

GEECO

Eco Friendly

ELECTROSTATIC PRECIPITATOR (ESP)



Design | Engineering | Manufacturing | Testing | Erection | Service | CFD

www.geeco.in



Corporate Profile

GEECO Enercon Pvt limited, a successful engineering organization which had its inception in the year 1999 & flinched into Rotary Air Preheater spares manufacturing. The focus of the company is to provide Rotary Air Preheater solutions through various modes which include “**Design, Engineering, Research & Development, Manufacturing, Supply, Erection, Commissioning and Service Supervision of APH and associated components**” under the leadership of Mr. V. Rajagopal, a Postgraduate Engineer with immense experience in Air Preheater Engineering, Manufacturing and Field Engineering since 1975, including his ample operational services with BHEL & ABB / Alstom Power. GEECO consistently plays its major role in the field of Rotary Air Preheaters since 1999.

Our Administrative, Design, Commercial & Marketing operations are supported at Headquarters located at Thuvakudy, Tiruchirapalli and other activities which includes Production & Warehousing are being carried out at it's wide spread Factory unit located at Pudupatti, Thanjavur, with 18 acres of land & 120000 sq.ft covered shed.

Our Organization is capable of supplying New Air Preheaters, undertaking Renovation and Modernization jobs to enhance the Thermal Efficiency and for supply of all replacement spares for different make, different sizes for the Power Plant capacity up to 800 MW Units. GEECO has developed an in-house software program for the selection of Air Preheater to determine precisely the performance and leakage of Air Preheaters.

International Operations



As a confirmation to our commitment to match & compete with global market, our organization proved its exemplary performance by availing ISO 9001, 14001, 50001 & OSHAS 18001 standards. To cater our growing customers around the globe GEECO Powermech Sdn Bhd Malaysia emerged to serve the customers in ASIA PACIFIC region. Apart from this further expansion plans are in progress to setup offices around the globe.

Management Team

Mr. V. RAJAGOPAL - CHAIRMAN & MANAGING DIRECTOR

A multifaceted personality who holds a Post Graduation in Mechanical Engineering and has a long experience with Air Preheaters Engineering, Development, starting with BHEL since 1975. He was trained at Combustion Engineering, USA in the field of Air Preheaters. He headed the Air Preheater Division at Alstom. He has worked with most of the Air Preheater designs available around the globe. He is actively involved in the selection, design and field engineering of Air Preheaters with main focus in New Air Preheaters, up-gradation and solving the problems in existing Air Preheaters. As the Company's Chairman & Managing Director, he puts in place adequate operational planning and financial control systems and always strives to develop strategic plans towards the growth and operation of the Company.



Mr. C. GUNASEKARAN - DIRECTOR

A versatile entrepreneur who holds an Engineering Industry since 1982 for Manufacturing Boiler components with “Indian Boiler Regulation Authority” (IBR) certification. He has experience in manufacturing components for Cement and Steel Plants. He guides and monitors the overall work flow of the Company. He takes special care of Financial activities in which he provides confidence in making sound investment decisions and monitors the operating and financial results against the Company's plans and budgets. In addition, he also takes part in other allied activities in GEECO.



Mr. M. AMIRTHALINGAM - PRESIDENT

Since Graduation as Mechanical Engineer in 1969, he joined Asia's largest power plant manufacturer M/s. Bharath Heavy Electrical Limited (BHEL), Trichy Division in 1970. With dedicated involvement and continuous contribution, he raised up to the level of General Manager, within a span of 37 years. He has an experience of 44 years in various fields where his areas of expertise include Manufacturing, Materials Management, Planning, Commercial, Marketing, Project Management. He is persistent towards attracting more customers and develops strategies for promoting the Company's products.



Mr. V. R. VIJAYAPRAKASH - TECHNOLOGY MANAGEMENT ADVISOR

A well-rounded personality and a technical expert who is basically a Mechanical Engineer and further has done dual Masters from Germany, one in Management & the other in the technical field of Computational Engineering. He takes up both Technical & Managerial roles by actively taking part in Management, Engineering Development, Information Technology and other research oriented activities in GEECO. With his 15 years of practical experience in multiple disciplines, he has been a tremendous contributor to the success of numerous projects, comparative studies & optimizations in IT, CFD & FEA throughout the world. Having worked in Bombardier, Germany and CD-adapco, Germany, he has handled different types of customers around the world. Apart from this, he is leading TEFUGEN Technologies Private Limited as Managing Director, which offers complete IT / Engineering solutions to various types of industries.



