

**AIR POLLUTION CONTROL EQUIPMENT DATA – INERTIAL SEPARATORS**

**FORM  
E105  
07/2001**

1. **Name of Company:** \_\_\_\_\_  
*As shown on Line 1 of Form E001*

2. **Equipment Name:** \_\_\_\_\_  
*As shown on Line 10 of Form E001*

3. **Equipment Data:**

Single Cyclone                       Multiple Cyclone                       Settling Chamber  
 Long-Cone Cyclone                       Dynamic Precipitator (dry)                       Other: \_\_\_\_\_

Manufacturer of Inertia Separator: \_\_\_\_\_

Model Number: \_\_\_\_\_ Cost of Equipment: \_\_\_\_\_

Date of Manufacture: \_\_\_\_\_ Date of Installation: \_\_\_\_\_

Additional Control Equipment:     Yes     No

If yes, what type: \_\_\_\_\_  
*File applicable form for control equipment*

4. **Equipment Design: (For Cyclones Only)**

Volume of gas discharged from inertial separator at dry standard conditions: \_\_\_\_\_ dscfm

Equipment Dimensions

A. Major Cylinder Diameter ( $D_c$ ):	_____ Ft	E. Gas Outlet Length ( $H_c+S_c$ ):	_____ Ft
B. Major Cylinder Length ( $L_c$ ):	_____ Ft	F. Gas Inlet Height ( $H_c$ ):	_____ Ft
C. Cone Length ( $Z_c$ ):	_____ Ft	G. Gas Inlet Width ( $B_c$ ):	_____ Ft
D. Gas Outlet Diameter ( $D_e$ ):	_____ Ft	H. Dust Outlet ( $J_c$ ):	_____ Ft

I. Gas Inlet Design:     Tangential     Helical     Axial     Involute

Other: \_\_\_\_\_

J. For multiple cyclone, give the number of small cyclones: \_\_\_\_\_

5. **Inlet Gas Properties:**

A. Inlet Gas Temperature ( $T_i$ ):	_____ °F	F. Inlet Gas Density* ( $\rho_g$ ):	_____ Lbs/ft <sup>3</sup>
B. Inlet Gas Pressure ( $P_i$ ):	_____ In. H <sub>2</sub> O	G. Inlet Gas Viscosity ( $\mu$ ):	_____ Lbs/ft-sec
C. Inlet Gas Velocity ( $V_i$ ):	_____ Ft/sec	H. Moisture in Gas Stream:	_____ %
D. Area of Inlet ( $A_i$ ):	_____ Ft <sup>2</sup>		
E. Effective number of turns in cyclone ( $N_c$ ):	_____		

6. **Pressure Drop Across Inertial Separator:**

Stated by Manufacturer: \_\_\_\_\_ In. H<sub>2</sub>O                      Measured (actual): \_\_\_\_\_ In. H<sub>2</sub>O

*\*The density of air at 70°F and a barometric pressure of 29.92 inches Hg is 0.075 lbs/ft<sup>3</sup>.*



10. **Control Efficiency:**

Manufacturer's stated efficiency: \_\_\_\_\_ %  
 Required efficiency: \_\_\_\_\_ %  
 Actual Efficiency (performance testing): \_\_\_\_\_ %  
 Efficiency for Particle Size:

Size	0-5 $\mu$	5-10 $\mu$	10-20 $\mu$	20-44 $\mu$	Greater than 44 $\mu$
Give % by wt.	%	%	%	%	%

11. **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	<input type="checkbox"/> Straight <input type="checkbox"/> Propeller
	<input type="checkbox"/> Tube-axial <input type="checkbox"/> Vane-axial

Fan Data:

Diameter: \_\_\_\_\_ In.      Braking Horsepower: \_\_\_\_\_ BHP  
 Speed: \_\_\_\_\_ RPM      Inlet Area: \_\_\_\_\_ Ft<sup>2</sup>  
 Volume: \_\_\_\_\_ Cfm @ STP      Outlet Area: \_\_\_\_\_ Ft<sup>2</sup>  
 Static Pressure: \_\_\_\_\_ In. WC      Motor Horsepower: \_\_\_\_\_ HP

Standard  Heavy Duty

Submitted copies of manufacture's multi-rating tables?  Yes  No

Special Materials of Construction:  Bronze Alloys  Aluminum  Stainless Steel

Bisonite  Zinc Chromate Primer  Rubber, Phenolics, Vinyls, or Epoxy Coverings

c.  Compressor  Positive Displacement  Dynamic  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  
 6125 Preservation Drive  
 Chattanooga, TN 37416

Company Official: \_\_\_\_\_  
 Title: \_\_\_\_\_  
 Date: \_\_\_\_\_

***DO NOT WRITE BELOW THIS LINE***

\_\_\_\_\_ Engineer Approval      This form corresponds to permit number: \_\_\_\_\_

Special Notations: \_\_\_\_\_