



# Electrostatic Plate Separator



## Overview

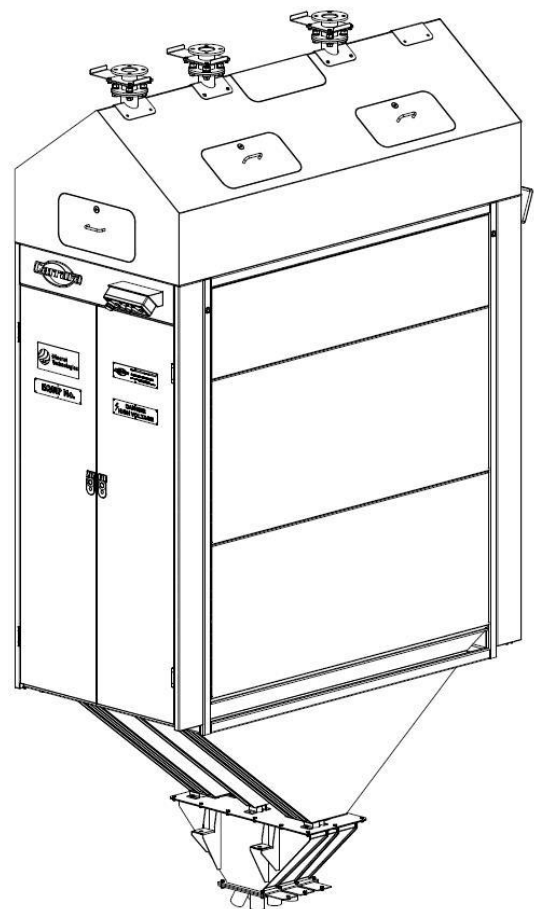
Electrostatic plate separators are used to separate dry, free flowing materials with particle sizes between 40 and 800 microns that exhibit differences in surface electrical conductivity. The unit is most efficient at removing fine sized conductors from coarser sized non-conductor materials.

## PRODUCTION 1800mm

### Features

- 10 Plate/Electrode assemblies arranged in 2 Start x 5 Stage Non-Conductor Cleaner Configuration
- Or
- 5 Plate/Electrode assemblies arranged in 1 Start x 5 Stage Non-Conductor Cleaner Configuration
- Charged Solid Elliptical Electrode to eliminate potential arcing points
- All internal product transfer Chutes
- Integral DC high voltage bus bar
- Inspection Panels and Doors with mesh grille behind for safe inspection
- Discharge Launderers ( refer configuration table for details)
- Complete dustproof enclosures and spillage chute assemblies with single port for dust extraction
- Local Control Station incorporating Emergency Stop and Feed shut off (Operator End)
- Emergency Stop (Non-Operator End)
- Adjustable Earthed Plate angle to suit feed type
- Splitters adjustable during operation from outside of safety mesh grille
- Feed Temperature up to 110°C
- Applied Voltage up to 40kv
- Electro/Pneumatic feed gate control for each unit start and exchangeable feed slides for feed rate control
- OR
- Fluted Feed roll incorporating geared motor with Variable Frequency Drive for fully variable feed rates and automated control

Image opposite depicts a production ESP 2x5x1800





## **Control Panel**

- Incorporating 40kv 15mA Glassman Power Supply (positive or negative)
- Emergency Stop, Local Main Isolator, Fault Reset and Remote / Local Selector
- HT termination point for plant connection
- Integration with plant PLC systems available
- Power supply 240v 50hz

