

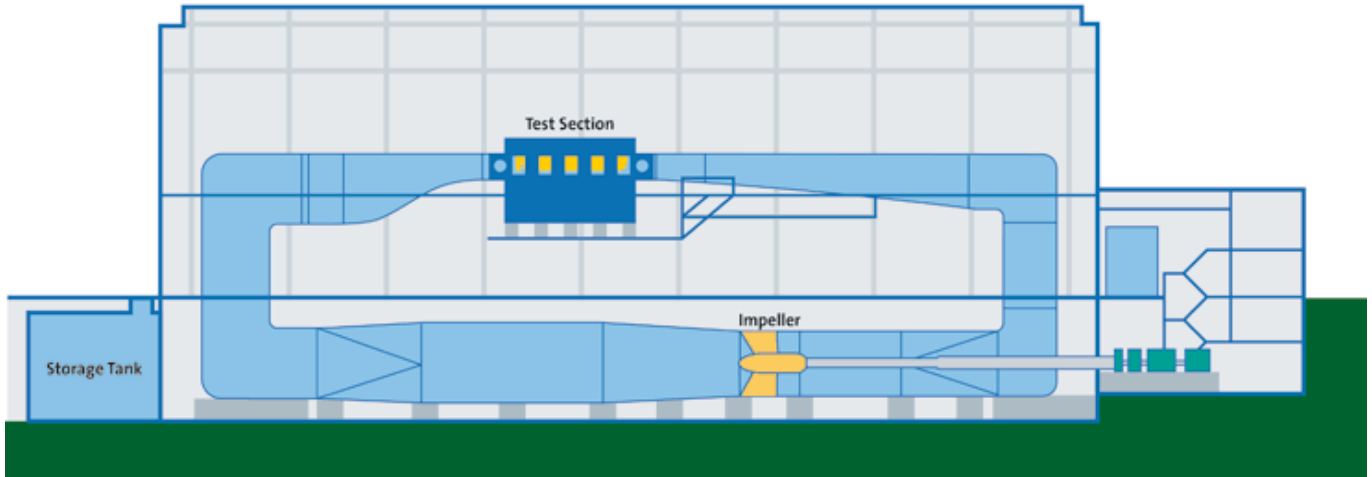


The Hamburg Ship Model Basin

Setting the Standard in Ship Optimisation

HYKAT

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Description of facility:	Closed circulating cavitation tunnel with horizontal top, bottom branch submerged in a trench, numerous acoustic treatment features, variable speed, variable pressure, aeration/deaeration system
Type of drive system:	2 electric motors (each 850 kW) driving a 3.775 m diameter seven bladed impeller, stator with nine blades
Test section max. velocity:	12.6 m/s (22.5 knots)
Max. & min. absolut pressures:	2.5 bar, 0.15 bar
Instrumentation:	<ul style="list-style-type: none"> ■ Propeller dynamometers with drive motors inside flooded models ■ Pressure sensors, hydrophones in the acoustical trough under the test section floor or in the models, computerized data collection, video system inside the flooded models, Laser-Doppler-Velocimetry (LDV) ■ Planar Motion mechanism (PMM) ■ High speed video system ■ Particle-Image-Velocimetry (PIV)
Dimension of test section:	2.80 x 1.60 x 11.00 meters, allowing installation of complete ship models
Propeller and model size range:	Up to 11.0 m length, 1.7 m beam, propeller diameter 200 to 300 mm
Max. revs. of model propeller:	60 1/s
Tests performed:	Propeller and rudder cavitation observations, cavitation inception investigations, Thrust break down tests, force measurements, determination of hydrodynamic coefficients from manoeuvring tests, flow visualization, noise tests on complete hull - appendage - propulsor configurations, investigations on surface ships, submarines, torpedoes and full scale propulsor units, flow noise investigations, wake measurements

