

Air Pollution Control Solutions

With over 50 years experience and over 1,500 reference installations, Clyde Bergemann EEC is an industry leader in the development of air pollution control systems, technology and services.



Electrostatic Precipitators

Fabric Filters

Acid Gas Scrubbing Systems

Upgrades & Extensions

*After Sales Services &
Spare Parts*



Experience

Clyde Bergemann EEC is a leading provider of state-of-the-art air pollution control technology and services to a broad range of global companies who are leading entities in industry sectors such as:

Power Generation

Pulp & Paper

Biomass

Cement and Minerals

Waste-to-Energy

Steel and Non Ferrous

General Industrial



With our extensive reference base in a wide range of industry sectors, we can deliver highly efficient technology and in depth expertise in the field of air pollution control.

We can provide anything from a specialist engineer, to carry out plant inspection and assessment, through to new equipment and turnkey systems. Our capabilities extend to major upgrades and rebuilds, planned and unscheduled repair and maintenance and spare parts supply.



Knowledge & Expertise

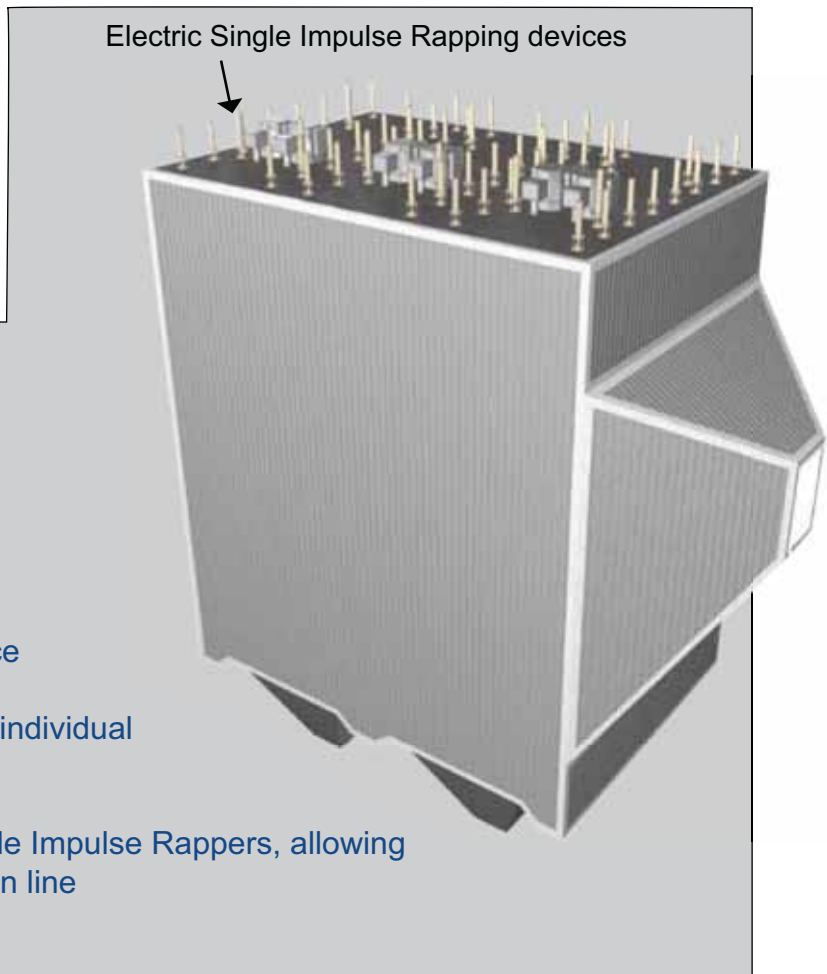
Clyde Bergemann EEC and Clyde Bergemann EEC(UK) employ highly skilled professional engineers with many years experience in the field of air pollution control.

Our solutions are custom designed to suit each application and to meet the specific requirements of the customer.

Clyde Bergemann EEC's Electrostatic Precipitators are designed to allow our customers to operate their plants in compliance with regulatory standards and recover valuable by-products.

⌘ **Benefits include.....**

- ⌘ Improved access to internal components
- ⌘ Increased collecting plate area
- ⌘ Rigid discharge electrodes
- ⌘ No moving parts inside casing and gas flow, low maintenance
- ⌘ Greater rapping flexibility, individual time and intensity
- ⌘ External Electric Single Impulse Rappers, allowing repair/ replacement on line

