

Dust free product discharge from truck/railcar hoppers



BACKGROUND

One of the world's leading automotive original equipment manufacturers turned to NTE Process to provide two different plants with new masterbatch lines and mixers in the USA.

CUSTOMER REQUEST

In both the two plants, the Customer needed a solution for **truck unloading** of respectively carbon black and silica, and carbon black and white fillers while **reducing dust dispersion** as much as possible. NTE Process successfully provided its **Boot-Lift M529** an automatic connector for trucks and railcars hoppers to the blowpot/conveying system or other process machines in order to ensure a dust free product discharge.

THE SOLUTION

NTE Process provided two systems for emptying trucks by gravity in a transition diverging pipe, that receives the material through a Boot-Lift. The product is then discharged into twin transporter assemblies and conveyed to the silos with a continuous dense phase conveying system.

The Boot-Lift M529 is specially designed with a guided telescopic connection and a proximity sensor for fast connection detection in order to guarantee a **perfect seal against dust leakage**. It is provided with a connection cone to tank truck/rail discharge, a junction box, a venting connection, supporting and anchoring brackets, a flanged outlet and a pneumatic control panel.



TRUCK GRAVITY
DISCHARGE



DENSE PHASE CONVEYING
WITH TRANSPORTERS M201



TYPICAL INSTALLATION OF
BOOT-LIFT M529

Thanks to the Boot-Lift M529, the typical risks of the manual connection phase for operators are significantly reduced as it is completely automated and driven by pneumatic cylinders with variable stroke.

The two plants presented different installation conditions, while there was a basement where to install pneumatic conveying system in the first plant, this was not present in the second one because of floating reasons. In the second case, instead of a traditional solution, NTE Process designed a **pitless gravity truck unloading** solution with **movable Boot-Lifts** equipped with connection adapters for pneumatic conveying system.

BENEFITS

- **Discharging speed** thanks to a fast connection to the truck.
- **Dust free product discharge** from truck/railcar hoppers thanks to a high seal of the gaskets.
- **Automatic operation and safety** by facilitating a hands-free connection process.
- **Maintenance is minimized** thanks to the absence of motors.
- **Efficiency**: a smooth and continuous flow of materials, **downtime is reduced**.

CONCLUSIONS

NTE Process knows that specialized equipment is key to making processes more efficient and safe.

The Boot-Lift M529 improves the speed and safety of connecting a truck/railcar hopper to the next stage of production, preventing the loss of material, air pollution and contamination.

Interchangeable and tailored outlet connections and variable stroke are available on request, according to customer needs.

At the **NTE Scientific Hub**, equipped with a **Research & Innovation Center and Pilot Plant**, it is possible to carry out tests on a 1:1 scale to experience NTE Process technologies first hand, obtain reliable data on the advantages deriving from each solution and prevent any critical issues of each process.



MOVABLE BOOT-LIFT
(PITLESS SOLUTION)

ABOUT NTE PROCESS

NTE Process is the **Single Source Provider** of process solutions for the industry ranging from dense phase pneumatic conveying to mixing, but also liquid injection, drying, spray drying and in-line formulation, up to packing. The headquarters is in Gorgonzola (MI), while in Pessano con Bornago (MI) there are both the second site which includes the assembly and testing area and the NTE Scientific Hub, where a team of specialized engineers deals with R&D and carries out full scale and scientific test.

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