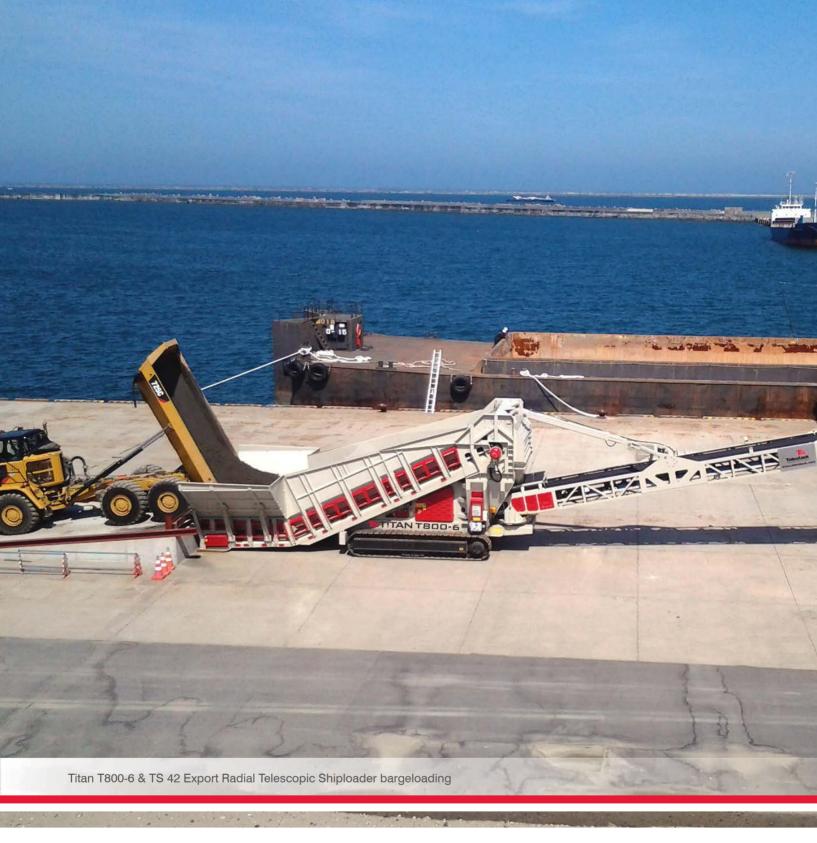




EXP RT SEA PORTS & INLAND RIVER TERMINALS



TELESTACK PORTS AND TERMINALS OFFER THE MOST INNOVATIVE RANGE OF EQUIPMENT TO ENSURE UNRIVALLED EFFICIENCIES AND FLEXIBILITY WHEN HANDLING DRY BULK MATERIAL



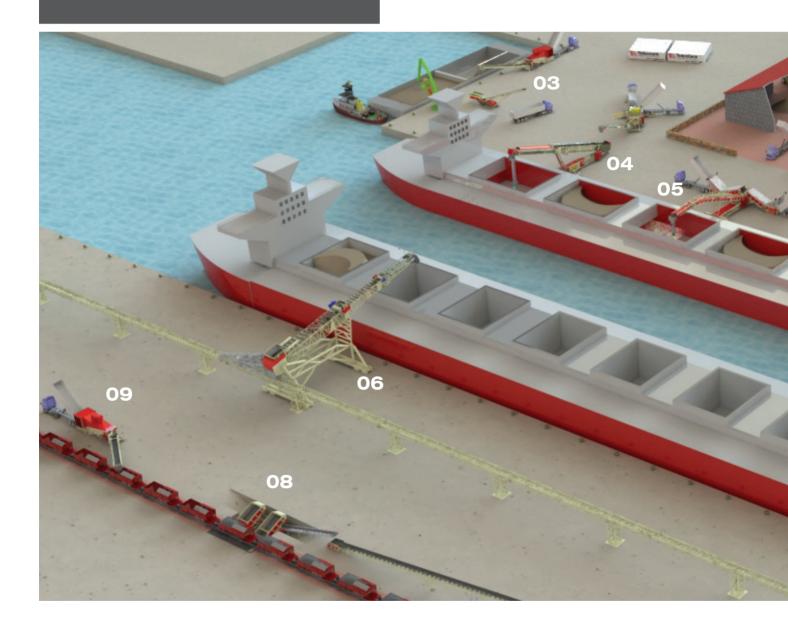
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WHY USE MOBILE SYSTEMS?

