

Name of organization Bulgarian Ship Hydrodynamics Centre		Year of information updating 2016
Year established 1976		Year of joining the ITTC 1975
Address Bulgaria, Varna 9003, William Froude Str. 1		Status in the ITTC AC member
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Type of facility TOWING TANK	Year constructed/upgraded 1976	
Name of facility DEEP WATER TOWING TANK	Location (if different from the above address)	

Main characteristics (dimensions of tank/basin/test section; for simulators: full mission, part task or desk top)

Length – 200 m

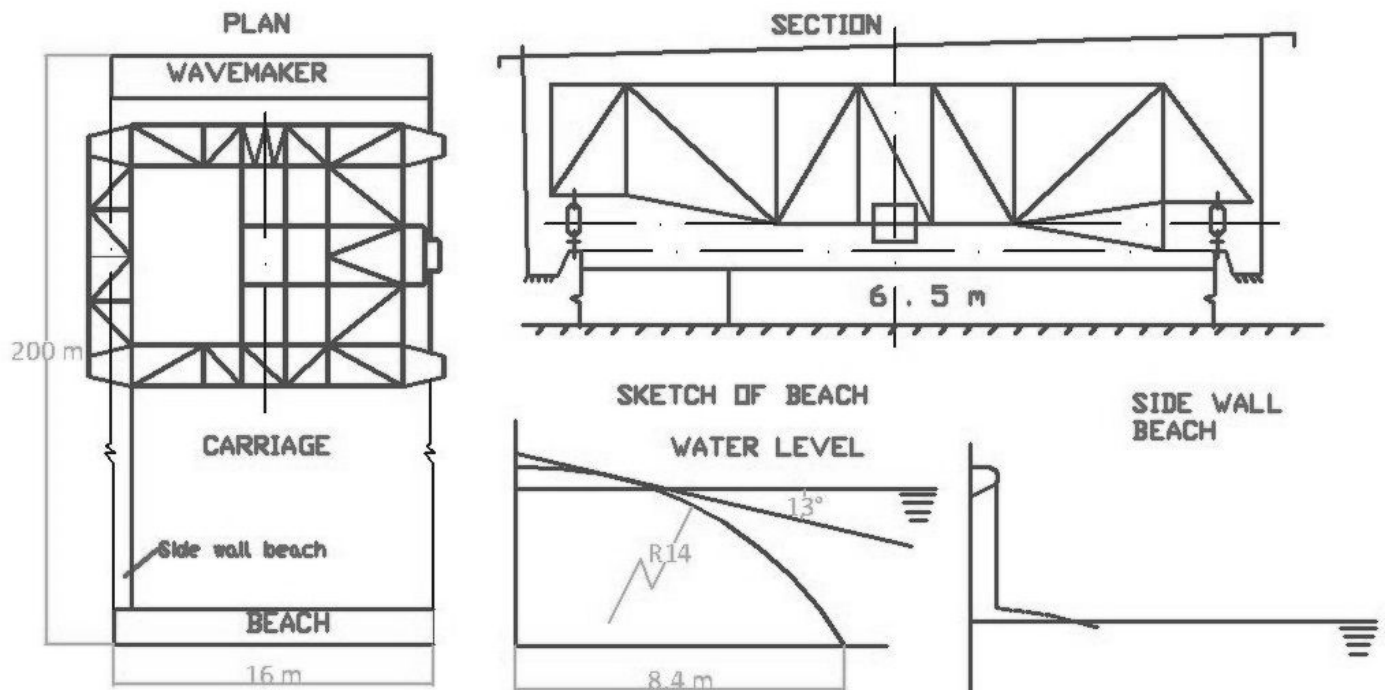
Width - 16 m

Depth - 6.5 m

Drawings of facility

Top-view plan

Corss-section-view plan



Detailed characteristics (carriages, wave/current/wind generators, instrumentations, etc.)

Max. carriage speed - 6 m/s ,acceleration – 1.0 m/s² and PC controlled drive system with 0.0025 m/s accuracy
Wave maker - regular and irregular waves; Wave length 1-12m; Wave height 0.1 - 0.4m; Wave steepness 1/20
Wave breakers – side wall moving type and circular arc grids at the end of the basin
High Precision PC controlled motor drive systems for propellers and PMM units

Instrumentation:

Unit for resistance and propulsion tests in calm water, type UB - 5
Unit for effective model wake field measurements, type M1115
Large Amplitude Horizontal Planar Motion Mechanism
Towing Apparatus for seakeeping tests, type EU - 64
Open water propeller dynamometers, type H49/H29
Six-component balance with POD Dynamometers
QUALISYS Optical Motion Capture System
Unit for model wave pattern investigations, type BA – 1
Spatial spring frame for moored floating facilities investigations
Unit for testing of pelagic trawl models
Six component balance for seakeeping tests, type USC
Various types of wave probes
Set of force dynamometers
Dynamometer for measuring of propeller thrust and torque fluctuations in non-uniform wake field PCM001
Dynamometers for measuring of CP propeller blade torque
Propeller dynamometers for ship models
Instrumentation Amplifiers with Filters
Measuring System - PC with NI Multifunctional DAQ Cards and Data Acquisition software based on LabView
Video System for underwater flow observation
Cameras for High Quality Video and Photo Documentation of the Experiments

Applications (Tests performed)

- Resistance tests on vessels and floating bodies
- Open water tests of propellers
- Self-propulsion tests
- Flow visualization
- Ship trim optimization tests
- Wakefield measurements
- Non-conventional propulsion, incl. water jets
- Experimental prediction of ship behavior in waves
- Model tests of energy saving devices, aquaculture and fish farm cages, etc. non-standard structures
- Model tests on offshore structures, incl. VIM analysis
- Assessment of ship stability, including damaged stability

Published description (Publications on this facility)

1. BSHC Brochure, last edition 2014
2. Proceedings of the Scientific Session dedicated to the 40-th Anniversary of BSHC, October 2016