

<b>Name of organization</b> MARIN	<b>Year of information updating</b> 2017
<b>Year established</b> 1932	<b>Year of joining the ITTC</b> 1932
<b>Address</b> Haagsteeg 2 6708 PM Wageningen The Netherlands	<b>Status in the ITTC</b> Advisory Council member
<b>Contact details</b> (phone, fax, e-mail) +31 317 493 911 info@marin.nl	<b>Website</b> <a href="http://www.marin.nl">www.marin.nl</a>
<b>Type of facility</b> Towing tank	<b>Year constructed/upgraded</b> 1932 / 1951
<b>Name of facility</b> Deep Water Towing Tank	<b>Location</b> (if different from the above address)
<b>Main characteristics</b> (dimensions of tank/basin/test section; for simulators: full mission, part task or desk top) Length 252 m Width 10.5 m Water depth 5.5 m	
<b>Drawings of facility</b>	
1 Basin 2 Towing carriage 3 Harbour	
<b>Detailed characteristics</b> (carriages, wave/current/wind generators, instrumentations, etc.)	
<b>Description of carriage</b>	Manned, motor driven, four drive wheels, four pairs of horizontal guide wheels
<b>Type of drive system and total power</b>	Servo controlled, 4 * 80 kW
<b>Maximum carriage speed</b>	9 m/s
<b>Other capabilities</b>	-

<b>Wave generator capability</b>	-
<b>Wave maker type:</b>	-
<b>Beach type and length</b>	Circular beach with lattice structure, length 7 m
<b>Other capabilities</b>	-
<b>Instrumentation</b>	<p>Dynamometers for</p> <ul style="list-style-type: none"> <li>- towing force</li> <li>- thrust and torque at propeller hub,</li> <li>- 6 component force balances,</li> <li>- 5 and 6 component balance for shaft forces and blade forces</li> <li>- 4 component for rudder and fins</li> </ul> <p>Thrusters with thrust and torque measurement at propeller hub</p> <p>Openwater dynamometers:</p> <ul style="list-style-type: none"> <li>- propeller</li> <li>- thruster</li> <li>- crp</li> <li>- shaft forces, blade forces</li> </ul> <p>Photo, video, underwater video, Wave height transducers for wave cuts, PIV, 5 hole pitot tube</p>
<b>Model size range</b>	1.5 – 12 m
<b>Model tracking techniques</b>	-
<b>Test performed</b>	<p>Resistance and propulsion test in calm water</p> <p>Openwater</p> <ul style="list-style-type: none"> <li>- propeller</li> <li>- ducted propeller</li> <li>- crp,</li> <li>- thruster</li> <li>- pods</li> </ul> <p>3D wake surveys</p> <p>Flow observations by paint and tufts</p> <p>Measurements of hydrodynamic forces and moments on submerged bodies, foils,</p> <p>Unsteady propeller blade forces, shaft forces</p> <p>Longitudinal wave cut experiments (standard)</p>
<b>Published description</b> (Publications on this facility)	
<p>Van Lammeren, W.P.A., Troost, L. and Koning J.G., "Resistance, Propulsion and Steering of Ships", Stam-Holland, 1948</p> <p><a href="http://www.marin.nl/web/Facilities-Tools/Basins/Deep-Water-Towing-Tank.htm">http://www.marin.nl/web/Facilities-Tools/Basins/Deep-Water-Towing-Tank.htm</a></p>	