

# GE TEK

*We Care for Power & Environment*



## ELECTROSTATIC PRECIPITATOR

Excellence, Ensuring Top  
Performance and Reliability





# About **GE TEK**

GE TEK is a premier provider of advanced solutions in the power and environmental industries. With a focus on innovation and sustainability, we specialize in Design, Engineering, Manufacturing and Supply of Electrostatic Precipitators (ESP), High Frequency Transformers (HF TRSet), Bag Filters and High Current & High Voltage Rectifiers (SCR & IGBT). Our in-house expertise and committed team guarantee the delivery of high-quality Products and Services tailored to meet the unique requirements of our international clientele.

## Vision

We aim to pioneer the future of mobility, enriching lives globally by providing the safest and most accountable business transportation solutions.

## Mission

Our mission is to go beyond expectations by providing superior services that not only meet but exceed our customers' preferences and expectations.

## Quality

Quality is at the heart of **GE TEK**. We adhere to the highest industry standards and continuously improve our processes to ensure that every product we deliver is of the utmost quality.

## Global Presence over 15+ Countries across the world

With a strong presence in India, Malaysia, Singapore, Thailand, Indonesia, Philippines, Srilanka, Central America, Morocco, Dubai, Saudi, Abu Dhabi, Egypt, Australia, Malawi (Africa), **GE TEK** has successfully delivered projects worldwide. Our global reach ensures that we can meet the needs of clients no matter where they are located.

## Company Values

At **GE TEK** our values are the foundation of everything we do. We are committed to integrity, innovation, and a customer-first approach, ensuring that every product we deliver meets the highest standards.

**E Gunasekaran**

*Director of Company*





# Our Products

From Design and Engineering to Commissioning and Service supports, **GE TEK** offers a comprehensive suite of services to ensure your projects are executed seamlessly and efficiently.

- Design, Engineering, Manufacturing, Supply, Erection and Commissioning of Electrostatic Precipitators (ESP)
- Design, Engineering, Manufacture, Supply, Erection and Commissioning of Bag Filters
- Manufacturing of High Frequency Transformers (HF TRset)
- Manufacturing of advanced Micro Processor controllers for Conventional TR Sets
- Revamping and Enhancement of Electrostatic Precipitators
- Service and Spare Parts Supply for any Make of ESP
- Highly Reliable SCR-Controlled Rectifiers
- India's Largest Capacity IGBT-Controlled Rectifiers

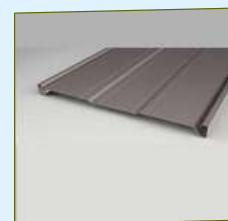
## Specification of ESP

Parameter	Unit	Ranges
Flue Gas Volume	m <sup>3</sup> /Sec	7 to 1500
Flue Gas Temperature	°C	110 to 450
Boiler Capacity	TPH	8 to 2640
ESP Inlet Dust Concentration (IDC)	gm/Nm <sup>3</sup>	1 to 250
ESP Outlet Dust Concentration (ODC)	mg/Nm <sup>3</sup>	< 18
ESP Efficiency	%	Up to 99.992

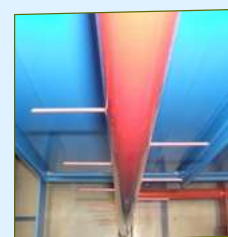
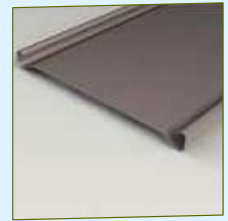


### Collecting & Discharge Profile

CE 485



CE 445

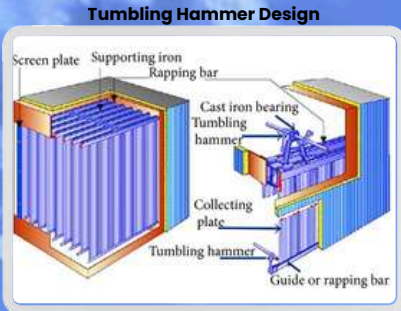


Staggered Pin



Opposed Pin





## ELECTROSTATIC PRECIPITATOR

### Principle of Operation

**Stage:1** A high voltage is applied between the discharge and collecting electrodes, generating a corona discharge that produces negative ions

**Stage:2** The negatively ionized dust particles are attracted to the collecting electrode due to electrostatic attraction between the two unlike charges

