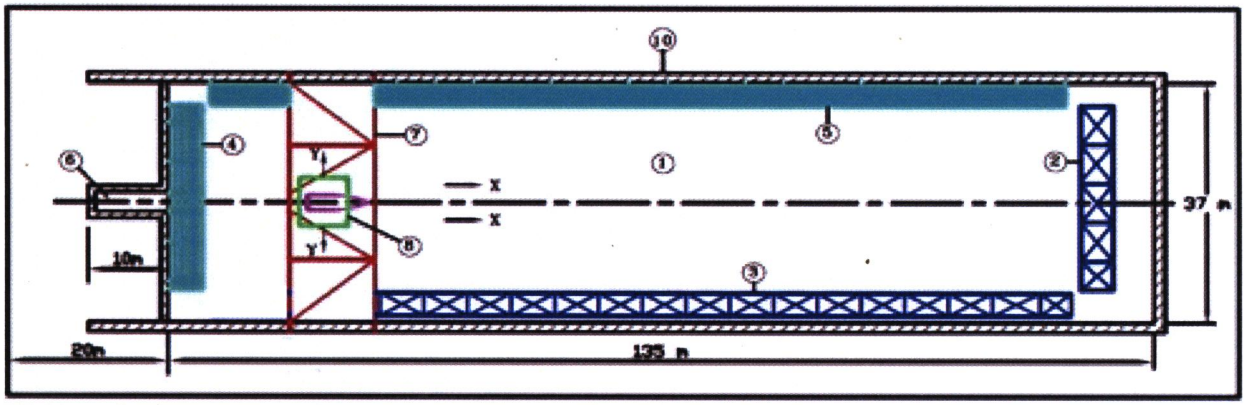
| **Name of organization**<br>NAVAL SCIENCE & TECHNOLOGICAL LABORATORY | **Year of information updating**<br>2016 |
|---|---|
| **Year established**<br>2015 | **Year of joining the ITTC**<br>1992 |
| **Address**<br>VIGYAN NAGAR, NAD KOTHA ROAD, VISAKHAPATNAM,<br>ANDHRA PRADESH, INDIA -530027 | **Status in the ITTC**<br>Member |
| **Contact details**(phone, fax, e-mail)<br>Tel: +91 891 258 6011<br>Fax: +91 891 255 9464<br>Email: panigrahi.pk@nstl.drdo.in | **Website**<br>www.drdo.gov.in |
| **Type of facility**<br>HYDRODYNAMIC TESTING FACILITY | **Year constructed/upgraded**<br>2015 |
| **Name of facility**<br>SEAKEEPING & MANOEUVRING BASIN (SMB) | **Location** (if different from the above address) |

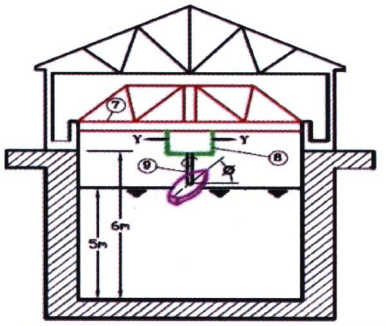
**Main characteristics** (dimensions of tank/basin/test section; for simulators: full mission, part task or desk top)
135m (length) x 37m (width) x 5m (water depth)

**Drawings of facility** Top-view plan




1. Tank 2.Wavemaker (transverse) 3. Wavemaker (longitudinal) 4.Wave Absorber (Fixed) 5. Wave Absorber (Hoistable)
6. Trimming Tank 7.Main carriage (X Carriage) 8.Sub Carriage (Y Carriage) 9. Rotating turn table (Φ carriage) 10. RCC wall

Cross section view plan




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

- X carriage: maximum forward speed: 6m/s, reverse speed: 4m/s
- Y carriage: ±4m/s, Yaw carriage: 360°
- Model length: 3 - 5m
- Wave generators: 256 hinged flap type paddles on two adjacent sides (70 paddles on the short side and 186 paddles on the long side) and beaches (fixed on short side except the center beach and hoist-able on the long side) on the opposite sides to wavemakers.
  Regular waves: maximum wave height: 0.5m
  Irregular waves: maximum significant wave height: 0.35m
- Instrumentation: Six component balance (X=500N, Y=2500N, Z=2500N)
  3 component rudder balance (150N Drag & Lift, 4Nm Moment)
  Two Propeller Dynamometers (200N Thrust, 6Nm Torque, 3000rpm)
  Hull slamming Pressure Probes (0.1 to 1.0Bar)
  Wave probes (Absolute & Relative)
  Optical Tracking System (for Free Sailing Tests)

**Applications** (Tests performed)
Model testing in calm water and waves

- Captive Testing
- Free Sailing Seakeeping Tests
  - Regular Waves
  - Long crested waves: oblique (head seas, following, quartering & beam seas)
  - Short crested seas
- Free Sailing Manoeuvring Tests
  - Turning Circle
  - Zig zag
  - Spiral tests
  - Williamson Turn
- Loss of speed in waves

**Published description** (Publications on this facility)
None