The use of mobile systems throughout Ports and Inland Terminals is ever expanding globally. The innovative nature of the Telestack range means Operators have the ultimate flexible solution for handling dry bulk in the Port/ Terminal. The Telestack range offers many benefits to your operation including:

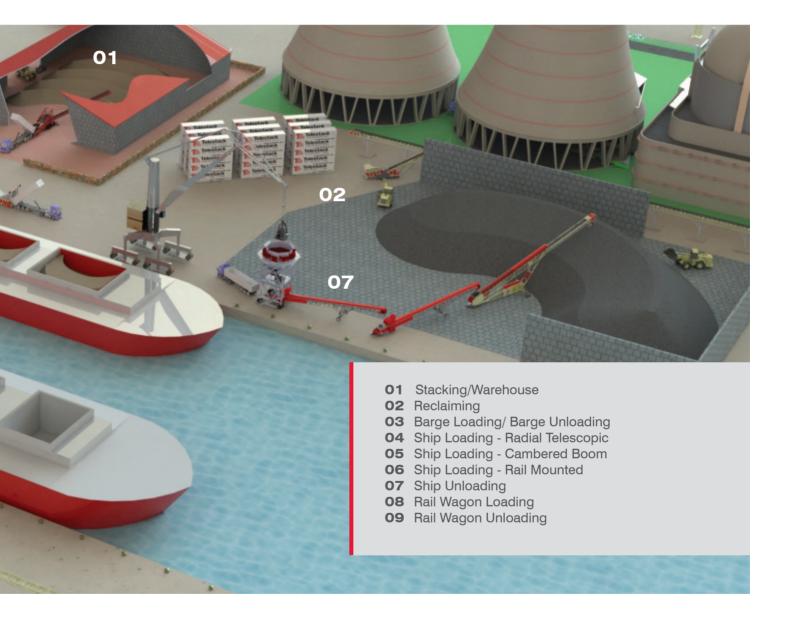


- Increased mobility increases flexibility when handling your dry bulk
- No Civil Construction or Planning Permissions Required
- Lower CapEx investment when compared to Fixed Infrastructure & Mobile Harbour Cranes
- Environmental Considerations Integrated Dust Extraction & Containment Systems
- Ideal for Multi Cargo Berths when handling Dry Bulk/ Containers/ Break bulk
- Perfect investment for Stevedoring Companies ensuring lower costs per tonne
- Multi functional Equipment Same units for Shiploading/ Ship Unloading, Stacking & Reclaiming
- Short Lead Times from order to operational Typically 10-24 weeks

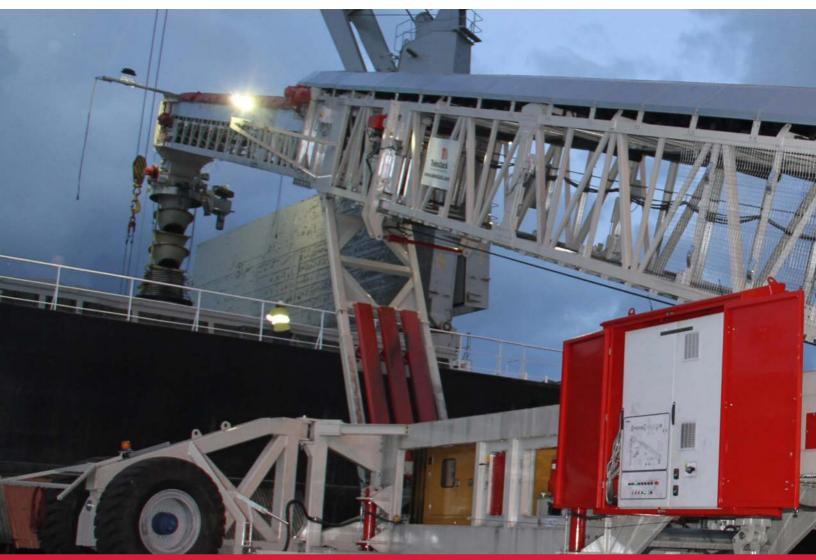
PIT > PORT

Telestack have decades of experience throughout every part of the logistics chain from Pit to Port and they continue to provide innovative and reliable mobile bulk material handling systems to its worldwide customer base.

