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BULK CARGO HANDLER BLANKETS DUST AT PORT OF VERACRUZ



When equipped with optional 359° oscillation, a single DustBoss can cover nearly 125,000 square feet (approx. 1.1 hectares) from a stationary location.

[Port of Vera Cruz, Mexico] -- A high-efficiency stevedoring and bulk cargo distribution center in Mexico has specified a powerful dust suppression technology to maximize productivity and minimize water usage, while protecting workers, the sensitive marine environment and nearby downtown community. The atomized mist equipment from Dust Control Technology (Peoria, IL) replaces manual hose spraying techniques, enabling the company to effectively manage both settled dust and airborne particles, saving money on water charges and redirecting manpower to

core activities.

Servicios Especiales Portuarios S.A. (SEPSA) handles more than a million metric tons of bulk cargo per year, primarily materials related to the steel and cement industries, including shredded scrap, pig iron, hot briquette iron and petcoke. Designed from the outset of operations in 2006 to jump-start the efficiency of material handling at the Port of Veracruz, the SEPSA facility has implemented a variety of changes that have further raised productivity more than 40% since that time.



The DustBoss replaces manual hose spraying techniques at SEPSA, effectively managing settled dust and airborne particles, while saving money on water charges and manpower.

“Each dry bulk material presents its own unique challenges,” observed Director Andrew Gillespie. “What complicates matters for us is the strong northerly winds that prevail for about half the year. In addition, the port is nestled into the downtown core of Veracruz, so we have to take great care to prevent fugitive dust.” he said.

Describing the company’s search for a more effective dust control technique, Gillespie continued: “We have a commitment to ensure that the port and the surrounding community continue to live in harmony, and that we take all practical measures to protect the environment. Virtually all of the equipment that we purchase or fabricate is acquired with that in mind,” he said. “We were looking for the best possible dust suppression method, and when we had a

chance to observe the DustBoss at various ports of call around the U.S., we felt like we'd found the right technology," he added.

For vessel loading/unloading, SEPSA employs remote controlled diesel hydraulic clamshell and/or cactus grabs with a capacity of 15 cubic meters. Dockside cranes capable of handling 25-30 metric tons are used, and the company now reports ship discharge rates of more than 1,000 metric tons per hour, with virtually no fugitive material or negative environmental effects.



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Dust Suppression by Design

The DB-60 uses a series of 30 specially-designed brass nozzles to atomize water droplets within a range of 50-200 microns, the optimum size for particle attraction and coverage area, then launches them with a powerful 25 HP (18.6 KW) fan. The ducted fan generates 30,000 cubic feet (~850 cubic meters) of air flow per minute through the barrel, giving the unit a range of more than 200 feet (~60 meters).

In order to maximize the suppression effect on the ground, the DustBoss has an optional metering pump built in that allows SEPSA to apply a mixture of water and cellulose to the coal stockpiles, which forms a thin crust and eliminates dust migration during periods of high winds. “The method excels at managing the super-fine particles such as pet coke,” Gillespie remarked. “It prevents truck movements in the yard from disturbing the stockpiles, and keeps the material from migrating off-site.”

In contrast to most dust suppression equipment suppliers, DCT offers a wide range of nozzles and spray manifolds for different applications, providing the ability to customize the spray pattern and droplet size to suit the specific type of dust being addressed. The DB-60 has an adjustable elevation from 0-50°, and the standard oscillating head delivers 40° of motion. When equipped with optional 359° oscillation, a single machine can cover nearly 125,000 square feet (approx. 1.1 hectares) from a stationary location.

The atomized misting unit is primarily used in the storage areas at the port to control dust during vessel unloading and subsequent distribution of material to rail cars and trucks, operations which typically take 2-4 days per ship. SEPSA also moves the DustBoss to the pier occasionally, depending on wind conditions and the material being unloaded.

“This technology has been very effective for us,” said Gillespie. “The DustBoss is extremely effective at capturing airborne dust particles, while sufficiently dampening the roadways to prevent the fine dust from becoming airborne. Yet it doesn’t over-saturate the area. The huge plume coming from the machine also serves as an impressive visual demonstration of our dust management technique,” he added.

Gillespie is currently refining plans to mount the DustBoss on a tanker truck with a generating unit, creating a self-contained dust suppression vehicle that delivers tremendous versatility, one that can be quickly relocated to any given location at the facility within minutes.

SEPSA is a leading-edge stevedoring and bulk cargo distribution company based in the port of Veracruz. The firm was conceived as a highly specialized port terminal handler of bulk minerals and metal products, with optimized loading and off-loading maneuvers and storage within the port. SEPSA offers high productivity in the discharge of vessels, minimizing costs for the importer. The company specializes in solving performance problems and meeting ecological

challenges, with due regard to all standards and regulations proposed by the Port Authority of Veracruz (APIVER) within its Master Development Plan.

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Dust Control Technology is a global leader in dust and odor control solutions for steel and slag, material recycling, scrap processing, mining and rock industries. The company's DustBoss[®] product line helps reduce labor costs vs. manual sprays, freeing up manpower for more important tasks. The automated units also use less water than hoses and sprinklers, with some customers realizing payback in less than six months and netting an annual cost savings of more than \$50,000. DCT equipment carries the industry's longest warranty, and can be purchased outright or leased from the world's largest fleet of dust suppression equipment. www.dustboss.com

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FOR MORE INFORMATION

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