

Piggy-back hatch covers

TTS has developed a highly-automated hatch cover system to meet the cargo access needs of bulk carriers whose design requires the hatch opening to be up to 80 per cent of a ship's width but without any stowing space in either direction.



The piggy-back hatch cover system enables every part of the hatch opening to be exposed and is achieved by a lift and roll movement of the cover panels.

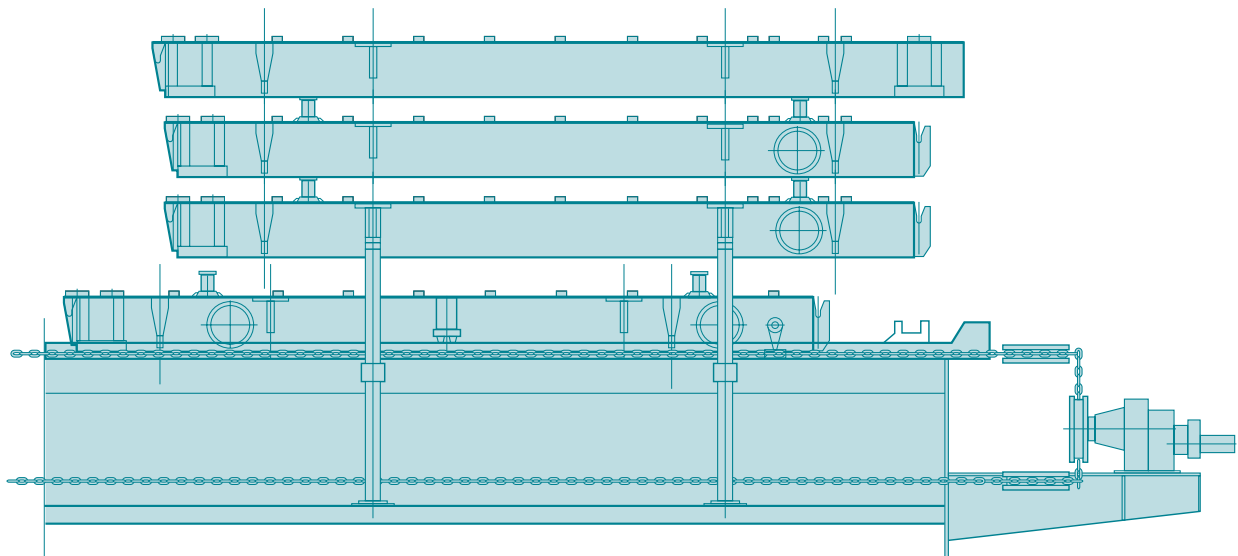
In operation, one panel is horizontally lifted by hydraulic jacks, enabling the other panel to be driven beneath it by built-in electric motors. The hydraulic jacks are then retracted, lowering the upper panel onto the motorised one below it. Both panels can then be moved by the electric motors to a position where they provide the required access to the hatch.

TTS has also adapted the system for use on coasters with long hatches but with no stowage space for the hatch covers. This was achieved by employing a

multi-piggy-back system allowing up to five panels to be stacked, and moved on top of the motorised panel.

System advantages

- Lifting of one panel by four hydraulic cylinders
- If required, more than one panel can be stacked by hydraulic cylinders in combination with semi-automatic hatch cover operation
- Driving of motorised cover by:
 - a) built-in geared electric motors
 - b) hydraulic motors and endless chain drive
- For partial opening of the hatch, the cross joints may be fitted with either a TTS vacu-seal or hydraulically-operated seal flaps.



Stacking of hatch covers in the multi-piggy-back style

