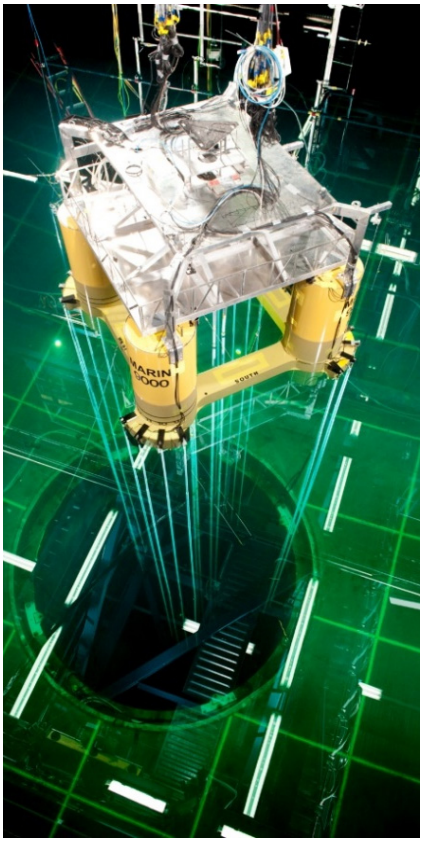
Offshore Basin

Model size range

- Ship model length of 3 - 6 m
- Floating structures of any kind, size depending on water depth and wave conditions (usually between 0.2 m for buoys and 4 m for platforms)

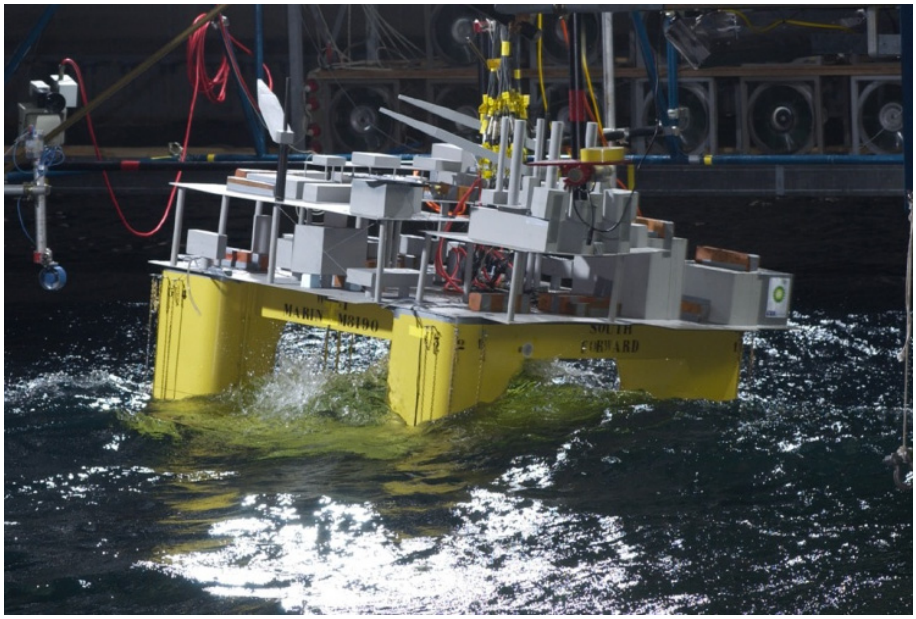


Dimensions

45 × 36 × 10.2 m. A pit with an extra depth of 20 m and a diameter of 5 m gives the opportunity to install systems up to 3000 m depth (prototype). The basin is mainly designed for testing models of offshore structures which are fixed, moored or controlled by dynamic positioning, in waves, wind and current.

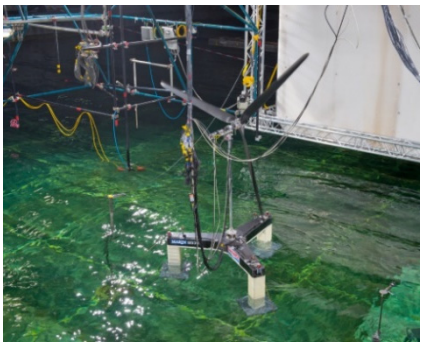
Carriage

The carriage enables efficient testing and monitoring of offshore tests. The carriage can follow the movements of the model in both directions of the horizontal plane at a speed up to 3.2 m/s. With an extra installed turntable, the system is able to perform captive manoeuvring tests in shallow and deep water. Therefore rotating arm tests are possible.



Test capabilities

- Offshore structure models, fixed, moored or controlled by dynamic positioning in waves, wind and current
- Captive or free sailing manoeuvring tests in shallow water



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Environment

Waves

Wave generators are positioned at two adjacent sides of the basin and consist of hinged flaps. Each segment (width 40 cm) has its own driving motor, which is controlled separately. The wave generators are able to simulate various wave types, such as short crested wave patterns. The system is equipped with compensation of wave reflection from the model and the wave absorbers. Opposite this wave generator, passive wave absorbers are installed.

Wind

For wind generation, a free moving and positionable platform of 24 m width, equipped with electrical fans is available.

Current

Current can be simulated with all kinds of profiles (hurricane, deep water current etc). Divided over the water depth of 10.2 m, six layers of culverts, each equipped with a pump, are installed.

Other capabilities

Movable floor

The concrete movable floor has dimensions of 36 × 31 m and a height of 1.75 m.

Instrumentation

An optical tracking system is mounted on the sub carriage for the measurement of 6 D.O.F. model motions.