Telestack have thousands of installations across the globe in a range of applications and their products offer enhanced flexibility and efficiency in handling dry bulk material, whether from the Pit, the Port or Plant.



WHERE DOES **TELESTACK** FIT IN YOUR LOGISTICS CHAIN?



TYPICAL FEATURES - RADIAL TELESCOPIC SHIPLOADER



Typical features of a Radial Telescopic Shiploader with integrated dust cover / seals, dust extraction and telescopic discharge chute



- Canvas telescopic dust cover which extends and retracts with the telescopic function designed to protect material and prevent dust
- Range of telescopic free-fall and cascade chutes available (depending on application and material)
- Galvanised side and drip pans to eliminate wind and spillage
- 04 Fully sealed transfer points to enhance functionality of unit as well as reduce wear on unit
- 05 Undercarrlage designed for maximum undercarriage support
- Range of mobility options available including radial, parallel, in-line and all-wheel travel functions to enhance mobility and flexibility
- Range of power and control options available including integrated generators, operator cabins and radio remote control consoles
- Integrated dust extraction filtration systems including integrated compressor and piping (for dusty material)
- 09 Fully sealed feed-in point

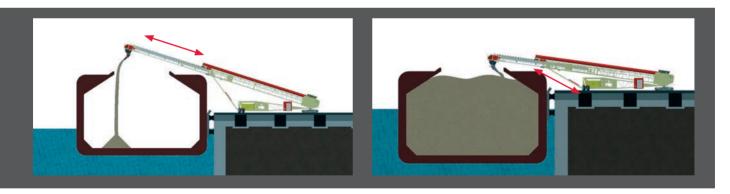
RADIAL TELESCOPIC SHIPLOADERS

The radial and telescopic features allow the operator to easily trim the hatch or multiple hatches from one feeding position reducing hatch change times and production downtime. They can load vessels up to Panamax size with ease and offer a complete range of mobility, chutes and dust suppression / extraction options for specific applications and materials

RADIAL FEATURE

- Operator can load a number of hatches from one single feed-in point without re-positioning the equipment
- Flexible loading procedure which allows for increased production rates
- Telestack mobile ship-loaders are hydraulically driven left/radial which ensures the feeding equipment does not move or stop during loading
- Radial function allows the ship-loader to be positioned in a number of central loading points, allowing multiple hatches to be loaded while minimizing the hatch change times
- The luffing feature (raise/ lower) of the radial telescopic offers the operator flexibility to easily raise or lower the entire conveyor section depending on the free-board height of the particular vessel to be loaded
- Hatch change times are kept to a minimum due to flexible radial, telescopic, luffing and mobility features

