DRY SCRUBBING SYSTEMS

Leading Technology . . . Innovative Solutions

Clyde Bergemann EEC's Spray Dryer Absorber (SDA) and Dry Injection (DI) technologies remove gaseous pollutants and heavy metals from exhaust gas streams through the introduction of calcium, sodium and carbon based reagents to transform or capture gaseous and toxic pollutants into particulate matter which can be collected downstream in a particulate collection device (ESP or Fabric Filter). The Company's technology is capable of removing more than 90% of acid gases from the flue gas and has demonstrated 85% removal efficiency of mercury. Clyde Bergemann EEC, formerly **Environmental Elements Corporation (EEC)**, has applied this technology to the power generation, municipal solid and hazardous waste incineration markets.

SDA SYSTEMS

Clyde Bergemann EEC offers Spray Dryer Absorber (SDA) systems for coal fired boilers and waste incinerators. Our systems incorporate our state-of-the-art Spray Dryer Absorber (SDA) vessel and Fabric Filter design, direct drive-variable speed Rotary Atomizers and reagent storage and preparation systems built to our specifications. Flue gas enters the SDA system through a gas disperser located at the top of the vessel. Swirl vanes in the disperser turn the gas counter-current to the rotating atomizer disk and directs it into the chamber where it comes into contact with the atomized reagent slurry. Acid gas absorption, droplet evaporation and gas cooling occur as the flue gas mixes with the slurry. Scrubbed flue gas and entrained particulate exit through the outlet duct and are collected in the downstream particulate collector.

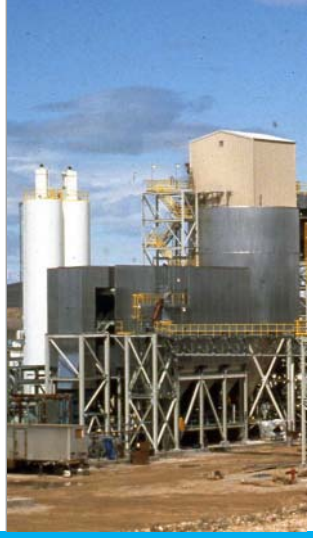
DRY INJECTION

Clyde Bergemann EEC designs and supplies Dry Injection scrubbing systems for the control of acid gases and other pollutants from combustion gas streams. Calcium or sodium based reagents are introduced into the gas stream at the appropriate location to provide the desired acid gas control.

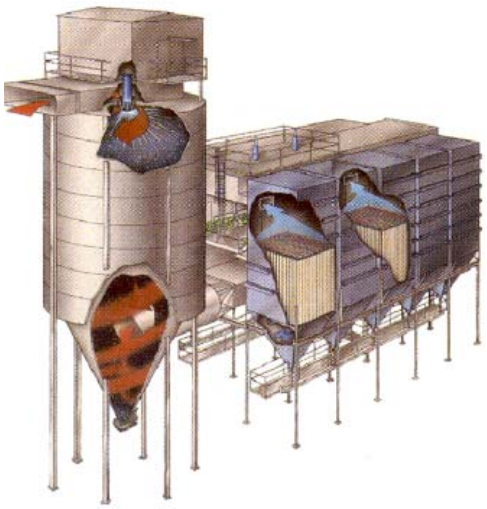
MERCURY REMOVAL

The majority of heavy metals generated by waste incineration or coal firing condense on fly ash or spray drying products and are removed from the gas stream in the particulate collector. Mercury, however, may remain as a vapor throughout the scrubbing process. To control mercury emissions, Clyde Bergemann EEC provides activated carbon and other reagent-based mercury removal systems. The reagent is injected into the ductwork or introduced into the process through the spray dryer. Mercury is adsorbed by the reagent and subsequently removed by the particulate collection device.

CLYDE BERGEMANN EEC



Serving the Power Generation, Pulp & Paper, Iron & Steel, Rock Products, Wood Products, Petrochemical and Waste-to-Energy industries



Typical Clyde Bergemann EEC Scrubbing System

SYSTEM FEATURES & BENEFITS

- Precise control of droplet size
- System reliability
- Efficient mixing of gas and atomized slurry
- Rapid response to variations of gas conditions
- Consistent performance
- Continuous operation during system maintenance with multiple atomizers

Contact Information

Main Office:

Clyde Bergemann EEC
7380 Coca Cola Drive
Suite 126
Hanover, Maryland 21076

Phone: 410-368-7000
Toll Free: 800-333-4331
Fax: 410-368-6721
Internet: www.clydebergemanneec.com

Engineered Systems & Technical Solutions

Phone: 410-368-7000
Toll Free: 800-333-4331

Spare and Replacement Parts

Toll Free: 800-PART EEC
800-727-8332

Emergency Service - 24 hour Help Line

Toll Free: 800-928-HELP
800-928-4357

CLYDE BERGEMANN EEC