Vision and Mission

VISION

- ✓ To be a world class engineering organization that provides the best products and services.



MISSION

- ✓ Providing the Products and Services that exceed Customer expectations.
- ✓ Innovating and Deploying total business solutions.
- ✓ Becoming an Indian Multinational Engineering Enterprises in the field of Heat Recovery Systems.
- ✓ Empowering our Employees and creating an environment for them to perform at their highest potential.

Commencement of ESP

As an Energy conservation company the organization has proved its uniqueness and its standalone capability with Air Preheaters, apart from this we enhanced our environmental conservation criteria by reducing the environmental impact through Electrostatic Precipitator Systems (ESP), as a result we started to provide solutions for ESP which includes “**Design, Engineering, Research & Development, Manufacturing, Supply, Erection, Commissioning and Service supervision of ESP and associated components**” .

Our Organization started attracting customers in various sectors through its speciality design where the Environmental impact is a major cause. The ESP team is lead by Speciality engineers who are expertize in Design, Production & Erection of ESP GEECO is ready to solve the consequences of global warming through ESP'S which has specific designs based on customer requirement.

GEECO ESP

- ✓ GEECO has wide Engineering knowledge and capability to Design, Manufacturing, Supply, Erection & Commissioning in ESP
- We offer two types of Design in ESP
- ✓ **Tumbling Hammer Design** - Wire type of Emitting Electrode
- ✓ **EMIGI Design** – (Electro Magnetic Impulse Gravity Impact) Pipe with Spike type of Emitting Electrode