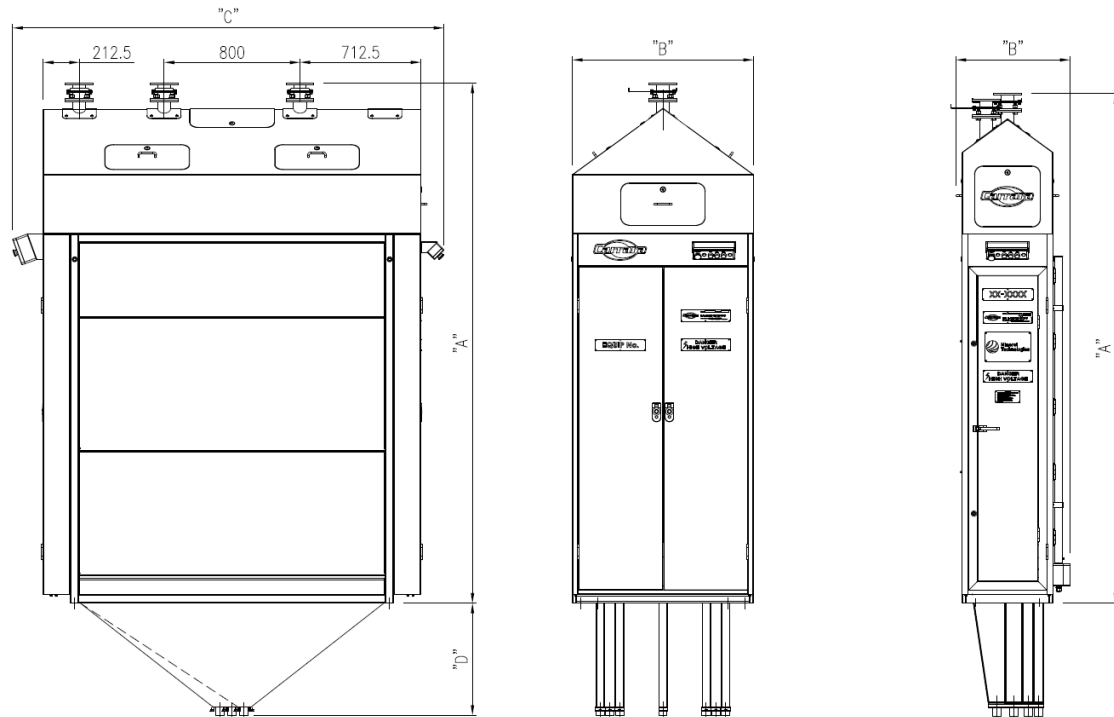
## **Options Available**

- Transverse Discharge Launder (Conductor / Mids and Non-Conductor)
- Transverse Discharge Launder with Integrated Sampling (Conductor / Mids and Non-Conductor) *as indicated in the image on page 1*

## **Applications**

- Separation of dry granular materials with differing electrical conductivities, eg: mineral sands, hard rock ilmenite and rutile, cassiterite, tantalite, wolframite, iron ore
- Separation of plastics from metals in waste recycling systems and PVC from other plastics
- Removal of contaminants from most granular, free flowing feedstocks

## Design Data and Configuration Details



		2 x 5	1 x 5
<b>Equipment No.</b>		<b>ESP9002</b>	<b>ESP9005</b>
Separator Nett Weight (kg)		2500	780
Throughput Capacity (tph)		Up to 4t/h	Up to 2t/h
Typical (tph) Subject to testwork		2	1
Moisture Content:		Dry, Free-Flowing	
Size Range:		40 micron to 800 microns	
Feed Temperature:		90°C	
Dimension (mm)	"A" Height Above Floor	3060	3000
	"B" Width	1200	700
	"C" Length	2500	2500
	"D" Below Floor	650	700
Outlet Connection		51 OD Pipe (2 x Conductor, 2 x Mids, 2 x Non-Conductor) 41 OD Pipe (1 x Conductor)	51 OD Pipe (2 x Conductor, 1 x Mids, 1 x Non-Conductor)
Feed Connection		2 x 65NB table D Flanges (800mm Centres)	
Dust Connection		1 x 65NB table D Flanges	
<b>Control Panel Equipment No.</b>		<b>ESP9400</b>	
Control Panel Size		800mm x 1905mm x 400mm	
Control Panel Weight (kg)		210	
Control Panel Protection Rating		IP 54	
High Tension Power Supply		15mA	
Power Consumption (kW)		0.5	

## LABORATORY EQUIPMENT

Our range of Laboratory Electrostatic Separators incorporates both **Electrostatic Plate Separators** and **Electrostatic Screen Plate Separators** these are both used to separate dry, free flowing materials with particle sizes between 40 and 800 microns that exhibit electrical conductivity differences.

