Hydrodynamic Test Equipment

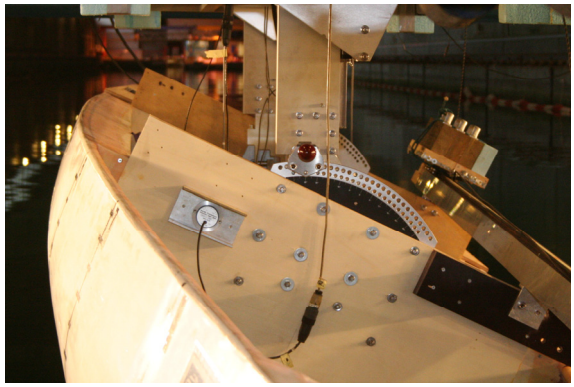
Advanced Yacht Dynamometer

Sailing yacht tests in our deep water towing tank

Over the years FORCE Technology has gained substantial know-how in tests of sailing yachts. Based upon our previous experience in sailing yachts tests and our profound knowhow in captive testing in our Planar Motion Mechanism (PMM) FORCE Technology has developed a new state of the art high load yacht dynamometer.

The objective in the design was to have a flexible and versatile tool for tests on all types of sailing yachts. The rig has already proved its capability in several projects with good results.

The construction is very stiff and capable of high loads and moments. Combined with the trim and load traversing system tests can be performed accurately and efficiently.

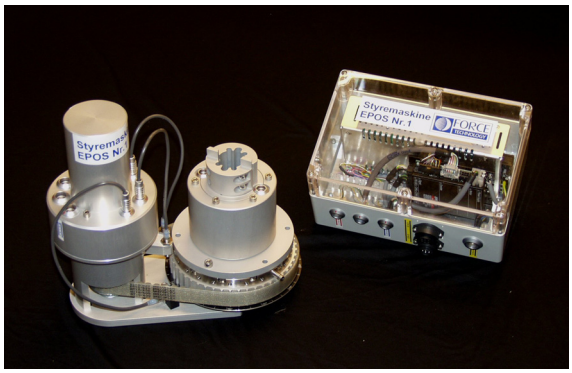


Close up on yacht dynamometer

The dynamometer is designed to allow rapid changes of drift angle (yaw) and yacht roll angle between the runs.

Testing of Advanced appendages

As a part of the setup FORCE Technology can utilise our advanced steering gear systems to control rudders, keel flaps and other controllable appendages.



Close up of steering gear system

The steering gear and control system can be configured to suit all tasks required in a typical yacht test campaign.

Forces (lift and drag) on the appendages can be measured through dedicated gauges incorporated in the steering gear system.

Data logging

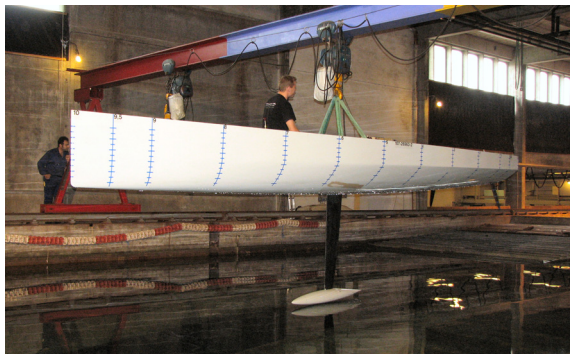
During the tests the following channels are logged for each run:

- X and Y Forces
- Yaw moment
- Roll moment
- Yacht Speed
- Yacht dynamic trim.

The data are logged with our dedicated logging system, GPL win, which also controls the digital video and photo systems.

Results can be delivered in raw format or can be scaled to full scale depending on the clients' specific requirements.

Steering system installed in a twin rudder yacht



Modern Sailing yacht prior to launch in our towing tank

Yacht Dynamometer Capability	
The yacht Dynamometer has the following capabilities: • X force up to 1.5 KN • Y force up to 3.0 KN • Yaw moment up to 3.0 KNm • Roll moment up to 1.5 KNm • Speed up to 10 m/s	Digital photo • High quality digital photo • Controlled by data logging system • Synchronous photos with up to three digital cameras
Model dimensions from 5 to 8 m Model speeds up to 10 m/s Typical model scale from 1:3 to 1:5	Digital video • High quality digital video • Controlled by data logging system • Synchronous video recording and data logging • Text overlay with all relevant information

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