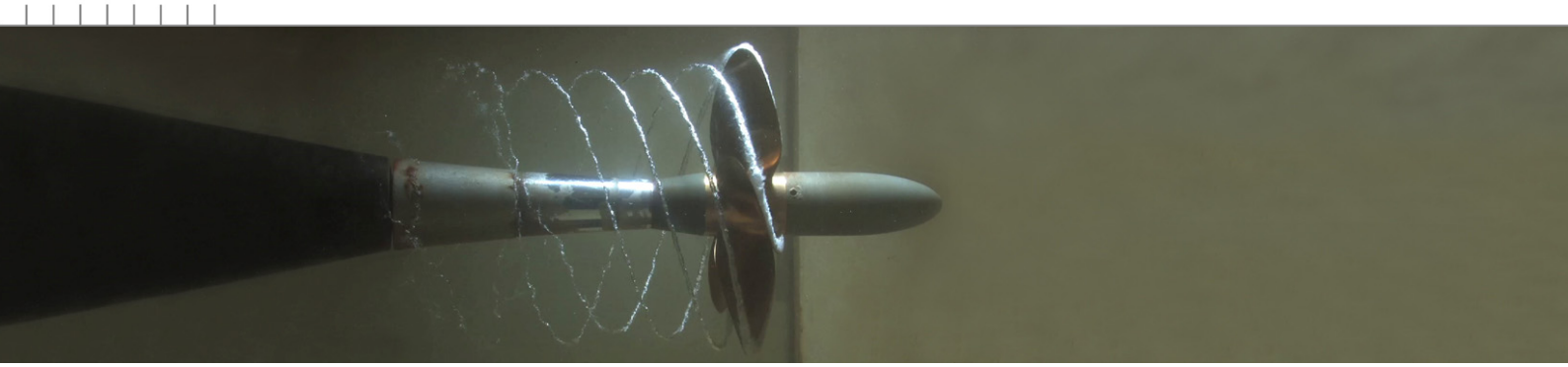
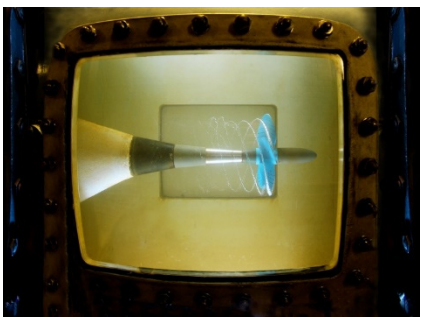


Large Cavitation Tunnel

Published description

- Witte, J.H. and Esveldt, J.; "Recent Improvements in the Large Cavitation Tunnel of the Netherlands Ship Model Basin", International Shipbuilding Progress, Vol. 13 No. 146, Oct. 1966 (NSMB Publ. No. 285).
- 12th ITTC Proceedings, Rome, 1969.

Description	Vertical plane, closed recirculating, variable speed and pressure, de-aerater
Type of drive system	1.48 m Diameter fixed pitch four-bladed axial flow impeller, thyrister controlled, 220 kW, 1200 rpm (impeller 300 rpm)
Propeller motor	Thyrister controlled, 184 kW, 3000 rpm
Working section max. velocity	10 - 11 m/s
Characteristics	Rectangular 0.9 m × 0.9 m with rounded corners, length 4 m
Pressure range	10 - 180 kPa
Cavitation number range	σn = 0.2 - 6



Test capabilities

- Cavitation observation tests, cavitation inception measurements and performance tests with propellers in wake field behind dummy model or in oblique flow set-up
- Hull pressure fluctuation measurements
- Propeller noise measurements
- Blade spindle torque measurements
- Measurement of forces and torques on nozzles, rudders, hydrofoils etc.
- Supercavitating propeller testing with right angle drive (up to 6000 rpm)

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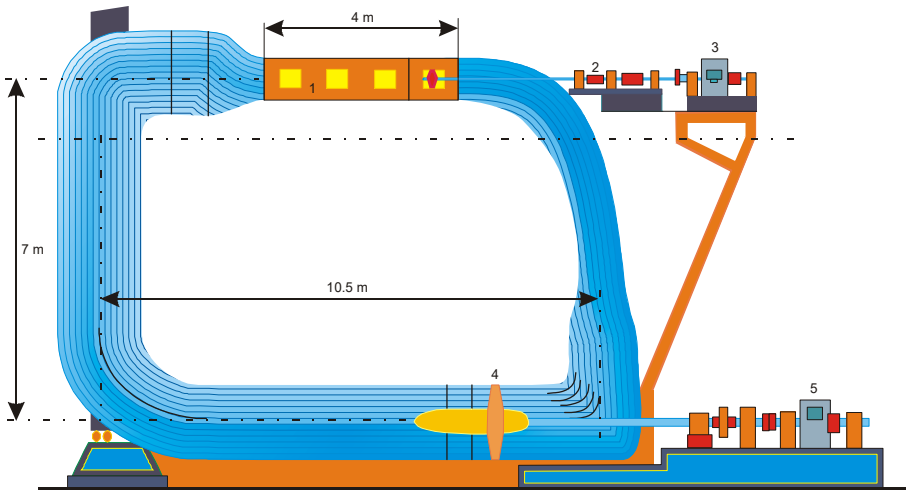
Instrumentation	Dynamometers, strain gauge elements, pressure transducers, hydrophones, 5-hole pitot tube, laser doppler velocity scanner, strobe lights, time lapse film recorder
Torque and thrust dynamometers	Hottiger strain gauges between motor and tunnel Thrust range ± 5000 N Torque range ± 500 Nm
Propeller size	Max. diameter 400 mm
Wake field simulation	Dummy model representing aft part of single screw ship fitted to top side (centre) of test section, or dummy model representing port or starboard aft part of twin screw ship fitted to one of the top corners in the test section; length or dummy models about 3 m



1 Test section
2 Thrust and torque dynamometer
3 Propeller motor
4 Axial flow impeller
5 Impeller motor