**Stage:3** The dust accumulated on the collecting electrode is removed and collected into the hoppers by rapping system

### GE TEK is a world class supplier to

- Boiler OEM's
- Sugar Industry
- Process Industry
- Pulp and Paper Industry
- Cement Industry
- Steel & Sinter Plants
- Power Plants
- Glass Manufacturing Plants
- Palm
- And various other industries

### Advantages

- ESPs are very efficient even for small particles
- Operating costs are reduced by low energy consumption
- Minimal maintenance requirements
- Can be designed to handle wet and dry gas compositions for a wide range of gas temperatures.
- Handle large volumes of gases
- Low pressure drop
- To Handle High Moisture & High Unburnt Carbon

### FEATURE

The unique characteristic of ESP lies in the direct application of a separating force to the particles, which does not influence the entire gas stream. This results in a significantly lower pressure loss in comparison to other type of dust collection systems.

### Highlights

- Core Competency
- Well proved design
- Selection of Collecting & Discharge Electrodes
- Efficient rapping
- Low weight
- Competitive design (Low Weight)
- TR Set controller (OWN Design)
- In-House Manufacturing facility
- Strength of Execution
- Vide Commissioning knowledge

Exclusive design for both Tumbling (Bottom and Top Rapping) and EMIGI.

**TUMBLING & EMIGI**

# HF TRSet

## PRINCIPLE

The voltage is rectified in a three phase bridge rectifier and is then filtered in a smoothing filter which includes the storage capacitor. The DC supplies a series resonance converter connected to a step-up transformer whose secondary voltage is rectified in a single phase bridge rectifier connected to the discharge electrodes in the ESP.



Display				Com Status		
Uab	422.7 V	Udc1	708.5 V	Temperature	47.3 °C	
Ubc	424.0 V	Idc1	26.5 A	Temp-A	47.1 °C	
Uca	427.1 V	Udc2	43.8 kV	Temp-B	47.1 °C	
Ia	42.0 A	Idc2	596.0 mA	Temp-C	46.0 °C	
Ib	37.5 A	Inverter-Freq	26.0 kHz	Temp-D	42.8 °C	
Ic	45.6 A	State	Run	Temp-E	41.4 °C	
F	50.01 Hz	Alarm-H1	0	Transformer	38.6 °C	
Cos	0.99	Alarm-L1	0	SparkCount	1824 Num	
P	26.6 kW	Alarm-H2	0	BackCorona	Not detected	
Q	0.0 kVar	Alarm-L2	0			

## HIGH FREQUENCY TRSet

### RATINGS

Secondary Voltage

80 kV

Secondary Current Ranges

600 mA, 800 mA, 1200 mA,  
1600 mA & 2000 mA

### OPERATING FREQUENCY

upto 40 kHz

### POWER FACTOR

Unity

Controlled through IGBT  
Technology

### KEY FEATURES

Efficiency > 90%

Average Voltage = Peak  
Voltage

Balanced Three Phase  
Fast Responses

## Innovative Features

The new innovative features provide end users with the improved operational performance and reliability needed to meet future emission requirements. It has been found to be particularly **effective in dealing with high ash fuel, high resistivity dust**, Power & Sinter Plant applications which changes the design parameters and this is more helpful to control the outlet duct concentration (ODC) of ESP and reduce the emission level without adding additional mechanical fields.