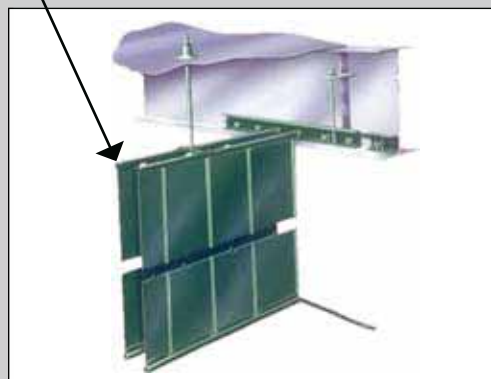


⌘ **Design Features**

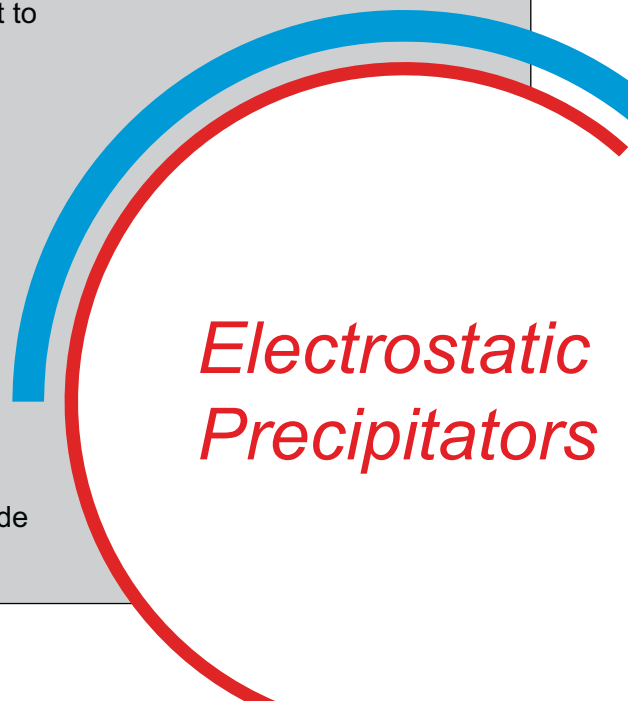


Electric Single Impulse Rapping combines adjustable rapping frequency and intensity with long life and high reliability.

MODULOK® Collecting Electrodes snap fit to produce a highly efficient collector surface



Rigitrode : Unbreakable Discharge Electrode available with various pin configurations



Electrostatic Precipitators

Clyde Bergemann EEC offers a wide range of process fabric filter systems designed to provide effective technical, process and commercial solutions where high collection efficiency and low emission levels are required. Typical collection efficiencies exceed 99.9%.

☐☐☐ *Pulse-Jet Filters*

Pulse-jet filters are designed to allow the flue gas to deposit the particulate on the outside of the fabric, the dust cake is then removed by injecting compressed air down the inside of the bag.



☐☐☐ *Retrofit Options*

In addition to new equipment, Clyde Bergemann EEC specialises in the retrofit of electrostatic precipitators to fabric filters. We can also provide extensions, upgrades and enhancements to existing fabric filter installations.

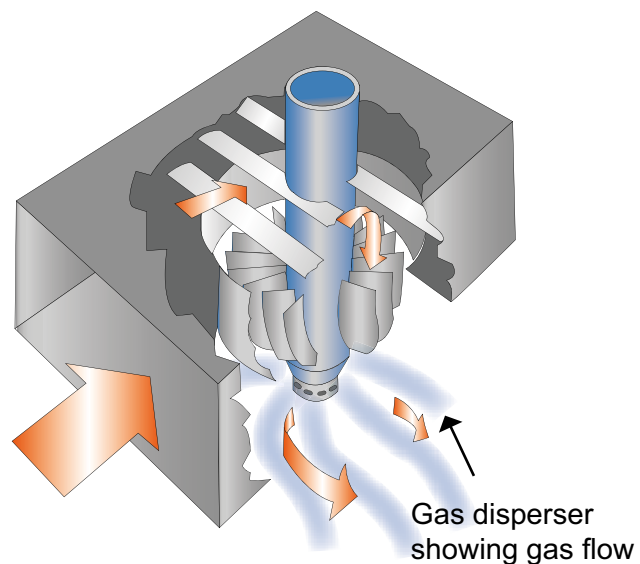


Fabric Filters

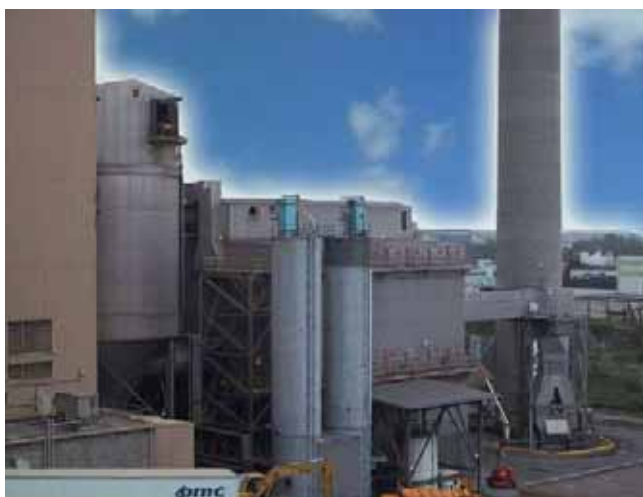
☐☐☐ *Benefits include.....*

- ☐☐☐ Patented stepped inlet manifold which evens gas distribution and prolongs filter bag life
- ☐☐☐ Patented vaned hopper design which improves filter bag life
- ☐☐☐ Lower pressure drop - Reduces I.D fan power consumption and extends cleaning cycle which prolongs bag life.

