

Self-unloading systems for floating transfer terminals



Marine Selfunloaders



Transfer terminals highlight the advantages of transshipment technology

Today's transshipment technology allows charterers to bypass the problem of draft limitations and ports that lack discharging installations and ensures that capesize vessels can be used and loaded at higher rates.

One of the main attributes of transshipment technology is flexibility. It opens up new opportunities for mining companies, other material producers and their customers when they need reliable solutions to logistics problems.

Advantages of offshore transfer

The most significant advantages are probably environmental; obtained when you move the transshipment process from a port terminal to the open sea using an offshore transfer facility. Larger ships can replace a higher number of smaller vessels without expensive and ecologically harmful dredging operations. The high capacity of the terminals reduces the time spent in port, which is a great benefit for both charterers and the local environment.

When using a MacGregor continuous loading/unloading system you can obtain an almost dust-free transshipment operation.

Another merit is the comparative ease of meeting any future demand for increased capacity by deploying additional offshore terminals and barges; alternatively, the original facilities can be moved when the need arises to support a similar venture at another port.

Operation

All terminals are tailor-made to fit the needs of the customer. A floating offshore transfer terminal, equipped with a MacGregor bulk-handling system, could incorporate both a continuous unloading system and/or a crane-operated system.

The transfer terminal can receive bulk material from one or more shuttle vessels; these could be self-unloading or conventional bulkers, as the terminals could be equipped with screw unloaders or MacGregor grab cranes, which feed hoppers on deck or the cargo holds directly. The most efficient and environmentally-friendly method is to use continuous unloading systems throughout the whole transshipment operation. This also makes it possible to reach very high capacities.

A floating transfer terminal equipped with a MacGregor self-unloading system has the ability to handle a great number of different bulk materials, for example, coal and iron ore.

Ship loaders

There are a variety of boom conveyors available for discharging cargo to a vessel or ashore. They can either be of fixed length, telescopic, telescopic with reversible conveyors or articulated. The hoist- and slewable boom conveyor can be positioned on either port or starboard side for discharge directly to the cargo holds of the receiving vessel or be installed on a travelling gantry. For a smooth slewing operation, slewing is performed by a hydraulic actuator.

Travelling gantry

The ship loader can be fitted on a gantry that travels on a rail along the deck. This solution gives the terminal operator the capability of loading a capesize vessel without any need to move the ships to adjust their relative positions; substantially raising the transshipment rate for the complete operation.

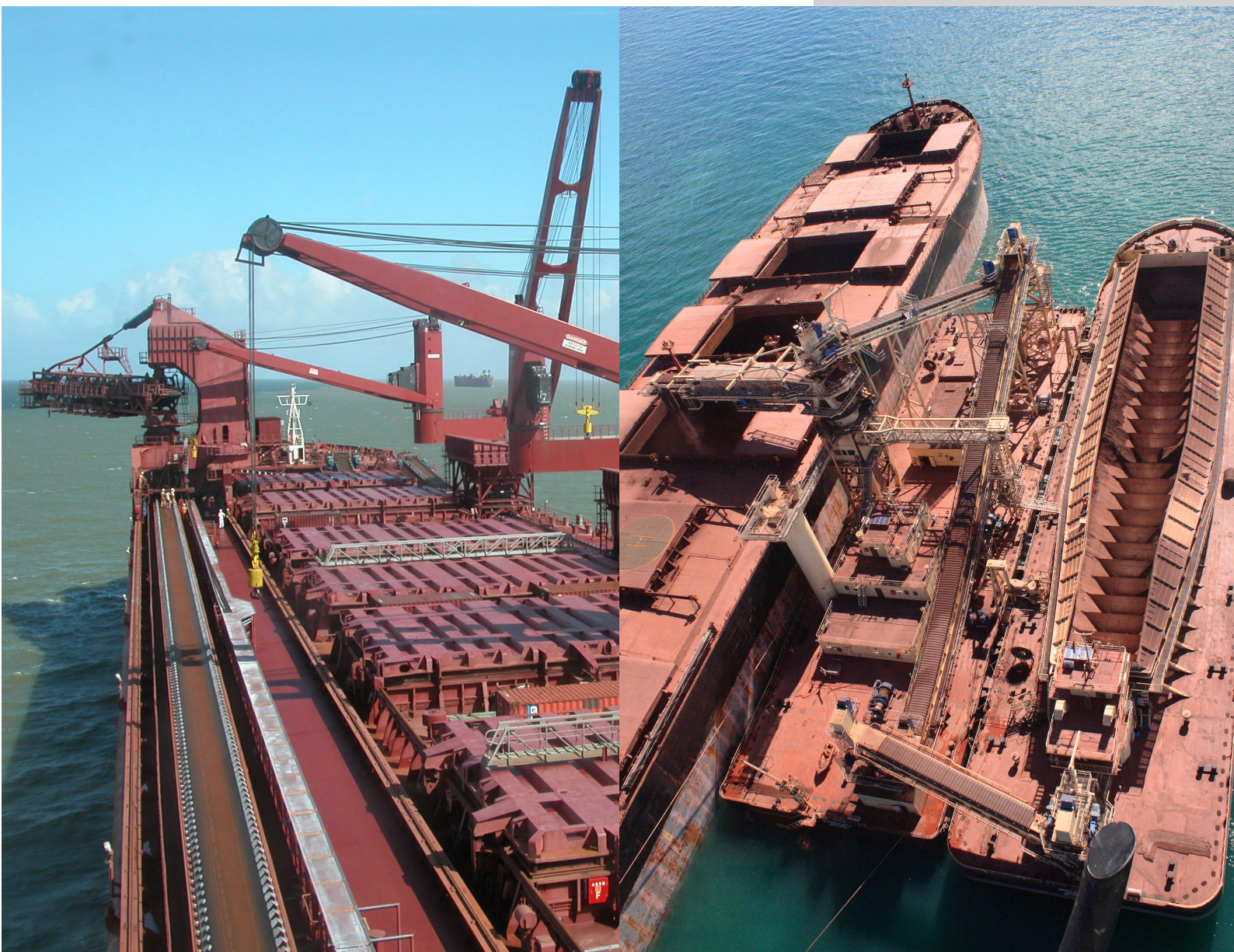
Dust control

To lower dust emissions during an offshore operation, the conveyor system and the ship loader are totally enclosed. To further reduce dust creation during transloading, dust filters and spray water nozzles can be fitted in the discharge chutes between conveyors and at unloading points.

Dust collectors are used to minimise dust leakage from the cover joints. The dust collectors take air from critical points in the conveyor system to create a negative pressure inside the conveyors. The air is passed through filters that collect the dust, which is then automatically removed by compressed air or by shaking the filters. This ensures a clean ship and a clean terminal, with no dust pollution to impact the surrounding areas.

Advantages

- flexibility
- reduced pollution in ports and their immediate environment
- larger ships can replace a higher number of smaller vessels on fewer voyages
- the low draught of the shuttle barges avoids expensive dredging in port
- the high capacity of the system cuts time spent in port, a great benefit for charterers and the local environment
- avoid new investment in old ports
- increase the capacity in a port without new developments in the port area
- travelling gantry reduces the need to warp the ships to adjust their relative positions



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