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EXHAUST GAS AFTERTREATMENT IN POWER PLANTS

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Efficient Flue Gas Cleaning for Compliant and Stable Industrial Processes

Flue gases from power plants, waste-to-energy facilities, and chemical production plants contain significant pollutants such as sulfur dioxide (SO_2) and nitrogen oxides (NOx). Effective flue gas cleaning is therefore crucial for environmental compatibility, regulatory compliance, and cost-effective plant operation. Depending on process requirements, combined methods are used: In DeNOX systems, nitrogen oxides are specifically reduced to nitrogen and water, while in flue gas desulfurization systems, sulfur dioxide is reliably removed or—as in sulfuric acid production—recovered and returned to the production cycle. Precise control of these purification processes sustainably minimizes emissions, stabilizes plant performance, and ensures long-term compliance with regulations.

Challenges in Flue Gas Treatment

- Exceeding emission limits jeopardizes operating permits.
- Fluctuating flue gas compositions make stable process control difficult.
- Insufficient dosing accuracy reduces cleaning performance.
- Complex handling of solids increases operating and maintenance costs.
- Inefficient processes result in higher operating and chemical costs.

The solution from sera

- **Targeted NOx reduction:** Dosing of ammonia or urea for effective reduction of nitrogen oxides in the cleaning process, as well as dosing of lime milk for efficient flue gas desulfurization.
- **Reliable preparation technology:** Transfer of granules or flakes into preparation tanks—manually, semi-automatically, or fully automatically.
- **Reliable plant technology for suspensions:** PP tanks with conical bottoms, agitators, dead-space-minimizing fittings, and automatic flushing systems.
- **High process reliability:** Reliable dosing into the flue gas cleaning system through redundant systems and high-quality measurement technology.
- **Flexible integration:** Adaptable to different plant sizes and levels of automation.

sera's dosing systems ensure stable and reliable NOx reduction and flue gas desulfurization, guarantee compliance with legal emission limits, and enable environmentally sound, permit-compliant, and economical operation of power plants.

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