



# Electrostatic Precipitator Systems

for a pollution-free tomorrow

### Our Vision

Our vision is to be a globally reputed engineered metal products company.

We endeavour to have a strong and enduring relationship with our customers based on quality and service.

### Pennar Industries Engineering India

Pennar Industries is a multi-product, multilocation enterprise manufacturing a wide range of value-added sheet metal products which include:

- Cold roll formed steel profiles
   Engineered components
   Railway Wagon & Coach Profiles
   Fabricated steel products
   Precision tubes
   Cold-rolled strips
- Pre Engineered Buildings Sheet piles These products are made from diverse raw materials such as stainless steel, corten steel, pre-galvanized / galvalume / pre-colour coated steel, mild steel, and structural steel in St-42/52 grades. The products find application in diverse industries such as:
- Railways Automobiles Building &
   Construction Pollution Control Equipment
- Infrastructure Heavy Engineering Road Safety Systems General Engineering Pennar along with its subsidiary, Pennar Engineered Building Systems, has sales of ₹1375 crores in FY' 11 and plans to achieve a sales turnover exceeding ₹2000 crores in three years' time.



**Railway Products** 



**Sheet Piles** 



Roof Sheeting



Railway Wagon



**ESP Electrodes** 



**Pressed Components** 



**Deck Plates** 



Road Safety Systems



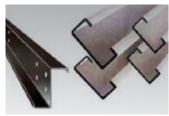
**Automobile Products** 



Cold Rolled Coils



**Heavy Engineering Fabrications** 



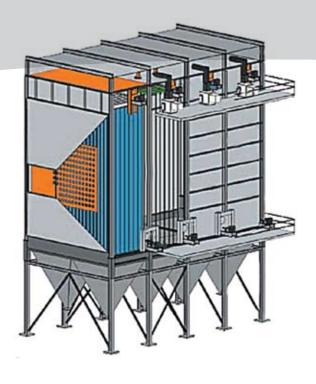
C & Z Purlins

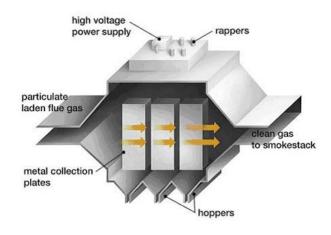
## Electrostatic Precipitator

Pennar has been supplying various types of collecting & discharge electrodes of all ESP designs (both European & American) to all ESP manufacturers in India for the last 15 years.

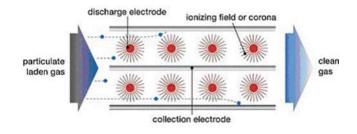
Pennar is having its own inhouse facilities and full fledged manufacturing facilities including fabrication.

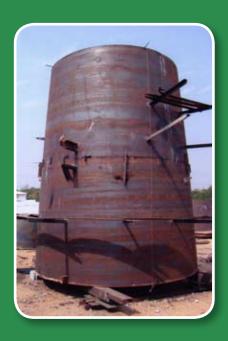
In-house manufacturing resources and testing facilities enable to supply quality product in large quantities.





Side view of ESP schematic Diagram.







80-meter-high stacks for exhaust gases

Pennar manufactures a wide range of 'Collecting Electrodes' and 'Discharge Electrodes' for Electrostatic Precipitators (ESPs), which are used for controlling pollution in cement, mineral industries and in power plants.

#### **COLLECTING ELECTRODES**

Particles caught in the flow of gas move through a collector chamber or passageway containing sets of electrodes in the form of parallel plates, bundles of tubes, or simply the collector's inner walls. The plates, tubes or inner walls serve as grounded electrodes that act as particle collectors. The collecting electrodes are vibrated to loosen the particles, which fall into hoppers for collection and disposal.

#### **DISCHARGE ELECTRODES**

They are insulated electrically from the rest of the chamber and charged with high direct current. The electrical charge ionizes the suspended particles, causing them to move toward the collecting electrodes. Opposite high voltages (plus and minus) are charged on two plate grids. The positive grid charges the particles and the negative grid attracts (collects) them.

The electrodes are manufactured by cold roll forming and then subjected to various post forming operations. The customers include Alstom, Thermax, ACC and L&T. Pennar is also a global source of ESP components to FL Smidth (Denmark) and Hamon Research-Cottrel (Belgium).



