



Foldable stern ramp/doors

Cargo access to the vehicle decks of RoRo vessels through the stern can be facilitated via a foldable stern ramp/door. RoRo vessel operators requiring a high degree of cargo access flexibility will find that their needs can be met by the TTS foldable stern ramp/door. For example, where routes involve a vessel berthing at quays with considerable height differences, a long ramp length is required, possibly resulting in a stowage problem. This is overcome by using a foldable ramp which can easily be stowed vertically without excessive height.

FOLDABLE STERN RAMP/DOORS

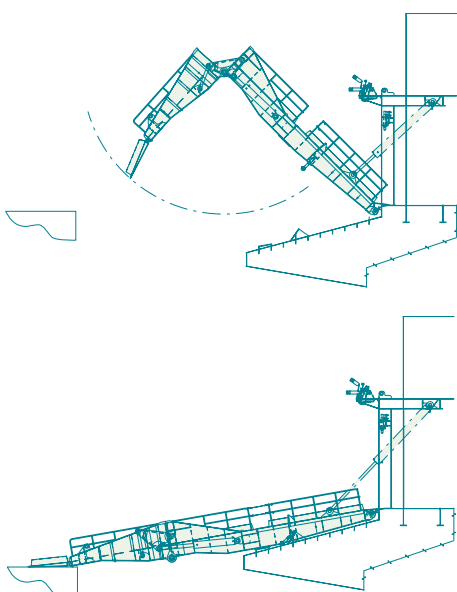
The foldable stern ramp/door comprises two main sections articulated together and provided with outer and inner flaps to allow smooth transition of vehicles. Deployment and stowage of the unit is accomplished either by two direct-acting hydraulic cylinders or by wires and winch(es).

Folding and unfolding of the outer section is achieved either by a spreading wire arrangement or a hydraulically-operated link mechanism.

When in the closed position, the unit's inner main section acts as a weathertight door, secured by hydraulically-operated cleats and locking devices. To provide the necessary seal, a stainless steel bar on the inner section compresses a specially-designed rubber gasket around the door framework.

Depending on the size of the ramp, deployment takes from 4–20 minutes and is initiated by a 'push-out' hydraulic cylinder located centrally above the opening. This cylinder also acts as a retarder for the ramp as it approaches its closed position.

A feature of the TTS foldable stern ramp/door is that its entire steel structure has been designed with built-in flexibility sufficient to ensure that the



ramp end will rest completely on the quay, even when the ship has a list.

Control of the ramp's operation is effected from a panel located near the ramp in a position that affords the operator the optimum view of the ramp movement. Deployment and stowage of the ramp can be achieved either manually by operation of the valves, or

automatically via push-buttons. Correct sequential operation is ensured by interlocks and other safety systems.

Another benefit of the TTS foldable stern ramp/door is that it can be installed on a vessel's upper deck allowing simultaneous loading/ unloading on both main deck and upper deck.

◀ Foldable ramp in open, working position and in open/closing position