VIGAN: a trusted partner in agribulk handling offering both pneumatic and mechanical models

VIGAN is a renowned manufacturer of bulk materials handling systems, mainly:

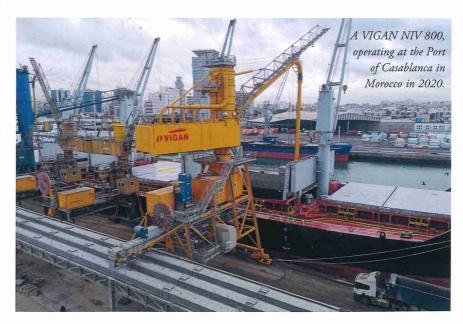
- mobile pneumatic conveyors or vacuvators or grain pumps;
- pneumatic continuous barge unloaders and mechanical barge loaders;
- mechanical and pneumatic continuous ship unloaders for vessels up to post-Panamax; and
- mechanical loaders for any size of ships. VIGAN's capabilities include also complete turnkey projects for port terminal including ship unloading & loading, storage facilities and bagging operations.

Millions of tonnes of cereals circulate around the world every year to feed our growing global population. This kind of cargo is mainly carried in bulk by sea and inland waterway transport. Overland transport by truck or train brings the cargo to its final destination. Unloading and loading operations are numerous. That's where VIGAN comes in, by offering continuous ship-unloading and loading

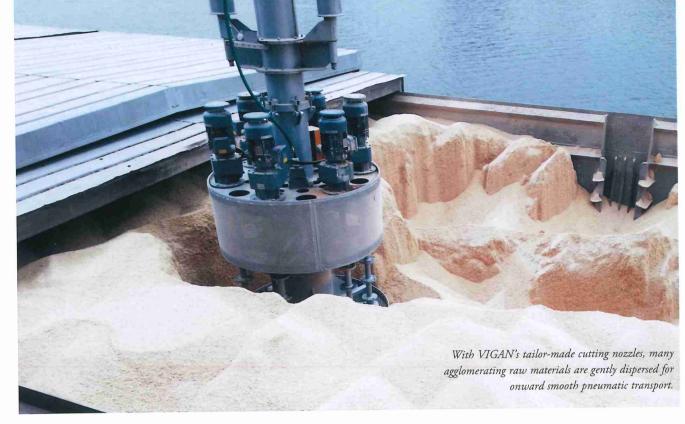
solutions, whether pneumatic or mechanical.

The challenges for grain bulk logistics are energy, labour and demurrage costs,

while safeguarding the quality of the discharged products. VIGAN offers tailor-made solutions to meet these challenges. Its solutions are suitable for most, if not all,







infrastructures and configurations.

In seaports, with ships up to post-Panamax, and rivers and inland waterways for the loading and unloading of barges, VIGAN's small grain pumps are suitable for multiple purposes, such as trucks, trains, warehouse or silos. Moreover, VIGAN offers complete turnkey terminals. VIGAN equipment guarantees the smooth handling of almost every kind of bulk cargo. Agribulk, such as corn, wheat or soybean. Chemicals, such as urea, alumina or soda ash. Granulate or meal such as soybean meal or dried grain solubles. Delicate cargoes such as malt, rice or wood pellets.

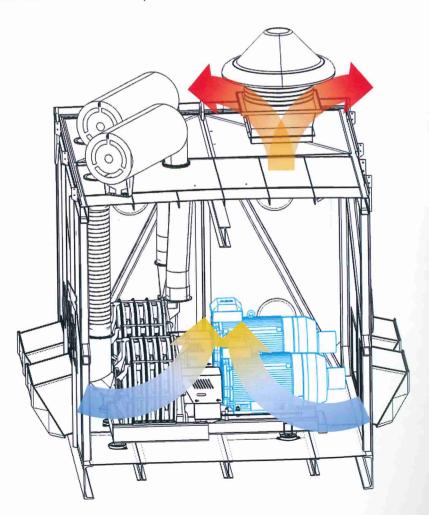
VIGAN's equipment and solutions are developed to the highest safety and environmental standards. They minimize dust emissions, grain spillage and noise pollution.

VIGAN ensures the quality of its equipment through the high standards of its productions. All elements of the machines are designed, manufactured and checked for quality and pre-assembled in the company's workshop in Belgium. This facilitates continuous quality control, and easy customer follow-up over a long period of time. Highly qualified and experienced mounting teams travel worldwide, and assist each customer during erection and commission. VIGAN guarantees reliable after-sales service with a global presence, throughout the lifetime of the equipment. The experienced sales teams, as well as VIGAN's international network of agents and representatives can process all of its customers' requests in various languages. It is no coincidence that VIGAN is at the forefront of pneumatic unloading gantries. It is a highly reliable and specialized company within the sector, and has sold over 1,350 machines worldwide. It has a recognized international experience and know-how. VIGAN is trusted by numerous,

world-renowned customers, year after year.

PNEUMATIC UNLOADERS FROM VIGAN

The design of VIGAN's unloaders — which offer a favourable volume/surface ratio, one round elbow, a horizontal piping system



that facilitates a very gentle descent of the cargo into the bin and a slow turning large airlock — means that it is a first choice for operators wanting machines that can handle brittle or sensitive raw materials such as wood and feed pellets, (paddy) rice and malt.

This design has led to the most favourable energy consumption of all pneumatic unloaders in the industry, ranging from 0.7–0.8kW/h. Moreover, operating costs are also favourable, with a cost of around \leq 0.04 per tonne of unloader cargo (based on feedback from customers over many years).

Harder and lighter alloys, newly designed piping and the latest electronic steering mechanisms have made the VIGAN equipment among the most efficient unloaders, with a reputed robustness and a high ROI. The company's machines are reliable and last for a long time.

VIGAN's turbines are still fast, with turning rotors based on the design of a jet engine. Up to four of theses turning on the same axle makes it a challenging technical feature. The connections between each step have been improved over time. The return is significant: almost no losses in between every rotor and one of the strongest vacuums in the industry, resulting in extremely high air velocities and displacements.

Another significant development that has taken place in pneumatic unloading since it became popular, is that it is now possible to unload cargo with poor free-flowing properties (when compared to grain) pneumatically: soy bean meal, fertilizers, alumina, soda ash but also 'new'



raw materials such as (D)DGS and rapeseed meal. With VIGAN's tailor-made cutting nozzles, many agglomerating raw materials are gently dispersed for onward smooth pneumatic transport.

And last but not least, VIGAN's filter systems are adapted to process large quantities of cargo. Depending on the

origin and the nature of that cargo, the dust content will vary tremendously. Depending on the quality and origin of grain, the harvesters sometimes collect more than just seeds. Cargo such as alumina and soda ash are very powdery by definition. VIGAN's filters are adapted, both in surface and in regeneration capacity. Capacity

targets will remain unaffected.



Although Covid-19 has made entrepreneurs more careful in their decisions, 2021 looks promising. The tendency of companies in Europe and other continents to use waterways for cargo transport has created more opportunities for VIGAN barge unloaders. The general policy to have fewer trucks on the roads is spreading. More and more logistics include operations will pneumatic unloaders in the near future.



DCi