TELESCOPIC FEATURE

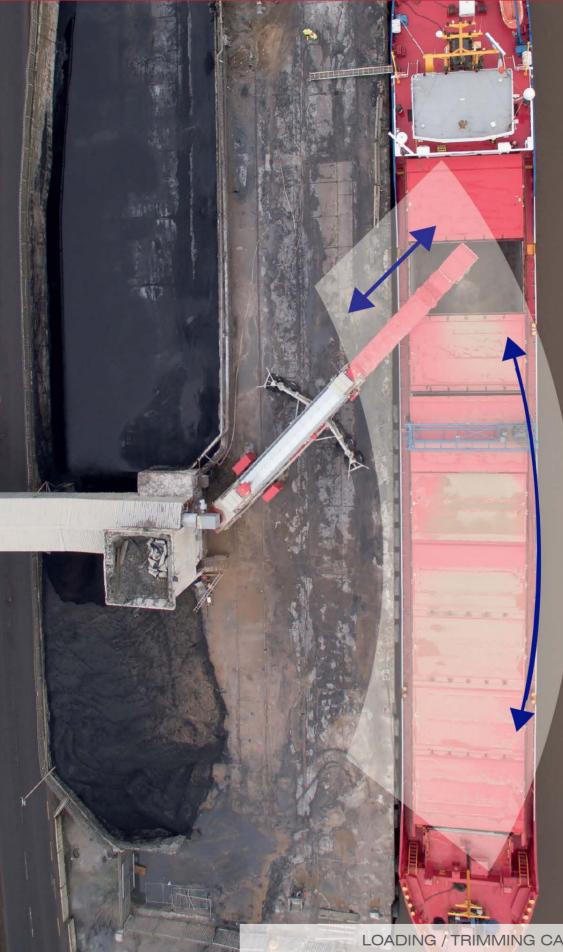


The telescopic mobile shiploader moves in and out allowing the operator to trim the vessel with ease, without moving or stopping the equipment, all via the integrated radio remote control system The use of telescopic technology eliminates the downtime caused in production by having to move the equipment with a more efficient and effective process, especially during final stages of loading when trimming a vessel

⁽ HANDLING RATES OF UP TO 3000 TONNE/HOUR ARE POSSIBLE[]]

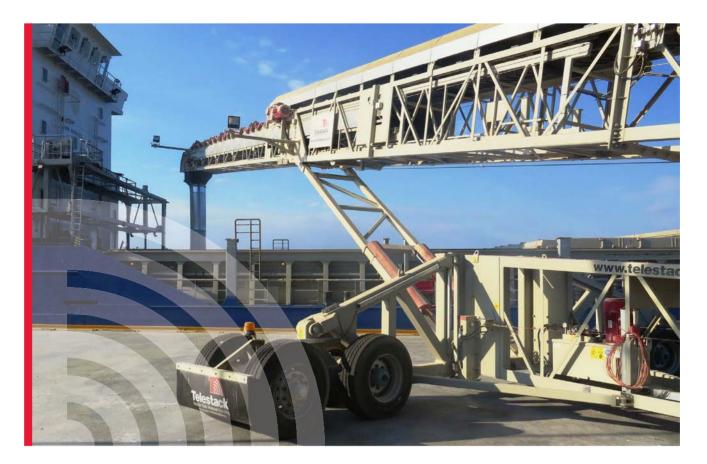
UNDERSTANDING OUR TECHNOLOGY

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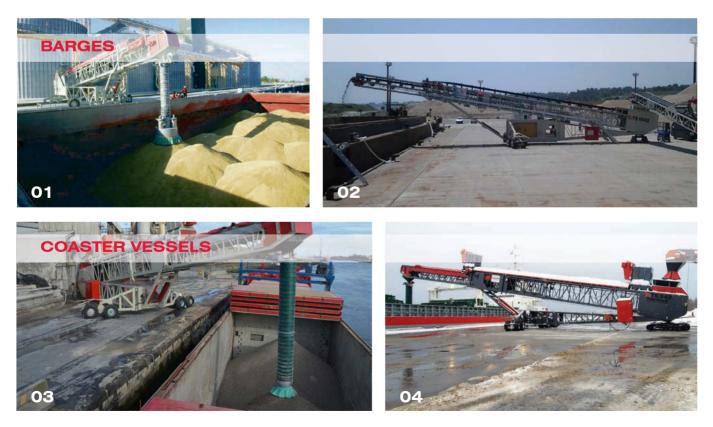


LOADING / TRIMMING CAPABILITIES OF TELESTACK RADIAL TELESCOPIC SHIP LOADER

VESSEL LOADING APPLICATIONS



Telestack offers a wide range of mobile ship-loaders to load barges, coasters and larger vessels. Telestack's unique range of ship-loaders are designed taking into consideration maximum free-board heights, beam and quayside widths.









