



## Inner bow doors

Over the past few years, major emphasis has been placed on the efficient design and installation of bow doors for all types of ferries, of which the weathertight door/ramp behind the visor is a critical component. Today, national authority and classification society rules, including those from the International Association of Classification Societies (IACS), call for an extra door to be retrofitted behind any existing door or folding door/ramp, but only onboard those ferries where the collision bulkhead has been incorrectly positioned (for whatever reason) when a ship was built.

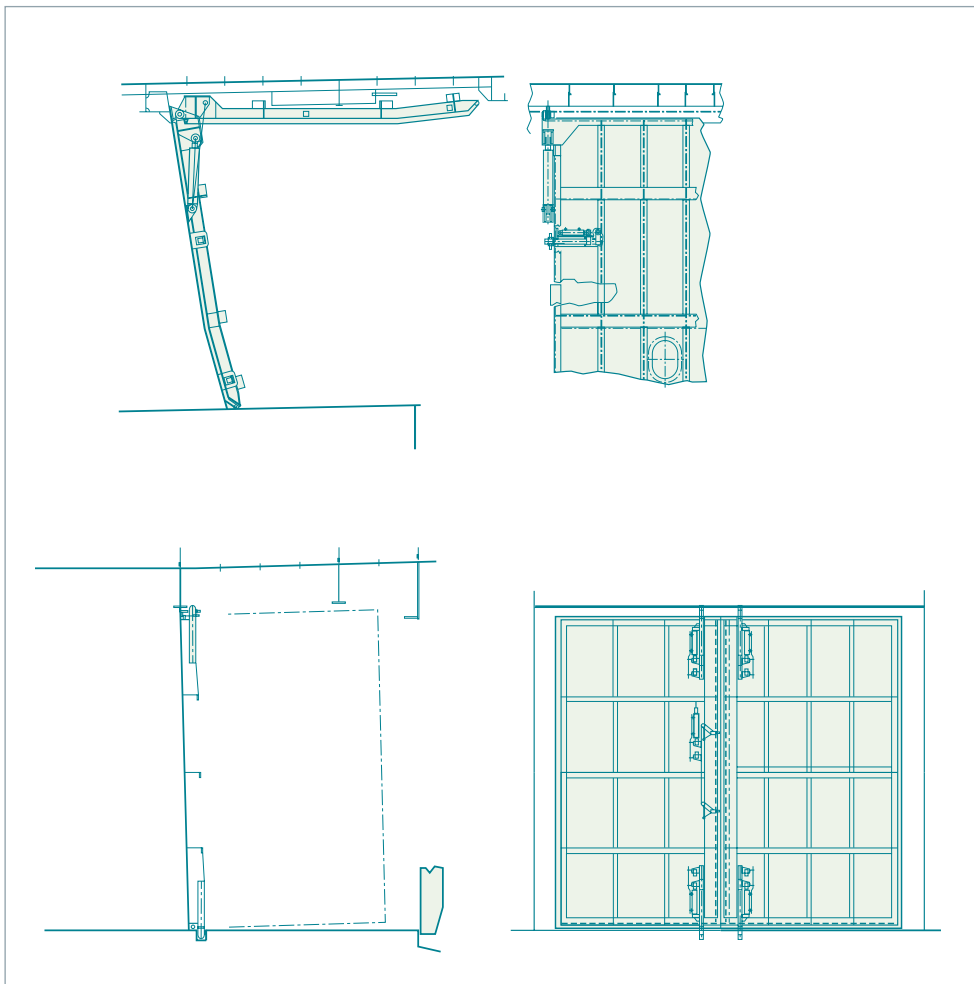
TTS has designed two alternative barriers to help operators upgrade their ferries and meet this important new requirement:

- a one-piece top-hinged door
- a two-piece side-hinged door

Each structure is fabricated and welded to classification society requirements.

Typical clear opening height is 4.90m, with a width of 6.50m, and deployment is achieved using a pair of hydraulic cylinders, with a further set to ensure cleating and locking. Opening and closing time is approximately one minute for each operation. A manhole is provided for personnel access to the space between the new and existing doors.

Weather-tightness is ensured by a rubber gasket around the door's perimeter; this is compressed against a stainless steel bar fitted to a new hull coaming.



Sensors are included to indicate, on a local control panel fitted with a LED display, whether a door is open or closed, and the cleating and locking cylinders are in the secure or free position. If required, a remote display can be fitted on the bridge. Audible and visible alarms can be provided as necessary.

TTS has successfully completed a number of contracts to retrofit these inner bow doors on ferries operating out of various countries.

◀ General arrangement of top-hinged and side-hinged doors