VIGAN's on the move

VIGAN mobile portable unloaders operating on the deck of a bulk vessel.

Since 1967, VIGAN Engineering S.A. has been designing and manufacturing portable pneumatic unloaders, commonly called 'mobiles' or 'grain pumps':

- **Model T100** or **T120:** working in 'suck only', 'suck & blow' or 'blow only' mode, their capacity ranges from 100tph (tonnes per hour) to 170tph, depending on configuration and product transported; and
- **the high-capacity model T200** is able to unload at rates of up to 250tph in sucking-only mode, without producing any dust emissions. Products are discharged by gravity, optionally through an integrated belt conveyor. It is equipped with an automatic self-cleaning filter with air-compressor.

These mobile portable unloaders are particularly adaptable, as they can be put on a ship's deck (see picture above) or on quay: directly on the ground (see picture, right), on a frame (see pxx) or on hopper (see pxx). With a wide range of accessories available, they can be customized to meet customer's needs for cargo handling in many different working configurations: from vessels to trucks/railcars/conveyors/silos or warehouses and inversely to load ships, but also for transshipment for instance…

Their compact dimensions (≈ 4 x 4m without booms) and low weight (≈ from 5 to 15 tonnes depending on the model and accessories) make them among the most flexible of all grain handling equipment.

For higher capacity requirements (from 200tph up to 800tph) and annual throughput (over 250,000 tonnes per year), VIGAN designs and manufactures pneumatic continuous ship unloaders (CSUs) on gantries, called 'NIV' models (see pxx). Self-propelled on tyres or rails, they can be powered by diesel engine or electrical motors with cable reels. The most frequent combinations found are either rail-mounted/electrical/discharging

VIGAN mobile unloading unit on the ground on the quay.

VIGAN mobile unloading unit mounted on a frame.

into quay conveyors to ensure a regular movement parallel to the quay conveyor, or on tires/diesel/into trucks for ports which are not equipped with rails and conveyors. Each gantry is designed bespoke according to the port requirements (dimensions, wheel load and/or rail span, etc.). Boom length, piping system diameter and length, airlock size volume, filter size and number of turbo blowers all determine the expected unloading rate. Many optional devices are available.

The mobility on the dock alongside the boat allows highly efficient unloading of vessels up to Panamax size, following the typical required unloading chart of the holds.

Furthermore, VIGAN's range of equipment also includes a mobile mechanical continuous ship unloader called 'SIMPORTER' designed to meet very high discharging rates up to 1,500tph (metric). It is particularly suitable for large bulk carriers up to post-Panamax. The twin-belt SIMPORTER technology offers major benefits: efficiency, cost-effectiveness (minimum energy consumption, reduced operational and maintenance cost) and environment-friendly qualities (minimum noise, dust control…).

VIGAN mobile unloading unit fitted on a hopper.

Gantry-mounted 'NIV' CSU from VIGAN.

Beside the variety of mobile unloading equipment, VIGAN's ship loaders (see picture, bottom), designed for almost any kind of products in bulk with a density from 0.2 to 1.8, are suitable for all size of barges or vessels.

The loading is achieved mechanically: for example, cargo can be transported into the loading boom by integrated belt (eventually with a travelling movement) or chain conveyor and discharged by gravity into the ship hold thanks to a telescopic loading chute. The loading boom is usually mounted on a slewing ring. The loading structure can be mounted on a self-propelled gantry on rails or on rubber wheels.

VIGAN has also gained significant expertise in other mobile harbour equipment design such as mobile hoppers/ bagging lines, like for the grain port terminal of Djibouti (see pictures left).

Originally, all VIGAN equipment was designed to convey dry agribulk cargo such as: all types of cereals, beans, seeds, and most of the raw materials for animal feeding. The company's units have also proved to be suitable for handling fragile products (malt, cocoa beans …), certain chemicals (dense soda ash, alumina, urea …), as well as many products in pellet form, such as wood pellets for instance.

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