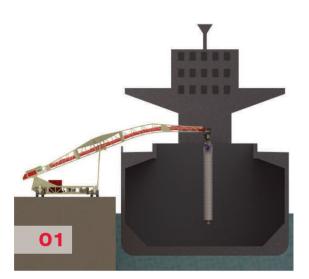




- **01** Rail mounted, radial telescopic, mobile ship-loader, loading grain onto barges including conveyor covers and telescopic chute with dust extraction
- 02 Telestack radial telescopic fed by Truck unloader loading onto barge
- 03 Radial telescopic loading sintered magnesia onto Coaster vessel fed directly from overhead conveyor
- **04** Radial telescopic shiploading conveyor loading a Coaster vessel from warehouse (complete with dust extraction)
- 05 Radial telescopic shiploader loading grain to Handysize vessel fed directly from truck unloader
- 06 Radial Telescopic shiploader loading grains fed directly from mobile truck unloader
- 07 2 x Hopper feeder and 2 x radial telescopic mobile shiploaders loading Handymax vessel
- **08** Radial Telescopic shiploader loading vessels from "Truck to Ship"
- 09 Telestack hopper feeder and all travel mobile ship-loader can load up to Baby Cape vessel
- **10** Radial telescopic shiploader loading coal onto Panamax Vessel directly from trucks

CAMBERED BOOM SHIPLOADERS

The customised design and manufacture philsophy of Telestack's engineers allow for complete 'one-off' designs and concepts to be created to meet the needs of the application. The differing quayside design, production rates, bulk materials and vessel sizes mean we keep developing our extensive range of mobile shiploading systems.













- **01** Cambered Boom loading ship with telescopic cascade chute
- **02** Cambered boom shiploader with integrated single access feeder
- **03** Dual feeder Truck Unloader & Cambered Boom Shiploader
- **04** Cambered boom shiploader with integrated single access feeder from central hatch of trailer
- **05** Cambered boom ship-loader loading aggregates to coaster vessel from wheel loader
- **06** Cambered boom shiploader with integrated dual access feeder





Telestack offer a range of solutions for feeding shiploaders directly from trucks, wheel loaders or grabs, taking into consideration the limited quayside space available when loading these types of barges and coaster vessels. The direct loading equipment ensures the material is transferred from quayside to vessel as efficiently as possible, eliminating the double handling of material.







- 01 Mobile radial truck unloader loading a Coaster vessel from a wheel loader
- **02** Mobile radial truck unloader loading a barge directly from trucks
- 03 Mobile radial truck unloader loading a barge directly from trucks
- 04 Mobile hopper feeder loading a barge directly from wheel loader
- 05 Mobile hopper loading coaster vessel from excavator

METHODS OF FEEDING- SHIPLOADERS

Telestack offer an extensive range of options to feed their mobile systems, so the client has a complete package 'to fulfil' the required needs. Telestack have a range of feeding methods from trucks, pay loaders, ground/ overhead conveyor systems and tripper conveyors. Telestack also offer single feeding units to load/ unload vessels which allows for a single unit for all processes.









"Our extensive range of mobile shiploading equipment is ideal for differing quayside design, production rates, bulk materials and vessel sizes ""





TRUCK UNLOADERS Mobile truck unloader feeding a radial telescopic shiploader



WHEEL LOADER TO SHIP

HOPPER FEEDERS Truck unloader feeding a radial telescopic shiploader



LINK CONVEYORS Mobile Link Conveyor feeding mobile ship-loader

OVERHEAD CONVEYOR TO SHIP

OVERHEAD/ TRIPPER

Rail mounted shiploader with 15 metre cascade chute fed by tripper conveyor



STOCKYARD MANAGEMENT

Telestack offer a complete range of equipment which can be used throughout the stockyard, to efficiently stack, reclaim and transfer material.