Clyde Bergemann EEC's Spray Dryer Absorber (SDA) and Dry Injection (DI) technology removes gaseous pollutants and heavy metals from exhaust gas streams through the introduction of calcium, carbon and sodium bicarbonate based reagents to transform gaseous pollutants into particulate matter. This can then be collected downstream in a particulate collection device (ESP or fabric filter).



Our technology is capable of removing more than 90% of acid gases from the flue gas and has demonstrated 85% removal efficiency of mercury. The technology is applied to the power generation, municipal solid waste and incineration industries.



Scrubbing Systems

With decades of experience, Clyde Bergemann EEC can offer comprehensive advice on plant upgrades and emission legislation compliance around the world.

Many existing Electrostatic Precipitator installations require upgrading or extending to meet today's requirements due to the increasingly stringent emissions legislation, and the wide range of coals and fuels being used in the power industry,

Clyde Bergemann EEC has developed a range of upgrade solutions which can be applied to various Electrostatic Precipitator designs.



Installation of replacement ESP internals

Upgrade options include.....

- Rebuilds of existing equipment
- Precipitator internal retrofits, increasing collector plate area
- Precipitator discharge electrode replacement
- Rapping system upgrades to ESI rapping
- Precipitator extension (additional fields, increased collector plate height)
- Gas distribution improvements
- Additional precipitator flows
- Retrofit of precipitator to fabric filter
- Control system upgrades
- COHPAC
- TOXECON



Upgrades

A major focus of Clyde Bergemann EEC is to provide services and solutions to markets experiencing problems with air pollution control equipment. We specialise in providing expertise and services on Electrostatic Precipitators and Fabric Filters and also provide a wide range of general engineering services to our customers.

Our teams of experienced engineers and service professionals are dedicated to providing solutions tailored to the unique needs of your equipment. In addition to standard aftermarket services, we can offer innovative options for reduced downtime, improved efficiency and enhanced reliability.



Bag filter maintenance

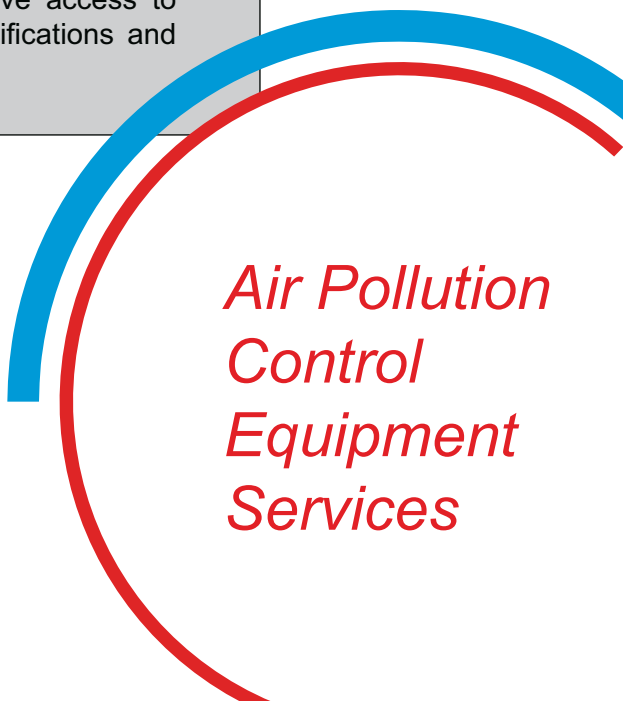
☐☐☐ *Scope of services include.....*

- ☐☐☐ Full service provider
 - ☐☐ Inspection and troubleshooting services
 - ☐☐ Electrical/control system support
 - ☐☐ Plant optimisation
 - ☐☐ Emission testing
- ☐☐ Gas distribution testing services and advice on upgrades
- ☐☐ Planned and preventative maintenance programmes
- ☐☐ 24 hour call out for emergency repairs
- ☐☐ Erection and commissioning

☐☐☐ *Spare Parts*

Clyde Bergemann EEC supplies spare parts for Electrostatic Precipitators and Fabric Filters. All spare parts are manufactured and supplied to original drawings and specifications.

As Electrostatic Precipitator and Fabric Filter specialists, we have access to a network of suppliers who can provide parts to the same specifications and standards as other air pollution control equipment manufacturers.



