

Job Report

**TMSA
shiploaders
stand out in the
containment of
suspended
particulates.**





With over 50 years of experience in the solid bulk handling market, TMSA stands out for delivering reliability to the brand's customers, through robust and highly durable solutions.

Among the technologies that stand out on this front are vessel loaders, equipment widely used in port terminals.

One of the differentials of TMSA Ship loaders is their efficiency in containing the emission of suspended particulates, a fundamental feature to ensure the safety of the population and the environment, mainly around ports.

MITIGATION OF DUST GENERATION IS GUARANTEED DUE TO THREE MAIN COMPONENTS:

1. Enclosed Belt Conveyors (EBC):

Fully closed and sealed in order to control the emission of particulates, the EBC keeps product and dust confined within the transport area. In addition, all roller and drum bearings are installed outside the enclosure, away from areas of dust concentration and explosion risk. TMSA's enclosed conveyors are the most modern on the market, standing out for being durable, robust and efficient.

2. Tripper and transfer chutes between conveyors:

They are modeled using state-of-the-art software to evaluate the product flow behavior. Such measures, in addition to reducing premature wear, provide significant reductions in product degradation and dust generation.

3. Filling tube for ships' holds:

Also known by the name of telescopic tube, this component was designed with the function of reducing and reducing the emission of dust in the holds filling process. It is worth noting that TMSA has developed differentiated tip concepts, which allow the use in new and existing chargers, through retrofitting processes.

BROAD PORTFOLIO

TMSA offers a robust list of solutions for the port terminal market. The company's product portfolio includes tips with an active suspended particulate abatement system, as well as fully passive systems, eliminating the need for electrical, hydraulic or compressed air energy.

In fact, the brand's vessel loaders range from proprietary solutions developed by TMSA to licensed production solutions or solutions in commercial partnership with world leaders in telescopic tube technologies.

Among the TMSA solutions of dust suppression pointers and charging tubes, the following deserve mention:

- **Dust Trap tip with suction system:** it is a tip solution with a rubber skirt and filtering elements, which must be placed on the product so that the skirt seals the dust generated in the free fall of the product.
- **Active control Dust Trap tip:** it is the shell-type tip, which is equipped with a mechanism for thickening the product by means of an active control system for the discharge opening. With this process, the equipment controls the correct filling of the pump spout, making it totally independent from the product's features.

- **Dust Suppressor Tip with DSH:** the biggest advantage of this model is that it allows relatively large distances to be reached between the tip and the product without losing performance. In addition to not requiring electrical or hydraulic energy for operation, it also works with the product's densification principle.
- **Loading tube:** when requested and under consultation, TMSA vessel loaders can be supplied with adaptations to allow the implementation of accessories and telescopic tubes produced by third parties. A good example on this front is the "Cleveland Cascade" tube, a world reference in loading tubes.

The number of alternative solutions and the flexibility to customize TMSA vessel loaders are quite extensive. The solutions can be adjusted to meet the specifics and needs of each project, which reinforces the company's know-how in delivering solutions for the export of solid bulk.

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