



## Sideloaded conveyor systems

The most efficient way to load or discharge unitised cargo, pallets and paper rolls is by the shortest possible path – through the ship's side – using a TTS side loading conveyor system. SWLs range from 6 to 20 tonnes. The system offers the possibility of installing an outer platform which can be used for larger tidal variations and is also ideal for reefer ships. Key benefits of a sideloading system are: low damage rates, operation independent of tidal variations, small demand on port facilities, and high loading capacity.

The sideloading conveyor system can be supplied with single, double or triple transport lines, each line comprising one lift with conveyor, one deck conveyor on each deck level and a common loading platform with conveyors for on- and off-loading from the shore side (see Figure 2).

By introducing the outer elevator as shown in Figure 1, the depth of the shell cutout is reduced and the lifting height for forklifts on the quayside at high tide or in light-ship conditions can be reduced accordingly. The buffer conveyor between the elevators enables them to work independently.

The loading platform, which houses the buffer conveyor and the outer elevator, automatically adjusts its height relative to the quay, even when fully loaded.

The complete loading process is monitored from a Man-Machine-Interface system (MMI

PC) located in the operating cabin where the operators also have full visual contact with cargo movements. Control of operation is automatic or semi-automatic by using infrared light status from the forklift trucks, or can be manual by using operators onboard the ship.

Among other things, the control system features loading-sequence tracking (by light signals); cycle times; a count of the number of pallets loaded; safety devices and fault-finding tools.

**The side door**

The most commonly installed side door is the standard TTS single unit upward sliding and tilting door. Alternatively a top-hinged upward folding type can be deployed.

The sliding and tilting side door has been installed in a number of ships since 1987 and this proven and reliable



hydraulically operated side door is supplied complete with hydraulic and mechanical equipment for easy and rapid installation. Opening is achieved by sliding the door upwards and then tilting it above the elevator tower to form a rain shelter above the loading area.

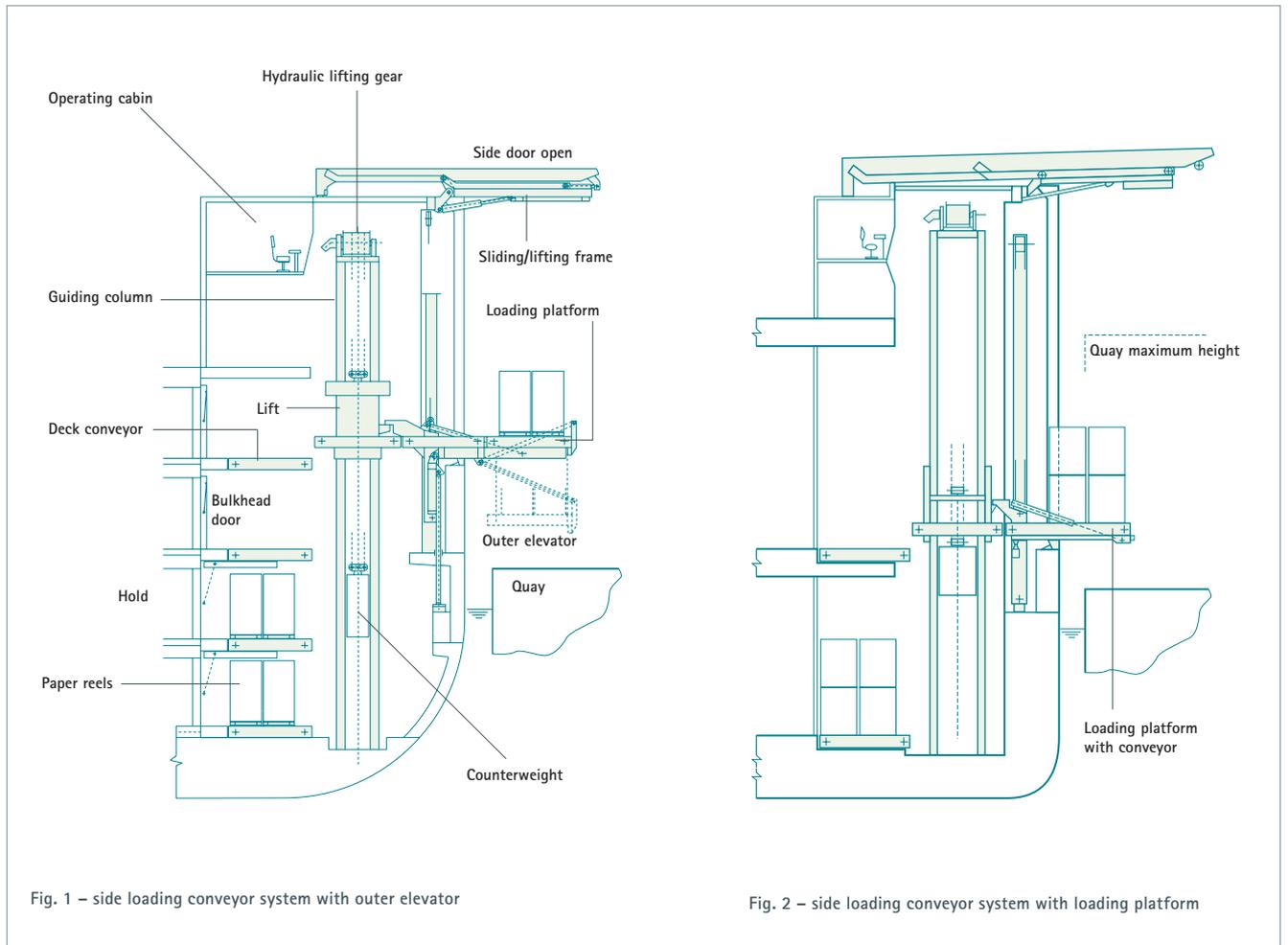


Fig. 1 – side loading conveyor system with outer elevator

Fig. 2 – side loading conveyor system with loading platform