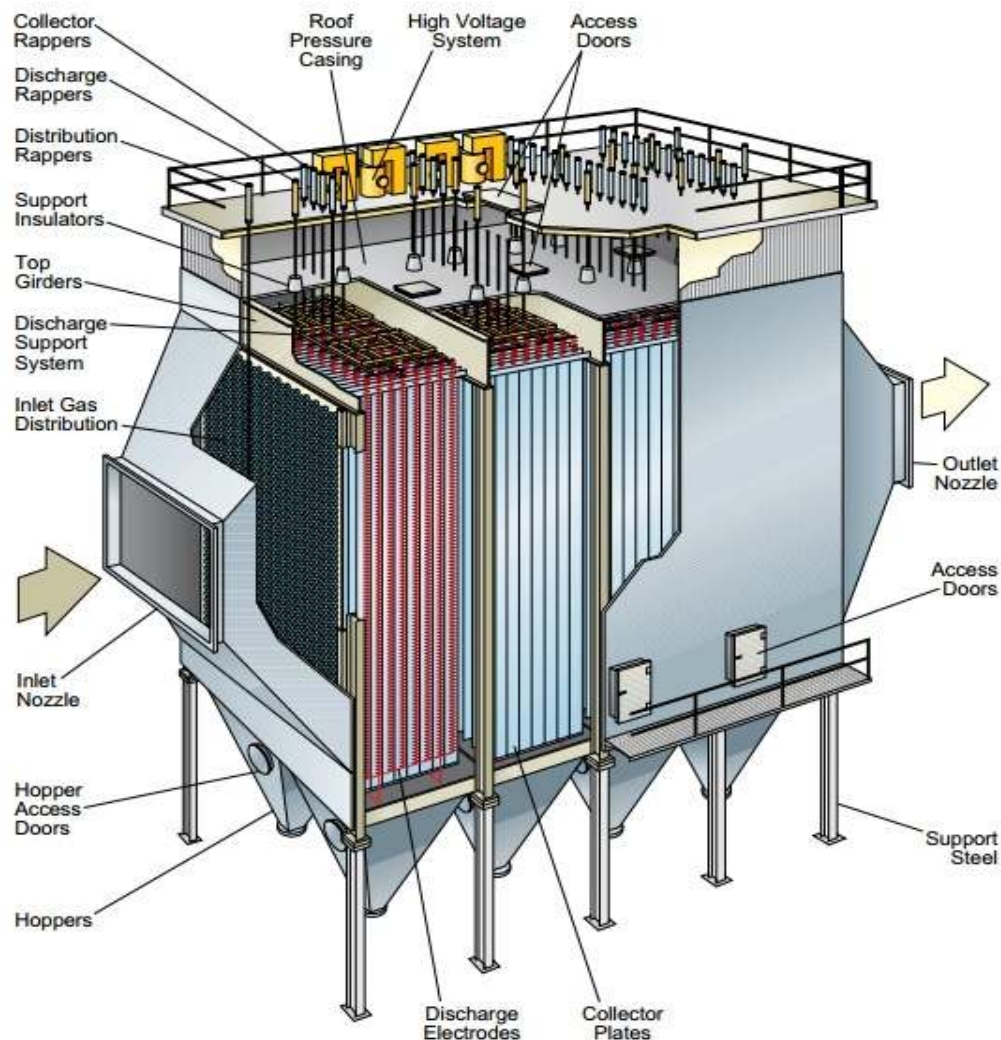
Advantages of GEECO ESP

- ✓ High Collection Efficiency
- ✓ Low pressure drop
- ✓ Low maintenance
- ✓ Continuous dust collecting mechanism
- ✓ Safety mechanism are inbuilt during operation and inspection
- ✓ Compact design and easy to maintain
- ✓ Service After Sales (SAS)



Special Features of GEECO ESP

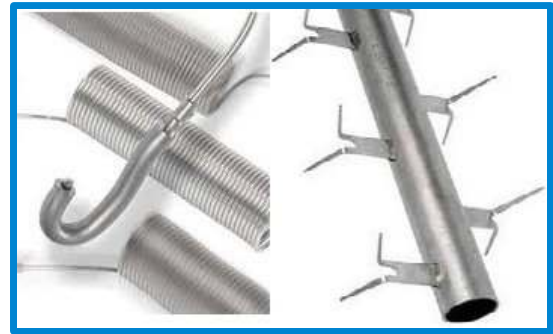
- ✓ Gas distribution screen are provided at inlet and outlet as per computer modeling for proper gas distribution inside ESP
- ✓ Horizontal passage of the ESP consist of the suspended collecting electrodes in 'G' profile construction with dust collecting frames. These help to maintain uniform electric field and smooth removal of collected dust particles without re-entrainment of dust.
- ✓ High performance Emitting Electrodes are made of special material (Spring / Spike) are arranged in the center. A suitable clearance is given between mounting of the framing and Emitting Electrodes.
- ✓ A simplified rapping hammer mechanism is used to knock the dust particles from corona Emitting Electrodes and Collecting Electrodes.
- ✓ Pyramidal hoppers & Dust conveying systems are provided to prevent accumulation of dust.
- ✓ Transformer - Rectifier sets supply specified DC Voltage and current to the field Electrostatic Precipitator.
- ✓ Low Power Consumption of Electric system.
- ✓ Electric heating are provided in Insulators and Hoppers.
- ✓ High performance of separation ensured by current high voltage control system.



Products

Emitting Electrodes

- ✓ Wire type (UHB SS904L / SS316)
- ✓ Pipe with Spike type
- ✓ Strip with Spike type
- ✓ Rigid type
- ✓ Multipeak type



Collecting Electrodes

- ✓ All kind of Profiles (IS 513 / CRCA)



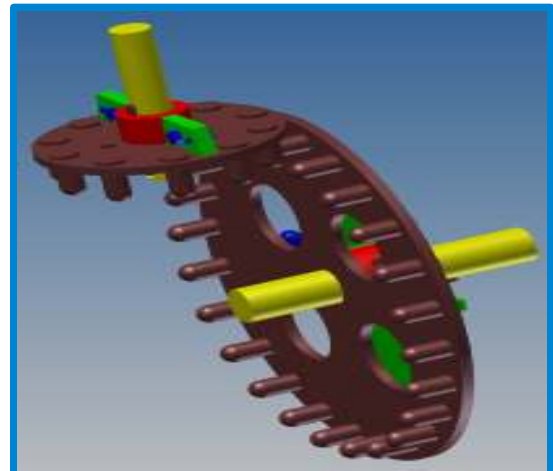
Horizontal Rapping Arrangement

- ✓ Rapping Shaft
- ✓ Plain Bearing
- ✓ Set Ring
- ✓ Coupling
- ✓ Firm and loose type of Shock Bar
- ✓ Shock Pad
- ✓ Shock Bar Guide for Rapping Drive and Non Drive end
- ✓ "U" Guide for Collecting Electrodes
- ✓ Inner Arm
- ✓ Outer Arm
- ✓ H.T Fasteners



Vertical Rapping Arrangement

- ✓ Vertical Shaft
- ✓ Plain Bearing
- ✓ Pin Wheel Big & Small
- ✓ Grip Coupling
- ✓ Thrust Bearing & Pad
- ✓ Support Bearing
- ✓ Adapter Sleeve