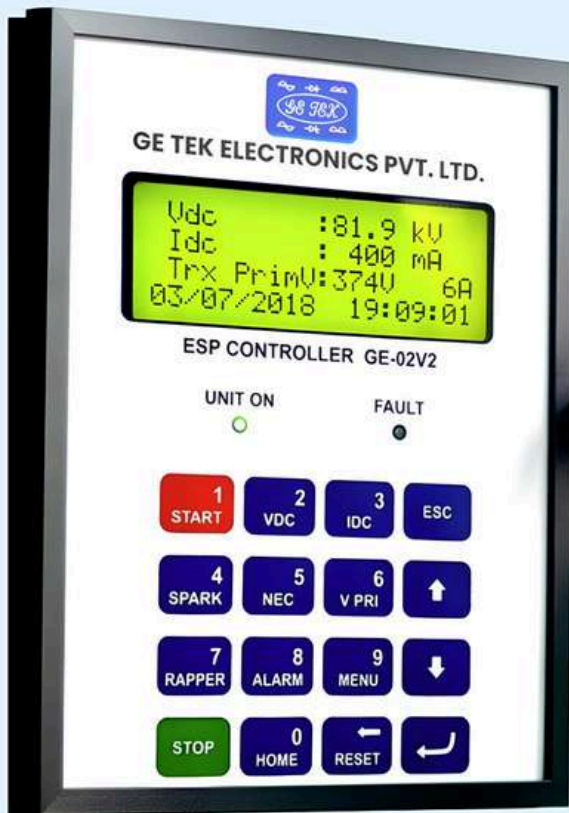
**IN-HOUSE  
MANUFACTURING**

## Advantages

- More Control function (IGBT) results in better Collection Efficiency.
- More than 30 % higher current into the ESP compared to Single Phase Conventional TRSet.
- Significantly high power (Corona Power) capabilities and improvement in Collection Efficiency.
- Easy access through communication protocol and remote control.
- Huge Power Savings as compared with conventional TRSet.
- Very less maintenance.
- Life of HF TRSet is almost min. 30 years whereas conventional TRSet max. 15 years.



# ESP TRSet Controller



## Special Features

- Arc & Spark Detection –Accurate & Reliable detection of Arcs
- Proportional Spark Rate Control –Automatically Selects Best Spark Rate
- Back Corona Operating Mode (BC) – Offers Specific Optimization & earliest detection
- Programmable Averaged Electrical Readings
- Rapper Power Down Features
- Automatic Display Scaling Simplifies Operation
- SCR Indicators Immediately Show SCR And Firing Circuit Failures
- Communication Interface Offers A Wide Choice Of Remote Control And Monitoring
- Single SCR firing interlock

## After Sales Service & Marketing

Our after-sales service and marketing strategies are designed to ensure lasting customer satisfaction and loyalty. We provide 24/7 customer support, regular maintenance, on-site repairs, and access to essential spare parts. Through extended warranties, personalized training, and feedback mechanisms, we guarantee product longevity and continuous improvement. Our marketing strategies focus on building strong customer relationships, offering loyalty programs, educational content, and targeted campaigns. By sharing success stories and utilizing digital platforms, we effectively engage customers, ensuring they remain informed, satisfied, and ready to explore new product enhancements and services.

## Performance Certificates





# Our Prestigious Projects



Nestle India



JK Tyres



TNPL



Aryan Boilers



Saint Gobain



ARS Energy



Renuka Sugars





# Our Valued Clients

- Nestle India Limited
- Saint Gobain India Pvt Ltd
- Aryan Boilers
- JK Tyre & Industries Ltd
- AksharChem India
- Venkraft Paper Mills (P) Ltd
- Tamil Nadu News Print & Paper Ltd
- Shree Renuka Sugars Ltd
- Dharani Sugars Limietd (PGP Group)
- Sri Chamundeswari Sugars Limited
- EID Parry (India) Limited
- Raj Shree Sugars
- The Ugar Sugars Limited
- Davangere Sugar Company
- TamilNadu CO-OP Sugar Mills
- Raiply Malawi Sugars (Africa)
- Cosumar Suta Morocco
- PT Tereos FKS Indonesia
- PT Adhikarya Indonesia
- PT Labinth Indonesia
- Casur North America
- KMRI, Srilanka
- Vidul Bio-Mass, Srilanka
- India Cement Limited
- Ultra Tech Cement Limited
- Adani Cement
- Chettinad Cement
- Ramco Cements

- Apollo Tyres Limited
- OPG Power Generation (180MW)
- JSW Steel
- Jindal Steel & Power Limited (JSPL)
- Sripathi Paper & Boards Ltd
- SAIL (Steel Authority of India Ltd)
- SPY Agro Industries Ltd
- ARS Energy Pvt Limited
- JK Paper Limited
- Bokaro Power Supply
- Bhubaneshwar Power & Steel
- Kriloskar Ferrous
- West Bengal Thermal Power Station
- Vishnu Chemical
- Srikalahasthi Pipes Limited
- 3F Industries
- Emami Agrotech Limited
- MSP Steel & Power Limited
- Alkyl Amines Chemicals Limited
- Gujarat State Electricity Corp Ltd.
- Sarda metals & Alloys Limited
- Suryadev Alloys & Power



## GE TEK ELECTRONICS PVT LTD.

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