

TURBOSORP® CIRCULATING DRY FLUID BED SCRUBBER



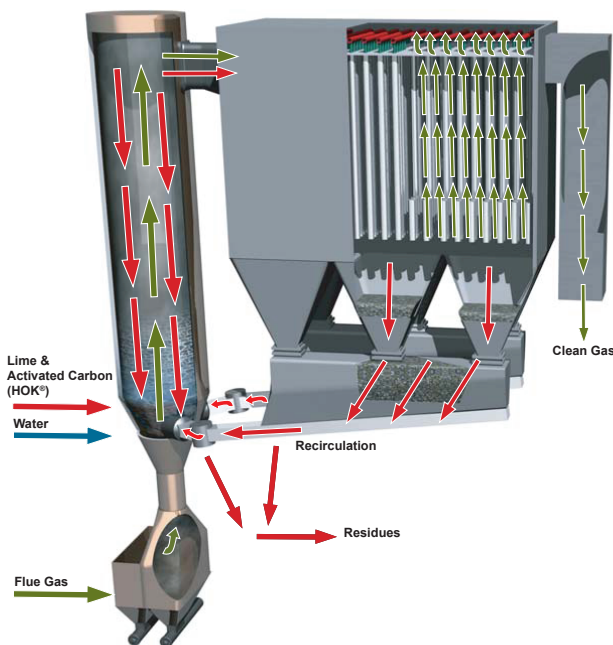
Babcock Power
ENVIRONMENTAL

a Babcock Power Inc. company

Babcock Power Environmental Inc., a Babcock Power Inc.® company, has been providing acid gas scrubber technology and systems for the power generation and large industrial markets for more than 30 years. Our portfolio includes innovative systems to reduce SO₂ and other acid gas emissions from coal-fired power plants, utilizing either wet or dry technology. Babcock Power Environmental's Turbosorp® Circulating Dry Fluid Bed Scrubber is ideal for projects that require dry technology.

The Turbosorp® Circulating Dry Fluid Bed Scrubber is a cost effective, highly efficient system designed to remove acid gas constituents, including SO₂, SO₃, HCl, HF, mercury, and other trace pollutants from flue gas streams. Turbosorp® is ideally suited for coals with sulfur contents greater than 3.0%, and typically results in acid gas removal efficiencies greater than 97%.

Appreciate the high-reliability and efficiency of Turbosorp® in your plant, contact Babcock Power Environmental today.



BENEFITS

High Reliability

- Proven technology, based on extensive field experience since 1980
- Simple fluid bed design with no rotating parts
- Conservative approach to saturation for the exit gas temperature, minimizes the potential for condensation inside the reactor and baghouse
- Baghouse is specifically designed for circulating fluid bed scrubber applications with multiple compartments, allowing on-line inspection and maintenance, and providing high availability

Cost Effective

- Simultaneously removes SO₂, SO₃, HCl, HF, mercury and other heavy metals
- Mercury removal occurs in the system and may be enhanced by injecting activated carbon upstream of the Turboreactor
- Independent control of lime and water minimizes reagent usage and enhances performance over a wide range of operating conditions
- Can be modularized, minimizing field installation labor and time

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HOW IT WORKS

The Turbosorp® dry scrubbing technology provides enhanced contact of finely atomized water, hydrated lime and flue gas through high levels of solid recirculation, within a fluid bed reactor. Lime and finely atomized water are injected independently into the Turboreactor to lower the flue gas temperature and enhance acid gas absorption capacity.

The fluid bed material is comprised of solids, including calcium hydroxide, fly ash from the combustion process, and solid reaction products recycled from the flue gas particulate collection device. Upon leaving the Turboreactor, the solid particles are separated from the flue gas in a fabric filter baghouse and recycled back to the reactor. Where mercury removal is required, Activated Lignite HOK® or carbon can be injected into the Turboreactor. Turbosorp® is available for capacities up to 350 MWs per Turboreactor vessel. For plants larger than 350 MW, multiple reactor vessels are utilized.

Turbosorp® is licensed exclusively by Babcock Power Environmental Inc. from Austrian Energy & Environment.



BENEFITS (CONT.)

Low Operating Costs

- Lower stoichiometry than a Spray Dryer Absorber (SDA) at a given removal efficiency, results in savings in lime costs and disposal of reaction products
- Elimination of all large atomizer motors and compressors lowers total power consumption
- Water, acceptable even with low quality, is added independently from the lime, precluding issues of scaling and plugging, and reducing maintenance costs
- Waste products can be landfilled as non-hazardous material or converted to a useful by-product
- Can operate continuously over a wide range of loads

Fuel Flexibility

- Capable of handling up to 7 lb/MM Btu inlet SO₂ loading while maintaining >97% removal efficiency
- Allows flexibility in fuel purchases as the scrubber is capable of achieving emissions levels across a wide range of inlet SO₂ concentrations

Lower Capital Cost

- Simple, compact design
- Suitable for retrofit application at existing plants
- Minimum controls are required; only five control loops

Safety³ People. Power. Projects.
We're giving safety the third degree.

Babcock Power Inc. and its subsidiaries place the safety, health and security of our people at the core of our company values. Our team is our most valuable resource, generating solutions everyday to deliver safe, clean, reliable energy globally. With a keen focus on safety, Babcock Power Inc. conducts business in a manner that protects our people, our customers and the environment. From innovation to generation, we are proud of our award-winning safety record and are committed to operating with integrity and excellence.

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