

# HOPPER LOADING AND UNLOADING

## DUST SUPPRESSION AND CONTROL APPLICATIONS



### THE CHALLENGE

#### FUGITIVE DUST EMISSIONS DURING HOPPER LOADING AND UNLOADING

Hoppers are commonly used to receive and discharge materials from port, dockside, and rail operations. Grab loading/unloading operations, and trucks loading from hoppers enable users to quickly move bulk material between locations. The downside is hoppers have the potential to produce large quantities of dust caused by the large amount of suddenly displaced dust-laden air that can easily escape the hopper. Solving this issue can be even more critical in environmentally sensitive areas such as waterways.



### THE SOLUTION

#### DRY FOG RESOLVES DUST ISSUES IN THE MOST CHALLENGING ENVIRONMENTS

DSI Dry Fog Dust Suppression systems are a very effective way to contain and suppress dust from any type of hopper including ones fed by front-end loaders, grabs and conveyors. Configured to your existing equipment, DSI fogging nozzles are placed around the hopper load point to fog into the hopper. Dry Fog fills the hopper just prior to and during the release of material into the hopper. The fog droplets scrub the dust-laden air by attaching to like-size airborne particles making them stick together (agglomerate), returning the now larger and heavier particles to the process. It does not wet the material, only the airborne dust. For open hoppers, Dry Fog can also be used in combination with DustTamer Wind Screens to reduce the effects of ambient wind and help trap dust generated from the displacement of air from the hopper.



## THE ADVANTAGES

### DRY FOG OFFERS BENEFITS AND EFFICIENCIES OVER COMPETING TECHNOLOGIES

#### ONLY WATER AND COMPRESSED AIR REQUIRED

- No expensive chemicals, ductwork, fan motors, or collection media needed.

#### LIMITED AMOUNTS OF WATER NEEDED

- Much less water used than water sprays or chemical systems.
- Less than 0.1% moisture added to the product.
- No BTU penalty if material is used as fuel.
- Does not alter product stability in the ship hold due to very low moisture addition, important for copper concentrate shipping as example.
- Can function in below freezing temperatures.

#### COST EFFECTIVE

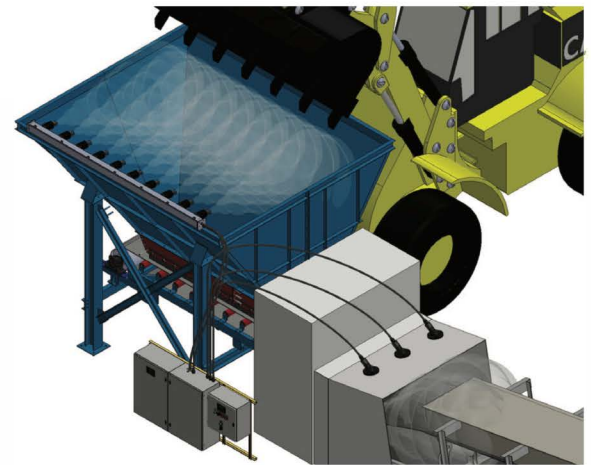
- High dust removal efficiency at a fraction of the capital cost of a dust collection system and much lower energy cost.
- No ongoing purchase of costly chemicals.

#### BEST IN CLASS TECHNOLOGY

- Designated by the US Environmental Protection Agency as a Best Demonstrated Technology for controlling dust from sub-bituminous coal.

#### INDUSTRIES SERVED

- Port and Railcar Facilities
- Power Generation (Coal, Biomass, Limestone)
- Mining/Minerals (Gold, Copper, Silver, Nickel, Sulfur, Iron Ore, Coal, Limestone, Molybdenum, Diamond)
- Aggregate/Cement/Limestone/Sand
- Aluminum/Bauxite
- Steel Slag Recovery
- Glass Recycling



HOPPER LOADING TO CONVEYOR

#### CORPORATE HEADQUARTERS

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