- The operational mobility & flexibility of Telestack mobile conveyor units for Stacking, Reclaiming and Rail wagon loading/unloading ensure production is optimised
- Telestack mobile conveyors can be multi-functional, allowing the ship-loading system to be utilised as a stacking/reclaiming system when not needed for vessel loading
- The units can easily be used as an alternative to a fixed stacker/reclaimer system with much less expense in terms of capital expenditure, civil requirements, planning permission and running costs
- They can provide an emergency back-up system for planned maintenance or breakdown
- They can be used for coal blending to feed the plant

MOBILE STACKERS





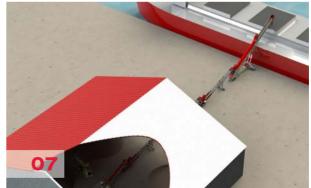




LINK CONVEYORS

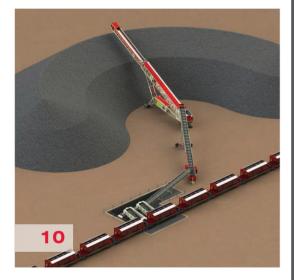
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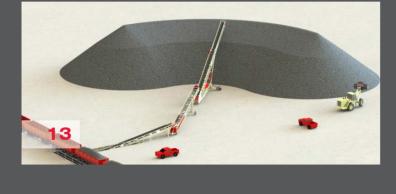


RAIL WAGON LOADING/ UNLOADING

The mobile rail loading and unloading systems offered by Telestack increase productivity and flexibility for the operator by limiting the civil requirements / planning permission needed to load / unload the rail wagons effectively.







- 01 2 x mobile radial telescopic mobile conveyors stacking coal in stockyard
- **02** Mobile stacker stockpiling coal & pet coke in steel mill stockyard
- **03** Mobile unit reclaiming aggregate to overland conveyor
- 04 Mobile Truck Unloader reclaiming coal directly from wheel loader to power station plant
- **05** Mobile Truck Unloader reclaiming iron ore from loader to steel mill plant
- 06 Link Conveyors feeding Radial Telescopic Shiploader from warehouse
- 07 3D layout Link Conveyors feeding Radial Telescopic Shiploader from warehouse
- **08** Tracked Conveyor rail wagon loading from Mobile Hopper Feeder
- 09 Mobile Truck Unloader rail wagon loading direct from trucks
- 10 Double bottom rail wagon unloading system feeding mobile link conveyor and radial telescopic stacker
- 11 Mobile Hopper Feeder & Radial Tracked Conveyor loading rail wagons direct from wheel loaders
- 12 Low Feed Hopper loading ballast to rail wagons n France
- 13 Rail wagon unloading system feeding mobile link conveyor and radial tracked conveyor

SHIP UNLOADING SYSTEMS

Telestack's Dockside Unloading systems offer an easy way to effectively unload vessels and transfer the material directly to trucks, mobile/ fixed link conveyors, warehouses and stockyards.

- Eliminating double handling of material direct unloading
- Use existing ship loading / stacking equipment for unloading application mul-• ti-functionality
- Full range of customised options and dust Ċ extraction / suppression













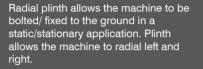
- O1 Telestack Dockside Unloading Hopper (DUH)O2 Unloading hopper to be fed from ship grab to
- hopper
- O3 Radial Telescopic ship unloading systemO4 Mobile Truck Unloader fed from grab crane in
- barge unloading application**05** Dockside Unloading Hoppers feeding mobile links
- and stacker
- **06** Low feed Hopper feeder fed from grab crane in barge unloading application

OPTIONS - MOBILITY

Telestack mobile conveyors are custom designed and manufactured to meet the specific needs of the application. These options allow complete flexibility for the operator when taking into consideration the differing mobility needs, materials, power & electrical requirements of the application.



RADIAL PLINTH (STANDARD)





WHEELED DOLLY UNIT

Wheeled dolly unit with integrated tow hitch that allows the machine to be transported around site via wheel loader or other ancillary on-site vehicles.



