

AIR POLLUTION CONTROL EQUIPMENT DATA – ELECTROSTATIC PRECIPITATOR

FORM E104
7/2001

1. Name of Company: _____
(As shown on Line 1, Form E001)

2. Equipment Name: _____
(As shown on Line 10, Form E001)

3. **Equipment Data:**

Manufacturer of ESP: _____ Model No. _____

Date of Manufacture: _____ Date of Installation: _____ Cost of ESP: _____

Does ESP contain pre-cleaning equipment: Yes No

If yes, what type: _____
(File applicable form for control equipment)

4. **Equipment Design:**

A. Volume of Gas discharged from ESP at dry standard conditions: _____ Dscfm

B. Number of Stages: Single-stage Two-stage

C. Mode of Operation: Dry process Wet process

5. **D. Pressure Drop Across ESP:**

Stated by Manufacturer: _____ In. H₂O

Measured (actual): _____ In. H₂O

6. **Inlet Gas Properties:**

A. Inlet Gas Temperature (T_i): _____ °F

B. Inlet Gas Pressure (P_i): _____ In. H₂O

C. Inlet Gas Velocity (V_i): _____ Ft/sec

D. Inlet Area (A_i): _____ Ft²

E. Inlet Gas Density (ρ_g): _____ Lbs/ft³

F. Inlet Gas Viscosity (μ): _____ Lbs/ft-sec

G. Inlet Gas Moisture: _____ %

H. Gas Stream Dew Point: _____ °F

I. Inlet Gas Flow Direction: Horizontal Vertical

7. **Component Information:**

Indicate which of the following are components of this ESP:

<input type="checkbox"/> Flow Rate Instrumentation	<input type="checkbox"/> Inlet Gas Temperature Instrumentation
<input type="checkbox"/> Dew Point Indicator	<input type="checkbox"/> Differential Pressure Instrumentation
<input type="checkbox"/> Heat Exchanger	<input type="checkbox"/> Evaporator Cooler
<input type="checkbox"/> Pre-heater	<input type="checkbox"/> Transmissometer

8. **Equipment Operation:**

A. Operation of ESP: Continuous Intermittent Periodic

B. Shape of ESP: Rectangular Cubical Cylindrical

C. Volume of ESP: _____ Ft³

D. Dimensions of ESP: Height: _____ Ft Width: _____ Ft Length: _____ Ft

E. Shell Material: _____

F. Does the inlet duct contain any type of gas distribution plate: Yes No

9. **Cleaning Information:**

A. Cleaning Method (Check one): Periodic Continuous By-passed

B. Cleaning Technique: Side Rapping Automatic Water Spray Top Rapping

Cleaned by Gravity Manually Washed

C. Cleaning Cycle: _____ Times per week

10. **Electrode Information:**

A. Collecting Electrode Design:

Shape: Tubular Rod Curtain Vertical Gas Flow Plates Folded Plate

Smooth Plate Dual Plate Perforated Plate Pocket-type Plate

Roll Plate Box Plate Zig-zag Plate

Type of Alloy: _____

Electrode Dimensions: Length: _____ Ft Width: _____ ft

B. Discharge Electrode Design:

Shape: Square Twisted Rods Round

Ribbons Other (specify):

Barbed

Type of Alloy: Steel Copper Lead-covered Steel Fine Silver

Stainless Steel Aluminum Hastelloy Titanium

Nichrome

Precipitating Field Strength: _____ KW/in.

11. **Rectifier Information:**

A. Type: Tube-type Solid State

B. Transformer Rating: _____ Volts secondary

12. **Collected Emissions Disposal:**

A. Disposal Method:

Automatic (Describe): _____

Manual (Describe): _____

B. How often are the hoppers emptied: Every _____ Hours

C. Name of Commercial Disposal Company (If Applicable): _____

D. Is material wetted prior to disposal: Yes No

E. Disposal Site: _____

13. **Emissions Data:**

A. Emission type(s): _____

B. Inlet emission concentration (ρ_p): _____ Lbs/ft³

C. Particle Properties: (Check one or more) Powder-like Explosive Tacky Mineral
 Extremely Sticky Corrosive Toxic Fly Ash Mist Tar
 Hygroscopic Other (Describe): _____

D. Particle Size Distribution in Microns (μ)

Size	0-5 μ	5-10 μ	10-20 μ	20-44 μ	Greater Than 44 μ
Give % by wt.	%	%	%	%	%

E. Mean Particle Size: _____ microns Mean Particle Diameter: _____ Microns

F. Particulate Control Efficiency:

Manufacturer's Stated Efficiency: _____ %

Required Efficiency: _____ %

Operational Efficiency (performance testing): _____ %

G. Efficiency for Particle Size

Size	0-5 μ	5-10 μ	10-20 μ	20-44 μ	Greater Than 44 μ
Give % by wt.	%	%	%	%	%

14. **Fan Data:**

Location of Fan (check one): Clean air side (pull through) Dirty air side (push through)

Fan Design (check one A, B, or C):

Fan Type	Blade Type
A. <input type="checkbox"/> Centrifugal (radial flow)	<input type="checkbox"/> Forward Curve <input type="checkbox"/> Backward Curve
B. <input type="checkbox"/> Axial Flow (propeller)	<input type="checkbox"/> Straight <input type="checkbox"/> Propeller
	<input type="checkbox"/> Tube Axial <input type="checkbox"/> Vane Axial

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Fan Data:	
Diameter: _____ In.	Braking Horsepower: _____ BHP
Speed: _____ RPM	Inlet Area: _____ Ft ²
Volume: _____ Cfm @ STP	Outlet Area: _____ Ft ²
Static Pressure: _____ In. H ₂ O	Motor Horsepower: _____ HP
<input type="checkbox"/> Standard <input type="checkbox"/> Heavy Duty	
Submitted copy of manufacture's multi-rating tables? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Special Materials of Construction: <input type="checkbox"/> Rubber, Phenolics, Vinyls, or Epoxy Covering	
<input type="checkbox"/> Aluminum <input type="checkbox"/> Bisonite <input type="checkbox"/> Zinc Chromate Primer <input type="checkbox"/> Bronze Alloys <input type="checkbox"/> Stainless Steel	
C. Compressor	<input type="checkbox"/> Positive Displacement <input type="checkbox"/> Dynamic <input type="checkbox"/> Reciprocating

*This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. **This form must be completely filled out before it will be acceptable.***

Mail to:
 CHATTANOOGA-HAMILTON COUNTY
 AIR POLLUTION CONTROL BUREAU
 2034 Hamilton Place Blvd. Suite 300
 Chattanooga, TN 37421

Company Official: _____
 Title: _____
 Date: _____

DO NOT WRITE BELOW THIS LINE

_____ Engineer Approval This form corresponds to permit number: _____

Special Notations: _____