*Air Pollution
Control
Equipment
Services*

● EUROPE

Clyde Bergemann GmbH
Wesel / Germany

Clyde Bergemann Ltd
Glasgow / Scotland

Clyde Bergemann Service GmbH
Grevenbroich / Germany

Clyde Bergemann Forest SA
Wauthier / Belgium

Clyde Bergemann Doncaster
Doncaster / England

Clyde Bergemann DRYCON GmbH
Wesel / Germany

Clyde Bergemann Eesti Ltd
Tallinn / Estonia

Clyde Bergemann Scandinavia Oy
Espoo / Finland

Clyde Bergemann Polska Sp. ZO. O
Bielsko-Biala / Poland

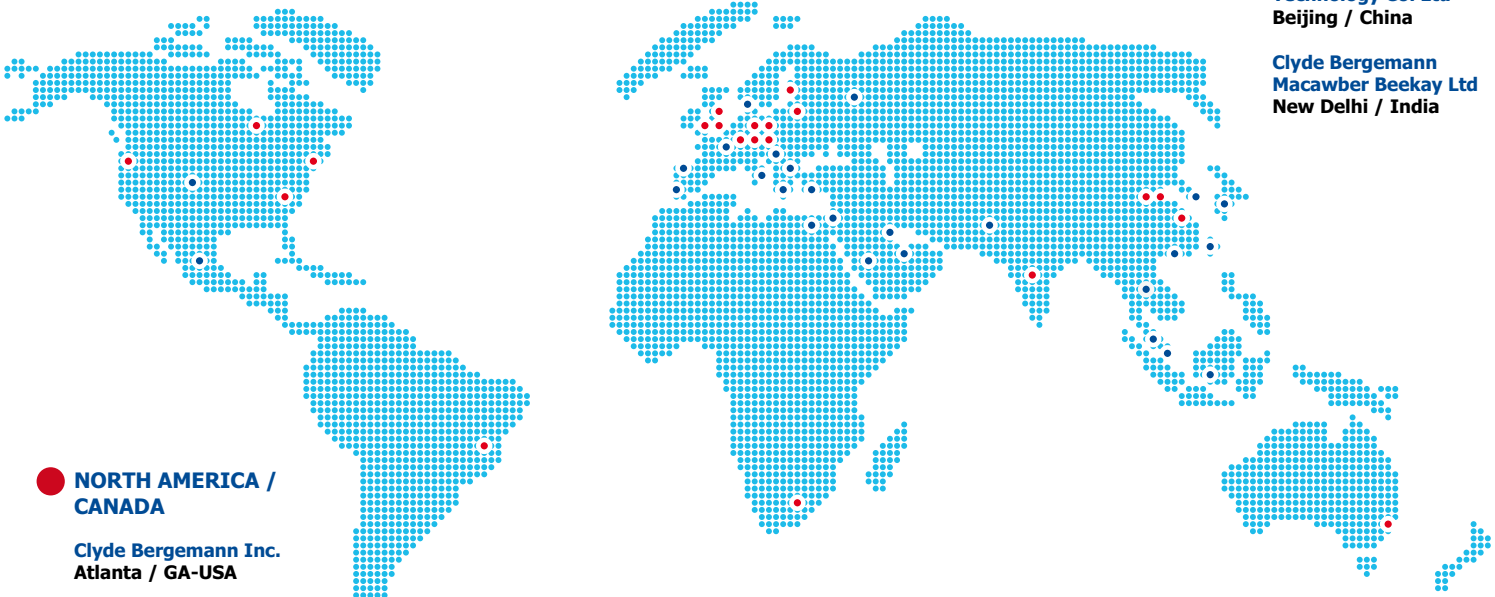
● ASIA

Shanghai Clyde Bergemann
Machinery Company Ltd
Shanghai / China

Clyde Bergemann
Huatong Ltd
Beijing / China

Clyde Bergemann Beijing
Energy & Environmental
Technology Co. Ltd
Beijing / China

Clyde Bergemann
Macawber Beekay Ltd
New Delhi / India



● NORTH AMERICA / CANADA

Clyde Bergemann Inc.
Atlanta / GA-USA

Clyde Bergemann
Environmental Elements Corp.
Baltimore / MD-USA

Clyde Bergemann
Environmental Elements Corp.
Orleans, Ontario / Canada

Anthony Ross Company
Beaverton / Oregon

● SOUTH AMERICA

Clyde Bergemann
do Brasil Ltda
Mogi Guacu / Brazil

● AFRICA

Clyde Bergemann
Africa (Pty) Ltd
Kya Sands / South Africa

● AUSTRALIA

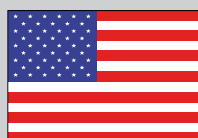
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Senior Thermal Pty Ltd
Smithfield - NSW / Australia

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