Rapping Motor

- ✓ Gear Box with Motor



Rapping controller

- ✓ Rapping Timer System



Thermostat

- ✓ Hopper, Shaft & Support Insulator Heaters
(All kind of specific requirement)



Heaters

- ✓ Hopper Heaters
- ✓ Support & Shaft Insulators Heaters
(All kind of specific requirement)



Ash Level Indicator

- ✓ Electronic Controller
- ✓ Sensing probe Head Type
- ✓ Coaxial cable with electronic unit & Sensing Probe



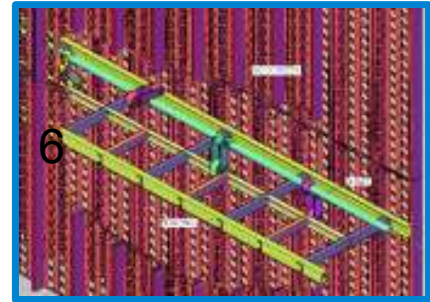
EMIGI Rapping Arrangement

- ✓ Rapper Coil
- ✓ Pounding / Plunger Type Hammer
- ✓ Hypalon Boot Seal Assembly



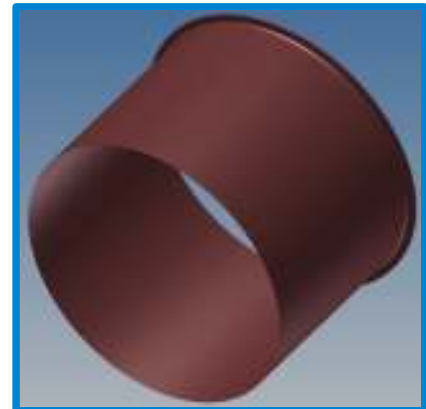
Gas Distribution System

- ✓ Inlet GD Screen
- ✓ Outlet GD Screen
- ✓ Rapping system for Inlet GD Screen
- ✓ Deflection Plate



Screen Tube

- ✓ Screen tube for Emitting suspension
- ✓ Screen tube for Emitting Rapping System



Insulators

- ✓ Conical & Cylindrical Support insulator
- ✓ Shaft insulator
- ✓ Bushing Insulator



Transformer Control Panel & Accessories

- ✓ Analog / Digital card
- ✓ OLR (Over Load Relay)
- ✓ OVP (Over Voltage Protector)
- ✓ Silica Gel



ESP Structural Parts:

- ✓ Foundation Bolts
- ✓ Columns
- ✓ Slide Bearings (Mono axial & Bi axial)
- ✓ Casing Panels
- ✓ Hopper Panels
- ✓ Inlet & Outlet Funnels
- ✓ Expansion joints
- ✓ Roof Panels
- ✓ Insulator Housing
- ✓ Platform, Staircase & Gratings
- ✓ Access Door with Safety Interlock System



ESP SERVICE

We are engaged in offering premium Quality ESP Maintenance Service to our prestigious clients. These services are rendered by our skilled Engineers depending upon the requirements and plans of our customers. These services are widely used in various Industrial & Commercial applications.

ESP Mechanical Services includes:

- ✓ Inspections / Trouble Shooting
- ✓ Research & Development (R&D) for ESP Efficiency improvement
- ✓ Rebuild / Retrofit
- ✓ Upgrade Services
- ✓ CE Plate Repair / Straightening
- ✓ Site Supervising - Third party inspection of Retrofit & New ESP
- ✓ Mechanical Inspections & Repairs to enhance ESP Performance
- ✓ Repair / Replacement of Casing walls, Funnels, Roofs & Hoppers
- ✓ Replacement of Precipitator internals: Collecting & Emitting Systems
- ✓ Repair / Replacement of Rapping Mechanism Parts
- ✓ Optimizing Corona Power & Alignment
- ✓ Conducting GD test for uniform gas flow in the ESP



ESP Electrical Service includes:

- ✓ All type of heaters (Pre-Commissioning & Commissioning)
- ✓ All type of Rapping Motors (Pre-Commissioning & Commissioning)
- ✓ TR-set with panel (Pre-Commissioning & Commissioning)
 - a) Lamp Load Test in Tr-Set Control Panel
 - b) SC (Short Circuit) Test in TR-Set
 - c) OC (Open Circuit) Test in TR-Set
 - d) Air Load Test
 - e) Full Load Test





● INDIA

● MALAYSIA

HEAD QUARTERS - INDIA

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