DIESEL/ELECTRIC TRACKED BOGIE

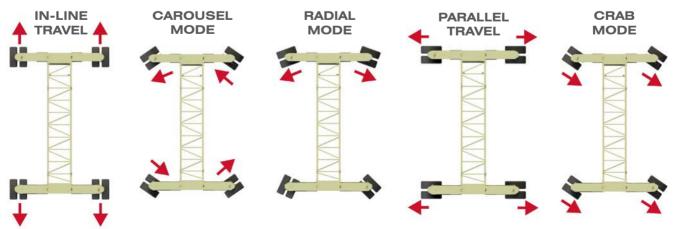
Diesel hydraulic/electro- hydraulic driven tracks for site movement with pendant remote control to allow self propelled site movement (Rubber track pads upgrade optional)

ALL WHEEL TRAVEL

Telestack's market leading mobility system, offering optimum flexibility when manoeuvring the machine around the jetty. The five modes offer complete mobility during ship-loader relocation, from hatch-to-hatch and vessel trimming. The mobility system is radio remote controlled by an operator from either the jetty or vessel.

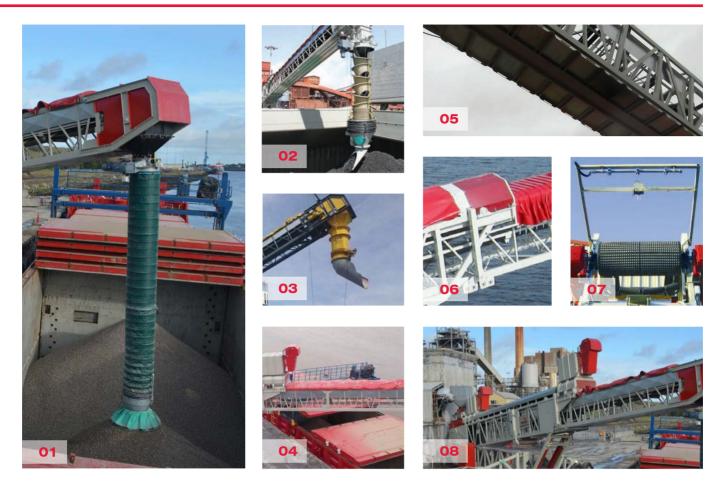






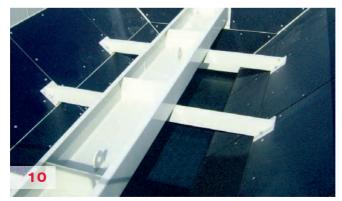
OPTIONS

DUST CONTAINMENT & SUPPRESSION OPTIONS



MISCELLANEOUS OPTIONS







POWER & CONTROL OPTIONS



- **O1** Range of Telescopic free-fall chute complete with optional dust extracion
- O2 Range of cascade free-fall chute complete with 360° trimmers on radial telescopic
 O3 Range of steel free-fall chute complete with 360° trimmers on radial telescopic
- **04** Canvas & galvanized dust covers (outer & telescopic inner covers)
- 05 Galvanised side & drip pans to eliminate wind & spillage
- **06** Fully sealed transfer points
- 07 Dust suppression water spray bars
- **08** Full dust extraction units at transfer points

09 Range of paint finishes available from standard to marine specification

- 10 Range of wear liners bolted into transfer feed points
- 11 Dual access walkways for maintenance
- **12** Generator integrated into TS undercarriage
- **13** Integrated operator cabin
- 14 Diesel Hydraulic powerpack
- 15 Integrated Generator on top of feeder
- **16** Integrated flood lights for night operations
- 17 Range of operator cabins and control consoles

DELIVERY OPTIONS

- Telestack units can be packed into 40ft (12m) containers to reduce transportation costs for the operator
- The equipment is designed, manufactured, built and fully tested in factory before dispatch
- The client can inspect the completed unit during the testing procedure in the Telestack factory for approval if required
- Smaller units are shipped via 'Ro-Ro' and easily tracked into position, folded out and ready to operate



ON SITE ASSEMBLY & INSTALLATION

- Typical assembly time is approximately 3-4 days for a 500 TPH shiploader
- All sections are bolted together, so no welding required on site
- All units are pre-wired with each unit using plug-&socket technology for interlinking the sections and auxiliary equipment, eliminating complex electrical work on site
- The units include fully built and tested hydraulic systems, eliminating complex assembly on site
- Telestack can supply (if required) an installation Engineer to oversee the process, dry/wet commission the unit and provide detailed training for operators





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