(In Corten steel, CR-St 42 / 52 grade steel, stainless steel etc) Wide Range

- Precise dimensioned product
- In thickness from 1.00mm to 1.60mm
- In widths of 300mm to 2550mm
- In lengths from 5.00m to 15.00m (Trailer transportable lengths)

### TYPES OF DESIGNS

Pennar is having the manufacturing facilities for the following collecting & discharge electrode designs

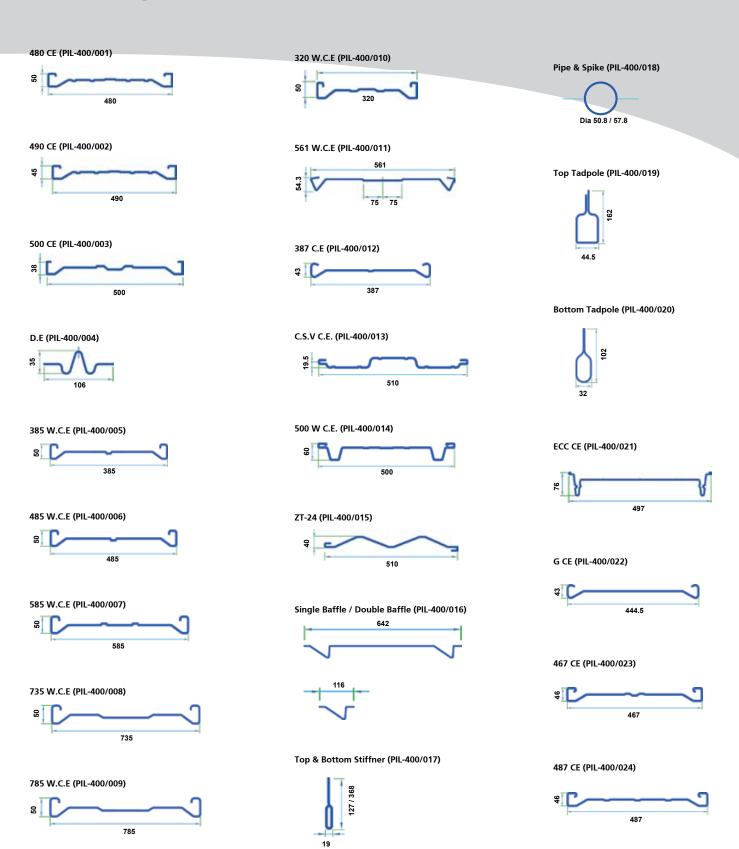
- Routhmole
- Lurgi
- Hamon Research & Cottrel
- FL Smidth / FLS Milo
- Flakt
- Flex
- Beth
- Andrew Yule





**Electrostatic Precipitator Electrodes** 

### Wide Range of ESP Sections





Transportation of ESP Sections



OUR ESTEEMED CUSTOMERS to name a few













ETS – Flex – Thane

Hamon Research & Cottrell – SA

### Manufacturing facilities



Patancheru (Andhra Pradesh)





Chennai (Tamil Nadu)



Sadashivpet (Andhra Pradesh)



Tarapur (Maharashtra)

Pennar has six manufacturing facilities all over India giving it a pan India presence. The facilities include laser cutting, plasma cutting, transfer presses and CNC machines that enable it to make products of very high quality.

Pennar endeavors to achieve 'total customer satisfaction through total quality management' and is committed to producing and providing steel-based products and associated services of the highest quality to customers all over the world. To enable continual improvement in operations, it promotes a working environment that motivates the employees to communicate freely and innovate.

Pennar has a dedicated team of well qualified engineers who employ stringent quality control measures at every stage of the manufacturing process. The end-products are subjected to a battery of quality tests on various parameters in order to meet stringent customer specifications. All the plants are ISO 9001:2008 certified.



### **Pennar Industries Limited**

Engineering Excellence

#### **Registered Office**

Floor-1, DHFLVC, Silicon Towers, Kondapur, Hyderabad - 500084 Ph: +91-40-23117043 / 45 / 47 Fax: +91-40-23117041 www.pennarindia.com

### Corporate Office / Central Marketing Office

I.D.A, Patancheru - 502319, Medak District, Andhra Pradesh. India. Ph: 08455-242184 to 193 Fax: 08455-242424 / 242161 Email: pilhyd@bsnl.in / contact@pennarindia.com www.pennarindia.com

#### **Marketing Offices**

Ahmedabad : 09099665453
Bengaluru : 080-2322 0667
Chennai : 044-2489 3962
Coimbatore : 09626809747
Delhi : 09871196334
Hosur : 04344-275458 / 276874 (telefax)

Hyderabad : 040-23117044 / 7045 Indore : 0731-4207171 Kolkata : 033-2441 7325 Mumbai : 022-4123 7383

Mumbai : 033-2441 7325 Mumbai : 022-4123 7383 Pune : 020-2554 8660 Vizag : 09848383114 ahmedabad@pennarindia.com bengaluru@pennarindia.com chennai@pennarindia.com coimbatore@pennarindia.com delhi@pennarindia.com hosur@pennarindia.com hyderabad@pennarindia.com indore@pennarindia.com kolkata@pennarindia.com mumbai@pennarindia.com pune@pennarindia.com