

Profile view of the Juice Express

## Juice Express

The Juice Express project has been developed to replace our well known Joint Frost. The vessel will be able to transport Frozen Concentrated Orange Juice (FCOJ) and Not From Concentrate (NFC) Juice. In close cooperation with chartering partners and the design company the newbuilding department developed the new juice tanker with these requirements in mind. The ambitious target of this project is to design a vessel which can carry the double amount of cargo compared to mv Joint Frost but with the same vessel's speed and main engine fuel consumption.

The vessel has four cargo holds. Hold numbers 1, 2 and 4 are insulated and fitted with juice tanks, hold 2 is divided with an insulated bulkhead (2Aft + 2Fwd) and hold no. 3 is a box-shaped dry cargo hold with possibilities for reefer containers. Hold no. 1 will accommodate four tanks appropriate for FCOJ only. Hold no. 2A and 2B will accommodate four tanks appropriate for FCOJ / NFC and hold no. 4, will accommodate four tanks appropriate for NFC only.

The propulsion and powering of the vessel is carried out by engines and installations in accordance with IMO NOx Tier 2. The main engine and three auxiliary engines are designed for use of HFO, ULSHFO and MGO.

One deck crane on starboard side serves all container slots below and above deck.

The controllable pitch propeller has an optimum diameter ensuring, in combination with optimised hull lines, best possible efficiency and lowest possible fuel consumption. The shaft of the propeller is mounted to a reduction gearbox aft of the main engine.

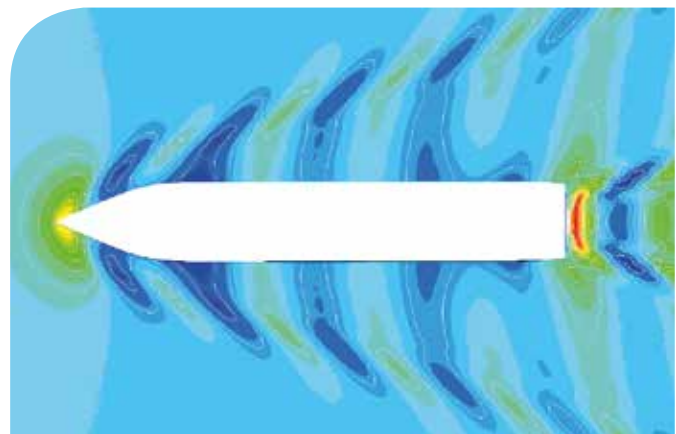
### Main dimensions:

Length over all	99.90 m
Breadth moulded	15.40 m
Depth to main deck	8.75 m
Draught summer	6.10 m
Deadweight at summer draught	4,600 ton (approx.)

Prior to the model tests, the optimisation process of the hull lines took place using a combination of potential flow and viscous flow CFD (Computational fluid dynamics) codes.

In order to have optimal operational performance, the special Groot Cross-Bow® was chosen. The hull lines resulting from this optimisation process have been the starting point of the model manufacturing.

On 29 and 30 October 2015, model tests of the Juice Express were carried out in a tank towing centre at MARIN (Maritime Research Institute Netherlands) in Wageningen, The Netherlands. We were very pleased to see results of the tank towing tests exceeding our expectations. In December 2015, the keel block ceremony of the Juice Express will take place. The vessel is scheduled to be delivered in June 2017.



CFD optimisation of the hull shape



Model test at sea trial condition and a speed of 11 knots