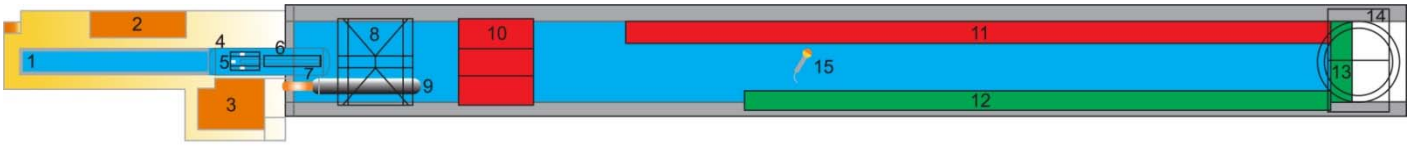
Name of organization MARIN	**Year of information updating** 2017
Year established 1932	**Year of joining the ITTC** 1932
Address Haagsteeg 2 6708 PM Wageningen The Netherlands	**Status in the ITTC** Advisory Council member
Contact details (phone, fax, e-mail) +31 317 493 911 +31 317 493 235 info@marin.nl	**Website** www.marin.nl
Type of facility Towing tank / Seakeeping basin / Cavitation tunnel	**Year constructed / upgraded** 1973 / 2000 / 2011
Name of facility Depressurised Wave Basin (DWB)	**Location** (if different from the above address) Marconistraat 20 6716 AK Ede The Netherlands

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

Length 220 m
Width 16 m
Water depth 8 m

Drawings of facility



1 Harbour
2 Lift opening
3 Control room
4 Air lock
5 Observation module
6 Sub carriage
7 Measuring frame
8 Main carriage
9 Pressure cabin
10 Short side wave damper
11 Long side wave damper
12 Long side wave generator
13 Short side wave generator
14 Silent and Offshore carriage
15 Hydrophone array

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

Description of carriage

Main carriage

Unmanned, motor driven, four drive wheels
Subcarriage which can travel through air lock to harbour outside depresurised basin
Observation module with traversering frames to position camera's and lights around the stern of a model for cavitation observations

Type of drive system and total power

Servo controlled, 4 * 110 kW

Maximum carriage speed

6 m/s

Other capabilities

Test sections which can be exchanged in the sub-carriage:

- test frame
- seakeeping
- hexapod
- VIM for TLP's
- Cavitation observation module

Silent running carriage

Unmanned, motor driven, four drive wheels
Lightweight, low noise level for propeller radiated noise measurents
Rotating ring below carriage for fitting mooring lines for testing offshore structures (semisubmersible, spar, wave energy converters)

Type of drive system and total power	Servo controlled, 4 * 15 kW
Maximum carriage speed	6 m/s
Wave generator capability	Short side - Regular waves 1.10 m at a peak period of 2.5 s - Irregular wave 0.70 m at a peak period of 2.5 s Long side - Regular waves 0.80 m at a peak period of 2.5 s - Irregular wave 0.40 m at a peak period of 2.5 s Wave direction 0 – 360 deg. Fitted with anti reflecting compensation (ARC)
Wave maker type:	Dry back, flap type wave generator - Short side 24 flaps of 0.6 m wide, hinge depth 2.5 m - Long side 200 flaps of 0.5 m wide, hinge depth 1.8 m
Beach type and length	Short side: - Circular beach, length 12 m, fixed with moveable section on centre line Long side: - circular beach, length 5 m, moveable, lowered in cased of 0 or 180 deg wave direction
Other capabilities	According to the laws of similarity which apply for cavitation the ambient air pressure in the basin must be reduced to the inverse of model scale. Depressurised conditions, minimum pressure 35 mbar(a) De-aeration of basin water by means of bubble injection
Vacuum pumps	3 vacuum pumps: 12,000 m^3/h, 25 mbar(a)
Hexapod	Stroke x,y,z = 600, 600 and 400 mm
Instrumentation	Dynamometers for: - thrust and torque in propeller hub, - 6 component force balances, - thrusters Photo, video, underwater video, High speed cavitation observation cameras (10 kfps), stroboscopes, Lighting for high speed camera observation Wave height transducers Pressure transducers for pressure fluctuations Hydrophones inside ship model Hydrophone array in basin Air content of basin water
Model size range	0.3 - 12 m
Model tracking techniques	NDI camera (optical tracking)
Test performed **Still water performance**	Resistance and propulsion test in calm water Cavitation inception and observations in calm water Pressure fluctuations measurements Radiated propeller noise measurements Flow noise measurements
Seakeeping	

Offshore	Seakeeping tests with measurements of motions, wave loads and added resistance of self propelled ships (atmospheric and under depressurised conditions). Added resistance Cavitation observations in waves Propeller ventilation (atmospheric or depressurised conditions) Drop tests for life boats ((atmospheric or depressurised conditions) Test on moored and fixed objects to determine motions, mooring forces and loads due to waves. Current load test VIM tests on offshore structures Tests with hexapod (forces oscillations, simulated motions)
Other remarks	-
Published description (Publications on this facility) http://www.marin.nl/web/Facilities-Tools/Basins/Depressurised-Wave-Basin.htm	