

## VIGAN's answer to a fluvial Europe



200tph/132kw VIGAN pneumatic barge unloader, installed at Grands Moulins de Corbeil in France.

With an overall length of 38,000km, the vast river network in Europe — and not least in France, Germany, the Netherlands and Belgium — represents more than ever a very attractive way of transporting bulk goods and grains.

Reliable, economical, ecological and safe, the advantages of fluvial transport compared to road are numerous:

- ❖ lower cost per weight of unit transported;
- ❖ lower carbon footprint: one 2,000dwt barge (a typical river vessel) does the work of 65 30-tonne trucks on congested roads;
- ❖ reduced noise level in urban areas, where the demand for goods is vast;
- ❖ reduced risk of contamination and damage to the bulk goods;
- ❖ no dust emissions during unloading;
- ❖ reduced labour cost as only one operator is needed for unloading; and
- ❖ reduced number of handling operations, thus ensuring greater security in the total bulk goods transport chain.

With road congestion becoming more prevalent all over Western Europe — in addition to fuel costs, CO<sub>2</sub> emissions, the risk of accidents, etc. — it is no surprise that ever more wheat and corn is being transported by barge.

Even though public financial incentives are still too low to guarantee

this trend, the above concerns have already created great new opportunities.

### VIGAN PNEUMATIC BARGE UNLOADER

In order to further promote fluvial transport and facilitate the unloading of the typical barge sizes, which range from 500 to 4,000dwt, almost 30 years ago VIGAN developed its pneumatic barge unloader concept. It has been fine-tuning the unloader's design ever since. VIGAN's pneumatic barge unloader is a powerful unloading system and is fully compatible with the scope above. It is generally mounted on a fixed gantry (mobile systems are also possible). Capacities can range from 100tph (tonnes per hour) to 600tph handling grain.

The heart of the system is the multistage VIGAN®-designed turbine. The turbine is directly driven by a high revolution electrical motor with frequency inverter steering. Thanks to this configuration, energy consumption is kept low — recent systems

VIGAN NIV 150tph/110kw ship unloader, with 28.5m boom, installed at Goodmills Hamburg.



have energy consumption records as low as 0.6kWh/tonne grain.

The powerful vacuum created by the turbine sucks in the cargo at impressive tonnages per hour. In order to unload ships in the most versatile way, the tower consists of a horizontal and a vertical telescopic tube system. At the near end of the vertical telescopic tube is the suction nozzle.

It is an ingeniously designed coaxial tube system, allowing air to come in from the outer ring above the cargo, making a turn in the cargo to the inner tube, thereby transporting the cargo through airlift into the vertical and subsequently horizontal telescopic tube. The elbow between the vertical and horizontal tube is of the highest wearing resistance (records show the handling of more than eight million tonnes of grain with just one elbow).

Both the vertical and horizontal tubes are steered by electrical hoists. The boom carrying the suction tube system is mounted on a receiving bin with a powerful self-regenerating filter: no dust emissions are possible. To maximize reach when unloading the hatches on the barge, the receiving bin is mounted on a slewing ring. The boom can be elevated by an ultra-safe hydraulic jack: there is no risk of 'breaking'. By gravity, the grain is finally transported through the air-lock system into a conveyor system, ready to be stored or processed directly by the customer.

For this range of unloaders, VIGAN is focusing its continuous investment in R&D on reducing power consumption. The pneumatic ship-unloaders are already known as the most efficient for unloading barges (i.e. the quickest way to empty a vessel), and VIGAN unloaders are combining this positive element with a power consumption not higher than 0.6 kWh per tonne. In this case, there is no need for high capacity unloaders when barges are only 250 to 3,000dwt. Industrials are focusing more on reliability and total cost of ownership than high capacity.

#### PARTNERS OF CHOICE IN FRANCE AND GERMANY

With France owning the longest network of inland waterways in Europe (8,500km), the French milling group Soufflet well understands the economical and ecological impact of fluvial transport, and it uses it as an integral part of its daily logistic challenges.

VIGAN has already supplied several machines to the Soufflet group: Malteries d'Alsace in Strasbourg, Grands Moulins de Pantin, Ceres in Brussels, Socomac in Rouen and so on.

In 2016, VIGAN also installed a pneumatic barge unloader with a capacity of 200tph at Grands Moulins de Corbeil in France (South of Paris), to discharge wheat from barges.

The unloader is built on a fixed structure and is equipped with a 15m boom.

It is equipped with a three stages centrifugal turbo blower with direct drive, controlled by a frequency inverter, with a main electrical motor of 132kW/400V.

Germany is not far from France, with a total of 7,339km of inland waterways. In particular, the Port of Hamburg plays today an important role in the development of foreign trade in Germany, but also in Northern, Western and Central Europe thanks to the management of an important part of the freight to or from Poland, Czech Republic, Hungary, Austria, Germany and Denmark.

For instance, each year, around 185,000 tonnes of cereals are ground in Goodmills Deutschland's Hamburg factory (formerly Kampffmeyer – Aurora Milling Group). For the discharge of grain, VIGAN has installed an NIV-type stationary pneumatic ship unloader that discharges grain by gravity onto a wharf conveyor at a rate of 150tph.

It goes without saying that a revival of fluvial transport in the EU has created excellent new opportunities where VIGAN has made the necessary efforts to acquire a major share.

*VIGAN NIV 150tph/110kw ship unloader, with 28.5m boom, installed at Goodmills Hamburg.*

