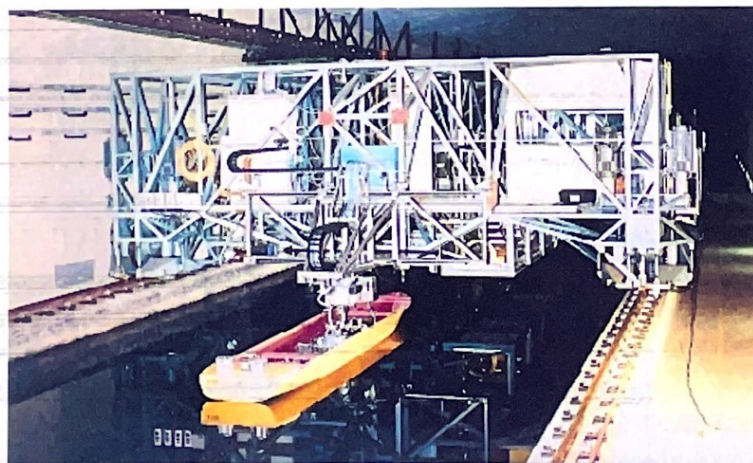
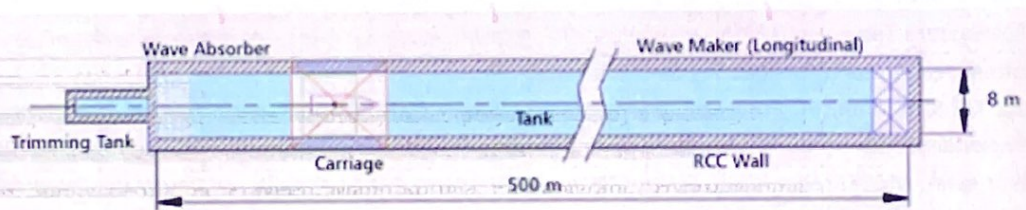


Name of Organization NAVAL SCIENCE AND TECHNOLOGICAL LABORATORY	Year of information updating 2023
Year Established 1969	Year of joining ITTC 1992
Address Vigyan Nagar, NAD Kotha Road, Visakhapatnam - 530027	Status in ITTC Membership renewal due
Contact Details Tel: +91 891 2586170 Fax: +91 891 2559464 Email : manu.korulla.nstl@gov.in	Website www.drdo.gov.in
Type of facility Hydrodynamic Testing Facility	Year constructed/ upgraded 1992
Name of Facility High Speed Towing Tank	Location Same as above

Main Characteristics

Tank dimensions are 500 m X 8 m X 8 m. Maximum speed of towing carriage is 20 m/sec.

Drawings of Facility



Detailed Characteristics

- Tank Dimensions : 500 m X 8.0 m X 8.0 m
- Max Speed of Carriage (Ahead) : 20 m/sec
- Max Speed of Carriage (Astern) : 4 m/sec
- Instrumentation : Vertical Planar Motion Mechanism, Large Amplitude Horizontal Planar Motion Mechanism, Data acquisition system, resistance and propulsion dynamometer, foil dynamometer, podded dynamometer, multi-component pitot probes, wake rakes.

Applications

- Resistance tests
- Flow visualization tests
- Propeller open water tests
- Self propulsion tests
- Wake Survey tests
- Captive Manoeuvring tests
- Towed body tests
- Foil System Tests

Published Description (Publications on this facility)

- [1] Md. Kareem Khan, PC Praveen, "Interceptor for better hydrodynamic performance of a planing hull", International Workshop and Conference on Engineering in Marine Applications, IWCEM, Pune, Jan 2010.
- [2] Shiju John, Md. Kareem Khan, Sunny Verma, PC Praveen, Manu Korulla, PK Panigrahi, "Hydrodynamic performance enhancement using stern wedges, stern flaps and interceptors", International conference on ship and offshore technology, IIT Kharagpur, Dec 2011.
- [3] Shiju John, Md. Kareem Khan, Sunny Verma, PC Praveen, Manu Korulla, PK Panigrahi, "Ship hull appendages: A case study", International journal of Innovative Research and Development, Vol1 Issue 10, Dec 2012.
- [4] Md. Kareem Khan, Shiju John, Sunny Verma, PC Praveen, Manu Korulla, PK Panigrahi, "Resistance characteristics of a Trimaran for different side hull configurations", International conference on ship and offshore technology, IIT Kharagpur, Dec 2013.
- [5] PC Praveen, P Krishnankutty, "Study on the effect of body length on the hydrodynamic performance of an axi-symmetric underwater vehicle", Indian Journal of Geo-Marine Sciences, Vol 42, Dec 2013.
- [6] Anil Kumar Dash, PC Praveen, Md. Kareem Khan, Vishwanath Nagarajan, Om Prakash Sha, "Roll-induced bifurcation in ship maneuvering under model uncertainty", Journal of Marine Science and Technology, 21:689-708, May 2016.
- [7] PC Praveen, P Krishnankutty, PK Panigrahi, "Effect of slenderness ratio and aft fins on the hydrodynamic

forces for an underwater body in oblique flows", Ship and offshore structures, Vol 13, Issue3, July,2018.

[8] PC Praveen, P Krishnankutty, Manu Korulla," *Study on the manoeuvring characteristics of axisymmetric underwater vehicles with different slenderness and control fin aspect ratios*", Ocean Engineering 201, 107034, March 2020.

[9] Prasad Vinayak Patil, Md. Kareem Khan, Manu Korulla, Vishwanath Nagarajan, Om Prakash Sha, "*Manoeuvring simulations of autonomous underwater vehicle using quaternion*", Defence Science Journal, Vol72, No.2, March 2022.