



Towing tank shallow water Ostend



Flanders
State of the Art

Flanders Maritime Laboratory was officially opened in May 2019. This new research laboratory in Ostend (Belgium) is operated by Flanders Hydraulics, Ghent University and KU Leuven University. Flanders Maritime Laboratory hosts two state of the art model scale facilities for the maritime industry, namely a Coastal & Ocean Basin (COB) and a Towing Tank for Manoeuvres in Shallow Water.

Carriage

The functionalities of the shallow water towing tank are based on the experience gained over 25 years of shallow water towing tank testing at FHR. Like the confined towing tank in Antwerp, the new carriage will be fully automated to enable 24/7 testing. Automated testing is important since a large number of parametric variations are necessary to achieve enough data to build an accurate mathematical model of the ship behaviour, especially when covering harbour manoeuvres in shallow or confined water. Fully automated testing requires machinery with a very high degree of reliability and a very high safety standard. Safe zones for witnessing tests on and off the carriage will be created to allow researchers and clients to approach the ship models during tests and provide ample video registration.

The kinematics of the carriage allow for shallow water manoeuvring testing with ship models of displacement cargo vessels, such as bulk carriers, tankers or container vessels. Observe that in the beginning a 4 DOF steering system will be deployed allowing the ship model to freely heave and pitch.

The yaw carriage allows a rotation between -365 and $+365$ degrees, at maximal speed of $16^\circ/s$ and maximal acceleration of $8^\circ/s$.

Dimensions

- Total length: 174.0 m
- Effective length: 134.0 m
- Width: 20.0 m
- Maximum water depth: 1.0 m
- Length of ship models: 3.5 to 8.0 m

