

# ENVIRO INTERNATIONAL CORPORATION

## DUST SUPPRESSION SYSTEM

Enviro International is a project based company with a prime interest in Air pollution Control Equipment, Dust Suppression System, Belt Conveyors and Material Handling systems, Pneumatic Conveying System, Ventilation Systems. Enviro International Corporation is promoted to provide one shop solution for Air Pollution and Air Ventilation System and Material Handling Systems. The use of these equipment is increasingly being extended to dedusting and conveying of material preparation plants in the various industry.

EIC processing a team of vast experience and sound technical base, emphasize need to evaluate the site properly and We do therefore thoroughly study and evaluate on technical parameters of the system being offered for checking up its suitability for site condition and subsequently put up all these analysis experience in to the drawing up the design plans and productions for the evolving of the product modeled on site condition, as a result successful operation and its optimum utilization as per site conditions is guaranteed, We always stress on basics for each and every project.



### Dry Fog System

Dry Fog Dust control Systems have been in operation worldwide. It make dual fluid (air and water) atomizing nozzles control virtually all breathable and fugitive dust

### THEORY AND APPLICATION ::

The "Dry Fog" Dust Control System works on the principle of agglomeration. The Dust particles released from a Material Handling/Processing Plant which become air borne are made to pass through a blanket of extremely fine Fog. The dust particles and the Micronics size Fog droplets collide and adhere to each other, thus increasing their mass. After a series of such collisions, even the breathable and fugitive dust ranging from 1 to 800 microns mass agglomerates to become heavier enough to settle. The lower capital, operating and maintenance cost compared to De-dusting Bag House System made it popular in the industries. Easy installation in existing plants. In most cases, the system can be installed while the plant operates at full capacity. No major plant modifications are required for installation of the system. Water addition to the process is as low as 0.1% of the weight of the material being handled. No requirement of Chemical.



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Air & Materials handling Equipment

## **Plain Water Dust Suppression System**

The dust suppression system in the coal handling plant is a wet dust suppression system. Wetting Agents are chemicals that are added to water to improve the rate at which spray droplets wet dust particles.

This system consists of three main parts.

Water Pump, Water Tank, etc

Spray headers with pipe lines & pumping system.

Control units with electrical systems.

Spray header with pipe lines pumping system includes solution pumps, isolating valves, spray nozzles, and pipe lines. The solution pumps are used to supply pressurized water to spray headers. The required quantities of nozzles are used to spray water.

CONTROL UNITS WITH ELECTRICAL SYSTEMS consists of sensing units, control panels. Coal flow is sense by sensor. The control panels are consisting of various relays and transformer.

### **Operation of DS System**

Auto control or manual control governs the system. It has to be insured that main tank is filled with water. The water is pumped by feed water pump from main tank to feed water tank. the system in recalculation. The sensing system for controlling spray at proper header ensures spraying solution if conveyor is running with coal. And will not allow spraying solution if conveyors are running empty, the solenoid valve headers are energized if conveyor is running with coal. If all or some of the solenoid valves are not energized the system will realize pressure through pressure relief valve, which protects the system. A solenoid valve is provided with bypass line, which operates when none of the spray header solenoid valves are operative.

## **Stock yard Sprinkling system**

Sprinkling system is used for dust suppression of stockpile. Water is sprayed on the stockpiles to keep the coal damped and prevent dust to flying around . Sprinklers Irrigation systems is used to control dust on outdoor stockpiles, but when the stockpiles are excavated, dust will arise as the drier material in the pile is exposed and moved around. An sprinkler system uses a lot more water than a fogging system – almost 10 times , sprinkling system is chosen after a lot of considerable planning and forethought.

One Sprinkler can move around its axis and can throw the water even up 20-50 m away.

### **Fog canon, Mist Canon,**

We in association with our team of engineers and designers developed a cutting age technology for Fog Canon and offers different types of Fog Canon. Fog cannon can operates with different principles and mechanisms. One of types is purely mechanically driven system with electrical motor inputs, here in also we can offer different type of system with different basic principles for operation of the fog canon. while, mechanical one can be prone to maintenance during it life time, we also offer other cutting age technology, which is trouble free system, with bare occasional maintenance.

Fog canon is widely used in India and overseas for suppression of flying dust on various application and Disinfection, It is a rugged and very efficient system. Unlike other types of dust suppression, it efficiency is very high. In some of applications only and only Fog canon is very successful, particularly when it is an open area.

Fog canon is normally mounted on a trolley and it can be moved from one location to other location as it is on wheels. It is namely used for suppression of the flying dust very efficiently from a distance and also covers a very wide area and also for Disinfection of area or buildings. It throws the mist from a distance.

In industrial application, most widely used application is Stock yard Area, Dirty mines, Tripper/Truck unloading in mines and ground hopper, wagon trippers, Reclaimer hoppers, any locations where dust is flying and open too. In open area, only and only Fog canon is used widely, as other methods of catching dust fails poorly on this fronts.