### Laboratory Electrostatic Plate Separator

#### Features

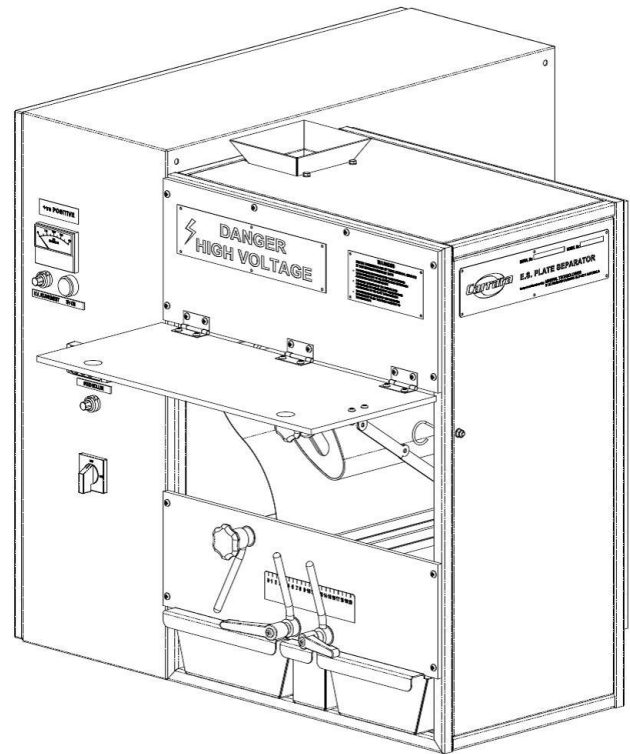
- 1 Plate/Electrode assembly with full adjustment
- Charged Solid Elliptical Electrode to eliminate potential arcing points
- Access Panels easily removed for internal cleaning
- Product Collection Trays (1xConductors, 1xMiddlings, 1xNon-Conductors)
- Feed roll incorporating geared motor with Variable Frequency Drive for precise and fully variable feed control

#### Integral HT Control Panel

- Incorporating 40kv 1.8mA Glassman Power Supply (Positive or negative)
- VFD for precise feed control
- Power Supply 240v 50hz

#### Operational Features

- Adjustable Earthed Plate angle to suit feed type
- Adjustable splitter position



#### Design Data

Capacity:	Up to 100 kg/h	Separator Dimensions:	850 wide x 900 deep x 760 high
Moisture Content:	Dry, Free-Flowing	Separator Weight:	110
Size Range:	40 microns to 800 microns	Power Consumption (kW)	0.08
Feed Temperature:	90 up to 110°C		

## Laboratory Electrostatic Sreen Plate Separator

The electrostatic screen plate separator preforms similarly to the electrostatic plate separator, however it can give enhanced separation with some minerals.

### Features

- 1 Plate/Electrode assembly
- Charged Solid Elliptical Electrode
- Access Panels
- Product Collection Trays (1xConductors, 1xMiddlings, 1xNon-Conductors)
- Adjustable Feed (Earthed) Plate and Solid Electrodes
- Feed roller incorporating geared motor with Variable Frequency Drive for precise feed control (0.04kW)

### Integral HT Control Panel

- Incorporating 40kv 1.8mA Glassman Power Supply (Positive)
- VSD for precise feed control
- Power Supply 240v 50hz

### Operational Features

- Adjustable Screen Angle and Length
- Adjustable Electrode position

### Design Data

Capacity:	Up to 150kg / hr	Separator Dimensions:	850 wide x 900 deep x 760 high
Moisture Content:	Dry, Free-Flowing	Separator Weight:	110
Size Range:	>40 microns to 800 microns	Power Consumption (kW)	0.08
Feed Temperature:	40 - 90°C		