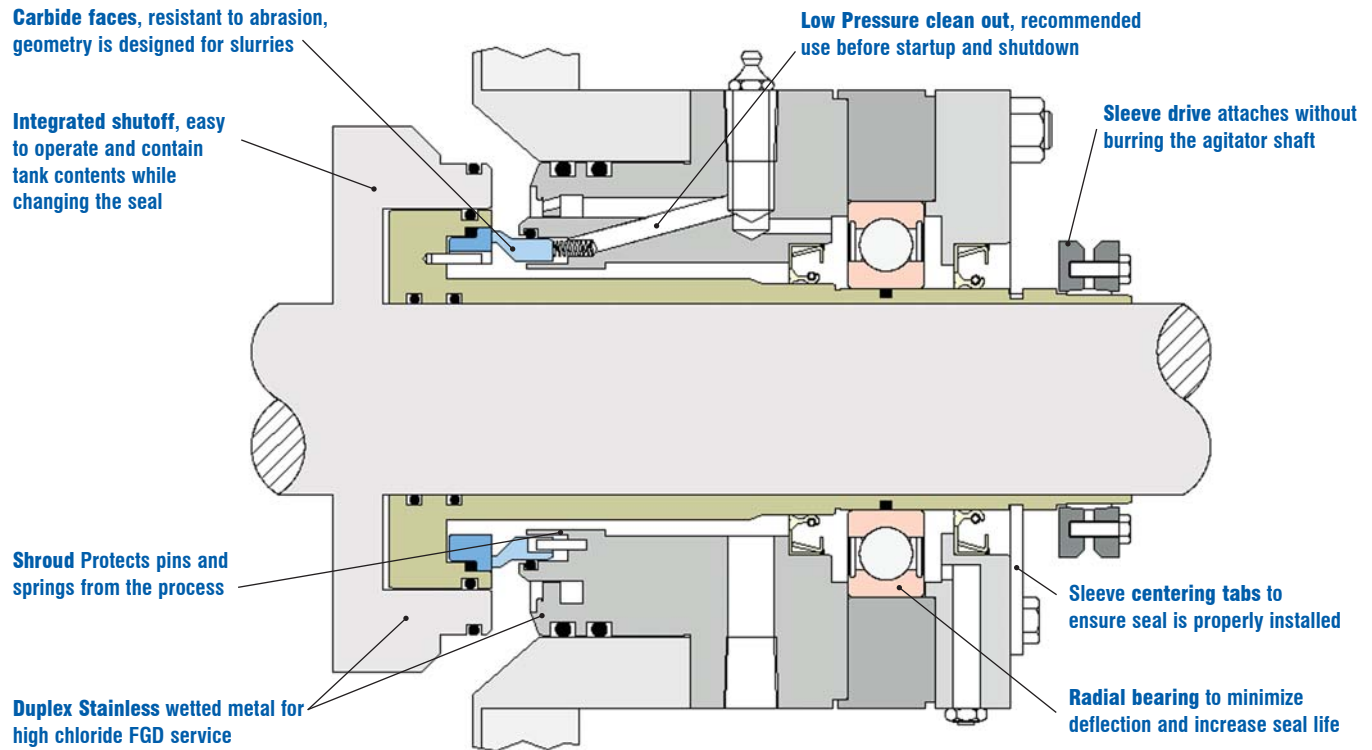
Slurry Seal — no seal water required

Impeller hub is sealed to prevent ingress of slurry and subsequent corrosion and localized pitting. Multiple o-rings allow easy assembly and disassembly for maintenance.

Seal shutoff to provide maintenance on unit while Absorber is in operation.

## The LIGHTNIN FGD Single Slurry Seal

*Mechanical seal designed to excel in a harsh FGD environment. Engineered to operate with no outside flush liquid to reduce your operating expenses, dependency and usage of plant water.*



### A-312 Impeller

This hydrofoil impeller is specifically designed for the requirements of flue gas desulfurization. This impeller generates a strong, focused discharge across the swept diameter that ensures good solid suspension and gas dispersion.

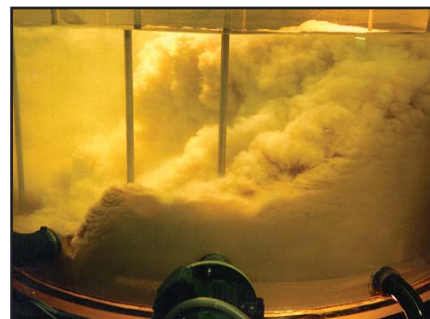


The optimum blade configuration also eliminates the formation of eddy currents on the trailing surface of the blade. This design feature greatly reduces erosion and increases blade life.

### Testing Scale-Up (And Scale-Down)

Correlating a small-scale mixing system to a complicated procedure. From *LIGHTNIN's* years of mixing experience, we're well prepared to scale up, or scale down, accurately.

Adding gas to a slurry not only complicates the process requirements of an agitator, it complicates the scaling procedure as well.



At *LIGHTNIN*, we can scale gas dispersion or mass transfer applications - both to evaluate full-scale performance and to determine

how to improve your particular FGD forced oxidation process.

***LIGHTNIN* has been supplying mixers to the FGD market for 40 years — installations from the 60's are still running today.**