Background
The Wolfson Unit has been conducting sailing yacht towing tank tests since its inception in 1967. It has remained at the forefront in developing its technological offerings in terms of testing equipment, processes & analysis techniques to keep up with the ever increasing demands of the sailing yacht design market.

This includes the testing of yachts for the America's Cup, various Ocean Races and inshore racing yachts, superyachts and sail training vessels. The Wolfson Unit operates regularly in a large range of testing facilities which provides freedom to select the tow tank and model scale that are most appropriate for the project objectives and clients budget. The service supplied is a one stop shop where, model construction, facility hire, all testing, analysis & reporting is delivered as one complete package to the client.

Examples of sailing yacht tank testing services
The benefits of towing tank testing are that it offers yacht designers a capability with which to optimise and confirm their design choices with a reasonable degree of reliability. The following examples highlight a range of areas where our services can and have been used.

Calm Water Resistance
- Evaluation of basic effects of parametric hull form changes, e.g. length/displacement & beam/draft; performance of ‘sizing’ studies.
- Motoring powering requirements
- Minimisation of hull drag within a given set of rating parameters & assessment of rating/performance trade off for design ideas.
- Canoe body development, e.g. overhang length, stern shape, LCB position.

Flow measurement
- Establish correct alignment for bilge keels, shaft brackets & other hull appendages.
- Flow measurements and pressure mapping techniques, using pressure sensors, LDA & PIV.
- CFD validation using flow visualisation & measurements, i.e. forces, moments, wave elevations, etc.

Seakeeping & manoeuvring
- Optimising bow shapes for good seakeeping & spray deflection.
- Un-restrained tests to assess controllability & seakeeping characteristics of multiple configurations at a range of conditions & sea states.

Appendage Development
- Determination of optimum keel/bulb profile, shape & volume.
- Evaluation of dynamic lifting appendages (foils, DSS, etc.)

VPP Refinement
- Refinement of the designer's velocity prediction routines & mathematical models of hull & appendage performance.