



Quarter ramps

The TTS wire-operated stern quarter ramp offers considerable advantages in cargo access. Its main benefit is that it will allow the vessel to berth in the normal manner alongside a quay without the need for dedicated shore facilities. In the ConRo vessel configuration, containers can be handled by shore cranes at the forward end of the ship while RoRo operations are simultaneously taking place over the quarter ramp. In PCTCs it gives the advantage of allowing motor vehicles to be loaded/offloaded at any port and not only at specific terminals, giving far better distribution capabilities.

QUARTER RAMPS

Heavy loads can be accommodated over the TTS quarter ramp, whose operating system can be designed to absorb most of the weight of the ramp, thus keeping the pressure on the quay to quite low levels, and avoiding any damage to its surface. As no specifically strengthened quay areas are required, ships equipped with the TTS quarter ramp can operate at virtually any port, giving full flexibility of route. A further benefit is that the ramp, when stowed, acts as a weathertight door.

TTS wire-operated quarter ramps are arranged in three sections and can cater for a range of quay heights above and below the deck attachment datum point. The three sections are designed so that in normal working conditions the slope will not exceed 1:8 (7.1 deg) but in extreme conditions the slope limit can be increased to 1:6 (9.5 deg). The ramps can be designed and built in all sizes and, where required, units operated by direct cylinders can also be supplied.

The ramp is of open construction between two longitudinal girders, one on each side. Hydraulically-operated buttressing cylinders are located



between the inner and outer sections, at the longitudinal side girders, and act as adjustable buttresses to accommodate the adjustments necessary for the different quay heights.

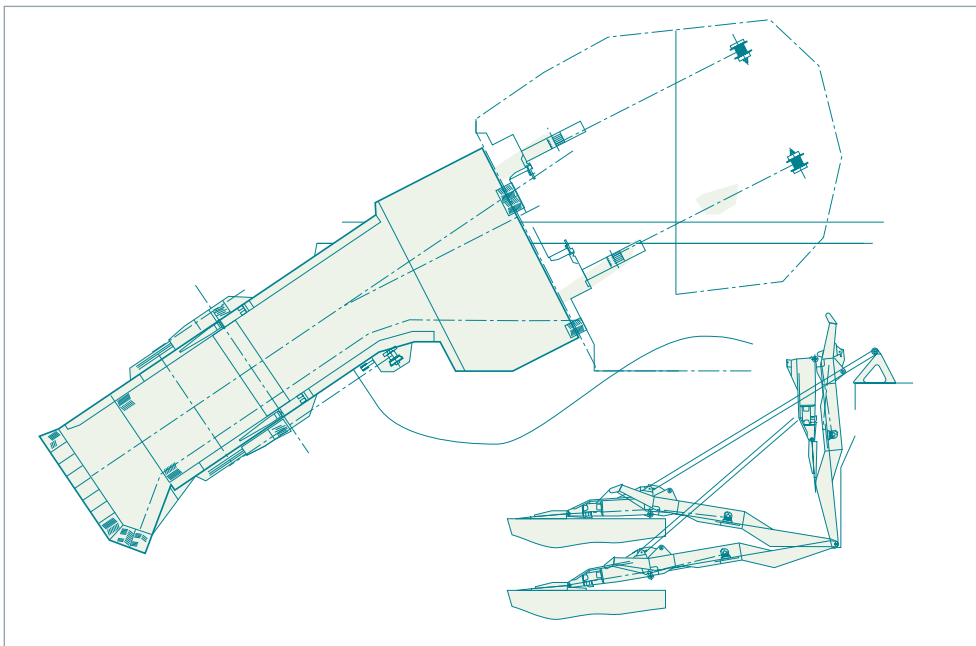
The outer, third section of the ramp incorporates flaps for the transition between ramp and

quay, and the whole structure is designed with in-built mechanical flexibility. This ensures that the whole of the outer section will rest on the quay even with the ramp empty and the ship listing approx. ± 3 deg.

The operating winches may be set in the self-tensioning mode

in which they automatically maintain the tension on the wires and thereby control the pressure of the ramp on the quay.

When raised into its closed position, the ramp forms a weathertight door. This is achieved by a stainless steel bar on the ramp inboard section compressing against a rubber gasket round the periphery of the ramp framework. The door is secured closed by a hydraulic cleating system. Deployment of the ramp takes about 15/30 minutes depending on its size.



◀ General arrangement of the quarter ramp in an open position